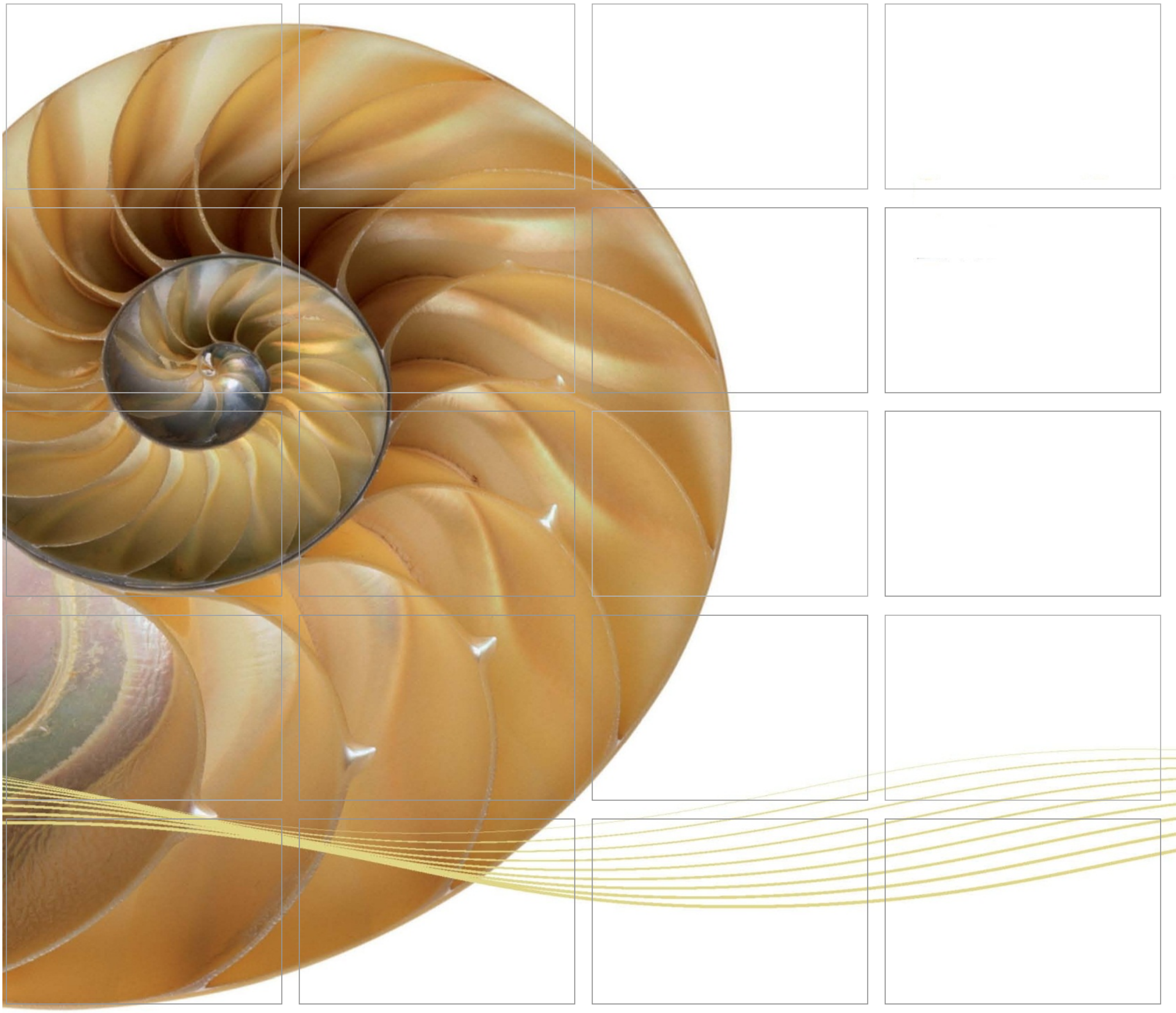
REPORT



Contract No. HY/2012/07
Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

Forty-Seventh Monthly EM&A Report

12 October 2017

Environmental Resources Management
16/F, Berkshire House
25 Westlands Road
Quarry Bay, Hong Kong
Telephone 2271 3000
Facsimile 2723 5660

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RAMBOLL ENVIRON

Ref.: HYDHZMBEEM00_0_5895L.17

16 October 2017

AECOM
Supervising Officer's Representative's Office
780 Cheung Tung Road, Lantau, N.T.

By Fax (3691 2899) and By Post

Attention: Mr. Daniel Ip

Dear Mr. Ip,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2012/07 TM-CLKL Southern Connection Viaduct Section
47th Monthly EM&A Report for September 2017 (EP-354/2009/D)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (Sep. 2017) (ET's ref.: "0215660_47th Monthly EM&A_201701012.doc" dated 12 Oct. 2017) certified by the ET Leader and provided to us via e-mail on 16 Oct. 2017.

Please be informed that we have no adverse comments on the captioned Report. We write to verify the captioned submission in accordance with Condition 4.4 of EP-354/2009/D. Please be reminded that our verification of this report does not release any obligations of the ET to comply with the EM&A Manual or the approved monitoring methodologies.

Thank you for your attention. Please do not hesitate to contact the undersigned or the ENPO Leader Mr. Y. H. Hui should you have any queries.

Yours sincerely,

F. C. Tsang
Independent Environmental Checker
Tuen Mun – Chek Lap Kok Link

c.c. HyD – Mr. Stephen Chan (By Fax: 3188 6614)
HyD – Mr. Vico Cheung (By Fax: 3188 6614)
AECOM – Mr. Conrad Ng (By Fax: 3922 9797)
ERM – Mr. Jovy Tam (By Fax: 2723 5660)
Gammon – Mr. Roy Leung (By Fax: 3520 0486)

Internal: DY, YH, ENPO Site

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Contract No. HY/2012/07
Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

Forty-Seventh Monthly EM&A Report

Environmental Resources Management

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25 Westlands Road
Quarry Bay, Hong Kong
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E-mail: post.hk@erm.com
http://www.erm.com

Document Code: 0215660_47th Monthly EM&A_20171012.doc

Client:	Project No:
Gammon	0215660

Summary:	
This document presents the Forty-Seventh Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section.	Date: 12 October 2017
	Approved by: *Mr Craig Reid* *Partner*
	Certified by: *Mr Jovy Tam* *ET Leader*

	Forty-Seventh Monthly EM&A Report	VAR	JT	CAR	12/10/17
Revision	Description	By	Checked	Approved	Date

Distribution

☐ Internal

☒ Public

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OHSAS 18001:2007
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ISO 9001 : 2008
Certificate No. FS 32515

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List of Appendices

EXECUTIVE SUMMARY

Under *Contract No. HY/2012/07*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Southern Connection Viaduct Section of the Tuen Mun – Chek Lap Kok Link Project (TM-CLK Link Project) while AECOM Asia Company Limited was appointed by HyD as the Supervising Officer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Environ Hong Kong Ltd. was employed by the HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) in accordance with *Environmental Permit No. EP-354/2009/A*. Further applications for variation of environmental permit (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

The southern landfall of TM-CLK Link lies alongside the Hong Kong - Zhuhai - Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) where a reclamation area is constructed by *Contract No. HY/2010/02* under *Environmental Permit No. EP-353/2009/K* and *EP-354/2009/D*. Upon the agreement and confirmation between the Supervising Officer Representatives and Contractors of *HY/2010/02* and *HY/2012/07* in September 2015, part of the reclamation area for southern landfall under *EP-353/2009/K* and *EP-354/2009/D* was handed-over to *Contract No. HY/2012/07*. Another part of the southern landfall area under *EP-354/2009/D* was handed-over to *Contract No. HY/2012/07* after completion of reclamation works by *Contract No. HY/2010/02* in June 2016.

The construction phase of the Contract commenced on 31 October 2013 and will be tentatively completed by 2018. The impact monitoring of the EM&A programme, including air quality, noise, water quality and marine ecological monitoring as well as environmental site inspections, commenced on 31 October 2013.

This is the Forty-seventh Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 30 September 2017 for the Southern Connection Viaduct Section in accordance with the Updated EM&A Manual of the TM-CLK Link Project. As informed by the Contractor, major activities in the reporting period included:

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;

- Launching gantry operation
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

A summary of monitoring and audit activities conducted in the reporting period is listed below:

24-hour TSP Monitoring	5 sessions
1-hour TSP Monitoring	5 sessions
Water Quality Monitoring	12 sessions
Noise Monitoring	5 sessions
Impact Dolphin Monitoring	2 sessions
Joint Environmental Site Inspection	4 sessions

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Levels was recorded for construction air quality monitoring in the reporting month.

Breaches of Action and Limit Levels for Noise

No exceedance of Action and Limit Levels was recorded for construction noise monitoring in the reporting month.

Breaches of Action and Limit Levels for Water Quality

Eighty-six (86) Action Level of Dissolved Oxygen (DO) exceedances, four (4) Action Level of Suspended Solids (SS) exceedances and one (1) Limit Level of Turbidity exceedance were recorded for water quality impact monitoring in the reporting month.

Impact Dolphin Monitoring

During this month of dolphin monitoring, no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was noticeable from general observations. Due to monthly variation in dolphin occurrence within the Study Area, it would be more appropriate to draw conclusion on whether any impacts on dolphins have been detected related to the construction activities of the TM-CLKL Southern Connection Viaduct Section in the quarterly EM&A reports, in which comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

Daily marine mammal exclusion zone monitoring was undertaken during the period of marine works under this Contract. No sighting of the Chinese White Dolphin was recorded in September 2017 during the exclusion zone monitoring.

Environmental Complaints, Non-compliance & Summons

There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

Summary of Marine Travel Route record

No non-compliance with EIA recommendations, EP conditions and other requirements associated with the marine travel route record of this Contract was recorded in August. Summary of marine travel route record for this reporting period will be provided in next reporting period.

Reporting Change

There was no reporting change in the reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the next monitoring period of October 2017 include the following:

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Launching gantry operation
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

F**uture Key Issues**

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2017 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

1 INTRODUCTION

1.1 BACKGROUND

According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated increase in cross boundary traffic, developments in the Northwest New Territories (NWNT), and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park (LLP) and the Hong Kong – Zhuhai – Macao Bridge (HZMB). In order to cope with the anticipated traffic demand, two new road sections between NWNT and North Lantau – Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) are proposed.

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process* (*EIAO-TM*). The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-146/2009), an Environmental Permit (*EP-354/2009*) for TM-CLKL was granted by the Director of Environmental Protection (DEP) on 4 November 2009, and EP variation (*EP-354/2009/A*) was issued on 8 December 2010.

Under *Contract No. HY/2012/07*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Southern Connection Viaduct Section of TM-CLKL ("the Contract") while AECOM Asia Company Limited was appointed by HyD as the Supervising Officer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Environ Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) in accordance with *Environmental Permit No. EP-354/2009/A*. Further applications for variation of environmental permit (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

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The construction phase of the Contract commenced on 31 October 2013 and will be tentatively completed by 2018. The impact monitoring phase of the EM&A programme, including air quality, noise, water quality and marine ecological monitoring as well environmental site inspections, commenced on 31 October 2013.

The general layout plan of the Contract components is presented in *Figures 1.1 & 1.2a to l.*

1.2 SCOPE OF REPORT

This is the Forty-seventh Monthly EM&A Report under the *Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section*. This report presents a summary of the environmental monitoring and audit works in September 2017.

1.3 ORGANIZATION STRUCTURE

The organization structure of the Contract is shown in *Appendix A*. The key personnel contact names and contact details are summarized in *Table 1.1* below.

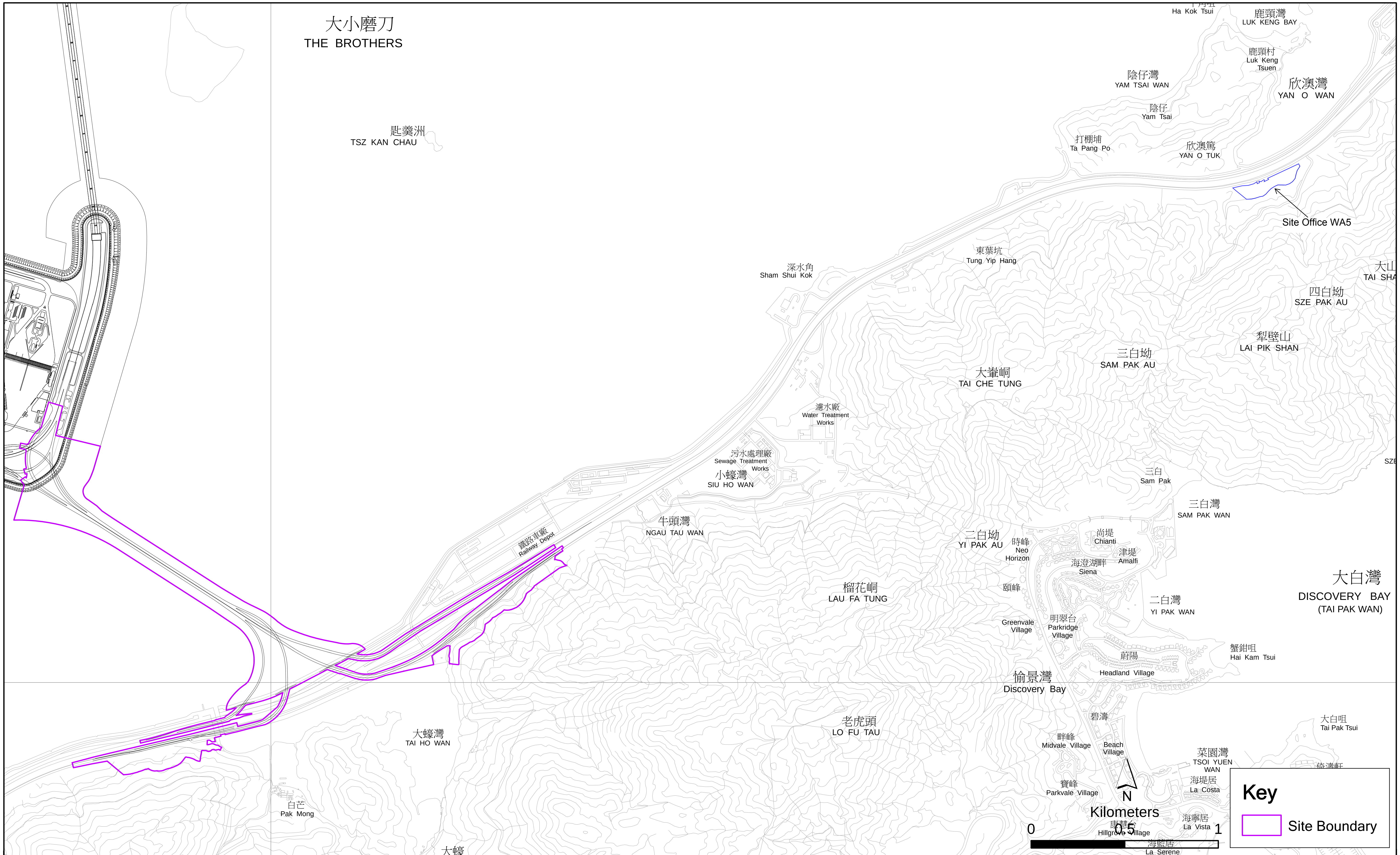

Figure 1.1

General Layout Plan of the Project

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Date: 6/8/2014

Environmental Resources Management

ERM

Project Management Initials: Designer: LKWB Checked: SLYY Approved: CWN ISO A1 594mm x 841mm

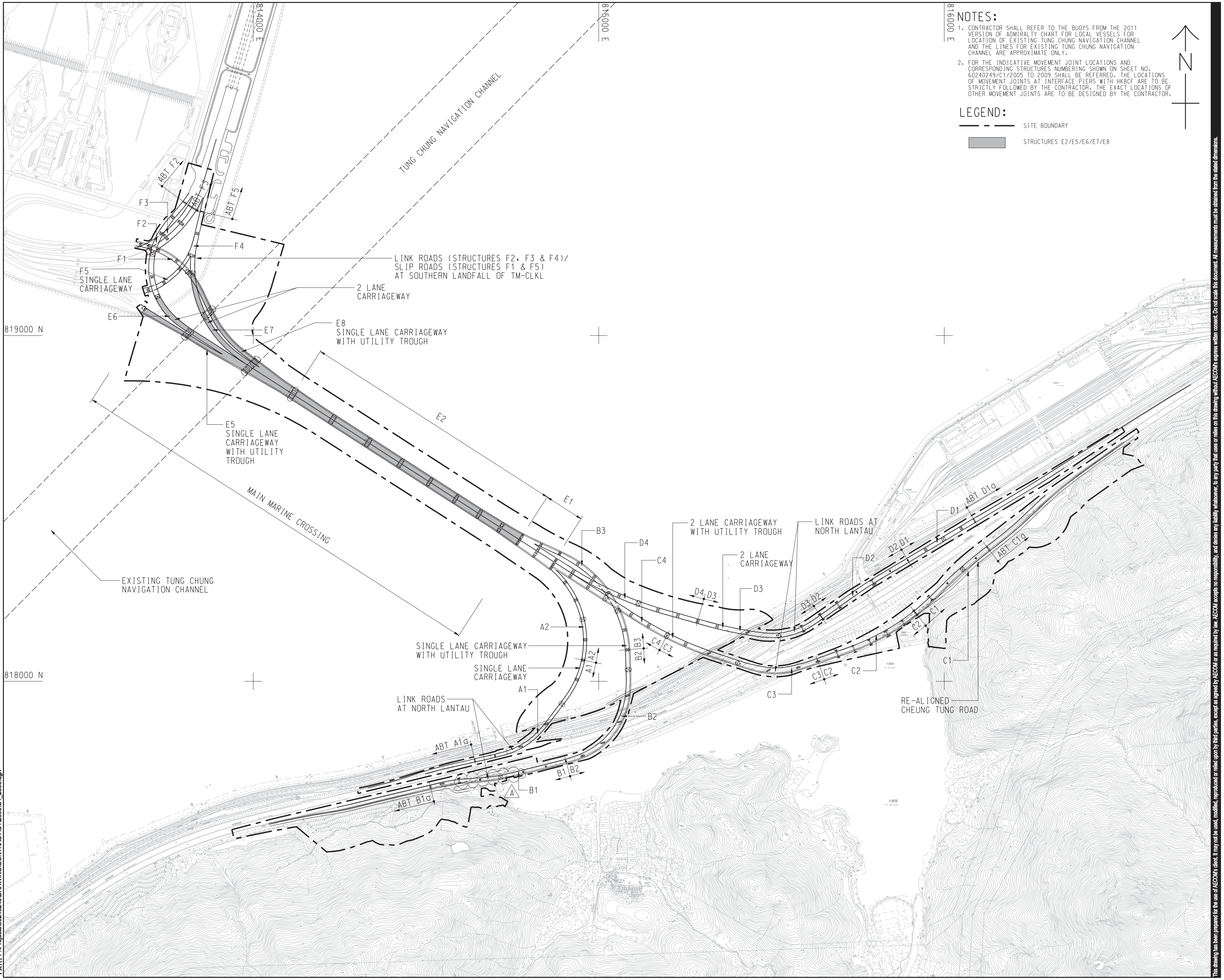
NOTES:

1. CONTRACTOR SHALL REFER TO THE BUOYS FROM THE 2011 VERSION OF ADMIRALTY CHART FOR LOCAL VESSELS FOR LOCATION OF EXISTING TUNG CHUNG NAVIGATION CHANNEL AND THE LINES FOR EXISTING TUNG CHUNG NAVIGATION CHANNEL ARE APPROXIMATE ONLY.
2. FOR THE INDICATIVE MOVEMENT JOINT LOCATIONS AND CORRESPONDING STRUCTURES NUMBERING SHOWN ON SHEET NO. 60240249/C1/2005 TO 2009 SHALL BE REFERRED. THE LOCATIONS OF MOVEMENT JOINTS AT INTERFACE PIERS WITH HKBCF ARE TO BE STRICTLY FOLLOWED BY THE CONTRACTOR. THE EXACT LOCATIONS OF OTHER MOVEMENT JOINTS ARE TO BE DESIGNED BY THE CONTRACTOR.

LEGEND:

SITE BOUNDARY

STRUCTURES E2/E5/E6/E7/E8



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AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION

CLIENT 業主

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

Figure 1.2a

ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
A	NOV. 12	TENDER ADDENDUM NO. 1	CWN
-	OCT. 12	TENDER DRAWING	CWN

STATUS 階段

SCALE 比例: A1 1 : 5000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60240249

CONTRACT NO. 合約編號: HY/2012/07

SHEET TITLE 圖紙名稱

SOUTHERN CONNECTION GENERAL LAYOUT PLAN

SHEET NUMBER 圖紙編號

60240249/C1/2000A

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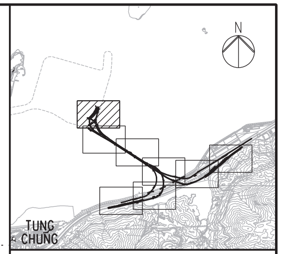

KEY PLAN

NOTES

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LEGEND

- SITE BOUNDARY
- GF1 FAULT
- EXISTING G.I.STATIONS :
  - BOREHOLE BY GIU DATA EXCLUDING VC
  - BOREHOLE BY GCL CONTRACT HY/2012/04
  - BOREHOLE BY GCL CONTRACT NL8/97
  - BOREHOLE BY GCL CONTRACT HY/2009/23
  - TRIAL PIT BY GCL CONTRACT HY/2012/04
  - SLOPE STRIPPING BY GCL CONTRACT HY/2012/04
- PROPOSED G.I.STATIONS :
  - PBH01 PROPOSED BOREHOLE
  - TP01 PROPOSED TRIAL PIT
  - CH01 PROPOSED COREHOLE
  - SS01 SS02 PROPOSED SLOPE STRIPPING

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B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				

Drawn RL | Date 07/13
Checked DS | Approved DOP
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Client: 路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

Project Title: Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Drawing title

Figure 1.2b

Drawing no. J3518/P/OAP/04/01100 Rev. C

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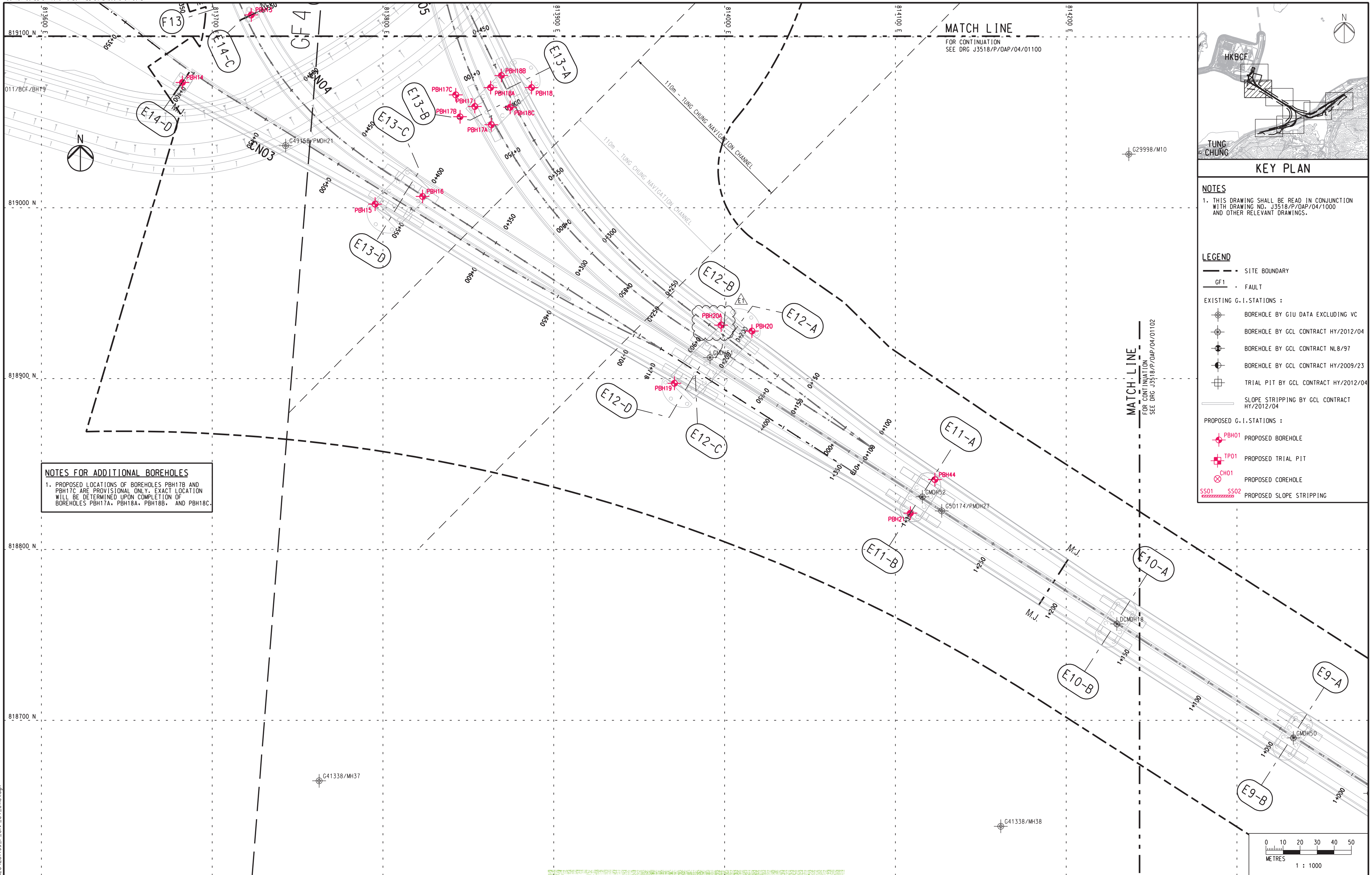

KEY PLAN

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- SITE BOUNDARY
- GF1 FAULT

EXISTING G.I.STATIONS :

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- BOREHOLE BY GCL CONTRACT HY/2012/04
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- BOREHOLE BY GCL CONTRACT HY/2009/23
- TRIAL PIT BY GCL CONTRACT HY/2012/04
- SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

- PBH01 PROPOSED BOREHOLE
- TP01 PROPOSED TRIAL PIT
- CH01 PROPOSED COREHOLE
- SS01 SS02 PROPOSED SLOPE STRIPPING

NOTES FOR ADDITIONAL BOREHOLES

1. PROPOSED LOCATIONS OF BOREHOLES PBH17B AND PBH17C ARE PROVISIONAL ONLY. EXACT LOCATION WILL BE DETERMINED UPON COMPLETION OF BOREHOLES PBH17A, PBH18A, PBH18B, AND PBH18C.

Rev	Description	By	Date	Rev	Description	By	Date
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B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				
D	SUBMISSION	RC	10/13				
E1	FOR INTERNAL REVIEW	RC	11/13				

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Client: 路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

Supervising Officer: AECOM

Contractor: Gammon

Project Title:
Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Originator: ARUP

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Figure 1.2c

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Rev. E1

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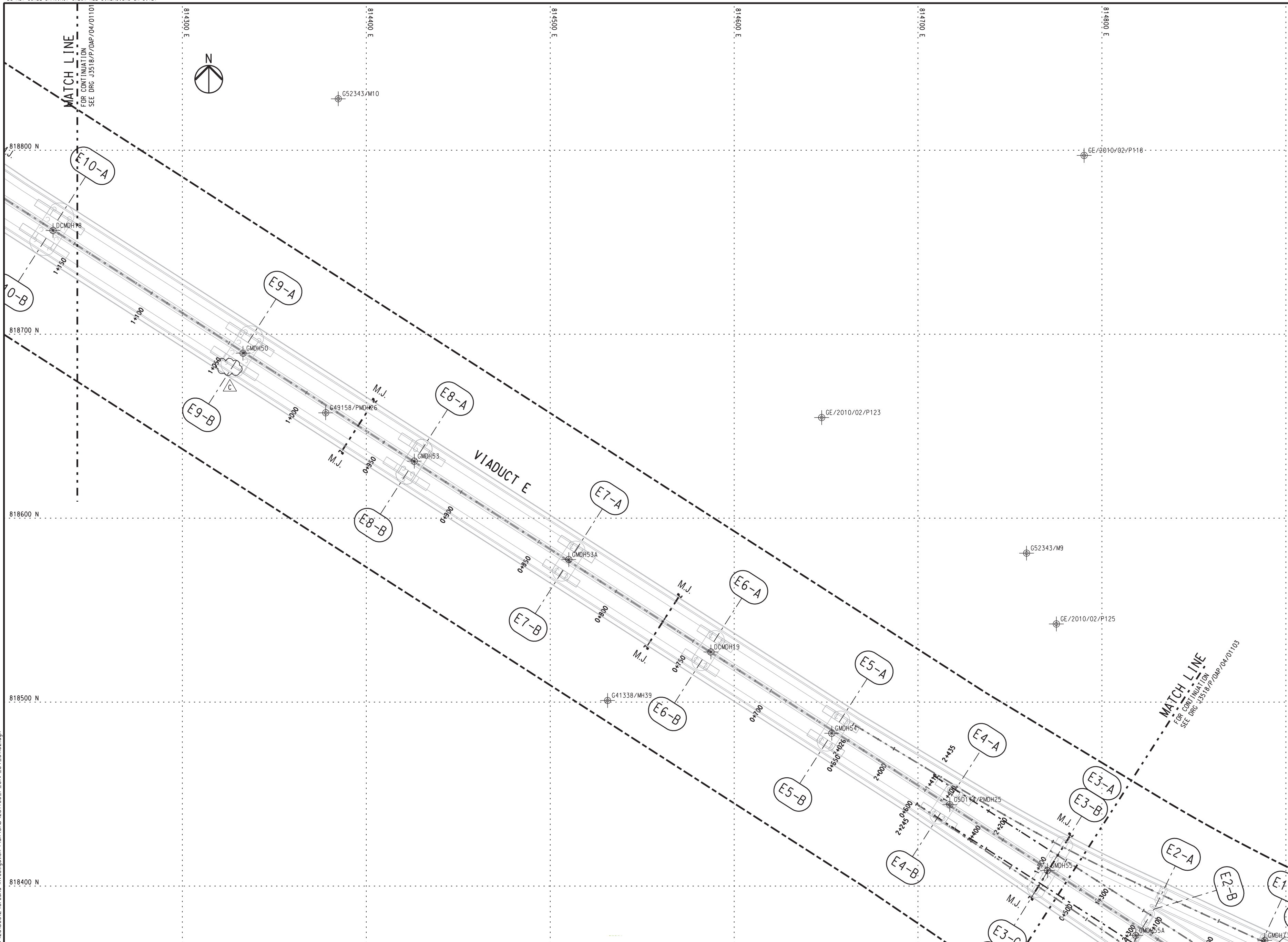

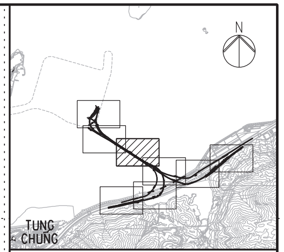

KEY PLAN

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- SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

- PBH01 PROPOSED BOREHOLE
- TP01 PROPOSED TRIAL PIT
- CH01 PROPOSED COREHOLE
- SS01 SS02 PROPOSED SLOPE STRIPPING

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Project Title: Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

Drawing title: **Figure 1.2d**

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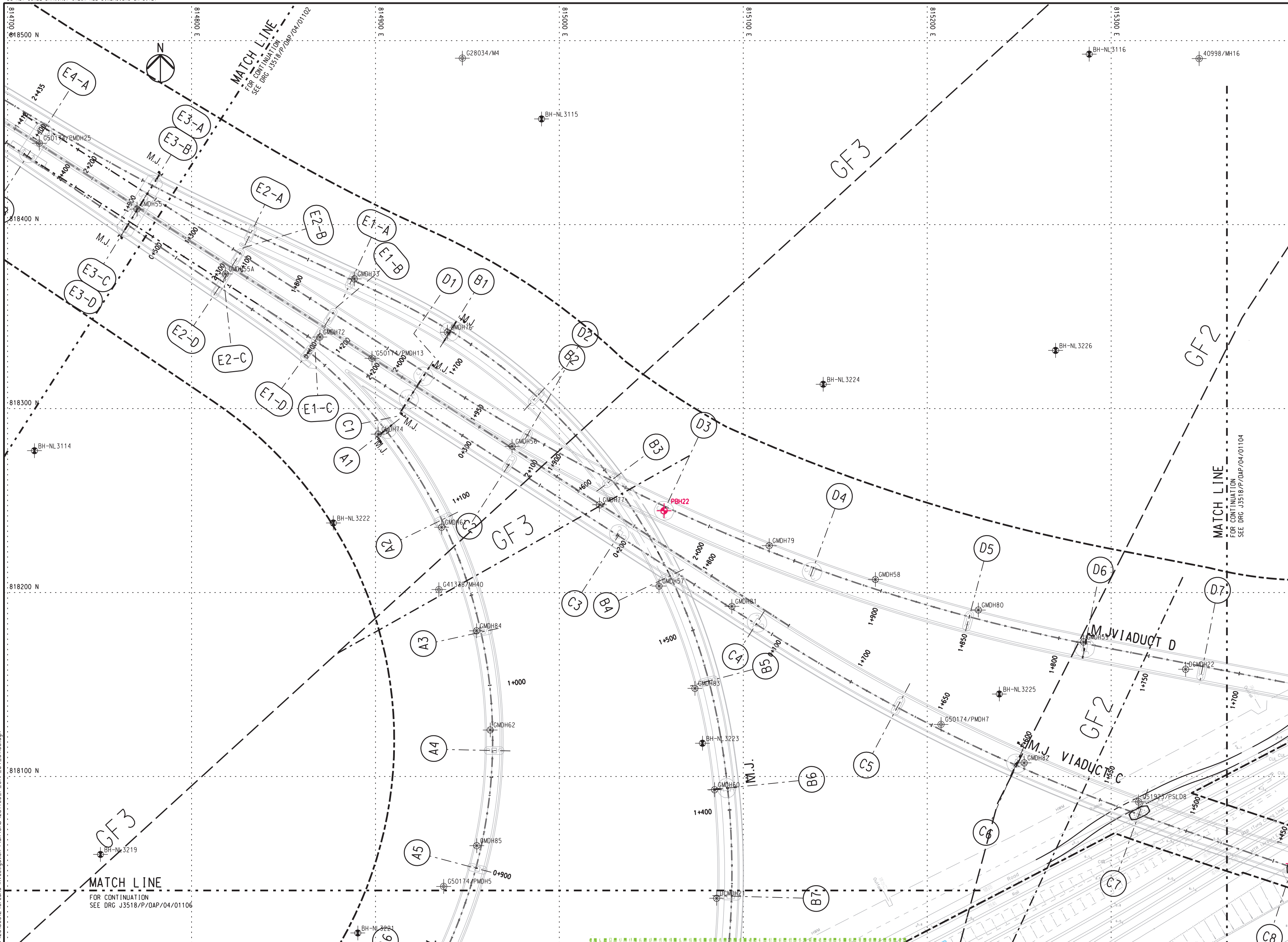

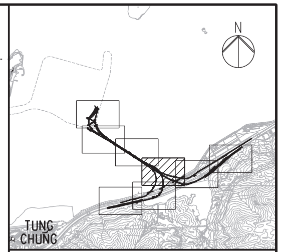

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- BOREHOLE BY GCL CONTRACT HY/2009/23
- TRIAL PIT BY GCL CONTRACT HY/2012/04
- SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

- PBH01 PROPOSED BOREHOLE
- TP01 PROPOSED TRIAL PIT
- CH01 PROPOSED COREHOLE
- SS01 SS02 PROPOSED SLOPE STRIPPING

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C	SUBMISSION	RC	09/13

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Client: 路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

Supervising Officer: AECOM
Contractor: Gammon
Originator: ARUP

Project Title
Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Drawing title
Figure 1.2e

Drawing no. J3518/P/OAP/04/01103 Rev. C

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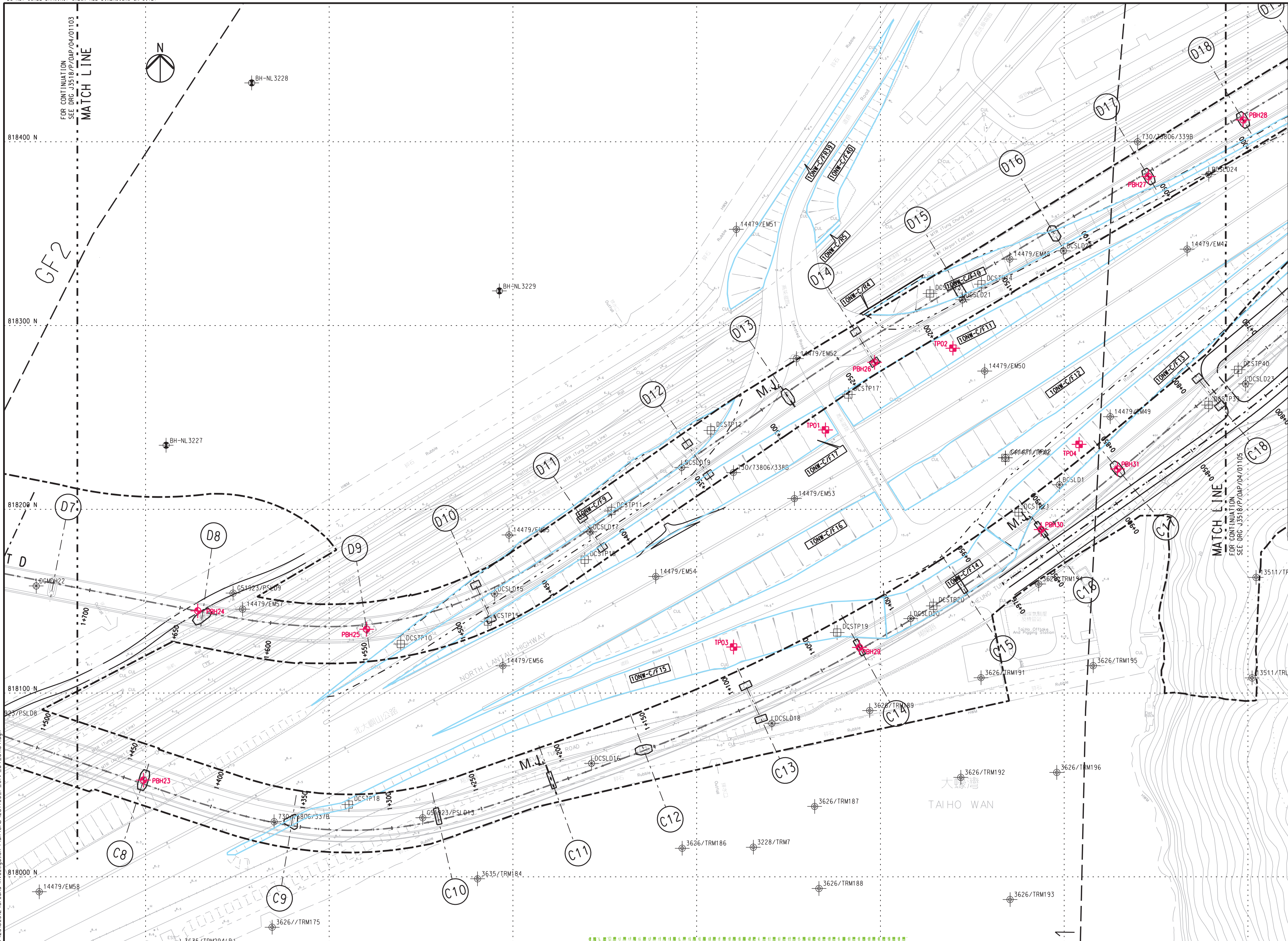

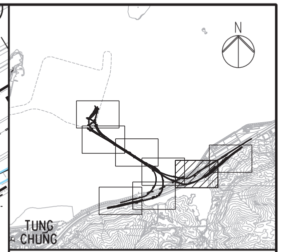

KEY PLAN

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LEGEND

SITE BOUNDARY

GF1 FAULT

EXISTING G.I.STATIONS :

BOREHOLE BY GIU DATA EXCLUDING VC

BOREHOLE BY GCL CONTRACT HY/2012/04

BOREHOLE BY GCL CONTRACT NL8/97

BOREHOLE BY GCL CONTRACT HY/2009/23

TRIAL PIT BY GCL CONTRACT HY/2012/04

SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

PBH01 PROPOSED BOREHOLE

TP01 PROPOSED TRIAL PIT

CH01 PROPOSED COREHOLE

SS01 SS02 PROPOSED SLOPE STRIPPING

0 10 20 30 40 50
METRES
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C	SUBMISSION	RC	09/13

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Client: 路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

Project Title:
Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Supervising Officer: AECOM
Contractor: Gammon
Originator: ARUP

Drawing title

Figure 1.2f

Drawing no. J3518/P/OAP/04/01104 — Rev. C

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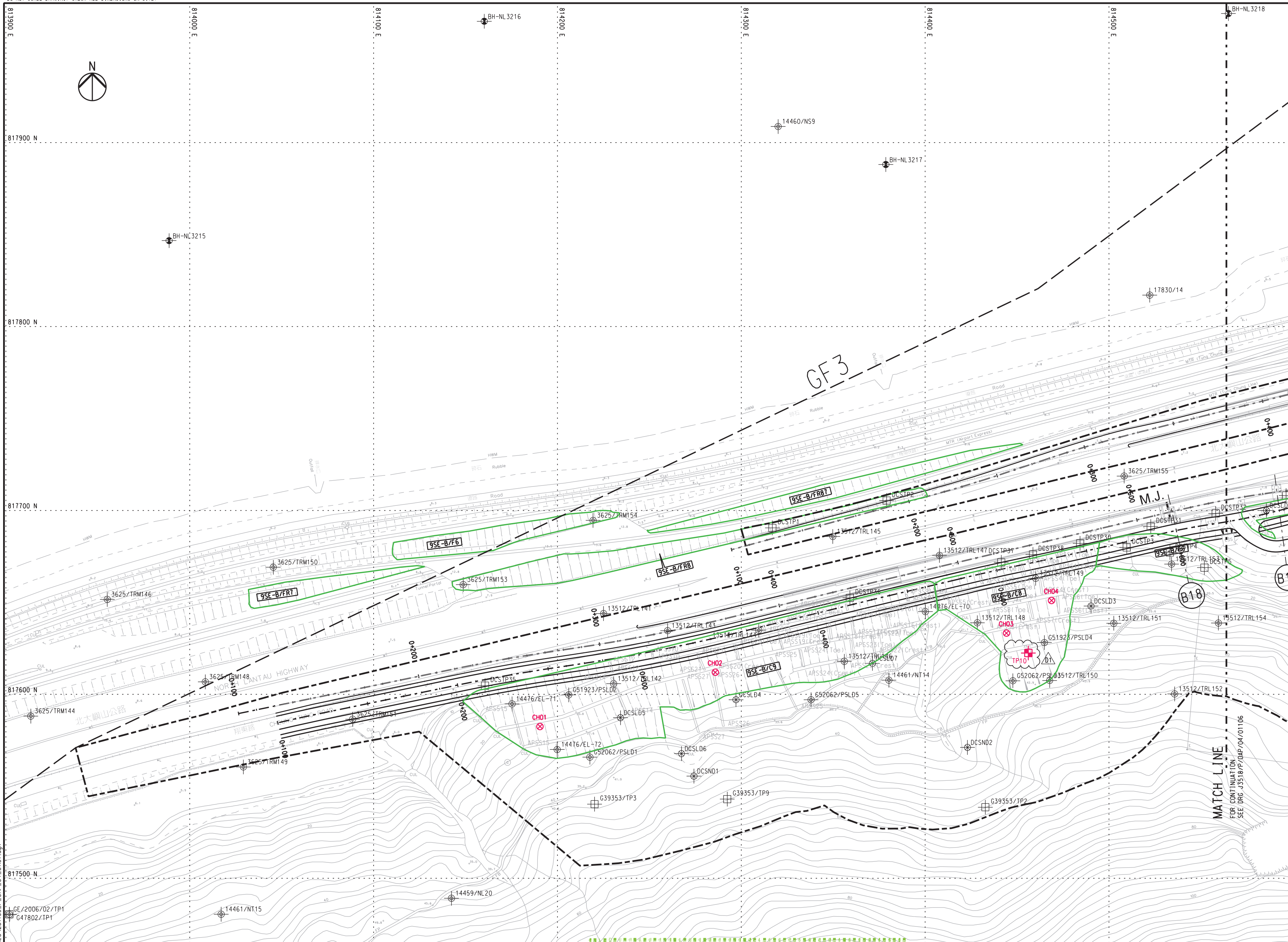
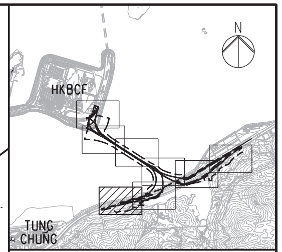
DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.





KEY PLAN

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. J3518/P/OAP/04/1000 AND OTHER RELEVANT DRAWINGS.

LEGEND

SITE BOUNDARY

GF1 FAULT

EXISTING G.I. STATIONS :

BOREHOLE BY GIU DATA EXCLUDING VC

BOREHOLE BY GCL CONTRACT HY/2012/04

BOREHOLE BY GCL CONTRACT NL8/97

BOREHOLE BY GCL CONTRACT HY/2009/23

TRIAL PIT BY GCL CONTRACT HY/2012/04

SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I. STATIONS :

PBH01 PROPOSED BOREHOLE

TP01 PROPOSED TRIAL PIT

CH01 PROPOSED COREHOLE

SS01 SS02 PROPOSED SLOPE STRIPPING

0 10 20 30 40 50 METRES 1 : 1000

Rev	Description	By	Date	Rev	Description	By	Date
A	SUBMISSION	RC	07/13				
B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				
D1	FOR INTERNAL REVIEW	RC	11/13				

Drawn	Date
RL	07/13
Checked	Approved
DS	DOP

Scale 1:1000 @ A1 / 1:2000 @ A3

Client: 路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Project Title: Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Drawing title

Figure 1.2g

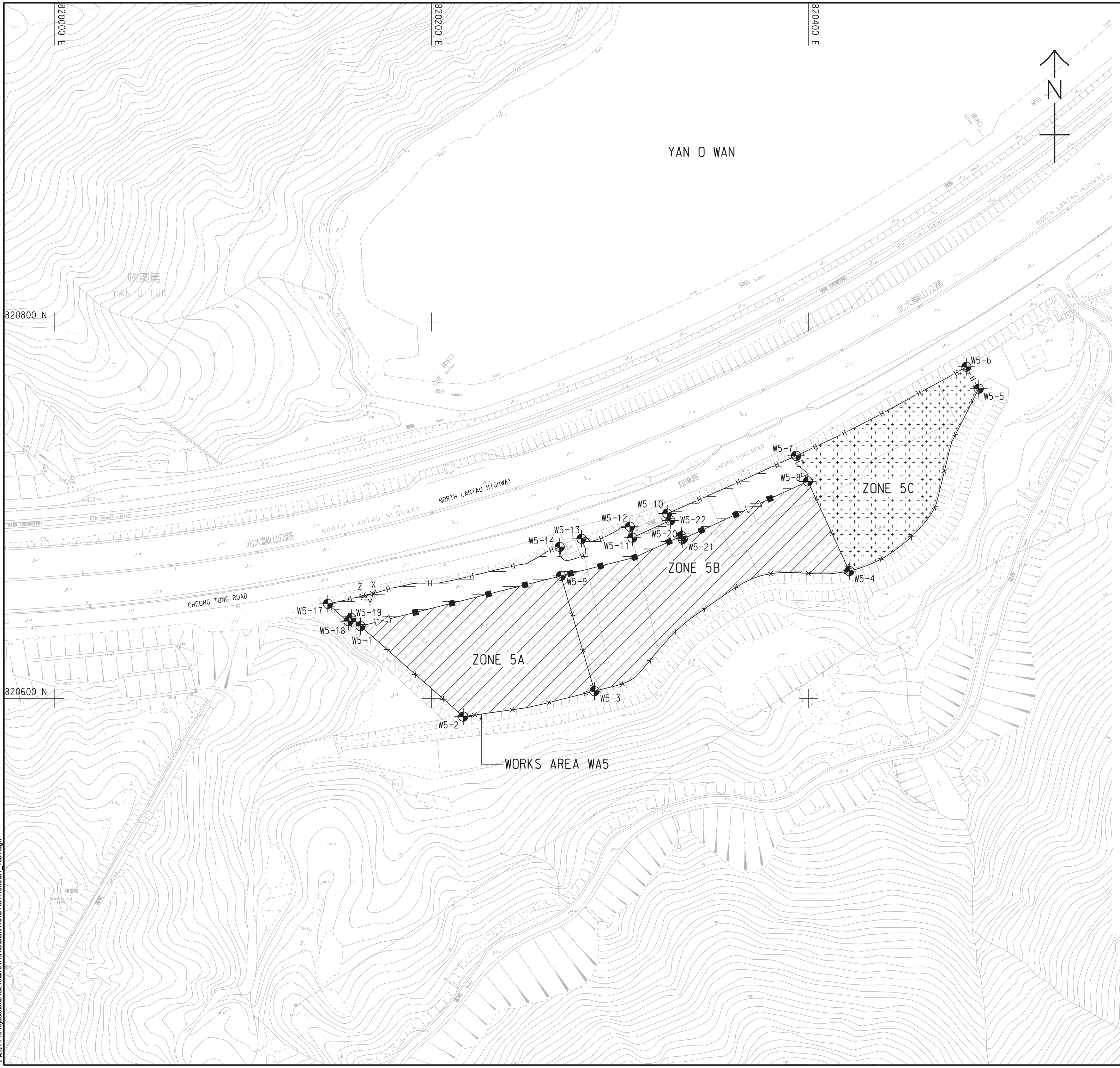
Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

Drawing no. J3518/P/OAP/04/01107 Rev. D1

Printed by : 07/11/2013
Filename : J:\231499\ARUP\GEO\231499_P_OAP_04_01107.dgn



NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/C1/1000.
2. THE SETTING OUT INFORMATION AND WORKS AREA CONDITIONS SHOWN IN THIS DRAWING ARE FOR REFERENCE ONLY. THE WORKS AREA BOUNDARY SHALL BE IN ACCORDANCE WITH THE ENGINEERING CONDITIONS FOR TEMPORARY GOVERNMENT LAND ALLOCATION NO. TIS 619. IN CASE OF DISCREPANCY BETWEEN THE BOUNDARY SHOWN ON THIS DRAWING AND THE BOUNDARY INDICATED ON THE ENGINEERING CONDITIONS, THE LATTER SHALL PREVAIL.
3. DEMARCATION OF THE WORKS AREA SHALL BE DETERMINED ON SITE.
4. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6110 AND H6111 FOR DETAILS OF HOARDING.
5. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6121 AND H6122 FOR DETAILS OF CHAIN LINK FENCE.
6. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H6121 FOR DETAILS OF GATE.
7. CHAIN LINK FENCE SHALL BE ERECTED ALONG THE WORKS AREA BOUNDARY. THE ALIGNMENT AND EXTENT OF CHAIN LINK FENCE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
8. THE LOCATION AND WIDTH OF GATE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
9. NO STRUCTURES SHALL BE ERECTED OTHER THAN SUCH STRUCTURES NOT EXCEEDING TWO STOREYS IN HEIGHT, WHICH ARE APPROVED BY THE DISTRICT LANDS OFFICER AS BEING APPROPRIATE FOR THE USE OF THE SITE AS A WORKS AREA.
10. THE TENTATIVE OCCUPATION PERIOD SHALL BE REFERRED TO EMPLOYER'S REQUIREMENTS PART 2 AND PART 14 SECTION 1 CLAUSE 1.45A.
11. THE WORKS AREAS SHOWN ON THIS DRAWING ARE TO BE SHARE-USED AMONG THE CONTRACTS OF TM-CLKL RELATED CONTRACTS. THE AREAS HATCHED WITH ARE TENTATIVELY ALLOCATED FOR THE USE BY THIS CONTRACT.
12. THE COMMON AREA SHALL BE CONCRETE PAVED BY THE CONTRACTOR.

LEGEND:

- WORKS AREA UNDER THIS CONTRACT
- COMMON AREA (MAINTAINED UNDER THIS CONTRACT) TO BE SHARE-USED WITH OTHER CONTRACTS
- WORKS AREA FOR THIS CONTRACT TO BE EARLY HANDED OVER BY THE CONTRACTOR.
- H — HOARDING AND GATE (TO BE ERECTED AND MAINTAINED UNDER THIS CONTRACT)
- CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED BY OTHERS)
- CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED UNDER THIS CONTRACT)

SETTING OUT COORDINATES OF WORKS AREA WA5

POINT	COORDINATES	
	EASTING	NORTHING
W5-1	820162.308	820638.492
W5-2	820216.839	820590.455
W5-3	820286.496	820603.985
W5-4	820421.757	820667.742
W5-5	820490.425	820764.554
W5-6	820483.839	820776.180
W5-7	820393.451	820728.958
W5-8	820399.746	820715.343
W5-9	820268.674	820665.173
W5-10	820325.075	820698.276
W5-11	820306.587	820685.458
W5-12	820305.269	820691.287
W5-13	820279.580	820684.863
W5-14	820268.027	820680.572
X	820169.407	820655.859
Y	820166.601	820655.172
Z	820163.794	820654.484
W5-17	820144.957	820650.334
W5-18	820155.899	820641.093
W5-19	820157.432	820642.788
W5-20	820332.642	820686.314
W5-21	820333.350	820684.738
W5-22	820326.723	820694.608

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION

CLIENT 業主

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 復核
-	OCT. 12	TENDER DRAWING	CWN

STATUS 階段

SCALE 比例: A1 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

Figure 1.2h

PROJECT NO. 項目編號: 60240249

CONTRACT NO. 合約編號: HY/2012/07

SHEET TITLE 圖紙名稱

WORKS AREA AND HOARDING PLAN

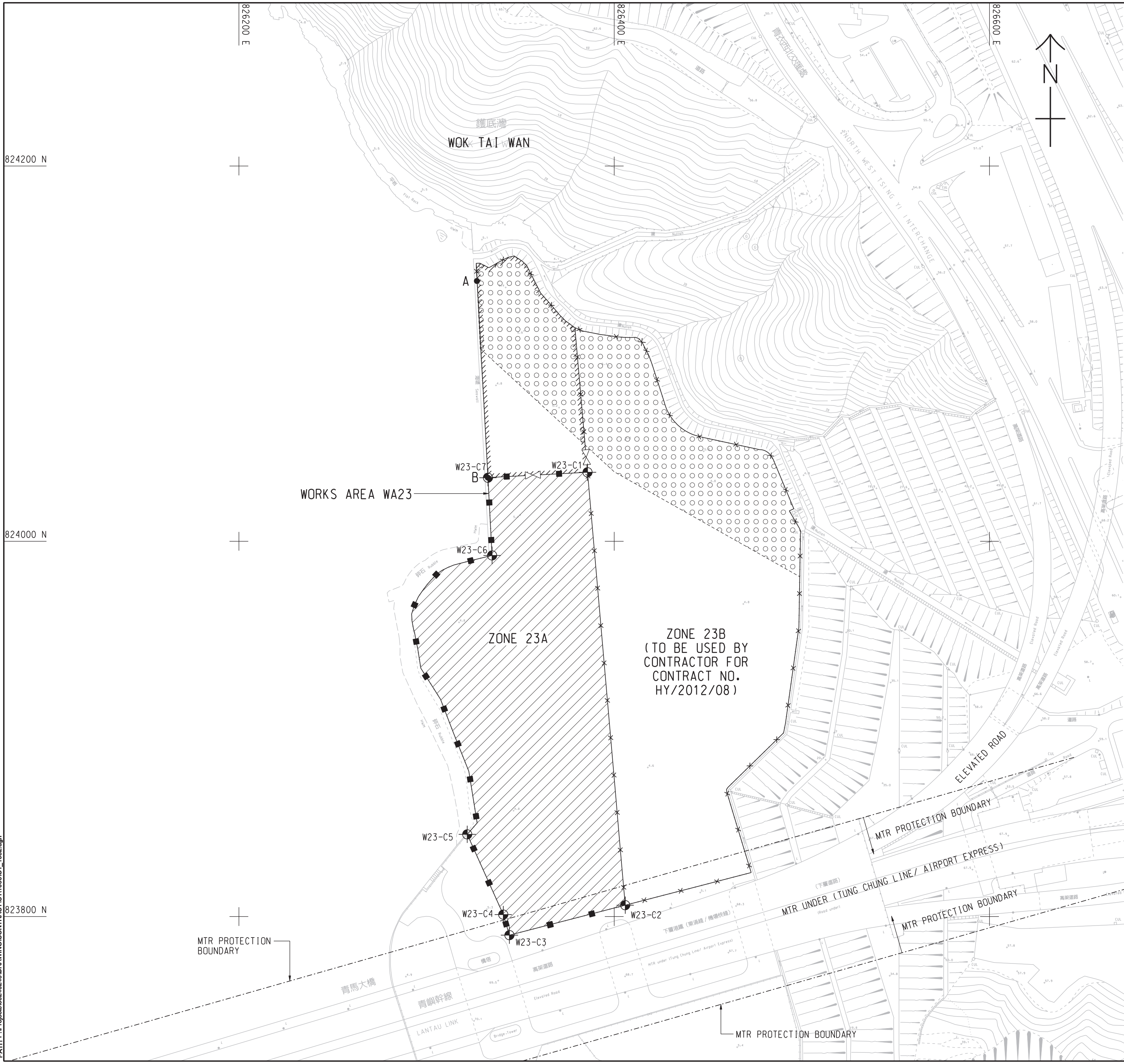
SHEET 1 OF 2

SHEET NUMBER 圖紙編號

60240249/C1/1051

Project Management Initials: Designer: PLCK Checked: SLYY Approved: CWN ISO A1 594mm x 841mm

Plot File by: LIUJ3 2012-10-24
PATH: P:\Projects\60240249\DRAWINGS\CONTRACT\C1\1000\C1_1051.dgn



NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/C1/1000.
2. THE SETTING OUT INFORMATION AND WORKS AREA CONDITIONS SHOWN IN THIS DRAWING ARE FOR REFERENCE ONLY. THE WORKS AREA BOUNDARY SHALL BE IN ACCORDANCE WITH THE ENGINEERING CONDITIONS FOR TEMPORARY GOVERNMENT LAND ALLOCATION NO. TKT 1878. IN CASE OF DISCREPANCY BETWEEN THE BOUNDARY SHOWN ON THIS DRAWING AND THE BOUNDARY INDICATED ON THE ENGINEERING CONDITIONS, THE LATTER SHALL PREVAIL.
3. DEMARCATION OF THE WORKS AREA SHALL BE DETERMINED ON SITE.
4. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6121 AND H6122 FOR DETAILS OF CHAIN LINK FENCE.
5. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H6121 FOR DETAILS OF GATE.
6. CHAIN LINK FENCE SHALL BE ERECTED ALONG THE WORKS AREA BOUNDARY. THE ALIGNMENT AND EXTENT OF CHAIN LINK FENCE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
7. THE LOCATION AND WIDTH OF GATE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
8. NO RIGHT OF ACCESS TO THE SEA FROM THE SITE AND FROM THE SEA TO THE SITE SHALL BE ALLOWED EXCEPT BETWEEN THE POINTS A AND B.
9. NO MANNED FACILITIES SHALL BE LOCATED WITHIN AREA X.
10. NO STRUCTURES SHALL BE ERECTED OTHER THAN SUCH STRUCTURES NOT EXCEEDING TWO STOREYS IN HEIGHT, WHICH ARE APPROVED BY THE DISTRICT LANDS OFFICER AS BEING APPROPRIATE FOR THE USE OF THE SITE AS A WORKS AREA.
11. THE TENTATIVE OCCUPATION PERIOD SHALL BE REFERRED TO EMPLOYER'S REQUIREMENTS PART 2 AND PART 14 SECTION 1 CLAUSE 1.45A.
12. THE WORKS AREAS SHOWN ON THIS DRAWING ARE TO BE SHARE-USED AMONG THE CONTRACTS OF TM-CLKL-RELATED CONTRACTS. THE AREAS HATCHED WITH ARE TENTATIVELY ALLOCATED FOR THE USE BY THIS CONTRACT.

LEGEND:

- AREA X
- WORKS AREA FOR THIS CONTRACT
- COMMON AREA (MAINTAINED UNDER CONTRACT NO. HY/2012/08) TO BE SHARE-USED WITH CONTRACT NO. HY/2012/08
- CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED UNDER THIS CONTRACT)
- CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED BY OTHERS)
- MTR PROTECTION BOUNDARY

SETTING OUT COORDINATES OF WORKS AREA WA23

POINT	COORDINATES	
	EASTING	NORTHING
W23-C1	826385.78	824036.80
W23-C2	826405.87	823806.07
W23-C3	826344.18	823790.10
W23-C4	826340.88	823801.06
W23-C5	826321.68	823843.84
W23-C6	826334.92	823992.47
W23-C7	826332.72	824033.89

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION

CLIENT 業主

路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
-	OCT. 12	TENDER DRAWING	CWN

STATUS 階段

SCALE 比例: A1 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

Figure 1.2i

PROJECT NO. 項目編號: 60240249

CONTRACT NO. 合約編號: HY/2012/07

SHEET TITLE 圖紙名稱

WORKS AREA AND HOARDING PLAN

SHEET 2 OF 2

SHEET NUMBER 圖紙編號: 60240249/C1/1052

Project Management Initials: Designer: PLCK Checked: SLYY Approved: CWN ISO A1 594mm x 841mm
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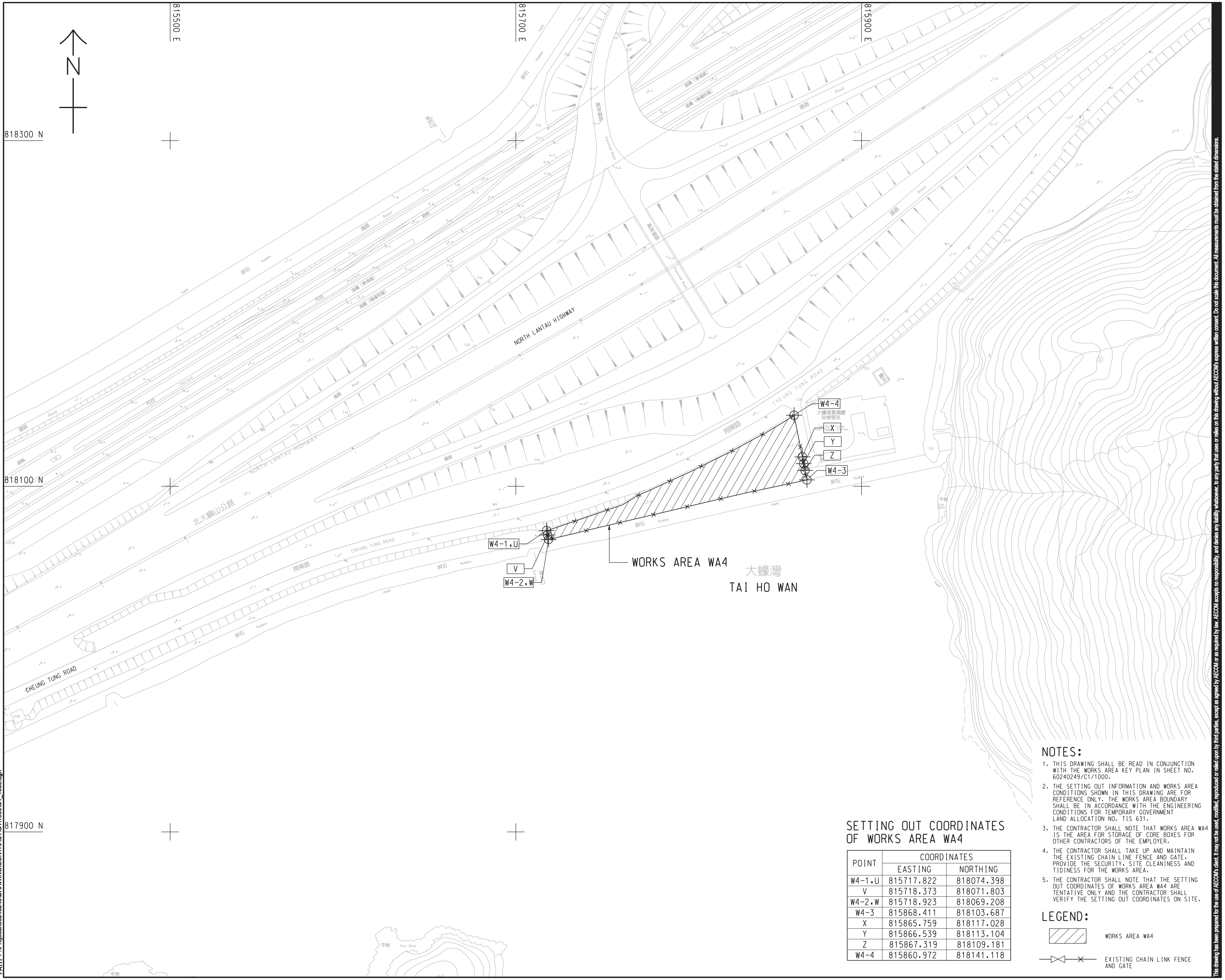

Figure 1.2j

SETTING OUT COORDINATES OF WORKS AREA WA4

POINT	COORDINATES	
	EASTING	NORTHING
W4-1,U	815717.822	818074.398
V	815718.373	818071.803
W4-2,W	815718.923	818069.208
W4-3	815868.411	818103.687
X	815865.759	818117.028
Y	815866.539	818113.104
Z	815867.319	818109.181
W4-4	815860.972	818141.118

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/C1/1000.
2. THE SETTING OUT INFORMATION AND WORKS AREA CONDITIONS SHOWN IN THIS DRAWING ARE FOR REFERENCE ONLY. THE WORKS AREA BOUNDARY SHALL BE IN ACCORDANCE WITH THE ENGINEERING CONDITIONS FOR TEMPORARY GOVERNMENT LAND ALLOCATION NO. TIS 631.
3. THE CONTRACTOR SHALL NOTE THAT WORKS AREA WA4 IS THE AREA FOR STORAGE OF CORE BOXES FOR OTHER CONTRACTORS OF THE EMPLOYER.
4. THE CONTRACTOR SHALL TAKE UP AND MAINTAIN THE EXISTING CHAIN LINE FENCE AND GATE, PROVIDE THE SECURITY, SITE CLEANINESS AND TIDINESS FOR THE WORKS AREA.
5. THE CONTRACTOR SHALL NOTE THAT THE SETTING OUT COORDINATES OF WORKS AREA WA4 ARE TENTATIVE ONLY AND THE CONTRACTOR SHALL VERIFY THE SETTING OUT COORDINATES ON SITE.

LEGEND:

WORKS AREA WA4

EXISTING CHAIN LINK FENCE AND GATE

Project Management Initials: Designer: PLCK Checked: SLYY Approved: CWN ISO A1 594mm x 841mm

Plot File by: LIUJ3 2012/11/16
PATH P:\Projects\60240249\DRAWING\CONTRACT\C1\1000\C1_1053.dgn

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

TUEN MUN - CHEK LAP KOK LINK - SOUTHERN CONNECTION VIADUCT SECTION

CLIENT 業主

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

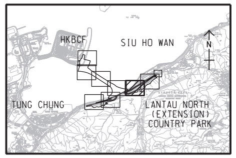
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 覆核
-	NOV. 12	TENDER ADDENDUM NO. 1	CWN

STATUS 階段

SCALE 比例: A1 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖



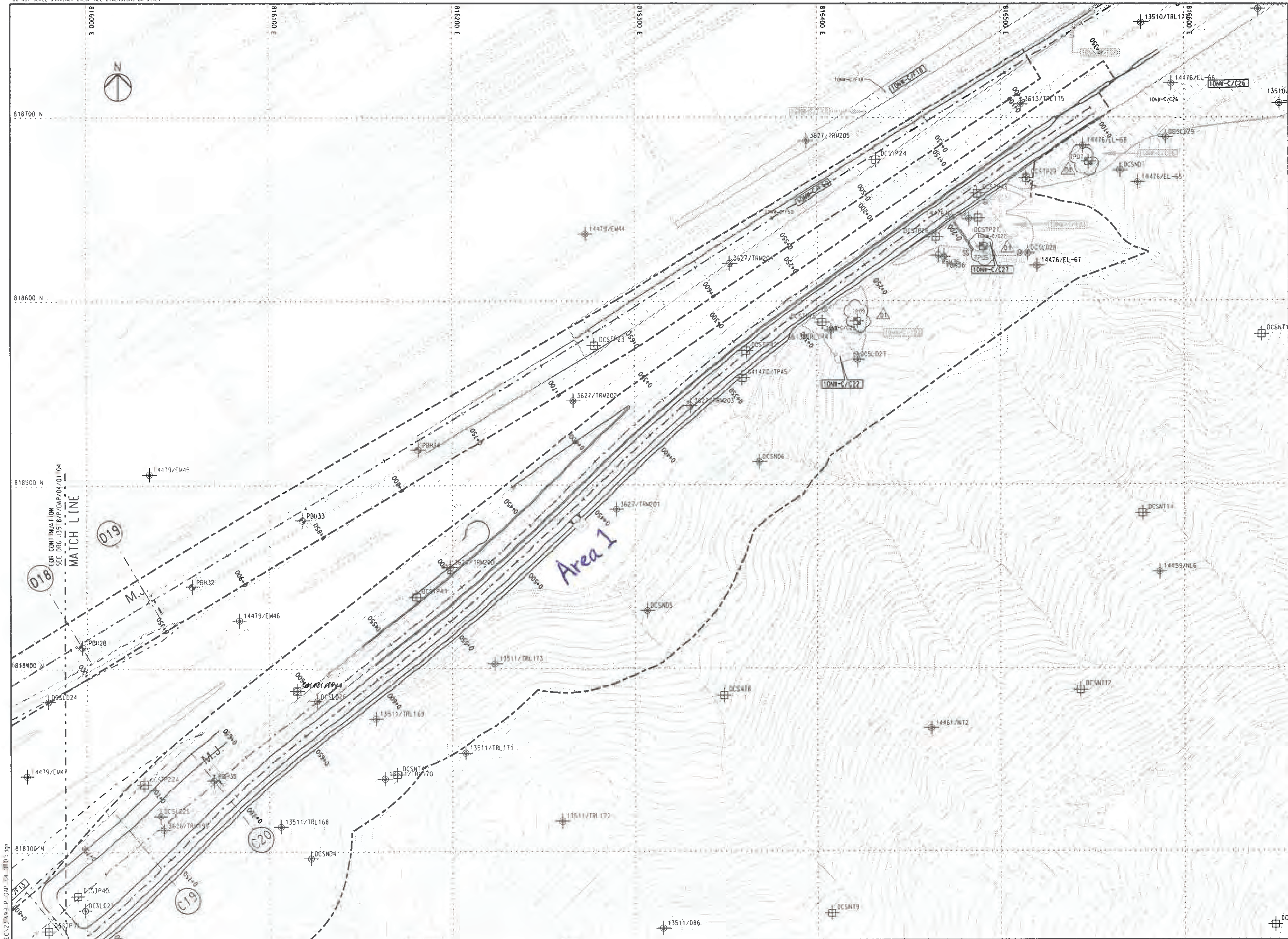
PROJECT NO. 項目編號: 60240249

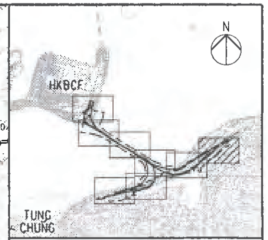
CONTRACT NO. 合約編號: HY/2012/07

SHEET TITLE 圖紙名稱: WORKS AREA WA4

SHEET NUMBER 圖紙編號: 60240249/C1/1053

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.





KEY PLAN

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. J3518/P/OAP/04/1000 AND OTHER RELEVANT DRAWINGS.

LEGEND

SITE BOUNDARY

FAULT

EXISTING G.I.STATIONS :

BOREHOLE BY GIU DATA EXCLUDING VC

BOREHOLE BY GCL CONTRACT HY/2012/04

BOREHOLE BY GCL CONTRACT NL8/97

BOREHOLE BY GCL CONTRACT HY/2009/23

TRIAL PIT BY GCL CONTRACT HY/2012/04

SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

PROPOSED BOREHOLE

PROPOSED TRIAL PIT

PROPOSED COREHOLE

PROPOSED SLOPE STRIPPING

0 10 20 30 40 50 METRES 1 : 1000

Drawn	Date
RL	07/13
Checked	Approved
DS	DOP
Scale	
1:1000 @ A1 / 1:2000 @ A3	

Client: 路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Project Title: Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Supervising Officer: AECOM

Contractor: Gammon

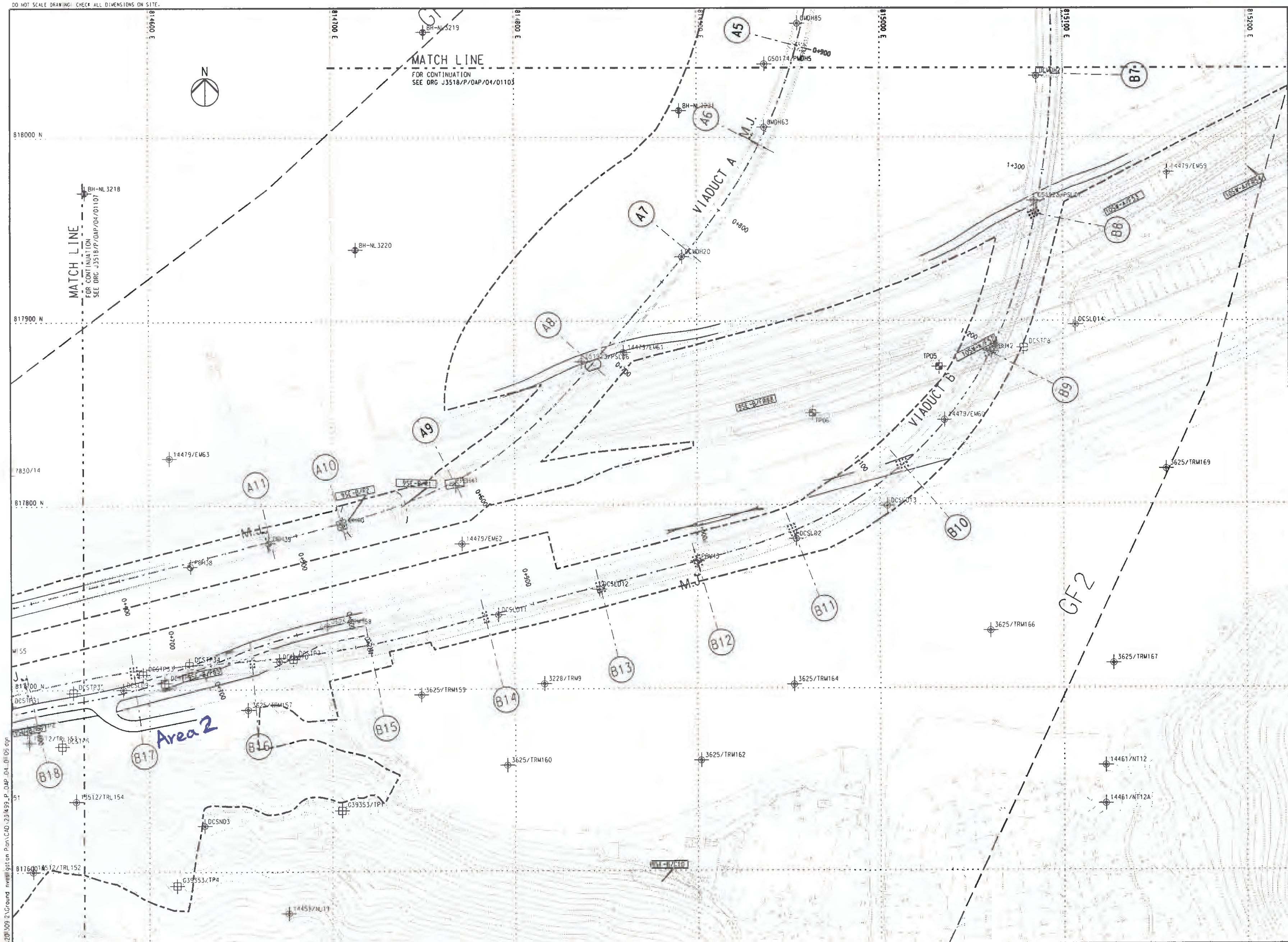
Originator: ARUP

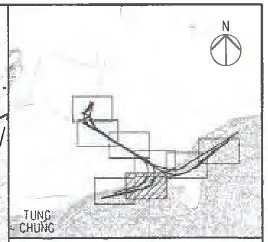
Drawing title

Figure 1.2k

Drawing no. J3518/P/OAP/04/01105 Rev. D1

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.





KEY PLAN

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. J3518/P/OAP/04/1000 AND OTHER RELEVANT DRAWINGS.

LEGEND

- SITE BOUNDARY
- GF1 FAULT

EXISTING G.I. STATIONS :

- BOREHOLE BY GIU DATA EXCLUDING VC
- BOREHOLE BY GCL CONTRACT HY/2012/04
- BOREHOLE BY GCL CONTRACT NL8/97
- BOREHOLE BY GCL CONTRACT HY/2009/23
- TRIAL PIT BY GCL CONTRACT HY/2012/04
- SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I. STATIONS :

- PB-01 PROPOSED BOREHOLE
- TP01 PROPOSED TRIAL PIT
- CH01 PROPOSED COREHOLE
- SS01 SS02 PROPOSED SLOPE STRIPPING

Rev	Description	By	Date	Rev	Description	By	Date
A	SUBMISSION	RC	07/13				
B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				

Drawn	Date
RL	07/13
Checked	Approved
DS	DOP

Scale 1:1000 @ A1 / 1:2000 @ A3

Client: 路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

Project Title
Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Drawing title

Figure 1.2l

Drawing no. J3518/P/OAP/04/01106 Rev C

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
HyD (Highways Department)	Project Coordinator	Stanley Chan	2762 3406	3188 6614
	Senior Engineer	Steven Shum	2762 4133	3188 6614
SOR (AECOM Asia Company Limited)	Chief Resident Engineer	Daniel Ip	3553 3800	2492 2057
	Resident Engineer	Kingman Chan	3691 3950	3691 2899
ENPO / IEC (Ramboll Environ Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
	IEC	Dr. F.C. Tsang	3465 2851	3465 2899
Contractor (Gammon Construction Limited)	Environmental Manager	Brian Kam	3520 0387	3520 0486
	Environmental Officer	Roy Leung	3520 0387	3520 0486
	24-hour Complaint Hotline		9738 4332	
ET (ERM-HK)	ET Leader	Jovy Tam	2271 3113	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of the Contract commenced on 31 October 2013. The three-month rolling construction programme is shown in Appendix B.

As informed by the Contractor, details of the major works carried out in this reporting month are listed below:

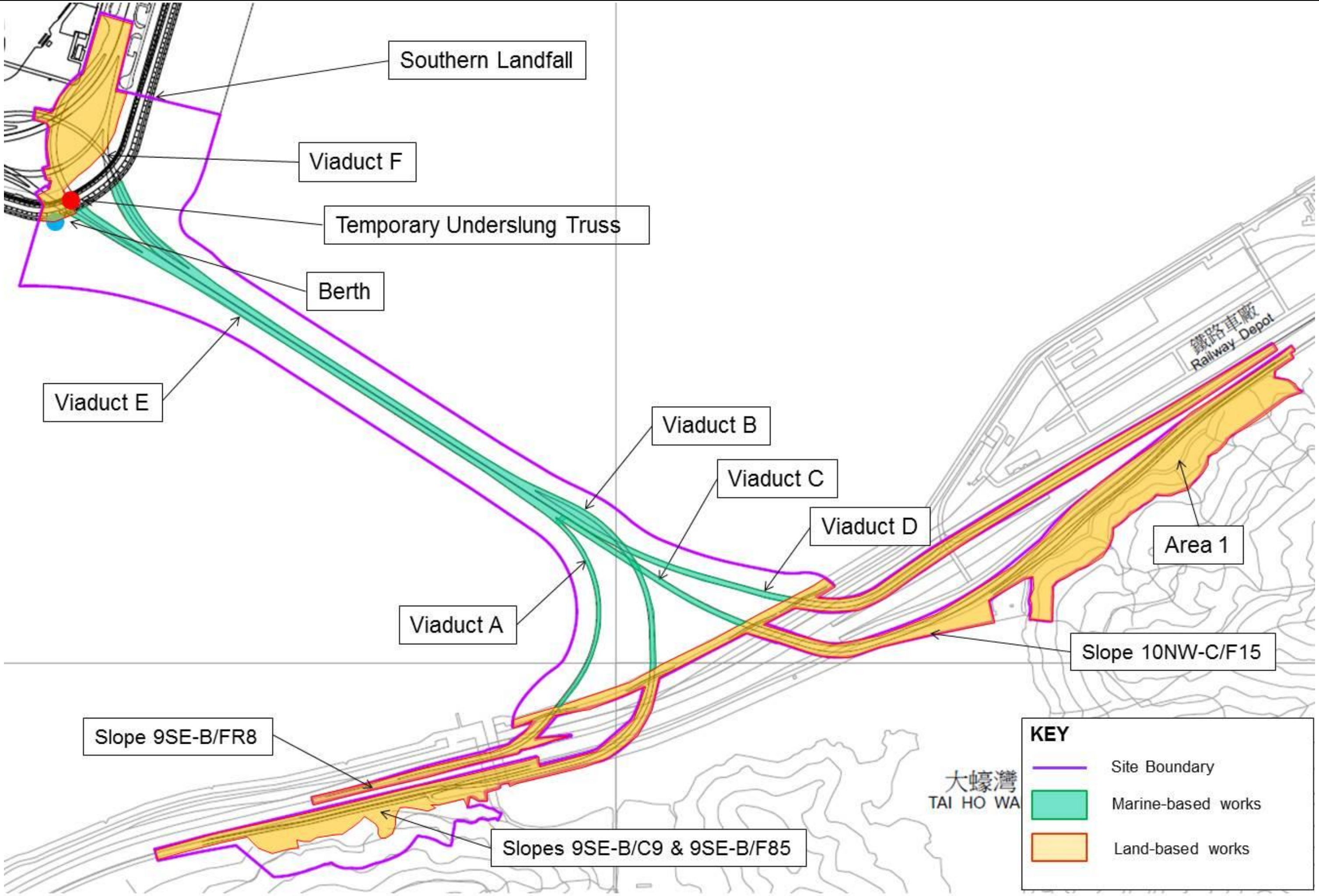
Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Launching gantry operation;
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

The locations of the construction activities are shown in *Figure 1.3*. The Environmental Sensitive Receivers in the vicinity of the Project are shown in *Figure 1.4*.

The environmental mitigation measures implementation schedule is presented in *Appendix C*.

Figure 1.3 Locations of Major Construction Activities in the Reporting Month



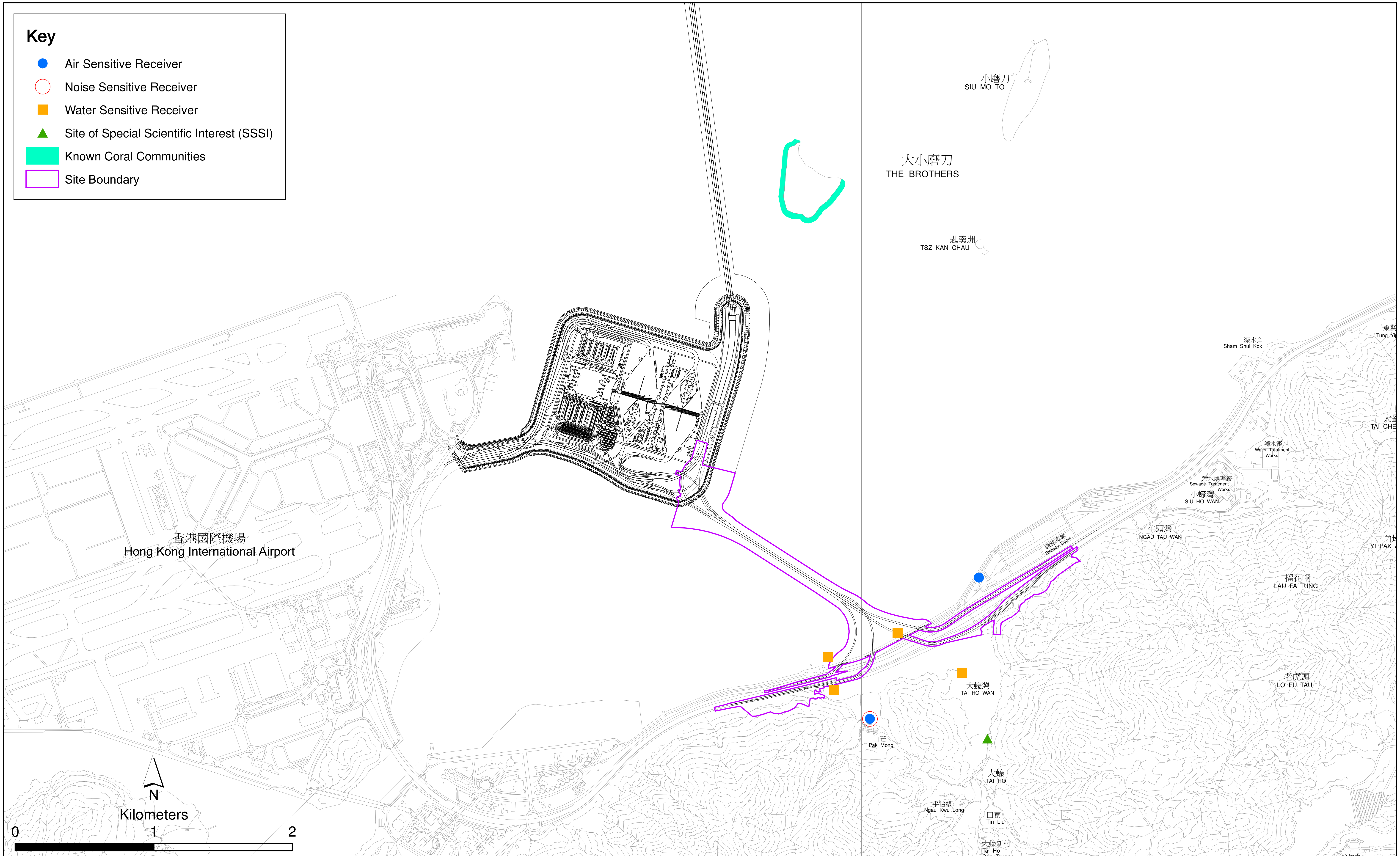


Figure 1.4

Environmental Sensitive Receivers in the Vicinity of Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_Environmental_Sensitive_Receiver.mxd
Date: 18/5/2015

Environmental
Resources
Management

ERM

2 EM&A RESULTS

The EM&A programme required environmental monitoring for air quality, noise, water quality and marine ecology as well as environmental site inspections for air quality, noise, water quality, waste management, marine ecology and landscape and visual impacts. The EM&A requirements and related findings for each component are summarized in the following sections.

2.1 AIR QUALITY

2.1.1 *Monitoring Requirements and Equipment*

In accordance with the Updated EM&A Manual, impact 1-hour TSP monitoring was conducted three (3) times every six (6) days and impact 24-hour TSP monitoring was carried out once every six (6) days when the highest dust impact was expected. The Action and Limit Levels of the air quality monitoring is provided in *Appendix D*.

Table 2.1 Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location	Description	Monitoring Dates
ASR 9	MTR Depot	On the ground nearby MTR Depot Entrance	6, 12, 18, 21 and 27 September 2017
ASR 8A	Area 4	On ground at the works area, Area 4	6, 12, 18, 21 and 27 September 2017

High Volume Samplers (HVSs) were used for 1-hour TSP and 24-hour TSP monitoring at ASR8A and ASR9 in accordance with the requirements of the Updated EM&A Manual. The TSP monitoring stations are illustrated in *Figure 2.1* and detailed in *Table 2.1*. Wind meter was deployed at Area 4 for logging wind speed and wind direction. Copies of the calibration certificates for the equipment are presented in *Appendix E*. Details of the deployed equipment are given in *Table 2.2*.

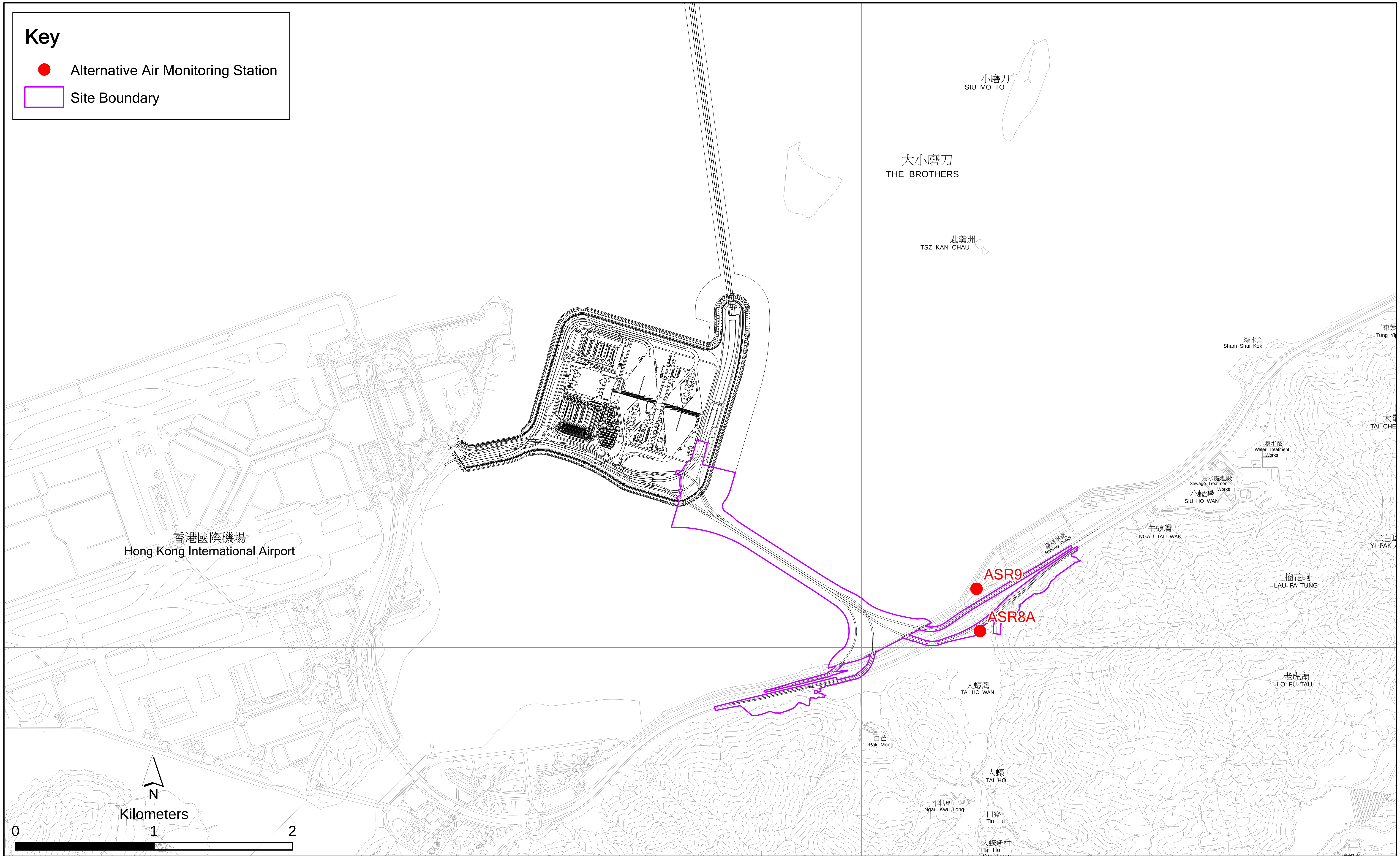


Figure 2.1

Locations of Air Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_AQMS.mxd
Date: 7/1/2015

Environmental Resources Management

ERM

Table 2.2 *Air Quality Monitoring Equipment*

Equipment	Brand and Model
High Volume Sampler (1-hour TSP and 24-hour TSP)	Tisch Environmental Mass Flow Controlled Total Suspended Particulate (TSP) High Volume Sampler (Model No. TE-5170)
Wind Sensor	Global Water (Wind Speed Sensor: WE550; Wind Direction Sensor: WE570)
Wind Anemometer for calibration	Lutron (Model No. AM-4201)

2.1.2 *Monitoring Schedule for the Reporting Month*

The schedule for air quality monitoring in September 2017 is provided in *Appendix F*.

2.1.3 *Results and Observations*

The monitoring results for 1-hour TSP and 24-hour TSP are summarized in *Tables 2.3* and *2.4* respectively. Detailed impact air quality monitoring results are presented in *Appendix G*.

Table 2.3 *Summary of 1-hour TSP Monitoring Results in the Reporting Period*

Monitoring Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR 8A	85	22-169	394	500
ASR 9	99	21-206	393	500

Table 2.4 *Summary of 24-hour TSP Monitoring Results in the Reporting Period*

Monitoring Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR 8A	33	17-50	178	260
ASR 9	37	22-61	178	260

The major dust sources in the reporting period included construction activities under the Contract as well as nearby traffic emissions.

All 1-hour and 24-hour TSP results were below the Action and Limit Levels at all monitoring locations in the reporting period. No action is thus required to be undertaken in accordance with the Event Action Plan presented in *Appendix L*.

Meteorological information collected at ASR8A including wind speed and wind direction is provided in *Appendix H*.

2.2 NOISE MONITORING

2.2.1 *Monitoring Requirements and Equipment*

In accordance with the Updated EM&A Manual, impact noise monitoring was conducted once per week during the construction phase of the Contract. The Action and Limit Level of the noise monitoring is provided in *Appendix D*.

Noise monitoring was performed on 6, 12, 18, 21 and 27 September 2017 using sound level meter at the designated monitoring station NSR1A (*Figure 2.2; Table 2.5*) in accordance with the requirements stipulated in the Updated EM&A Manual. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Details of the deployed equipment are provided in *Table 2.6*. Copies of the calibration certificates for the equipment are presented in *Appendix E*.

Table 2.5 Location of Impact Noise Monitoring Station

Monitoring Station	Location	Description	Parameter	Frequency and Duration	Monitoring Dates
NSR 1A	Pak Mong Village Pavilion	On the ground at the village entrance	30-minute measurement at each monitoring station between 0700 and 1900 on normal weekdays (Monday to Saturday). L_{eq}, L_{10} and L_{90} would be recorded.	At least once per week	6, 12, 18, 21 and 27 September 2017

Table 2.6 Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-52
Acoustic Calibrator	Rion NC-73

2.2.2 *Monitoring Schedule for the Reporting Month*

The schedule for construction noise monitoring in the reporting period is provided in *Appendix F*.

2.2.3 *Results and Observations*

Results for noise monitoring are summarized in *Table 2.7* and the monitoring data is provided in *Appendix I*.

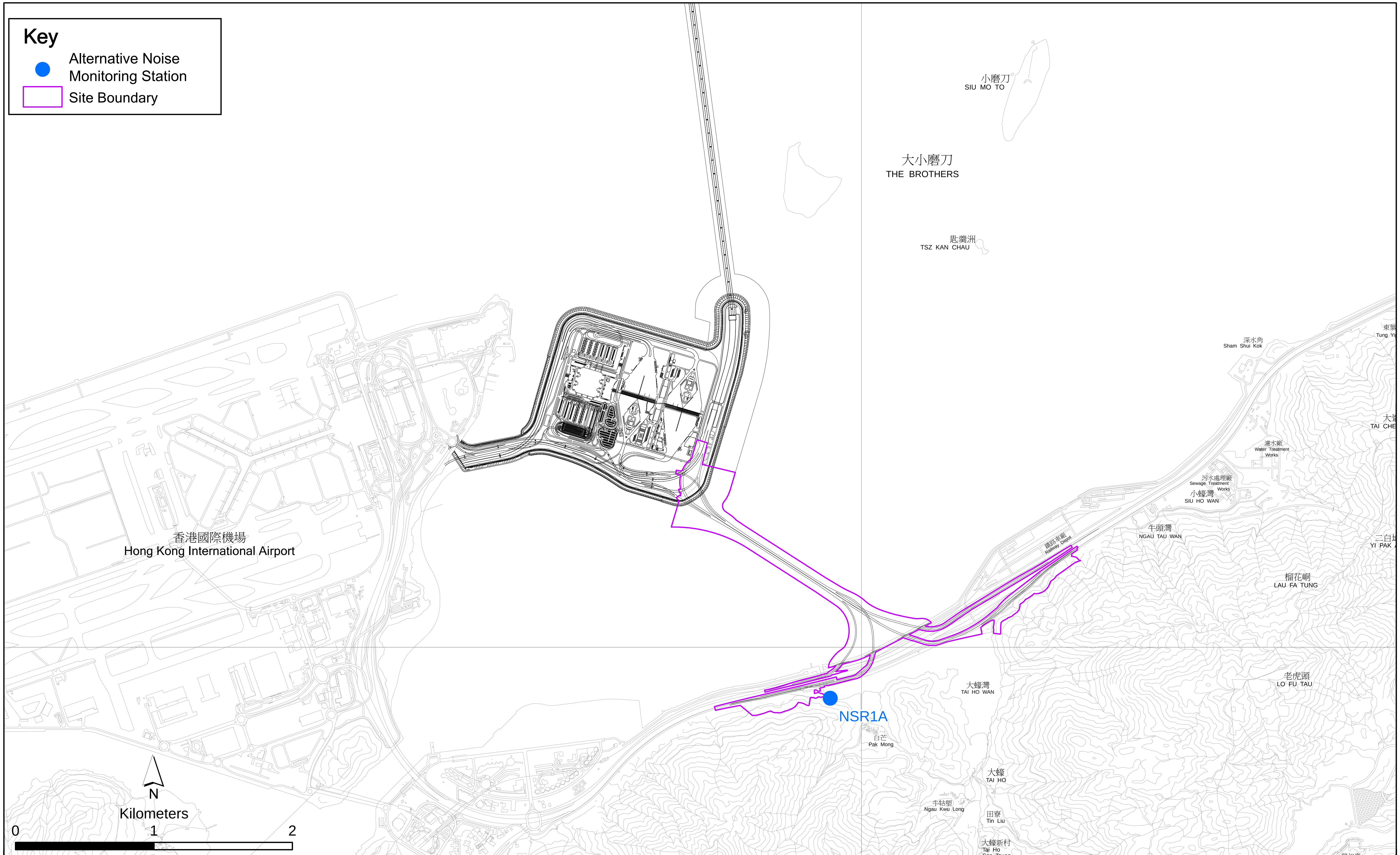


Figure 2.2

Location of Noise Monitoring Station

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Table 2.7 Summary of Construction Noise Monitoring Results in the Reporting Period

	Average , dB(A), $L_{eq\ (30mins)}$	Range, dB(A), $L_{eq\ (30mins)}$	Limit Level, dB(A), $L_{eq\ (30mins)}$
NSR 1A	64	62-67	75

No noise Action or Limit Level exceedance was recorded in the reporting month. No action is thus required to be undertaken in accordance with the Event Action Plan presented in *Appendix L*.

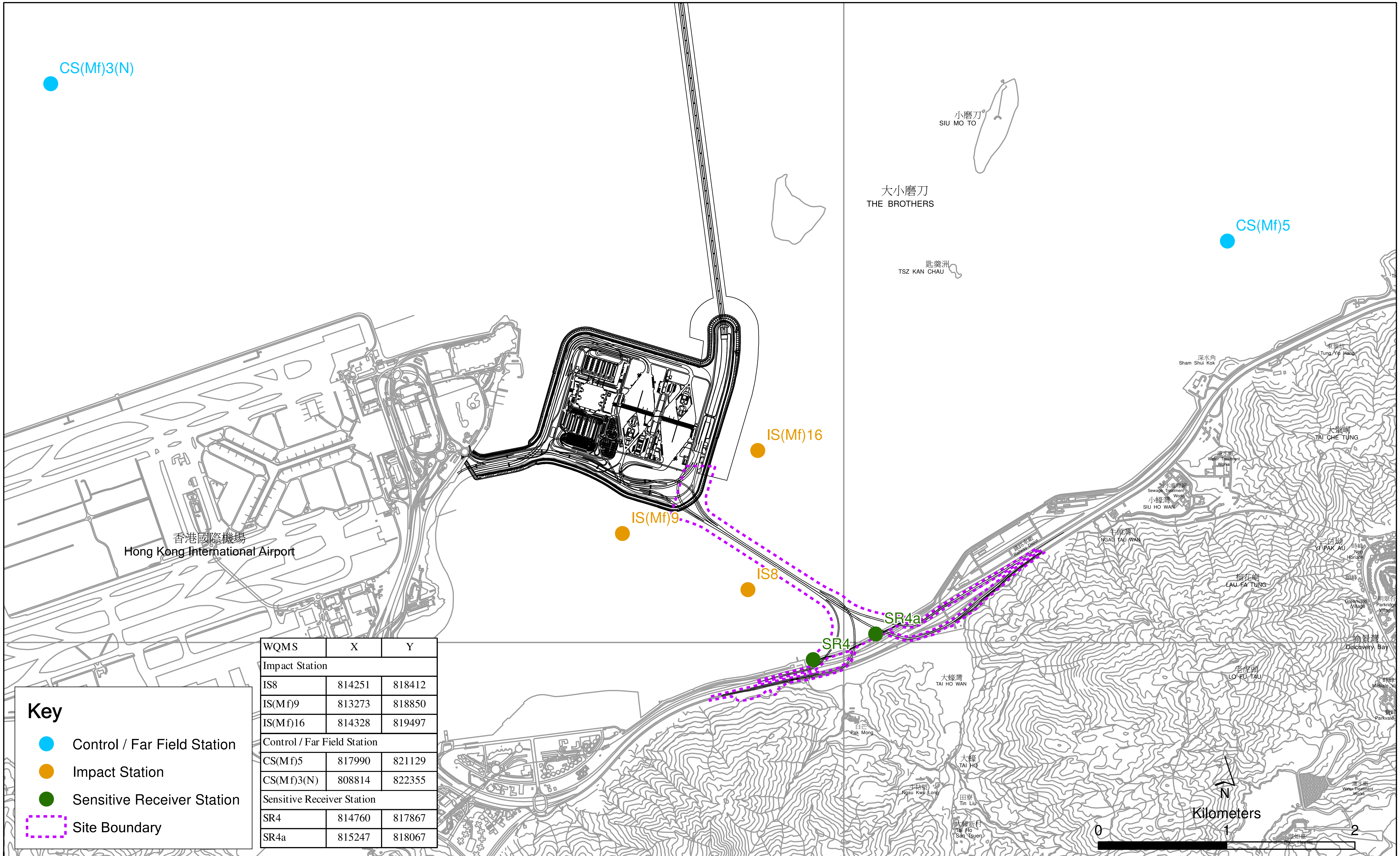
Major noise sources during the noise monitoring included noise from crane operation, concrete work, nearby traffic noise and aircraft noise.

2.3 *WATER QUALITY MONITORING*

2.3.1 *Monitoring Requirements and Equipment*

Impact water quality monitoring was carried out to ensure that any deterioration of water quality was detected, and that timely action was taken to rectify the situation. Impact water quality monitoring was undertaken three days per week during the construction period in accordance with the Updated EM&A Manual. The Action and Limit Levels of the water quality monitoring are provided in *Appendix D*.

The locations of the monitoring stations under the Contract are shown in *Figure 2.3* and *Table 2.8*.



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

Figure 2.3

Locations of Water Quality Monitoring Stations

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Table 2.8 Locations of Impact Water Quality Monitoring Stations and its Corresponding Monitoring Requirements

Station ID	Type	Coordinates		*Parameters, unit	Frequency	Depth
		Easting	Northing			
IS(Mf)9	Impact Station (Close to HKBCF construction site)	813273	818850	• Temperature(°C) • pH (pH unit) • Turbidity (NTU) • Water depth (m) • Salinity (ppt) • Dissolved Oxygen (DO) (mg/L and % of saturation) • Suspended Solid (SS) (mg/L)	Impact monitoring: 3 days per week, at mid-flood and mid-ebb tides during the construction period of the Contract	3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497			
IS8	Impact Station (Close to HKBCF construction site)	814251	818412			
SR4	Sensitive receiver (Tai Ho Inlet)	814760	817867			
SR4a	Sensitive receiver	815247	818067			
CS(Mf)3(N)	Control Station	808814	822355			
CS(Mf)5	Control Station	817990	821129			

*Notes:
In addition to the parameters presented monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or works underway nearby were also recorded.

Water Quality Monitoring Station CS(Mf)3 was relocated to CS(Mf)3(N) since 2 May 2017.

Station SR4a is not covered by HY/2010/02. Data from Station SR4(N) is considered representative of those from SR4a since they are located 50m from each other and coral colonies, which is the SR concerned at SR4a, are also presented along the seawall nearby SR4(N).

Table 2.9 summarises the equipment used in the impact water quality monitoring programme. Copies of the calibration certificates are attached in *Appendix E*.

Table 2.9 Water Quality Monitoring Equipment

Equipment	Brand and Model
Multi-parameters (Dissolved Oxygen, Salinity, Turbidity, Temperature, pH)	YSI ProDSS / YSI 6920 V2 Sonde
Positioning Equipment	Furuno GP-170
Water Depth Detector	Lowrance Mark 5x / Garmin Striker 4
Water Sampler	WildCo Vertical Alpha Bottles 1120-2.2L /1120-3.2L Aquatic Research Instrument Vertical/Horizontal Point Water Sampler 2.2L / 3.0L

2.3.2 *Monitoring Schedule for the Reporting Month*

The schedule for water quality monitoring in September 2017 is provided in *Appendix F*. Water quality monitoring on 4 September 2017 was canceled due to adverse weather.

2.3.3 *Results and Observations*

In total of 12 monitoring events for impact water quality monitoring were conducted at all designated monitoring stations in the reporting month. Impact water quality monitoring results and graphical presentations are provided in *Appendix J*.

Results of water quality monitoring between 1 June 2017 and 31 July 2017 were adopted from the published EM&A data of *Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works* (1) (2). The locations of the monitoring stations covered by Contract No. HY/2010/02 are shown in Figure 2.3 and those overlapped with Contract No. HY/2012/07 are presented in Table 2.8.

Eighty-six (86) Action Level of Dissolved Oxygen (DO) exceedances, four (4) Action Level of Suspended Solids (SS) exceedances and one (1) Limit Level of Turbidity exceedance were recorded for water quality impact monitoring in the reporting month. Actions were taken in accordance with the Event Action Plan as presented in Appendix L.

2.4 DOLPHIN MONITORING

2.4.1 *Monitoring Requirements*

Impact dolphin monitoring is required to be conducted by a qualified dolphin specialist team to evaluate whether there have been any effects on the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) from the Contract. In order to fulfil the EM&A requirements and make good use of available resources, the on-going impact line transect dolphin monitoring data collected by HyD's *Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge. Hong Kong Link Road - Section between Scenic Hill and Hong Kong Boundary Crossing Facilities* on the monthly basis is adopted to avoid duplicates of survey effort.

2.4.2 *Monitoring Equipment*

Table 2.10 summarizes the equipment used for the impact dolphin monitoring.

(1) Published EM&A data for impact water quality monitoring by *Contract No. HY/2010/02* are available at: http://www.hzmbenpo.com/

Table 2.10 Dolphin Monitoring Equipment

Equipment	Model
Global Positioning System (GPS)	Garmin 18X-PC Geo One Phottix
Camera	Nikon D90 300m 2.8D fixed focus Nikon D90 20-300m zoom lens
Laser Binoculars	Infinitor LRF 1000
Marine Binocular	Bushell 7 x 50 marine binocular with compass and reticules
Vessel for Monitoring	65 foot single engine motor vessel with viewing platform 4.5m above water level

2.4.3 Monitoring Parameter, Frequencies and Duration

Dolphin monitoring should cover all transect lines in Northeast Lantau (NEL) and the Northwest Lantau (NWL) survey areas twice per month throughout the entire construction period. The monitoring data should be compatible with, and should be made available for, long-term studies of small cetacean ecology in Hong Kong. In order to provide a suitable long-term dataset for comparison, identical methodology and line transects employed in baseline dolphin monitoring was followed in the impact dolphin monitoring.

2.4.4 Monitoring Location

The impact dolphin monitoring was carried out in the NEL and NWL along the line transect as depicted in *Figure 2.4*. The co-ordinates of all transect lines are shown in *Table 2.11* below [(1)].

(1) Proposal on the changes of transect lines for dolphin monitoring was approved by EPD on 28 July 2017 (Reference number: (19) in EP2/G/A/129 Pt. 8).

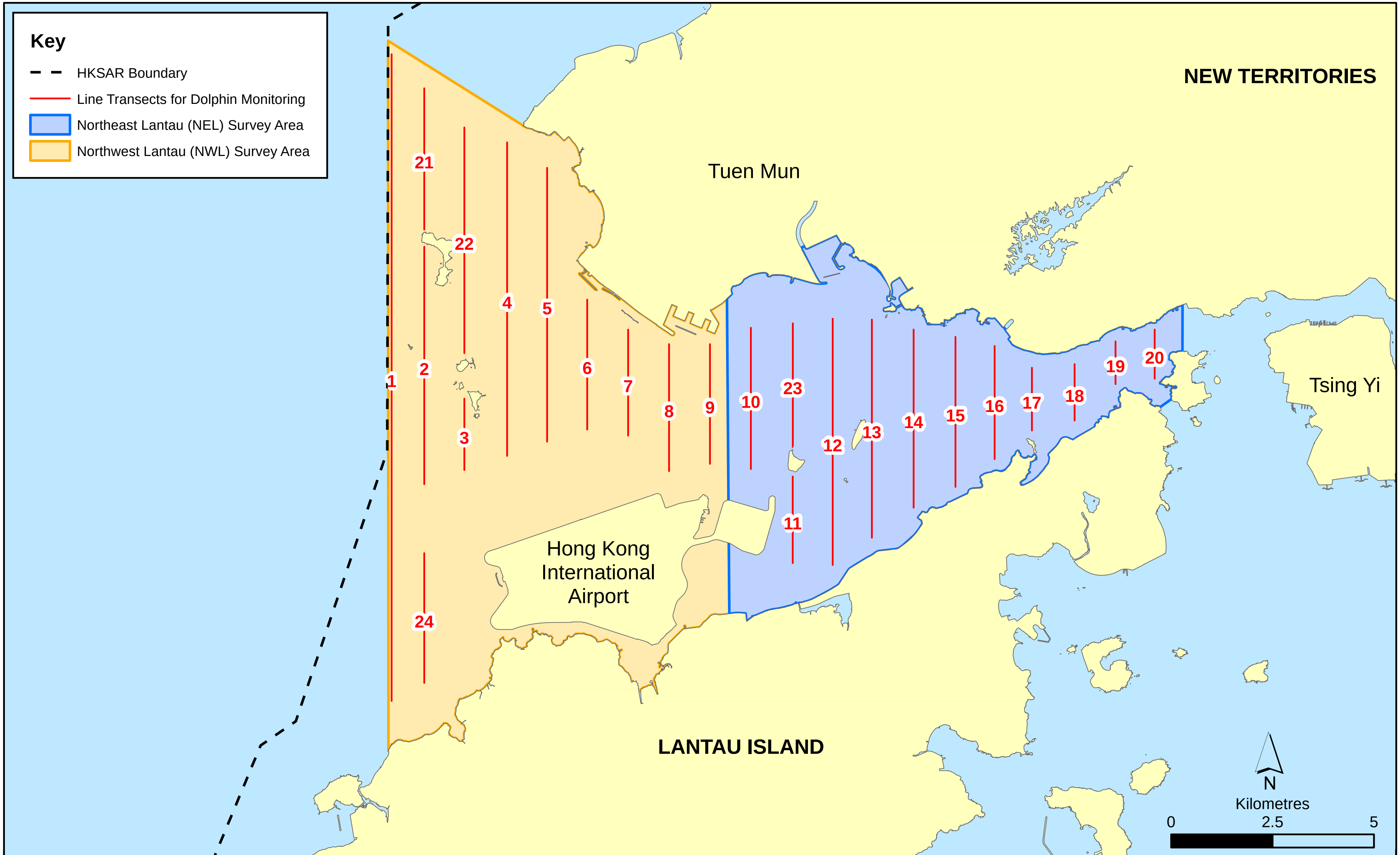

Figure 2.4

Layout of Transect Lines of Dolphin Monitoring in Northwest and Northeast Lantau Areas

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Table 2.11 Impact Dolphin Monitoring Line Transect Co-ordinates

Line No.		Easting	Northing	Line No.		Easting	Northing
1	Start Point	804671	815456	13	Start Point	816506	819480
1	End Point	804671	831404	13	End Point	816506	824859
2	Start Point	805476	820800	14	Start Point	817537	820220
2	End Point	805476	826654	14	End Point	817537	824613
3	Start Point	806464	821150	15	Start Point	818568	820735
3	End Point	806464	822911	15	End Point	818568	824433
4	Start Point	807518	821500	16	Start Point	819532	821420
4	End Point	807518	829230	16	End Point	819532	824209
5	Start Point	808504	821850	17	Start Point	820451	822125
5	End Point	808504	828602	17	End Point	820451	823671
6	Start Point	809490	822150	18	Start Point	821504	822371
6	End Point	809490	825352	18	End Point	821504	823761
7	Start Point	810499	822000*	19	Start Point	822513	823268
7	End Point	810499	824613	19	End Point	822513	824321
8	Start Point	811508	821123	20	Start Point	823477	823402
8	End Point	811508	824254	20	End Point	823477	824613
9	Start Point	812516	821303	21	Start Point	805476	827081
9	End Point	812516	824254	21	End Point	805476	830562
10	Start Point	813525	821176	22	Start Point	806464	824033
10	End Point	813525	824657	22	End Point	806464	829598
11	Start Point	814556	818853	23	Start Point	814559	821739
11	End Point	814556	820992	23	End Point	814559	824768
12	Start Point	815542	818807	24	Start Point	805476	815900
12	End Point	815542	824882	24	End Point	805476	819100

2.4.5 *Action & Limit Levels*

The Action and Limit levels of dolphin impact monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix L.*

2.4.6 *Monitoring Schedule for the Reporting Month*

Dolphin monitoring was carried out on 15, 18, 22 and 29 September 2017 (*Appendix F*).

2.4.7 *Results and Observations*

A total of 266.33 km of survey effort was collected, with 97.9% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) during the surveys in September 2017. Among the two areas, 96.80 km and 169.53 km of survey effort were collected from NEL and NWL survey areas, respectively. The total survey effort conducted on primary and secondary lines were 195.67 km and 70.66 km, respectively. The survey efforts are summarized in *Appendix K*.

Three (3) groups of 11 Chinese White Dolphins were sighted during the two sets of monitoring surveys in September 2017. All dolphin sightings were made in NWL, while none was sighted in NEL. During the surveys in September 2017, all sightings were made during on-effort search, while all on-effort sighting were made on primary lines. The dolphin group was not associated with operating fishing vessel and was not sighted in the proximity of the Project's alignment. The distribution of dolphin sighting during the reporting month is shown in *Figure 2.5*.

Encounter rates of Chinese White Dolphins are deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in September 2017 are shown in *Tables 2.12 & 2.13*.

Table 2.12 Individual Survey Event Encounter Rates

		Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	**Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)**
		Primary Lines Only	Primary Lines Only
NEL	Set 1: Sep 15th / 18th	0.0	0.0
	Set 2: Sep 22nd / 29th	0.0	0.0
NWL	Set 1: Sep 15th / 18th	0.0	0.0
	Set 2: Sep 22nd / 29th	3.6	16.3

Note: Dolphin Encounter Rates are deduced from the two sets of surveys (two surveys in each set) in September 2017 in Northeast (NEL) and Northwest Lantau (NWL)

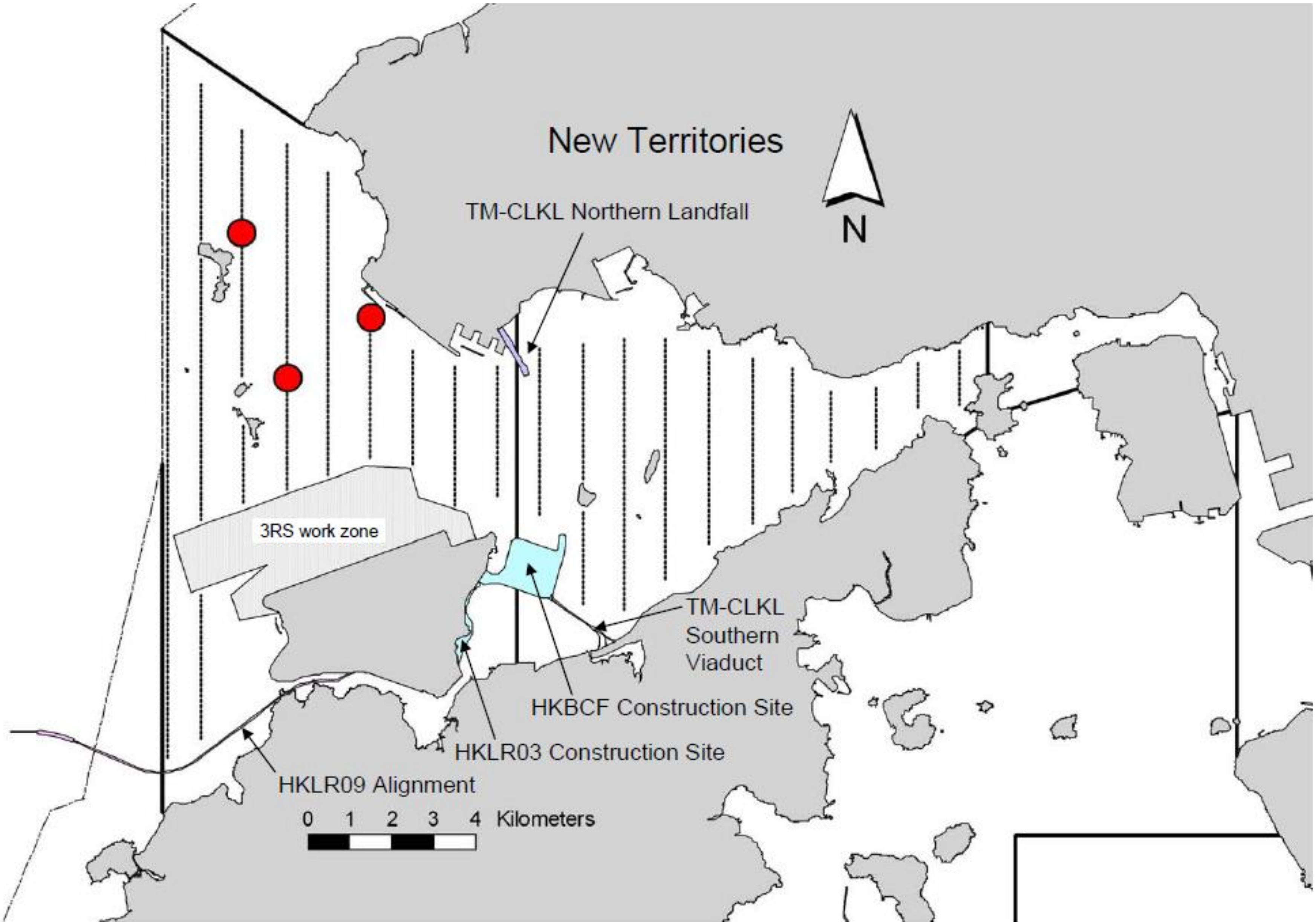

Figure 2.5

Date 3/10/2017

HY/2012/07 TM-CLKL Southern Connection Viaduct Section
The distribution of dolphin sightings during the reporting period
(Source: Adopted from HKLR03 Monitoring Survey in September 2017)

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Table 2.13 Monthly Average Encounter Rates

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	**Both Primary and Secondary Lines**	**Primary Lines Only**	**Both Primary and Secondary Lines**
Northeast Lantau	0.0	0.0	0.0	0.0
Northwest Lantau	1.7	1.2	7.7	5.5

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in September 2017 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau

During this month of dolphin monitoring, no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was noticeable from general observations. Due to monthly variation in dolphin occurrence within the Study Area, it would be more appropriate to draw conclusion on whether any impacts on dolphins have been detected related to the construction activities of the TM-CLKL Southern Connection Viaduct Section in the quarterly EM&A reports, in which comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

2.4.8 Marine Mammal Exclusion Zone Monitoring

Daily 250 m marine mammal exclusion zone monitoring was undertaken during the period of daytime marine works activities. No sighting of Chinese White Dolphin was recorded in September 2017 during the exclusion zone monitoring.

Passive Acoustic Monitoring (PAM) had been decommissioned as no marine piling works was carried out outside the daylight hours since September 2015.

2.5 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, four (4) site inspections were carried out on 6, 13, 20 and 28 September 2017.

Key observations during the site inspections are summarized in *Table 2.14*.

Table 2.14 Specific Observations Identified during the Weekly Site Inspections in this Reporting Month

Inspection Date	Environmental Observations	Recommendations/ Remarks
6 September 2017	Viaduct B (Pier B17) • Chemical container was observed not placed in drip tray. • General refuse in the skip should be cleared.	Viaduct B (Pier B17) • The Contractor was reminded to place chemical container in drip tray. • The Contractor was reminded to clear general refuse in the skip.
13 September 2017	Viaduct E (Pier E10) • Chemical containers on the deck were observed not placed in drip tray. • Stagnant water was observed in drip tray. • Tarpaulin should be provided to cover the cement bags (over 20 bags).	Viaduct E (Pier E10) • The Contractor was reminded to place chemical containers in drip tray. • The Contractor was reminded to clear stagnant water in drip tray. • The Contractor was reminded to provide tarpaulin and cover cement bags.
20 September 2017	Southern Landfall Portion A (HKBCF Portion S-c) • Chemical containers were observed not placed in drip tray. • Watering on exposed road should be maintained for dust suppression.	Southern Landfall Portion A (HKBCF Portion S-c) • The Contractor was reminded to maintain watering on exposed road. • The Contractor was reminded to place chemical containers in drip tray.
28 September 2017	Viaduct E (Pier E13CD) • Oil stain was observed near the generator. • Stagnant water was observed in drip tray. Southern Landfall Portion A (HKBCF Portion S-c) • Watering should be applied during pile head breaking works.	Viaduct E (Pier E13CD) • The Contractor was reminded to clear oil stain near the generator. • The Contractor was reminded to clear stagnant water in drip tray. Southern Landfall Portion A (HKBCF Portion S-c) • The Contractor was reminded to apply watering during pile head breaking works.

The Contractor has rectified all of the observations identified during environmental site inspections in the reporting month.

2.6 WASTE MANAGEMENT STATUS

The Contractor has submitted application form for registration as chemical waste producer under the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

Wastes generated during this reporting period include mainly construction wastes (inert and non-inert) and recyclable materials. Reference has been made to the waste flow table prepared by the Contractor (*Appendix M*). The quantities of different types of wastes are summarized in *Table 2.15*.

Table 2.15 Quantities of Different Waste Generated in the Reporting Period

Month/ Year	Inert C&D Materials (a) (m^3)	Imported Fill (m^3)	Inert Construction Waste Re-used (m^3)	Non-inert Construction Waste (b) (kg)	Recyclable Materials (c) (kg)	Chemical Wastes (kg)	Marine Sediment (m^3)		
							Category L	Category M (M_p & M_f)	Category H
September 2017	3,147	0	0	185,420	18,100	0	1,517	1,047	127

Notes:
(a) Inert construction wastes include hard rock and large broken concrete, and materials disposed as public fill.
(b) Non-inert construction wastes include general refuse disposed at landfill.
(c) Recyclable materials include metals, paper, cardboard, plastics, timber, felled trees and others.

The Contractor was advised to properly maintain on site C&D materials and waste collection, sorting and recording system, dispose of C&D materials and wastes at designated ground and maximize reuse/ recycle of C&D materials and wastes. The Contractor was also reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.

For chemical waste containers, the Contractor was reminded to treat properly and store temporarily in designated chemical waste storage area on site in accordance with the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*.

2.7 *ENVIRONMENTAL LICENSES AND PERMITS*

The status of environmental licensing and permit is summarized in *Table 2.16* below.

Table 2.16 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13 Mar 2015	N/A	HyD	Tuen Mun- Chek Lap Kok Link
Environmental Permit	EP-353/2009/K	11 Apr 2016	N/A	HyD	Hong Kong Boundary Crossing Facilities
Construction Dust Notification	361571	5 Jul 2013	N/A	GCL	
Construction Dust Notification	362093	17 Jul 2013	N/A	GCL	For Area 23
Chemical Waste Registration	5213-961-G2380-13	10 Oct 2013	N/A	GCL	Chemical waste produced in Contract No. HY/2012/07 (Area 1 adjacent to Cheng Tung Road, Siu Ho Wan)
Chemical Waste Registration	5213-961-G2380-14	10 Oct 2013	N/A	GCL	Chemical waste produced in Contract No. HY/2012/07 (Area 2 adjacent to Cheung Tung Road, Pak Mong Village)
Chemical Waste Registration	5213-974-G2588-03	4 Nov 2013	N/A	GCL	Chemical waste produced in Contract No. HY/2012/07 (WA5 adjacent to Cheung Tung Road, Yam O)
Chemical Waste Registration	5213-951-G2380-17	12 Jun 2014	N/A	GCL	Viaducts A, B, C, D & E
Construction Waste Disposal Account	7017735	10 Jul 2013	N/A	GCL	-
Construction Waste Disposal Account	7019470	3 Mar 2014	N/A	GCL	Vessel CHIT Account
Waste Water Discharge License	WT00019017-2014	13 May 2014	31 May 2019	GCL	Discharge for marine portion
Waste Water Discharge License	WT00019018-2014	13 May 2014	31 May 2019	GCL	Discharge for land portion
Construction Noise Permit for night works and works in general holidays	GW-RW0294-17	19 Jun 2017	18 Dec 2017	GCL	General works at WA5
Construction Noise Permit for night works and works in general holidays	GW-RS0540-17	20 Jun 2017	15 Dec 2017	GCL	Broad Permit for Whole Site Areas
Construction Noise Permit for night works and works in general holidays	GW-RS0639-17	31 Jul 2017	29 Sep 2017	GCL	Broad Permit for Segment Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS0829-17	29 Sep 2017	30 Nov 2017	GCL	Broad Permit for Segment Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS0668-17	7 Aug 2017	6 Feb 2018	GCL	Pre-casted pile cap shell installation at E8-E13
Construction Noise Permit for percussive piling	PP-RS0010-17	12 Jun 2017	15 Sep 2017	GCL	Percussive piling at Portion A
Marine Dumping Permit	EP/MD/18-031	1 Jul 2017	31 Dec 2017	GCL	For dumping Type I sediment
Marine Dumping Permit	EP/MD/18-061	16 Sep 2017	15 Oct 2017	GCL	For dumping Type I and Type II sediment

2.8 *IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*

In response to the site audit findings, the Contractors carried out corrective actions.

A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in *Appendix C*. The necessary mitigation measures were implemented properly for this Contract.

The landscape and visual (L&V) mitigation measures were also monitored on weekly basis in the reporting period. The monitoring status is summarized in *Appendix C*.

2.9 *SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT*

Results for 1-hour TSP, 24-hour TSP and construction noise monitoring complied with the Action/ Limit levels in the reporting period.

Eighty-six (86) Action Level of Dissolved Oxygen (DO) exceedances, four (4) Action Level of Suspended Solids (SS) exceedances and one (1) Limit Level of Turbidity exceedance were recorded for water quality impact monitoring in the reporting month. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix N*.

Cumulative statistics on exceedances is provided in *Appendix N*.

2.10 *SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS*

The Environmental Complaint Handling Procedure is provided in *Figure 2.6*.

There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

Statistics on complaints, notifications of summons, successful prosecutions are summarized in *Appendix N*.

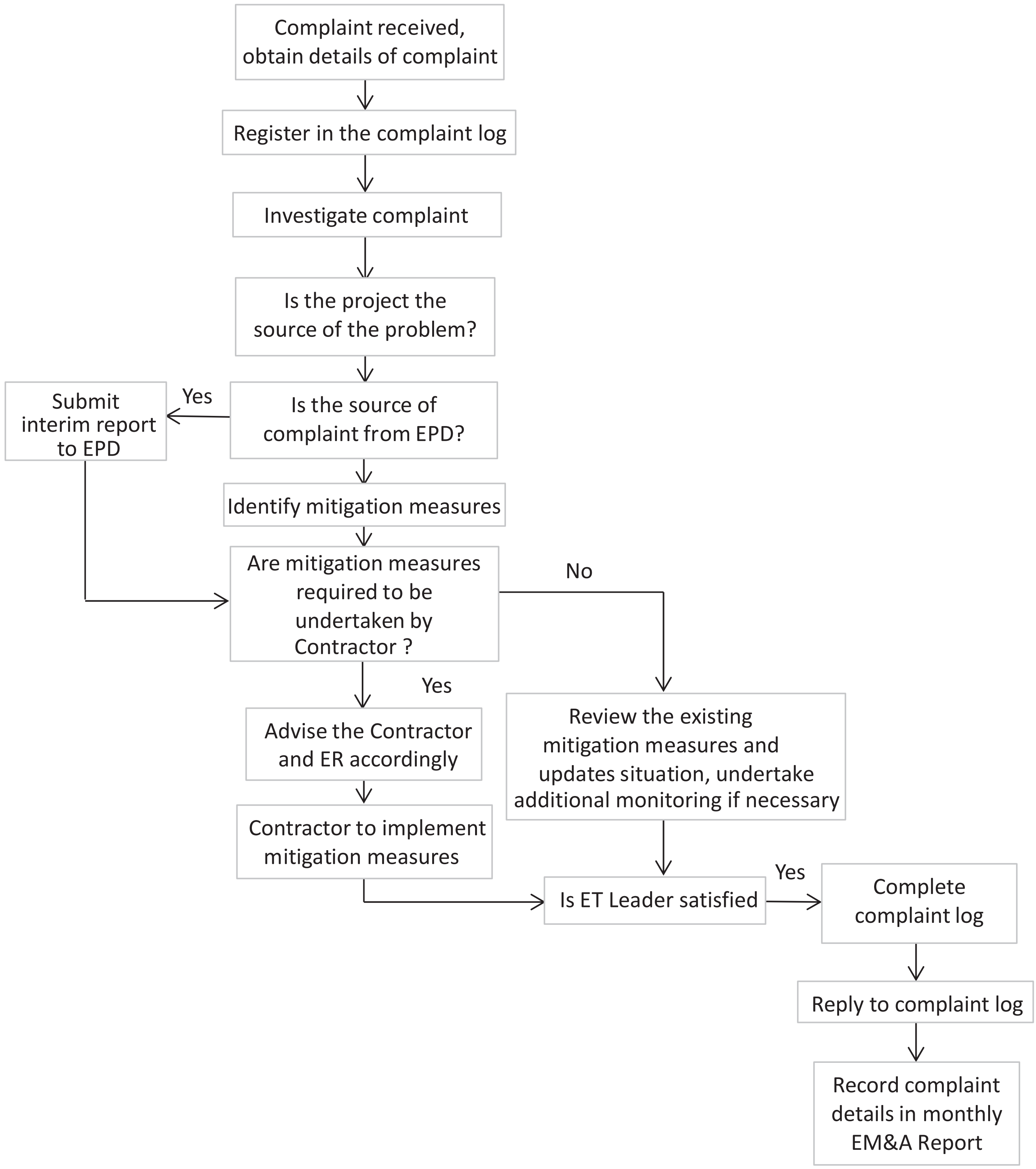

Figure 2.6

Environmental Complaint Handling Procedure

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3 FUTURE KEY ISSUES

3.1 CONSTRUCTION PROGRAMME FOR THE COMING MONTH

As informed by the Contractor, the major works for this Contract in October 2017 will be:

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Launching gantry operation;
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2017 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

3.3 MONITORING SCHEDULE FOR THE COMING MONTH

The tentative schedules for environmental monitoring in October 2017 are provided in *Appendix F*.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Forty-seventh Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 September 2017 in accordance with the Updated EM&A Manual and the requirements of the Environmental Permits (*EP-354/2009/D* and *EP-353/2009/K*).

Air quality (1-hour TSP and 24-hour TSP), noise, water quality (DO, turbidity and SS) and dolphin monitoring were carried out in the reporting month. Results for air quality and noise monitoring complied with the Action and Limit levels in the reporting period.

Eighty-six (86) Action Level of Dissolved Oxygen (DO) exceedances, four (4) Action Level of Suspended Solids (SS) exceedances and one (1) Limit Level of Turbidity exceedance were recorded for water quality impact monitoring in the reporting month. Investigation findings suggested the observed water quality exceedances were not related to the works under this Contract.

Three (3) groups of 11 Chinese White Dolphins were sighted during the two sets of monitoring surveys in September 2017. During this month of dolphin monitoring, no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was noticeable from general observations.

Environmental site inspection was carried out four (4) times in September 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.

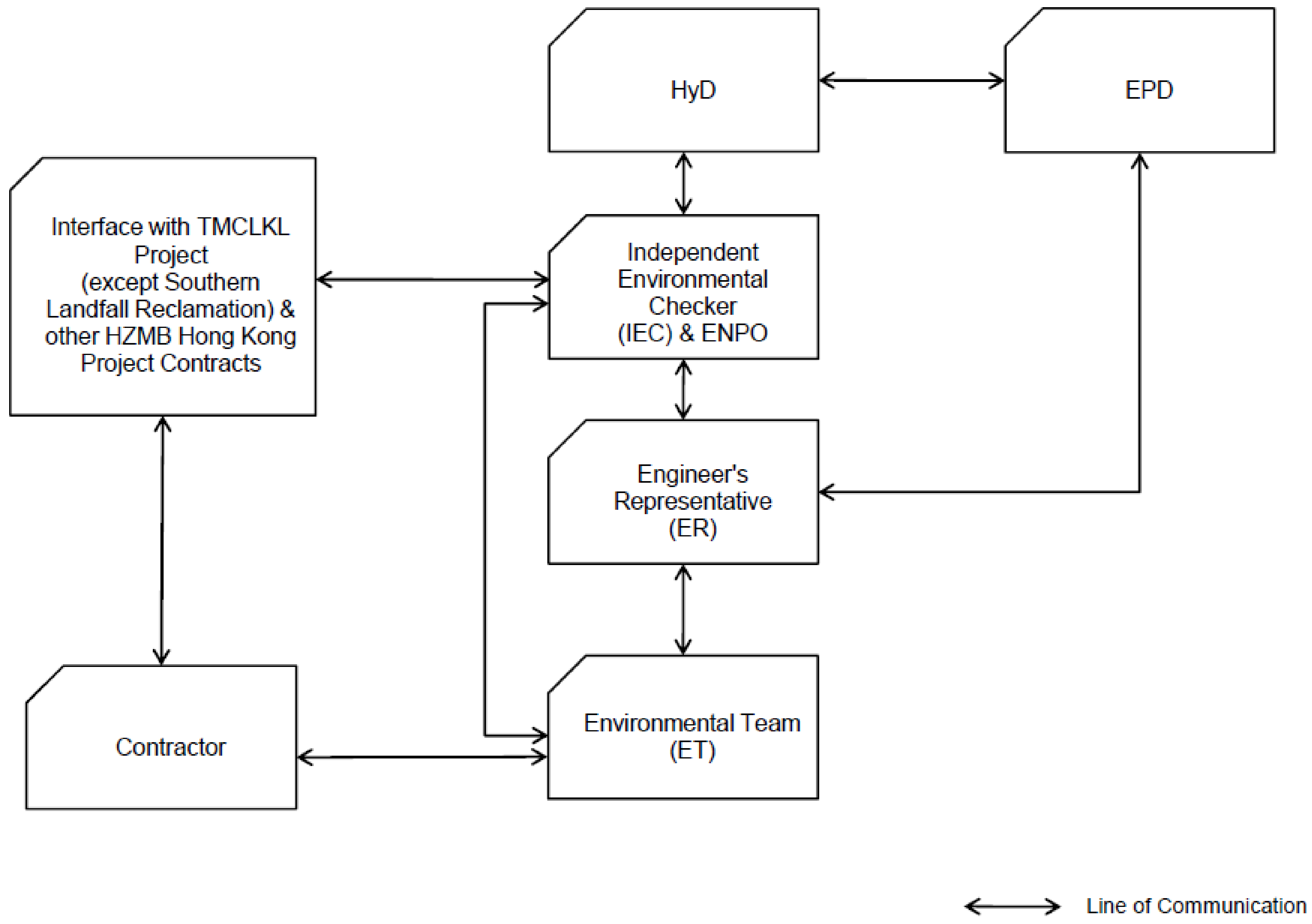
There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

No non-compliance with EIA recommendations, EP conditions and other requirements associated with the marine travel route record of this Contract was recorded in August. Summary of marine travel route record for this reporting period will be provided in next reporting period.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

Project Organization for Environmental Works



Appendix A1

Contract No. HY/2012/07 Southern Connection Viaduct Section
Project Organization

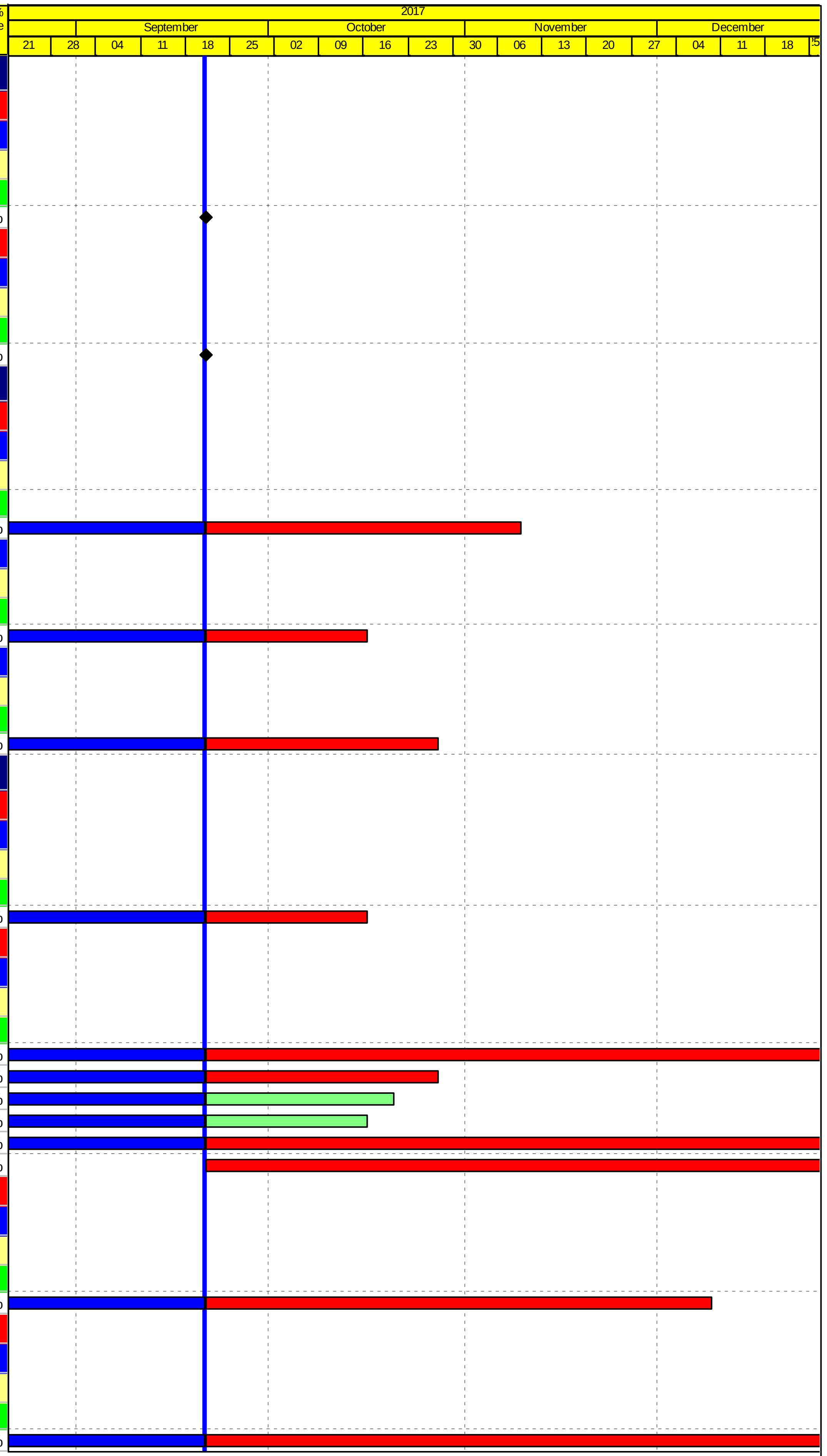
DATE: 06/03/2013

Environmental Resources Management

Appendix B

Three-Month Rolling Construction Programme

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Contract Milestones									
Key Dates for Completion									
Stage of the Works									
Completion Date									
General									
KD03	KD3 - Stage 3: TCSS Along NLH Near Viaduct C, D (EoT 8-Apr-16)	0		0	21-Sep-17*		08-Apr-16	-530	0%
Portion Handover Dates									
Possession of the Works Area									
Access Dates									
General									
POS02-6B	Portion A - Area 6B (To be confirmed)	0	21-Sep-17*	0		08-Jul-20		1022	0%
Design									
Detailed Design									
Slope Works Near Viaduct A									
Feature 9SE-B/FR8, B/R1, B/R2									
Slope Works Design									
ARDD0596-1	IC/SO Approval of Slope Combined AIP/DDA - CP11.01	60	13-Jun-17 A	40	09-Nov-17	31-May-16	18-Jul-16	-391	50%
Slope Works Near Viaduct C									
Feature 10NW-C/C22, C/C26, C/C27, C/F13, C/F14, C/F15									
Slope Works Design									
ARDD0589-2	IC/SO Approval of Combined AIP/DDA - CP13.01	28	01-Jun-17 A	20	16-Oct-17	26-Jul-16	17-Aug-16	-345	90%
Segment Target Geometry & Erection Engineering									
Viaduct F									
Design									
ARDD0754-5	Viaduct F - Issue Erection Manual	30	26-Jun-17 A	30	27-Oct-17	11-Nov-16	15-Dec-16	-255	80%
Procurement									
Precast Deck Segments									
Viaduct F - Bridge F1-F5									
Segment Manufacture									
General									
MBFE0130-1	F: Progressive Segment Manufacture (300 Nr)	252	27-Oct-16 A	20	16-Oct-17	16-Jan-17	10-Feb-17	-202	95%
Precast Parapets & Barriers									
Viaduct A to F									
Precast Parapet Manufacture									
General									
PP6011-01	Viaduct A - Precast Parapets/Barriers Production	90	01-Sep-16 A	90	10-Jan-18	12-Sep-16	30-Dec-16	-304	55%
PP6011-02	Viaduct B - Precast Parapets/Barriers Production	120	03-May-16 A	30	27-Oct-17	20-Sep-16	26-Oct-16	-298	80%
PP6011-03	Viaduct C - Precast Parapets/Barriers Production	120	01-Apr-16 A	24	20-Oct-17	09-Jun-20	08-Jul-20	801	90%
PP6011-04	Viaduct D - Precast Parapets/Barriers Production	120	01-Mar-16 A	20	16-Oct-17	13-Jun-20	08-Jul-20	805	90%
PP6011-05	Viaduct E - Precast Parapets/Barriers Production	180	02-Jul-16 A	156	04-Apr-18	16-May-16	18-Nov-16	-404	40%
PP6011-06	Viaduct F - Precast Parapets/Barriers Production	198	21-Sep-17*	198	26-May-18	18-Feb-17	18-Oct-17	-176	0%
Bearings									
Viaduct F									
Bearing Design & Manufacture									
General									
PPBRF9	Bearing Delivery - Viaduct F	34	18-Jul-17 A	66	09-Dec-17	16-Mar-17	08-Jun-17	-154	30%
Movement Joints									
Viaduct A to F									
MJ Design & Manufacture									
General									
PP6MJ02-2	Manufacture & delivery of MJ	180	01-Apr-17 A	126	24-Feb-18	21-Mar-16	23-Aug-16	-446	80%



Actual Work
Planned Bar
Critical Bar
Milestone

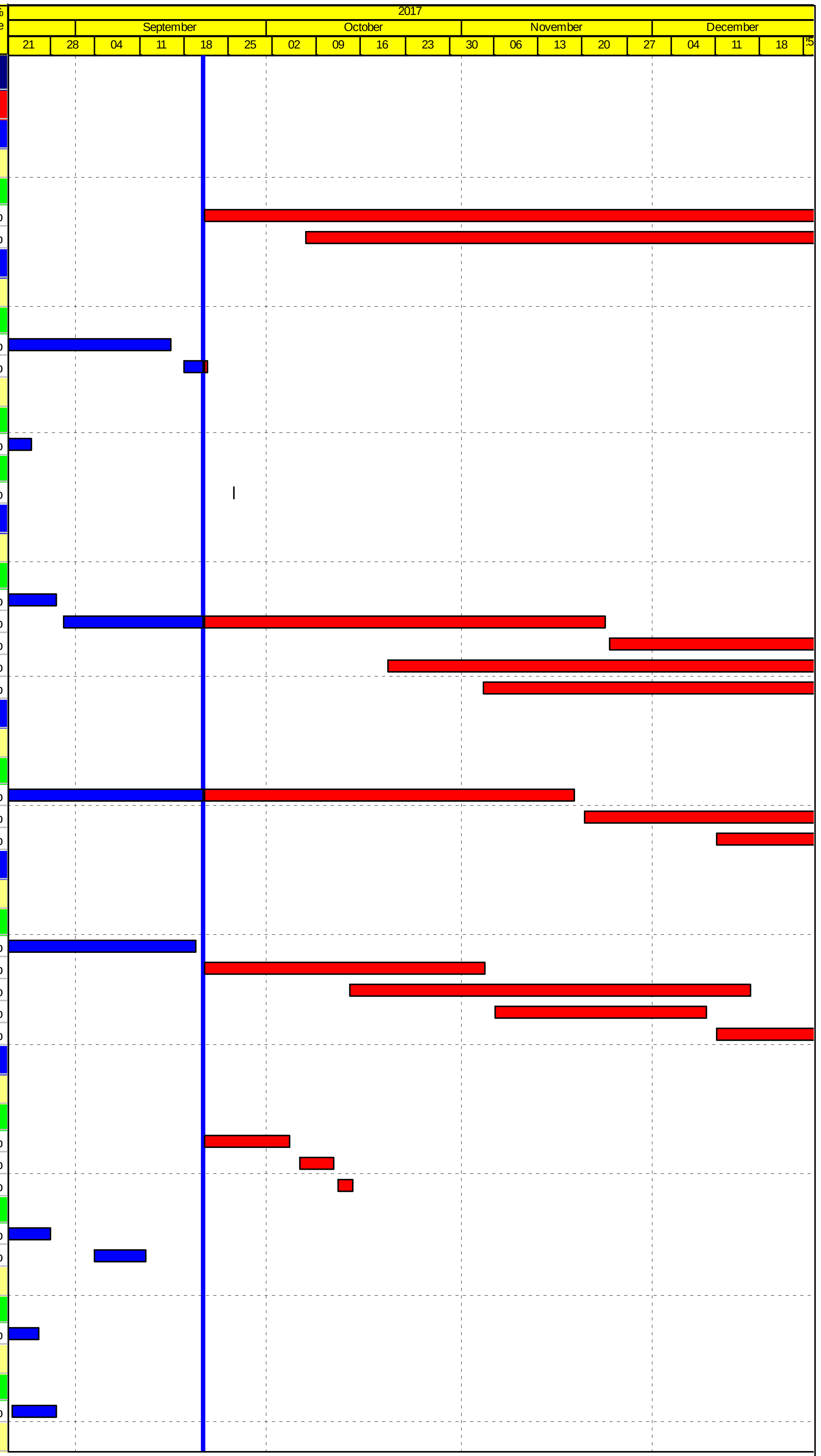
Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 1 of 10 Pages)
(Progress as of 21-Sep-17)

Date	Revision	Checked	Approved
01-Aug-17		PKN	HF
29-Aug-17		PKN	HF
29-Sep-17		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Construction									
Foundation & Substructure Works									
Ramp A									
Abutment & Approach Ramp A									
Ramp Structure									
ARA-C6142	Ramp A - Remaining RC Wall (Bay Wa2-Wa5 & Bay 9-12) with Backfill	120	21-Sep-17	120	14-Feb-18	24-May-16	15-Oct-16	-397	0%
ARA-C6150	Ramp A - Backfill to Walls	111	07-Oct-17	111	21-Feb-18	07-Jun-16	19-Oct-16	-397	0%
Viaduct B - Bridge B1									
Pier B17 (B1c)									
Pier Head Segment									
B17-C5410	B17 - PHS Diaphragm - Rebar, Formwork, Concreting	22	21-Aug-17 A	0	16-Sep-17 A				100%
B17-C5420	B17 - PHS Diaphragm - Curing & Striking of Forms	3	18-Sep-17 A	1	21-Sep-17	08-Jun-16	08-Jun-16	-384	0%
Pier B18 (B1b)									
Pier									
B18-C4210	B18 - Pier Curing, Remove Formwork	3	21-Aug-17 A	0	25-Aug-17 A				100%
Pier Head Segment									
B18-C5310	B18 - PHS Lift & Temp Support (1 seg)	2	26-Sep-17 A	0	26-Sep-17 A				100%
Ramp B									
Abutment & Approach Ramp B									
Ramp Structure									
ARB-C6120	Ramp B - RE Wall - Panel Installation from 1st Row to 2nd Row	66	12-Jun-17 A	0	29-Aug-17 A				100%
ARB-C6130	Ramp B - RE Wall - Panel Installation from 3rd Row to 6th Row	66	30-Aug-17 A	52	23-Nov-17	07-May-16	09-Jul-16	-410	0%
ARB-C6135	Ramp B - RE Wall - Panel installation from 7th Row to 11th Row	72	24-Nov-17	72	22-Feb-18	11-Jul-16	04-Oct-16	-410	0%
ARB-C6140	Ramp B - RC Wall - Base Slab	92	20-Oct-17	92	08-Feb-18	04-Jun-16	22-Sep-16	-410	0%
ARB-C6150	Ramp B - RC Wall - Side Wall	92	04-Nov-17	92	26-Feb-18	20-Jun-16	07-Oct-16	-410	0%
Ramp C									
Abutment & Approach Ramp C									
Ramp Finishes, E&M & Roadworks									
ARC-C7715	Ramp C - Parapet Panels (Remaining)	24	25-Apr-17 A	48	18-Nov-17	07-May-16	05-Jul-16	-410	85%
ARC-C7720	Ramp C - Ducting, Gantry & TCSS Provisions (KD4)	36	20-Nov-17	36	03-Jan-18	06-Jul-16	16-Aug-16	-410	0%
ARC-C7810	Ramp C - Drainage, Fire Main & E&M Services	54	11-Dec-17	54	14-Feb-18	27-Jul-16	28-Sep-16	-410	0%
Ramp D									
Abutment & Approach Ramp D									
Ramp Finishes, E&M & Roadworks									
ARD-C7710	Ramp D - Parapet Panels	42	15-Oct-16 A	0	20-Sep-17 A				100%
ARD-C7720	Ramp D - Ducting, Gantry & TCSS Provisions (KD4)	36	21-Sep-17	36	04-Nov-17	02-Feb-16	17-Mar-16	-484	0%
ARD-C7810	Ramp D - Drainage, Fire Main & E&M Services	54	14-Oct-17	54	16-Dec-17	26-Feb-16	04-May-16	-484	0%
ARD-C7820	Ramp D - Railings, Light Poles, Signs & Street Furniture	30	06-Nov-17	30	09-Dec-17	18-Mar-16	26-Apr-16	-484	0%
ARD-C7830	Ramp D - Deck Paving & Roadmarking (KD14)	18	11-Dec-17	18	03-Jan-18	27-Apr-16	19-May-16	-484	0%
Viaduct E - Bridge E5, E6, E7, E8									
Pier E12A (E8b)									
Pile Cap Dolphin									
E12A-C3130	E12A- Dolphin - Marine Pile Cap - Fixings, Dewatering & Trim Pile	11	21-Sep-17*	11	04-Oct-17	18-Sep-17	29-Sep-17	-3	0%
E12A-C3150	E12A - Dolphin - Marine Pile Cap - Rebar, Concreting	5	06-Oct-17	5	11-Oct-17	30-Sep-17	07-Oct-17	-3	0%
E12A-C3160	E12A - Dolphin - Marine Pile Cap - CJ preparation & Curing	3	12-Oct-17	3	14-Oct-17	09-Oct-17	11-Oct-17	-3	0%
Pier Head Segment / Infill Segment									
E12A-C5145	E12A - Install Infill Segments (6 nr) - THB	26	07-Jul-17 A	0	28-Aug-17 A				100%
E12A-C5150	E12A - IFS Stitch & Remove Equipment	12	04-Sep-17 A	0	12-Sep-17 A				100%
Pier E12B (E7b)									
Pier Head Segment / Infill Segment									
E12B-C5150	E12B - IFS Stitch & Remove Equipment	12	14-Aug-17 A	0	26-Aug-17 A				100%
Pier E12C (E6b)									
Pier Head Segment / Infill Segment									
E12C-C5150	E12C - IFS Stitch & Remove Equipment	12	22-Aug-17 A	0	29-Aug-17 A				100%
Pier E12D (E5b)									



Actual Work
Planned Bar
Critical Bar
Milestone

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Layout: J3518-DWP-3MRP Submission - M52
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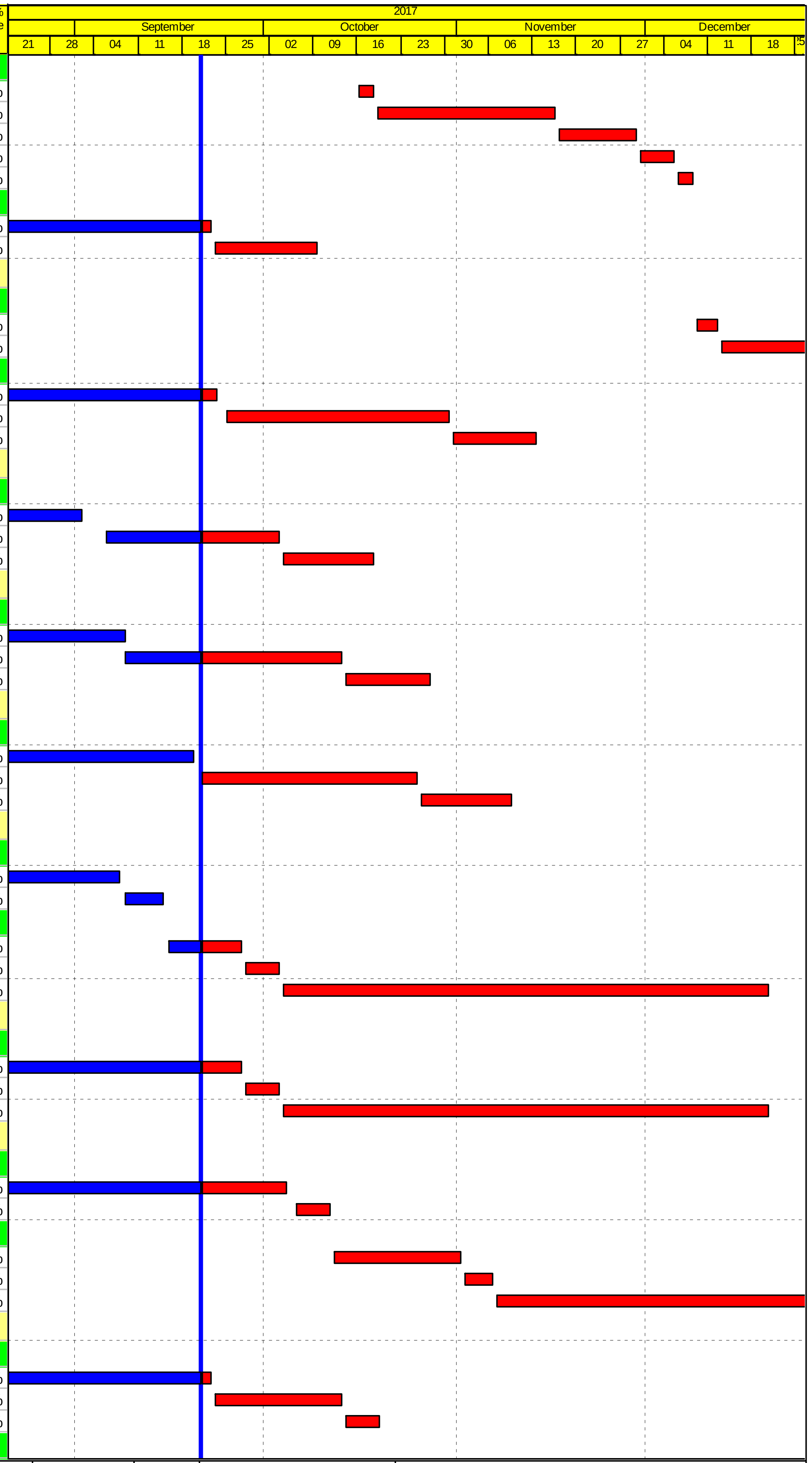
DWG. No.:

J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Pile Cap Dolphin									
E12D-C3070	E12D Dolphin - Marine Pile Cap - Collar frame to perm. casing of pile	3	16-Oct-17*	3	18-Oct-17	12-Oct-17	14-Oct-17	-3	0%
E12D-C3080	E12D Dolphin - Marine Pile Cap - Install precast shell in position	24	19-Oct-17	24	16-Nov-17	16-Oct-17	13-Nov-17	-3	0%
E12D-C3130	E12D Dolphin - Marine Pile Cap - Fixings, Dewatering & Trim Pile	11	17-Nov-17	11	29-Nov-17	14-Nov-17	25-Nov-17	-3	0%
E12D-C3150	E12D Dolphin - Marine Pile Cap - Rebar, Concreting	5	30-Nov-17	5	05-Dec-17	27-Nov-17	01-Dec-17	-3	0%
E12D-C3160	E12D Dolphin - Marine Pile Cap - CJ preparation & Curing	3	06-Dec-17	3	08-Dec-17	02-Dec-17	05-Dec-17	-3	0%
Pier Head Segment / Infill Segment									
E12D-C5145	E12D - Install Infill Segments (6 nr) - THB	28	21-Aug-17 A	2	22-Sep-17	20-Dec-16	21-Dec-16	-222	0%
E12D-C5150	E12D - IFS Stitch & Remove Equipment	12	23-Sep-17	12	09-Oct-17	22-Dec-16	07-Jan-17	-222	0%
Pier E13A (E8c)									
Pile Cap Dolphin									
E13A-C3070	E13A Dolphin - Marine Pile Cap - Floating Seal & Casing Head Steelwork	3	09-Dec-17	3	12-Dec-17	06-Dec-17	08-Dec-17	-3	0%
E13A-C3080	E13A Dolphin - Marine Pile Cap - Install precast shell in position	24	13-Dec-17	24	12-Jan-18	09-Dec-17	09-Jan-18	-3	0%
Pier Head Segment / Infill Segment									
E13A-C5140	E13A - Remove Rail Beams, Spreader Beams, Brackets, Crane	30	14-Aug-17 A	3	23-Sep-17	02-May-17	05-May-17	-119	0%
E13A-C5145	E13A - Install Infill Segments (6 nr) - THB	28	25-Sep-17	28	30-Oct-17	06-May-17	08-Jun-17	-119	0%
E13A-C5150	E13A - IFS Stitch & Remove Equipment	12	31-Oct-17	12	13-Nov-17	09-Jun-17	22-Jun-17	-119	0%
Pier E13B (E7c)									
Pier Head Segment / Infill Segment									
E13B-C5140	E13B - Remove Rail Beams, Spreader Beams, Brackets	16	28-Jul-17 A	0	02-Sep-17 A				100%
E13B-C5145	E13B - Install Infill Segments (6 nr) - THB	42	06-Sep-17 A	10	03-Oct-17	15-Dec-16	28-Dec-16	-226	0%
E13B-C5150	E13B - IFS Stitch & Remove Equipment	12	04-Oct-17	12	18-Oct-17	29-Dec-16	12-Jan-17	-226	0%
Pier E13C (E6c)									
Pier Head Segment / Infill Segment									
E13C-C5140	E13C - Remove Rail Beams, Spreader Beams, Brackets	16	08-Aug-17 A	0	09-Sep-17 A				100%
E13C-C5145	E13C - Install Infill Segments (6 nr) - THB	42	09-Sep-17 A	18	13-Oct-17	28-Dec-16	18-Jan-17	-217	0%
E13C-C5150	E13C - IFS Stitch & Remove Equipment	12	14-Oct-17	12	27-Oct-17	19-Jan-17	04-Feb-17	-217	0%
Pier E13D (E5c)									
Pier Head Segment / Infill Segment									
E13D-C5140	E13D - Remove Rail Beams, Spreader Beams, Brackets, Crane	16	12-Aug-17 A	0	20-Sep-17 A				100%
E13D-C5145	E13D - Install Infill Segments (6 nr) - THB	28	21-Sep-17	28	25-Oct-17	19-Dec-16	23-Jan-17	-223	0%
E13D-C5150	E13D - IFS Stitch & Remove Equipment	12	26-Oct-17	12	09-Nov-17	24-Jan-17	09-Feb-17	-223	0%
Pier E14A (E8d)									
Pier									
E14A-C4510	E14A Pier - Scaffold, Rebar, Formwork, Concrete (5th Lift)	16	24-Jul-17 A	0	08-Sep-17 A				100%
E14A-C4610	E14A Pier - Curing, Remove Formwork	5	09-Sep-17 A	0	15-Sep-17 A				100%
Pier Head Segment									
E14A-C5110	E14A Pier Head - Scaffold, Temp Works	17	16-Sep-17 A	6	27-Sep-17	13-Oct-16	19-Oct-16	-280	40%
E14A-C5210	E14A Pier Head - Erect PH Segment (2 nr)	4	28-Sep-17	4	03-Oct-17	20-Oct-16	24-Oct-16	-280	0%
E14A-C5310	E14A Pier Head - Construct Diaphragm (2nd Cast) in PHS	65	04-Oct-17	65	20-Dec-17	25-Oct-16	11-Jan-17	-280	0%
Pier E14B (E7d)									
Pier Head Segment									
E14B-C5110	E14B Pier Head - Scaffold, Temp Works	17	09-Aug-17 A	6	27-Sep-17	24-Oct-16	29-Oct-16	-271	0%
E14B-C5210	E14B Pier Head - Erect PH Segment (2 nr)	4	28-Sep-17	4	03-Oct-17	31-Oct-16	03-Nov-16	-271	0%
E14B-C5310	E14B Pier Head - Construct Diaphragm (2nd Cast) in PHS	65	04-Oct-17	65	20-Dec-17	04-Nov-16	21-Jan-17	-271	0%
Pier E14C (E6d)									
Pier									
E14C-C4410	E14C Pier - Scaffold, Rebar, Formwork, Concrete (4th Lift)	18	27-Jun-17 A	11	04-Oct-17	25-Feb-17	09-Mar-17	-170	85%
E14C-C4510	E14C Pier - Curing, Remove Formwork	5	06-Oct-17	5	11-Oct-17	10-Mar-17	15-Mar-17	-170	0%
Pier Head Segment									
E14C-C5110	E14C Pier Head - Scaffold, Temp Works	17	12-Oct-17	17	01-Nov-17	16-Mar-17	05-Apr-17	-170	0%
E14C-C5210	E14C Pier Head - Erect PH Segment (2 nr)	4	02-Nov-17	4	06-Nov-17	06-Apr-17	10-Apr-17	-170	0%
E14C-C5310	E14C Pier Head - Construct Diaphragm (2nd Cast) in PHS	65	07-Nov-17	65	24-Jan-18	11-Apr-17	03-Jul-17	-170	0%
Pier E14D (E5d)									
Pier									
E14D-C4310	E14D Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	16	18-Jul-17 A	2	22-Sep-17	15-Sep-16	17-Sep-16	-301	95%
E14D-C4410	E14D Pier - Scaffold, Rebar, Formwork, Concrete (4th Lift)	16	23-Sep-17	16	13-Oct-17	19-Sep-16	07-Oct-16	-301	0%
E14D-C4510	E14D Pier - Curing, Remove Formwork	5	14-Oct-17	5	19-Oct-17	08-Oct-16	14-Oct-16	-301	0%
Pier Head Segment									



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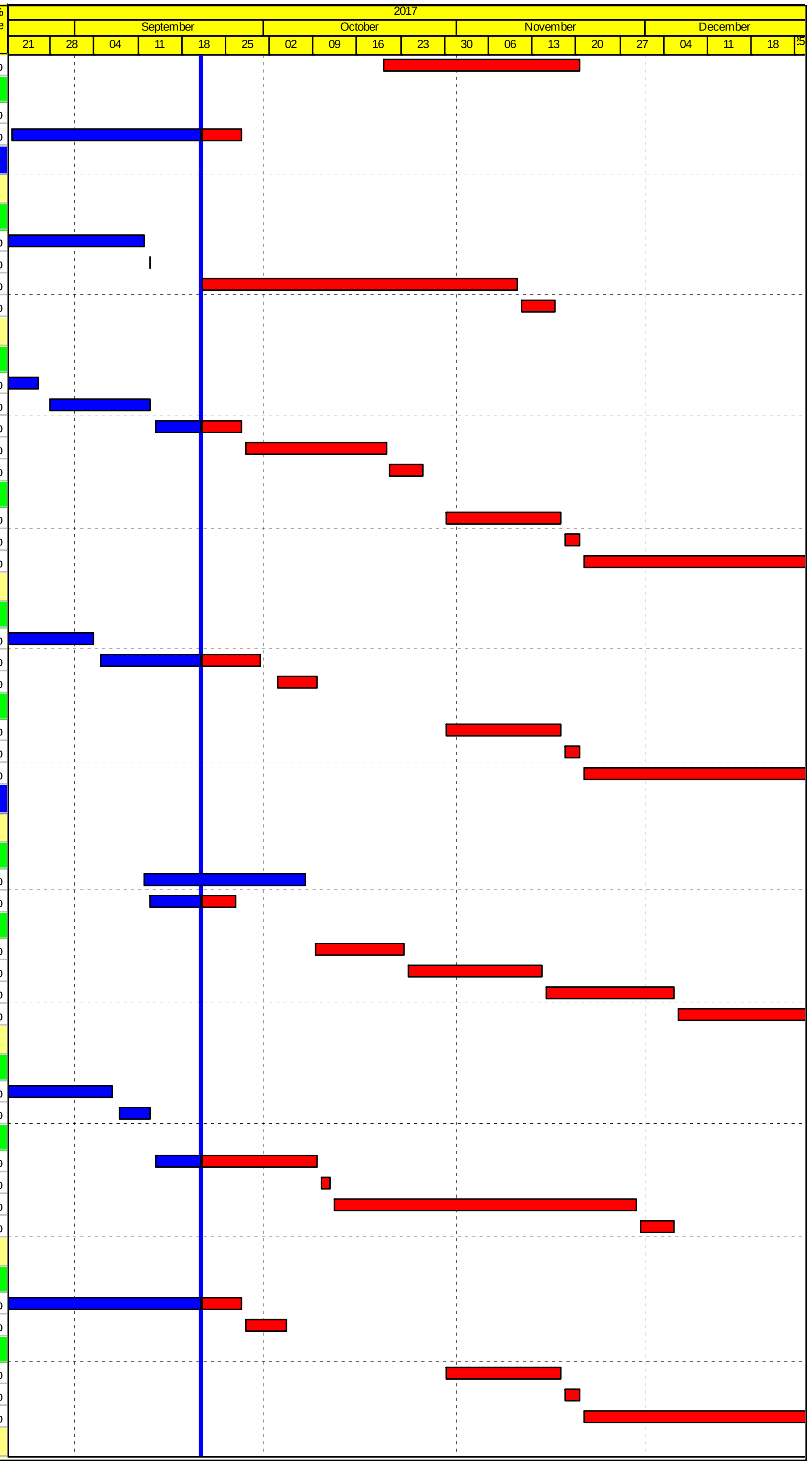
E14D-C5110	E14D Pier Head - Erect Steel Temp Tower on E14D	26	20-Oct-17	26	20-Nov-17	15-Oct-16	14-Nov-16	-301	0%
Temporary Tower Between Pier E14D & E13D									
E14D-C5730	E14D-E13D Temp Tower - Reinstate Rock Armour	18	03-Aug-17 A	0	21-Aug-17 A				100%
E14D-C5740	E14D-E13D Temp Tower - Erect Steel Tower	28	22-Aug-17 A	6	27-Sep-17	18-Nov-16	24-Nov-16	-249	90%
Viaduct F - Bridge F1									
Pier F1 (F1b)									
Pier Head Segment									
F01-C5110	F1 Pier Head - Scaffold, Temp Works	17	21-Aug-17 A	0	12-Sep-17 A				100%
F01-C5210	F1 Pier Head - Erect PH Segment (1 nr)	2	13-Sep-17 A	0	13-Sep-17 A				100%
F01-C5310	F1 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Sep-17	41	10-Nov-17	16-Nov-16	05-Jan-17	-251	0%
F01-C5410	F1 Pier Head - Curing, Remove Temp Works	5	11-Nov-17	5	16-Nov-17	06-Jan-17	11-Jan-17	-251	0%
Pier F2 (F1c)									
Pier									
F02-C4210	F2 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	16-Aug-17 A	0	26-Aug-17 A				100%
F02-C4310	F2 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	28-Aug-17 A	0	13-Sep-17 A				100%
F02-C4410	F2 Pier - Scaffold, Rebar, Formwork, Concrete (4th Lift)	18	14-Sep-17 A	6	27-Sep-17	12-Nov-16	18-Nov-16	-254	75%
F02-C4510	F2 Pier - Scaffold, Rebar, Formwork, Concrete (5th Lift)	18	28-Sep-17	18	20-Oct-17	19-Nov-16	09-Dec-16	-254	0%
F02-C4610	F2 Pier - Curing, Remove Formwork	5	21-Oct-17	5	26-Oct-17	10-Dec-16	15-Dec-16	-254	0%
Pier Head Segment									
F02-C5110	F2 Pier Head - Scaffold, Temp Works	17	30-Oct-17	17	17-Nov-17	16-Dec-16	07-Jan-17	-255	0%
F02-C5210	F2 Pier Head - Erect PH Segment (1 nr)	2	18-Nov-17	2	20-Nov-17	09-Jan-17	10-Jan-17	-255	0%
F02-C5310	F2 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Nov-17	41	10-Jan-18	11-Jan-17	02-Mar-17	-255	0%
Pier F3 (F1d)									
Pier									
F03-C4310	F3 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	19-Aug-17 A	0	04-Sep-17 A				100%
F03-C4410	F3 Pier - Scaffold, Rebar, Formwork, Concrete (4th Lift)	18	05-Sep-17 A	9	30-Sep-17	08-Feb-17	17-Feb-17	-185	55%
F03-C4510	F3 Pier - Curing, Remove Formwork	5	03-Oct-17	5	09-Oct-17	18-Feb-17	23-Feb-17	-185	0%
Pier Head Segment									
F03-C5110	F3 Pier Head - Scaffold, Temp Works	17	30-Oct-17	17	17-Nov-17	24-Feb-17	15-Mar-17	-201	0%
F03-C5210	F3 Pier Head - Erect PH Segment (1 nr)	2	18-Nov-17	2	20-Nov-17	16-Mar-17	17-Mar-17	-201	0%
F03-C5310	F3 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Nov-17	41	10-Jan-18	18-Mar-17	11-May-17	-201	0%
Viaduct F - Bridge F2									
Pier F4 (F2b)									
Pile Cap									
F04-C3210	F4 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	12-Sep-17 A	0	07-Oct-17 A				100%
F04-C3310	F4 Pile Cap - Curing, Remove Formwork, Backfill	12	13-Sep-17 A	5	26-Sep-17	25-Aug-17	30-Aug-17	-23	40%
Pier									
F04-C4110	F4 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	09-Oct-17*	13	23-Oct-17	09-Sep-17	23-Sep-17	-23	0%
F04-C4210	F4 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	24-Oct-17	18	14-Nov-17	25-Sep-17	17-Oct-17	-23	0%
F04-C4310	F4 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	15-Nov-17	18	05-Dec-17	18-Oct-17	08-Nov-17	-23	0%
F04-C4410	F4 Pier - Scaffold, Rebar, Formwork, Concrete (4th Lift)	18	06-Dec-17	18	28-Dec-17	09-Nov-17	29-Nov-17	-23	0%
Pier F5 (F2c)									
Pier									
F05-C4310	F5 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	29-Jul-17 A	0	07-Sep-17 A				100%
F05-C4410	F5 Pier - Curing, Remove Formwork	5	08-Sep-17 A	0	13-Sep-17 A				100%
Pier Head Segment									
F05-C5110	F5 Pier Head - Scaffold, Temp Works	17	14-Sep-17 A	14	09-Oct-17	28-Oct-16	12-Nov-16	-267	20%
F05-C5210	F5 Pier Head - Erect PH Segment (1 nr)	2	10-Oct-17	2	11-Oct-17	14-Nov-16	15-Nov-16	-267	0%
F05-C5310	F5 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	12-Oct-17	41	29-Nov-17	16-Nov-16	05-Jan-17	-267	0%
F05-C5410	F5 Pier Head - Curing, Remove Temp Works	5	30-Nov-17	5	05-Dec-17	06-Jan-17	11-Jan-17	-267	0%
Pier F6 (F2d)									
Pier									
F06-C4210	F6 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	06-Jul-17 A	6	27-Sep-17	03-Jun-17	09-Jun-17	-93	60%
F06-C4310	F6 Pier - Curing, Remove Formwork	5	28-Sep-17	5	04-Oct-17	10-Jun-17	15-Jun-17	-93	0%
Pier Head Segment									
F06-C5110	F6 Pier Head - Scaffold, Temp Works	17	30-Oct-17*	17	17-Nov-17	16-Jun-17	06-Jul-17	-112	0%
F06-C5210	F6 Pier Head - Erect PH Segment (1 nr)	2	18-Nov-17	2	20-Nov-17	07-Jul-17	08-Jul-17	-112	0%
F06-C5310	F6 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Nov-17	41	10-Jan-18	10-Jul-17	25-Aug-17	-112	0%
Pier F7 (F2e)									



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 4 of 10 Pages)
(Progress as of 21-Sep-17)

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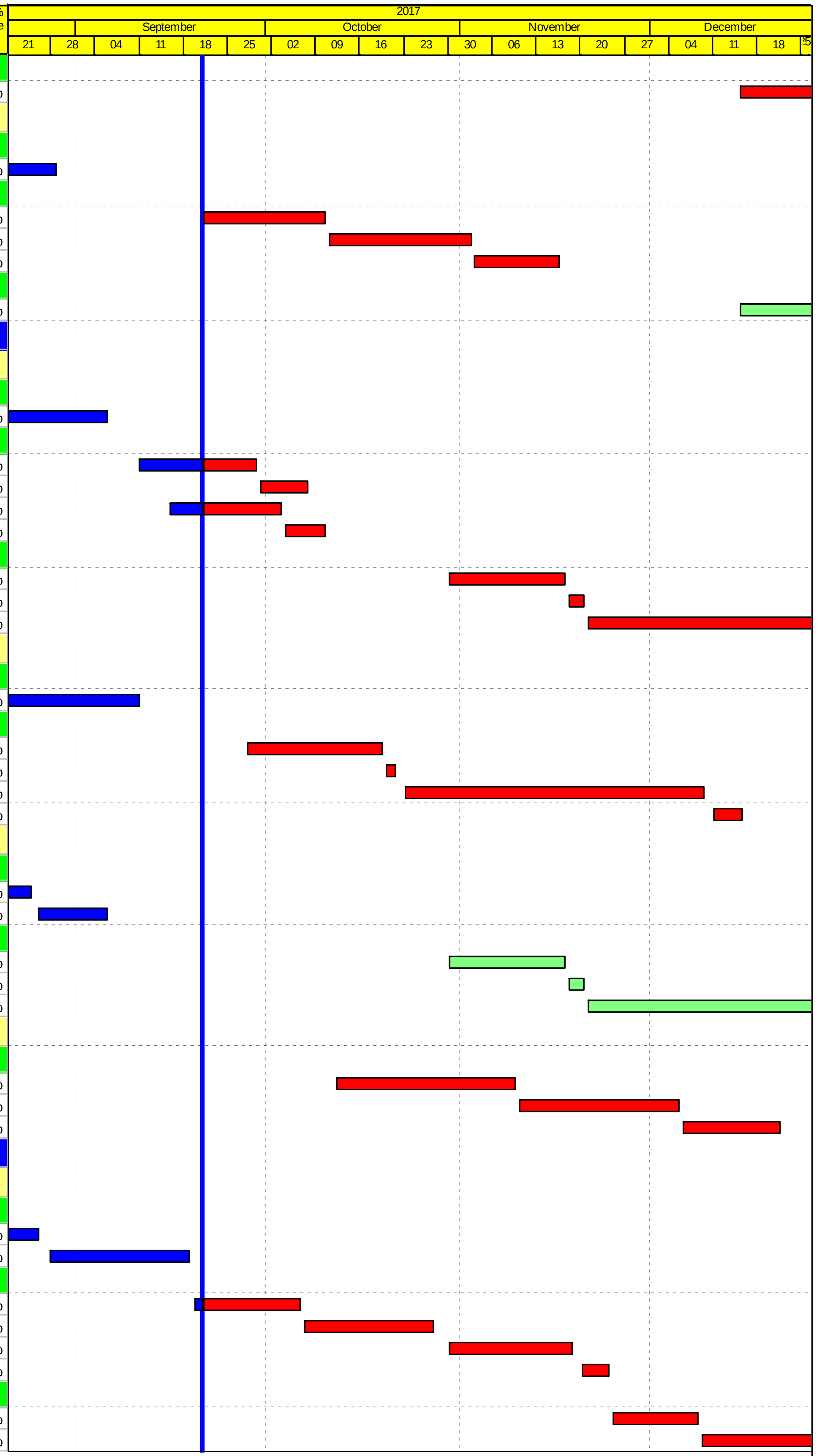
29-Aug-17		PKN	HF
29-Sep-17		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Pier Head Segment									
F07-C5110	F7 Pier Head - Scaffold, Temp Works	17	15-Dec-17*	17	06-Jan-18	16-Nov-17	05-Dec-17	-25	0%
Pier F8 (F2f)									
Foundation - Bored Piles									
F08-C2210	F8 Fr PIle - Curing & Sonic Test	18	05-Aug-17 A	0	29-Aug-17 A				100%
Pile Cap									
F08-C3110	F8 Pile Cap - Excavate, Break Pile Head	15	21-Sep-17*	15	10-Oct-17	24-Aug-17	09-Sep-17	-24	0%
F08-C3210	F8 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	11-Oct-17	19	02-Nov-17	11-Sep-17	03-Oct-17	-24	0%
F08-C3310	F8 Pile Cap - Curing, Remove Formwork, Backfill	12	03-Nov-17	12	16-Nov-17	04-Oct-17	18-Oct-17	-24	0%
Pier									
F08-C4110	F8 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	15-Dec-17*	13	02-Jan-18	22-Dec-17	09-Jan-18	6	0%
Viaduct F - Bridge F3									
Pier F9 (F3d)									
Pile Cap									
F09-C3310	F9 Pile Cap - Curing, Remove Formwork, Backfill	14	19-Aug-17 A	0	06-Sep-17 A				100%
Pier									
F09-C4110	F9 Pier - Scaffold, Rebar, Formwork, Concrete (Pier A)	13	11-Sep-17 A	8	29-Sep-17	05-Sep-17	13-Sep-17	-14	0%
F09-C4210	F9 Pier - Curing, Remove Formwork (Pier A)	5	30-Sep-17	5	07-Oct-17	14-Sep-17	19-Sep-17	-14	0%
F09-C4310	F9 Pier - Scaffold, Rebar, Formwork, Concrete (Pier B)	13	16-Sep-17 A	10	03-Oct-17	02-Sep-17	13-Sep-17	-16	20%
F09-C4410	F9 Pier - Curing, Remove Formwork (Pier B)	5	04-Oct-17	5	10-Oct-17	14-Sep-17	19-Sep-17	-16	0%
Pier Head Segment									
F09-C5110	F9 Pier Head - Scaffold, Temp Works	17	30-Oct-17	17	17-Nov-17	20-Sep-17	11-Oct-17	-31	0%
F09-C5210	F9 Pier Head - Erect PH Segment (2 nr)	2	18-Nov-17	2	20-Nov-17	12-Oct-17	13-Oct-17	-31	0%
F09-C5310	F9 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Nov-17	41	10-Jan-18	14-Oct-17	01-Dec-17	-31	0%
Pier F10 (F3c)									
Pier									
F10-C4210	F10 Pier - Curing, Remove Formwork (Pier A)	5	02-Aug-17 A	0	11-Sep-17 A				100%
Pier Head Segment									
F10-C5110	F10 Pier Head - Scaffold, Temp Works	17	28-Sep-17*	17	19-Oct-17	20-Sep-17	11-Oct-17	-7	0%
F10-C5210	F10 Pier Head - Erect PH Segment (2 nr)	2	20-Oct-17	2	21-Oct-17	12-Oct-17	13-Oct-17	-7	0%
F10-C5310	F10 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	23-Oct-17	41	09-Dec-17	14-Oct-17	01-Dec-17	-7	0%
F10-C5410	F10 Pier Head - Curing, Remove Temp Works	5	11-Dec-17	5	15-Dec-17	02-Dec-17	07-Dec-17	-7	0%
Pier F11 (F3b)									
Pier									
F11-C4310	F11 Pier - Scaffold, Rebar, Formwork, Concrete (Pier B)	13	17-Jul-17 A	0	25-Aug-17 A				100%
F11-C4410	F11 Pier - Curing, Remove Formwork (Pier B)	5	26-Aug-17 A	0	06-Sep-17 A				100%
Pier Head Segment									
F11-C5110	F11 Pier Head - Scaffold, Temp Works	17	30-Oct-17	17	17-Nov-17	14-Dec-17	05-Jan-18	39	0%
F11-C5210	F11 Pier Head - Erect PH Segment (2 nr)	2	18-Nov-17	2	20-Nov-17	06-Jan-18	08-Jan-18	39	0%
F11-C5310	F11 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	21-Nov-17	41	10-Jan-18	09-Jan-18	28-Feb-18	39	0%
Pier F12 (F3a)									
Pile Cap									
F12-C3110	F12 Pile Cap - Excavate, Break Pile Head	24	12-Oct-17*	24	09-Nov-17	08-Aug-17	04-Sep-17	-54	0%
F12-C3210	F12 Pile Cap - Blinding, Formwork, Rebar, Concrete	22	10-Nov-17	22	05-Dec-17	05-Sep-17	29-Sep-17	-54	0%
F12-C3310	F12 Pile Cap - Curing, Remove Formwork, Backfill	14	06-Dec-17	14	21-Dec-17	30-Sep-17	18-Oct-17	-54	0%
Viaduct F - Bridge F4									
Pier F16 (F5a/F4a)									
Pile Cap									
F16-C3210	F16 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	01-Aug-17 A	0	26-Aug-17 A				100%
F16-C3310	F16 Pile Cap - Curing, Remove Formwork, Backfill	12	28-Aug-17 A	0	19-Sep-17 A				100%
Pier									
F16-C4110	F16 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	20-Sep-17 A	12	06-Oct-17	26-May-17	09-Jun-17	-99	0%
F16-C4210	F16 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	07-Oct-17	18	27-Oct-17	10-Jun-17	30-Jun-17	-99	0%
F16-C4310	F16 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	30-Oct-17	18	18-Nov-17	03-Jul-17	22-Jul-17	-99	0%
F16-C4410	F16 Pier - Curing, Remove Temp Works	5	20-Nov-17	5	24-Nov-17	24-Jul-17	28-Jul-17	-99	0%
Pier Head Segment									
F16-C5110	F16 Pier Head - Construct Footing for Falsework	12	25-Nov-17	12	08-Dec-17	29-Jul-17	11-Aug-17	-99	0%
F16-C5210	F16 Pier Head - Erect Falsework & Temp Platform	45	09-Dec-17	45	02-Feb-18	12-Aug-17	04-Oct-17	-99	0%



Actual Work
Planned Bar
Critical Bar
Milestone

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Layout: J3518-DWP-3MRP Submission - M52
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Tuen Mun - Chek Lap Kok Link - Southern Connection
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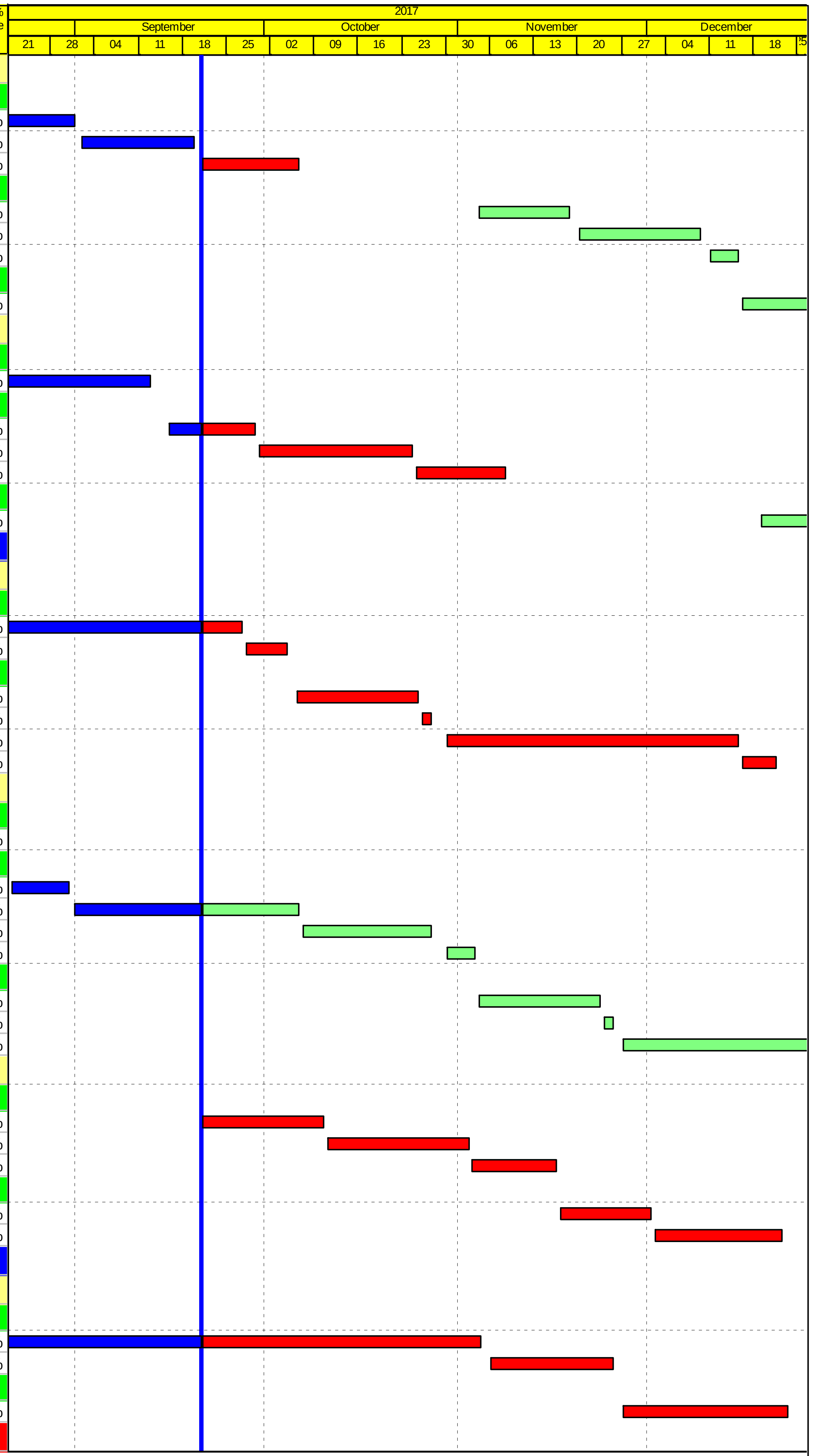
DWG. No.:
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Pier F17 (F4b)									
Pile Cap									
F17-C3110	F17 Pile Cap - Excavate, Break Pile Head	15	09-Aug-17 A	0	01-Sep-17 A				100%
F17-C3210	F17 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	02-Sep-17 A	0	20-Sep-17 A				100%
F17-C3310	F17 Pile Cap - Curing, Remove Formwork, Backfill	12	21-Sep-17	12	06-Oct-17	27-May-17	10-Jun-17	-98	0%
Pier									
F17-C4110	F17 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	04-Nov-17*	13	18-Nov-17	15-Nov-17	29-Nov-17	9	0%
F17-C4210	F17 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	20-Nov-17	18	09-Dec-17	30-Nov-17	20-Dec-17	9	0%
F17-C4310	F17 Pier - Curing, Remove Temp Works	5	11-Dec-17	5	15-Dec-17	21-Dec-17	28-Dec-17	9	0%
Pier Head Segment									
F17-C5110	F17 Pier Head - Scaffold, Temp Works	17	16-Dec-17	17	08-Jan-18	29-Dec-17	18-Jan-18	9	0%
Pier F18 (F4c)									
Foundation - Bored Piles									
F18-C2210	F18 Fr PIle - Curing & Sonic Test	18	19-Jul-17 A	0	13-Sep-17 A				100%
Pile Cap									
F18-C3110	F18 Pile Cap - Excavate, Break Pile Head	15	16-Sep-17 A	8	29-Sep-17	01-Sep-17	09-Sep-17	-17	50%
F18-C3210	F18 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	30-Sep-17	19	24-Oct-17	11-Sep-17	03-Oct-17	-17	0%
F18-C3310	F18 Pile Cap - Curing, Remove Formwork, Backfill	12	25-Oct-17	12	08-Nov-17	04-Oct-17	18-Oct-17	-17	0%
Pier									
F18-C4110	F18 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	19-Dec-17*	13	05-Jan-18	29-Dec-17	13-Jan-18	7	0%
Viaduct F - Bridge F5									
Pier F13 (F5d)									
Pier									
F13-C4210	F13 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	10-Aug-17 A	6	27-Sep-17	03-Mar-17	09-Mar-17	-165	50%
F13-C4310	F13 Pier - Curing, Remove Formwork	5	28-Sep-17	5	04-Oct-17	10-Mar-17	15-Mar-17	-165	0%
Pier Head Segment									
F13-C5110	F13 Pier Head - Scaffold, Temp Works	17	06-Oct-17	17	25-Oct-17	16-Mar-17	05-Apr-17	-165	0%
F13-C5210	F13 Pier Head - Erect PH Segment (1 nr)	2	26-Oct-17	2	27-Oct-17	06-Apr-17	07-Apr-17	-165	0%
F13-C5310	F13 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	30-Oct-17	41	15-Dec-17	08-Apr-17	01-Jun-17	-165	0%
F13-C5410	F13 Pier Head - Curing, Remove Temp Works	5	16-Dec-17	5	21-Dec-17	02-Jun-17	07-Jun-17	-165	0%
Pier F14 (F5c)									
Pile Cap									
F14-C3310	F14 Pile Cap - Curing, Remove Formwork, Backfill	12	10-Aug-17 A	0	21-Aug-17 A				100%
Pier									
F14-C4110	F14 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	22-Aug-17 A	0	31-Aug-17 A				100%
F14-C4210	F14 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	01-Sep-17 A	12	06-Oct-17	18-Oct-17	01-Nov-17	21	65%
F14-C4310	F14 Pier - Scaffold, Rebar, Formwork, Concrete (3rd Lift)	18	07-Oct-17	18	27-Oct-17	02-Nov-17	22-Nov-17	21	0%
F14-C4410	F14 Pier - Curing, Remove Formwork	5	30-Oct-17	5	03-Nov-17	23-Nov-17	28-Nov-17	21	0%
Pier Head Segment									
F14-C5110	F14 Pier Head - Scaffold, Temp Works	17	04-Nov-17	17	23-Nov-17	29-Nov-17	18-Dec-17	21	0%
F14-C5210	F14 Pier Head - Erect PH Segment (1 nr)	2	24-Nov-17	2	25-Nov-17	19-Dec-17	20-Dec-17	21	0%
F14-C5310	F14 Pier Head - Construct Diaphragm (2nd Cast) in PHS	41	27-Nov-17	41	16-Jan-18	21-Dec-17	09-Feb-18	21	0%
Pier F15 (F5b)									
Pile Cap									
F15-C3110	F15 Pile Cap - Excavate, Break Pile Head	15	21-Sep-17*	15	10-Oct-17	31-Aug-17	16-Sep-17	-18	0%
F15-C3210	F15 Pile Cap - Blinding, Formwork, Rebar, Concrete	19	11-Oct-17	19	02-Nov-17	18-Sep-17	11-Oct-17	-18	0%
F15-C3310	F15 Pile Cap - Curing, Remove Formwork, Backfill	12	03-Nov-17	12	16-Nov-17	12-Oct-17	25-Oct-17	-18	0%
Pier									
F15-C4110	F15 Pier - Scaffold, Rebar, Formwork, Concrete (1st Lift)	13	17-Nov-17*	13	01-Dec-17	26-Oct-17	10-Nov-17	-18	0%
F15-C4210	F15 Pier - Scaffold, Rebar, Formwork, Concrete (2nd Lift)	18	02-Dec-17	18	22-Dec-17	11-Nov-17	01-Dec-17	-18	0%
Ramp F									
Abutment & Approach Ramp F									
Foundation - Bored Piles									
ARF-C2120	Ramp F Fr Pile - Sleeve, Casing, Excavate, Rebar, Concrete (20 nr)	126	19-May-17 A	36	04-Nov-17	22-Mar-17	09-May-17	-149	55%
ARF-C2210	Ramp F Fr PIle - Curing & Sonic Test	18	06-Nov-17	18	25-Nov-17	10-May-17	31-May-17	-149	0%
Ramp Structure									
ARF-C6110	Ramp F - Strip Beams	24	27-Nov-17	24	23-Dec-17	01-Jun-17	28-Jun-17	-149	0%
Superstructure & Associated Works									



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
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Tuen Mun - Chek Lap Kok Link - Southern Connection
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(Progress as of 21-Sep-17)

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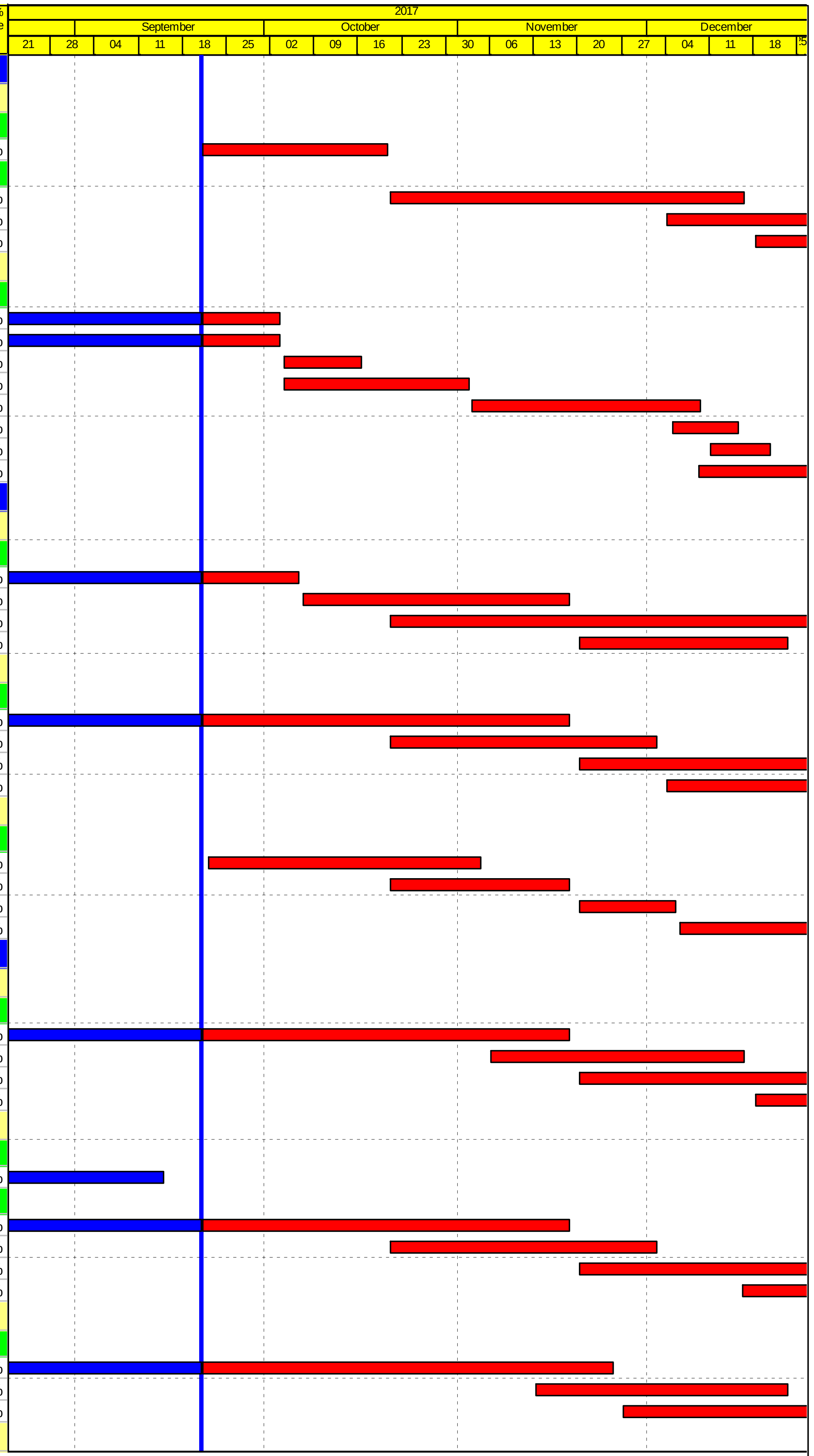
DWG. No.:
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Viaduct A									
Bridge A2									
Deck Span Segment									
VA2-C6510	Viaduct A2 - Final Stitch & Stressing to Span	24	21-Sep-17	24	20-Oct-17	15-Aug-16	10-Sep-16	-328	0%
Deck Fnishes, E&M and Roadworks									
VA2-C7710	Viaduct A2 - Parapet Panels	48	21-Oct-17	48	16-Dec-17	12-Sep-16	09-Nov-16	-328	0%
VA2-C7720	Viaduct A2 - Gantry & TCSS Provisions (KD5)	36	04-Dec-17	36	17-Jan-18	27-Oct-16	07-Dec-16	-328	0%
VA2-C7810	Viaduct A2 - Drainage, Fire Main & E&M Services	60	18-Dec-17	60	03-Mar-18	10-Jan-17	23-Mar-17	-279	0%
Bridge A1									
Deck Span Segment									
A06-C6320	A6 - End Span to A7 (8 nr) - THB	34	24-Feb-17 A	10	03-Oct-17	03-Aug-16	13-Aug-16	-338	75%
A08-C6510	A8 - Cantilever Span (Remaining 21 nr) (MTR) - KF	32	28-Jul-17 A	10	03-Oct-17	19-Apr-16	29-Apr-16	-425	50%
A09-C6310	A9 - Cantilever Span (Initial 5 nr) - Crane	10	04-Oct-17	10	16-Oct-17	30-Apr-16	12-May-16	-425	0%
A09-C6410	A9 - Relocate & Install KF (MTR)	24	04-Oct-17	24	02-Nov-17	30-Apr-16	30-May-16	-425	0%
A09-C6510	A9 - Cantilever Span (Remaining 20 nr) (MTR) - KF	32	03-Nov-17	32	09-Dec-17	31-May-16	08-Jul-16	-425	0%
A10-C6310	A10 - Cantilever Span (Initial 5 nr) - Crane	10	05-Dec-17	10	15-Dec-17	04-Jul-16	14-Jul-16	-425	0%
A10-C6410	A10 - Relocate & Install KF	9	11-Dec-17	9	20-Dec-17	09-Jul-16	19-Jul-16	-425	0%
A11-C6210	A11 - Falsework for End Span to A10	24	09-Dec-17	24	09-Jan-18	08-Jul-16	04-Aug-16	-425	0%
Viaduct B									
Bridge B3									
Deck Fnishes, E&M and Roadworks									
VB3-C7710	Viaduct B3 - Parapet Panels	48	16-Dec-16 A	12	06-Oct-17	13-Oct-16	26-Oct-16	-280	95%
VB3-C7720	Viaduct B3 - Gantry & TCSS Provisions (KD5)	36	07-Oct-17*	36	18-Nov-17	27-Oct-16	07-Dec-16	-280	0%
VB3-C7810	Viaduct B3 - Drainage, Fire Main & E&M Services	60	21-Oct-17	60	03-Jan-18	10-Jan-17	23-Mar-17	-231	0%
VB3-C7820	Viaduct B3 - Railings, Light Poles, Signs & Street Furniture	30	20-Nov-17	30	23-Dec-17	10-Feb-17	16-Mar-17	-231	0%
Bridge B2									
Deck Fnishes, E&M and Roadworks									
VB2-C7710	Viaduct B2 - Parapet Panels	60	21-Aug-17 A	48	18-Nov-17	27-Sep-16	23-Nov-16	-292	0%
VB2-C7720	Viaduct B2 - Gantry & TCSS Provisions (KD5)	36	21-Oct-17	36	02-Dec-17	27-Oct-16	07-Dec-16	-292	0%
VB2-C7810	Viaduct B2 - Drainage, Fire Main & E&M Services	48	20-Nov-17	48	17-Jan-18	24-Jan-17	23-Mar-17	-243	0%
VB2-C7820	Viaduct B2 - Railings, Light Poles, Signs & Street Furniture	30	04-Dec-17	30	10-Jan-18	10-Feb-17	16-Mar-17	-243	0%
Bridge B1									
Deck Span Segment									
B17-C6310	B17 - Cantilever Span (26 nr) - Crane	35	22-Sep-17	35	04-Nov-17	10-Jun-16	21-Jul-16	-384	0%
B18-C6210	B18 - Falsework for End Span to B11	24	21-Oct-17	24	18-Nov-17	08-Jul-16	04-Aug-16	-384	0%
B18-C6310	B18 - End Span to B17 (8 nr) - Crane	14	20-Nov-17	14	05-Dec-17	05-Aug-16	20-Aug-16	-384	0%
VB1-C6510	Viaduct B1 - Final Stitch & Stressing to Span	24	06-Dec-17	24	05-Jan-18	22-Aug-16	19-Sep-16	-384	0%
Viaduct C									
Bridge C4									
Deck Fnishes, E&M and Roadworks									
VC4-C7710	Viaduct C4 - Parapet Panels	48	12-Jun-17 A	48	18-Nov-17	16-May-16	12-Jul-16	-404	20%
VC4-C7720	Viaduct C4 - Gantry & TCSS Provisions (KD4)	36	06-Nov-17	36	16-Dec-17	28-Jun-16	09-Aug-16	-404	0%
VC4-C7810	Viaduct C4 - Drainage, Fire Main & E&M Services	60	20-Nov-17	60	31-Jan-18	13-Jul-16	21-Sep-16	-404	0%
VC4-C7820	Viaduct C4 - Railings, Light Poles, Signs & Street Furniture	30	18-Dec-17	30	24-Jan-18	10-Aug-16	13-Sep-16	-404	0%
Bridge C3									
Deck Span Segment									
VC3-C6510	Viaduct C3 - Final Stitch & Stressing to Span	24	05-Aug-17 A	0	15-Sep-17 A				100%
Deck Fnishes, E&M and Roadworks									
VC3-C7710	Viaduct C3 - Parapet Panels	60	16-Aug-17 A	48	18-Nov-17	30-May-16	26-Jul-16	-392	0%
VC3-C7720	Viaduct C3 - Gantry & TCSS Provisions (KD4)	36	21-Oct-17	36	02-Dec-17	28-Jun-16	09-Aug-16	-392	0%
VC3-C7810	Viaduct C3 - Drainage, Fire Main & E&M Services	48	20-Nov-17	48	17-Jan-18	27-Jul-16	21-Sep-16	-392	0%
VC3-C7820	Viaduct C3 - Railings, Light Poles, Signs & Street Furniture	30	16-Dec-17	30	23-Jan-18	10-Aug-16	13-Sep-16	-403	0%
Bridge C2									
Deck Fnishes, E&M and Roadworks									
VC2-C7710	Viaduct C2 - Parapet Panels	48	13-Jun-17 A	54	25-Nov-17	07-May-16	12-Jul-16	-410	15%
VC2-C7720	Viaduct C2 - Gantry & TCSS Provisions (KD4)	36	13-Nov-17	36	23-Dec-17	28-Jun-16	09-Aug-16	-410	0%
VC2-C7810	Viaduct C2 - Drainage, Fire Main & E&M Services	60	27-Nov-17	60	07-Feb-18	13-Jul-16	21-Sep-16	-410	0%
Bridge C1									



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 7 of 10 Pages)
(Progress as of 21-Sep-17)

Date	Revision	Checked	Approved
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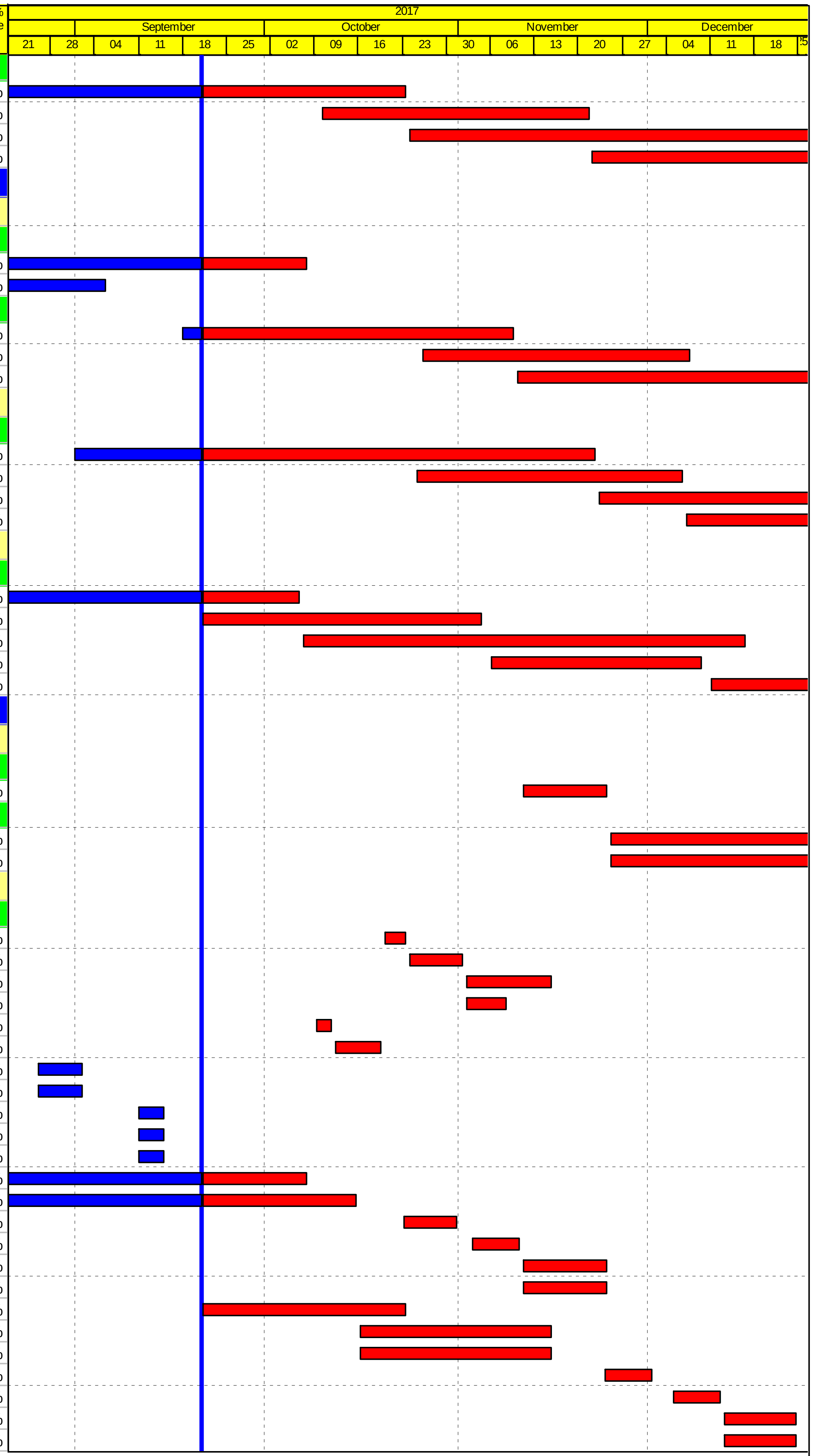
29-Aug-17		PKN	HF
29-Sep-17		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Deck Fnishes, E&M and Roadworks									
VC1-C7710	Viaduct C1 - Parapet Panels	48	31-May-17 A	26	23-Oct-17	11-Jun-16	12-Jul-16	-382	0%
VC1-C7720	Viaduct C1 - Gantry & TCSS Provisions (KD4)	36	10-Oct-17	36	21-Nov-17	28-Jun-16	09-Aug-16	-382	0%
VC1-C7810	Viaduct C1 - Drainage, Fire Main & E&M Services	60	24-Oct-17	60	05-Jan-18	13-Jul-16	21-Sep-16	-382	0%
VC1-C7820	Viaduct C1 - Railings, Light Poles, Signs & Street Furniture	30	22-Nov-17	30	28-Dec-17	10-Aug-16	13-Sep-16	-382	0%
Viaduct D									
Bridge D3									
Deck Span Segment									
D06-C6610	D6 - Launch LG1 from D6 to E2B for Dismantling	18	07-Aug-17 A	13	07-Oct-17	24-Mar-16	12-Apr-16	-443	100%
VD3-C6510	Viaduct D3 - Final Stitch & Stressing to Span	24	09-Aug-17 A	0	05-Sep-17 A				100%
Deck Fnishes, E&M and Roadworks									
VD3-C7710	Viaduct D3 - Parapet Panels	48	18-Sep-17 A	40	09-Nov-17	25-May-16	12-Jul-16	-396	0%
VD3-C7720	Viaduct D3 - Gantry & TCSS Provisions (KD4)	36	26-Oct-17	36	07-Dec-17	28-Jun-16	09-Aug-16	-396	0%
VD3-C7810	Viaduct D3 - Drainage, Fire Main & E&M Services	60	10-Nov-17	60	22-Jan-18	13-Jul-16	21-Sep-16	-396	0%
Bridge D2									
Deck Fnishes, E&M and Roadworks									
VD2-C7710	Viaduct D2 - Parapet Panels	60	01-Sep-17 A	51	22-Nov-17	26-May-16	26-Jul-16	-395	0%
VD2-C7720	Viaduct D2 - Gantry & TCSS Provisions (KD4)	36	25-Oct-17	36	06-Dec-17	28-Jun-16	09-Aug-16	-395	0%
VD2-C7810	Viaduct D2 - Drainage, Fire Main & E&M Services	48	23-Nov-17	48	20-Jan-18	27-Jul-16	21-Sep-16	-395	0%
VD2-C7820	Viaduct D2 - Railings, Light Poles, Signs & Street Furniture	30	07-Dec-17	30	13-Jan-18	10-Aug-16	13-Sep-16	-395	0%
Bridge D1									
Deck Fnishes, E&M and Roadworks									
VD1-C7710	Viaduct D1 - Parapet Panels	48	01-Jun-17 A	12	06-Oct-17	28-Jun-16	12-Jul-16	-368	0%
VD1-C7720	Viaduct D1 - Gantry & TCSS Provisions (KD4)	36	21-Sep-17	36	04-Nov-17	28-Jun-16	09-Aug-16	-368	0%
VD1-C7810	Viaduct D1 - Drainage, Fire Main & E&M Services	60	07-Oct-17	60	16-Dec-17	13-Jul-16	21-Sep-16	-368	0%
VD1-C7820	Viaduct D1 - Railings, Light Poles, Signs & Street Furniture	30	06-Nov-17	30	09-Dec-17	10-Aug-16	13-Sep-16	-368	0%
VD1-C7830	Viaduct D1 - Deck Paving & Roadmarking (KD14)	18	11-Dec-17	18	03-Jan-18	14-Sep-16	06-Oct-16	-368	0%
Viaduct E									
Bridge E1									
Deck Span Segment									
VE1-C6510	Viaduct E1 - E3A/E4A, E3B/E4A & E3C/E4B Stitches	12	11-Nov-17	12	24-Nov-17	29-Apr-16	13-May-16	-457	0%
Deck Fnishes, E&M and Roadworks									
VE1AB-C7710	Viaduct E1A/B - Parapet Panels	48	25-Nov-17	48	23-Jan-18	16-May-16	12-Jul-16	-457	0%
VE1CD-C7710	Viaduct E1C/D - Parapet Panels	48	25-Nov-17	48	23-Jan-18	16-May-16	12-Jul-16	-457	0%
Bridge E2									
Deck Span Segment									
E03A-C6410	E3A - Launch LG1 from E3B to E3A - *LG1	3	20-Oct-17	3	23-Oct-17	25-Apr-16	27-Apr-16	-443	0%
E03A-C6510	E3A - End Span to E4A (7 nr) - *LG1	7	24-Oct-17	7	01-Nov-17	28-Apr-16	06-May-16	-443	0%
E03A-C6610	E3A/B - Stitch between E3A/B and E4A	12	02-Nov-17	12	15-Nov-17	08-Aug-17	21-Aug-17	-71	0%
E03A-C6710	E3A - Launch LG1 from E3A to E4/E5 for Dismanlting	6	02-Nov-17	6	08-Nov-17	07-May-16	13-May-16	-443	0%
E03B-C6410	E3B - Launch LG1 from E2B to E3B - *LG1	3	09-Oct-17*	3	11-Oct-17	13-Apr-16	15-Apr-16	-443	0%
E03B-C6510	E3B - End Span to E4A (7 nr) - *LG1	7	12-Oct-17	7	19-Oct-17	16-Apr-16	23-Apr-16	-443	0%
E03C-C6610	E3C/B - Stitch between E3C/D and E4B	12	26-Aug-17 A	0	02-Sep-17 A				100%
E04B-C6420	E4B - E3D/E4B Stitch	8	26-Aug-17 A	0	02-Sep-17 A				100%
E04B-C6430	E4A & E4B - E4A/E5A & E4B/E5B Stitches	8	11-Sep-17 A	0	15-Sep-17 A				100%
E05A-C6610	E5A - Stitch between E4A and E5A	12	11-Sep-17 A	0	15-Sep-17 A				100%
E05B-C6610	E5B - Stitch between E4B and E5B	12	11-Sep-17 A	0	15-Sep-17 A				100%
E06A-C6410	E6A - Drop in (E6A-E5A) - THB	30	13-Jul-17 A	14	07-Oct-17	23-Mar-16	07-Apr-16	-497	50%
E06A-C6510	E6A & E6B - Quarter Span (E6-E7) - TLB	30	04-Jul-17 A	22	15-Oct-17	05-Mar-16	30-Mar-16	-512	50%
E06A-C6520	E6A & E6B - E5A/E6A & E5B/E6B Stitches	8	23-Oct-17	8	31-Oct-17	08-Apr-16	16-Apr-16	-512	0%
E06A-C6530	E7A & E7B - E6A/E7A & E6B/E7B Stitches	8	03-Nov-17	8	10-Nov-17	20-Apr-16	28-Apr-16	-512	0%
E06A-C6610	E6A/E7A: Install Bearing & Stress Continuity Tendons	12	11-Nov-17	12	24-Nov-17	08-Aug-17	21-Aug-17	-79	0%
E06A-C6620	E6B/E7B: Install Bearing & Stress Continuity Tendons	12	11-Nov-17	12	24-Nov-17	08-Aug-17	21-Aug-17	-79	0%
E06B-C6510	E6B - Drop in (E6B-E5B) - THB	30	21-Sep-17	30	23-Oct-17	05-Mar-16	08-Apr-16	-512	0%
E08A-C6410	E8A - Drop in (E8A-E7A) - THB	30	16-Oct-17	30	15-Nov-17	17-Aug-17	15-Sep-17	-57	0%
E08A-C6510	E8A & E8B - Quarter Span (E8-E9) - TLB	30	16-Oct-17	30	15-Nov-17	18-Jul-17	16-Aug-17	-87	0%
E08A-C6520	E8A & E8B - E7A/E8A & E7B/E8B Stitches	8	24-Nov-17	8	01-Dec-17	15-Sep-17	22-Sep-17	-66	0%
E08A-C6530	E9A & E9B - E8A/E9A & E8B/E9B Stitches	8	05-Dec-17	8	12-Dec-17	26-Sep-17	06-Oct-17	-66	0%
E08A-C6610	E8A/E9A: Install Bearing & Stress Continuity Tendons	12	13-Dec-17	12	24-Dec-17	07-Oct-17	18-Oct-17	-66	0%
E08A-C6620	E8B/E9B: Install Bearing & Stress Continuity Tendons	12	13-Dec-17	12	24-Dec-17	07-Oct-17	18-Oct-17	-66	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
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Tuen Mun - Chek Lap Kok Link - Southern Connection
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(Progress as of 21-Sep-17)

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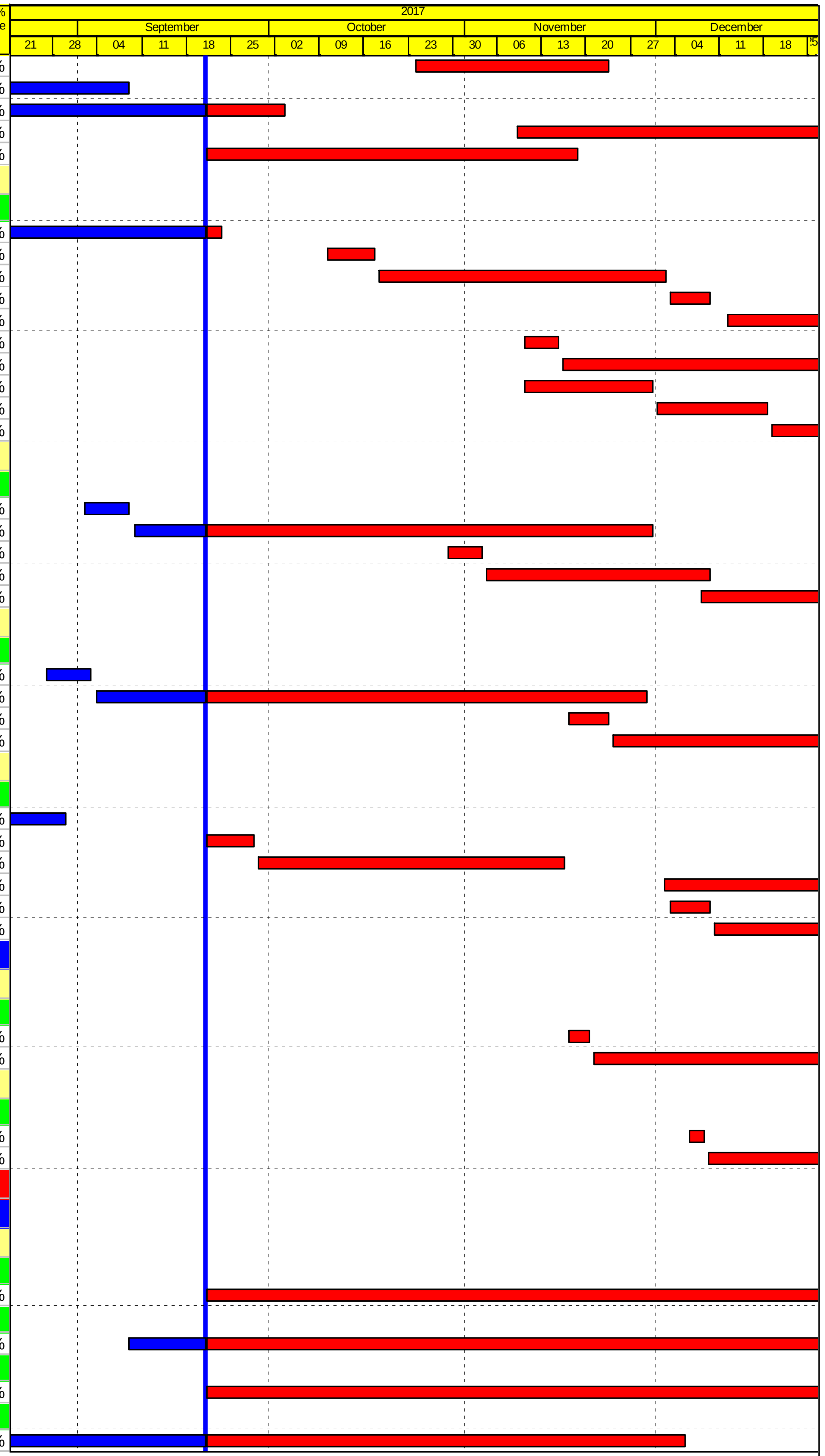
29-Sep-17		PKN	HF

DWG. No.:

J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
E08B-C6510	E8B - Drop in (E8B-E7B) - THB	30	24-Oct-17	30	23-Nov-17	16-Aug-17	14-Sep-17	-66	0%
E11A-C6410	E11A - Bifurcation Span to E10A (12 nr) with 1st Stitch - THB	48	08-Jun-17 A	0	09-Sep-17 A				100%
E11B-C6410	E11B - Bifurcation Span to E10B (12 nr) with 1st Stitch - THB	48	24-Jul-17 A	11	03-Oct-17	27-Apr-17	08-May-17	-144	0%
VE2-C6610	Viaduct E2 - Dismantle LG1	48	09-Nov-17	48	06-Jan-18	11-Jul-17	04-Sep-17	-101	0%
VE2-C6620	Viaduct E2 - Dismantle LG2	48	21-Sep-17	48	18-Nov-17	26-Jun-17	21-Aug-17	-74	0%
Bridge E5									
Deck Span Segment									
E11B-C6310	E11B Deck - Bifurcation Span to E12B (18 nr) with 1st Stitch - THB	48	27-Jul-17 A	3	23-Sep-17	05-Jan-17	07-Jan-17	-251	0%
E12D-C6110	E12D Deck - Install THB	8	10-Oct-17	8	17-Oct-17	08-Jan-17	15-Jan-17	-264	0%
E12D-C6210	E12D Deck - Cantilever Span (16 seg) with 2 stitches - THB	45	18-Oct-17	45	02-Dec-17	16-Jan-17	05-Mar-17	-264	0%
E12D-C6220	E12D Deck - Install WLF	7	03-Dec-17	7	09-Dec-17	06-Mar-17	12-Mar-17	-264	0%
E12D-C6230	E12D Deck - Cantelever span (26 seg) with 1 stitch - WLF	53	12-Dec-17	53	04-Feb-18	15-Mar-17	08-May-17	-264	0%
E13D-C6110	E13D Deck - Install KF and THB	6	10-Nov-17	6	15-Nov-17	10-Feb-17	15-Feb-17	-265	0%
E13D-C6210	E13D Deck - Cantilever Span (22 seg) with 2 stitches - KF and THB	49	16-Nov-17	49	05-Jan-18	16-Feb-17	06-Apr-17	-265	0%
E14D-C6110	E14D Deck - Preparation Works & Deliver Underslung Truss to Site	18	10-Nov-17	18	30-Nov-17	04-Nov-16	24-Nov-16	-301	0%
E14D-C6115	E14D Deck - Install Truss/Fixings & Initial ICE Check	15	01-Dec-17	15	18-Dec-17	25-Nov-16	12-Dec-16	-301	0%
E14D-C6120	E14D Deck - Install Sliding System, T&C & Final ICE Check	15	19-Dec-17	15	08-Jan-18	13-Dec-16	31-Dec-16	-301	0%
Bridge E6									
Deck Span Segment									
E12C-C6110	E12C Deck - Install WLF	8	02-Sep-17 A	0	09-Sep-17 A				100%
E12C-C6210	E12C Deck - Cantilever Span (42 seg) with 2 stitches - THB	67	10-Sep-17 A	67	30-Nov-17	15-Jun-17	21-Aug-17	-97	5%
E13C-C6110	E13C Deck - Install KF and THB	6	29-Oct-17*	6	03-Nov-17	06-Feb-17	11-Feb-17	-257	0%
E13C-C6210	E13C Deck - Cantilever Span (18 seg) with 1 stitch - KF and THB	36	04-Nov-17	36	09-Dec-17	12-Feb-17	19-Mar-17	-257	0%
E13C-C6220	E13C Deck - Install TLB with T&C	19	08-Dec-17	19	27-Dec-17	18-Mar-17	06-Apr-17	-257	0%
Bridge E7									
Deck Span Segment									
E12B-C6110	E12B Deck - Install WLF	8	27-Aug-17 A	0	03-Sep-17 A				100%
E12B-C6210	E12B Deck - Cantilever Span (40 seg) with 3 stitches - WLF	66	04-Sep-17 A	66	29-Nov-17	21-Apr-17	27-Jun-17	-150	5%
E13B-C6110	E13B Deck - Install KF	7	17-Nov-17*	7	23-Nov-17	13-Jan-17	19-Jan-17	-296	0%
E13B-C6210	E13B Deck - Cantilever Span (44 seg) with 3 stitches - KF	82	24-Nov-17	82	15-Feb-18	20-Jan-17	16-Apr-17	-296	0%
Bridge E8									
Deck Span Segment									
E11A-C6310	E11A Deck - Bifurcation Span to E12A (18 nr) w/ 1st Stitch - THB	48	09-Jun-17 A	0	30-Aug-17 A				100%
E12A-C6210	E12A Deck - Install THB	8	21-Sep-17	8	28-Sep-17	12-Nov-16	21-Nov-16	-296	0%
E12A-C6410	E12A Deck - Cantilever Span (22 nr) with 1st stitch - THB	45	29-Sep-17	45	16-Nov-17	22-Nov-16	12-Jan-17	-296	0%
E12A-C6420	E12A deck - Install WLF & install (18nr) - WLF	52	02-Dec-17	52	24-Jan-18	30-Jun-17	21-Aug-17	-150	0%
E13A-C6210	E13A Deck - Install KF	7	03-Dec-17	7	09-Dec-17	23-Jun-17	29-Jun-17	-158	0%
E13A-C6410	E13A Deck - Cantilever Span(32 nr) with 3 stitches - KF	72	10-Dec-17	72	25-Feb-18	30-Jun-17	10-Sep-17	-158	0%
Viaduct F									
Bridge F1									
Deck Span Segment									
F01-C6210	F1 Deck - Install THB	3	17-Nov-17	3	20-Nov-17	12-Jan-17	14-Jan-17	-251	0%
F01-C6310	F1 Deck - Cantilever Span (10 nr) - THB (Props at 5th Pair)	42	21-Nov-17	42	11-Jan-18	16-Jan-17	08-Mar-17	-251	0%
Bridge F2									
Deck Span Segment									
F05-C6210	F5 Deck - Install THB	3	06-Dec-17	3	08-Dec-17	12-Jan-17	14-Jan-17	-267	0%
F05-C6220	F5 Deck - Cantilever Span (10 nr) - THB (Props at 5th Pair)	42	09-Dec-17	42	30-Jan-18	16-Jan-17	08-Mar-17	-267	0%
At-Grade Works & Miscellaneous Works									
At-Grade Works Along North Lantau Highway									
Slope Works Near Viaduct D									
Slope 10NW-C/F9									
M201200	10NW-C/F9 - Slope works (incl. L-Shape Ret. Walls)	110	21-Sep-17	110	02-Feb-18	19-Sep-16	02-Feb-17	-299	0%
Slope 10NW-C/F10									
M201160	10NW-C/F10 - Slope works (incl. L-Shape Ret. Walls)	110	09-Sep-17 A	100	22-Jan-18	14-Jul-16	10-Nov-16	-355	10%
Slope 10NW-C/R4									
M201170	10NW-C/R4 - Slope works	80	21-Sep-17	80	28-Dec-17	06-Aug-16	10-Nov-16	-335	0%
Slope 10NW-C/F50									
M201150	10NW-C/F50 - Slope works	165	11-Jan-17 A	62	05-Dec-17	27-Aug-16	10-Nov-16	-317	5%



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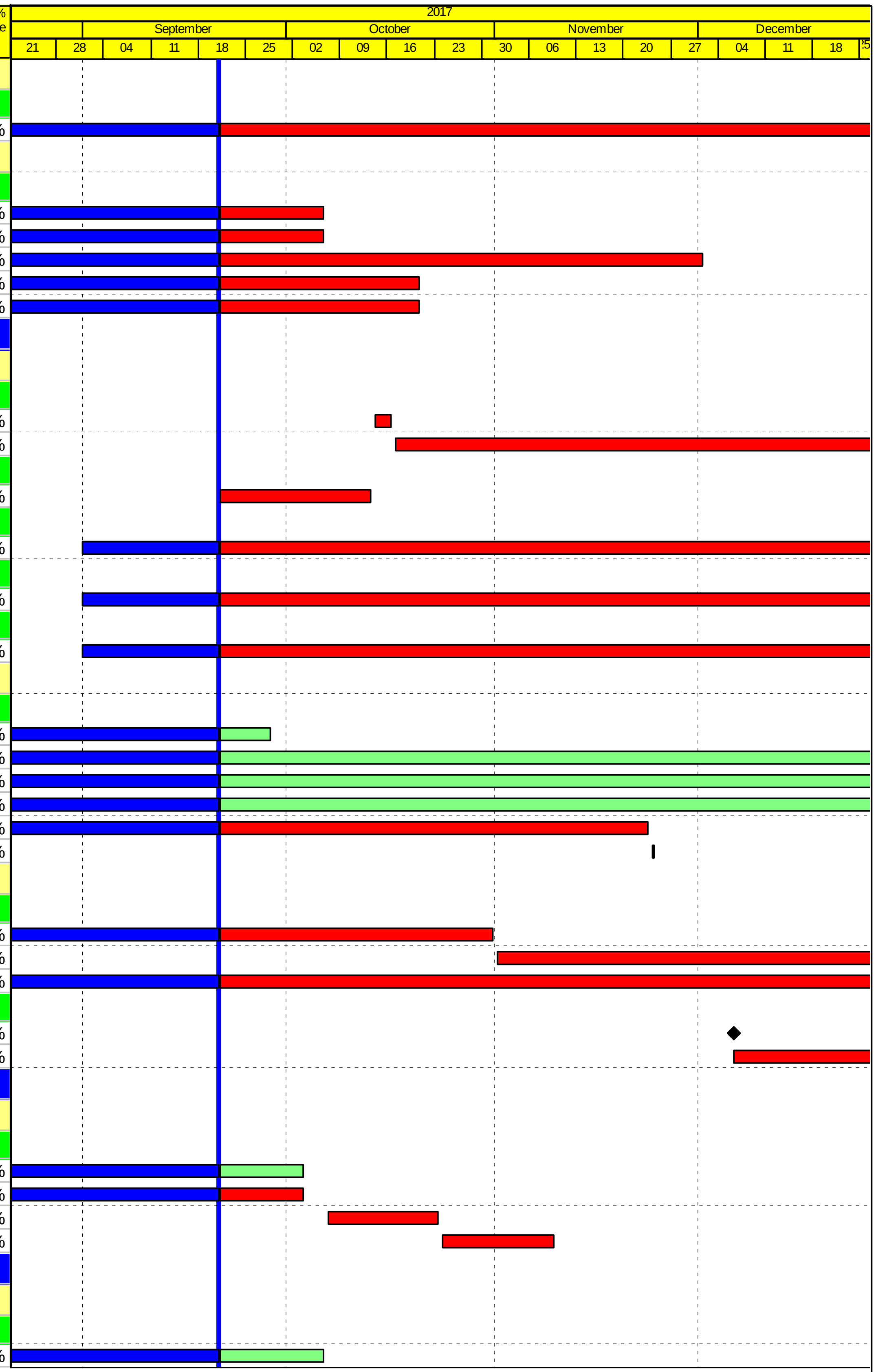
J3518/GCL/PGM/3MRP-M52

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
Road Works Along NLH Westbound									
General									
RW10020	NLH W/B (Viaduct C) - Road Drainage Works for tie-in	104	26-Jun-17 A	102	24-Jan-18	02-Dec-16	07-Apr-17	-237	15%
Road Works Along NLH Eastbound									
General									
RW20080-1	Ch650 - 800 Portion 4 (viaduct D area): Roadwork	81	11-Jan-17 A	12	06-Oct-17	24-Mar-17	07-Apr-17	-147	90%
RW20080-2	Ch475 - 650 Portion 5 (viaduct D area) : Roadwork	81	11-Jan-17 A	12	06-Oct-17	24-Mar-17	07-Apr-17	-147	87%
RW20080-3	Ch275 - 475 Portion 6 (viaduct D area) ; Roadwork	162	11-Jan-17 A	59	01-Dec-17	25-Jan-17	07-Apr-17	-194	75%
RW20080-4	Ch157 - 275 Portion 7 (Viaduct D area) : Roadwork	98	11-Jan-17 A	24	20-Oct-17	10-Mar-17	07-Apr-17	-159	77%
RW20084	NLH E/B Viaduct A - Ch200-388 Roadwork (SL & HS) & Reinstate NLH	127	17-Dec-16 A	24	20-Oct-17	10-Mar-17	07-Apr-17	-159	75%
At-Grade Works Along Cheung Tung Road									
Slope Works Near Viaduct C									
Slope 10NW-C/C26									
SWVC1995	TTA for closure of NLH HS	2	14-Oct-17	2	16-Oct-17	16-Aug-16	17-Aug-16	-345	0%
SWVC2000	10NW-C/C26 - Slope works	166	17-Oct-17	166	11-May-18	18-Aug-16	09-Mar-17	-345	0%
Slope PF1 & PF2									
SWVC7000	PF1 & PF2 slope works	18	21-Sep-17	18	13-Oct-17	26-Jul-16	15-Aug-16	-345	0%
Slope 10NW-C/F13									
SWVC4000	10NW-C/F13 - Slope works	100	01-Sep-17 A	86	05-Jan-18	30-Jul-16	10-Nov-16	-341	0%
Slope 10NW-C/F14									
SWVC5000	10NW-C/F14 - Slope works	100	01-Sep-17 A	95	16-Jan-18	14-Jun-16	05-Oct-16	-380	0%
Slope 10NW-C/F15									
SWVC6000	10NW-C/F15 - Slope works	108	01-Sep-17 A	100	22-Jan-18	07-Jun-16	05-Oct-16	-385	0%
Re-alignment of CTR Along Viaduct B									
General									
RP00074-3	Ch100-300: Road Drainage	38	06-May-17 A	7	28-Sep-17	30-Jun-20	08-Jul-20	818	85%
RP00076	Ch100-300: Lay Telecom Cable	10	22-May-17 A	120	14-Feb-18	11-Feb-20	08-Jul-20	705	85%
RP00077	Ch100-300: Street Lighting & Draw Pit	13	27-Jun-17 A	120	14-Feb-18	11-Feb-20	08-Jul-20	705	25%
RP00078	Ch100-300: Relocation of Vent Pipe	18	13-May-17 A	120	14-Feb-18	11-Feb-20	08-Jul-20	705	55%
RP00083	Ch100-300: Drainage & Roadwork for New CTR	52	13-May-17 A	52	23-Nov-17	22-Oct-16	21-Dec-16	-272	30%
RP00084	Ch100-300: TTA to New CTR	1	24-Nov-17	1	24-Nov-17	22-Dec-16	22-Dec-16	-272	0%
Re-alignment of CTR Along Viaduct C									
East Portion									
RW60050	CTR East (stage 2) TTA 090-5 : Roadwork	77	26-Apr-17 A	32	31-Oct-17	03-Oct-16	09-Nov-16	-288	65%
RW60060	CTR East (stage 3) TTA 090-6 : Roadwork	66	01-Nov-17	66	19-Jan-18	10-Nov-16	01-Feb-17	-288	0%
RW60080	CTR Tie in Works	116	18-May-17 A	88	08-Jan-18	19-Dec-16	07-Apr-17	-223	20%
Emergency Gates G6 & G7									
RP10100	Open re-aligned CTR & activate new gates G6 & G7	0	06-Dec-17	0		10-Mar-17		-221	0%
RP10110	Remove old gates G6 & G7 and reprovision Expressway Fence	24	06-Dec-17	24	05-Jan-18	10-Mar-17	07-Apr-17	-221	0%
At-Grade Works at Southern Landfall									
HKBCF Area									
General									
RW30028-2	Construct FMH2046 and Lay Pipe Work	14	27-Jun-17 A	10	03-Oct-17	26-Jun-20	08-Jul-20	815	85%
RW30028-3	Construct FMH2047 and Lay Pipe Work	14	27-Jun-17 A	10	03-Oct-17	31-May-17	10-Jun-17	-96	90%
RW30028-4	Construct FMH2048 and Lay Pipe Work	14	07-Oct-17	14	23-Oct-17	12-Jun-17	27-Jun-17	-98	0%
RW30028-5	Construct FMH2049 and Lay Pipe Work	14	24-Oct-17	14	09-Nov-17	28-Jun-17	14-Jul-17	-98	0%
Watermain from Tung Chung to Southern Landfall									
Watermain Works									
General									
WM00120	Lay DN450 Fresh Water Main at Re-aligned CTR (approx. 500m)	48	22-Apr-15 A	12	06-Oct-17	29-Nov-17	12-Dec-17	56	90%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPI-1-M52
Layout: J3518-DWP-3MRP Submission - M52
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 10 of 10 Pages)
(Progress as of 21-Sep-17)

Date	Revision	Checked	Approved
01-Aug-17		PKN	HF
29-Aug-17		PKN	HF
29-Sep-17		PKN	HF

DWG. No.:

J3518/GCL/PGM/3MRP-M52

Appendix C

Environmental Mitigation and Enhancement Measure Implementation Schedules

(In reference to CINOTECH (2011) Agreement No. CE35/2011 EP Baseline Environmental Monitoring for Hong Kong-Zhuhai-Macao Bridge Tuen Mun-Chep Lap Kok Link – Investigation. Updated EM&A Manual for Tuen Mun-Chek Lap Kok Link)

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
AIR QUALITY									
4.8.1	3.8	An effective watering programme of eight daily watering with complete coverage, is estimated to reduce by 50%. This is recommended for all areas in order to reduce dust levels to a minimum;	All areas / throughout construction period	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		<>
4.8.1	3.8	The Contractor shall, to the satisfaction of the Engineer, install effective dust suppression measures and take such other measures as may be necessary to ensure that at the Site boundary and any nearby sensitive receiver, dust levels are kept to acceptable levels.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall not burn debris or other materials on the works areas.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8. 1	3.8	In hot, dry or windy weather, the watering programme shall maintain all exposed road surfaces and dust sources wet.	All unpaved haul roads / throughout construction period in hot, dry or windy weather	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		<>
4.8.1	3.8	Where breaking of oversize rock/concrete is required, watering shall be implemented to control dust. Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8. 1	3.8	Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
4.8.1	3.8	Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	No earth, mud, debris, dust and the like shall be deposited on public roads. Wheel washing facility shall be usable prior to any earthworks excavation activity on the site.	All site exits / throughout construction period	Contractor	TMEIA Avoid dust		Y		✓
4.8.1	3.8	Areas of exposed soil shall be minimised to areas in which works have been completed shall be restored as soon as is practicable.	All exposed surfaces / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	All stockpiles of aggregate or spoil shall be enclosed or covered and water applied in dry or windy condition.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		<>
4.11	Section 3	EM&A in the form of 1 hour and 24 hour dust monitoring and site audit	All representative existing ASRs / throughout construction period	Contractor	EM&A Manual		Y		✓
NOISE									
5.11	Section 4	Noise monitoring	All existing representative sensitive receivers / during North Lantau Viaduct construction	Contractor	EM&A Manual		Y		✓
WATER QUALITY									
General Marine Works									
6.10	-	Bored piling to be undertaken within a metal casing.	Marine viaducts of TM-CLKL and HKLR/ bored piling	Contractor	TM-EIAO		Y		✓
6.10	-	Barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
6.10	-	Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.10	-	Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.10	-	Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.10	-	Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.10	-	All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.10	-	The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
Temporary Staging work									
	5.2	Regular inspection for the accumulation of floating refuse and collection of floating refuse if required	During temporary staging works	Contractor			Y		✓
	5.2	Provision of temporary drainage system on the temporary staging for collection of construction site runoff to allow appropriate treatment before discharge into the sea	During temporary staging works	Contractor			Y		<>
	5.2	Wastewater generated from construction works such as bored / drilling water will be collected, treated, neutralized and de-silted through silt trap or sedimentation tank before disposal	During temporary staging works	Contractor			Y		✓
	5.2	One additional water quality monitoring station is	During temporary	Contractor			Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		proposed at station SR4a In case elevated SS or turbidity is identified during the water quality monitoring, the source of pollution will be tracked down and be removed as soon as possible. In case depletion of dissolved oxygen is identified, artificial aeration will be arranged at the monitoring station SR4a,	staging works						
Land Works									
6.10	-	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Sewage effluent and discharges from on- site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Temporary access roads should be surfaced with crushed stone or gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
6.10	-	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		<>
6.10	5.8	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for offsite disposal.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	The Contractor shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	All areas/ throughout construction period	Contractor	TM-EIAO Waste Disposal Ordinance		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
6.10	-	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Roadside gullies to trap silt and grit shall be provided prior to discharging the stormwater into the marine environment. The sumps will be maintained and cleaned at regular intervals.	Roadside/design and operation	Design Consultant/ Contractor	TM-EIAO	Y		Y	✓
6.10	Section 5	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All areas/ throughout construction period	Contractor	EM&A Manual		Y		✓
Water Quality Monitoring									
6.10	Section 5	Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen. Nutrients and metal parameters shall also be measured for Mf sediment operations (only HKBCF and HKLR required handling of Mf sediment) during baseline, backfilling and post construction period. One year operation phase water quality monitoring at designated stations	Designated monitoring stations as defined in EM&A Manual, Section 5/ Before, through-out marine construction period, post construction and monthly operational phase water quality monitoring for a year.	Contractor	EM&A Manual		Y	Y	✓
ECOLOGY									
8.14	6.3	Specification for and implement pre, during and post construction dolphin abundance monitoring.	All Areas/Detailed Design/ during construction works/post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	✓
8.14	6.3	Specification for bored piling monitoring	Detailed Design	Design Consultant	TMEIA	Y			n/a
8.14	6.3	Implement any recommendations of the bored piling monitoring	Southern marine viaduct/Throughout	Contractor	TMEIA		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages D	C	O	Status
			construction during bored piling						
8.14	6.3,6.5	Avoidance of peak CWD calving season in May and June for driving of metal caissons during bored piling works	Southern marine viaduct/ May and June during bored piling	Contractor	TMEIA		Y		n/a
8.14	6.3,6.5	Specification and implementation of 250m dolphin exclusion zone.	All marine bored piling and temporary staging works areas/Detailed Design/during all marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.5	Specification and deployment of an artificial reef of an area of 3,600 m² in an area where fishing activities are prohibited.	Area of prohibited fishing activities/Detailed Design/towards end of construction period	TM-CLKL/ HKBCF Design Consultant/ TM-CLKL/ HKBCF Contractor	TMEIA	Y		Y	n/a To be enforced by AFCD.
8.14	6.3, 6.5	Specification and implementation of marine vessel control specifications	All areas/Detailed Design/during construction works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.14	6.3, 6.5	Design and implementation of acoustic decoupling methods for marine bored piling and the whole lifespan of temporary staging works.	All areas/ Detailed Design/during marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.4	Pre-construction phase survey and coral translocation	Tai Ho Wan (donar site) and Yam Tsui Wan (receptor site) /Detailed Design/Prior to construction	Design Consultant/ Contractor	TMEIA	Y	Y		n/a
8.15	6.5	Audit coral translocation success	Yam Tsui Wan (receptor site)/Post translocation	Contractor	TMEIA		Y		**Completed in October 2014**
7.13	6.5	Undertaken gabion wall works in Stream NL1 in the dry season	North Lantau slope works/dry	Contractor	TMEIA		Y		n/a

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
			season/construction phase						
7.13	6.5	The loss of habitat shall be supplemented by enhancement planting in accordance with the landscape mitigation schedule.	All areas / As soon as accessible	Contractor	TMEIA		Y		n/a. To be approved by AFCD/LCSD
7.13	6.5	Spoil heaps shall be covered at all times.	All areas / Throughout construction period	Contractor	TMEIA		Y		✔
7.13	6.5	Avoid damage and disturbance to the remaining and surrounding natural habitat	All areas / Throughout construction period	Contractor	TMEIA		Y		<>
7.13	6.5	Placement of equipment in designated areas within the existing disturbed land	All areas / Throughout construction period	Contractor	TMEIA		Y		<>
7.13	6.5	Disturbed areas to be reinstated immediately after completion of the works.	All areas / Throughout construction period	Contractor	TMEIA		Y		✔
7.13	6.5	Construction activities should be restricted to the proposed works boundary	All areas / Throughout construction period	Contractor	TMEIA		Y		✔
LANDSCAPE AND VISUAL									
10.9	7.6	Round angle, patterned finishes, and oval shaped pier were considered in the viaduct design, and further details will be developed under ACABAS submission (DM3)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Details of the street furniture will be developed in the detailed design stage (DM4)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Aesthetic design of the viaduct, retaining wall and other structures will be developed under ACABAS submission (DM5)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✔

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		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) (CM1)							
10.9	7.6	Trees unavoidably affected by the works shall be transplanted where practical. Trees will be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme (CM2)	All areas/ detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓ Tree transplanted as Contract Specification
10.9	7.6	Hillside and roadside screen planting to proposed roads, associated structures and slope works (CM3).	All areas/ detailed design/ during construction/ post construction	Design Consultant/	TMEIA	Y	Y		✓
10.9	7.6	Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material (in earth tone) (CM4)	All areas/ detailed design/ during construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y		<>
10.9	7.6	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/ detailed design/ during construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/ detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/ detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/ detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
10.9	7.6	Recycle/Reuse all felled trees and vegetation, e.g. mulching (CM9)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		n/a No felled trees or vegetation suitable for recycle
10.9	7.6	Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006 (CM10).	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/ L CSD
10.9	7.6	Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a To be implemented by HyD/LCSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and minimise unnecessary light spill (OM3)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		(OM4)							HyD/LCSD
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD
WASTE									
12.6		The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		✓
12.6		The Contractor shall prepare and implement a Waste Management Plan which specifies procedures such as a ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of wastes does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposed. A recording system for the amount of waste generated, recycled and disposed (locations) should be established.	Contract mobilisation	Contractor	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		✓
12.6		The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures including waste reduction, reuse and recycling.	Contract Mobilisation	Contractor	TMEIA		Y		✓
12.6	8.1	The extent of cutting operation should be optimised	All areas / throughout	Contractor	TMEIA		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	construction period						
12.6	8.1	Rock armour from the existing seawall should be reused on the new sloping seawall as far as possible	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	No waste shall be burnt on site.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Provisions to be made in contract documents to allow and promote the use of recycled aggregates where appropriate.	Detailed Design	Design Consultant	TMEIA	Y			n/a
12.6	8.1	The Contractor shall be prohibited from disposing of C&D materials at any sensitive locations. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust/ surface run off.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage and dust generation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent transfer of mud onto public roads.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork/plastic facing for construction works should be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction	All areas / throughout construction period	Contractor	TMEIA		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages D	Implementation Stages C	Implementation Stages O	Status
		materials should avoid over-ordering and wastage.							
12.6	8.1	The Contractor should recycle as many C&D materials (this is a waste section) as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: - suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; - Having a capacity of <450L unless the specifications have been approved by the EPD; and - Displaying a label in English and Chinese according to the instructions prescribed in Schedule 2 of the Regulations. Clearly labelled and used solely for the storage of chemical wastes; - Enclosed with at least 3 sides; - Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest;	All areas / throughout construction period	Contractor	TMEIA		Y		<>

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		- Adequate ventilation; - Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and - Incompatible materials are adequately separated.							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All waste containers shall be in a secure area on hard standing;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of	Site Offices/	Contractor	TMEIA		Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	throughout construction period						
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas / throughout construction period	Contractor	EM&A Manual		Y		✓
CULTURAL HERITAGE									
11.8	Section 9	EM&A in the form of audit of the mitigation measures	All areas / throughout construction period	Highways Department	EIAO-TM		Y		n/a

Notes:

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Status:

✓ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

▲ Non-compliance of Mitigation Measures but rectified by Contractor

Δ Deficiency of Mitigation Measures but rectified by Contractor

n/a Not Applicable in Reporting Period

Appendix D

Summary of Action and Limit Levels

Table D1 Action and Limit Levels for 1-hour and 24-hour TSP

Parameters	Action	Limit
24 Hour TSP Level in µg/m³	ASR9A/ASR8A = 178 ASR9C/ASR8/ASR9 = 178	260
1 Hour TSP Level in µg /m³	ASR9A/ASR8A = 394 ASR9C/ASR8/ ASR9 = 393	500

Table D2 Action and Limit Levels for Construction Noise (0700-1900 hrs of normal weekdays)

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75* dB(A)

Table D3 Action and Limit Levels for Water Quality

Parameter	Action Level#	Limit Level#
DO in mg/L (a)	Surface and Middle **5.0 mg/L** Bottom **4.7 mg/L**	Surface and Middle **4.2 mg/L** Bottom **3.6 mg/L**
Turbidity in NTU (Depth-averaged (b), (c))	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data, i.e., **27.5 NTU**	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data, i.e., **47.0 NTU**
SS in mg/L (Depth-averaged (b), (c))	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data, i.e., **23.5 mg/L**	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun and 99%-ile of baseline data, i.e., **34.4 mg/L**

Notes:

Baseline data: data from HKZMB Baseline Water Quality Monitoring between 6 and 31 October 2011.

(a) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

(b) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths

(c) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

(d) All figures given in the table are used for reference only, and EPD may amend the figures whenever it is considered as necessary

Parameter	Action Level#	Limit Level#
(e) The 1%-ile of baseline data for surface and middle DO is 4.2 mg/L, whilst for bottom DO is 3.6 mg/L.		

Table D4 Action and Limit Levels for Impact Dolphin Monitoring

	North Lantau Social Cluster	
	NEL	NWL
Action Level	STG < 70% of baseline & ANI < 70% of baseline	STG < 70% of baseline & ANI < 70% of baseline
Limit Level	[STG < 40% of baseline & ANI < 40% of baseline] and STG < 40% of baseline & ANI < 40% of baseline	

Notes:

1. STG means quarterly encounter rate of number of dolphin sightings, which is **6.00 in NEL** and **9.85 in NWL** during the baseline monitoring period
2. ANI means quarterly encounter rate of total number of dolphins, which is **22.19 in NEL** and **44.66 in NWL** during the baseline monitoring period
3. For North Lantau Social Cluster, AL will be trigger if NEL or NWL fall below the criteria; LL will be triggered if both NEL and NWL fall below the criteria.

Table D5 Derived Value of Action Level (AL) and Limit Level (LL)

	North Lantau Social Cluster	
	NEL	NWL
Action Level	STG < 4.2 & ANI< 15.5	STG < 6.9 & ANI < 31.3
Limit Level	[STG < 2.4 & ANI <8.9] and [STG < 3.9 & ANI <17.9]	

Appendix E

Calibration Certificates of Monitoring Equipments

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR8(A)
Calibrated by	:	P.F.Yeung
Date	:	28/07/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 3956

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 Mar 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.03684
Correlation Coefficient(r)	:	0.99994

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1013
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.2	3.324	1.612	53	52.65
2	13 holes	9.0	2.980	1.447	47	46.69
3	10 holes	6.2	2.473	1.204	40	39.73
4	7 holes	4.2	2.036	0.994	34	33.77
5	5 holes	2.5	1.571	0.771	27	26.82

Notes:Z=SQRT{dH(Pa/Pstd)(Tstd/Ta)}, X=Z/m-b,Y(Corrected Flow)=IC*{SQRT(Pa/Pstd)(Tstd/Ta)}

Sampler Calibration Relationship (Linear Regression)

Slope(m): 30.184 Intercept(b): 3.536 Correlation Coefficient(r): 0.9993

Checked by: Magnum Fan Date: 03/08/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR9
Calibrated by	:	P.F.Yeung
Date	:	28/07/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 3958

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 Mar 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.03684
Correlation Coefficient(r)	:	0.99994

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1013
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.0	3.295	1.598	54	53.64
2	13 holes	8.8	2.947	1.431	49	48.67
3	10 holes	6.6	2.552	1.242	42	41.72
4	7 holes	4.4	2.084	1.017	35	34.77
5	5 holes	2.2	1.473	0.724	24	23.84

Notes:Z=SQRT{dH(Pa/Pstd)(Tstd/Ta)}, X=Z/m-b ,Y(Corrected Flow)=IC*{SQRT(Pa/Pstd)(Tstd/Ta)}

Sampler Calibration Relationship (Linear Regression)

Slope(m):34.112 Intercept(b):-0.493 Correlation Coefficient(r): 0.9993

Checked by: Magnum Fan Date: 03/08/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR8(A)
Calibrated by : P.F.Yeung
Date : 28/09/2017

Sampler
Model : TE-5170
Serial Number : S/N 3956

Calibration Orifice and Standard Calibration Relationship
Serial Number : 2454
Service Date : 20 Mar 2017
Slope (m) : 2.08464
Intercept (b) : -0.03684
Correlation Coefficient(r) : 0.99994

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1009
Ta(K) : 305

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.2	3.301	1.601	56	55.24
2	13 holes	9.2	2.992	1.453	50	49.33
3	10 holes	6.5	2.515	1.224	44	43.41
4	7 holes	4.4	2.069	1.010	36	35.51
5	5 holes	2.6	1.591	0.781	27	26.64

Notes:Z=SQRT{dH(Pa/Pstd)(Tstd/Ta)}, X=Z/m-b,Y(Corrected Flow)=IC*{SQRT(Pa/Pstd)(Tstd/Ta)}

Sampler Calibration Relationship (Linear Regression)

Slope(m): 34.074 Intercept(b): 0.662 Correlation Coefficient(r): 0.9976

Checked by: Magnum Fan Date: 05/10/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR9
Calibrated by	:	P.F.Yeung
Date	:	28/09/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 3958

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 Mar 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.03684
Correlation Coefficient(r)	:	0.99994

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	305

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.6	3.360	1.629	54	53.27
2	13 holes	9.2	2.992	1.453	48	47.35
3	10 holes	6.8	2.572	1.252	43	42.42
4	7 holes	4.5	2.093	1.022	35	34.53
5	5 holes	2.5	1.560	0.766	26	25.65

Notes:Z=SQRT{dH(Pa/Pstd)(Tstd/Ta)}, X=Z/m-b ,Y(Corrected Flow)=IC*{SQRT(Pa/Pstd)(Tstd/Ta)}

Sampler Calibration Relationship (Linear Regression)

Slope(m):31.621   Intercept(b):1.930   Correlation Coefficient(r): 0.9984

Checked by: Magnum Fan   Date: 05/10/2017

TISCH Environmental

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE
VILLAGE OF CLEVES, OH
45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 20, 2017 Rootsmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 2454 Pa (mm) - 759.46

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4390	3.2	2.00
2	NA	NA	1.00	1.0240	6.4	4.00
3	NA	NA	1.00	0.9170	7.9	5.00
4	NA	NA	1.00	0.8730	8.8	5.50
5	NA	NA	1.00	0.7200	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0120	0.7033	1.4257		0.9958	0.6920	0.8784
1.0078	0.9842	2.0163		0.9916	0.9683	1.2423
1.0057	1.0967	2.2543		0.9895	1.0791	1.3889
1.0045	1.1507	2.3643		0.9884	1.1322	1.4567
0.9992	1.3878	2.8514		0.9831	1.3654	1.7568

Qstd slope (m) =	2.08464	Qa slope (m) =	1.30537
intercept (b) =	-0.03684	intercept (b) =	-0.02270
coefficient (r) =	0.99994	coefficient (r) =	0.99994

y axis = SQRT[H2O(Pa/760)(298/Ta)]   y axis = SQRT[H2O(Ta/Pa)]

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C171447
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0633) Date of Receipt / 收件日期 : 16 March 2017

Description / 儀器名稱	:	Sound Level Calibrator
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-73
Serial No. / 編號	:	10486660
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 17 March 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By : H T Wong
測試 Technical Officer

Certified By : K C Lee
核證 Project Engineer

Date of Issue : 23 March 2017
簽發日期

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Certificate of Calibration
校正證書

Certificate No. : C171447
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.6	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.987	1 kHz ± 2 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C171100
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0482) Date of Receipt / 收件日期 : 28 February 2017

Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	01010406
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 2 March 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification. (after adjustment)
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 :
H T Wong
Technical Officer

Certified By 核證 :
K C Lee
Project Engineer

Date of Issue 簽發日期 : 3 March 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C171100
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	* 96.4	± 1.1

* Out of IEC 61672 Class 1 Spec.

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

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Certificate of Calibration
校正證書

Certificate No. : C171100
證書編號

6.2 Time Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.7	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.5	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_C	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

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c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C171100
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 04870

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

CALIBRATION REPORT

Report No. : AG060187
Date of Issue : June 27, 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	15M101244
Date of Received	:	Jun 16, 2017
Date of Calibration	:	Jun 16, 2017
Date of Next Calibration[a]	:	Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.06	+0.06	Satisfactory
7.42	7.49	+0.07	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :
CHAN Mei-wah Amy
Assistant Lab. Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
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CALIBRATION REPORT

PART D – CALIBRATION RESULTS (Cont'd)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.2	+0.1	Satisfactory
23.0	22.6	-0.4	Satisfactory
37.0	36.5	-0.5	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.16	8.13	-0.03	Satisfactory
3.54	3.58	+0.04	Satisfactory
0.45	0.41	-0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	146.1	-0.54	Satisfactory
1412	1451	+2.8	Satisfactory
12890	12740	-1.16	Satisfactory
58670	57408	-2.15	Satisfactory
111900	110248	-1.50	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.96	-0.4	Satisfactory
20	20.17	+0.9	Satisfactory
30	29.97	-0.1	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0	--	Satisfactory
4	3.8	-5.0	Satisfactory
20	21.9	+9.5	Satisfactory
100	98.4	-1.6	Satisfactory
800	818	+2.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>*Remark(s): -*</u>

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.
(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
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CALIBRATION REPORT

Report No.	:	AG060184
Date of Issue	:	June 27, 2017
Page No.	:	1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	16J101716
Date of Received	:	Jun 16, 2017
Date of Calibration	:	Jun 16, 2017
Date of Next Calibration[a]	:	Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	3.94	-0.06	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	22.6	-0.4	Satisfactory
37.0	36.3	-0.7	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
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(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :
CHAN Mei-wah Amy
Assistant Lab. Manager

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CALIBRATION REPORT

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.39	-0.06	Satisfactory
3.54	3.50	-0.04	Satisfactory
8.16	8.19	+0.03	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	151.8	+3.3	Satisfactory
1412	1430	+1.3	Satisfactory
12890	12545	-2.7	Satisfactory
58670	56934	-3.0	Satisfactory
111900	109362	-2.3	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.12	+0.6	Satisfactory
30	30.18	+0.6	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0	--	Satisfactory
4	4.1	+2.5	Satisfactory
20	19.8	-1.0	Satisfactory
100	107	+7.0	Satisfactory
800	782	-2.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>*Remark(s): -*</u>

[f] *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*
[g] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

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CALIBRATION REPORT

Report No. : AG060183
Date of Issue : June 27, 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	17E102521
Date of Received	:	Jun 16, 2017
Date of Calibration	:	Jun 16, 2017
Date of Next Calibration[a]	:	Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.04	+0.04	Satisfactory
7.42	7.46	+0.04	Satisfactory
10.01	10.04	+0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.1	0.0	Satisfactory
23.0	22.6	-0.6	Satisfactory
37.0	36.5	-0.5	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

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Remark(s): -
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(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : ____________
CHAN Mei-wah Amy
Assistant Lab. Manager

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CALIBRATION REPORT

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.39	-0.06	Satisfactory
3.54	3.59	+0.05	Satisfactory
8.16	8.20	+0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	154.1	+2.9	Satisfactory
1412	1397	-1.1	Satisfactory
12890	12810	-0.6	Satisfactory
58670	57937	-1.2	Satisfactory
111900	110884	-0.9	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.68	-1.4	Satisfactory
20	20.51	+2.6	Satisfactory
30	30.81	+2.7	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0	--	Satisfactory
4	3.8	-5.0	Satisfactory
20	20.8	+4.0	Satisfactory
100	95.4	-4.6	Satisfactory
800	832	+4.0	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

(f) *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

(g) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

專業化驗有限公司
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Report of Equipment Performance Check/Calibration

Report No. : AG060182
Date of Issue : 22 June 2017

PART A – CUSTOMER INFORMATION

Enovative Environmemtal Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 V2 Sonde (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	000109DF
Date of Received	:	16 Jun, 2017
Date of Calibration	:	16 Jun, 2017
Date of Next Calibration[a]	:	16 Sep, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.03	+0.03	Satisfactory
7.42	7.43	+0.01	Satisfactory
10.01	10.05	+0.04	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.0	-0.1	Satisfactory
23.0	23.3	+0.3	Satisfactory
37.0	36.8	-0.2	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
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[c] *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
[d] *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
[e] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :
FUNG Yuen-ching Aries
Laboratory Manager

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Report of Equipment Performance Check/Calibration

Report No. : AG060182
Date of Issue : 22 June 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.42	-0.03	Satisfactory
3.54	3.51	-0.03	Satisfactory
8.16	8.11	-0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	144.0	-2.0	Satisfactory
1412	1338	-5.2	Satisfactory
12890	12462	-3.3	Satisfactory
58670	57332	-2.3	Satisfactory
111900	108004	-3.5	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.94	-0.6	Satisfactory
20	20.02	+0.1	Satisfactory
30	30.09	+0.3	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading(f) (NTU)	Tolerance(g)(%)	Results
0	0	--	Satisfactory
4	3.8	+5.0	Satisfactory
20	21.2	+6.0	Satisfactory
100	95.4	+4.6	Satisfactory
800	821	+2.6	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>*Remark(s): -*</u>
(f) *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(g) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

專業化驗有限公司
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Report of Equipment Performance Check/Calibration

PART A – CUSTOMER INFORMATION

Enovative Environmemtal Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 V2 Sonde (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	00019CB2
Date of Received	:	16 Jun, 2017
Date of Calibration	:	16 Jun, 2017
Date of Next Calibration[a]	:	16 Sep, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e] (pH Unit)	Results
4.00	4.06	+0.06	Satisfactory
7.42	7.35	-0.07	Satisfactory
10.01	9.98	-0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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(b) The results relate only to the calibrated equipment as received
(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
(e) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY :

FUNG Yuen-ching Aries
Laboratory Manager

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Report of Equipment Performance Check/Calibration

PART D – CALIBRATION RESULTS (Cont'd)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	23.4	+0.4	Satisfactory
37.0	36.4	-0.6	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.49	+0.04	Satisfactory
3.54	3.48	-0.06	Satisfactory
8.16	8.12	-0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	142.4	-3.1	Satisfactory
1412	1392	-1.4	Satisfactory
12890	12382	-3.9	Satisfactory
58670	57432	-2.1	Satisfactory
111900	107938	-3.5	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.11	+0.6	Satisfactory
30	30.14	+0.5	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0	--	Satisfactory
4	4.1	+2.5	Satisfactory
20	20.9	+4.5	Satisfactory
100	103	+3.0	Satisfactory
800	824	+3.0	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>Remark(s): -</u>

(f) *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

(g) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090069
Date of Issue : September 13, 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	16J101716
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017
Date of Next Calibration[(a)]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[(b,c)]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[(d)] (pH Unit)	Tolerance[(e)](pH Unit)	Results
4.00	4.04	+0.04	Satisfactory
7.42	7.37	-0.05	Satisfactory
10.01	10.04	+0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	17.2	+0.7	Satisfactory
25.0	25.3	+0.3	Satisfactory
37.0	36.7	-0.3	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.04	7.98	-0.06	Satisfactory
3.63	3.72	+0.09	Satisfactory
0.01	0.06	+0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	140.4	-4.4	Satisfactory
1412	1322	-6.4	Satisfactory
12890	12064	-6.4	Satisfactory
58670	57032	-2.8	Satisfactory
111900	107344	-4.1	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.17	+1.7	Satisfactory
20	20.20	+1.0	Satisfactory
30	30.07	+2.3	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g](%)	Results
10	9.7	-3.0	Satisfactory
20	19.0	-5.0	Satisfactory
100	101.1	+1.1	Satisfactory
800	814.6	+1.8	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>*Remark(s): -*</u>

[f] *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

[g] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090067
Date of Issue : 13 September 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	17E102521
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017
Date of Next Calibration[a]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.09	+0.09	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	9.94	-0.07	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	16.9	+0.4	Satisfactory
25.0	25.2	+0.2	Satisfactory
37.0	36.4	-0.6	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : ______________
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
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CALIBRATION REPORT

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.03	7.95	-0.08	Satisfactory
3.76	3.84	+0.08	Satisfactory
0.02	0.12	+0.10	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	151.6	+3.2	Satisfactory
0.01	1,412	1,340	-5.1	Satisfactory
0.1	12,890	12,006	-6.9	Satisfactory
0.5	58,670	57,088	-2.7	Satisfactory
1.0	111,900	105,890	-5.4	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.95	-0.5	Satisfactory
20	20.30	+1.5	Satisfactory
30	30.31	+1.0	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g](%)	Results
10	9.6	-4.0	Satisfactory
20	19.3	-3.5	Satisfactory
100	98.7	-1.3	Satisfactory
800	781.2	+2.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

<u>*Remark(s): -*</u>

[f] *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

[g] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090072
Date of Issue : 14 September 2017

PART A – CUSTOMER INFORMATION

Enovative Environmemtal Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 V2 Sonde (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	000109DF
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017 to Sep 14, 2017
Date of Next Calibration[a]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.04	+0.04	Satisfactory
7.42	7.45	+0.03	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	17.0	+0.5	Satisfactory
25.0	25.5	+0.5	Satisfactory
37.0	36.6	-0.4	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :

FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.05	8.11	+0.06	Satisfactory
3.96	4.04	+0.08	Satisfactory
0.03	0.18	+0.15	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	152.4	+3.7	Satisfactory
0.01	1,412	1346	-4.7	Satisfactory
0.1	12,890	13382	+3.8	Satisfactory
0.5	58,670	59964	+2.2	Satisfactory
1.0	111,900	108242	-3.3	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.92	-0.8	Satisfactory
20	19.88	-0.6	Satisfactory
30	29.79	-0.7	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity[f]

Expected Reading (NTU)	Displayed Reading[g] (NTU)	Tolerance[h] (%)	Results
10	10.2	+2.0	Satisfactory
20	20.8	+4.0	Satisfactory
100	108.4	+8.4	Satisfactory
800	822.0	+2.8	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

[f] *Recalibration of specified parameter was conducted on 14 September 2017.*

[g] *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

[h] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Report No.	:	AG090070
Date of Issue	:	13 September, 2017
Page No.	:	1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 V2 Sonde (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	00019CB2
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017
Date of Next Calibration[a]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e] (pH Unit)	Results
4.00	3.94	-0.06	Satisfactory
7.42	7.37	-0.05	Satisfactory
10.01	9.98	-0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

[a] *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
[b] *The results relate only to the calibrated equipment as received*
[c] *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
[d] *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
[e] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :

FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

PART D – CALIBRATION RESULTS (Cont'd)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	17.2	+0.7	Satisfactory
25.0	25.3	+0.3	Satisfactory
37.0	36.4	-0.6	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.03	8.09	+0.06	Satisfactory
3.89	3.99	+0.10	Satisfactory
0.02	0.11	+0.09	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	152.4	+3.7	Satisfactory
0.01	1,412	1,530	+8.4	Satisfactory
0.1	12,890	13,648	+5.9	Satisfactory
0.5	58,670	59,342	+1.1	Satisfactory
1.0	111,900	103,422	-7.6	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.95	-0.5	Satisfactory
20	19.91	-0.4	Satisfactory
30	29.77	-0.8	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
10	10.9	+9.0	Satisfactory
20	20.1	+0.5	Satisfactory
100	108.3	+8.3	Satisfactory
800	819.4	+2.4	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

[f] *"Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.*

[g] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.*

Certificate of Calibration
校正證書

Certificate No. : C165934
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-2438) Date of Receipt / 收件日期 : 26 October 2016

Description / 儀器名稱	:	Anemometer
Manufacturer / 製造商	:	Lutron
Model No. / 型號	:	AM-4201
Serial No. / 編號	:	AF.27513
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C   Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 27 October 2016

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- Testo Industrial Services GmbH, Germany

Tested By :
測試
T L Shek
Assistant Engineer

Certified By :
核證
H C Chan
Engineer

Date of Issue : 28 October 2016
簽發日期

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C165934
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 10 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL386	Multi-function Measuring Instrument	S12109

4. Test procedure : MA130N.

5. Results :

Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
2.0	1.8	+0.2	0.2	2.0
4.0	3.8	+0.2	0.2	2.0
6.0	5.8	+0.2	0.3	2.0
8.1	8.0	+0.1	0.3	2.0
10.0	10.0	0.0	0.4	2.0

Remarks : - The Measured Corrections are defined as :
Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

ENVIROTECH SERVICES CO.

Calibration Report of Wind Meter

Date of Calibration : 18 April 2017

Brand of Test Meter: Global Water

Model: Speed Sensor: WE550 (S/N:E1337005099)

Direction Senor: WE570 (S/N:153500564)

Location : Pak Mong, Siu Ho Wan

Procedures :

1. Wind Still Test: The wind speed sensor was hold by hand until it keep still

2.Wind Speed Test: The wind meter was on-site calibrated against the Anemometer

3.Wind Direction Test : The wind meter was on-site calibrated against the marine compass at four directions

Results:

Wind Still Test

Wind Speed (m/s)
0.00

Wind Speed Test

Global Wate (m/s)	Anemometer (m/s)
1.65	1.8
1.11	1.3
0.71	0.6

Wind Direction Test

Global Wate (o)	Marine Compass (o)
271.05	270
0.05	0
90.31	90
181.07	180

Calibrated by: Ao

Yeung Ping Fai
(Technical Officer)

Checked by : Fat

Ho Kam Fat
(Senior Technical Officer)

Appendix F

EM&A Monitoring Schedules

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Noise Monitoring Schedule (1 to 30 September 2017)

Alternative Noise Monitoring at Pak Mong Village Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Sep	02-Sep
03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep
			Noise Impact Monitoring			
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
		Noise Impact Monitoring				
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
	Noise Impact Monitoring			Noise Impact Monitoring		
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
			Noise Impact Monitoring			

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 to 30 September 2017)

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Sep	02-Sep
03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep
			1-hr TSP Monitoring 24-hr TSP Monitoring			
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
		1-hr TSP Monitoring 24-hr TSP Monitoring				
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
	1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring		
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
			1-hr TSP Monitoring 24-hr TSP Monitoring			

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Noise Monitoring Schedule (1 to 31 October 2017)

Alternative Noise Monitoring at Pak Mong Village Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct
		Noise Impact Monitoring				
08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct
	Noise Impact Monitoring			Noise Impact Monitoring		
15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct
			Noise Impact Monitoring			
22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct
		Noise Impact Monitoring				
29-Oct	30-Oct	31-Oct				
	Noise Impact Monitoring					

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions. Additional weekly noise impact monitoring for construction works undertaken between 19:00-07:00 will be supplemented after confirmation of construction schedule.

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 to 31 October 2017)

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct
		1-hr TSP Monitoring 24-hr TSP Monitoring				
08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct
	1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring		
15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct
			1-hr TSP Monitoring 24-hr TSP Monitoring			
22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct
		1-hr TSP Monitoring 24-hr TSP Monitoring				
29-Oct	30-Oct	31-Oct				
	1-hr TSP Monitoring 24-hr TSP Monitoring					

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (September 2017)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Sep	2-Sep
					ebb tide 7:55 - 11:25 flood tide 15:41 - 19:11	
3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep
	WQM is canceled due to adverse weather		ebb tide 11:20 - 14:50 flood tide 18:00 - 21:30		ebb tide 12:29 - 15:59 flood tide 6:10 - 9:40	
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
	ebb tide 14:31 - 18:01 flood tide 8:39 - 12:09		ebb tide 16:38 - 20:08 flood tide 11:16 - 14:46		ebb tide 6:50 - 10:20 flood tide 14:31 - 18:01	
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
	ebb tide 9:56 - 13:26 flood tide 16:48 - 20:18		ebb tide 11:22 - 14:52 flood tide 17:46 - 21:16		ebb tide 12:35 - 16:05 flood tide 6:19 - 9:49	
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
	ebb tide 14:16 - 17:46 flood tide 8:26 - 11:56		ebb tide 16:09 - 19:28 flood tide 10:48 - 14:18		ebb tide 5:39 - 9:09 flood tide 14:30 - 18:00	

HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (October 2017)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1/Oct	2/Oct	3/Oct	4/Oct	5/Oct	6/Oct	7/Oct
	ebb tide 8:50 - 12:20 flood tide 15:59 - 19:29		ebb tide 10:11 - 13:41 flood tide 16:46 - 20:16		ebb tide 11:27 - 14:57 flood tide 5:18 - 8:48	
8/Oct	9/Oct	10/Oct	11/Oct	12/Oct	13/Oct	14/Oct
	ebb tide 13:33 - 17:03 flood tide 7:46 - 11:16		ebb tide 15:22 - 18:52 flood tide 10:00 - 13:30		ebb tide 4:48 - 8:18 flood tide 13:10 - 16:40	
15/Oct	16/Oct	17/Oct	18/Oct	19/Oct	20/Oct	21/Oct
	ebb tide 8:48 - 12:18 flood tide 15:41 - 19:11		ebb tide 10:20 - 13:50 flood tide 16:36 - 20:06		ebb tide 11:36 - 15:06 flood tide 5:34 - 9:04	
22/Oct	23/Oct	24/Oct	25/Oct	26/Oct	27/Oct	28/Oct
	ebb tide 13:18 - 16:48 flood tide 7:36 - 11:06		ebb tide 14:36 - 18:06 flood tide 9:14 - 12:44		ebb tide 3:24 - 6:54 flood tide 15:49 - 19:19	
29/Oct	30/Oct	31/Oct				
	ebb tide 6:58 - 10:28 flood tide 14:36 - 18:06					

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 30 September 2017)

					Friday	Saturday
					01-Sep	02-Sep
03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
					Impact Dolphin Monitoring	
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
	Impact Dolphin Monitoring				Impact Dolphin Monitoring	
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
					Impact Dolphin Monitoring	

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 31 October 2017)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct
			Impact Dolphin Monitoring			
08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct
			Impact Dolphin Monitoring			
15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct
	Impact Dolphin Monitoring				Impact Dolphin Monitoring	
22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct
29-Oct	30-Oct	31-Oct				

The schedule is subject to agreement from the EPD on the monitoring times. The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

Appendix G

Impact Air Quality Monitoring Results and Graphical Presentation

1-hour TSP Monitoring Results at Air Quality Monitoring Station ASR8A

Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2017-09-06	ASR8A	8:30	1-hr TSP	51	394	500
TMCLKL	HY/2012/07	2017-09-06	ASR8A	9:32	1-hr TSP	28		
TMCLKL	HY/2012/07	2017-09-06	ASR8A	10:40	1-hr TSP	22		
TMCLKL	HY/2012/07	2017-09-12	ASR8A	8:25	1-hr TSP	97		
TMCLKL	HY/2012/07	2017-09-12	ASR8A	9:35	1-hr TSP	135		
TMCLKL	HY/2012/07	2017-09-12	ASR8A	10:43	1-hr TSP	154		
TMCLKL	HY/2012/07	2017-09-18	ASR8A	8:25	1-hr TSP	169		
TMCLKL	HY/2012/07	2017-09-18	ASR8A	9:30	1-hr TSP	105		
TMCLKL	HY/2012/07	2017-09-18	ASR8A	10:40	1-hr TSP	81		
TMCLKL	HY/2012/07	2017-09-21	ASR8A	8:28	1-hr TSP	55		
TMCLKL	HY/2012/07	2017-09-21	ASR8A	9:32	1-hr TSP	58		
TMCLKL	HY/2012/07	2017-09-21	ASR8A	10:38	1-hr TSP	43		
TMCLKL	HY/2012/07	2017-09-27	ASR8A	8:25	1-hr TSP	73		
TMCLKL	HY/2012/07	2017-09-27	ASR8A	9:27	1-hr TSP	136		
TMCLKL	HY/2012/07	2017-09-27	ASR8A	10:35	1-hr TSP	61		
					Average	85		
					Min.	22		
					Max.	169		

1-hour TSP Monitoring Results at Air Quality Monitoring Station ASR9

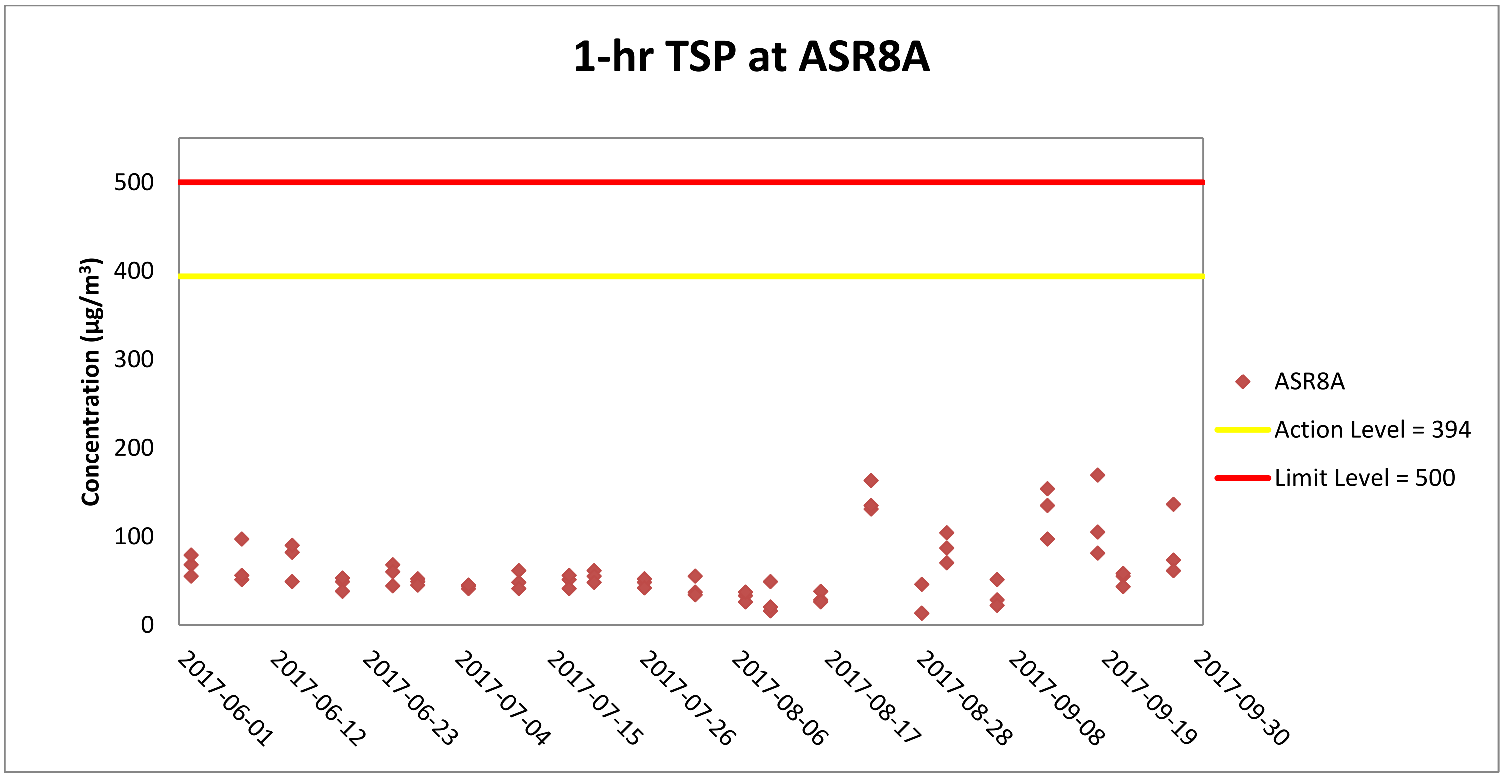
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2017-09-06	ASR9	8:41	1-hr TSP	73	393	500
TMCLKL	HY/2012/07	2017-09-06	ASR9	9:43	1-hr TSP	21		
TMCLKL	HY/2012/07	2017-09-06	ASR9	10:50	1-hr TSP	29		
TMCLKL	HY/2012/07	2017-09-12	ASR9	8:35	1-hr TSP	119		
TMCLKL	HY/2012/07	2017-09-12	ASR9	9:47	1-hr TSP	137		
TMCLKL	HY/2012/07	2017-09-12	ASR9	10:55	1-hr TSP	169		
TMCLKL	HY/2012/07	2017-09-18	ASR9	8:35	1-hr TSP	206		
TMCLKL	HY/2012/07	2017-09-18	ASR9	9:42	1-hr TSP	89		
TMCLKL	HY/2012/07	2017-09-18	ASR9	10:50	1-hr TSP	117		
TMCLKL	HY/2012/07	2017-09-21	ASR9	8:40	1-hr TSP	57		
TMCLKL	HY/2012/07	2017-09-21	ASR9	9:44	1-hr TSP	41		
TMCLKL	HY/2012/07	2017-09-21	ASR9	10:48	1-hr TSP	51		
TMCLKL	HY/2012/07	2017-09-27	ASR9	8:36	1-hr TSP	97		
TMCLKL	HY/2012/07	2017-09-27	ASR9	9:38	1-hr TSP	97		
TMCLKL	HY/2012/07	2017-09-27	ASR9	10:50	1-hr TSP	189		
					Average	99		
					Min.	21		
					Max.	206		

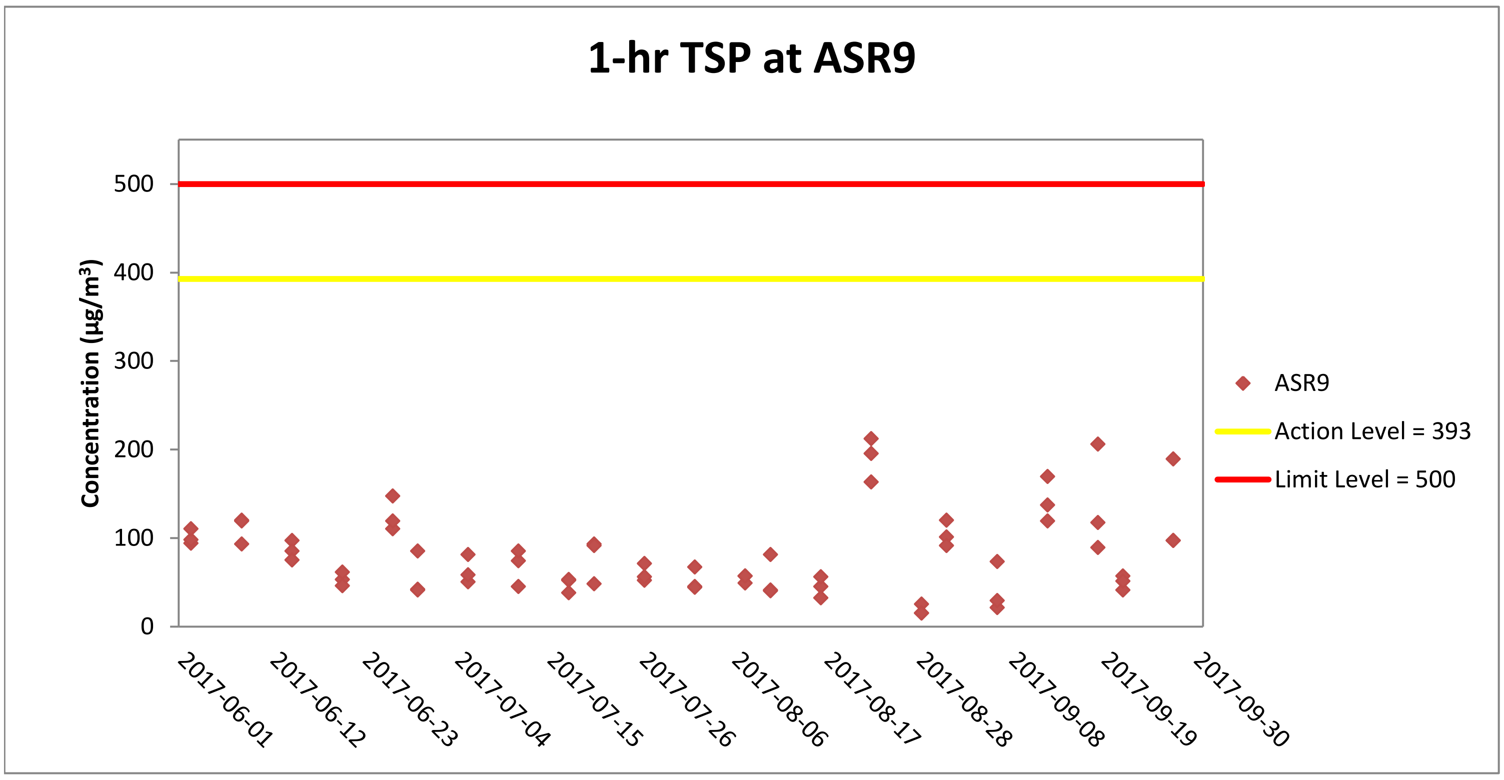
24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR8A

Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2017-09-06	ASR8A	11:42	24-hr TSP	17	178	260
TMCLKL	HY/2012/07	2017-09-12	ASR8A	11:45	24-hr TSP	50		
TMCLKL	HY/2012/07	2017-09-18	ASR8A	11:42	24-hr TSP	35		
TMCLKL	HY/2012/07	2017-09-21	ASR8A	11:40	24-hr TSP	21		
TMCLKL	HY/2012/07	2017-09-27	ASR8A	11:37	24-hr TSP	44		
					Average	33		
					Min.	17		
					Max.	50		

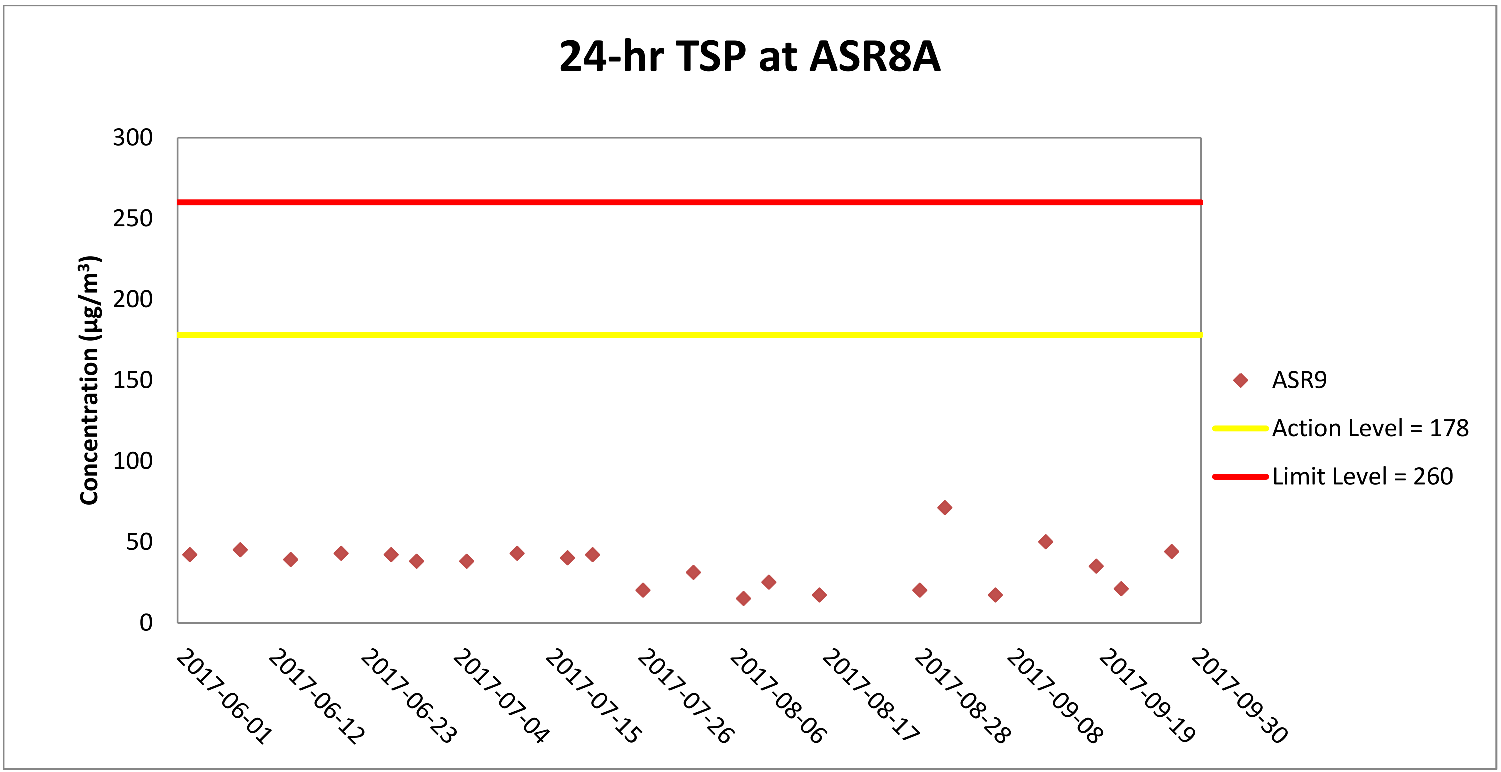
24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR9

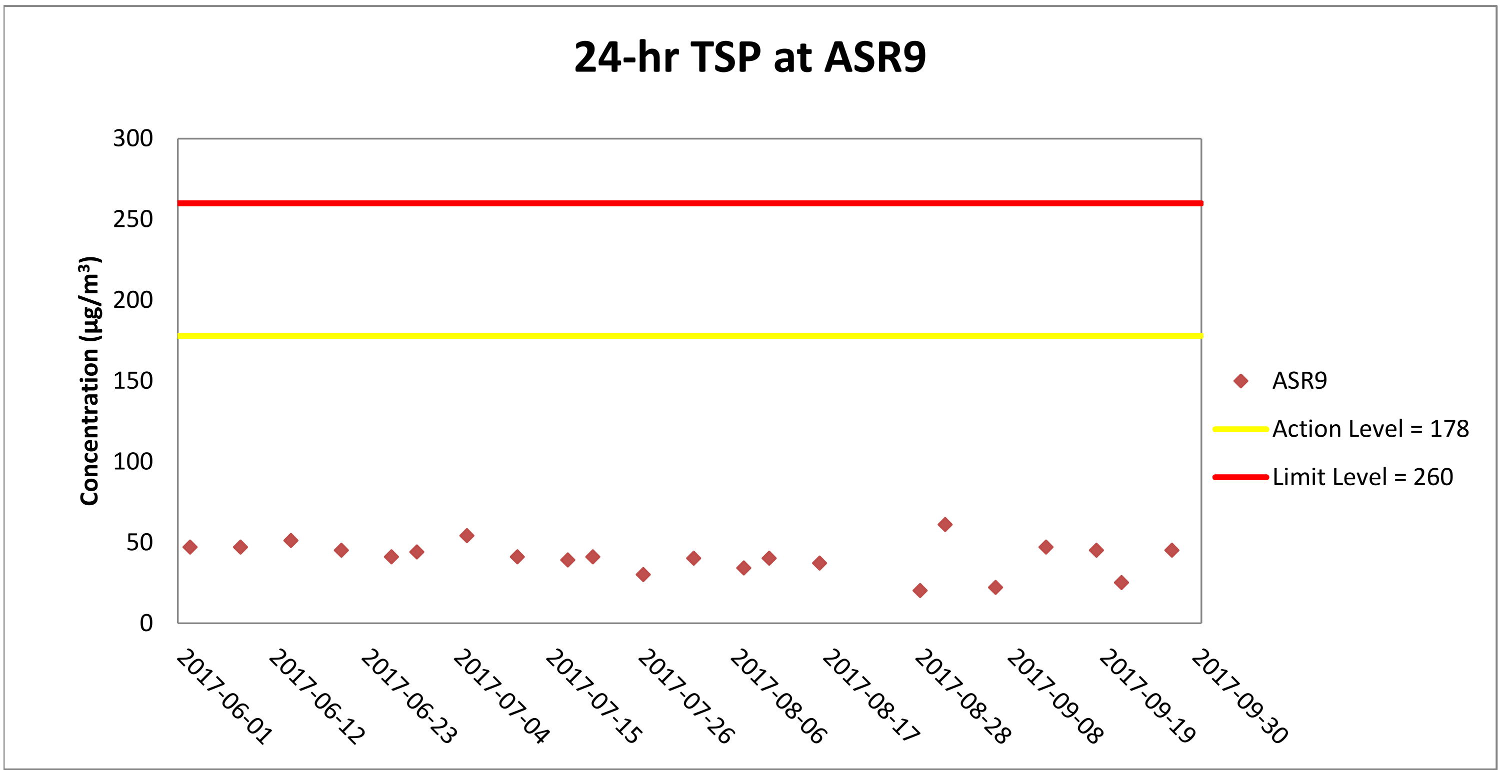
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2017-09-06	ASR9	11:52	24-hr TSP	22	178	260
TMCLKL	HY/2012/07	2017-09-12	ASR9	11:57	24-hr TSP	47		
TMCLKL	HY/2012/07	2017-09-18	ASR9	11:52	24-hr TSP	45		
TMCLKL	HY/2012/07	2017-09-21	ASR9	11:50	24-hr TSP	25		
TMCLKL	HY/2012/07	2017-09-27	ASR9	11:52	24-hr TSP	45		
					Average	37		
					Min.	22		
					Max.	61		





Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Pier construction; Re-alignment of Cheung Tung Road; Road works along North Lantau Highway; Launching gantry operation;; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.





Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Pier construction; Re-alignment of Cheung Tung Road; Road works along North Lantau Highway; Launching gantry operation; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.

Appendix H

Meteorological Data for the Reporting Month

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2017/9/6	0	0.42	178
2017/9/6	1	1.23	167
2017/9/6	2	1.41	165
2017/9/6	3	1.07	178
2017/9/6	4	0.39	177
2017/9/6	5	0.06	189
2017/9/6	6	0.02	165
2017/9/6	7	0.02	127
2017/9/6	8	0.04	122
2017/9/6	9	0.02	24
2017/9/6	10	0.04	273
2017/9/6	11	0.02	213
2017/9/6	12	0.67	177
2017/9/6	13	2.03	175
2017/9/6	14	1.63	177
2017/9/6	15	0.71	173
2017/9/6	16	0.48	160
2017/9/6	17	0.85	152
2017/9/6	18	0.27	176
2017/9/6	19	0.29	179
2017/9/6	20	1.19	157
2017/9/6	21	1.42	166
2017/9/6	22	0.36	170
2017/9/6	23	0.28	175
2017/9/7	0	0.14	186
2017/9/7	1	0.14	174
2017/9/7	2	0.02	159
2017/9/7	3	0.03	183
2017/9/7	4	0.21	165
2017/9/7	5	0.05	154
2017/9/7	6	0.21	167
2017/9/7	7	0.06	169
2017/9/7	8	0.54	179
2017/9/7	9	1.79	165
2017/9/7	10	0.95	172
2017/9/7	11	1.44	178
2017/9/7	12	2.61	161
2017/9/7	13	0.18	223
2017/9/7	14	0.21	253
2017/9/7	15	0.15	182
2017/9/7	16	0.81	175
2017/9/7	17	0.20	163
2017/9/7	18	0.11	178
2017/9/7	19	0.24	185
2017/9/7	20	0.25	187
2017/9/7	21	0.31	185
2017/9/7	22	0.97	177
2017/9/7	23	0.34	179
2017/9/12	0	0.05	192
2017/9/12	1	0.07	195
2017/9/12	2	0.06	191
2017/9/12	3	0.25	191
2017/9/12	4	0.02	187
2017/9/12	5	0.02	187
2017/9/12	6	0.02	136
2017/9/12	7	0.02	83
2017/9/12	8	0.02	137
2017/9/12	9	0.03	170
2017/9/12	10	0.02	89
2017/9/12	11	0.03	141
2017/9/12	12	0.02	122
2017/9/12	13	0.03	142
2017/9/12	14	0.02	155
2017/9/12	15	0.13	157
2017/9/12	16	0.11	121
2017/9/12	17	0.13	138
2017/9/12	18	0.04	178
2017/9/12	19	0.03	154
2017/9/12	20	0.11	186
2017/9/12	21	0.02	176
2017/9/12	22	0.02	207
2017/9/12	23	0.36	157

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2017/9/13	0	0.04	129
2017/9/13	1	0.07	94
2017/9/13	2	0.07	143
2017/9/13	3	0.03	124
2017/9/13	4	0.12	120
2017/9/13	5	0.16	98
2017/9/13	6	0.02	285
2017/9/13	7	0.02	97
2017/9/13	8	0.02	99
2017/9/13	9	0.02	182
2017/9/13	10	0.02	250
2017/9/13	11	0.10	131
2017/9/13	12	0.11	102
2017/9/13	13	0.09	198
2017/9/13	14	0.03	148
2017/9/13	15	1.11	141
2017/9/13	16	2.03	146
2017/9/13	17	2.31	158
2017/9/13	18	1.77	161
2017/9/13	19	0.48	148
2017/9/13	20	0.02	124
2017/9/13	21	0.02	101
2017/9/13	22	0.02	109
2017/9/13	23	0.05	97
2017/9/18	0	0.02	183
2017/9/18	1	0.02	180
2017/9/18	2	0.07	179
2017/9/18	3	0.11	188
2017/9/18	4	0.15	189
2017/9/18	5	0.02	190
2017/9/18	6	0.02	190
2017/9/18	7	0.02	150
2017/9/18	8	0.23	162
2017/9/18	9	0.52	155
2017/9/18	10	2.47	186
2017/9/18	11	3.61	182
2017/9/18	12	4.03	186
2017/9/18	13	4.36	180
2017/9/18	14	2.98	166
2017/9/18	15	2.00	150
2017/9/18	16	2.22	168
2017/9/18	17	2.30	156
2017/9/18	18	3.91	158
2017/9/18	19	3.65	160
2017/9/18	20	3.48	164
2017/9/18	21	2.23	156
2017/9/18	22	2.70	149
2017/9/18	23	1.56	146
2017/9/19	0	1.37	162
2017/9/19	1	0.24	132
2017/9/19	2	0.04	115
2017/9/19	3	0.02	95
2017/9/19	4	0.02	159
2017/9/19	5	0.13	187
2017/9/19	6	0.02	161
2017/9/19	7	0.36	151
2017/9/19	8	0.83	164
2017/9/19	9	0.96	168
2017/9/19	10	2.60	184
2017/9/19	11	3.46	191
2017/9/19	12	3.54	178
2017/9/19	13	2.36	198
2017/9/19	14	2.64	179
2017/9/19	15	2.85	172
2017/9/19	16	1.83	157
2017/9/19	17	2.50	173
2017/9/19	18	3.66	164
2017/9/19	19	3.20	177
2017/9/19	20	2.64	162
2017/9/19	21	2.57	160
2017/9/19	22	0.57	156
2017/9/19	23	0.25	127

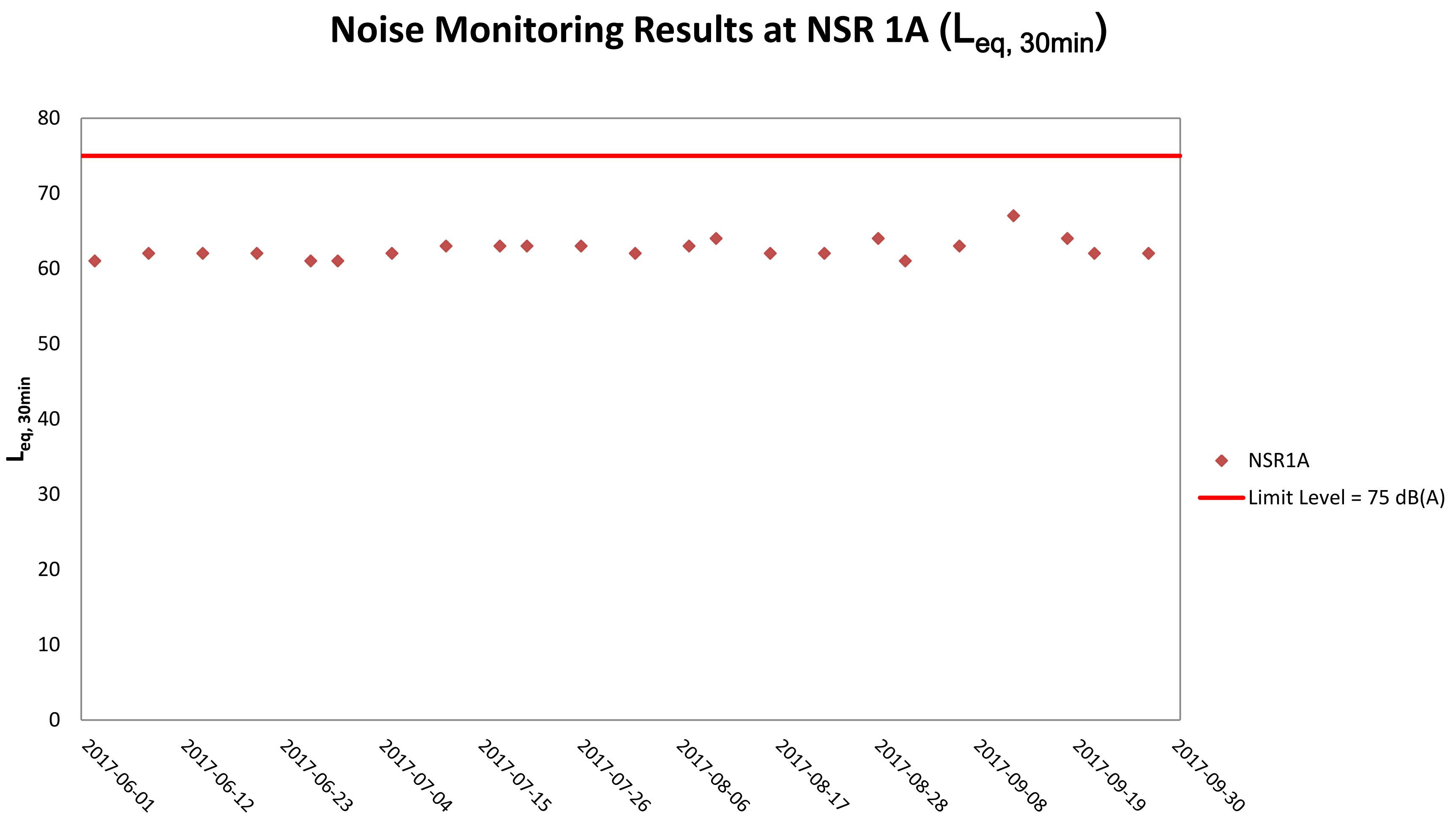
Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2017/9/21	0	0.14	144
2017/9/21	1	0.02	105
2017/9/21	2	0.07	99
2017/9/21	3	0.02	101
2017/9/21	4	0.03	184
2017/9/21	5	0.09	186
2017/9/21	6	0.07	184
2017/9/21	7	0.02	197
2017/9/21	8	0.01	104
2017/9/21	9	0.26	169
2017/9/21	10	0.67	188
2017/9/21	11	0.01	148
2017/9/21	12	0.07	236
2017/9/21	13	1.87	179
2017/9/21	14	1.03	162
2017/9/21	15	2.50	188
2017/9/21	16	1.72	149
2017/9/21	17	1.08	148
2017/9/21	18	0.28	169
2017/9/21	19	0.14	165
2017/9/21	20	0.17	156
2017/9/21	21	0.18	133
2017/9/21	22	0.32	92
2017/9/21	23	0.23	106
2017/9/22	0	0.10	130
2017/9/22	1	0.02	113
2017/9/22	2	0.02	147
2017/9/22	3	0.11	192
2017/9/22	4	0.02	189
2017/9/22	5	0.02	208
2017/9/22	6	0.09	153
2017/9/22	7	0.02	188
2017/9/22	8	0.02	119
2017/9/22	9	0.02	122
2017/9/22	10	0.02	162
2017/9/22	11	0.18	203
2017/9/22	12	1.86	156
2017/9/22	13	2.17	163
2017/9/22	14	1.20	181
2017/9/22	15	1.04	167
2017/9/22	16	0.82	147
2017/9/22	17	0.30	150
2017/9/22	18	0.05	137
2017/9/22	19	0.05	122
2017/9/22	20	0.04	113
2017/9/22	21	0.04	134
2017/9/22	22	0.03	111
2017/9/22	23	0.02	106
2017/9/27	0	0.05	188
2017/9/27	1	0.21	180
2017/9/27	2	0.33	182
2017/9/27	3	0.07	195
2017/9/27	4	0.04	198
2017/9/27	5	0.11	193
2017/9/27	6	0.02	191
2017/9/27	7	0.02	175
2017/9/27	8	0.01	98
2017/9/27	9	0.00	189
2017/9/27	10	0.02	160
2017/9/27	11	0.00	172
2017/9/27	12	0.00	165
2017/9/27	13	0.04	123
2017/9/27	14	0.06	254
2017/9/27	15	0.06	297
2017/9/27	16	1.23	202
2017/9/27	17	1.51	151
2017/9/27	18	1.76	161
2017/9/27	19	1.43	126
2017/9/27	20	1.32	152
2017/9/27	21	0.86	172
2017/9/27	22	0.96	149
2017/9/27	23	0.89	175

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2017/9/28	0	0.52	181
2017/9/28	1	0.49	163
2017/9/28	2	0.30	172
2017/9/28	3	0.20	181
2017/9/28	4	0.45	192
2017/9/28	5	0.38	195
2017/9/28	6	0.11	199
2017/9/28	7	0.02	198
2017/9/28	8	0.00	215
2017/9/28	9	0.01	260
2017/9/28	10	0.00	198
2017/9/28	11	0.02	264
2017/9/28	12	1.30	195
2017/9/28	13	2.29	184
2017/9/28	14	3.07	182
2017/9/28	15	3.56	176
2017/9/28	16	3.29	180
2017/9/28	17	2.31	163
2017/9/28	18	1.91	165
2017/9/28	19	2.20	144
2017/9/28	20	2.37	158
2017/9/28	21	2.33	155
2017/9/28	22	3.37	161
2017/9/28	23	1.29	167

Appendix I

Impact Noise Monitoring Results and Graphical Presentation

Project	Works	Date (yyyy-mm-dd)	Station	Weather Condition	Time (hh:mm, 24hour)	Noise Level for 30-min, dB(A)			Limit Level dB(A)	Wind Speed (m/s)	Noise Meter Model/ID	Calibrator Model/ID
						Leq	L10	L90				
TMCLKL	HY/2012/07	2017-09-06	NSR1A	Cloudy	10:03	63	64	59	75	0.2	RION NL52 (S/N 01010406)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2017-09-12	NSR1A	Sunny	10:01	67	67	61	75	1.0	RION NL52 (S/N 01010406)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2017-09-18	NSR1A	Sunny	10:01	64	64	60	75	0.5	RION NL52 (S/N 01010406)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2017-09-21	NSR1A	Cloudy	10:01	62	64	59	75	0.2	RION NL52 (S/N 01010406)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2017-09-27	NSR1A	Sunny	9:58	62	63	59	75	0.3	RION NL52 (S/N 01010407)	RION NC73 (S/N 10486661)
					Min.	62						
					Max.	67						
					Average	64						



Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Pier construction; Re-alignment of Cheung Tung Road; Road works along North Lantau Highway; Launching gantry operation; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.

Appendix J

Impact Water Quality Monitoring Results and Graphical Presentation

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Surface	1	1	28.2	7.8	18.3	6.4	6.1	4.3	3.2	4.0	3.5
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Surface	1	2	28.0	7.8	18.2	6.4		3.4		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Middle	2	1	27.5	7.9	24.7	5.7		3.4		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Middle	2	2	27.3	7.8	24.7	5.7		2.4		3.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Bottom	3	1	26.9	7.9	28.6	5.5	5.6	3.3		2.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	8:54	10.2	Bottom	3	2	26.9	7.8	28.5	5.6		2.3		3.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Surface	1	1	28.5	7.6	16.1	5.7	5.2	9.1	9.0	4.1	3.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Surface	1	2	28.3	7.6	16.3	5.7		7.4		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Middle	2	1	26.9	7.6	25.6	4.7		8.8		3.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Middle	2	2	26.7	7.6	25.6	4.7		7.3		2.3	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Bottom	3	1	26.4	7.7	27.9	4.6	4.6	11.5		5.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	6.8	Bottom	3	2	26.2	7.6	27.9	4.6		9.7		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Surface	1	1	28.3	8.0	20.3	6.9	6.5	5.2	5.0	5.0	4.5
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Surface	1	2	28.1	7.9	20.3	6.9		5.1		3.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Middle	2	1	28.1	7.9	21.1	6.1		4.7		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Middle	2	2	28.0	7.8	21.0	6.1		4.2		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Bottom	3	1	27.7	7.9	23.4	5.8	5.8	5.7		4.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	9:31	6.0	Bottom	3	2	27.6	7.8	23.4	5.8		4.9		4.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	9:41	5.2	Surface	1	1	28.4	8.1	16.7	7.4	7.4	6.5	8.1	4.7	5.3
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	9:41	5.2	Surface	1	2	28.3	8.0	16.6	7.4		5.5		5.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	9:41	5.2	Bottom	3	1	27.2	7.9	25.1	4.7	4.8	10.4		5.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	9:41	5.2	Bottom	3	2	27.1	7.7	25.1	4.8		10.0		5.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	9:48	3.8	Surface	1	1	28.5	8.0	16.1	7.2	7.2	6.0	7.6	3.9	4.0
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	9:48	3.8	Surface	1	2	28.3	8.0	16.1	7.1		5.1		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	9:48	3.8	Bottom	3	1	27.9	7.8	21.5	5.0	5.1	9.7		3.9	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	9:48	3.8	Bottom	3	2	27.8	7.7	21.4	5.2		9.5		4.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	9:59	3.4	Surface	1	1	28.6	8.0	19.2	7.1	7.1	7.3	11.1	5.8	5.1
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	9:59	3.4	Surface	1	2	28.4	7.9	19.1	7.1		6.3		6.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8		3.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8		3.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	9:59	3.4	Bottom	3	1	27.8	7.9	22.5	5.6	5.7	16.0		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	9:59	3.4	Bottom	3	2	27.7	7.8	22.6	5.7		14.6		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	3.4	Surface	1	1	28.5	8.0	20.3	6.1	6.1	9.0	7.4	3.0	3.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	3.4	Surface	1	2	28.3	7.9	20.2	6.1		8.5		2.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9		3.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9		3.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	3.4	Bottom	3	1	27.6	7.9	24.1	5.1	5.2	6.3		4.9	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	3.4	Bottom	3	2	27.5	7.8	23.9	5.2		5.6		4.3	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Surface	1	1	28.7	7.9	19.6	7.4	6.1	3.9	4.7	1.7	2.3
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Surface	1	2	28.5	8.0	19.5	7.3		2.9		1.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Middle	2	1	26.5	7.8	30.4	4.8		5.0		1.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Middle	2	2	26.4	7.9	30.3	4.9		4.7		2.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Bottom	3	1	26.2	7.8	33.0	5.0	5.2	6.1		3.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	12.9	Bottom	3	2	26.1	7.9	32.9	5.3		5.8		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Surface	1	1	29.3	7.6	13.4	6.4	5.9	10.3	13.2	5.3	14.8
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Surface	1	2	29.5	7.7	13.3	6.4		12.3		6.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Middle	2	1	27.9	7.6	19.6	5.5		12.5		9.3	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Middle	2	2	28.1	7.6	19.4	5.4		14.2		11.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Bottom	3	1	27.6	7.6	21.0	5.2	5.2	13.7		29.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	6.7	Bottom	3	2	27.8	7.7	21.0	5.1		16.1		27.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Surface	1	1	28.8	8.0	18.4	8.2	7.0	4.8	8.4	2.8	3.4
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Surface	1	2	28.7	8.1	18.4	8.3		4.2		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Middle	2	1	27.8	7.6	22.1	5.7		8.3		3.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Middle	2	2	27.7	7.8	22.1	5.7		7.7		2.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Bottom	3	1	27.3	7.6	25.1	5.1	5.2	13.2		3.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	6.0	Bottom	3	2	27.2	7.8	25.2	5.2		12.2		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	5.3	Surface	1	1	28.5	7.8	19.3	7.6	7.6	6.0	10.4	21.6	24.1
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	5.3	Surface	1	2	28.4	8.0	19.2	7.6		5.3		21.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a		5.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a		5.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	5.3	Bottom	3	1	27.5	7.7	24.2	5.7	5.7	16.1		27.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	5.3	Bottom	3	2	27.4	7.8	24.1	5.6		14.2		26.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	3.8	Surface	1	1	28.8	7.8	18.7	8.2	8.2	18.4	17.7	10.5	14.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	3.8	Surface	1	2	28.7	8.0	18.6	8.2		18.1		9.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	3.8	Bottom	3	1	28.4	7.7	20.0	7.3	7.4	16.4		19.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	3.8	Bottom	3	2	28.3	7.9	20.0	7.4		17.8		19.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	3.9	Surface	1	1	28.8	8.0	18.0	8.0	8.0	7.2	9.6	4.6	5.9
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	3.9	Surface	1	2	28.7	8.0	18.0	8.0		6.6		6.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	3.9	Bottom	3	1	28.4	7.9	19.8	7.3	7.4	12.7		6.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	3.9	Bottom	3	2	28.3	7.9	19.8	7.4		11.9		6.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	3.3	Surface	1	1	30.3	8.5	17.3	14.2	14.2	7.8	9.6	6.9	6.9
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	3.3	Surface	1	2	30.1	8.5	17.3	14.1		6.6		6.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9		3.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9		3.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	3.3	Bottom	3	1	28.3	8.1	21.2	9.6	9.6	12.8		7.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	3.3	Bottom	3	2	28.2	8.0	21.2	9.5		11.3		6.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Surface	1	1	27.9	7.7	22.0	5.1	5.0	5.5	9.3	7.4	8.8
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Surface	1	2	28.0	7.5	22.0	5.1		4.6		7.0	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Middle	2	1	27.2	7.8	25.7	4.8		10.6		8.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Middle	2	2	27.3	7.6	25.8	4.8		9.5		10.0	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Bottom	3	1	26.8	7.7	30.2	4.5	4.5	13.6		9.9	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)5	12:27	14.1	Bottom	3	2	26.9	7.6	30.3	4.5		12.0		9.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Surface	1	1	28.9	7.5	17.7	5.5	5.3	10.1	12.9	4.7	7.9
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Surface	1	2	28.6	7.5	17.9	5.5		9.2		5.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Middle	2	1	27.9	7.6	19.8	5.0		13.0		7.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Middle	2	2	27.6	7.6	20.2	5.1		13.4		6.9	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Bottom	3	1	27.7	7.7	21.8	5.0	5.0	16.6		11.1	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	CS(Mf)3(N)	13:40	6.9	Bottom	3	2	27.5	7.6	21.8	5.0		15.1		12.1	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Surface	1	1	27.8	7.8	22.1	5.0	5.0	7.2	6.7	7.6	8.8
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Surface	1	2	27.9	7.6	22.2	5.0		6.8		8.6	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Middle	2	1	27.5	7.8	23.7	4.9		7.3		9.5	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Middle	2	2	27.6	7.6	23.7	4.9		6.7		8.9	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Bottom	3	1	27.3	7.8	24.7	4.8	4.9	6.3		8.9	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)16	13:07	6.2	Bottom	3	2	27.4	7.6	24.6	4.9		6.0		9.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a	13:18	5.1	Surface	1	1	27.9	7.7	21.5	5.1	5.1	10.9	14.4	11.4	15.5
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a	13:18	5.1	Surface	1	2	28.0	7.7	21.5	5.1		9.2		11.2	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a		5.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a		5.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a	13:18	5.1	Bottom	3	1	27.4	7.8	24.1	5.0	4.9	18.4		20.1	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4a	13:18	5.1	Bottom	3	2	27.5	7.8	24.2	4.8		19.1		19.4	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4	13:23	4.4	Surface	1	1	28.1	7.7	20.7	5.1	5.1	7.2	11.6	12.2	12.5
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4	13:23	4.4	Surface	1	2	28.2	7.7	20.7	5.1		6.5		11.5	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4		4.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4		4.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4	13:23	4.4	Bottom	3	1	27.8	7.7	21.7	5.0	5.0	17.0		13.1	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	SR4	13:23	4.4	Bottom	3	2	27.9	7.7	21.7	4.9		15.6		13.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8	13:33	4.4	Surface	1	1	28.9	7.8	20.8	5.5	5.5	4.9	8.2	7.4	6.9
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8	13:33	4.4	Surface	1	2	29.0	7.7	20.9	5.5		4.2		7.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8		4.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8		4.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8	13:33	4.4	Bottom	3	1	27.9	7.8	21.9	5.2	5.2	12.1		6.4	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS8	13:33	4.4	Bottom	3	2	28.1	7.7	22.0	5.1		11.5		6.4	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9	13:42	3.6	Surface	1	1	28.0	7.8	21.0	5.2	5.3	4.6	7.8	5.9	8.2
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9	13:42	3.6	Surface	1	2	28.2	7.7	21.1	5.3		4.4		5.0	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9		3.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9		3.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9	13:42	3.6	Bottom	3	1	27.7	7.7	22.4	4.9	4.9	11.7		11.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Ebb	IS(Mf)9	13:42	3.6	Bottom	3	2	27.8	7.7	22.5	4.9		10.6		10.4	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Surface	1	1	27.6	7.8	23.4	5.1	4.9	4.7	10.8	5.8	10.6
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Surface	1	2	27.7	7.8	23.6	5.1		4.3		5.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Middle	2	1	27.0	7.9	28.4	4.8		10.3		11.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Middle	2	2	27.1	7.9	28.5	4.6		9.3		11.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Bottom	3	1	26.9	7.9	28.8	4.5	4.5	17.2		13.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)5	19:49	13.5	Bottom	3	2	27.0	7.9	28.9	4.5		18.9		14.5	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Surface	1	1	29.1	7.4	14.1	5.0	5.0	12.9	15.1	8.8	12.1
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Surface	1	2	28.8	7.4	13.6	5.1		12.1		7.2	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Middle	2	1	28.6	7.5	16.6	4.9		15.8		10.6	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Middle	2	2	28.4	7.4	16.8	5.0		15.5		11.6	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Bottom	3	1	28.4	7.5	17.9	4.9	4.9	17.2		16.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	CS(Mf)3(N)	18:23	6.3	Bottom	3	2	28.2	7.5	18.1	4.9		16.9		17.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16	19:09	5.8	Surface	1	1	28.2	7.8	21.4	5.0	5.0	13.3	13.2	12.1	17.7
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16	19:09	5.8	Surface	1	2	28.3	7.8	21.4	5.0		12.7		13.1	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16		5.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16		5.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16	19:09	5.8	Bottom	3	1	28.2	7.8	21.5	5.0	5.0	13.4		23.0	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)16	19:09	5.8	Bottom	3	2	28.3	7.8	21.6	5.0		13.4		22.4	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a	18:56	5.3	Surface	1	1	28.4	7.7	20.2	5.2	5.2	12.3	13.0	19.7	20.6
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a	18:56	5.3	Surface	1	2	28.5	7.8	20.3	5.2		12.0		20.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a		5.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a		5.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a	18:56	5.3	Bottom	3	1	28.4	7.7	20.3	5.3	5.3	14.2		21.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4a	18:56	5.3	Bottom	3	2	28.5	7.8	20.3	5.3		13.4		20.6	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4	18:51	3.9	Surface	1	1	28.4	7.7	20.7	5.2	5.2	17.0	20.4	24.5	26.3
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4	18:51	3.9	Surface	1	2	28.5	7.8	20.7	5.2		15.9		24.4	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4	18:51	3.9	Bottom	3	1	28.4	7.7	20.8	5.2	5.2	24.6		27.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	SR4	18:51	3.9	Bottom	3	2	28.5	7.8	20.8	5.2		24.0		28.3	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8	18:41	3.2	Surface	1	1	28.3	7.8	20.8	5.2	5.2	11.6	17.4	21.3	20.6
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8	18:41	3.2	Surface	1	2	28.4	7.7	20.8	5.2		11.4		20.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8		3.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8		3.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8	18:41	3.2	Bottom	3	1	28.3	7.7	21.1	5.3	5.3	22.6		19.8	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS8	18:41	3.2	Bottom	3	2	28.4	7.7	21.2	5.2		23.8		20.7	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9		2.9	Surface	1	1					5.3		13.5		16.3
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9		2.9	Surface	1	2									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9	18:31	2.9	Middle	2	1	28.3	7.8	21.8	5.3		13.4		16.5	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9	18:31	2.9	Middle	2	2	28.4	7.8	21.9	5.2		13.6		16.0	
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9		2.9	Bottom	3	1									
TMCLKL	HY/2012/07	2017-09-06	Mid-Flood	IS(Mf)9		2.9	Bottom	3	2									

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Surface	1	1	28.6	7.7	20.5	4.8	4.8	5.7	19.7	9.2	21.7
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Surface	1	2	28.6	7.7	20.4	4.9		5.8		9.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Middle	2	1	28.2	7.7	22.1	4.7		11.2		19.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Middle	2	2	28.1	7.8	22.0	4.7		11.3		21.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Bottom	3	1	27.7	7.8	24.4	4.4	4.4	41.1		36.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	13.4	Bottom	3	2	27.6	7.7	24.3	4.4		42.9		34.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Surface	1	1	28.3	7.6	19.8	5.0	4.9	10.6	16.0	7.3	13.0
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Surface	1	2	28.5	7.6	19.6	4.9		10.6		6.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Middle	2	1	27.9	7.7	22.3	4.8		18.9		14.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Middle	2	2	28.1	7.7	22.1	4.8		18.7		15.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Bottom	3	1	27.8	7.7	23.3	4.9	4.9	17.0		17.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	7.0	Bottom	3	2	28.0	7.7	23.1	4.8		19.9		17.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Surface	1	1	28.3	7.7	21.5	4.9	4.7	5.7	7.0	8.8	11.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Surface	1	2	28.1	7.7	21.5	4.9		6.1		7.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Middle	2	1	27.9	7.8	23.0	4.5		9.5		14.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Middle	2	2	27.8	7.7	22.9	4.5		10.3		12.7	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Bottom	3	1	27.7	7.8	24.4	4.5	4.5	5.2		13.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	6.7	Bottom	3	2	27.6	7.7	24.3	4.5		5.4		12.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	5.7	Surface	1	1	28.3	7.6	20.7	4.7	4.7	7.5	12.4	13.9	14.8
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	5.7	Surface	1	2	28.2	7.7	20.6	4.7		7.9		12.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a		5.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a		5.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	5.7	Bottom	3	1	28.1	7.6	21.9	4.5	4.5	16.6		16.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	5.7	Bottom	3	2	27.9	7.7	21.8	4.5		17.6		16.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	4.8	Surface	1	1	28.3	7.7	20.3	4.7	4.7	8.1	8.2	9.7	11.2
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	4.8	Surface	1	2	28.2	7.6	20.2	4.7		8.6		10.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4		4.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4		4.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	4.8	Bottom	3	1	28.3	7.7	21.0	4.8	4.9	7.7		11.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	4.8	Bottom	3	2	28.1	7.7	20.9	4.9		8.2		12.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	4.8	Surface	1	1	28.9	7.8	20.2	5.2	5.2	3.9	6.4	7.6	10.1
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	4.8	Surface	1	2	28.8	7.7	20.1	5.2		4.4		9.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8		4.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8		4.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	4.8	Bottom	3	1	28.3	7.9	21.0	5.0	5.0	8.4		11.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	4.8	Bottom	3	2	28.2	7.7	20.9	5.0		8.9		12.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	4.3	Surface	1	1	29.0	7.9	20.1	5.4	5.4	4.3	5.0	4.0	7.8
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	4.3	Surface	1	2	28.9	7.7	20.0	5.3		4.7		5.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9		4.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9		4.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	4.3	Bottom	3	1	28.3	7.9	20.7	5.0	5.1	5.3		11.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	4.3	Bottom	3	2	28.2	7.7	20.7	5.1		5.6		10.0	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Surface	1	1	28.1	7.8	21.3	4.8	4.7	4.2	5.0	2.2	5.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Surface	1	2	28.0	7.8	21.3	4.8		4.9		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Middle	2	1	27.7	7.8	24.9	4.5		4.8		5.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Middle	2	2	27.6	7.9	25.2	4.5		5.3		5.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Bottom	3	1	27.6	7.8	26.6	4.5	4.6	5.2		7.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	13.0	Bottom	3	2	27.5	7.9	26.5	4.6		5.5		9.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Surface	1	1	28.4	7.5	16.9	4.9	4.8	11.1	16.2	10.0	16.3
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Surface	1	2	28.2	7.5	17.1	4.9		11.2		10.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Middle	2	1	28.3	7.6	18.7	4.7		17.0		17.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Middle	2	2	28.1	7.6	18.8	4.8		16.8		16.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Bottom	3	1	28.3	7.6	18.9	4.7	4.7	19.8		22.7	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	7.2	Bottom	3	2	28.0	7.6	19.0	4.7		21.0		21.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Surface	1	1	28.1	7.7	20.8	4.9	4.8	2.6	3.6	2.3	2.3
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Surface	1	2	28.0	7.8	20.8	4.8		2.2		2.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Middle	2	1	28.1	7.7	21.1	4.8		3.2		2.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Middle	2	2	28.0	7.8	21.2	4.7		2.8		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Bottom	3	1	28.1	7.8	22.2	4.7	4.7	5.8		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	6.2	Bottom	3	2	27.9	7.8	22.1	4.7		5.1		2.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	4.8	Surface	1	1	28.1	7.8	20.7	4.9	4.9	6.0	6.3	10.3	11.1
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	4.8	Surface	1	2	28.0	7.8	20.6	4.9		5.0		11.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a		4.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a		4.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	4.8	Bottom	3	1	28.1	7.8	20.8	5.1	5.2	7.6		11.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	4.8	Bottom	3	2	27.9	7.8	20.7	5.2		6.6		10.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	3.9	Surface	1	1	28.1	7.8	20.8	4.9	5.0	7.2	6.9	15.0	16.0
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	3.9	Surface	1	2	28.0	7.8	20.7	5.0		6.5		14.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	3.9	Bottom	3	1	28.1	7.8	20.8	5.1	5.2	7.4		17.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	3.9	Bottom	3	2	28.0	7.8	20.7	5.2		6.6		17.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	3.9	Surface	1	1	28.1	7.8	20.8	4.8	4.8	13.8	17.4	11.5	15.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	3.9	Surface	1	2	28.0	7.8	20.7	4.8		14.0		11.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	3.9	Bottom	3	1	28.1	7.8	21.0	4.7	4.7	20.8		18.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	3.9	Bottom	3	2	28.0	7.8	21.0	4.7		20.9		19.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	3.8	Surface	1	1	28.1	7.8	21.8	4.8	4.8	5.9	9.9	6.5	8.5
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	3.8	Surface	1	2	28.0	7.8	21.7	4.8		5.2		7.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	3.8	Bottom	3	1	28.1	7.8	22.6	4.8		14.9		10.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	3.8	Bottom	3	2	27.9	7.8	22.5	4.8		13.4		9.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Surface	1	1	29.3	7.7	18.3	4.7	4.6	4.4	5.3	6.4	5.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Surface	1	2	29.4	7.7	18.4	4.7		4.0		5.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Middle	2	1	28.8	7.7	20.2	4.5		5.1		4.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Middle	2	2	29.0	7.7	20.3	4.5		4.8		4.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Bottom	3	1	27.7	7.7	26.5	3.9	3.9	6.8		6.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	9.8	Bottom	3	2	27.9	7.7	26.6	3.9		6.4		7.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Surface	1	1	29.7	7.4	13.6	4.6	4.6	14.1	18.5	3.8	7.6
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Surface	1	2	29.5	7.4	13.8	4.7		14.4		3.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Middle	2	1	28.7	7.5	19.9	4.4		17.5		4.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Middle	2	2	28.5	7.6	20.1	4.5		14.1		4.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Bottom	3	1	28.7	7.6	21.1	4.4	4.5	25.8		14.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	7.1	Bottom	3	2	28.4	7.6	21.2	4.5		25.3		15.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	5.8	Surface	1	1	29.0	7.7	20.1	5.1	5.2	5.6	7.7	6.8	6.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	5.8	Surface	1	2	29.2	7.7	20.2	5.2		4.9		6.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16		5.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16		5.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	5.8	Bottom	3	1	28.1	7.7	23.4	4.3	4.3	10.8		5.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	5.8	Bottom	3	2	28.3	7.7	23.5	4.3		9.6		5.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	5.2	Surface	1	1	29.0	7.6	18.9	4.7	4.8	8.0	10.1	12.2	11.8
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	5.2	Surface	1	2	29.2	7.6	19.0	4.8		7.5		12.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	5.2	Bottom	3	1	28.6	7.6	19.9	4.4	4.4	12.4		10.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	5.2	Bottom	3	2	28.8	7.6	20.0	4.4		12.3		11.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	3.7	Surface	1	1	28.9	7.6	19.0	4.9	4.9	7.5	8.7	8.2	9.7
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	3.7	Surface	1	2	29.1	7.6	19.1	4.9		7.3		9.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4		3.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4		3.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	3.7	Bottom	3	1	28.9	7.6	19.8	4.8	4.8	10.2		10.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	3.7	Bottom	3	2	29.0	7.6	19.9	4.8		9.8		10.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	3.1	Surface	1	1	29.3	7.7	18.9	5.2	5.2	6.7	7.7	7.2	6.3
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	3.1	Surface	1	2	29.5	7.7	18.9	5.2		6.3		6.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8		3.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8		3.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	3.1	Bottom	3	1	28.7	7.7	20.0	5.0	5.0	9.0		5.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	3.1	Bottom	3	2	28.9	7.7	20.1	5.0		8.6		6.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	3.4	Surface	1	1	29.0	7.7	19.1	5.3	5.3	5.3	5.0	5.1	5.3
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	3.4	Surface	1	2	29.2	7.7	19.2	5.3		4.9		4.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9		3.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9		3.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	3.4	Bottom	3	1	29.0	7.7	19.4	5.3	5.3	5.0		5.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	3.4	Bottom	3	2	29.2	7.7	19.4	5.3		4.6		6.0	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Surface	1	1	28.7	7.7	18.6	4.8	4.6	2.7	6.7	3.1	3.5
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Surface	1	2	28.9	7.7	18.7	4.8		2.7		4.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Middle	2	1	28.3	7.7	21.1	4.4		3.6		3.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Middle	2	2	28.5	7.7	21.2	4.4		3.5		4.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Bottom	3	1	27.9	7.7	24.6	4.1	4.1	14.2		3.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	9:37	10.4	Bottom	3	2	28.1	7.7	24.7	4.1		13.3		2.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Surface	1	1	29.4	7.4	13.9	4.6	4.6	9.6	11.8	9.0	14.8
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Surface	1	2	29.1	7.5	14.0	4.7		9.5		9.1	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Middle	2	1	29.0	7.6	16.8	4.5		10.1		14.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Middle	2	2	28.8	7.6	16.8	4.6		10.5		14.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Bottom	3	1	28.9	7.5	18.0	4.5	4.6	15.4		19.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	7.0	Bottom	3	2	28.7	7.6	18.0	4.6		15.7		21.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	5.8	Surface	1	1	28.8	7.6	18.4	4.7	4.7	3.3	7.2	2.3	4.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	5.8	Surface	1	2	28.9	7.6	18.4	4.7		3.1		2.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16		5.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16		5.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	5.8	Bottom	3	1	28.5	7.6	19.6	4.6	4.6	11.4		7.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	5.8	Bottom	3	2	28.7	7.6	19.6	4.6		10.8		7.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	5.2	Surface	1	1	28.7	7.6	18.5	4.7	4.7	13.0	13.5	14.5	14.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	5.2	Surface	1	2	28.9	7.6	18.5	4.7		13.4		15.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	5.2	Bottom	3	1	28.6	7.6	18.9	4.6	4.6	14.2		14.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	5.2	Bottom	3	2	28.8	7.6	18.9	4.6		13.3		15.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	4.0	Surface	1	1	28.8	7.6	18.0	4.8	4.8	7.3	8.3	15.6	14.6
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	4.0	Surface	1	2	29.0	7.6	18.1	4.8		7.9		13.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4		4.0	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4		4.0	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	4.0	Bottom	3	1	28.8	7.6	18.0	4.8	4.8	9.9		14.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	4.0	Bottom	3	2	29.0	7.6	18.1	4.8		8.1		14.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	4.0	Surface	1	1	29.0	7.6	18.1	4.8	4.8	4.7	4.9	6.6	8.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	4.0	Surface	1	2	29.2	7.6	18.2	4.8		4.5		8.1	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8		4.0	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8		4.0	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	4.0	Bottom	3	1	28.8	7.6	18.2	4.8	4.8	5.2		9.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	4.0	Bottom	3	2	29.0	7.6	18.3	4.8		5.0		9.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	3.8	Surface	1	1	28.7	7.6	19.3	4.8	4.8	9.4	10.5	9.1	9.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	3.8	Surface	1	2	28.9	7.6	19.4	4.8		9.2		9.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	3.8	Bottom	3	1	28.6	7.7	20.0	4.7		12.1		8.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	3.8	Bottom	3	2	28.8	7.7	20.1	4.7		11.3		9.4	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Surface	1	1	29.3	7.9	20.9	5.6	5.2	1.5	1.8	4.1	3.8
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Surface	1	2	29.4	7.9	21.1	5.7		1.6		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Middle	2	1	28.3	7.9	26.3	4.7		1.2		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Middle	2	2	28.5	7.9	26.5	4.7		1.2		4.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Bottom	3	1	27.7	7.9	28.9	4.1	4.1	2.5		4.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	9.8	Bottom	3	2	27.9	7.9	29.3	4.0		2.7		4.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Surface	1	1	29.3	7.8	18.4	4.8	4.9	2.0	2.5	6.1	6.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Surface	1	2	29.1	7.8	18.6	4.9		1.9		6.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Middle	2	1	29.4	7.9	21.0	4.9		2.6		6.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Middle	2	2	29.2	7.9	21.1	5.0		2.5		5.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Bottom	3	1	29.2	7.9	21.9	4.7	4.8	3.1		6.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	10.0	Bottom	3	2	28.9	7.9	22.0	4.9		3.1		7.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Surface	1	1	29.6	7.9	19.8	6.2	5.3	3.5	4.7	7.5	8.0
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Surface	1	2	29.8	8.0	20.0	6.3		3.5		6.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Middle	2	1	28.3	7.9	25.4	4.4		5.7		7.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Middle	2	2	28.5	7.9	25.7	4.4		5.8		7.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Bottom	3	1	28.0	7.9	26.6	4.2	4.2	5.0		9.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	6.1	Bottom	3	2	28.2	7.9	26.8	4.1		4.9		9.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	5.2	Surface	1	1	29.3	7.9	20.1	5.6	5.6	3.7	8.0	6.8	7.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	5.2	Surface	1	2	29.4	7.9	20.3	5.6		3.7		5.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	5.2	Bottom	3	1	28.9	7.8	21.3	4.6	4.6	12.0		9.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	5.2	Bottom	3	2	29.1	7.8	21.5	4.5		12.4		8.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	3.8	Surface	1	1	29.4	7.9	19.9	5.8	5.8	3.6	7.1	5.3	5.0
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	3.8	Surface	1	2	29.5	7.9	20.1	5.8		3.8		4.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	3.8	Bottom	3	1	29.0	7.8	21.1	4.6	4.6	10.0		5.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	3.8	Bottom	3	2	29.2	7.8	21.3	4.5		10.8		5.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	3.6	Surface	1	1	29.8	7.9	19.5	6.2	6.3	3.7	8.0	6.2	9.1
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	3.6	Surface	1	2	29.9	8.0	19.7	6.3		4.1		7.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8		3.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8		3.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	3.6	Bottom	3	1	28.8	7.8	22.0	4.2	4.2	11.8		11.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	3.6	Bottom	3	2	29.0	7.8	22.7	4.1		12.2		11.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	3.6	Surface	1	1	30.1	7.9	19.1	6.8	6.8	2.9	3.8	3.8	5.3
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	3.6	Surface	1	2	30.3	8.0	19.3	6.8		3.1		2.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9		3.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9		3.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	3.6	Bottom	3	1	29.6	7.9	19.4	6.2	6.2	4.4		7.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	3.6	Bottom	3	2	29.7	7.9	19.6	6.2		4.8		6.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Surface	1	1	29.1	7.8	20.0	5.3	4.6	1.5	2.9	2.9	3.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Surface	1	2	29.3	7.9	20.2	5.3		1.3		4.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Middle	2	1	28.2	7.8	25.1	4.0		2.5		2.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Middle	2	2	28.3	7.9	25.4	3.9		2.4		3.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Bottom	3	1	27.7	7.9	28.3	3.7	3.7	4.9		3.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	10.4	Bottom	3	2	27.9	7.9	28.6	3.7		4.9		4.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Surface	1	1	29.4	7.7	14.6	4.9	4.9	1.4	4.5	2.8	4.1
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Surface	1	2	29.7	7.7	14.5	4.8		1.5		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Middle	2	1	28.9	7.8	18.8	4.9		5.4		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Middle	2	2	29.1	7.8	18.7	4.9		5.4		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Bottom	3	1	28.8	7.8	20.4	5.0	5.0	6.5		5.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	6.9	Bottom	3	2	29.0	7.8	20.4	4.9		6.6		5.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	5.8	Surface	1	1	29.2	7.8	19.5	5.4	5.4	3.4	7.0	5.2	7.3
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	5.8	Surface	1	2	29.4	7.9	19.7	5.4		3.2		5.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16		5.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16		5.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	5.8	Bottom	3	1	28.6	7.8	22.2	4.2	4.2	10.5		9.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	5.8	Bottom	3	2	28.8	7.8	22.4	4.1		10.9		9.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	5.1	Surface	1	1	29.0	7.8	20.2	4.9	4.9	3.4	6.7	4.1	5.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	5.1	Surface	1	2	29.2	7.9	20.3	4.9		3.5		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a		5.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a		5.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	5.1	Bottom	3	1	28.7	7.8	21.8	4.3	4.3	9.8		6.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	5.1	Bottom	3	2	28.9	7.8	22.0	4.2		9.9		7.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	3.9	Surface	1	1	29.3	7.8	19.6	5.3	5.3	2.8	3.5	7.7	9.8
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	3.9	Surface	1	2	29.4	7.9	19.8	5.3		2.7		8.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	3.9	Bottom	3	1	29.0	7.8	20.3	4.9	4.9	4.2		11.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	3.9	Bottom	3	2	29.1	7.8	20.6	4.9		4.4		11.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	4.3	Surface	1	1	29.3	7.8	19.7	5.3	5.3	4.0	4.7	3.2	5.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	4.3	Surface	1	2	29.4	7.9	19.9	5.3		4.0		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8		4.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8		4.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	4.3	Bottom	3	1	28.9	7.8	20.8	4.7	4.7	5.4		8.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	4.3	Bottom	3	2	29.1	7.9	21.0	4.7		5.4		7.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	3.8	Surface	1	1	29.6	7.8	19.1	5.6	5.7	3.3	5.1	3.5	6.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	3.8	Surface	1	2	29.8	7.9	19.3	5.7		3.1		3.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	3.8	Bottom	3	1	28.9	7.8	21.2	4.6	4.6	6.9		10.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	3.8	Bottom	3	2	29.1	7.8	21.4	4.6		7.1		8.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Surface	1	1	28.6	7.9	21.0	5.2	4.9	3.2	4.2	2.6	2.4
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Surface	1	2	28.4	7.9	20.7	5.2		3.2		2.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Middle	2	1	28.6	8.0	23.8	4.6		3.4		2.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Middle	2	2	28.4	7.9	23.5	4.6		3.4		2.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Bottom	3	1	27.8	8.0	29.4	3.7	3.8	6.2		2.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)5	7:55	12.8	Bottom	3	2	27.7	7.9	28.9	3.8		5.5		2.1	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Surface	1	1	28.9	7.9	17.3	5.2	5.0	15.3	16.9	3.7	4.0
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Surface	1	2	28.6	7.7	17.4	5.3		14.4		4.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Middle	2	1	28.7	8.0	21.8	4.6		17.7		4.4	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Middle	2	2	28.5	7.9	21.8	4.7		16.8		4.0	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Bottom	3	1	28.7	8.0	22.6	4.5	4.6	19.0		4.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	CS(Mf)3(N)	9:37	7.1	Bottom	3	2	28.4	7.8	22.6	4.6		18.1		3.1	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16	8:28	4.8	Surface	1	1	28.7	8.1	21.7	6.2	6.2	4.8	5.1	2.3	3.1
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16	8:28	4.8	Surface	1	2	28.6	8.0	21.5	6.2		4.9		2.9	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16		4.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16		4.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16	8:28	4.8	Bottom	3	1	28.7	8.0	23.2	4.9	5.0	5.4		3.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)16	8:28	4.8	Bottom	3	2	28.6	7.9	22.9	5.0		5.4		3.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a	8:40	5.2	Surface	1	1	28.8	8.0	22.0	5.5	5.5	7.8	10.1	4.2	5.0
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a	8:40	5.2	Surface	1	2	28.6	7.9	21.7	5.4		7.3		3.9	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a	8:40	5.2	Bottom	3	1	28.6	7.9	23.2	4.5	4.6	12.5		6.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4a	8:40	5.2	Bottom	3	2	28.5	7.9	22.9	4.6		12.7		5.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4	8:45	4.1	Surface	1	1	28.8	8.0	21.7	5.4	5.4	7.2	8.0	6.7	6.4
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4	8:45	4.1	Surface	1	2	28.7	7.9	21.5	5.4		7.1		5.0	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4	8:45	4.1	Bottom	3	1	28.9	8.0	21.9	5.2	5.2	9.7		6.8	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	SR4	8:45	4.1	Bottom	3	2	28.7	7.9	21.6	5.2		7.9		7.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8	8:56	3.7	Surface	1	1	28.7	8.1	21.5	6.3	6.3	4.4	9.6	2.8	2.7
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8	8:56	3.7	Surface	1	2	28.6	8.0	21.3	6.3		4.5		2.1	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8		3.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8		3.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8	8:56	3.7	Bottom	3	1	28.8	8.0	22.2	5.4	5.5	14.9		2.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS8	8:56	3.7	Bottom	3	2	28.7	7.9	22.0	5.5		14.6		3.4	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9	9:10	3.3	Surface	1	1	28.7	8.1	21.4	6.6	6.6	4.6	4.6	3.6	3.0
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9	9:10	3.3	Surface	1	2	28.6	8.0	21.2	6.6		4.6		2.9	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9		3.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9		3.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9	9:10	3.3	Bottom	3	1	28.8	8.0	21.7	5.9	6.0	4.4		2.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Ebb	IS(Mf)9	9:10	3.3	Bottom	3	2	28.6	8.0	21.5	6.0		4.6		3.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Surface	1	1	29.5	7.8	20.9	5.8	5.2	4.1	9.3	1.6	2.6
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Surface	1	2	29.3	7.9	21.1	5.8		4.3		1.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Middle	2	1	28.2	7.8	26.1	4.6		7.8		2.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Middle	2	2	28.1	7.8	26.4	4.6		7.6		3.4	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Bottom	3	1	27.8	7.8	28.8	3.7	3.7	15.5		3.5	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)5	16:29	14.0	Bottom	3	2	27.6	7.8	29.0	3.7		16.7		2.5	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Surface	1	1	30.4	7.6	12.2	5.2	5.3	18.4	17.0	3.8	4.1
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Surface	1	2	30.2	7.5	12.1	5.3		17.8		4.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Middle	2	1	29.7	7.6	15.5	5.2		16.9		4.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Middle	2	2	29.4	7.6	15.6	5.3		16.0		4.8	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Bottom	3	1	29.5	7.6	16.6	5.1	5.2	16.6		3.2	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	CS(Mf)3(N)	15:09	6.7	Bottom	3	2	29.3	7.6	16.7	5.2		16.1		3.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Surface	1	1	29.1	7.8	20.1	6.5	6.3	3.0	4.8	3.2	5.2
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Surface	1	2	28.9	7.9	20.3	6.4		3.3		2.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Middle	2	1	28.9	7.8	21.0	6.1		3.3		7.1	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Middle	2	2	28.8	7.9	21.2	6.0		3.7		7.4	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Bottom	3	1	28.6	7.8	22.8	4.8	4.9	7.8		5.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)16	15:57	6.2	Bottom	3	2	28.5	7.8	22.9	4.9		7.4		5.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a	15:44	5.1	Surface	1	1	29.5	7.8	19.2	6.4	6.4	2.0	3.7	2.1	2.5
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a	15:44	5.1	Surface	1	2	29.3	7.9	19.3	6.4		1.9		2.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a		5.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a		5.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a	15:44	5.1	Bottom	3	1	29.2	7.8	19.6	6.2	6.2	5.5		2.8	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4a	15:44	5.1	Bottom	3	2	29.0	7.9	19.8	6.2		5.2		2.9	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4	15:39	4.2	Surface	1	1	29.4	7.8	19.5	6.5	6.5	2.9	7.9	2.2	2.9
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4	15:39	4.2	Surface	1	2	29.3	7.9	19.7	6.4		3.1		2.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4		4.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4		4.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4	15:39	4.2	Bottom	3	1	29.0	7.8	21.2	5.4	5.5	12.4		3.6	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	SR4	15:39	4.2	Bottom	3	2	28.8	7.8	21.4	5.5		13.2		3.5	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8	15:26	4.1	Surface	1	1	29.4	7.8	19.6	6.5	6.5	17.3	77.8	6.6	13.6
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8	15:26	4.1	Surface	1	2	29.2	7.9	19.8	6.4		16.0		5.3	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8	15:26	4.1	Bottom	3	1	29.2	7.8	20.2	6.0	6.1	143.7		21.8	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS8	15:26	4.1	Bottom	3	2	29.0	7.9	20.4	6.1		134.0		20.7	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9	15:14	3.7	Surface	1	1	29.4	7.9	21.1	6.6	6.6	8.6	14.5	8.3	10.3
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9	15:14	3.7	Surface	1	2	29.2	7.9	21.3	6.6		8.7		9.8	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9		3.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9		3.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9	15:14	3.7	Bottom	3	1	29.2	7.8	21.8	6.1	6.1	19.8		12.0	
TMCLKL	HY/2012/07	2017-09-15	Mid-Flood	IS(Mf)9	15:14	3.7	Bottom	3	2	29.0	7.9	22.0	6.1		20.9		10.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Surface	1	1	29.3	7.9	21.9	5.6	5.2	3.1	3.7	3.1	3.5
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Surface	1	2	29.3	7.9	21.9	5.7		2.9		3.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Middle	2	1	28.3	7.9	26.1	4.7		2.7		3.3	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Middle	2	2	28.4	7.9	25.9	4.7		2.7		3.6	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Bottom	3	1	27.8	7.9	28.9	4.4	4.4	5.5		4.3	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)5	11:15	10.8	Bottom	3	2	28.1	7.9	28.6	4.3		5.2		3.7	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Surface	1	1	29.9	7.8	18.8	5.5	4.9	9.3	15.9	2.7	7.4
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Surface	1	2	30.1	7.8	18.8	5.4		9.3		2.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Middle	2	1	28.7	7.8	24.3	4.3		16.8		2.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Middle	2	2	28.9	7.8	24.3	4.2		16.6		3.6	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Bottom	3	1	28.8	7.8	25.4	5.1	5.1	21.7		17.4	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	CS(Mf)3(N)	12:36	7.3	Bottom	3	2	29.1	7.8	25.5	5.0		21.7		16.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Surface	1	1	29.3	8.0	21.3	6.3	5.9	4.3	5.7	4.6	4.9
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Surface	1	2	29.4	8.0	21.3	6.3		4.0		4.8	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Middle	2	1	29.1	7.9	22.8	5.5		6.6		4.2	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Middle	2	2	29.3	7.9	22.5	5.6		6.0		4.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Bottom	3	1	28.6	7.9	24.5	4.9	4.9	6.7		6.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)16	11:48	6.2	Bottom	3	2	28.7	7.9	24.4	4.8		6.4		5.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a	11:58	5.1	Surface	1	1	29.4	8.0	21.0	5.8	5.9	4.9	7.0	5.1	5.8
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a	11:58	5.1	Surface	1	2	29.6	7.9	20.8	5.9		4.5		5.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a		5.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a		5.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a	11:58	5.1	Bottom	3	1	28.9	7.8	23.1	4.8	4.7	9.9		5.8	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4a	11:58	5.1	Bottom	3	2	29.1	7.8	22.8	4.6		8.7		6.8	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4	12:03	4.6	Surface	1	1	29.6	8.0	20.6	6.3	6.4	4.5	7.3	5.8	6.1
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4	12:03	4.6	Surface	1	2	29.7	7.9	20.4	6.4		4.0		6.6	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4		4.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4		4.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4	12:03	4.6	Bottom	3	1	29.0	7.8	22.7	4.9	4.9	10.7		6.4	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	SR4	12:03	4.6	Bottom	3	2	29.2	7.8	22.5	4.8		10.0		5.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8	12:15	4.1	Surface	1	1	29.8	8.1	20.2	7.8	7.9	3.0	5.9	3.3	3.3
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8	12:15	4.1	Surface	1	2	30.0	8.1	20.0	7.9		2.5		3.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8	12:15	4.1	Bottom	3	1	28.9	7.9	23.5	5.1	5.1	9.5		3.2	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS8	12:15	4.1	Bottom	3	2	29.1	7.9	23.3	5.0		8.7		3.7	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9	12:24	3.3	Surface	1	1	29.8	8.1	19.7	7.9	8.0	3.1	3.2	3.3	3.3
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9	12:24	3.3	Surface	1	2	29.9	8.1	19.5	8.0		2.8		2.3	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9		3.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9		3.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9	12:24	3.3	Bottom	3	1	29.3	8.0	21.3	7.0	7.0	3.5		3.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Ebb	IS(Mf)9	12:24	3.3	Bottom	3	2	29.6	7.9	21.1	6.9		3.2		3.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Surface	1	1	28.8	7.9	24.3	4.9	4.9	4.5	6.4	4.3	5.5
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Surface	1	2	29.0	7.9	24.1	5.0		4.1		4.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Middle	2	1	28.4	7.9	27.1	4.8		5.8		4.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Middle	2	2	28.5	7.9	26.9	4.8		5.2		5.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Bottom	3	1	28.1	7.9	27.9	4.4	4.4	9.5		6.7	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)5	18:38	10.3	Bottom	3	2	28.3	7.9	27.6	4.3		9.0		7.4	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Surface	1	1	30.1	7.7	16.6	5.7	5.4	16.1	20.5	8.7	8.5
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Surface	1	2	30.4	7.9	16.6	5.7		16.1		9.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Middle	2	1	29.6	7.7	19.3	5.1		18.8		8.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Middle	2	2	29.9	7.9	19.3	5.0		18.8		9.3	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Bottom	3	1	29.5	7.7	20.1	5.2	5.2	26.6		7.7	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	CS(Mf)3(N)	17:22	6.4	Bottom	3	2	29.7	7.9	20.1	5.1		26.6		7.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16	18:04	5.7	Surface	1	1	29.4	8.1	22.1	7.3	7.4	4.1	7.9	5.9	7.9
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16	18:04	5.7	Surface	1	2	29.6	8.0	21.9	7.4		3.7		5.8	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16		5.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16		5.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16	18:04	5.7	Bottom	3	1	29.0	7.9	23.4	5.4	5.4	12.2		9.4	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)16	18:04	5.7	Bottom	3	2	29.2	7.9	23.2	5.4		11.5		10.5	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a	17:51	3.3	Surface	1	1	29.3	8.0	22.4	6.1	6.1	11.1	13.6	13.3	15.6
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a	17:51	3.3	Surface	1	2	29.4	7.9	22.2	6.1		10.5		13.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a		3.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a		3.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a	17:51	3.3	Bottom	3	1	29.3	8.0	22.6	6.1	6.1	17.0		18.3	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4a	17:51	3.3	Bottom	3	2	29.4	7.9	22.4	6.0		15.9		17.8	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4	17:46	3.4	Surface	1	1	29.3	8.0	22.3	6.8	6.8	15.6	14.8	23.9	23.7
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4	17:46	3.4	Surface	1	2	29.4	8.0	22.1	6.7		14.4		22.6	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4		3.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4		3.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4	17:46	3.4	Bottom	3	1	29.2	8.0	22.4	6.6	6.6	14.7		23.4	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	SR4	17:46	3.4	Bottom	3	2	29.4	7.9	22.2	6.6		14.6		24.7	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8	17:35	3.7	Surface	1	1	29.4	8.0	22.3	6.9	6.9	13.7	15.3	16.8	20.2
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8	17:35	3.7	Surface	1	2	29.5	8.0	22.0	6.9		14.7		17.1	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8		3.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8		3.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8	17:35	3.7	Bottom	3	1	29.3	8.0	22.4	6.8	6.8	17.4		22.6	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS8	17:35	3.7	Bottom	3	2	29.5	8.0	22.1	6.8		15.4		24.1	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9		2.8	Surface	1	1					8.6		7.2		10.1
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9		2.8	Surface	1	2									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9	17:25	2.8	Middle	2	1	29.8	8.1	21.8	8.6		7.6		10.2	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9	17:25	2.8	Middle	2	2	29.9	8.1	21.6	8.5		6.7		10.0	
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9		2.8	Bottom	3	1									
TMCLKL	HY/2012/07	2017-09-18	Mid-Flood	IS(Mf)9		2.8	Bottom	3	2									

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Surface	1	1	29.4	7.9	24.1	5.0	4.9	4.2	6.3	5.8	6.6
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Surface	1	2	29.3	7.9	24.3	5.0		5.0		6.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Middle	2	1	29.0	7.9	24.9	4.7		6.7		6.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Middle	2	2	28.8	7.9	25.1	4.7		7.3		7.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Bottom	3	1	28.9	7.9	25.0	4.7	4.7	6.9		6.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	11.3	Bottom	3	2	28.8	7.9	25.2	4.7		7.6		7.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Surface	1	1	29.7	7.7	20.8	4.7	4.7	15.2	19.0	5.7	6.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Surface	1	2	29.4	7.7	20.8	4.8		14.1		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Middle	2	1	29.4	7.8	21.9	4.6		18.2		5.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Middle	2	2	29.1	7.8	21.8	4.7		17.4		5.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Bottom	3	1	29.3	7.8	23.0	4.7	4.8	24.3		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	6.8	Bottom	3	2	29.0	7.8	22.8	4.8		24.6		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Surface	1	1	29.3	7.9	23.0	5.7	5.5	7.7	10.1	5.7	5.5
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Surface	1	2	29.2	7.9	23.2	5.7		8.3		4.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Middle	2	1	29.1	7.9	23.7	5.2		9.5		4.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Middle	2	2	29.0	7.9	24.0	5.2		10.3		5.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Bottom	3	1	29.0	7.9	24.9	4.9	5.0	12.0		6.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	6.3	Bottom	3	2	28.8	7.9	25.2	5.0		12.7		6.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	4.9	Surface	1	1	29.3	7.9	22.8	5.4	5.5	12.0	12.1	13.5	14.0
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	4.9	Surface	1	2	29.2	7.9	23.1	5.5		12.4		14.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a		4.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a		4.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	4.9	Bottom	3	1	29.3	7.9	22.9	5.4	5.5	11.8		13.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	4.9	Bottom	3	2	29.1	7.9	23.1	5.5		12.0		14.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	4.5	Surface	1	1	29.6	7.9	22.4	5.5	5.5	6.0	8.7	4.6	5.5
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	4.5	Surface	1	2	29.4	7.9	22.6	5.5		6.4		4.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4		4.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4		4.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	4.5	Bottom	3	1	29.3	7.9	22.9	5.5	5.6	11.1		6.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	4.5	Bottom	3	2	29.1	7.9	23.2	5.6		11.1		6.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	3.9	Surface	1	1	29.6	7.9	22.8	5.9	6.0	6.0	7.1	6.7	6.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	3.9	Surface	1	2	29.4	7.9	23.0	6.0		6.2		5.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	3.9	Bottom	3	1	29.4	7.9	23.0	5.8	5.9	8.0		7.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	3.9	Bottom	3	2	29.2	7.9	23.2	5.9		8.1		7.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	3.6	Surface	1	1	29.6	7.9	22.8	5.9	5.9	4.1	5.8	5.3	6.0
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	3.6	Surface	1	2	29.4	7.9	23.0	5.9		4.5		3.6	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9		3.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9		3.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	3.6	Bottom	3	1	29.4	7.9	23.0	5.9	5.9	7.0		8.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	3.6	Bottom	3	2	29.2	7.9	23.2	5.9		7.5		6.6	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Surface	1	1	29.4	7.9	23.2	4.9	4.8	4.7	11.1	6.2	9.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Surface	1	2	29.2	7.9	23.4	4.9		5.1		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Middle	2	1	29.0	7.9	25.5	4.6		10.5		8.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Middle	2	2	28.8	7.9	25.8	4.6		11.0		8.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Bottom	3	1	28.9	7.9	25.9	4.5	4.5	17.2		14.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	10.6	Bottom	3	2	28.7	7.9	26.2	4.5		18.2		15.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Surface	1	1	29.9	7.6	18.4	4.8	4.7	16.2	19.0	5.7	6.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Surface	1	2	30.1	7.6	18.3	4.7		17.0		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Middle	2	1	29.5	7.7	20.4	4.7		19.1		5.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Middle	2	2	29.8	7.7	20.4	4.6		20.0		5.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Bottom	3	1	29.4	7.7	21.1	4.6	4.6	20.5		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	6.8	Bottom	3	2	29.7	7.7	21.1	4.5		21.3		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Surface	1	1	29.6	7.8	21.7	5.0	5.1	6.2	10.8	8.2	10.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Surface	1	2	29.4	7.8	21.9	5.0		6.8		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Middle	2	1	29.6	7.9	22.4	5.1		12.4		8.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Middle	2	2	29.4	7.9	22.6	5.2		13.2		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Bottom	3	1	29.6	7.9	22.8	5.3	5.3	12.6		16.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	6.1	Bottom	3	2	29.4	7.9	23.0	5.3		13.8		13.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	4.0	Surface	1	1	29.7	7.8	21.8	5.3	5.3	10.4	12.3	10.4	9.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	4.0	Surface	1	2	29.5	7.9	22.0	5.3		10.4		8.6	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a		4.0	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a		4.0	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	4.0	Bottom	3	1	29.7	7.8	22.0	5.3	5.4	14.2		9.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	4.0	Bottom	3	2	29.5	7.9	22.2	5.4		14.3		11.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	3.6	Surface	1	1	29.6	7.9	22.6	5.3	5.3	12.5	13.0	13.9	16.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	3.6	Surface	1	2	29.4	7.9	22.9	5.3		13.2		15.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4		3.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4		3.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	3.6	Bottom	3	1	29.5	7.9	22.7	5.3	5.4	13.2		18.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	3.6	Bottom	3	2	29.4	7.9	22.9	5.4		13.0		19.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		2.7	Surface	1	1					5.5		23.7		19.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		2.7	Surface	1	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8	18:30	2.7	Middle	2	1	29.6	7.9	22.8	5.5		22.3		19.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8	18:30	2.7	Middle	2	2	29.4	7.9	23.0	5.5		25.1		20.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		2.7	Bottom	3	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		2.7	Bottom	3	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		2.6	Surface	1	1					6.1		13.1		14.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		2.6	Surface	1	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9	18:21	2.6	Middle	2	1	29.7	7.9	23.0	6.1		12.8		15.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9	18:21	2.6	Middle	2	2	29.5	8.0	23.2	6.1		13.4		14.0	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		2.6	Bottom	3	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		2.6	Bottom	3	2									

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Surface	1	1	30.1	7.9	22.1	5.1	4.8	5.9	11.7	5.9	8.5
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Surface	1	2	30.3	7.8	21.9	5.1		6.2		6.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Middle	2	1	29.2	7.9	24.1	4.5		9.8		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Middle	2	2	29.3	7.8	23.9	4.6		10.6		7.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Bottom	3	1	29.1	7.9	24.3	4.6	4.6	19.1		13.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	13.2	Bottom	3	2	29.3	7.8	24.0	4.5		18.6		11.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Surface	1	1	29.6	7.9	21.6	4.7	4.7	8.7	12.8	5.5	11.4
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Surface	1	2	29.9	7.9	21.5	4.7		8.8		4.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Middle	2	1	29.2	8.0	22.7	4.8		12.0		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Middle	2	2	29.5	7.9	22.6	4.7		12.4		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Bottom	3	1	29.1	8.0	24.1	4.8	4.8	17.0		22.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	6.9	Bottom	3	2	29.4	8.0	24.1	4.7		17.8		20.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Surface	1	1	29.5	7.8	22.8	5.2	5.2	6.1	7.1	7.0	8.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Surface	1	2	29.7	7.8	22.6	5.3		6.5		5.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Middle	2	1	29.4	7.8	22.9	5.0		7.5		6.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Middle	2	2	29.5	7.8	22.7	5.1		7.8		5.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Bottom	3	1	29.2	7.9	24.0	4.6	4.6	6.9		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	8.9	Bottom	3	2	29.3	7.8	23.7	4.6		7.7		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	5.6	Surface	1	1	29.3	7.8	22.7	4.8	4.8	8.0	9.3	7.3	8.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	5.6	Surface	1	2	29.5	7.8	22.5	4.8		8.8		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a		5.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a		5.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	5.6	Bottom	3	1	29.3	7.8	23.0	4.8	4.8	10.0		8.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	5.6	Bottom	3	2	29.5	7.8	22.8	4.8		10.5		9.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	5.5	Surface	1	1	29.4	7.8	22.4	4.8	4.8	11.4	11.8	6.5	10.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	5.5	Surface	1	2	29.6	7.8	22.2	4.8		11.7		7.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4		5.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4		5.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	5.5	Bottom	3	1	29.3	7.8	23.0	4.8	4.8	11.9		12.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	5.5	Bottom	3	2	29.5	7.8	22.8	4.8		12.3		13.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	4.9	Surface	1	1	29.6	7.8	22.5	5.1	5.2	6.0	10.8	5.3	8.7
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	4.9	Surface	1	2	29.8	7.8	22.3	5.2		6.7		5.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8		4.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8		4.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	4.9	Bottom	3	1	29.2	7.8	23.2	5.0	5.0	15.0		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	4.9	Bottom	3	2	29.4	7.8	22.9	5.0		15.6		12.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	4.7	Surface	1	1	29.8	7.8	22.5	5.3	5.3	4.4	7.8	4.5	4.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	4.7	Surface	1	2	30.0	7.8	22.3	5.3		5.1		4.0	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9		4.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9		4.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	4.7	Bottom	3	1	29.2	7.8	23.1	5.1	5.1	10.8		4.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	4.7	Bottom	3	2	29.4	7.8	22.8	5.1		10.9		3.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Surface	1	1	29.5	7.8	21.5	4.9	4.8	5.5	9.8	5.2	6.7
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Surface	1	2	29.3	7.8	21.7	4.9		5.9		5.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Middle	2	1	29.5	7.9	22.7	4.6		6.9		5.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Middle	2	2	29.3	7.9	22.9	4.6		7.3		5.1	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Bottom	3	1	29.4	7.9	23.5	4.5	4.5	15.5		9.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	7:11	8.7	Bottom	3	2	29.2	7.9	23.8	4.5		17.5		8.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Surface	1	1	29.3	7.9	19.8	4.7	4.7	14.1	22.1	5.5	11.4
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Surface	1	2	29.6	7.8	19.7	4.6		15.6		4.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Middle	2	1	29.4	7.9	20.5	4.7		22.2		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Middle	2	2	29.6	7.8	20.5	4.6		22.6		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Bottom	3	1	29.4	7.9	20.9	4.7	4.7	29.5		22.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	8:36	7.1	Bottom	3	2	29.6	7.9	20.9	4.6		28.7		20.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Surface	1	1	29.5	7.8	22.2	4.7	4.7	7.1	8.0	6.1	8.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Surface	1	2	29.3	7.8	22.4	4.7		8.0		5.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Middle	2	1	29.4	7.8	22.4	4.7		8.3		8.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Middle	2	2	29.3	7.8	22.7	4.7		8.5		9.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Bottom	3	1	29.4	7.8	22.5	4.7	4.7	8.2		8.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	7:58	6.3	Bottom	3	2	29.2	7.8	22.7	4.7		8.0		9.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	8:11	4.5	Surface	1	1	29.4	7.8	21.5	4.8	4.8	6.6	7.5	5.9	6.8
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	8:11	4.5	Surface	1	2	29.2	7.8	21.8	4.8		7.2		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a		4.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a		4.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	8:11	4.5	Bottom	3	1	29.4	7.8	21.6	4.8	4.8	7.8		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	8:11	4.5	Bottom	3	2	29.3	7.8	21.8	4.8		8.4		6.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	8:16	4.4	Surface	1	1	29.4	7.8	21.4	4.9	4.9	6.8	10.3	7.3	7.3
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	8:16	4.4	Surface	1	2	29.2	7.8	21.6	4.9		7.2		8.0	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4		4.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4		4.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	8:16	4.4	Bottom	3	1	29.4	7.8	21.8	4.8	4.8	12.7		7.0	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	8:16	4.4	Bottom	3	2	29.2	7.8	22.1	4.8		14.5		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	8:28	4.1	Surface	1	1	29.4	7.8	22.0	4.7	4.7	10.8	14.0	7.7	8.6
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	8:28	4.1	Surface	1	2	29.2	7.8	22.2	4.7		11.6		6.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	8:28	4.1	Bottom	3	1	29.4	7.8	22.5	4.7	4.7	16.2		9.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	8:28	4.1	Bottom	3	2	29.2	7.8	22.7	4.7		17.4		10.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	8:37	4.0	Surface	1	1	29.3	7.8	22.4	4.9	4.9	6.2	7.9	6.0	7.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	8:37	4.0	Surface	1	2	29.1	7.8	22.6	4.9		6.5		6.1	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9		4.0	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9		4.0	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	8:37	4.0	Bottom	3	1	29.3	7.8	23.2	4.7	4.7	9.2		7.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	8:37	4.0	Bottom	3	2	29.2	7.8	23.4	4.7		9.8		7.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Surface	1	1	29.9	7.9	23.6	5.7	5.3	4.1	3.7	5.4	7.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Surface	1	2	29.7	7.9	23.8	5.6		3.9		4.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Middle	2	1	29.2	7.9	25.4	4.9		2.3		6.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Middle	2	2	29.1	7.9	25.6	4.8		3.3		7.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Bottom	3	1	29.2	7.9	26.5	4.7	4.7	4.3		10.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	10.5	Bottom	3	2	29.0	7.9	26.7	4.7		4.4		8.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Surface	1	1	29.7	7.8	20.9	5.0	5.2	6.3	8.0	3.7	9.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Surface	1	2	29.5	7.9	20.8	5.1		5.9		4.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Middle	2	1	29.6	7.9	22.5	5.2		7.5		10.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Middle	2	2	29.3	8.0	22.5	5.3		6.1		9.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Bottom	3	1	29.4	7.9	24.1	5.2	5.3	12.0		15.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	6.8	Bottom	3	2	29.2	8.0	24.1	5.3		10.1		13.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	5.9	Surface	1	1	29.7	7.9	23.5	5.5	5.5	6.8	6.3	7.0	7.6
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	5.9	Surface	1	2	29.5	7.9	23.8	5.4		7.0		6.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16		5.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16		5.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	5.9	Bottom	3	1	29.2	7.9	24.6	4.9	4.9	6.3		8.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	5.9	Bottom	3	2	29.1	7.9	24.8	4.9		5.2		7.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	5.2	Surface	1	1	29.5	7.9	23.7	5.1	5.1	8.3	10.8	13.2	13.4
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	5.2	Surface	1	2	29.3	7.9	24.0	5.1		10.1		14.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	5.2	Bottom	3	1	29.5	7.9	23.8	5.0	5.0	11.9		12.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	5.2	Bottom	3	2	29.3	7.9	24.0	5.0		12.8		13.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	4.1	Surface	1	1	29.7	7.9	23.5	5.3	5.3	5.7	8.6	13.7	15.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	4.1	Surface	1	2	29.5	7.9	23.7	5.2		6.2		15.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	4.1	Bottom	3	1	29.4	7.8	23.8	4.8	4.8	10.5		16.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	4.1	Bottom	3	2	29.3	7.8	24.1	4.8		12.1		15.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	4.1	Surface	1	1	29.7	7.9	23.5	5.6	5.6	6.9	8.3	10.7	13.0
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	4.1	Surface	1	2	29.5	7.9	23.7	5.5		8.3		11.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	4.1	Bottom	3	1	29.6	7.9	23.6	5.5	5.5	8.7		15.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	4.1	Bottom	3	2	29.5	7.9	23.8	5.5		9.2		14.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	3.9	Surface	1	1	29.8	7.9	23.6	5.8	5.8	4.3	6.4	12.6	12.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	3.9	Surface	1	2	29.6	7.9	23.8	5.7		5.0		12.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	3.9	Bottom	3	1	29.7	7.9	23.6	5.6	5.6	7.6		11.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	3.9	Bottom	3	2	29.5	7.9	23.9	5.6		8.6		12.9	

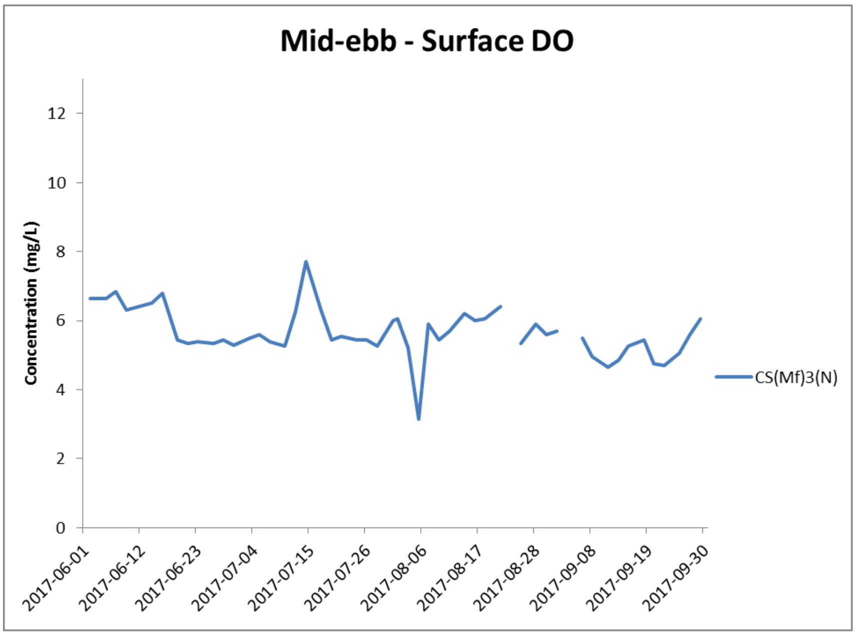
Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Surface	1	1	29.4	7.9	23.2	5.5	5.2	4.6	6.8	11.4	13.7
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Surface	1	2	29.2	7.9	23.4	5.4		4.4		10.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Middle	2	1	29.2	7.9	24.2	5.0		5.5		13.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Middle	2	2	29.0	7.9	24.5	5.0		5.3		12.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Bottom	3	1	29.2	7.9	24.9	4.8	4.8	10.9		17.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	10.2	Bottom	3	2	29.0	7.9	25.2	4.8		10.3		17.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Surface	1	1	29.9	7.8	19.0	5.2	5.1	6.4	7.3	3.7	9.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Surface	1	2	29.7	7.9	19.0	5.3		6.1		4.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Middle	2	1	29.6	7.8	19.9	4.9		6.6		10.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Middle	2	2	29.3	7.8	19.9	5.0		5.7		9.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Bottom	3	1	29.5	7.8	21.4	4.8	4.9	10.0		15.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	7.1	Bottom	3	2	29.3	7.9	21.3	4.9		9.1		13.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	5.6	Surface	1	1	29.4	7.9	23.3	5.4	5.4	5.1	5.5	6.0	6.3
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	5.6	Surface	1	2	29.2	7.9	23.5	5.4		5.0		5.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16		5.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16		5.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	5.6	Bottom	3	1	29.2	7.9	23.7	5.2	5.2	5.9		6.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	5.6	Bottom	3	2	29.1	7.9	24.0	5.2		5.9		7.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	4.6	Surface	1	1	29.4	7.9	23.3	5.2	5.2	11.8	12.0	14.6	14.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	4.6	Surface	1	2	29.2	7.9	23.5	5.2		11.6		14.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a		4.6	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a		4.6	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	4.6	Bottom	3	1	29.4	7.9	23.3	5.2	5.2	12.5		14.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	4.6	Bottom	3	2	29.2	7.9	23.6	5.2		12.1		13.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	3.8	Surface	1	1	29.4	7.9	23.7	5.1	5.1	15.3	15.0	21.0	21.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	3.8	Surface	1	2	29.2	7.9	23.9	5.0		15.8		21.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	3.8	Bottom	3	1	29.4	7.9	23.9	5.0	5.0	14.2		21.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	3.8	Bottom	3	2	29.2	7.9	24.1	5.0		14.6		21.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	3.8	Surface	1	1	29.3	7.9	23.9	5.0	5.0	21.8	24.0	20.9	23.7
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	3.8	Surface	1	2	29.1	7.9	24.1	5.0		22.2		20.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8		3.8	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8		3.8	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	3.8	Bottom	3	1	29.3	7.9	23.9	5.0	5.0	26.0		26.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	3.8	Bottom	3	2	29.1	7.9	24.2	5.0		26.0		27.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	3.2	Surface	1	1	29.3	7.9	23.5	5.6	5.6	6.7	7.5	10.9	11.1
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	3.2	Surface	1	2	29.1	7.9	23.7	5.6		6.6		11.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9		3.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9		3.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	3.2	Bottom	3	1	29.3	7.9	23.7	5.5	5.5	8.3		11.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	3.2	Bottom	3	2	29.1	7.9	23.9	5.5		8.5		10.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Surface	1	1	30.9	7.9	18.0	6.2	5.6	3.4	2.9	3.0	2.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Surface	1	2	30.8	7.9	18.2	6.1		2.9		2.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Middle	2	1	30.0	7.9	22.9	5.0		2.7		3.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Middle	2	2	29.8	7.9	23.1	5.0		2.7		2.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Bottom	3	1	29.7	7.9	25.4	5.0	5.0	3.1		2.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	10.8	Bottom	3	2	29.5	7.9	25.8	5.0		2.6		3.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Surface	1	1	30.6	7.7	15.1	5.5	5.4	7.4	13.2	1.2	2.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Surface	1	2	30.9	7.8	15.2	5.7		6.9		1.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Middle	2	1	29.8	7.7	19.2	5.2		11.8		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Middle	2	2	30.1	7.9	19.0	5.3		12.8		2.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Bottom	3	1	29.5	7.8	22.0	5.0	5.1	20.4		4.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	7.4	Bottom	3	2	29.8	7.9	22.1	5.2		19.7		3.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	5.7	Surface	1	1	31.1	7.9	19.1	6.4	6.4	5.4	7.8	3.5	2.9
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	5.7	Surface	1	2	30.9	7.9	19.3	6.3		5.0		3.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16		5.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16		5.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	5.7	Bottom	3	1	30.4	7.9	21.1	5.5	5.6	10.4		2.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	5.7	Bottom	3	2	30.2	7.9	21.4	5.6		10.4		2.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	4.9	Surface	1	1	30.7	7.9	19.6	5.5	5.6	8.8	10.6	6.8	7.4
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	4.9	Surface	1	2	30.5	7.9	19.8	5.6		8.5		8.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a		4.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a		4.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	4.9	Bottom	3	1	30.1	7.9	21.2	5.0	5.0	12.8		7.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	4.9	Bottom	3	2	29.9	7.8	21.4	4.9		12.3		7.0	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	4.7	Surface	1	1	30.6	7.9	20.2	5.8	5.8	8.1	8.5	4.5	4.5
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	4.7	Surface	1	2	30.4	7.9	20.4	5.8		7.8		5.0	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4		4.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4		4.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	4.7	Bottom	3	1	30.4	7.9	20.6	5.5	5.5	9.3		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	4.7	Bottom	3	2	30.2	7.9	20.8	5.5		8.6		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	4.2	Surface	1	1	30.6	7.9	20.0	6.1	6.1	6.5	10.0	4.6	3.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	4.2	Surface	1	2	30.4	7.9	20.2	6.0		6.2		4.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8		4.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8		4.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	4.2	Bottom	3	1	30.1	7.9	21.6	5.2	5.2	13.8		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	4.2	Bottom	3	2	29.9	7.8	21.8	5.2		13.6		3.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	3.9	Surface	1	1	30.9	7.9	20.7	6.4	6.4	7.4	8.3	3.2	5.0
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	3.9	Surface	1	2	30.8	7.9	20.1	6.4		7.0		4.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9		3.9	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9		3.9	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	3.9	Bottom	3	1	30.7	7.9	21.6	5.9	5.9	9.3		6.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	3.9	Bottom	3	2	30.5	7.9	21.9	5.9		9.6		5.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Surface	1	1	30.4	7.9	19.6	5.4	5.1	3.5	3.7	0.9	0.7
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Surface	1	2	30.3	7.9	19.8	5.4		3.0		0.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Middle	2	1	29.8	7.9	22.2	4.7		3.6		0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Middle	2	2	29.6	7.8	22.4	4.7		3.1		0.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Bottom	3	1	29.5	7.9	25.0	4.5	4.5	4.6		<0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	8.9	Bottom	3	2	29.3	7.9	25.2	4.5		4.1		<0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Surface	1	1	30.8	7.6	12.0	5.8	5.5	6.6	11.6	2.7	3.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Surface	1	2	30.8	7.6	12.0	5.8		6.6		2.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Middle	2	1	29.9	7.7	17.6	5.1		12.5		2.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Middle	2	2	29.9	7.7	17.6	5.1		12.5		2.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Bottom	3	1	29.7	7.7	20.5	5.1	5.1	15.6		5.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	7.4	Bottom	3	2	29.7	7.7	20.5	5.1		15.8		6.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Surface	1	1	30.2	7.9	19.6	5.3	5.3	6.2	10.2	2.6	4.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Surface	1	2	30.0	7.8	19.9	5.3		5.9		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Middle	2	1	30.0	7.9	20.3	5.2		9.0		5.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Middle	2	2	29.9	7.8	20.5	5.2		9.0		4.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Bottom	3	1	29.9	7.9	22.6	4.9	4.9	15.6		5.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	6.8	Bottom	3	2	29.7	7.8	22.8	4.9		15.3		6.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	5.1	Surface	1	1	30.3	7.9	18.2	5.4	5.4	8.3	11.6	7.6	7.7
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	5.1	Surface	1	2	30.1	7.8	18.4	5.4		7.8		8.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a		5.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a		5.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	5.1	Bottom	3	1	30.0	7.9	19.8	5.0	5.0	15.5		7.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	5.1	Bottom	3	2	29.9	7.8	20.0	5.0		14.9		7.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	5.0	Surface	1	1	30.7	7.9	17.5	5.8	5.8	4.6	6.0	3.0	3.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	5.0	Surface	1	2	30.5	7.8	17.6	5.8		4.1		2.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4		5.0	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4		5.0	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	5.0	Bottom	3	1	30.3	7.9	18.7	5.4	5.4	7.8		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	5.0	Bottom	3	2	30.1	7.8	18.9	5.4		7.6		4.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	4.5	Surface	1	1	30.6	7.9	18.3	5.6	5.6	9.1	10.6	6.5	7.1
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	4.5	Surface	1	2	30.4	7.8	18.5	5.5		8.5		8.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8		4.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8		4.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	4.5	Bottom	3	1	30.2	7.9	19.5	5.3	5.3	12.0		6.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	4.5	Bottom	3	2	30.0	7.8	19.7	5.3		12.7		7.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	3.3	Surface	1	1	30.5	7.9	19.8	5.6	5.6	6.4	6.6	5.1	4.5
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	3.3	Surface	1	2	30.3	7.9	20.0	5.6		5.9		4.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9		3.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9		3.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	3.3	Bottom	3	1	30.4	7.9	20.4	5.6	5.6	7.4		4.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	3.3	Bottom	3	2	30.2	7.9	20.6	5.6		6.7		3.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Surface	1	1	30.1	7.8	19.5	5.9	5.5	1.8	1.7	1.2	1.5
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Surface	1	2	29.8	7.9	19.8	5.8		1.8		1.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Middle	2	1	30.2	7.8	22.1	5.1		1.7		1.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Middle	2	2	29.9	7.9	22.4	5.0		1.7		1.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Bottom	3	1	29.9	7.8	25.3	4.9	4.9	1.7		1.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	9.5	Bottom	3	2	29.6	7.9	25.6	4.8		1.7		1.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Surface	1	1	30.2	7.8	16.9	6.0	5.7	5.0	5.9	3.2	3.5
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Surface	1	2	30.4	7.8	16.9	6.1		5.5		2.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Middle	2	1	30.1	7.8	20.5	5.2		4.7		3.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Middle	2	2	30.4	7.7	20.3	5.3		4.7		3.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Bottom	3	1	29.4	7.8	25.4	4.6	4.7	7.6		3.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	6.9	Bottom	3	2	29.7	7.8	25.5	4.8		8.1		5.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	5.5	Surface	1	1	30.0	7.8	18.5	6.2	6.2	3.2	4.3	1.7	4.7
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	5.5	Surface	1	2	29.8	8.0	18.8	6.1		2.8		1.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16		5.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16		5.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	5.5	Bottom	3	1	29.9	7.8	23.2	4.8	4.8	5.8		8.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	5.5	Bottom	3	2	29.6	7.9	24.0	4.8		5.2		7.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	5.3	Surface	1	1	30.6	7.8	20.1	6.0	6.0	4.1	5.2	2.1	3.6
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	5.3	Surface	1	2	30.3	7.9	20.4	5.9		3.7		3.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a		5.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a		5.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	5.3	Bottom	3	1	29.9	7.7	23.0	4.0	4.0	6.6		4.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	5.3	Bottom	3	2	29.6	7.8	23.3	4.0		6.3		3.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	4.1	Surface	1	1	30.3	7.7	20.7	5.1	5.1	6.2	9.5	4.5	3.7
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	4.1	Surface	1	2	30.0	7.9	21.0	5.1		5.9		2.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4		4.1	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4		4.1	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	4.1	Bottom	3	1	30.1	7.7	22.1	4.6	4.6	12.5		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	4.1	Bottom	3	2	29.8	7.8	22.4	4.5		13.5		3.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	4.5	Surface	1	1	30.5	7.9	18.7	7.1	7.1	2.8	5.6	2.1	2.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	4.5	Surface	1	2	30.2	8.0	18.9	7.0		2.3		2.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8		4.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8		4.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	4.5	Bottom	3	1	30.2	7.7	22.1	4.4	4.5	8.7		4.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	4.5	Bottom	3	2	30.0	7.8	22.3	4.5		8.4		2.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	4.3	Surface	1	1	30.2	7.9	18.4	6.9	6.9	2.9	6.0	2.3	3.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	4.3	Surface	1	2	29.9	8.1	18.6	6.8		2.6		2.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9		4.3	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9		4.3	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	4.3	Bottom	3	1	30.2	7.7	21.3	4.5	4.6	9.3		5.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	4.3	Bottom	3	2	30.0	7.8	21.4	4.7		9.0		4.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (˚C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Surface	1	1	30.0	8.0	24.0	5.6	5.5	1.9	3.5	2.1	3.3
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Surface	1	2	30.2	7.9	23.7	5.7		1.8		2.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Middle	2	1	29.6	8.0	27.4	5.3		2.2		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Middle	2	2	29.9	7.9	27.1	5.4		2.1		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Bottom	3	1	29.1	8.0	30.0	4.5	4.5	6.4		4.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	13.7	Bottom	3	2	29.4	7.9	29.7	4.5		6.5		3.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Surface	1	1	31.1	7.8	15.2	6.2	5.7	6.6	8.6	4.6	5.1
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Surface	1	2	31.4	7.8	15.2	6.3		6.8		5.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Middle	2	1	30.3	7.7	19.7	5.1		10.4		4.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Middle	2	2	30.5	7.7	19.8	5.2		11.1		5.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Bottom	3	1	30.0	7.7	21.6	4.9	5.0	8.5		6.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	6.8	Bottom	3	2	30.2	7.7	21.6	5.1		8.4		4.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	5.7	Surface	1	1	30.9	8.2	19.9	9.4	9.4	2.7	7.3	3.7	3.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	5.7	Surface	1	2	31.2	8.1	19.7	9.3		2.7		3.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16		5.7	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16		5.7	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	5.7	Bottom	3	1	30.0	7.8	22.6	5.5	5.5	11.8		4.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	5.7	Bottom	3	2	30.2	7.8	22.4	5.5		11.8		4.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	5.2	Surface	1	1	30.3	7.9	21.4	6.4	6.4	5.6	5.3	5.1	4.9
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	5.2	Surface	1	2	30.6	7.9	21.2	6.4		6.4		4.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a		5.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a		5.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	5.2	Bottom	3	1	30.1	7.9	22.3	5.5	5.5	4.4		4.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	5.2	Bottom	3	2	30.3	7.8	22.1	5.5		4.9		5.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	4.4	Surface	1	1	30.7	8.0	20.9	6.8	7.0	14.3	14.2	13.6	13.1
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	4.4	Surface	1	2	31.0	7.9	20.6	7.1		15.1		12.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4		4.4	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4		4.4	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	4.4	Bottom	3	1	30.0	7.8	22.5	4.9	5.0	13.8		12.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	4.4	Bottom	3	2	30.3	7.8	22.1	5.0		13.6		13.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	4.2	Surface	1	1	30.7	8.0	20.9	7.3	7.4	10.2	14.2	8.3	8.3
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	4.2	Surface	1	2	31.0	8.0	20.7	7.5		11.6		7.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8		4.2	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8		4.2	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	4.2	Bottom	3	1	30.2	7.9	21.8	5.9	5.9	18.9		7.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	4.2	Bottom	3	2	30.5	7.8	21.6	5.9		16.0		9.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	3.5	Surface	1	1	31.2	8.3	20.0	11.8	11.8	7.7	9.5	6.9	7.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	3.5	Surface	1	2	31.4	8.3	19.8	11.7		9.0		6.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9		3.5	Middle	2	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9		3.5	Middle	2	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	3.5	Bottom	3	1	31.2	8.2	20.5	9.2	9.3	10.1		9.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	3.5	Bottom	3	2	31.5	8.2	20.3	9.4		11.2		8.6	



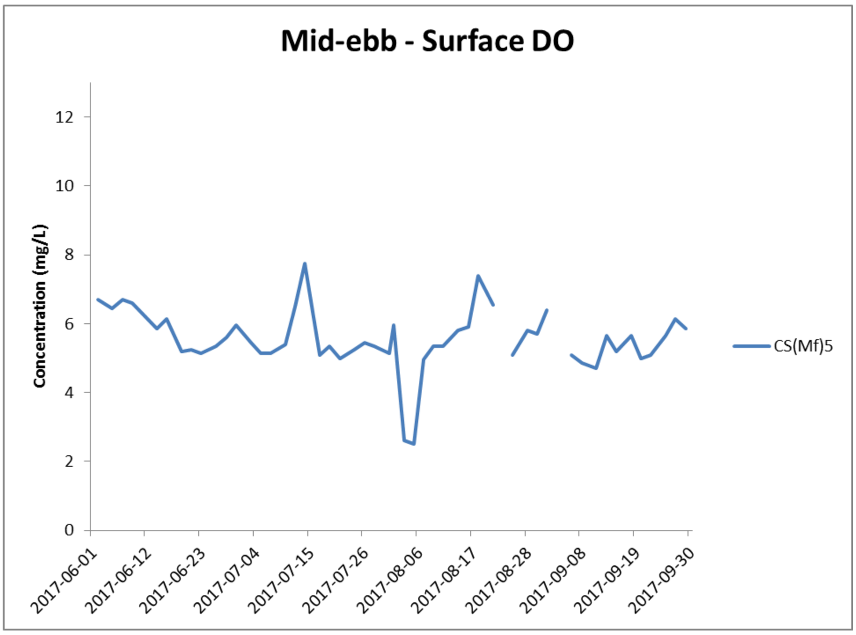


Figure J1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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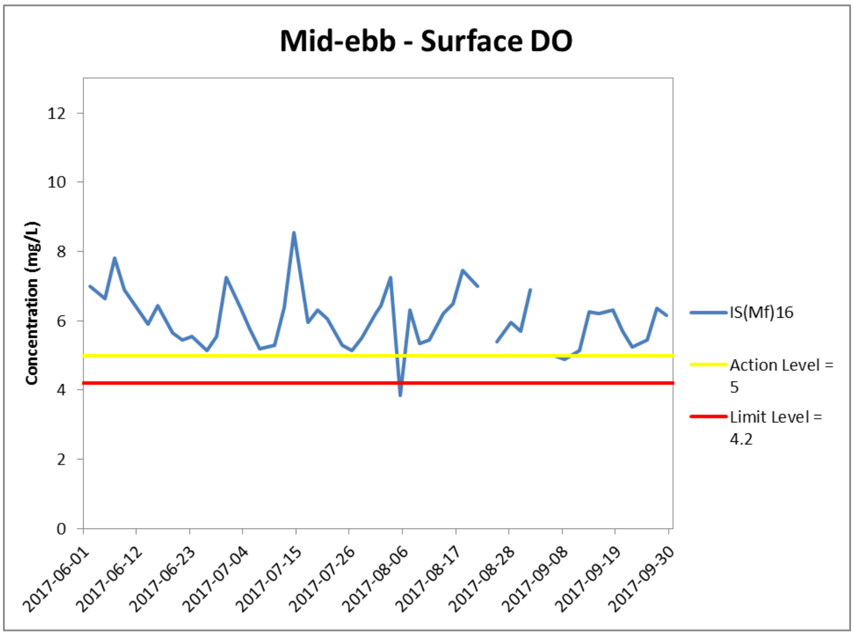

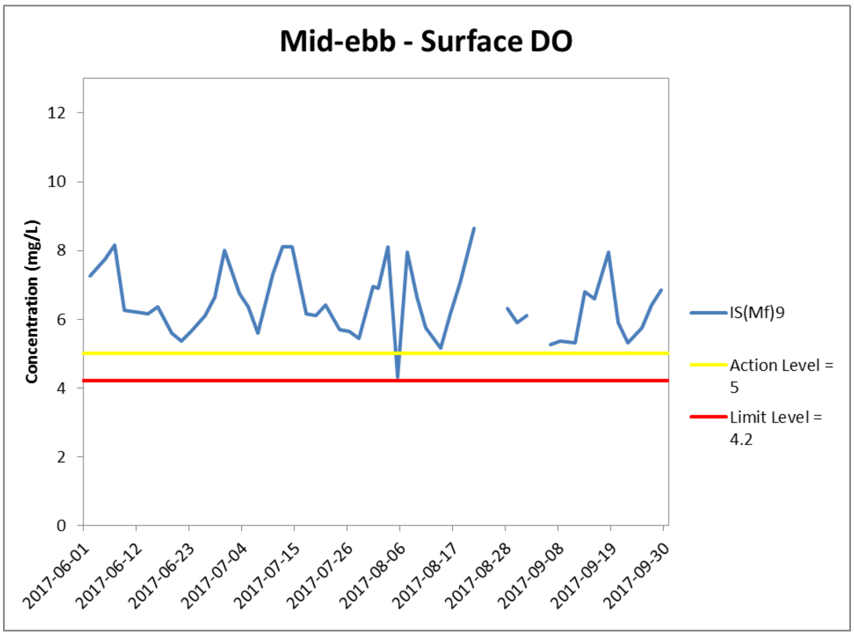

Figure J2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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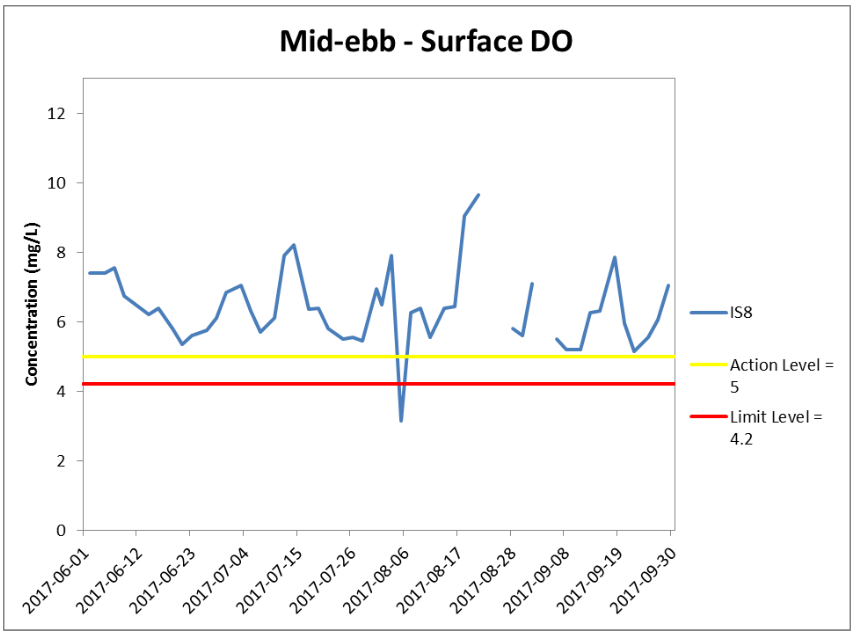

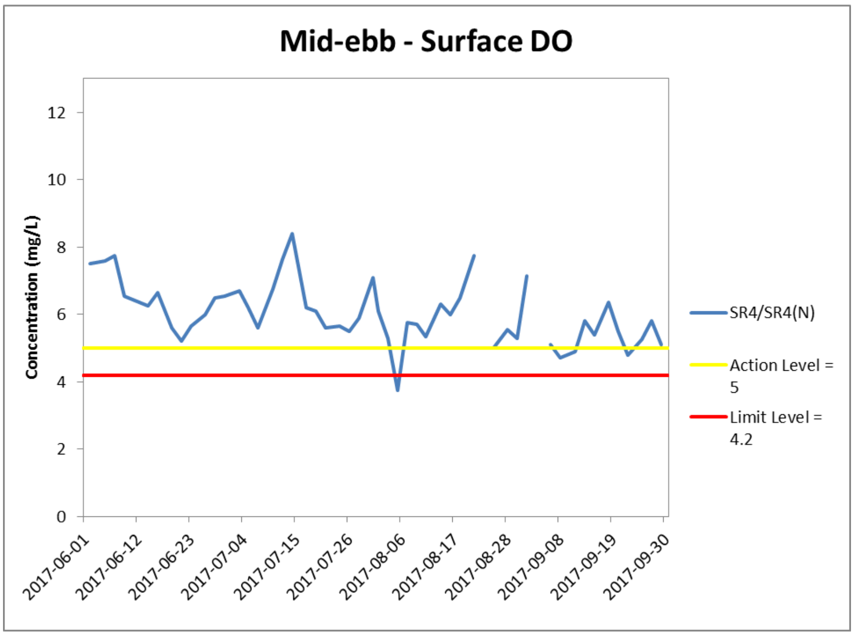

Figure J3 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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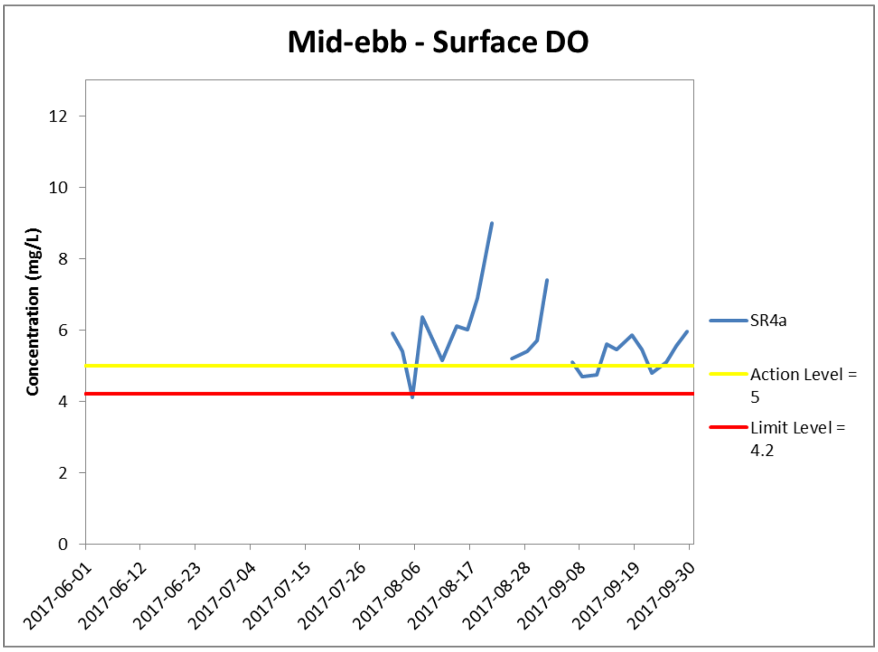

Figure J4 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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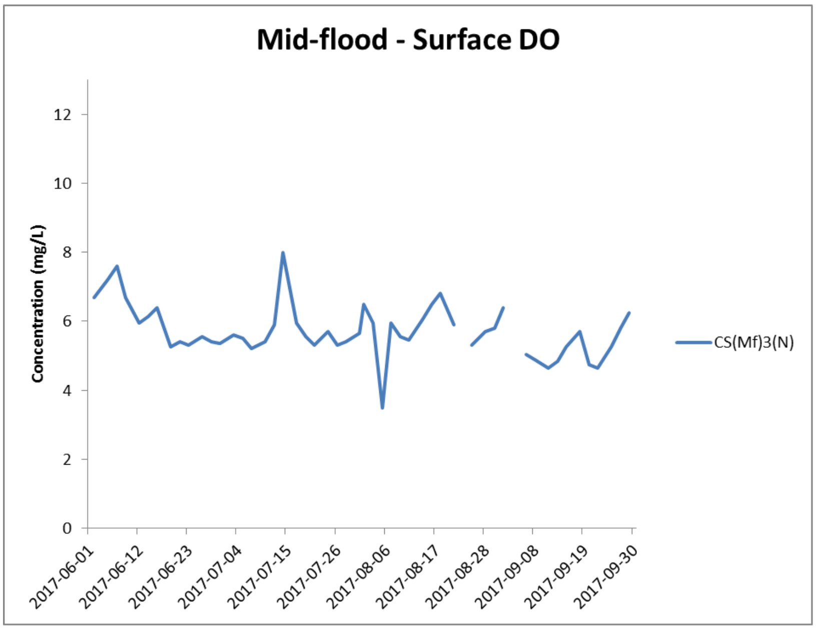

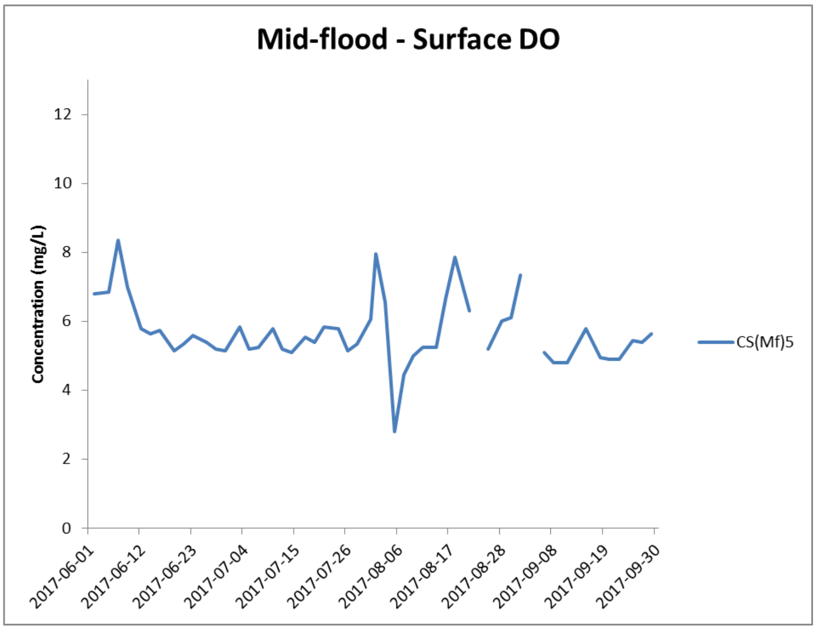

Figure J5 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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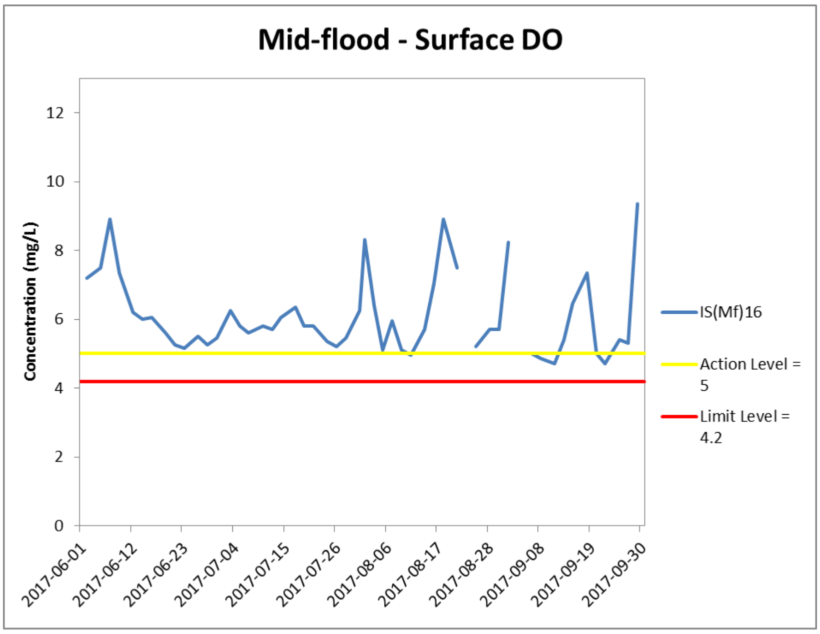

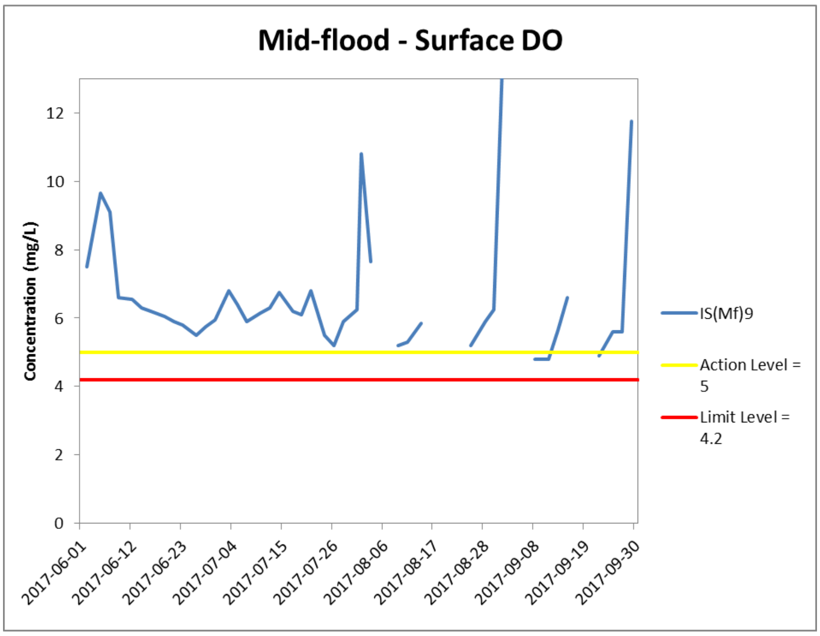

Figure J6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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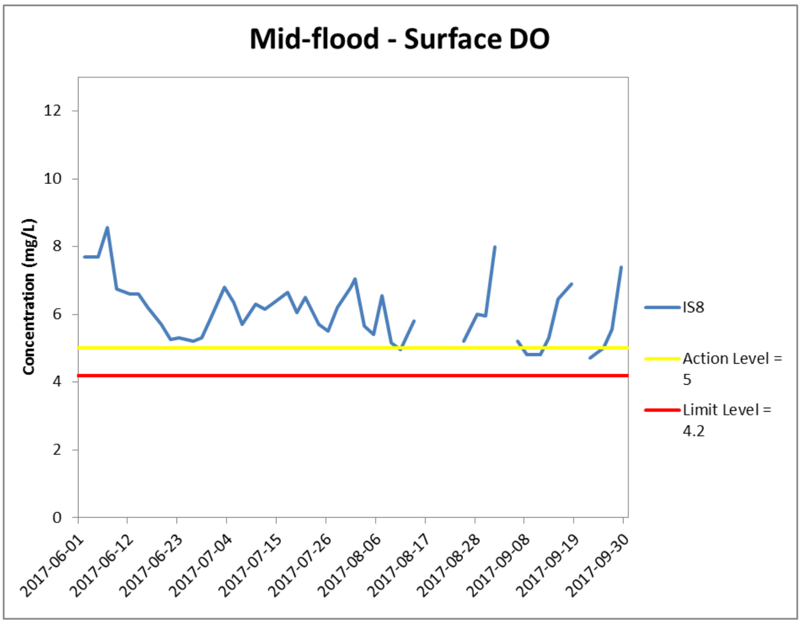

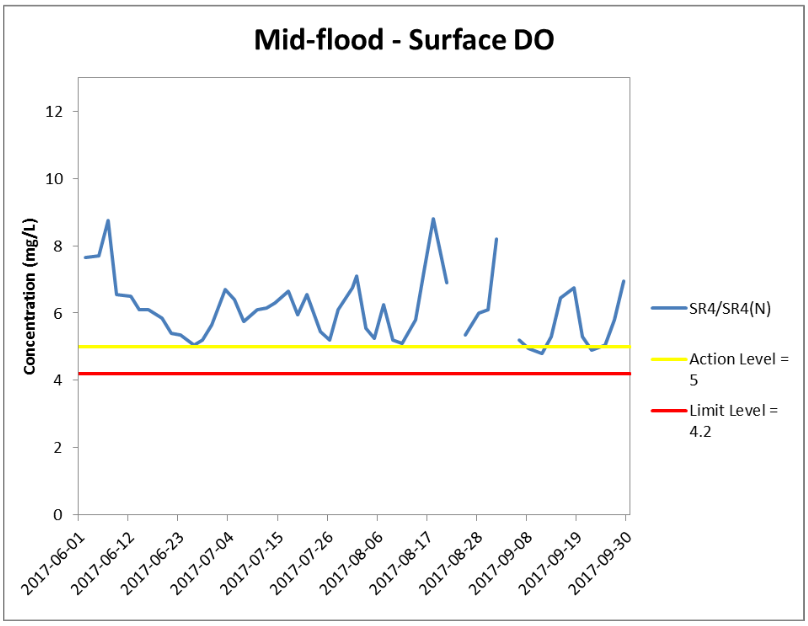

Figure J7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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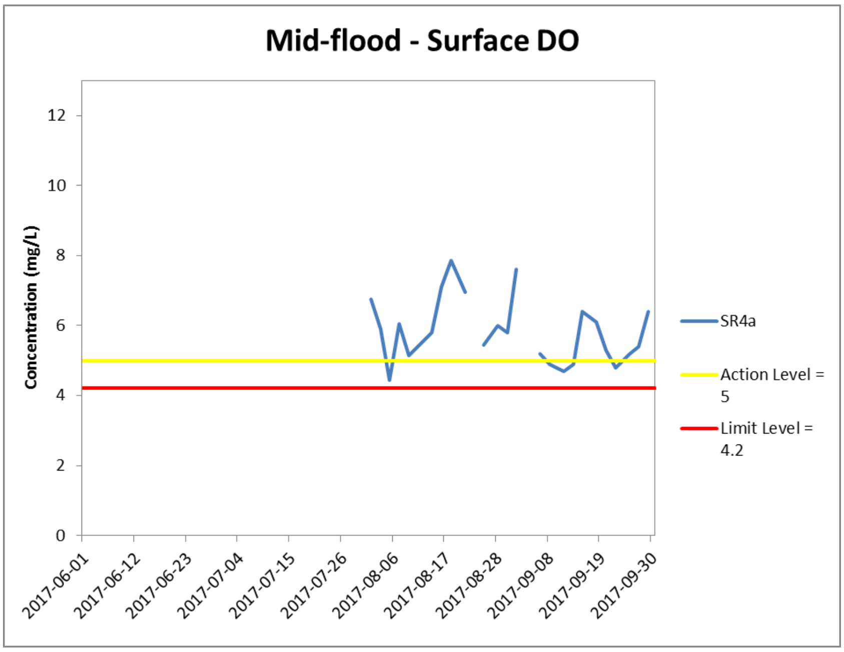
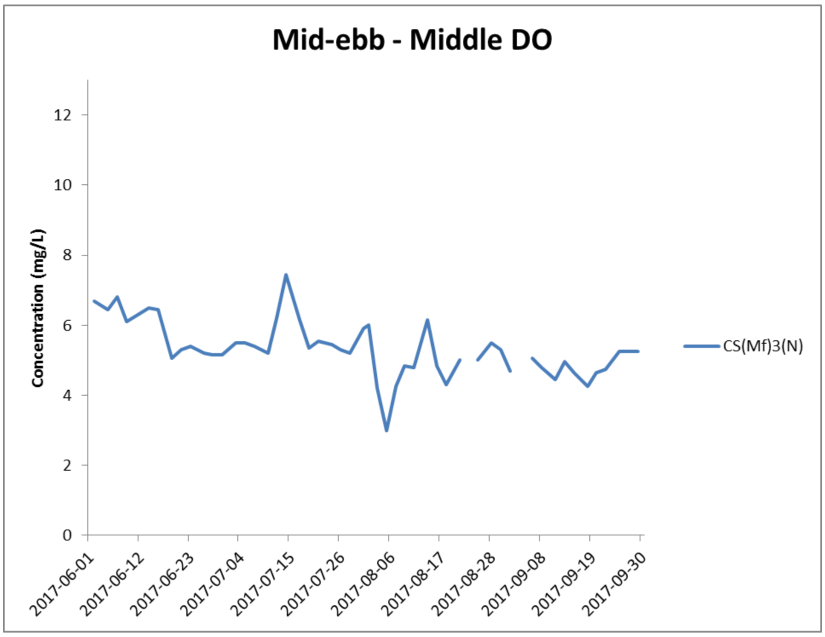


Figure J8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June 2017 and 30 September 2017 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management



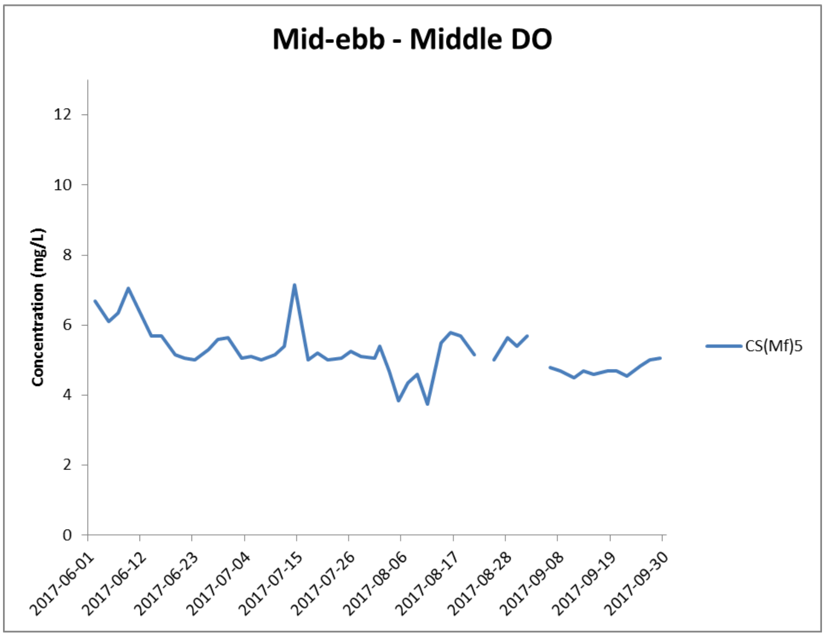


Figure J9 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

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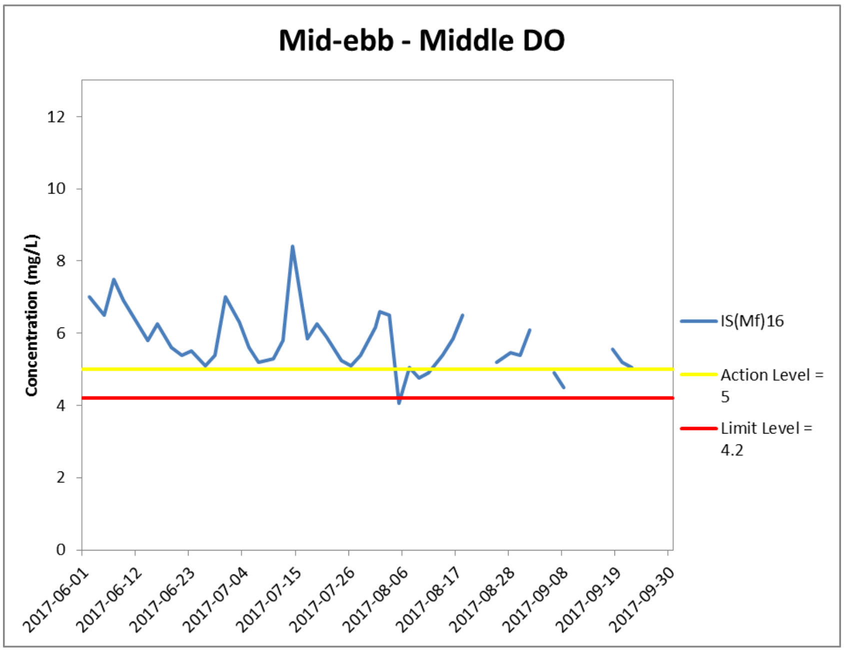

Figure J10 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS(Mf)16.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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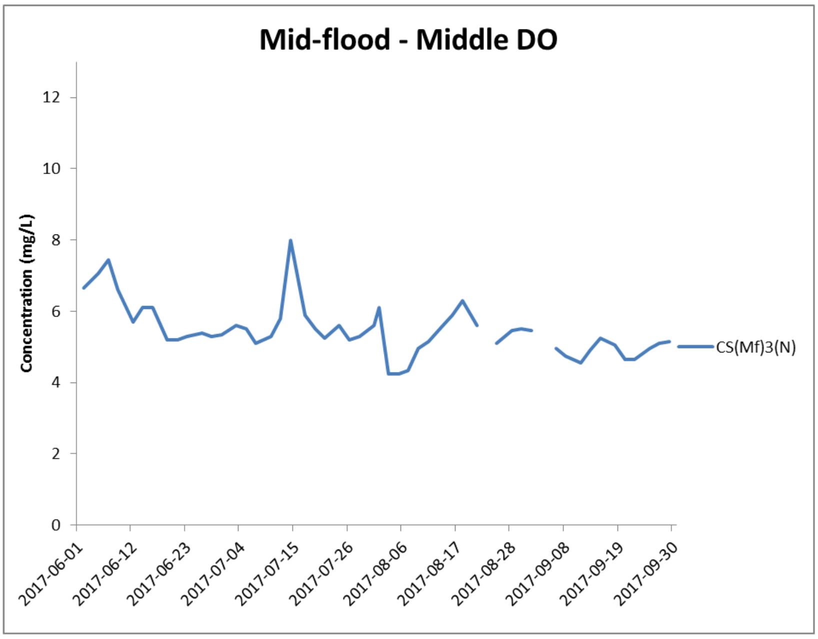

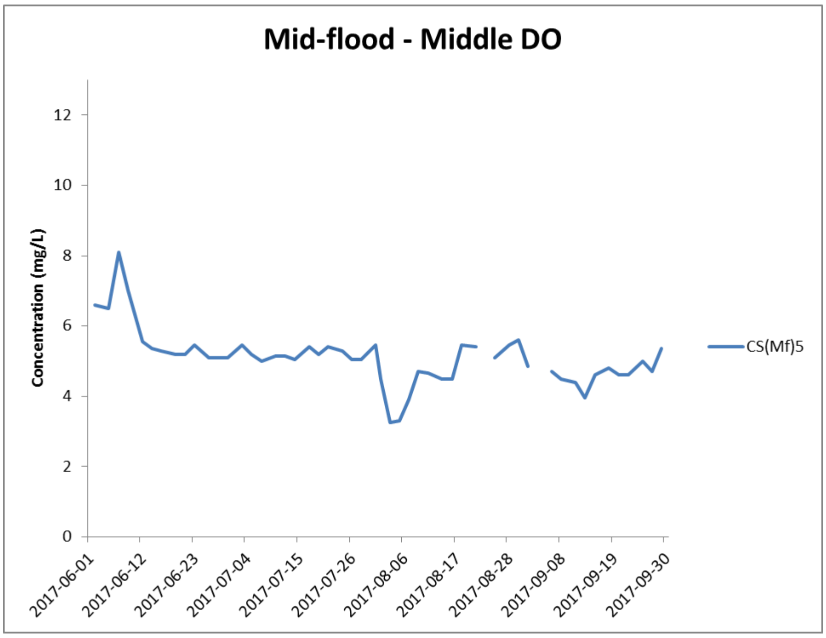

Figure J11 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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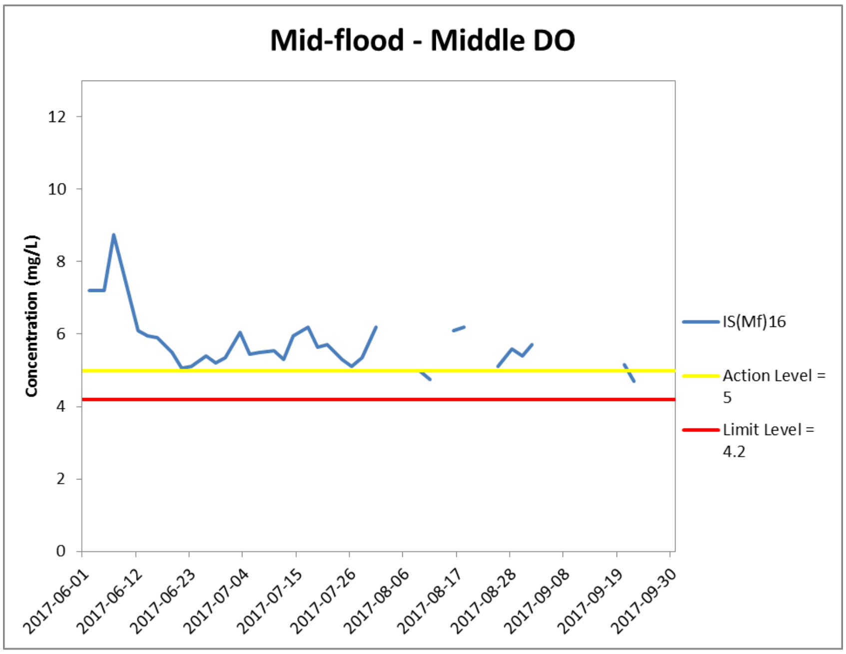

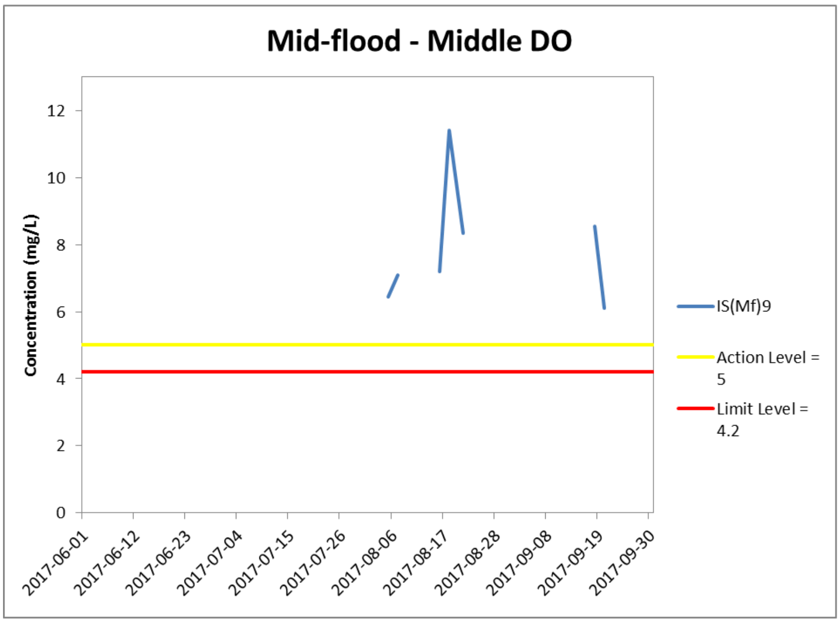

Figure J12 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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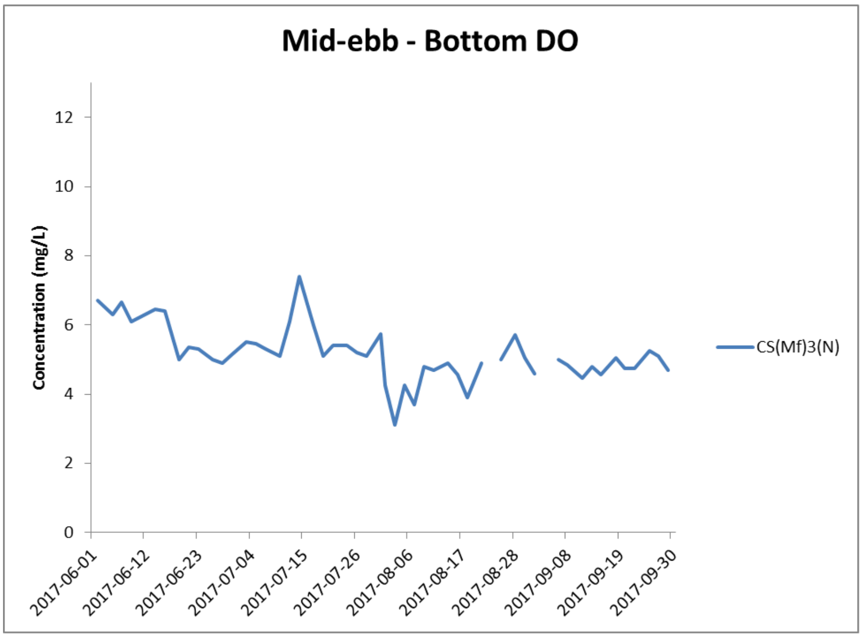

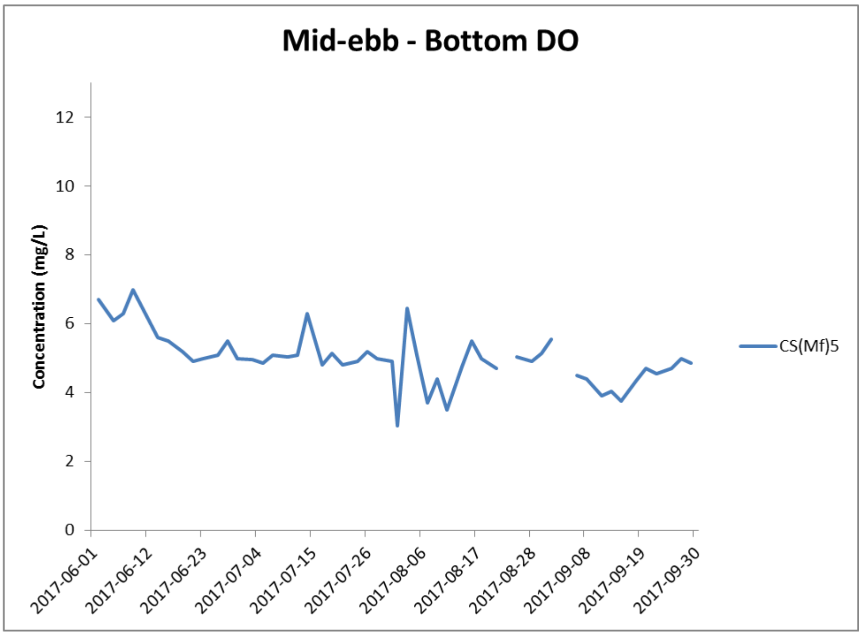

Figure J13 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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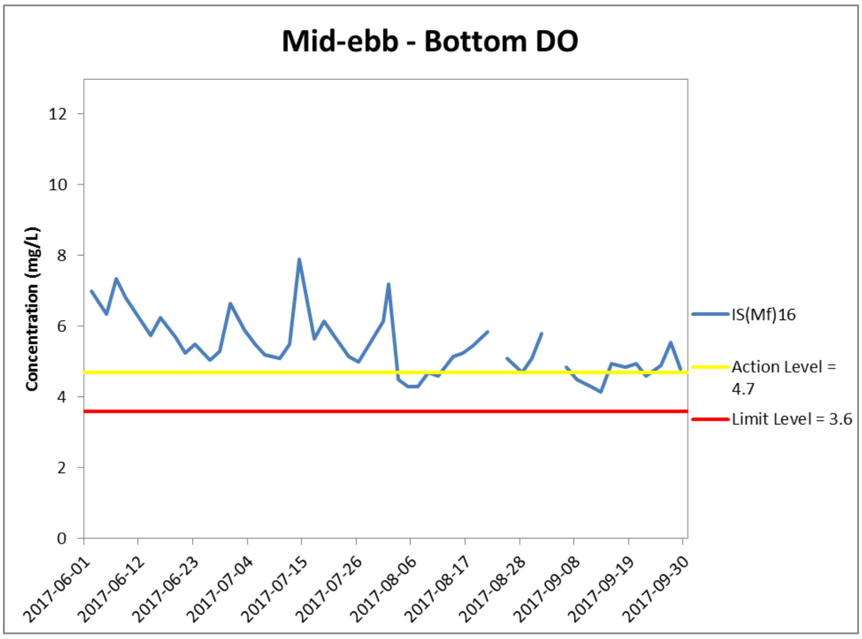

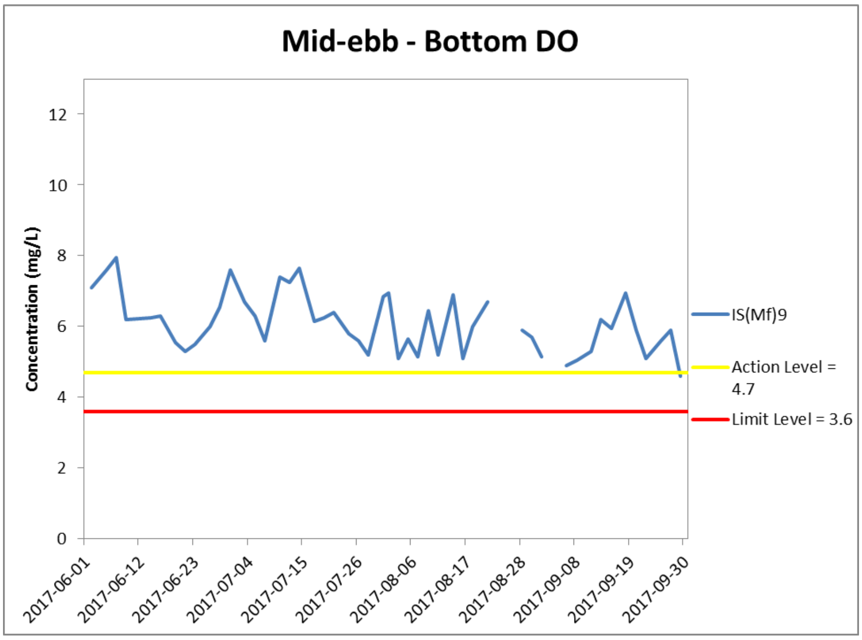

Figure J14 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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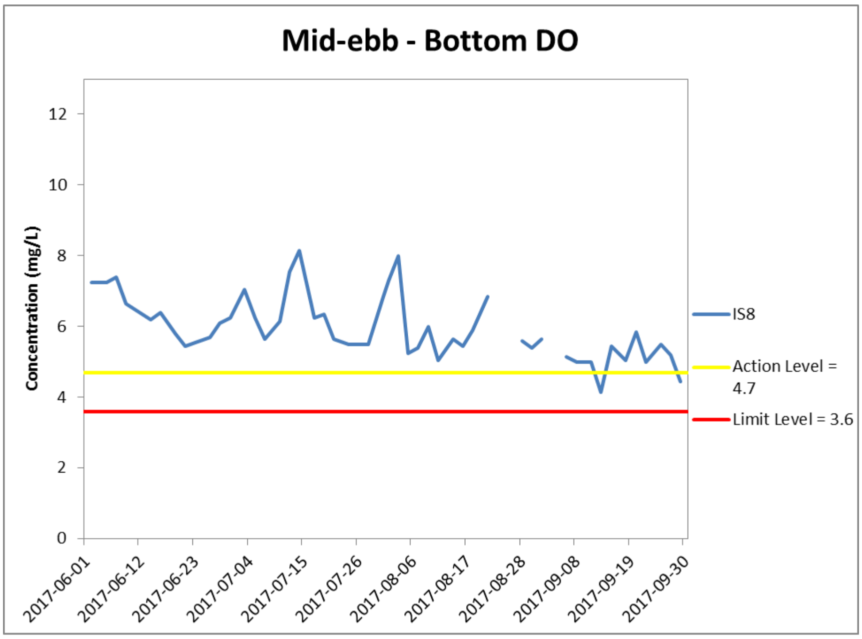

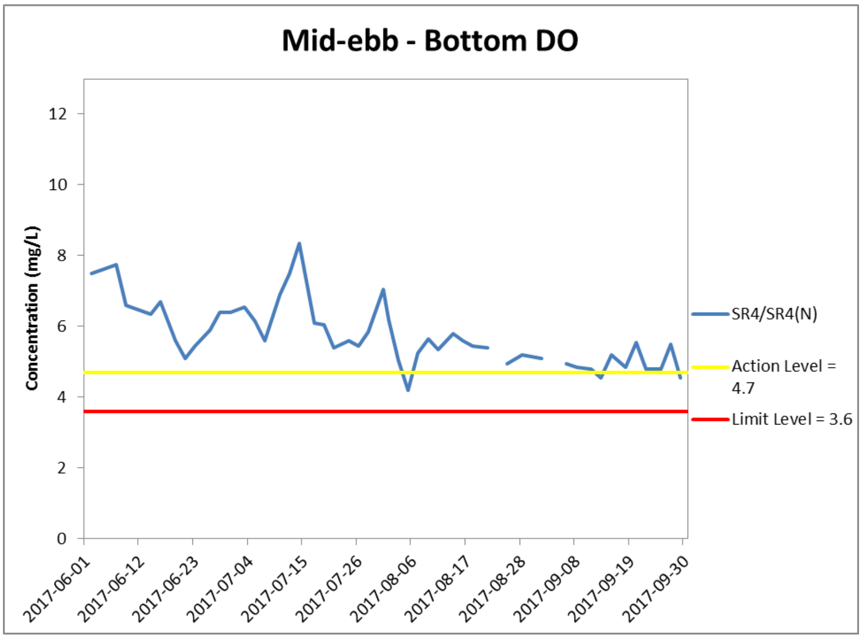

Figure J15 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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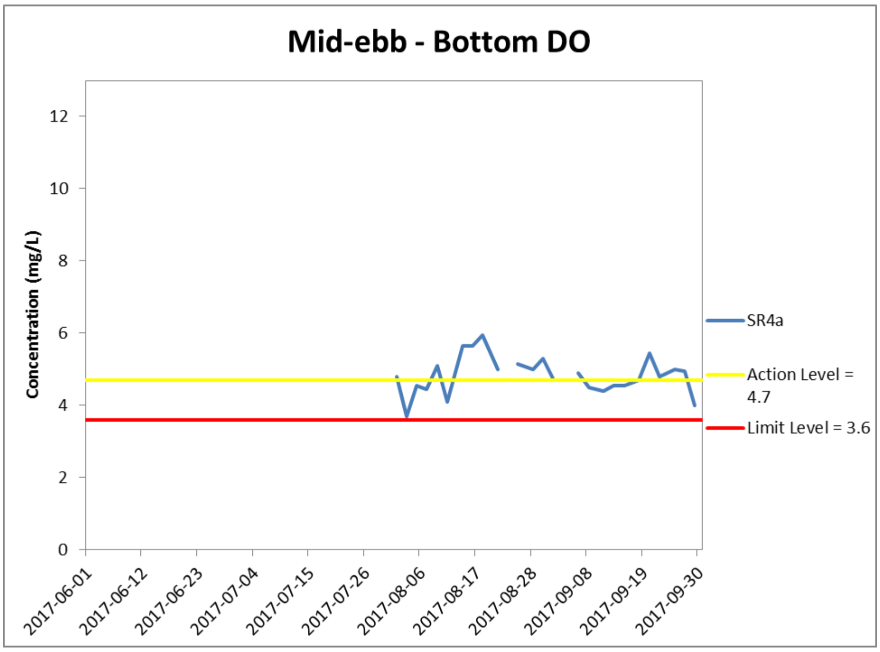
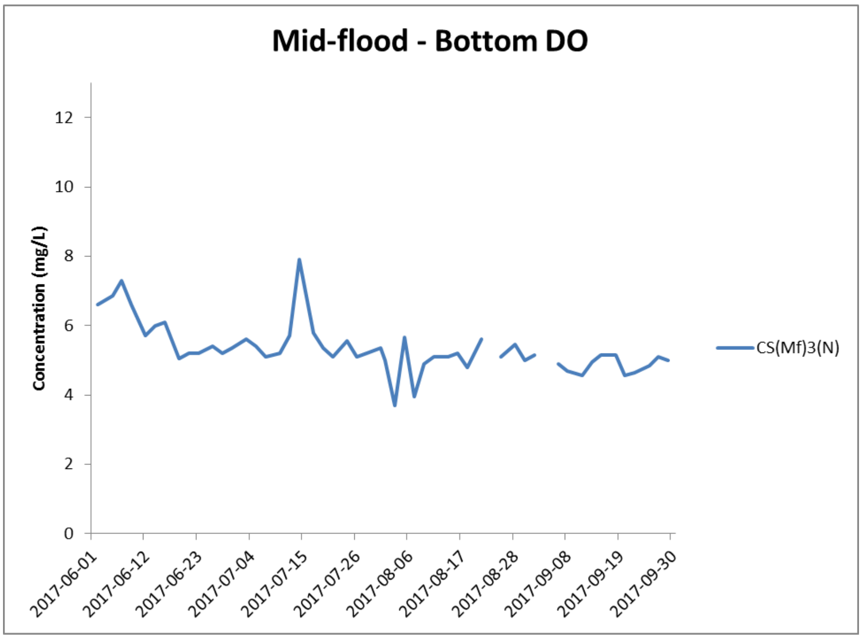


Figure J16 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June 2017 and 30 September 2017 at SR4a. *(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.*	**Environmental Resources Management** ERM



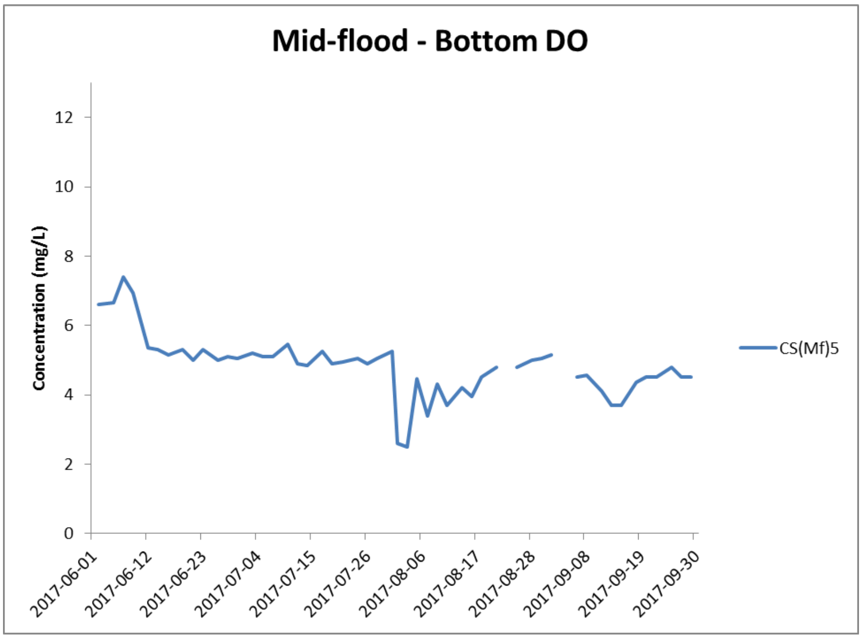


Figure J17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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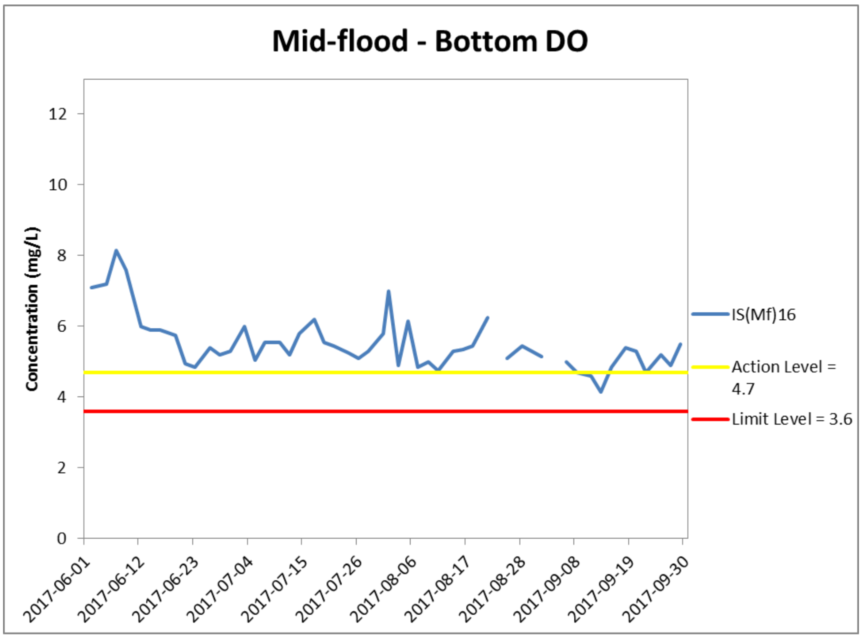

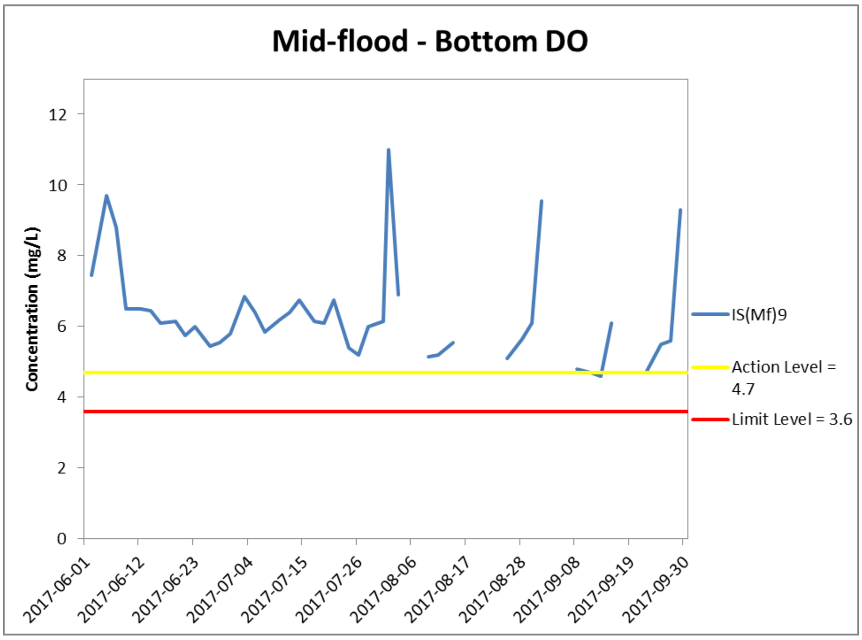

Figure J18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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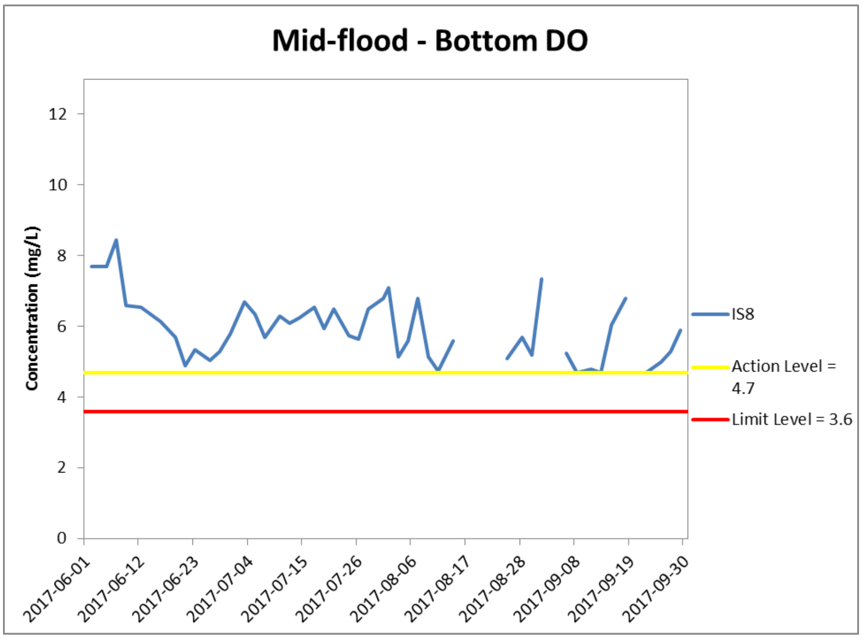

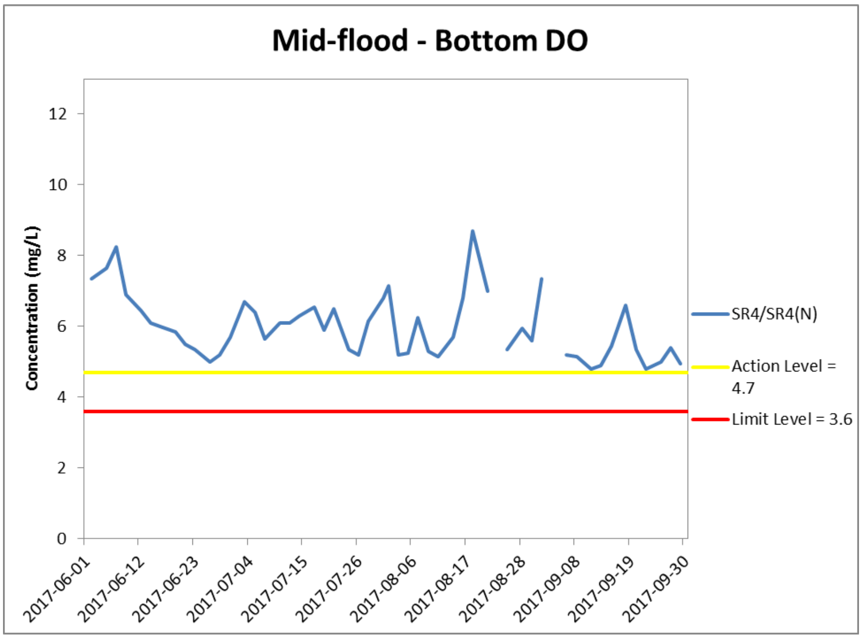

Figure J19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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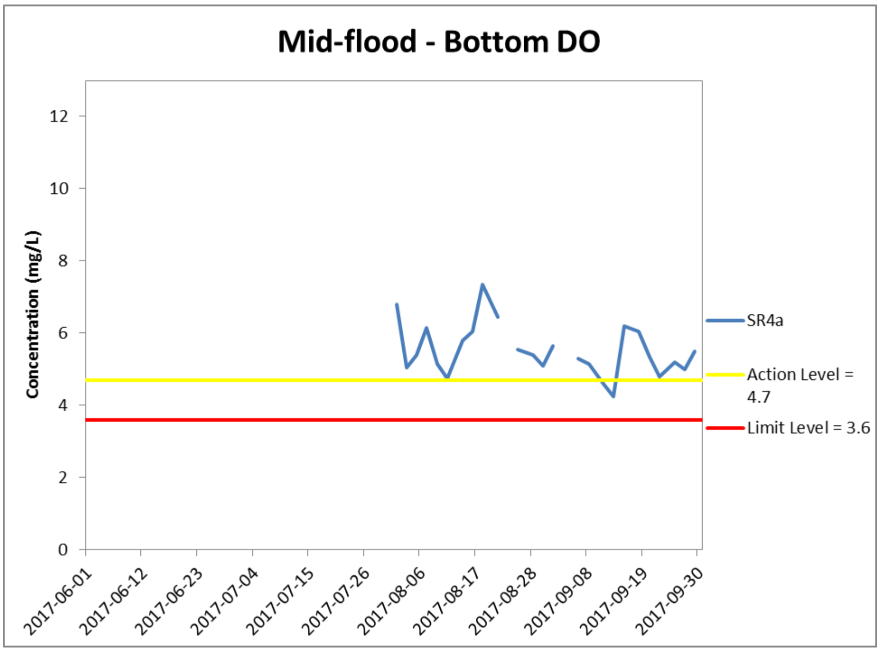

Figure J20 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June 2017 and 30 September 2017 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.
below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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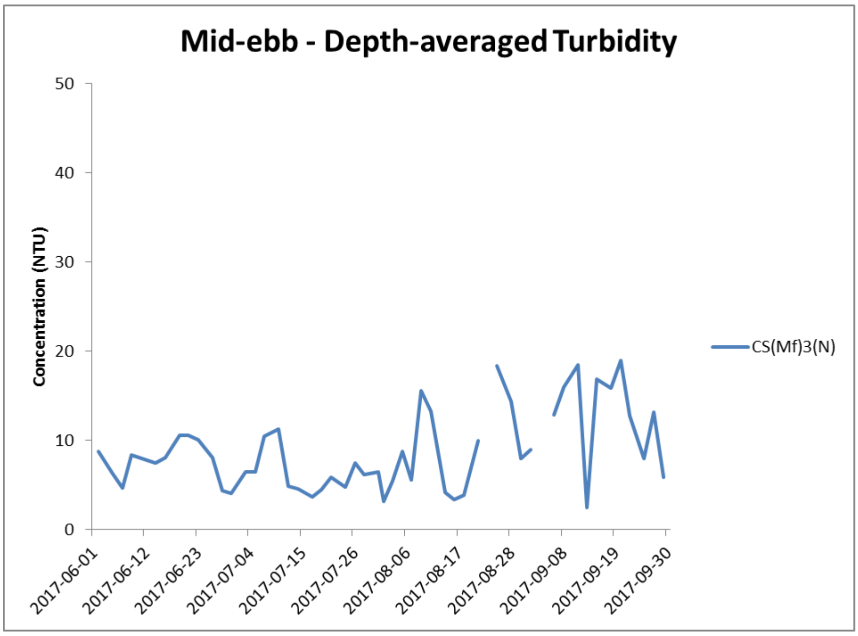

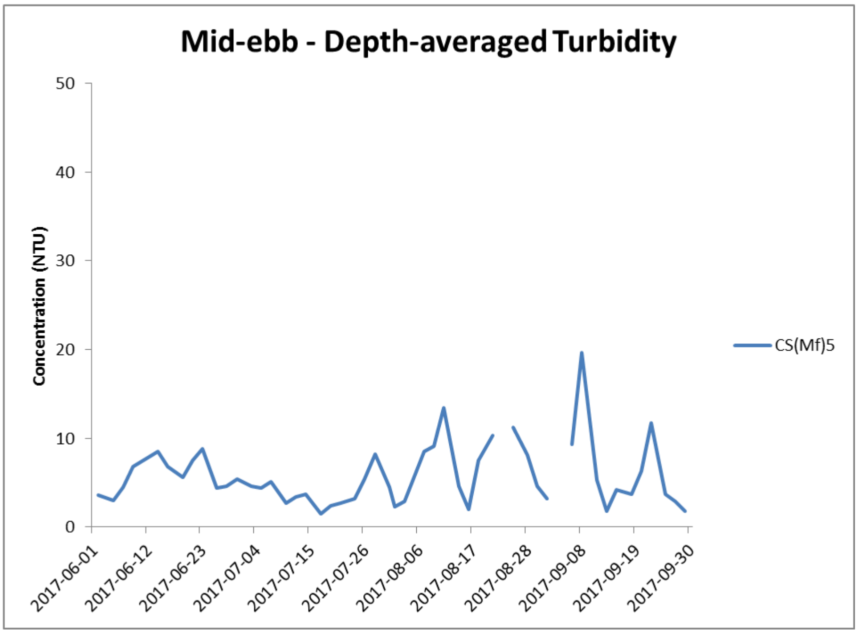

Figure J21 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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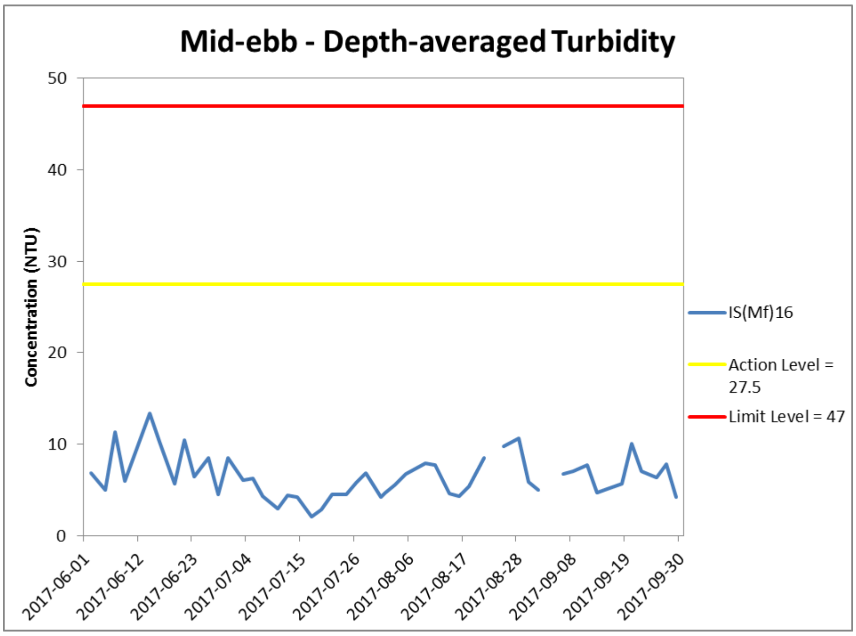

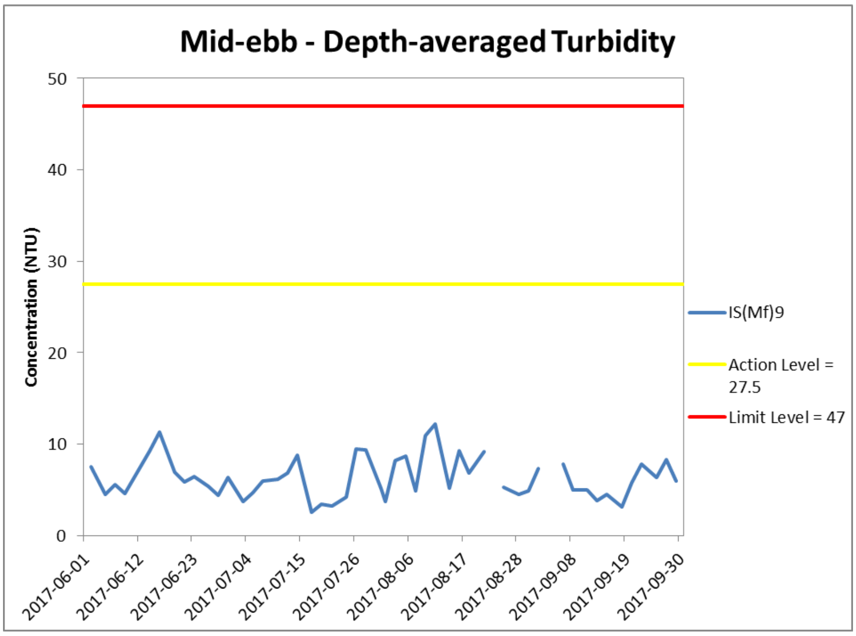

Figure J22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

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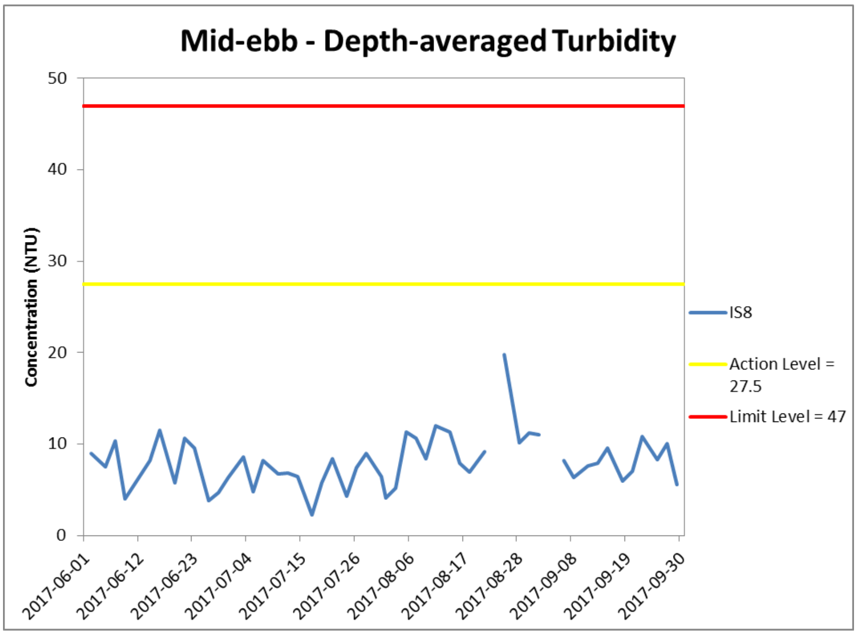

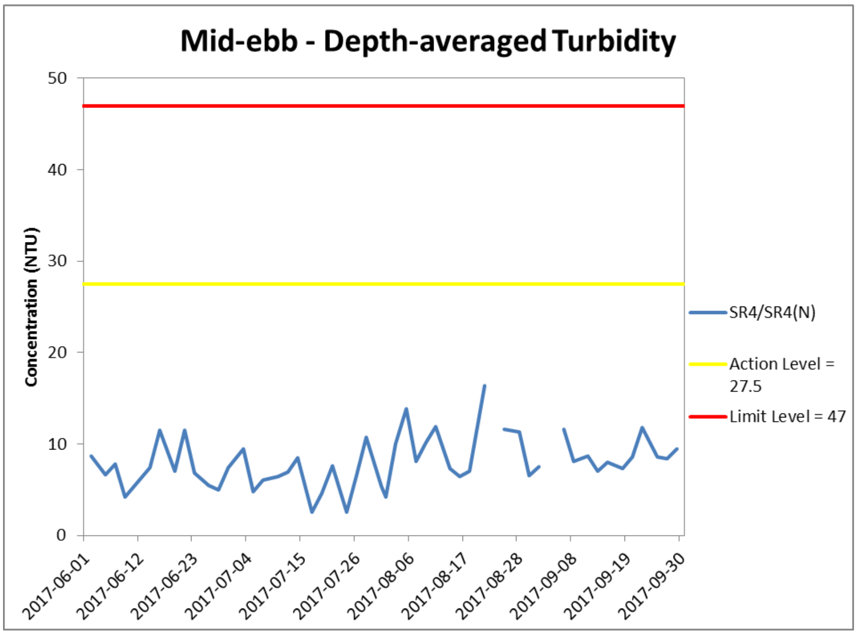

Figure J23 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

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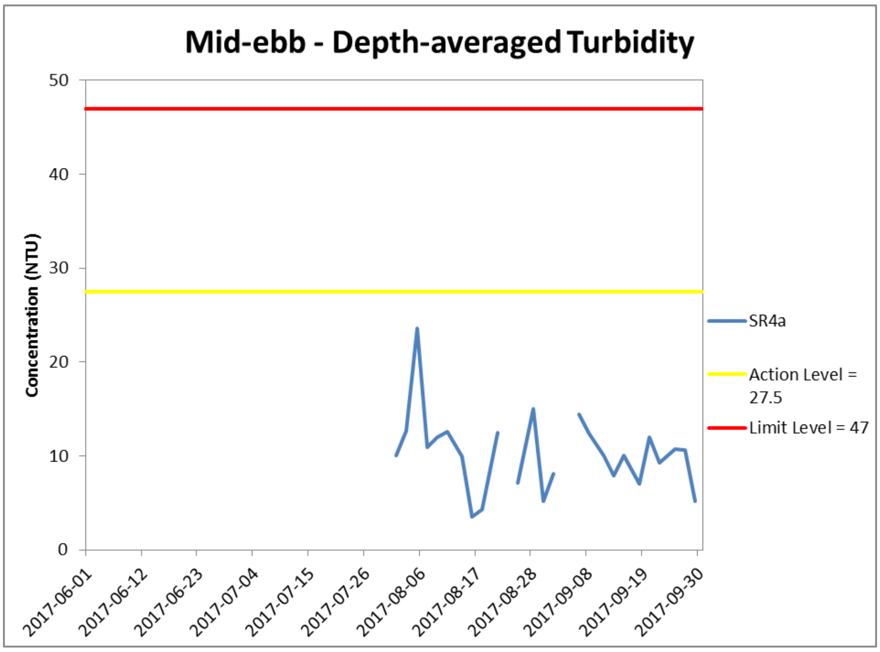

Figure J24 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June 2017 and 30 September 2017 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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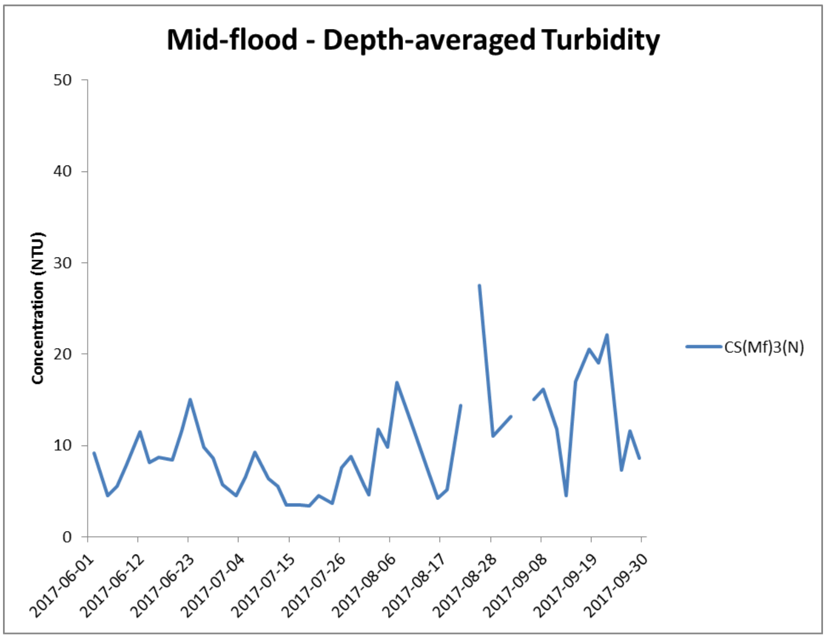

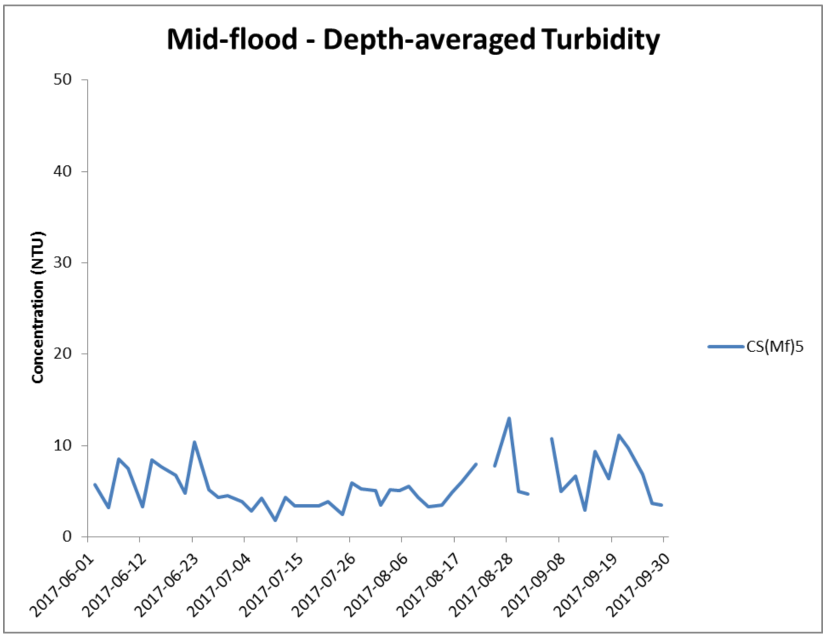

Figure J25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(MF)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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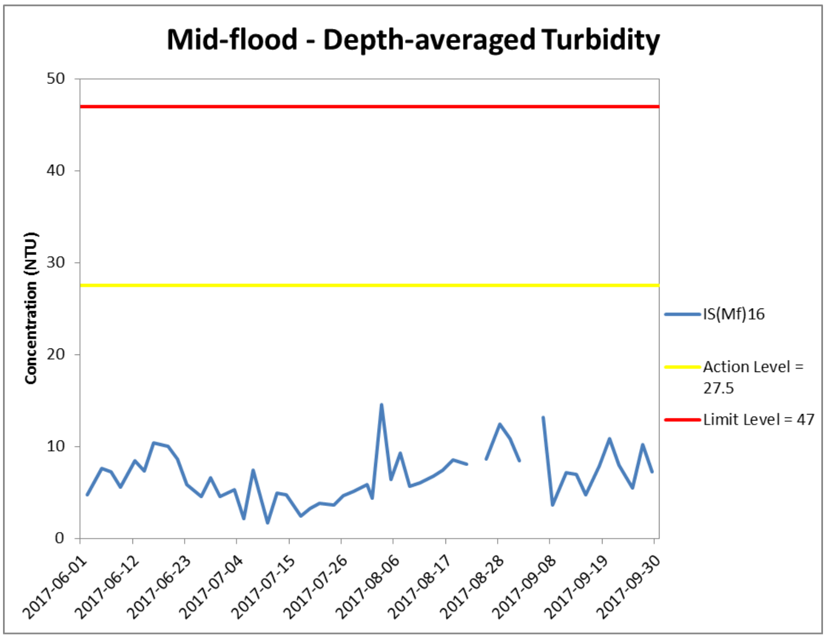

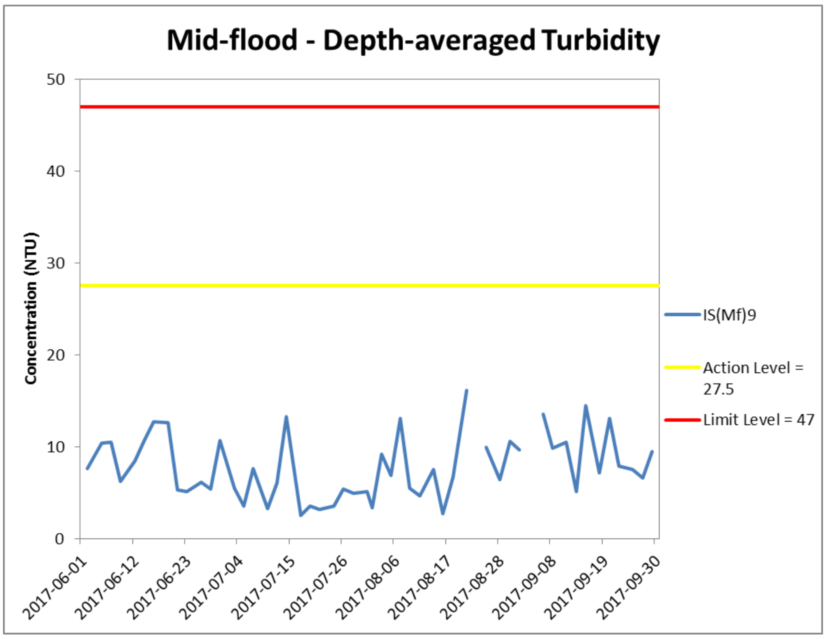

Figure J26 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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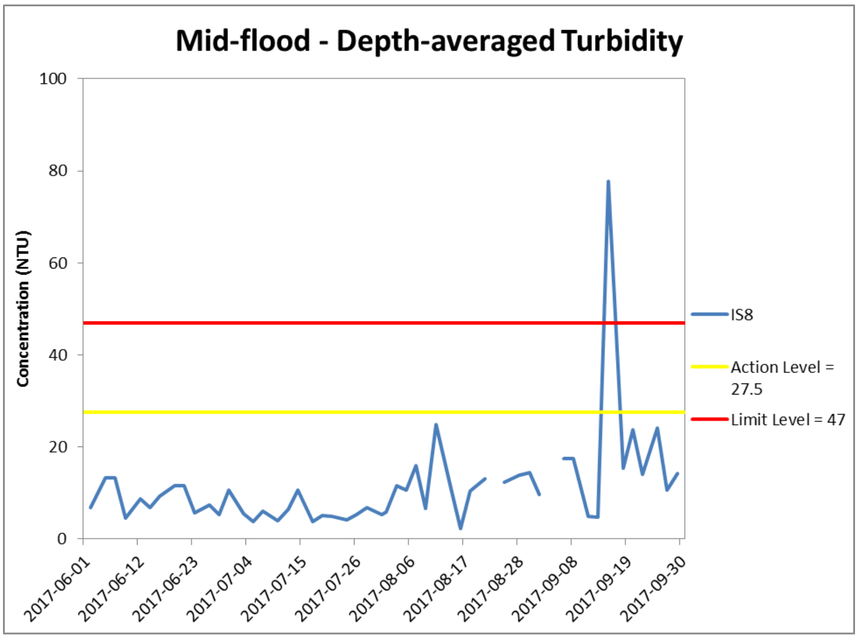

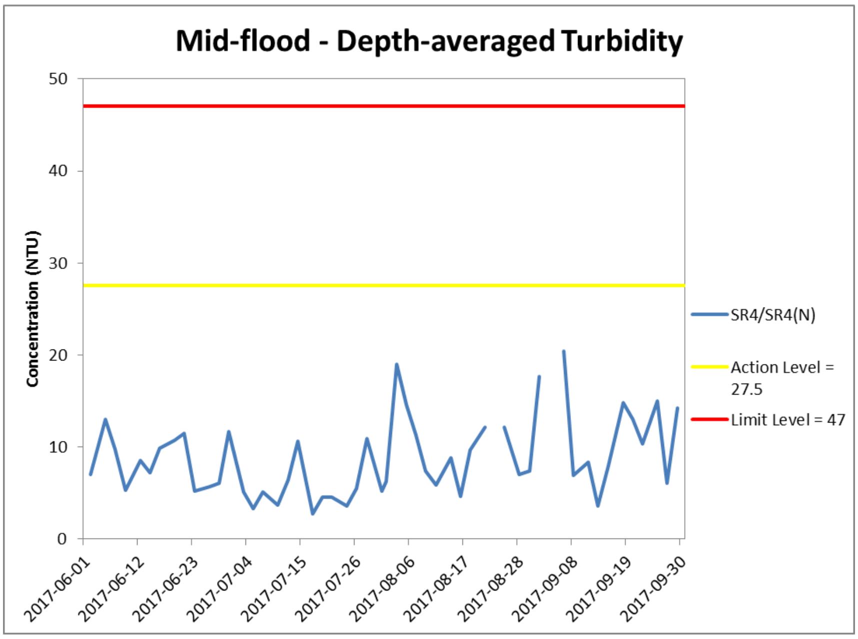

`Figure J27 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

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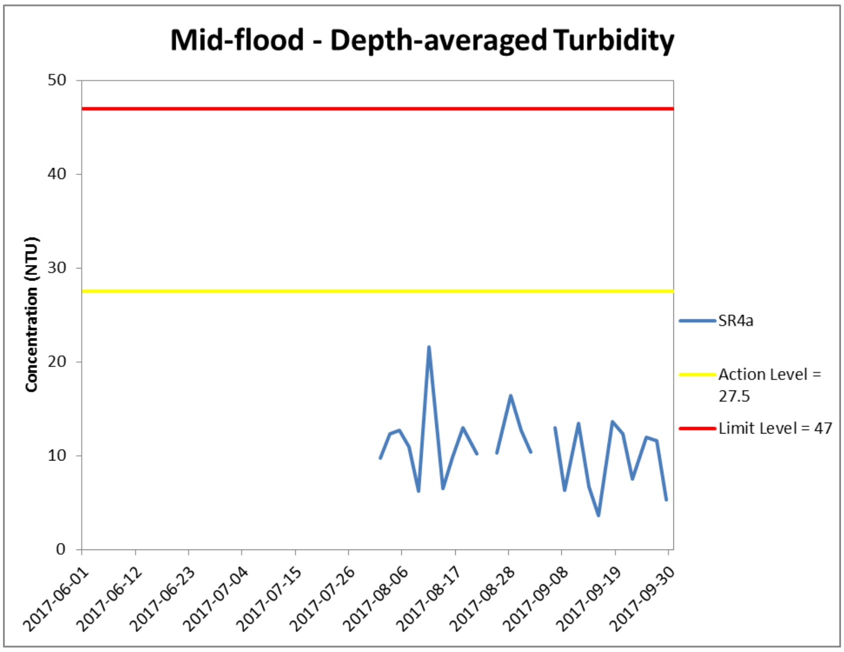
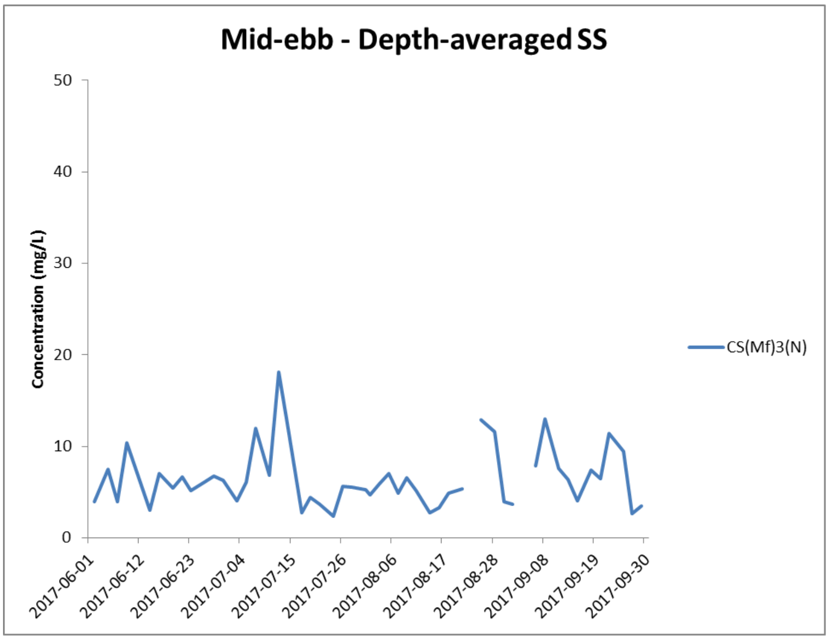


Figure J28 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June 2017 and 30 September 2017 at SR4a. *(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.*	**Environmental Resources Management** ERM



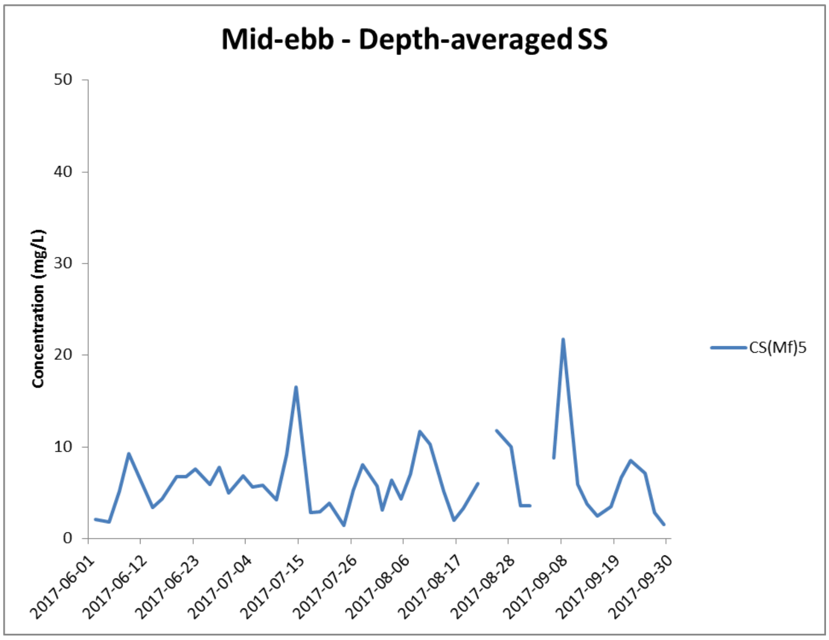


Figure J29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

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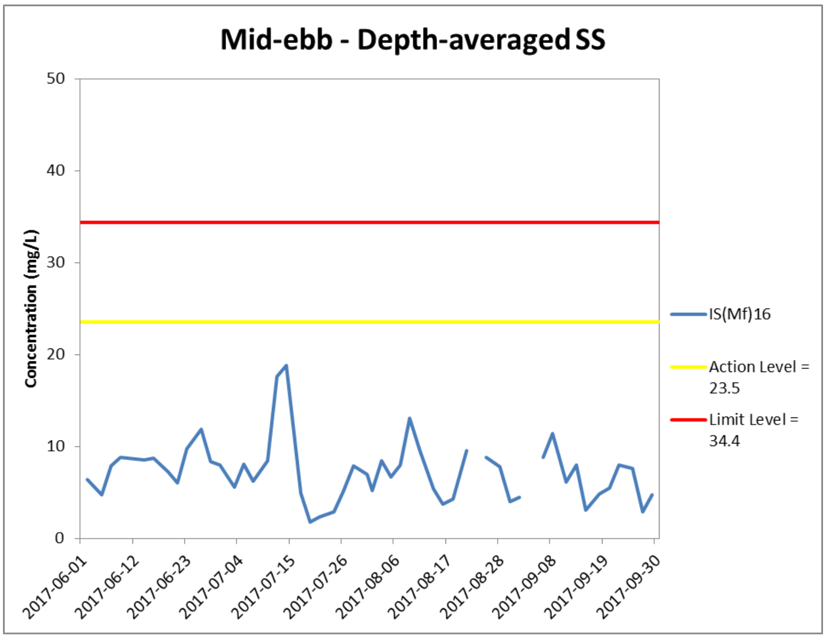


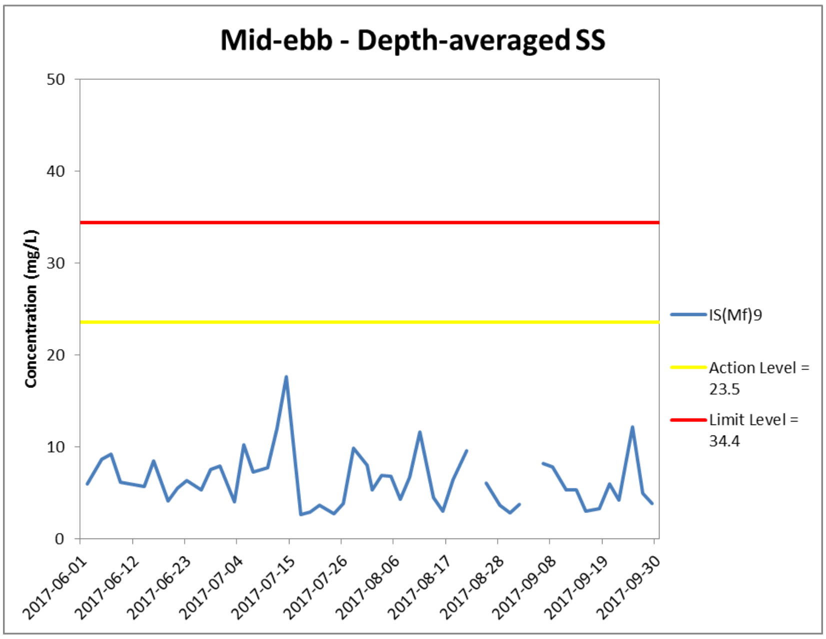
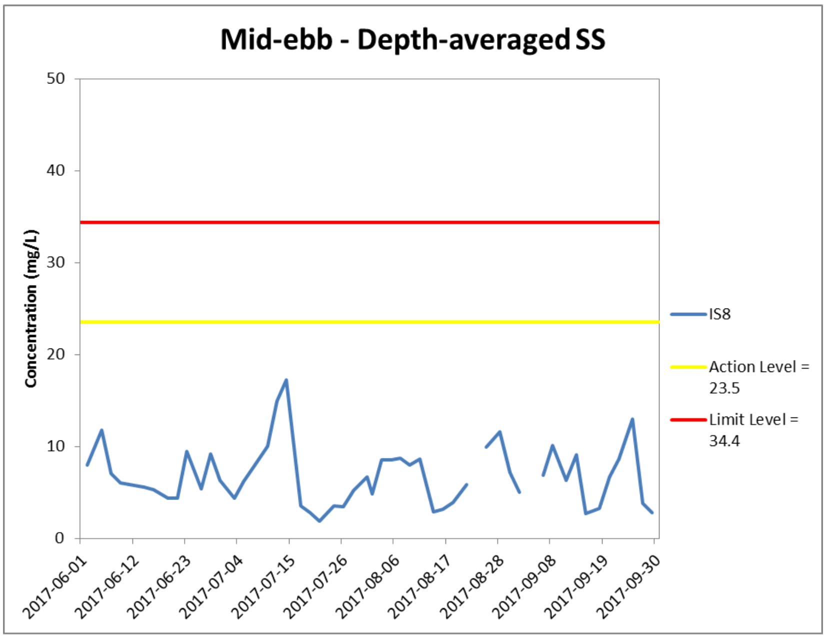


Figure J30 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

ERM



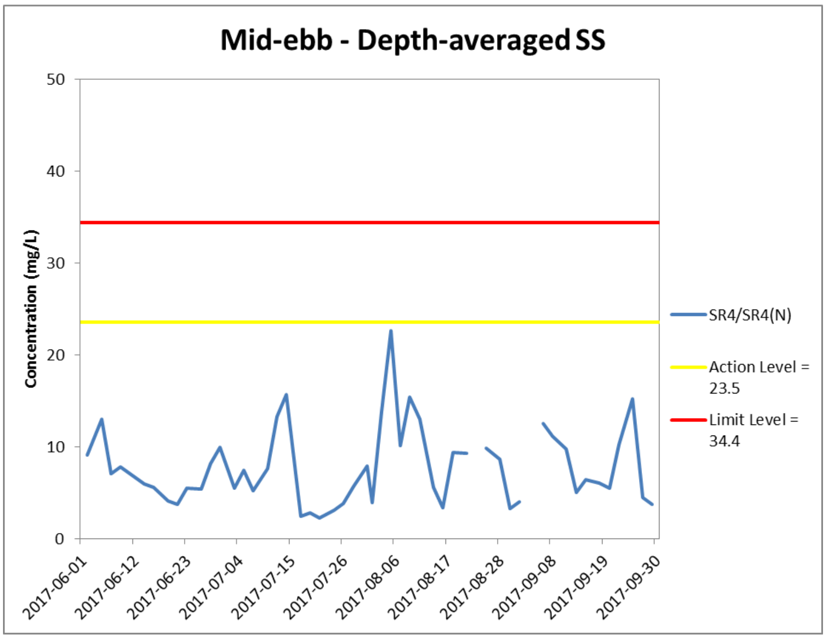


Figure J31 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

ERM

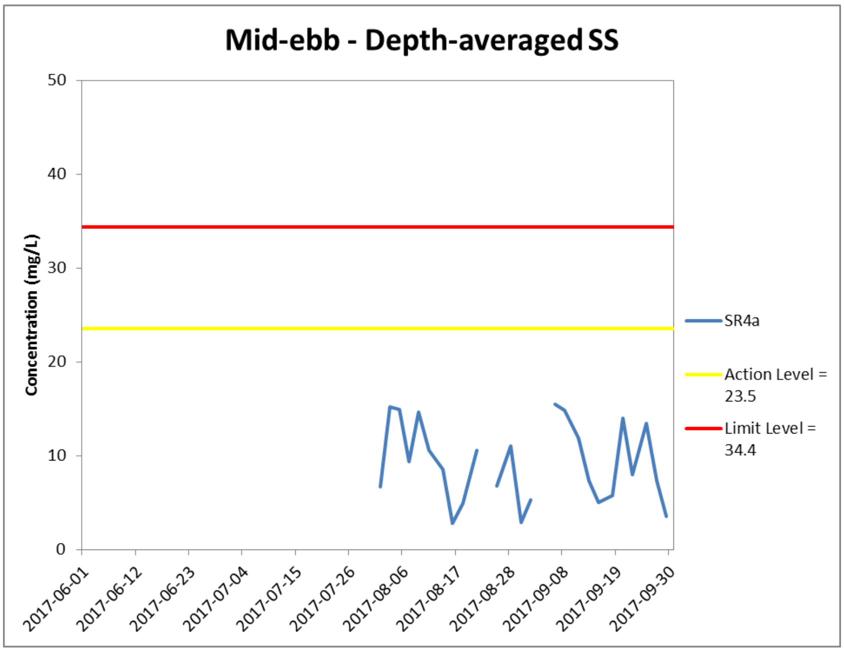
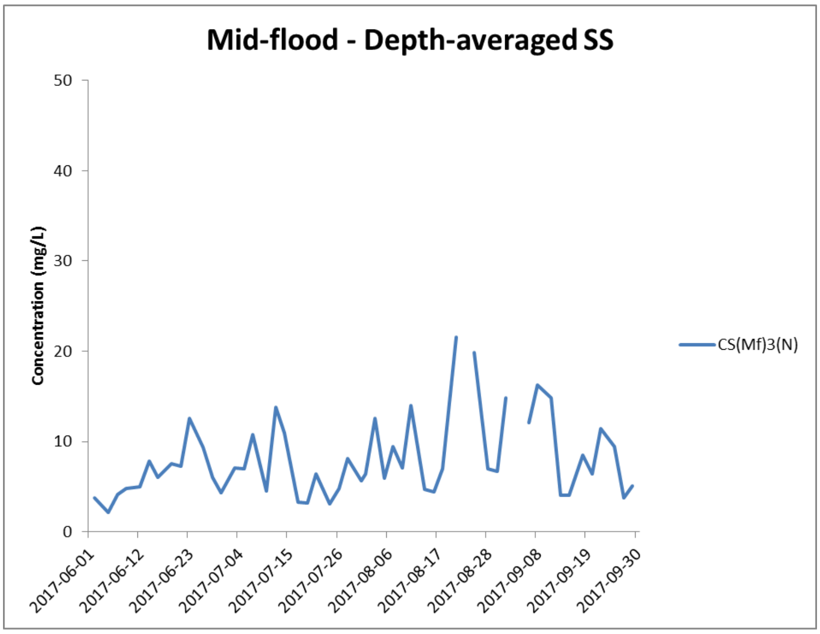


Figure J32 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June 2017 and 30 September 2017 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

ERM



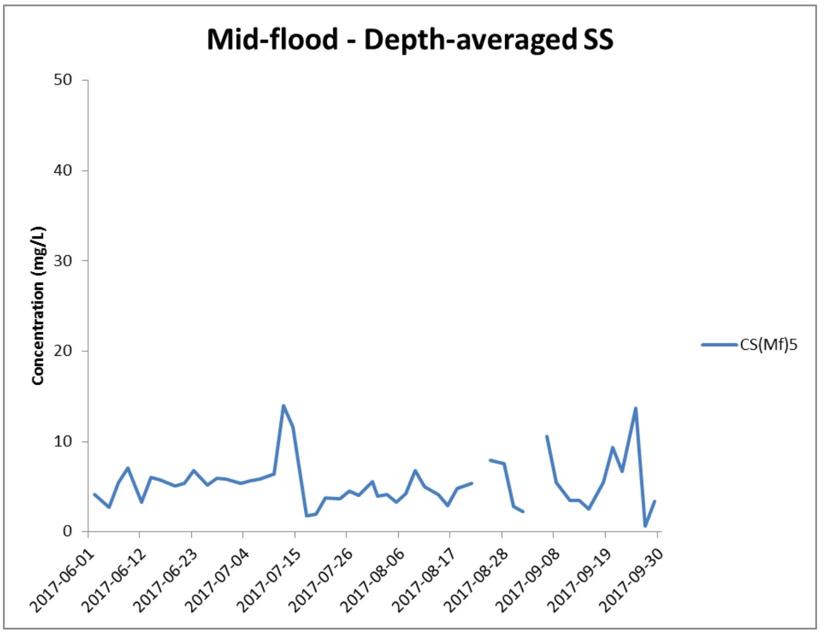
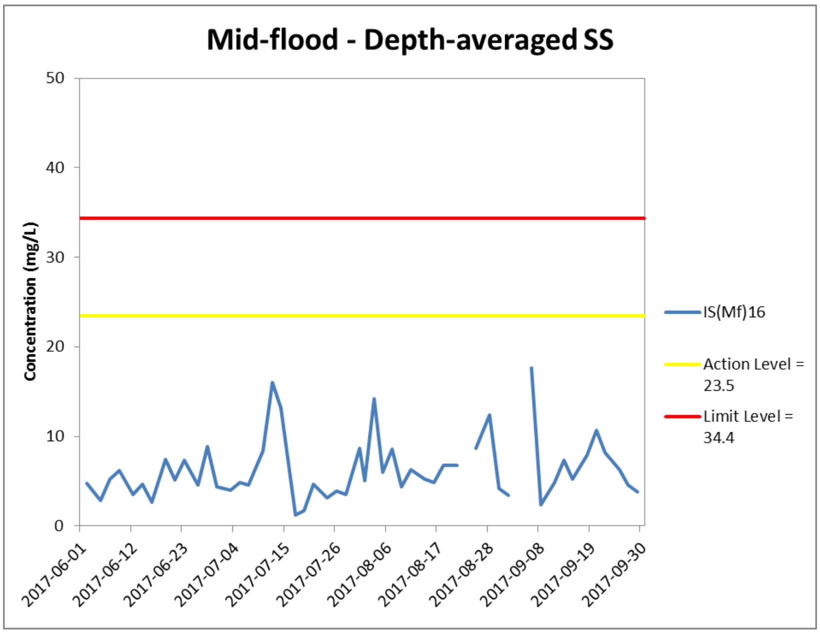


Figure J33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June 2017 and 30 September 2017 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

ERM



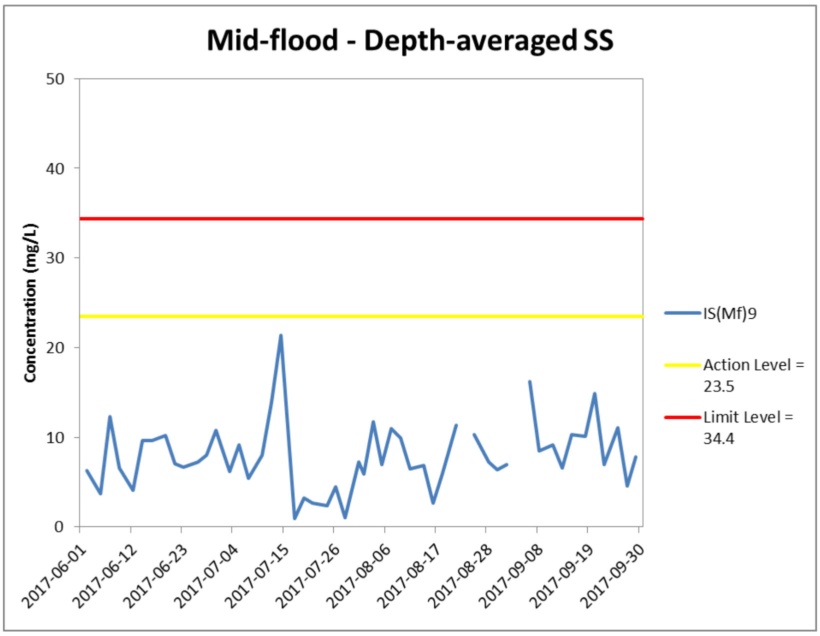
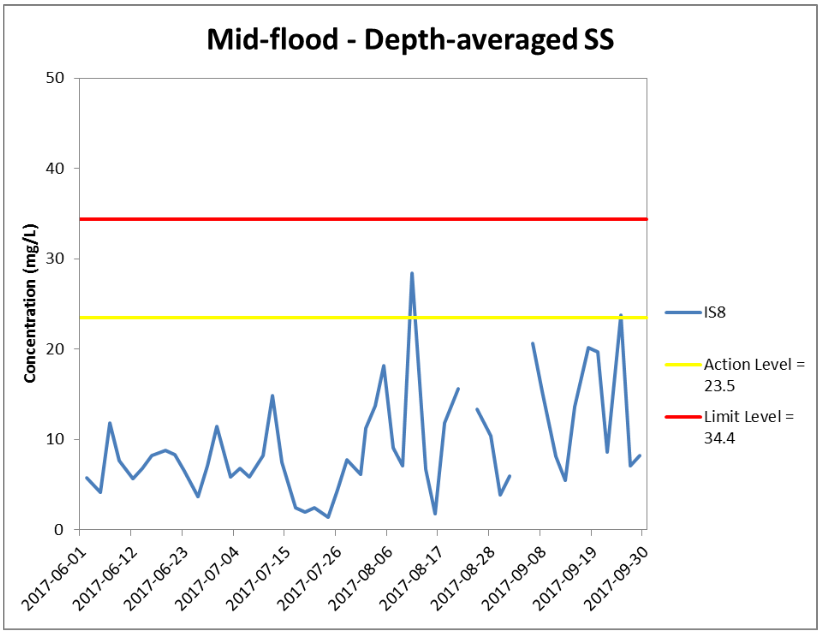


Figure J34 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June 2017 and 30 September 2017 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

ERM



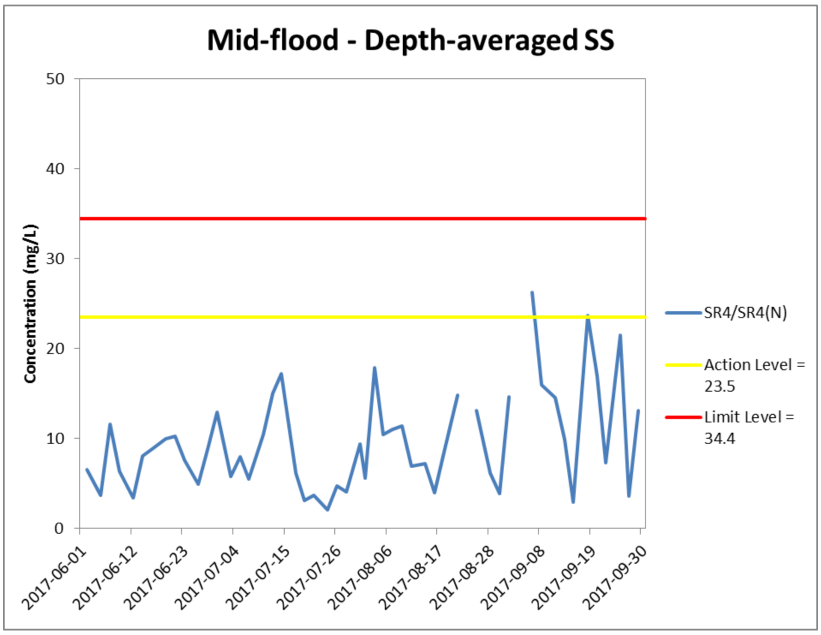


Figure J35 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June 2017 and 30 September 2017 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Results of WQM between 1 June 2017 and 31 July 2017 are sourced from the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

Environmental Resources Management

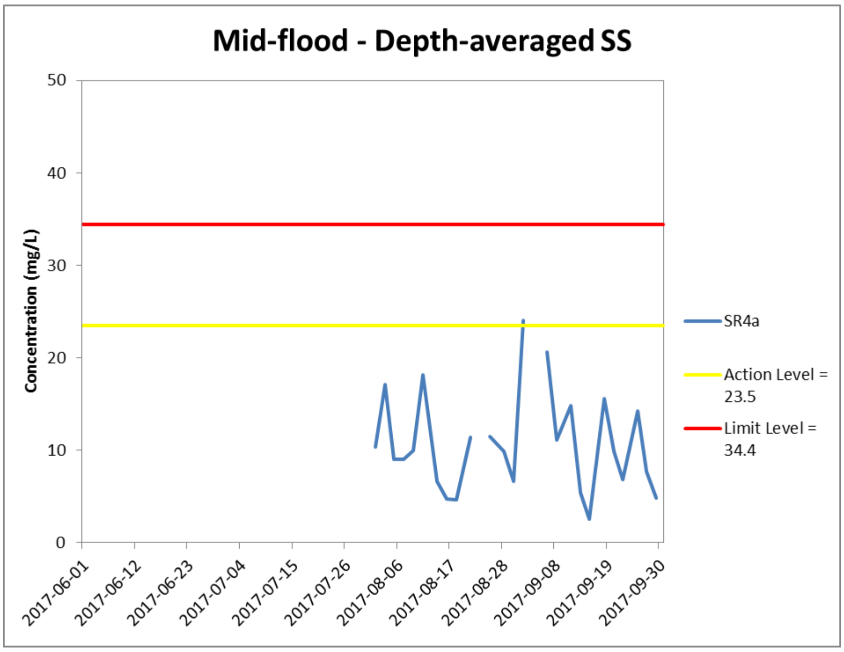


Figure J36 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June 2017 and 30 September 2017 at SR4a. *(Weather condition varied between sunny to rainy within the reporting period.) WQM on 4 September 2017 was canceled due to adverse weather. Station SR4a is not covered between 1 June 2017 and 31 July 2017 in the published EM&A data and published EM&A reports of Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. In-situ monitoring is taken according to the requirement specified in the EM&A Manual, i.e. 3 water depth namely 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.*	**Environmental Resources Management** ERM

Appendix K

Impact Dolphin Monitoring Survey Results

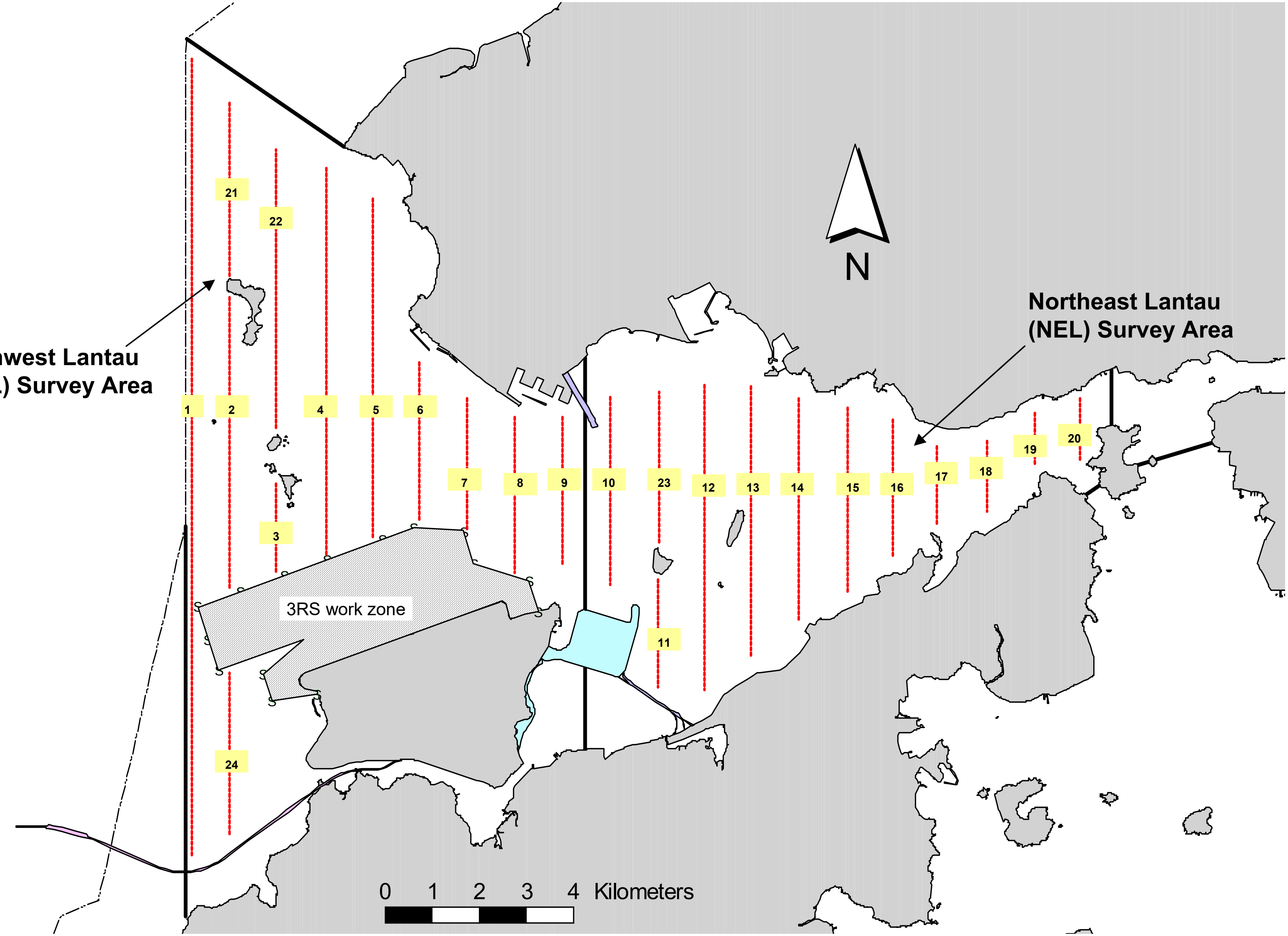


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

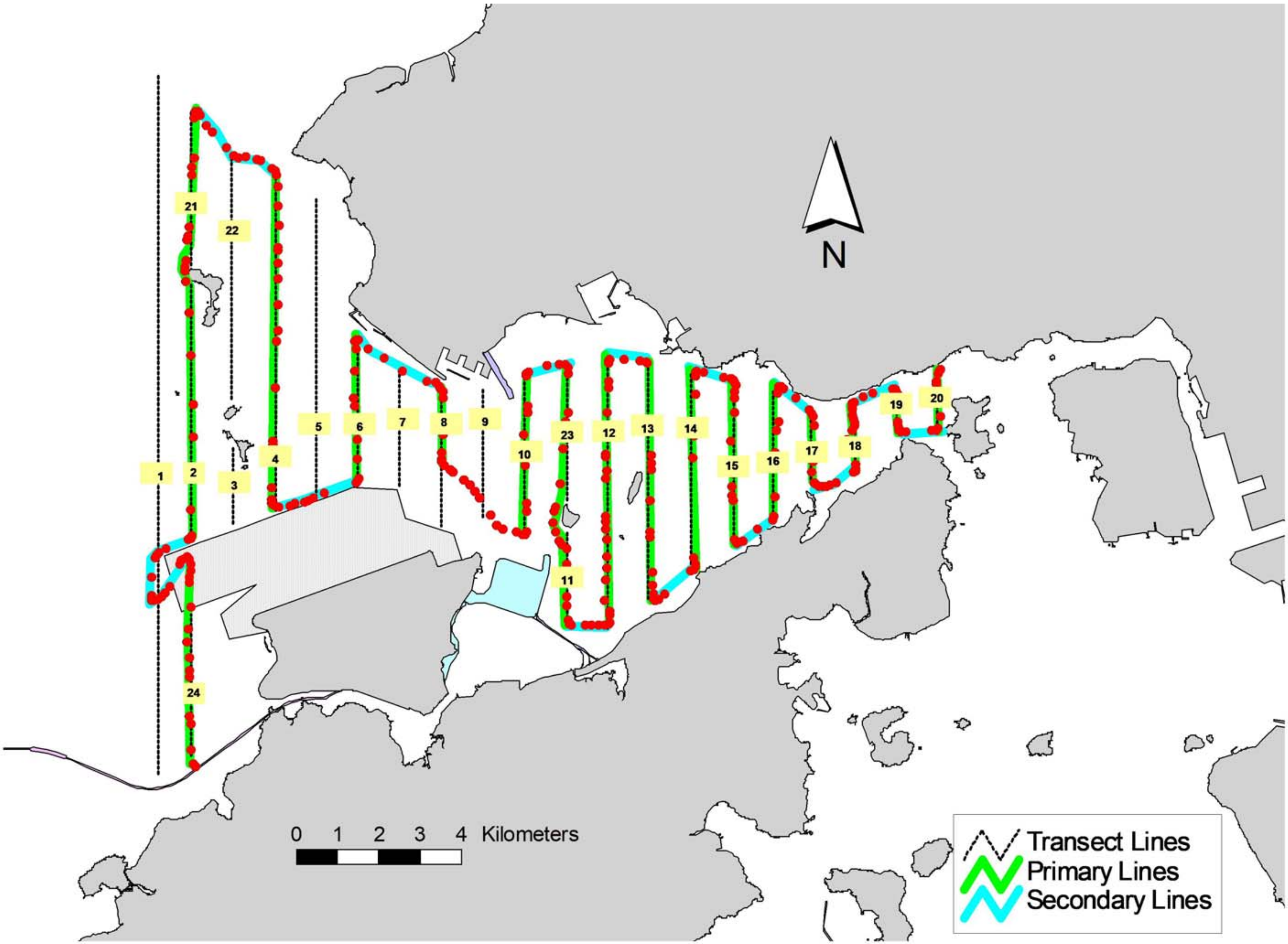


Figure 2. Survey Route on September 15th, 2017 (from HKLR03 project)

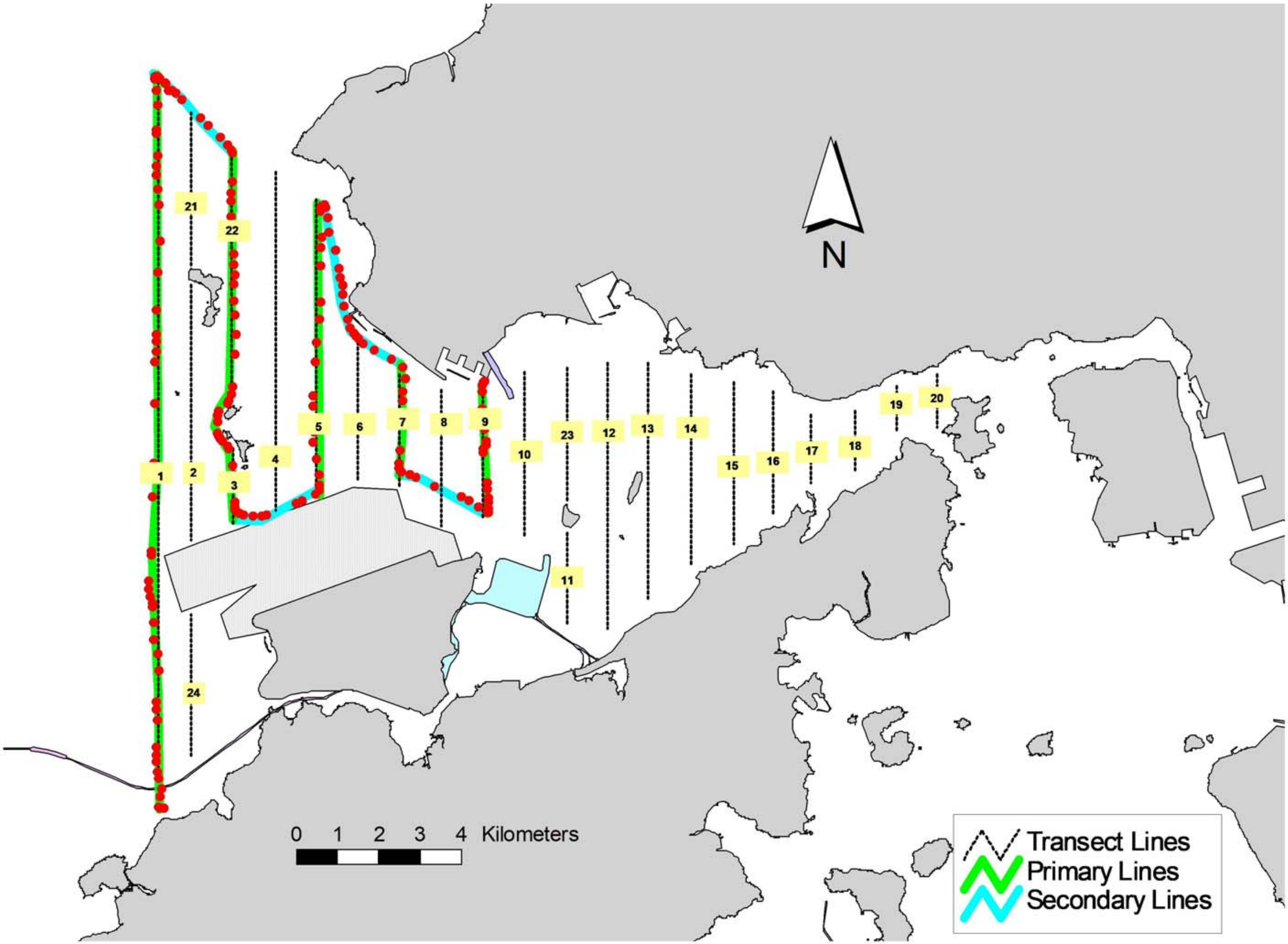


Figure 3. Survey Route on September 18th, 2017 (from HKLR03 project)

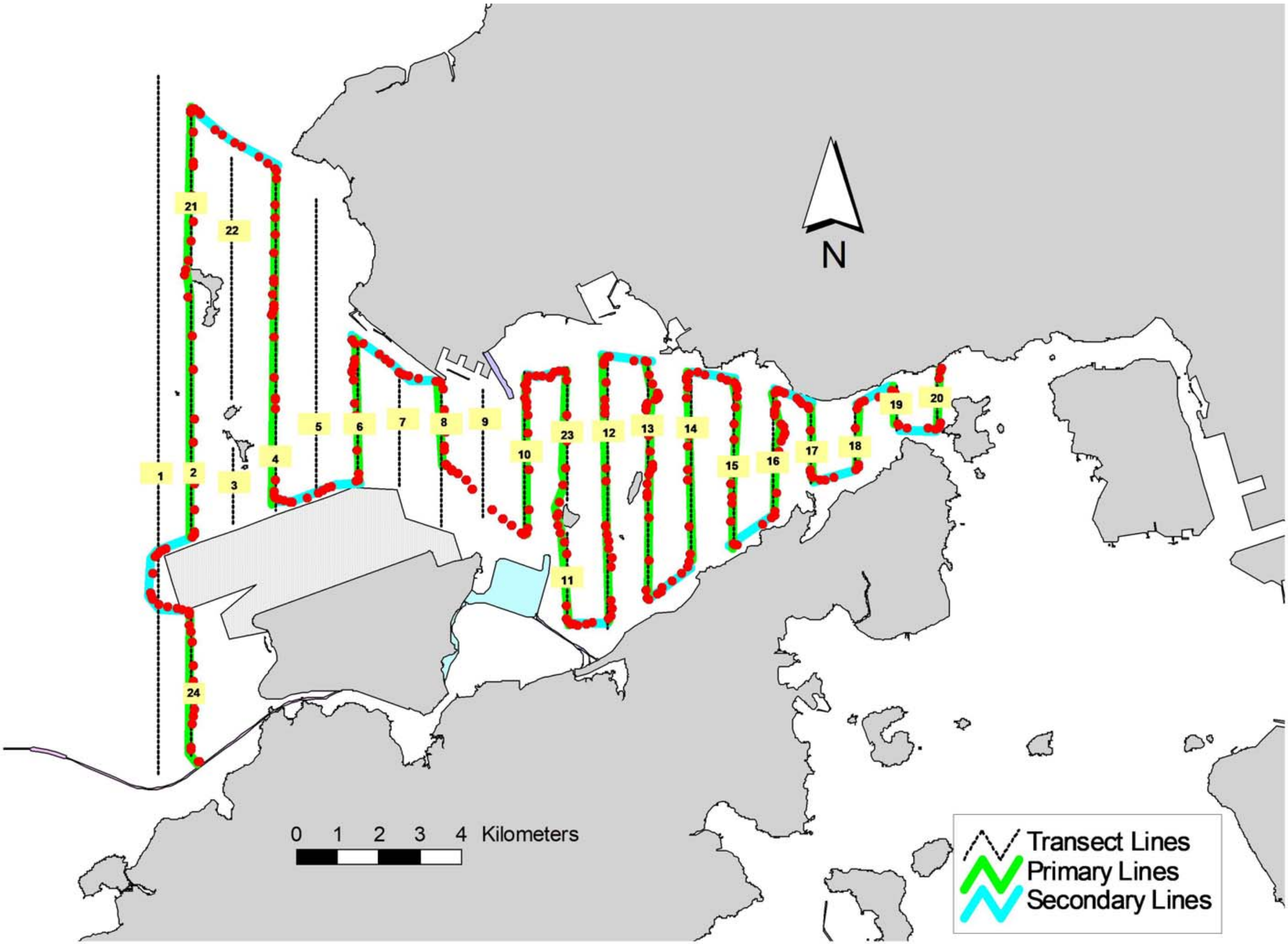


Figure 4. Survey Route on September 22nd, 2017 (from HKLR03 project)

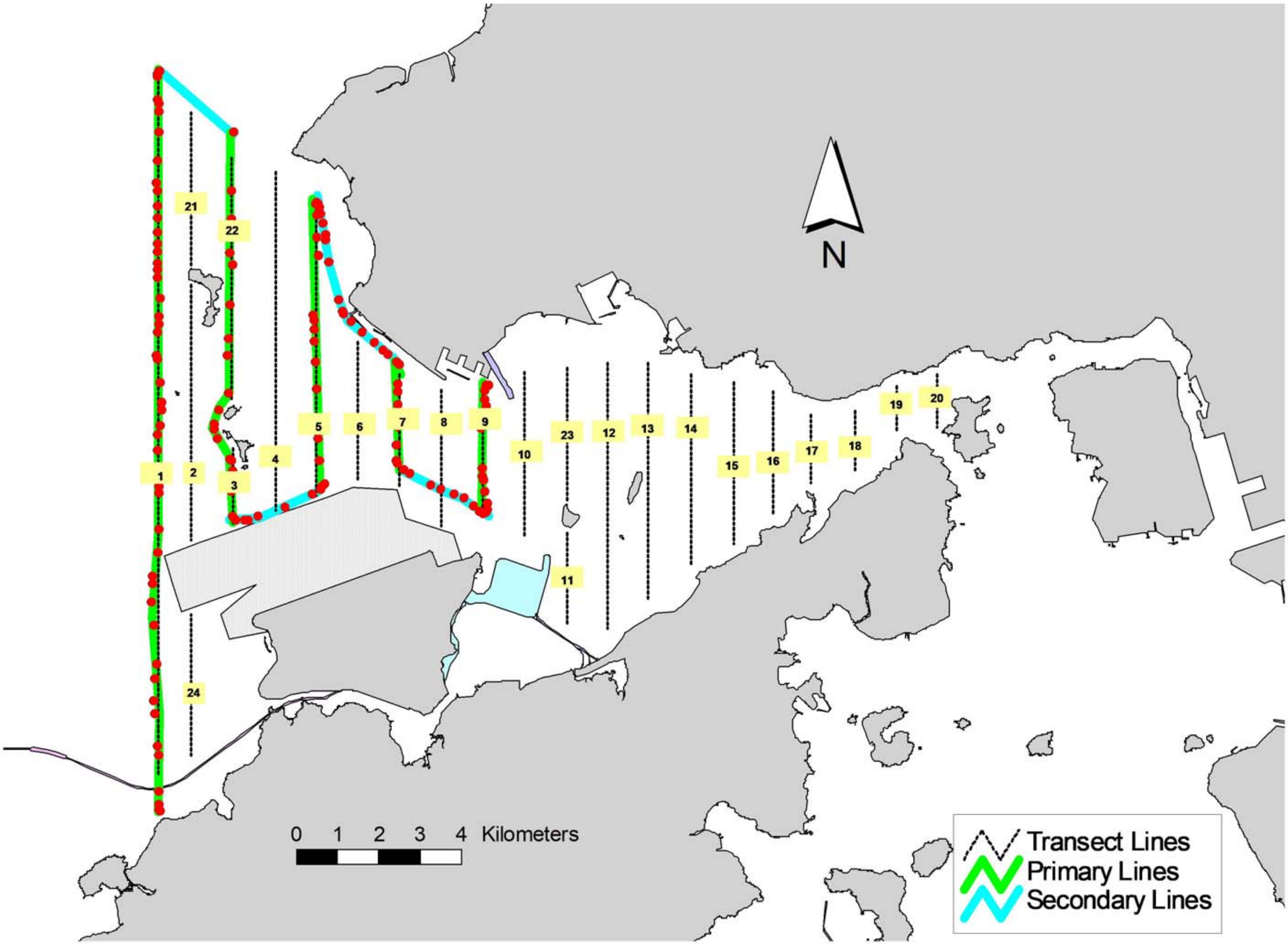


Figure 5. Survey Route on September 29th, 2017 (from HKLR03 project)

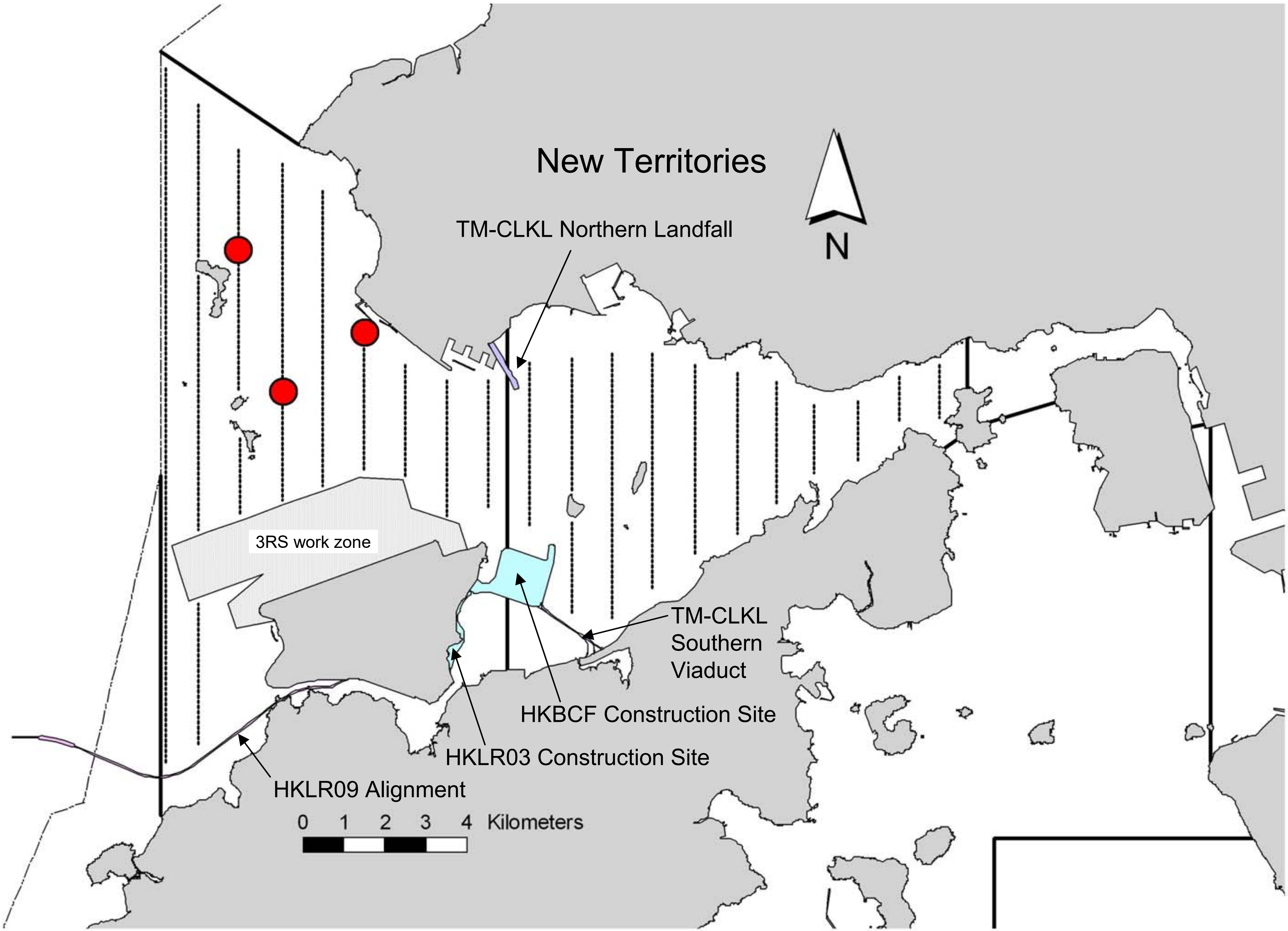


Figure 6. Distribution of Chinese White Dolphin Sightings during September 2017 HKLR03 Monitoring Surveys

Appendix I. HKLR03 Survey Effort Database (September 2017)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
15-Sep-17	NW LANTAU	2	26.51	AUTUMN	STANDARD36826	HKLR	P
15-Sep-17	NW LANTAU	2	10.09	AUTUMN	STANDARD36826	HKLR	S
15-Sep-17	NW LANTAU	3	1.20	AUTUMN	STANDARD36826	HKLR	S
15-Sep-17	NE LANTAU	2	34.49	AUTUMN	STANDARD36826	HKLR	P
15-Sep-17	NE LANTAU	3	2.20	AUTUMN	STANDARD36826	HKLR	P
15-Sep-17	NE LANTAU	2	12.01	AUTUMN	STANDARD36826	HKLR	S
18-Sep-17	NW LANTAU	2	28.84	AUTUMN	STANDARD36826	HKLR	P
18-Sep-17	NW LANTAU	3	7.20	AUTUMN	STANDARD36826	HKLR	P
18-Sep-17	NW LANTAU	2	12.96	AUTUMN	STANDARD36826	HKLR	S
22-Sep-17	NW LANTAU	1	6.05	AUTUMN	STANDARD36826	HKLR	P
22-Sep-17	NW LANTAU	2	18.48	AUTUMN	STANDARD36826	HKLR	P
22-Sep-17	NW LANTAU	3	0.56	AUTUMN	STANDARD36826	HKLR	P
22-Sep-17	NW LANTAU	1	1.58	AUTUMN	STANDARD36826	HKLR	S
22-Sep-17	NW LANTAU	2	9.25	AUTUMN	STANDARD36826	HKLR	S
22-Sep-17	NE LANTAU	2	4.68	AUTUMN	STANDARD36826	HKLR	P
22-Sep-17	NE LANTAU	3	31.06	AUTUMN	STANDARD36826	HKLR	P
22-Sep-17	NE LANTAU	2	3.30	AUTUMN	STANDARD36826	HKLR	S
22-Sep-17	NE LANTAU	3	9.06	AUTUMN	STANDARD36826	HKLR	S
29-Sep-17	NW LANTAU	1	3.40	AUTUMN	STANDARD36826	HKLR	P
29-Sep-17	NW LANTAU	2	13.70	AUTUMN	STANDARD36826	HKLR	P
29-Sep-17	NW LANTAU	3	12.90	AUTUMN	STANDARD36826	HKLR	P
29-Sep-17	NW LANTAU	4	5.60	AUTUMN	STANDARD36826	HKLR	P
29-Sep-17	NW LANTAU	2	1.15	AUTUMN	STANDARD36826	HKLR	S
29-Sep-17	NW LANTAU	3	10.06	AUTUMN	STANDARD36826	HKLR	S

Appendix II. HKLR03 Chinese White Dolphin Sighting Database (September 2017)

(Abberviations: STG# = Sighting Number; HRD SZ = Dolphin Herd Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance; BOAT ASSOC. = Fishing Boat Association; P/S: Sighting Made on Primary/Secondary Lines)

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
22-Sep-17	1	1152	6	NW LANTAU	2	320	ON	HKLR	823991	807501	AUTUMN	NONE	P
22-Sep-17	2	1244	3	NW LANTAU	1	250	ON	HKLR	825349	809502	AUTUMN	NONE	P
29-Sep-17	1	1309	2	NW LANTAU	4	140	ON	HKLR	827215	806416	AUTUMN	NONE	P

Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in September 2017

ID#	DATE	STG#	AREA
NL46	22/09/17	1	NW LANTAU
NL49	22/09/17	1	NW LANTAU
NL123	22/09/17	1	NW LANTAU
NL202	22/09/17	2	NW LANTAU
	29/09/17	1	NW LANTAU
NL242	22/09/17	1	NW LANTAU
NL286	22/09/17	2	NW LANTAU
	29/09/17	1	NW LANTAU
NL296	22/09/17	1	NW LANTAU
WL05	22/09/17	1	NW LANTAU

Appendix IV. Photographs of Identified Individual Dolphins in September 2017 (HKLR03)

Appendix IV. (cont'd)

Appendix L

Event Action Plan

Appendix L1 Event/ Action Plan for Air Quality

	ACTION			
EVENT	**ET** [(1)]	**IEC** [(1)]	**SOR**[(1)]	**Contractor**
Action Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the IEC and the SOR. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by the ET. 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify the source. 2. Inform the IEC and the SOR. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Discuss with the IEC and the Contractor on remedial actions required. 6. If exceedance continues, arrange meeting with the IEC and the SOR. 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the SOR on the effectiveness of the proposed remedial measures. 5. Supervisor implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate

EVENT	ACTION ET [(1)]	IEC [(1)]	SOR[(1)]	Contractor
Limit Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the SOR and the DEP. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the SOR informed of the results.	1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the SOR on the effectiveness of the proposed remedial measures. 5. Supervisor implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify the IEC, the SOR, the DEP and the Contractor. 2. Identify the source. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with the IEC and the SOR to discuss the remedial actions to be taken. 7. Assess effectiveness of the Contractor's remedial actions	1. Discuss amongst the SOR, ET and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.

	and keep the IEC, the DEP and the SOR informed of the results. 8. If the exceedance stops, cease additional monitoring.		

Appendix L2 Event/ Action Plan for Construction Noise

	ACTION			
EVENT	**ET**	**IEC**	**SOR**	**Contractor**
Action Level	1. Notify the IEC and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET. 2. Review the proposed remedial measures by the Contractor and advise the SOR accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC 2. Implement noise mitigation proposals
Limit Level	1. Notify the IEC, the SOR, the DEP and the Contractor. 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform the IEC, the SOR and the DEP the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the SOR informed of the results. 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst the SOR, the ET and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.

Appendix L3 Event/ Action Plan for Water Quality

Event	ET Leader	IEC	SOR	Contractor
Action level being exceeded by one sampling day	1. Repeat in situ measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor and SOR; 4. Check monitoring data, all plant, equipment and Contractor's working methods.	1. Check monitoring data submitted by ET and Contractor's working methods.	1. Confirm receipt of notification of non-compliance in writing; 2. Notify Contractor.	1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Action level;	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC on the proposed mitigation measures; 2. Ensure mitigation measures are properly implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Supervising Officer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of additional mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR; 5. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	1. Repeat measurement on next day of exceedance to confirm findings;	1. Check monitoring data submitted by ET and Contractor's working method;	1. Confirm receipt of notification of failure in writing;	1. Inform the SOR and confirm notification of the non-compliance in writing;

Event	ET Leader	IEC	SOR	Contractor
	2. Identify source(s) of impact; 3. Inform IEC, contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor;	2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly.	2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to review the working methods.	2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the SOR accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. 5. Ensure mitigation measures are properly implemented; 6. 7. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Take immediate action to avoid further exceedance; 2. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR; 3. Implement the agreed mitigation measures; 4. Resubmit proposals of mitigation measures if problem still not under control; 5. As directed by the Supervising Officer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Appendix L4 Implementation of Event-Action Plan for Dolphin Monitoring

Event	ET Leader	IEC	SOR	Contractor
Action Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, SOR and Contractor; 5. Check monitoring data. 6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor.	1. Discuss monitoring with the IEC and any other measures proposed by the ET; 2. If SOR is satisfied with the proposal of any other measures, SOR to signify the agreement in writing on the measures to be implemented.	1. Inform the SOR 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 SOR; 3. Implement the agreed measures.

Event	ET Leader	IEC	SOR	Contractor
Limit Level	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, ER/SOR and Contractor of findings; 5. Check monitoring data; 6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary; 7. If ET proves that the source of impact is caused by any of the construction activity by the works contract, ET to arrange a meeting to discuss with IEC, ER/SOR and Contractor the necessity of additional dolphin monitoring and/or any other potential mitigation measures (e.g., consider to modify the perimeter silt curtain or consider to control/temporarily stop relevant construction activity etc.) and submit to IEC a proposal of additional dolphin monitoring and/or mitigation measures where necessary.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor; 3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures; 4. Review proposals for additional monitoring and any other mitigation measures submitted by ET and Contractor and advise ER/SOR of the results and findings accordingly; 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.	1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures; 2. If ER/SOR is satisfied with the proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, ER/SOR to signify the agreement in writing on such proposals and any other mitigation measures; 3. Supervise the implementation of additional monitoring and/or any other mitigation measures.	1. Inform the ER/SOR and confirm notification of the non- compliance in writing; 2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures; 3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary; 4. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.

Appendix L5 Event and Action Plan on Dolphin Acoustic Behaviour

EVENT	ACTION			
	ET Leader	**IEC**	**SO**	**Contractor**
<u>Action Level</u> With the numerical values presented in *Table 5.7* of *Baseline Monitoring Report*, when any of the response variable for dolphin acoustic behaviour recorded in the construction phase monitoring is 20% lower or higher than that recorded in the baseline monitoring (see *Table 5.8* of *Baseline Monitoring Report*), or when there is a difference of 20% in dolphin acoustic signal detection at nighttime period at Site C1 only, the action level should be triggered	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data to ascertain if differences are as a result of natural variation or seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, SO and Contractor; 5. Check monitoring data; 6. Carry out audit to ensure all dolphin protective measures are implemented fully and additional measures be proposed if necessary	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring with the ET and the Contractor;	1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET; 2. Make agreement on measures to be implemented.	1. Inform the SO 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 SO; 3. Implement the agreed measures.

EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
<u>Limit Level</u> With the numerical values presented in Table 5.7 of *Baseline Monitoring Report*, when any of the response variable for dolphin acoustic behaviour recorded in the construction phase monitoring is 40% lower or higher than that recorded in the baseline monitoring (see Table 5.8 of *Baseline Monitoring Report*), or when there is a difference of 40% in dolphin acoustic signal detection at nighttime at Site C1 only, the limit level should be triggered	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data to ascertain if differences are as a result of natural variation or seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, SO and Contractor; 5. Check monitoring data; 6. Carry out audit to ensure all dolphin protective measures are implemented fully and additional measures be proposed if necessary 7. Discuss additional dolphin monitoring and any other potential mitigation measures (eg consider to temporarily stop relevant portion of construction activity) with the IEC and Contractor.	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring with the ET and the Contractor; 3. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise ER accordingly.	1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET; 2. Make agreement on measures to be implemented.	1. Inform the SO 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 SO; 3. Implement the agreed measures.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, SO – Supervising Office, DEP – Director of Environmental Protection

Appendix M

Monthly Summary of Waste Flow Table

Contract No. : HY/2012/07
Tuen Mun Chek Lap Kok Link – Southern Connection Viaduct Section
Monthly Summary Waste Flow Table for 2017 (Year)

Month\Material	Actual Quantities of Inert C&D Materials Generation						Actual Quantities of C&D wastes Generation						Actual Quantities of Recyclables Generation			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fills	Imported Fill	Marine Sediment, Cat. L	Marine Sediment, Cat. Mp	Marine Sediment, Cat. Mf	Marine Sediment, Cat. H	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	4.591	0.717	0.474	-	4.118	-	-	-	-	-	3.521	99.840	-	-	0.140	-
Feb	5.034	1.585	0.166	-	4.869	-	0.857	-	-	-	-	127.720	-	-	0.091	-
Mar	6.575	0.937	0.498	-	6.077	-	0.771	-	-	-	6.000	87.910	-	-	0.077	-
Apr	5.467	0.791	1.058	-	4.409	-	-	-	-	-	-	130.680	-	5.170	0.063	-
May	4.960	0.537	0.826	-	4.134	-	0.672	-	-	-	-	171.870	-	-	0.056	-
Jun	4.491	0.567	0.098	-	4.394	-	-	-	-	-	-	148.600	-	-	0.063	-
SUB-TOTAL	**31.118**	**5.133**	**3.118**	**-**	**28.000**	**0.000**	**2.300**	**-**	**-**	**-**	**9.521**	**766.620**	**-**	**5.170**	**0.490**	**-**
Jul	5.618	0.426	0.696	0.002	4.921	-	1.056	-	-	-	0.800	159.980	-	-	0.091	-
Aug	3.897	0.232	-	-	3.897	-	-	-	-	-	-	159.230	-	-	0.056	-
Sep	3.147	0.676	-	-	3.147	-	1.517	1.047	-	0.127	-	185.420	-	18.030	0.070	-
Oct	-	0.000	-	-	-	-	-	-	-	-			-	-		-
Nov	-	0.000	-	-	-	-		-	-	-			-	-		-
Dec	-	0.000	-	-	-	-		-	-	-			-	-		-
TOTAL	**43.780**	**6.467**	**3.814**	**0.002**	**39.964**	**-**	**4.873**	**1.047**	**-**	**0.127**	**10.321**	**1,271.250**	**-**	**23.200**	**0.707**	**-**

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 - Broken concrete for recycling into aggregates.

4 - Assumed 5 kg per damaged water-filled barrier.

5 - Disposed as Public Fills includes Hard Rock and Large Broken Concrete.

Appendix N

Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

Appendix N1 Cumulative Statistics on Exceedances

		Total No. recorded in this reporting month	Total No. recorded since project commencement
1-Hr TSP	Action	0	0
	Limit	0	0
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	90	123
	Limit	1	15
Impact Dolphin	Action	0	9
Monitoring	Limit	0	9

Appendix N2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Month (September 2017)	0	0	0
Total No. received since project commencement	10	0	0

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	4 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

<u>Action Level Exceedance</u>
0215660_1 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)

A total of one exceedance was recorded on 1 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	11 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_1 September 2017_ Depth-averaged SS_F_Station SR4a

A total of one SS exceedance was recorded on 1 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

Log No.	**Action Level Exceedance** **0215660_1 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)** **0215660_1 September 2017_ Depth-averaged SS_F_Station SR4a** **[Total No. of Exceedances = 2]**	
Date	1 September 2017 (Measured) 2 September 2017 (*In situ* results received by ERM) 8 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Bottom-depth Dissolved Oxygen (DO), Depth-averaged Suspended Solids (SS)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Action Levels for SS	SS	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels for SS	SS	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	Action Level Exceedance 1. Mid-Ebb at CS(Mf)3(N) (Bottom-depth DO = 4.6 mg/L); 2. Mid-Flood at SR4a (Depth-averaged SS = 24.1 mg/L)	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 1 September 2017.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of bottom-depth DO at CS(Mf)3(N) and depth-averaged SS at SR4a are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 1 September 2017. • CS(Mf)3(N) is distant (>5km) from the marine works area under this Contract, thus the observed exceedance should not be affected by the marine works under this Contract and it is considered to be natural fluctuation in water quality. • Apart from marginal DO exceedance at CS(Mf)3(N), levels of DO at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • Apart from marginal SS exceedance at SR4a, levels of depth-averaged SS at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • No observation on improper practice in construction works and discharge of construction wastes from vessels and working platforms was made nearby the monitoring stations. • The depth-averaged turbidity at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day.	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	

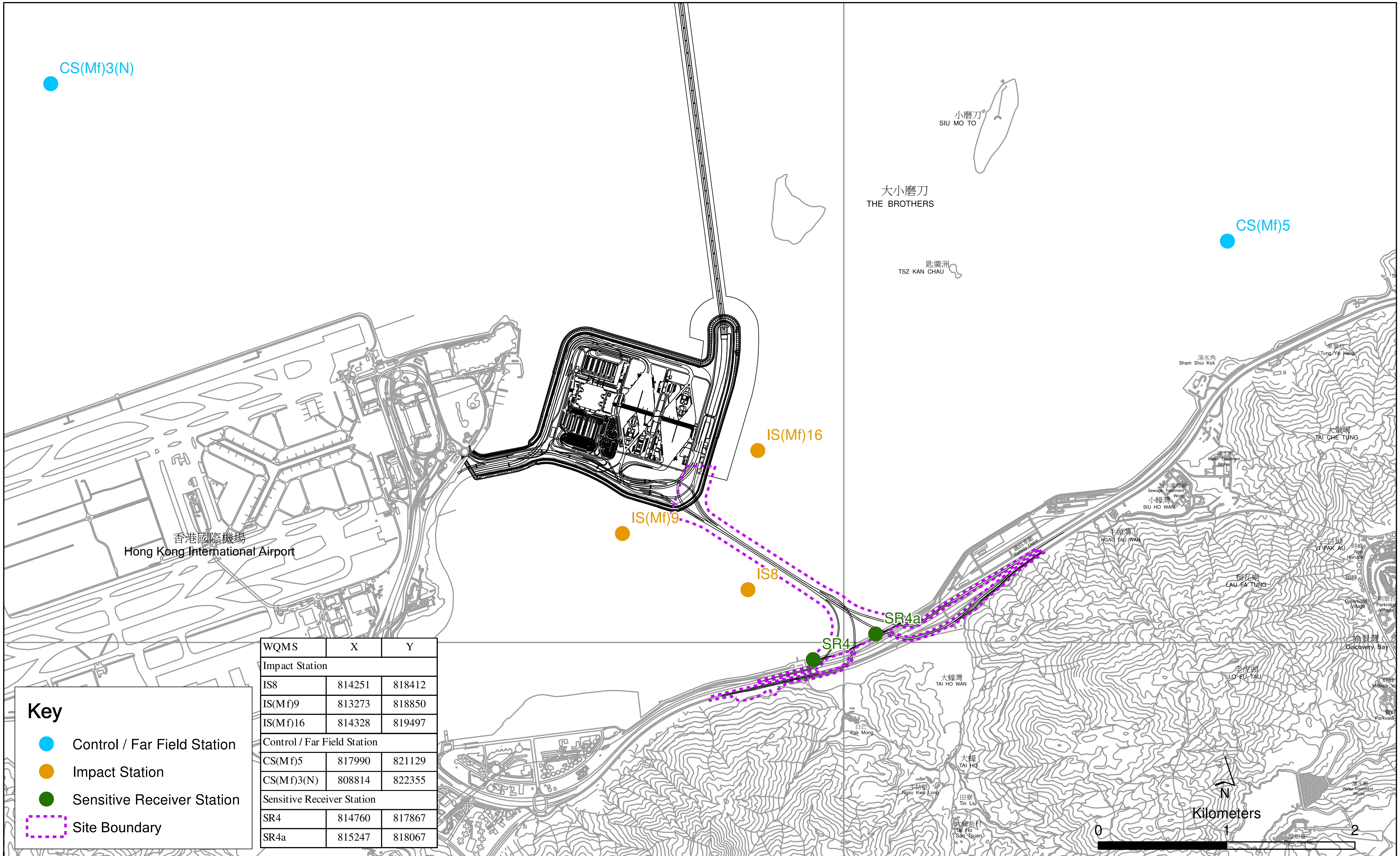
Remarks	The monitoring results on 1 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 1 September is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Surface	1	28.2	7.8	18.3	6.4	6.1	4.3	3.2	4.0	3.5
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Surface	2	28.0	7.8	18.2	6.4		3.4		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Middle	1	27.5	7.9	24.7	5.7		3.4		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Middle	2	27.3	7.8	24.7	5.7		2.4		3.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Bottom	1	26.9	7.9	28.6	5.5	5.6	3.3		2.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)5	08:54	Bottom	2	26.9	7.8	28.5	5.6		2.3		3.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Surface	1	28.5	7.6	16.1	5.7	5.2	9.1	9.0	4.1	3.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Surface	2	28.3	7.6	16.3	5.7		7.4		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Middle	1	26.9	7.6	25.6	4.7		8.8		3.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Middle	2	26.7	7.6	25.6	4.7		7.3		2.3	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Bottom	1	26.4	7.7	27.9	4.6	4.6	11.5		5.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	CS(Mf)3(N)	10:34	Bottom	2	26.2	7.6	27.9	4.6		9.7		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Surface	1	28.3	8.0	20.3	6.9	6.5	5.2	5.0	5.0	4.5
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Surface	2	28.1	7.9	20.3	6.9		5.1		3.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Middle	1	28.1	7.9	21.1	6.1		4.7		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Middle	2	28.0	7.8	21.0	6.1		4.2		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Bottom	1	27.7	7.9	23.4	5.8	5.8	5.7		4.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)16	09:31	Bottom	2	27.6	7.8	23.4	5.8		4.9		4.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Surface	1	28.4	8.1	16.7	7.4	7.4	6.5	8.1	4.7	5.3
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Surface	2	28.3	8.0	16.6	7.4		5.5		5.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Bottom	1	27.2	7.9	25.1	4.7	4.8	10.4		5.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4a	09:41	Bottom	2	27.1	7.7	25.1	4.8		10.0		5.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Surface	1	28.5	8.0	16.1	7.2	7.2	6.0	7.6	3.9	4.0
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Surface	2	28.3	8.0	16.1	7.1		5.1		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Bottom	1	27.9	7.8	21.5	5.0	5.1	9.7		3.9	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	SR4	09:48	Bottom	2	27.8	7.7	21.4	5.2		9.5		4.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Surface	1	28.6	8.0	19.2	7.1	7.1	7.3	11.1	5.8	5.1
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Surface	2	28.4	7.9	19.1	7.1		6.3		6.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Bottom	1	27.8	7.9	22.5	5.6	5.7	16.0		4.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS8	09:59	Bottom	2	27.7	7.8	22.6	5.7		14.6		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Surface	1	28.5	8.0	20.3	6.1	6.1	9.0	7.4	3.0	3.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Surface	2	28.3	7.9	20.2	6.1		8.5		2.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Bottom	1	27.6	7.9	24.1	5.1	5.2	6.3		4.9	
TMCLKL	HY/2012/07	2017-09-01	Mid-Ebb	IS(Mf)9	10:09	Bottom	2	27.5	7.8	23.9	5.2		5.6		4.3	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^oC)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Surface	1	28.7	7.9	19.6	7.4	6.1	3.9	4.7	1.7	2.3
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Surface	2	28.5	8.0	19.5	7.3		2.9		1.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Middle	1	26.5	7.8	30.4	4.8		5.0		1.8	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Middle	2	26.4	7.9	30.3	4.9		4.7		2.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Bottom	1	26.2	7.8	33.0	5.0	5.2	6.1		3.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)5	17:26	Bottom	2	26.1	7.9	32.9	5.3		5.8		3.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Surface	1	29.3	7.6	13.4	6.4	5.9	10.3	13.2	5.3	14.8
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Surface	2	29.5	7.7	13.3	6.4		12.3		6.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Middle	1	27.9	7.6	19.6	5.5		12.5		9.3	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Middle	2	28.1	7.6	19.4	5.4		14.2		11.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Bottom	1	27.6	7.6	21.0	5.2	5.2	13.7		29.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	CS(Mf)3(N)	16:28	Bottom	2	27.8	7.7	21.0	5.1		16.1		27.6	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Surface	1	28.8	8.0	18.4	8.2	7.0	4.8	8.4	2.8	3.4
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Surface	2	28.7	8.1	18.4	8.3		4.2		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Middle	1	27.8	7.6	22.1	5.7		8.3		3.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Middle	2	27.7	7.8	22.1	5.7		7.7		2.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Bottom	1	27.3	7.6	25.1	5.1	5.2	13.2		3.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)16	16:58	Bottom	2	27.2	7.8	25.2	5.2		12.2		4.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Surface	1	28.5	7.8	19.3	7.6	7.6	6.0	10.4	21.6	24.1
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Surface	2	28.4	8.0	19.2	7.6		5.3		21.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Bottom	1	27.5	7.7	24.2	5.7	5.7	16.1		27.0	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4a	16:45	Bottom	2	27.4	7.8	24.1	5.6		14.2		26.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Surface	1	28.8	7.8	18.7	8.2	8.2	18.4	17.7	10.5	14.7
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Surface	2	28.7	8.0	18.6	8.2		18.1		9.1	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Bottom	1	28.4	7.7	20.0	7.3	7.4	16.4		19.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	SR4	16:40	Bottom	2	28.3	7.9	20.0	7.4		17.8		19.7	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Surface	1	28.8	8.0	18.0	8.0	8.0	7.2	9.6	4.6	5.9
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Surface	2	28.7	8.0	18.0	8.0		6.6		6.2	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Bottom	1	28.4	7.9	19.8	7.3	7.4	12.7		6.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS8	16:30	Bottom	2	28.3	7.9	19.8	7.4		11.9		6.4	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Surface	1	30.3	8.5	17.3	14.2	14.2	7.8	9.6	6.9	6.9
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Surface	2	30.1	8.5	17.3	14.1		6.6		6.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Middle										
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Bottom	1	28.3	8.1	21.2	9.6	9.6	12.8		7.5	
TMCLKL	HY/2012/07	2017-09-01	Mid-Flood	IS(Mf)9	16:18	Bottom	2	28.2	8.0	21.2	9.5		11.3		6.7	

Note: Indicates Exceedance of Action Level

Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

Environmental Resources Management

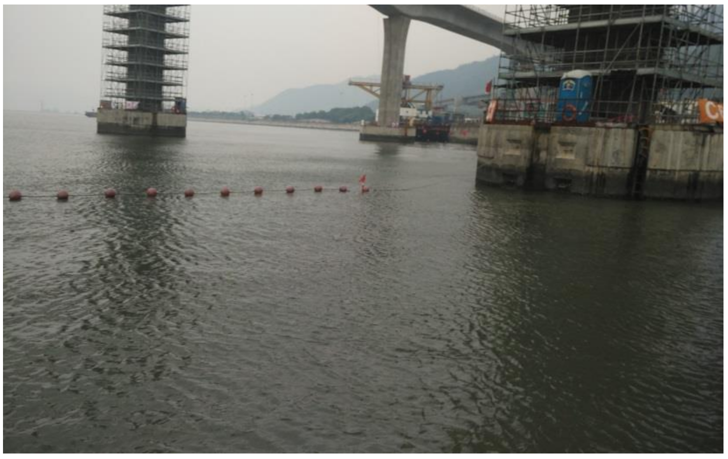
ERM

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)3(N) AND SR4A ON 1 SEPTEMBER 2017

Photo 1 - CS(Mf)3(N) during mid-ebb tide on 1 September 2017

Photo 2 - SR4a during mid-flood tide on 1 September 2017



Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	7 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_6 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5

Limit Level Exceedance
0215660_6 September 2017_Bottom-depth DO_E_Station CS(Mf)5
0215660_6 September 2017_Bottom-depth DO_F_Station CS(Mf)5

A total of three exceedances were recorded on 6 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	14 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_6 September 2017_ Depth-averaged SS_F_Station SR4

A total of three exceedances were recorded on 6 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

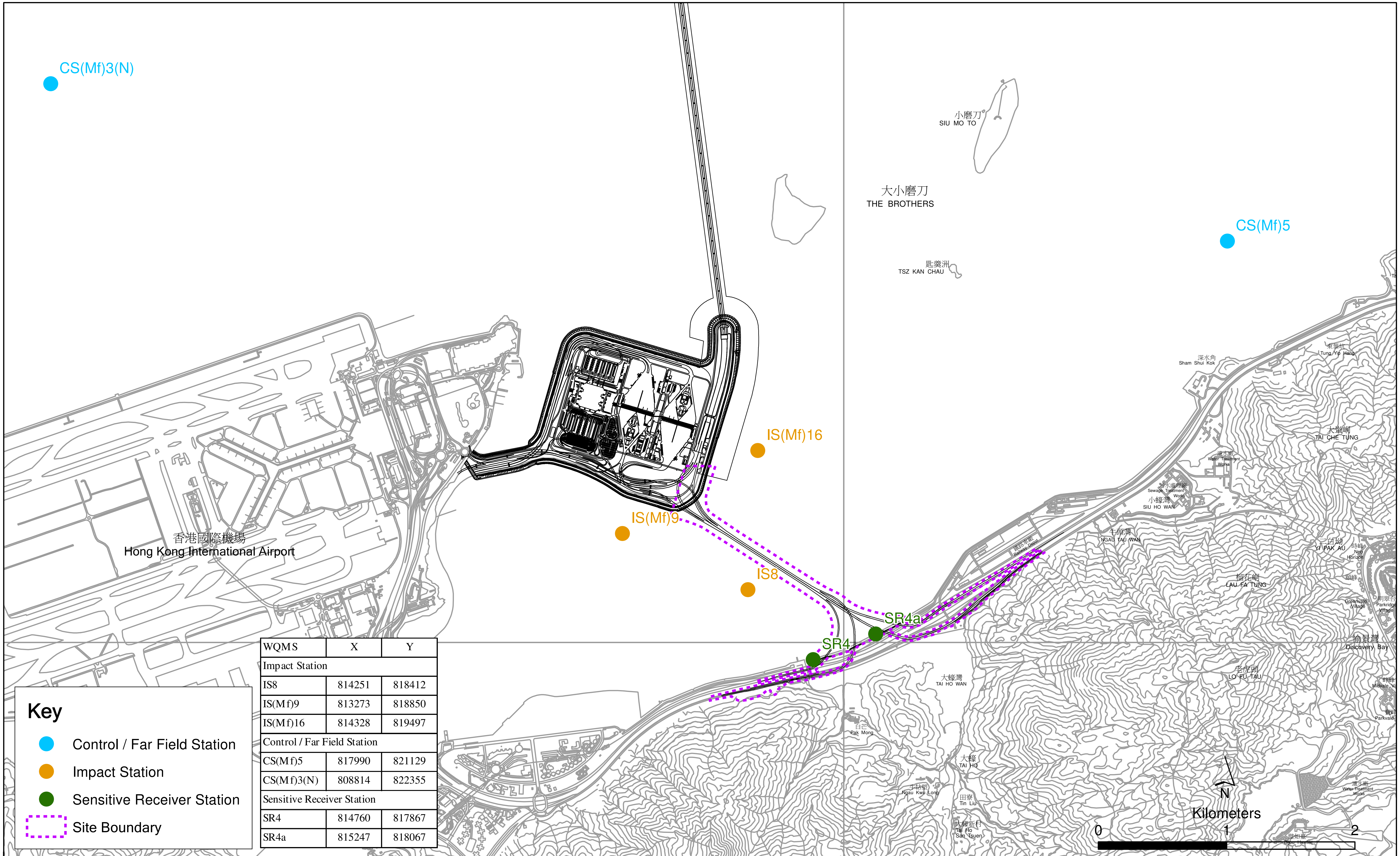
Log No.	**Action Level Exceedance** **0215660_6 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5** **0215660_6 September 2017_ Depth-averaged SS_F_Station SR4** **0215660_6 September 2017_Bottom-depth DO_E_Station CS(Mf)5** **0215660_6 September 2017_Bottom-depth DO_F_Station CS(Mf)5** **[Total No. of Exceedances = 4]**	
Date	6 September 2017 (Measured) 7 September 2017 (*In situ* results received by ERM) 13 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth Dissolved Oxygen (DO), Bottom-depth Dissolved Oxygen (DO) and Depth-averaged Suspended Solids (SS)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Action Levels for SS	SS	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels for SS	SS	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	Action Level Exceedance 1. Mid-Flood at CS(Mf)5 (Surface and Middle-depth DO = 4.9 mg/L); 2. Mid-Flood at SR4 (depth-averaged SS = 26.3 mg/L); 3. Mid-Ebb at CS(Mf)5 (Bottom-depth DO = 4.5 mg/L); 4. Mid-Flood at CS(Mf)5 (Bottom-depth DO = 4.5 mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 6 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO at CS(Mf)5 and depth-averaged SS at SR4 are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 6 September 2017. • Depth-averaged Turbidity levels at all stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • Apart from SR4, depth-averaged SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. Depth-averaged SS levels at SR4 at mid-ebb tides were similar to those at other stations apart from the exceedance observed at mid-flood tide. • All monitored parameters, except DO at CS(Mf)5 and SS at SR4, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • CS(Mf)5 is distant (>3km) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • Apart from DO exceedances at CS(Mf)5, levels of DO at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 6 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 6 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Surface	1	27.9	7.7	22.0	5.1	5.0	5.5	9.3	7.4	8.8
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Surface	2	28.0	7.5	22.0	5.1		4.6		7.0	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Middle	1	27.2	7.8	25.7	4.8		10.6		8.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Middle	2	27.3	7.6	25.8	4.8		9.5		10.0	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Bottom	1	26.8	7.7	30.2	4.5	4.5	13.6		9.9	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)5	12:27	Bottom	2	26.9	7.6	30.3	4.5		12.0		9.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Surface	1	28.9	7.5	17.7	5.5	5.3	10.1	12.9	4.7	7.9
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Surface	2	28.6	7.5	17.9	5.5		9.2		5.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Middle	1	27.9	7.6	19.8	5.0		13.0		7.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Middle	2	27.6	7.6	20.2	5.1		13.4		6.9	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Bottom	1	27.7	7.7	21.8	5.0	5.0	16.6		11.1	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	CS(Mf)3(N)	13:40	Bottom	2	27.5	7.6	21.8	5.0		15.1		12.1	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Surface	1	27.8	7.8	22.1	5.0	5.0	7.2	6.7	7.6	8.8
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Surface	2	27.9	7.6	22.2	5.0		6.8		8.6	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Middle	1	27.5	7.8	23.7	4.9		7.3		9.5	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Middle	2	27.6	7.6	23.7	4.9		6.7		8.9	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Bottom	1	27.3	7.8	24.7	4.8	4.9	6.3		8.9	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)16	13:07	Bottom	2	27.4	7.6	24.6	4.9		6.0		9.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Surface	1	27.9	7.7	21.5	5.1	5.1	10.9	14.4	11.4	15.5
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Surface	2	28.0	7.7	21.5	5.1		9.2		11.2	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Bottom	1	27.4	7.8	24.1	5.0	4.9	18.4		20.1	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4a	13:18	Bottom	2	27.5	7.8	24.2	4.8		19.1		19.4	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Surface	1	28.1	7.7	20.7	5.1	5.1	7.2	11.6	12.2	12.5
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Surface	2	28.2	7.7	20.7	5.1		6.5		11.5	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Bottom	1	27.8	7.7	21.7	5.0	5.0	17.0		13.1	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	SR4	13:23	Bottom	2	27.9	7.7	21.7	4.9		15.6		13.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Surface	1	28.9	7.8	20.8	5.5	5.5	4.9	8.2	7.4	6.9
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Surface	2	29.0	7.7	20.9	5.5		4.2		7.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Bottom	1	27.9	7.8	21.9	5.2	5.2	12.1		6.4	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS8	13:33	Bottom	2	28.1	7.7	22.0	5.1		11.5		6.4	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Surface	1	28.0	7.8	21.0	5.2	5.3	4.6	7.8	5.9	8.2
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Surface	2	28.2	7.7	21.1	5.3		4.4		5.0	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Bottom	1	27.7	7.7	22.4	4.9	4.9	11.7		11.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Ebb	IS(Mf)9	13:42	Bottom	2	27.8	7.7	22.5	4.9		10.6		10.4	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Surface	1	27.6	7.8	23.4	5.1	4.9	4.7	10.8	5.8	10.6
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Surface	2	27.7	7.8	23.6	5.1		4.3		5.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Middle	1	27.0	7.9	28.4	4.8		10.3		11.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Middle	2	27.1	7.9	28.5	4.6		9.3		11.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Bottom	1	26.9	7.9	28.8	4.5	4.5	17.2		13.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)5	19:49	Bottom	2	27.0	7.9	28.9	4.5		18.9		14.5	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Surface	1	29.1	7.4	14.1	5.0	5.0	12.9	15.1	8.8	12.1
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Surface	2	28.8	7.4	13.6	5.1		12.1		7.2	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Middle	1	28.6	7.5	16.6	4.9		15.8		10.6	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Middle	2	28.4	7.4	16.8	5.0		15.5		11.6	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Bottom	1	28.4	7.5	17.9	4.9	4.9	17.2		16.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	CS(Mf)3(N)	18:23	Bottom	2	28.2	7.5	18.1	4.9		16.9		17.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Surface	1	28.2	7.8	21.4	5.0	5.0	13.3	13.2	12.1	17.7
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Surface	2	28.3	7.8	21.4	5.0		12.7		13.1	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Bottom	1	28.2	7.8	21.5	5.0	5.0	13.4		23.0	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)16	19:09	Bottom	2	28.3	7.8	21.6	5.0		13.4		22.4	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Surface	1	28.4	7.7	20.2	5.2	5.2	12.3	13.0	19.7	20.6
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Surface	2	28.5	7.8	20.3	5.2		12.0		20.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Bottom	1	28.4	7.7	20.3	5.3	5.3	14.2		21.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4a	18:56	Bottom	2	28.5	7.8	20.3	5.3		13.4		20.6	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Surface	1	28.4	7.7	20.7	5.2	5.2	17.0	20.4	24.5	26.3
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Surface	2	28.5	7.8	20.7	5.2		15.9		24.4	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Bottom	1	28.4	7.7	20.8	5.2	5.2	24.6		27.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	SR4	18:51	Bottom	2	28.5	7.8	20.8	5.2		24.0		28.3	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Surface	1	28.3	7.8	20.8	5.2	5.2	11.6	17.4	21.3	20.6
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Surface	2	28.4	7.7	20.8	5.2		11.4		20.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Middle										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Bottom	1	28.3	7.7	21.1	5.3	5.3	22.6		19.8	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS8	18:41	Bottom	2	28.4	7.7	21.2	5.2		23.8		20.7	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Surface						5.3		13.5		16.3
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Surface										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Middle	1	28.3	7.8	21.8	5.3		13.4		16.5	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Middle	2	28.4	7.8	21.9	5.2		13.6		16.0	
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Bottom										
TMCLKL	HY/2012/07	2017/09/06	Mid-Flood	IS(Mf)9	18:31	Bottom										

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

Photo 1 - Mid-Flood at CS(Mf)5 on 6 September 2017

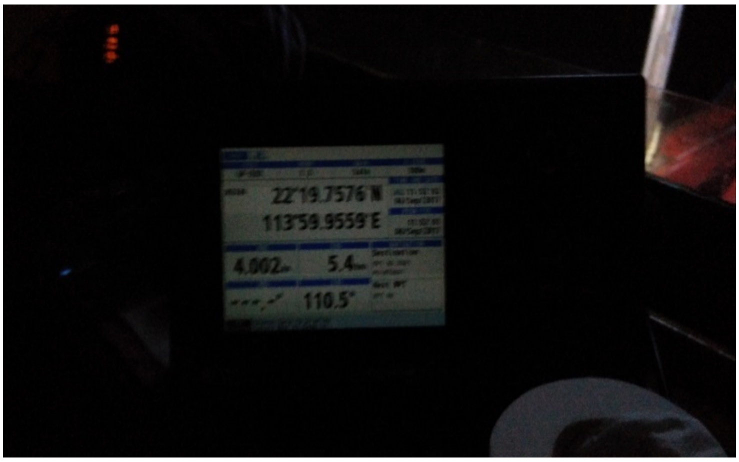


Photo 2 - Mid-Flood at SR4 on 6 September 2017

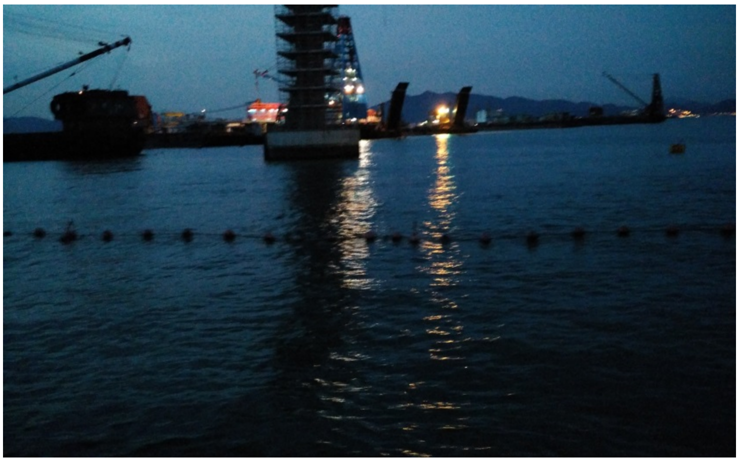


Photo 3 - Mid-Ebb at CS(Mf)5 on 6 September 2017

Email message

Environmental Resources Management

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25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	9 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

<u>Action Level Exceedance</u>
0215660_8 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_8 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_8 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_8 September 2017_ Surface and Middle-depth DO_E_Station IS(Mf)16
0215660_8 September 2017_ Bottom-depth DO_E_Station IS(Mf)16
0215660_8 September 2017_ Surface and Middle-depth DO_E_Station SR4a
0215660_8 September 2017_Bottom-depth DO_E_Station SR4a
0215660_8 September 2017_ Surface and Middle-depth DO_E_Station SR4
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5
0215660_8 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)16
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station SR4a
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS8
0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9

A total of fifteen exceedances were recorded on 8 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

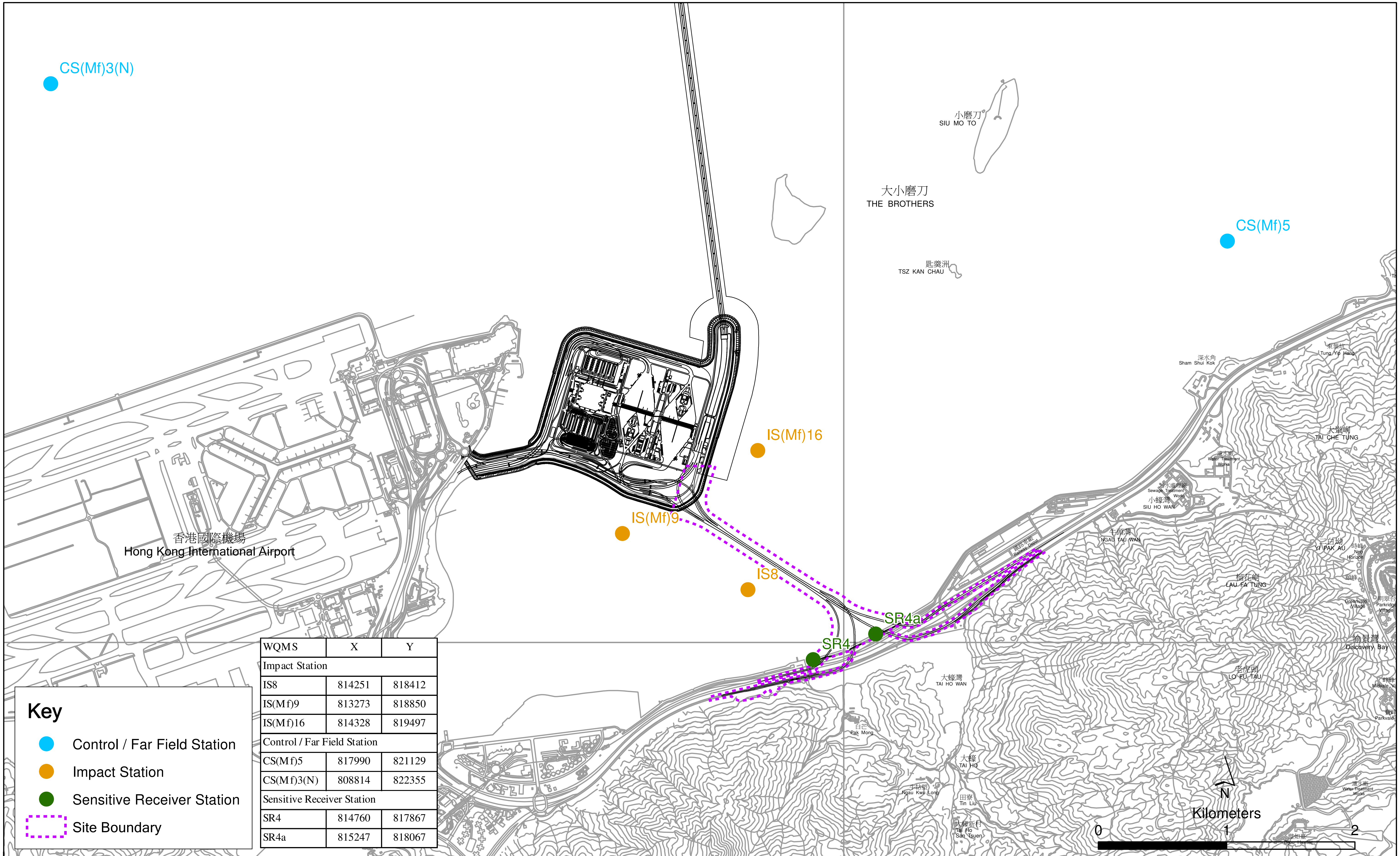
Log No.	<u>Action Level Exceedance</u> **0215660_8 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5** **0215660_8 September 2017_ Bottom-depth DO_E_Station CS(Mf)5** **0215660_8 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)** **0215660_8 September 2017_ Surface and Middle-depth DO_E_Station IS(Mf)16** **0215660_8 September 2017_ Bottom-depth DO_E_Station IS(Mf)16** **0215660_8 September 2017_ Surface and Middle-depth DO_E_Station SR4a** **0215660_8 September 2017_Bottom-depth DO_E_Station SR4a** **0215660_8 September 2017_ Surface and Middle-depth DO_E_Station SR4** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5** **0215660_8 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)16** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station SR4a** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS8** **0215660_8 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9** **[Total No. of Exceedances = 15]**	
Date	8 September 2017 (Measured) 9 September 2017 (*In situ* results received by ERM) 18 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth Dissolved Oxygen (DO), Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-Ebb at CS(Mf)5 (Surface and Middle-depth DO = 4.8 mg/L); 2. Mid-Ebb at CS(Mf)5 (Bottom-depth DO = 4.4 mg/L); 3. Mid-Ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.9 mg/L); 4. Mid-Ebb at IS(Mf)16 (Surface and Middle-depth DO = 4.7 mg/L); 5. Mid-Ebb at IS(Mf)16 (Bottom-depth DO = 4.5 mg/L); 6. Mid-Ebb at SR4a (Surface and Middle-depth DO = 4.7 mg/L); 7. Mid-Ebb at SR4a (Bottom-depth DO = 4.5 mg/L); 8. Mid-Ebb at SR4 (Surface and Middle-depth DO = 4.7 mg/L); 9. Mid-Flood at CS(Mf)5 (Surface and Middle-depth DO = 4.7 mg/L); 10. Mid-Flood at CS(Mf)5 (Bottom-depth DO = 4.6 mg/L); 11. Mid-Flood at CS(Mf)3(N) (Surface and Middle-depth DO = 4.8 mg/L); 12. Mid-Flood at IS(Mf)16 (Surface and Middle-depth DO = 4.8 mg/L); 13. Mid-Flood at SR4a (Surface and Middle-depth DO = 4.9 mg/L); 14. Mid-Flood at IS8 (Surface and Middle-depth DO = 4.8 mg/L); 15. Mid-Flood at IS(Mf)9 (Surface and Middle-depth DO = 4.8 mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 8 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The DO exceedances at the monitoring stations are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 6 September 2017. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • DO patterns at IS(Mf)16, SR4a and SR4 during mid-ebb had similar DO pattern as the control station CS(Mf)3(N), in which action level exceedance was observed on the same day and at the same tide. • Marginal DO exceedances were observed at the surface and middle-depth at IS(Mf)16, SR4a, IS8 and IS(Mf)9 during mid-flood. The DO patterns at these monitoring stations followed similar DO pattern as the control station CS(Mf)5, in which action level exceedance was observed on the same day and at the same tide.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 8 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 8 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Surface	1	28.6	7.7	20.5	4.8	4.8	5.7	19.7	9.2	21.7
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Surface	2	28.6	7.7	20.4	4.9		5.8		9.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Middle	1	28.2	7.7	22.1	4.7		11.2		19.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Middle	2	28.1	7.8	22.0	4.7		11.3		21.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Bottom	1	27.7	7.8	24.4	4.4	4.4	41.1		36.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)5	14:37	Bottom	2	27.6	7.7	24.3	4.4		42.9		34.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Surface	1	28.3	7.6	19.8	5.0	4.9	10.6	16.0	7.3	13.0
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Surface	2	28.5	7.6	19.6	4.9		10.6		6.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Middle	1	27.9	7.7	22.3	4.8		18.9		14.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Middle	2	28.1	7.7	22.1	4.8		18.7		15.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Bottom	1	27.8	7.7	23.3	4.9	4.9	17.0		17.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	CS(Mf)3(N)	12:51	Bottom	2	28.0	7.7	23.1	4.8		19.9		17.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Surface	1	28.3	7.7	21.5	4.9	4.7	5.7	7.0	8.8	11.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Surface	2	28.1	7.7	21.5	4.9		6.1		7.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Middle	1	27.9	7.8	23.0	4.5		9.5		14.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Middle	2	27.8	7.7	22.9	4.5		10.3		12.7	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Bottom	1	27.7	7.8	24.4	4.5	4.5	5.2		13.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)16	13:56	Bottom	2	27.6	7.7	24.3	4.5		5.4		12.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Surface	1	28.3	7.6	20.7	4.7	4.7	7.5	12.4	13.9	14.8
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Surface	2	28.2	7.7	20.6	4.7		7.9		12.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Bottom	1	28.1	7.6	21.9	4.5	4.5	16.6		16.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4a	13:38	Bottom	2	27.9	7.7	21.8	4.5		17.6		16.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Surface	1	28.3	7.7	20.3	4.7	4.7	8.1	8.2	9.7	11.2
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Surface	2	28.2	7.6	20.2	4.7		8.6		10.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Bottom	1	28.3	7.7	21.0	4.8	4.9	7.7		11.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	SR4	13:32	Bottom	2	28.1	7.7	20.9	4.9		8.2		12.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Surface	1	28.9	7.8	20.2	5.2	5.2	3.9	6.4	7.6	10.1
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Surface	2	28.8	7.7	20.1	5.2		4.4		9.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Bottom	1	28.3	7.9	21.0	5.0	5.0	8.4		11.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS8	13:20	Bottom	2	28.2	7.7	20.9	5.0		8.9		12.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Surface	1	29.0	7.9	20.1	5.4	5.4	4.3	5.0	4.0	7.8
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Surface	2	28.9	7.7	20.0	5.3		4.7		5.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Bottom	1	28.3	7.9	20.7	5.0	5.1	5.3		11.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Ebb	IS(Mf)9	13:09	Bottom	2	28.2	7.7	20.7	5.1		5.6		10.0	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Surface	1	28.1	7.8	21.3	4.8	4.7	4.2	5.0	2.2	5.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Surface	2	28.0	7.8	21.3	4.8		4.9		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Middle	1	27.7	7.8	24.9	4.5		4.8		5.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Middle	2	27.6	7.9	25.2	4.5		5.3		5.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Bottom	1	27.6	7.8	26.6	4.5	4.6	5.2		7.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)5	7:07	Bottom	2	27.5	7.9	26.5	4.6		5.5		9.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Surface	1	28.4	7.5	16.9	4.9	4.8	11.1	16.2	10.0	16.3
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Surface	2	28.2	7.5	17.1	4.9		11.2		10.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Middle	1	28.3	7.6	18.7	4.7		17.0		17.0	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Middle	2	28.1	7.6	18.8	4.8		16.8		16.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Bottom	1	28.3	7.6	18.9	4.7	4.7	19.8		22.7	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	CS(Mf)3(N)	8:22	Bottom	2	28.0	7.6	19.0	4.7		21.0		21.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Surface	1	28.1	7.7	20.8	4.9	4.8	2.6	3.6	2.3	2.3
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Surface	2	28.0	7.8	20.8	4.8		2.2		2.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Middle	1	28.1	7.7	21.1	4.8		3.2		2.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Middle	2	28.0	7.8	21.2	4.7		2.8		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Bottom	1	28.1	7.8	22.2	4.7	4.7	5.8		2.4	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)16	7:33	Bottom	2	27.9	7.8	22.1	4.7		5.1		2.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Surface	1	28.1	7.8	20.7	4.9	4.9	6.0	6.3	10.3	11.1
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Surface	2	28.0	7.8	20.6	4.9		5.0		11.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Bottom	1	28.1	7.8	20.8	5.1	5.2	7.6		11.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4a	7:44	Bottom	2	27.9	7.8	20.7	5.2		6.6		10.8	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Surface	1	28.1	7.8	20.8	4.9	5.0	7.2	6.9	15.0	16.0
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Surface	2	28.0	7.8	20.7	5.0		6.5		14.3	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Bottom	1	28.1	7.8	20.8	5.1	5.2	7.4		17.2	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	SR4	7:49	Bottom	2	28.0	7.8	20.7	5.2		6.6		17.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Surface	1	28.1	7.8	20.8	4.8	4.8	13.8	17.4	11.5	15.4
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Surface	2	28.0	7.8	20.7	4.8		14.0		11.6	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Bottom	1	28.1	7.8	21.0	4.7	4.7	20.8		18.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS8	7:58	Bottom	2	28.0	7.8	21.0	4.7		20.9		19.9	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Surface	1	28.1	7.8	21.8	4.8	4.8	5.9	9.9	6.5	8.5
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Surface	2	28.0	7.8	21.7	4.8		5.2		7.5	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Middle	1									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Middle	2									
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Bottom	1	28.1	7.8	22.6	4.8	4.8	14.9		10.1	
TMCLKL	HY/2012/07	2017-09-08	Mid-Flood	IS(Mf)9	8:07	Bottom	2	27.9	7.8	22.5	4.8		13.4		9.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

Environmental Resources Management

ERM

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 8 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 8 September 2017

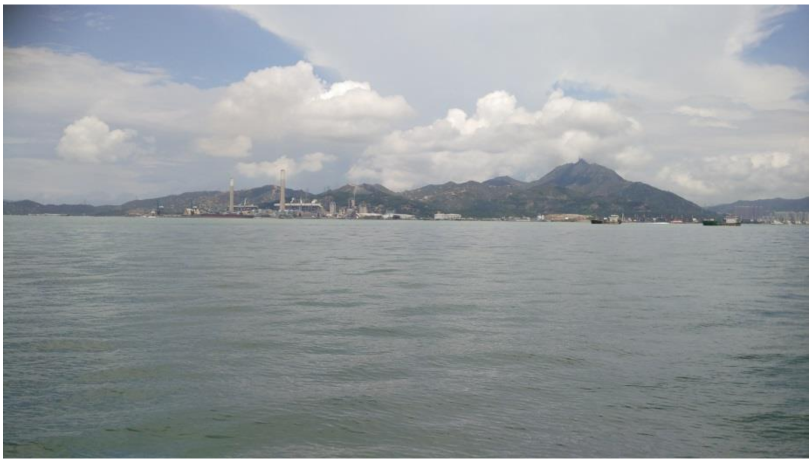


Photo 3 - Mid-Ebb at IS(Mf)16 on 8 September 2017

Photo 4 - Mid-Ebb at SR4a on 8 September 2017

Photo 5 - Mid-Ebb at SR4 on 8 September 2017

Photo 6 - Mid-Flood at CS(Mf)5 on 8 September 2017

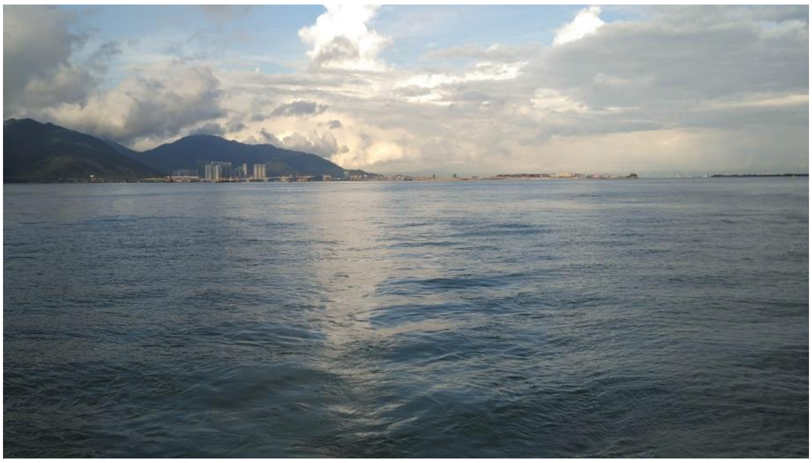


Photo 7 - Mid-Flood at CS(Mf)3(N) on 8 September 2017

Photo 8 - Mid-Flood at IS(Mf)16 on 8 September 2017

Photo 9 - Mid-Flood at SR4a on 8 September 2017

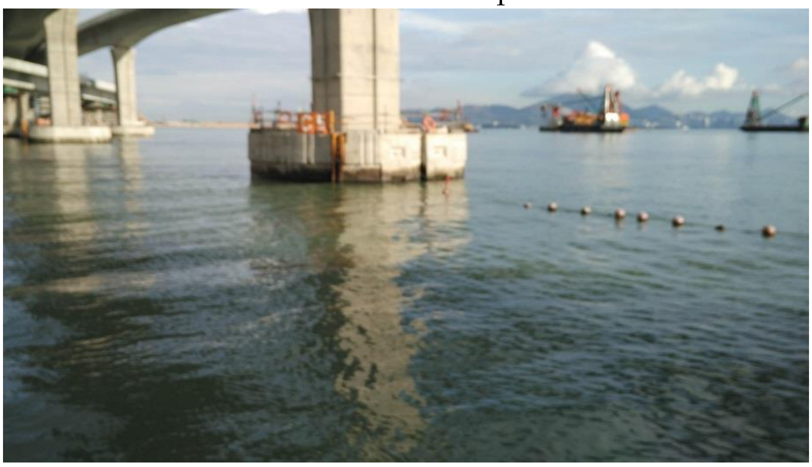


Photo 10 - Mid-Flood at IS8 on 8 September 2017

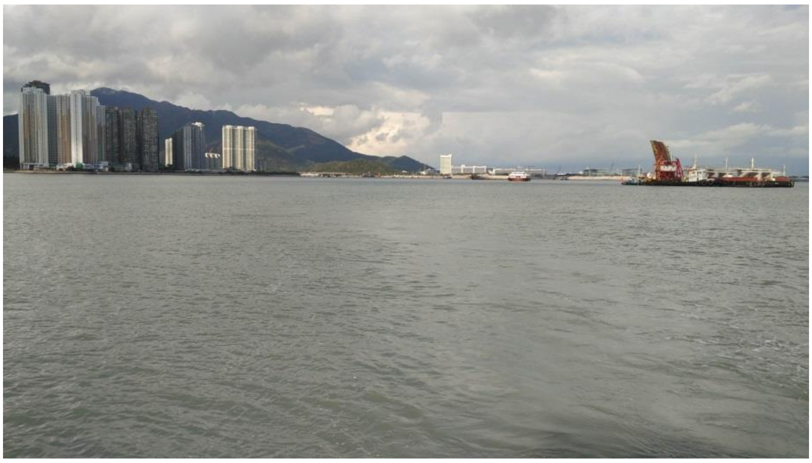
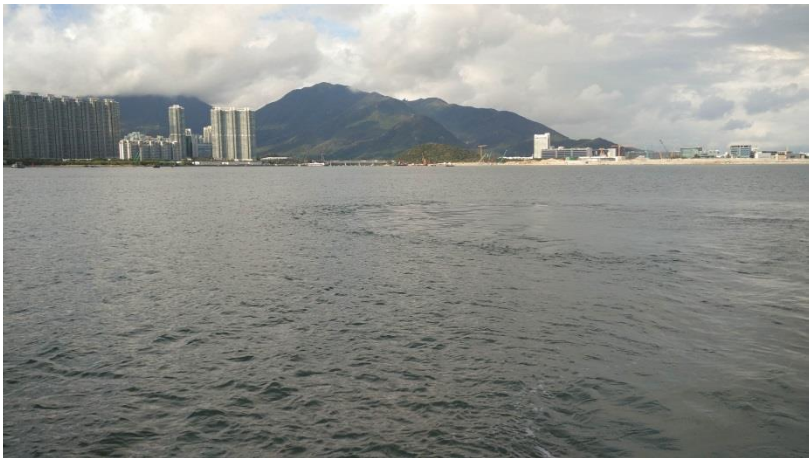


Photo 11 - Mid-Flood at IS(Mf)9 on 8 September 2017



Email message

Environmental Resources Management

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25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

ERM

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	12 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

<u>Action Level Exceedance</u>
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_11 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_E_Station IS(Mf)16
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station SR4a
0215660_11 September 2017_ Bottom-depth DO_E_Station SR4a
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station SR4
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5
0215660_11 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_F_Station CS(Mf)3(N)
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)16
0215660_11 September 2017_Bottom-depth DO_F_Station IS(Mf)16
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station SR4a
0215660_11 September 2017_Bottom-depth DO_F_Station SR4a
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station SR4
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS8
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9

A total of nineteen exceedances were recorded on 11 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK – SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

<table>
<tr><td>Log No.</td><td colspan="2"><u>Action Level Exceedance</u>

0215660_11 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_11 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_E_Station IS(Mf)16
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station SR4a
0215660_11 September 2017_ Bottom-depth DO_E_Station SR4a
0215660_11 September 2017_ Surface and Middle-depth DO_E_Station SR4
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5
0215660_11 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_11 September 2017_ Bottom-depth DO_F_Station CS(Mf)3(N)
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)16
0215660_11 September 2017_Bottom-depth DO_F_Station IS(Mf)16
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station SR4a
0215660_11 September 2017_Bottom-depth DO_F_Station SR4a
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station SR4
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS8
0215660_11 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9

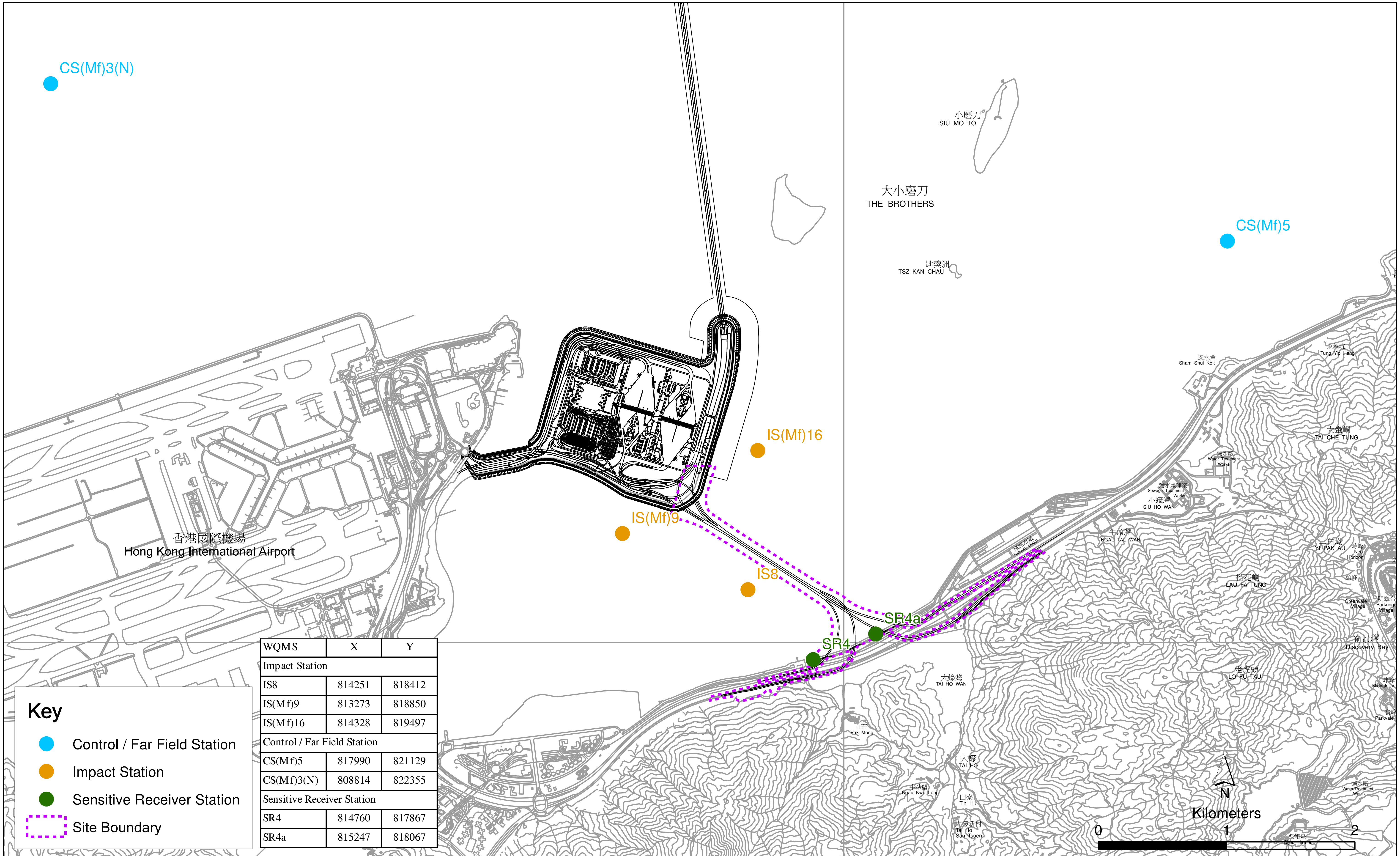
[Total No. of Exceedances = 19]</td></tr>
<tr><td>Date</td><td colspan="2">11 September 2017 (Measured)
12 September 2017 (In situ results received by ERM)
19 September 2017 (Laboratory results received by ERM)</td></tr>
<tr><td>Monitoring Station</td><td colspan="2">CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)</td></tr>
<tr><td>Parameter(s) with Exceedance(s)</td><td colspan="2">Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)</td></tr>
<tr><td rowspan="2">Action Levels for DO</td><td>Surface and Middle-depth DO</td><td>5.0 mg/L</td></tr>
<tr><td>Bottom-depth DO</td><td>4.7 mg/L</td></tr>
<tr><td rowspan="2">Limit Levels for DO</td><td>Surface and Middle-depth DO</td><td>4.2 mg/L</td></tr>
<tr><td>Bottom-depth DO</td><td>3.6 mg/L</td></tr>
</table>

Measured Levels	Action Level Exceedance 1. Mid-Ebb at CS(Mf)5 (Surface and Middle-depth DO = 4.6 mg/L); 2. Mid-Ebb at CS(Mf)5 (Bottom-depth DO = 3.9 mg/L); 3. Mid-Ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.6 mg/L); 4. Mid-Ebb at CS(Mf)3(N) (Bottom-depth DO = 4.5 mg/L); 5. Mid-Ebb at IS(Mf)16 (Bottom-depth DO = 4.3 mg/L); 6. Mid-Ebb at SR4a (Surface and Middle-depth DO = 4.8 mg/L); 7. Mid-Ebb at SR4a (Bottom-depth DO = 4.4 mg/L); 8. Mid-Ebb at SR4 (Surface and Middle-depth DO = 4.9 mg/L); 9. Mid-Flood at CS(Mf)5 (Surface and Middle-depth DO = 4.6 mg/L); 10. Mid-Flood at CS(Mf)5 (Bottom-depth DO = 4.1 mg/L); 11. Mid-Flood at CS(Mf)3(N) (Surface and Middle-depth DO = 4.6 mg/L); 12. Mid-Flood at CS(Mf)3(N) (Bottom-depth DO = 4.6 mg/L); 13. Mid-Flood at IS(Mf)16 (Surface and Middle-depth DO = 4.7 mg/L); 14. Mid-Flood at IS(Mf)16 (Bottom-depth DO = 4.6 mg/L); 15. Mid-Flood at SR4a (Surface and Middle-depth DO = 4.7 mg/L); 16. Mid-Flood at SR4a (Bottom-depth DO = 4.6 mg/L); 17. Mid-Flood at SR4 (Surface and Middle-depth DO = 4.8 mg/L); 18. Mid-Flood at IS8 (Surface and Middle-depth DO = 4.8 mg/L); 19. Mid-Flood at IS(Mf)9 (Surface and Middle-depth DO = 4.8 mg/L).
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 11 September 2017.
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 11 September 2017. • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • Marginal DO exceedances were observed at IS(Mf)16, SR4a and SR4 during mid-ebb tide. The DO patterns at surface and middle and bottom levels at these stations followed similar DO pattern as the upstream control station, CS(Mf)3(N), in which action level exceedances were observed during mid-ebb tide. Consequently the observed DO exceedances are considered within the natural range and are not considered to be caused by the Project. • DO patterns at IS(Mf)16, IS(Mf)9, IS8, SR4a and SR4 during mid-flood tide followed similar DO pattern as the upstream control station, CS(Mf)5, in which action level exceedances were observed during the same tide. Therefore, the observed DO exceedances are considered within the natural range and are not considered to be caused by the Project.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 11 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 11 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Surface	1	29.3	7.7	18.3	4.7	4.6	4.4	5.3	6.4	5.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Surface	2	29.4	7.7	18.4	4.7		4.0		5.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Middle	1	28.8	7.7	20.2	4.5		5.1		4.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Middle	2	29.0	7.7	20.3	4.5		4.8		4.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Bottom	1	27.7	7.7	26.5	3.9	3.9	6.8		6.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)5	16:17	Bottom	2	27.9	7.7	26.6	3.9		6.4		7.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Surface	1	29.7	7.4	13.6	4.6	4.6	14.1	18.5	3.8	7.6
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Surface	2	29.5	7.4	13.8	4.7		14.4		3.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Middle	1	28.7	7.5	19.9	4.4		17.5		4.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Middle	2	28.5	7.6	20.1	4.5		14.1		4.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Bottom	1	28.7	7.6	21.1	4.4	4.5	25.8		14.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	CS(Mf)3(N)	14:56	Bottom	2	28.4	7.6	21.2	4.5		25.3		15.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Surface	1	29.0	7.7	20.1	5.1	5.2	5.6	7.7	6.8	6.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Surface	2	29.2	7.7	20.2	5.2		4.9		6.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Bottom	1	28.1	7.7	23.4	4.3	4.3	10.8		5.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)16	15:51	Bottom	2	28.3	7.7	23.5	4.3		9.6		5.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Surface	1	29.0	7.6	18.9	4.7	4.8	8.0	10.1	12.2	11.8
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Surface	2	29.2	7.6	19.0	4.8		7.5		12.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Bottom	1	28.6	7.6	19.9	4.4	4.4	12.4		10.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4a	15:37	Bottom	2	28.8	7.6	20.0	4.4		12.3		11.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Surface	1	28.9	7.6	19.0	4.9	4.9	7.5	8.7	8.2	9.7
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Surface	2	29.1	7.6	19.1	4.9		7.3		9.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Bottom	1	28.9	7.6	19.8	4.8	4.8	10.2		10.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	SR4	15:33	Bottom	2	29.0	7.6	19.9	4.8		9.8		10.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Surface	1	29.3	7.7	18.9	5.2	5.2	6.7	7.7	7.2	6.3
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Surface	2	29.5	7.7	18.9	5.2		6.3		6.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Bottom	1	28.7	7.7	20.0	5.0	5.0	9.0		5.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS8	15:25	Bottom	2	28.9	7.7	20.1	5.0		8.6		6.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Surface	1	29.0	7.7	19.1	5.3	5.3	5.3	5.0	5.1	5.3
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Surface	2	29.2	7.7	19.2	5.3		4.9		4.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Bottom	1	29.0	7.7	19.4	5.3	5.3	5.0		5.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Ebb	IS(Mf)9	15:16	Bottom	2	29.2	7.7	19.4	5.3		4.6		6.0	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Surface	1	28.7	7.7	18.6	4.8	4.6	2.7	6.7	3.1	3.5
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Surface	2	28.9	7.7	18.7	4.8		2.7		4.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Middle	1	28.3	7.7	21.1	4.4		3.6		3.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Middle	2	28.5	7.7	21.2	4.4		3.5		4.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Bottom	1	27.9	7.7	24.6	4.1	4.1	14.2		3.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)5	09:37	Bottom	2	28.1	7.7	24.7	4.1		13.3		2.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Surface	1	29.4	7.4	13.9	4.6	4.6	9.6	11.8	9.0	14.8
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Surface	2	29.1	7.5	14.0	4.7		9.5		9.1	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Middle	1	29.0	7.6	16.8	4.5		10.1		14.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Middle	2	28.8	7.6	16.8	4.6		10.5		14.5	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Bottom	1	28.9	7.5	18.0	4.5	4.6	15.4		19.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	CS(Mf)3(N)	11:04	Bottom	2	28.7	7.6	18.0	4.6		15.7		21.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Surface	1	28.8	7.6	18.4	4.7	4.7	3.3	7.2	2.3	4.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Surface	2	28.9	7.6	18.4	4.7		3.1		2.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Bottom	1	28.5	7.6	19.6	4.6	4.6	11.4		7.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)16	10:08	Bottom	2	28.7	7.6	19.6	4.6		10.8		7.4	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Surface	1	28.7	7.6	18.5	4.7	4.7	13.0	13.5	14.5	14.9
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Surface	2	28.9	7.6	18.5	4.7		13.4		15.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Bottom	1	28.6	7.6	18.9	4.6	4.6	14.2		14.7	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4a	10:17	Bottom	2	28.8	7.6	18.9	4.6		13.3		15.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Surface	1	28.8	7.6	18.0	4.8	4.8	7.3	8.3	15.6	14.6
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Surface	2	29.0	7.6	18.1	4.8		7.9		13.9	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Bottom	1	28.8	7.6	18.0	4.8	4.8	9.9		14.6	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	SR4	10:23	Bottom	2	29.0	7.6	18.1	4.8		8.1		14.2	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Surface	1	29.0	7.6	18.1	4.8	4.8	4.7	4.9	6.6	8.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Surface	2	29.2	7.6	18.2	4.8		4.5		8.1	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Bottom	1	28.8	7.6	18.2	4.8	4.8	5.2		9.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS8	10:35	Bottom	2	29.0	7.6	18.3	4.8		5.0		9.0	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Surface	1	28.7	7.6	19.3	4.8	4.8	9.4	10.5	9.1	9.2
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Surface	2	28.9	7.6	19.4	4.8		9.2		9.3	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Middle	1									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Middle	2									
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Bottom	1	28.6	7.7	20.0	4.7	4.7	12.1		8.8	
TMCLKL	HY/2012/07	2017-09-11	Mid-Flood	IS(Mf)9	10:47	Bottom	2	28.8	7.7	20.1	4.7		11.3		9.4	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

Locations of Water Quality Monitoring Stations

Environmental Resources Management

ERM

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, SR4, SR4A AND IS8 ON 11 SEPTEMBER 2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 11 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 11 September 2017

Photo 3 - Mid-Ebb at IS(Mf)16 on 11 September 2017

Photo 4 - Mid-Ebb at SR4a on 11 September 2017

Photo 5 - Mid-Ebb at SR4 on 11 September 2017

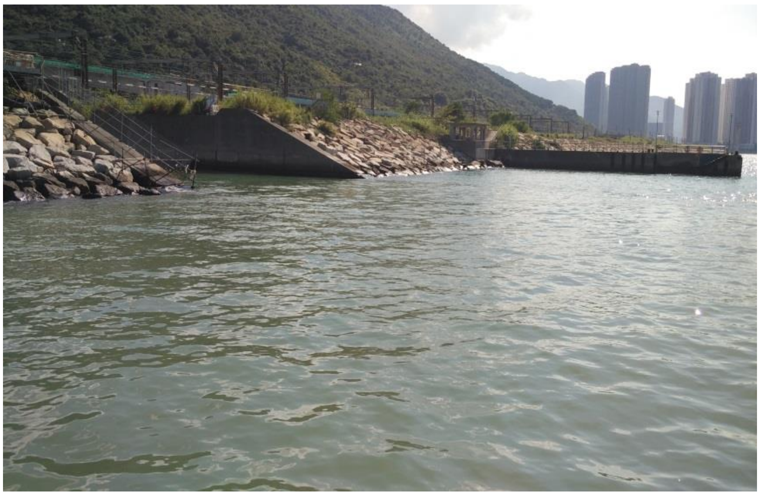


Photo 6 - Mid-Flood at CS(Mf)5 on 11 September 2017

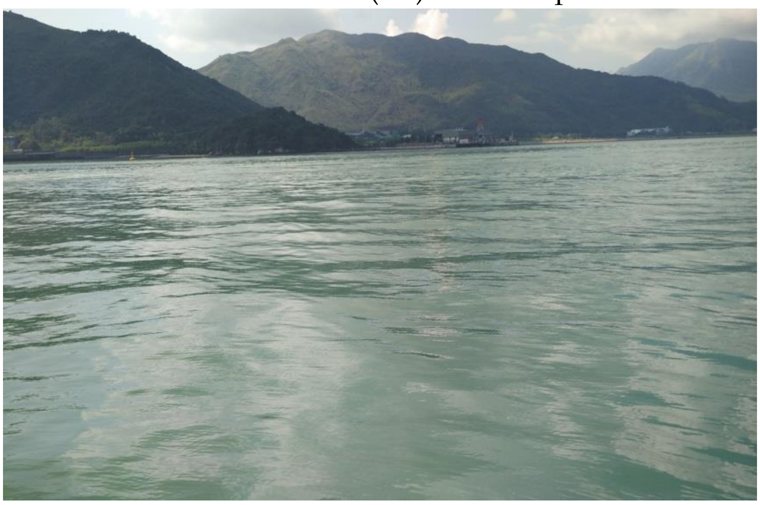


Photo 7 - Mid-Flood at CS(Mf)3(N) on 11 September 2017

Photo 8 - Mid-Flood at IS(Mf)16 on 11 September 2017

Photo 9 - Mid-Flood at SR4 on 11 September 2017

Photo 10 - Mid-Flood at IS8 on 11 September 2017

Photo 11 - Mid-Flood at IS(Mf)9 on 11 September 2017

Email message

Environmental Resources Management

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Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	14 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_13 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_13 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_13 September 2017_ Bottom-depth DO_E_Station IS(Mf)16
0215660_13 September 2017_ Bottom-depth DO_E_Station SR4a
0215660_13 September 2017_ Bottom-depth DO_E_Station SR4
0215660_13 September 2017_ Bottom-depth DO_E_Station IS8
0215660_13 September 2017_ Surface and Middle DO-depth_F_Station CS(Mf)5
0215660_13 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_13 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_13 September 2017_ Bottom-depth DO_F_Station IS(Mf)16
0215660_13 September 2017_ Surface and Middle-depth DO_F_Station SR4a
0215660_13 September 2017_ Bottom-depth DO_F_Station SR4a
0215660_13 September 2017_ Bottom-depth DO_F_Station IS(Mf)9

A total of thirteen exceedances were recorded on 13 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> **0215660_13 September 2017_ Bottom-depth DO_E_Station CS(Mf)5** **0215660_13 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)** **0215660_13 September 2017_ Bottom-depth DO_E_Station IS(Mf)16** **0215660_13 September 2017_ Bottom-depth DO_E_Station SR4a** **0215660_13 September 2017_ Bottom-depth DO_E_Station SR4** **0215660_13 September 2017_ Bottom-depth DO_E_Station IS8** **0215660_13 September 2017_ Surface and Middle DO-depth_F_Station CS(Mf)5** **0215660_13 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **0215660_13 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)** **0215660_13 September 2017_ Bottom-depth DO_F_Station IS(Mf)16** **0215660_13 September 2017_ Surface and Middle-depth DO_F_Station SR4a** **0215660_13 September 2017_ Bottom-depth DO_F_Station SR4a** **0215660_13 September 2017_ Bottom-depth DO_F_Station IS(Mf)9** **[Total No. of Exceedances = 13]**	
Date	13 September 2017 (Measured) 14 September 2017 (*In situ* results received by ERM) 19 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-Ebb at CS(Mf)5 (Bottom-depth DO = 4.1 mg/L); 2. Mid-Ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.9 mg/L); 3. Mid-Ebb at IS(Mf)16 (Bottom-depth DO = 4.2 mg/L); 4. Mid-Ebb at SR4a (Bottom-depth DO = 4.6 mg/L); 5. Mid-Ebb at SR4 (Bottom-depth DO = 4.6 mg/L); 6. Mid-Ebb at IS8 (Bottom-depth DO = 4.2 mg/L); 7. Mid-Flood at CS(Mf)5 (Surface and Middle-depth DO = 4.6 mg/L); 8. Mid-Flood at CS(Mf)5 (Bottom-depth DO = 3.7 mg/L); 9. Mid-Flood at CS(Mf)3(N) (Surface and Middle-depth DO = 4.9 mg/L); 10. Mid-Flood at IS(Mf)16 (Bottom-depth DO = 4.2 mg/L); 11. Mid-Flood at SR4a (Surface and Middle-depth DO = 4.9 mg/L); 12. Mid-Flood at SR4a (Bottom-depth DO = 4.3 mg/L); 13. Mid-Flood at IS(Mf)9 (Bottom-depth DO = 4.6 mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 13 September 2017.	

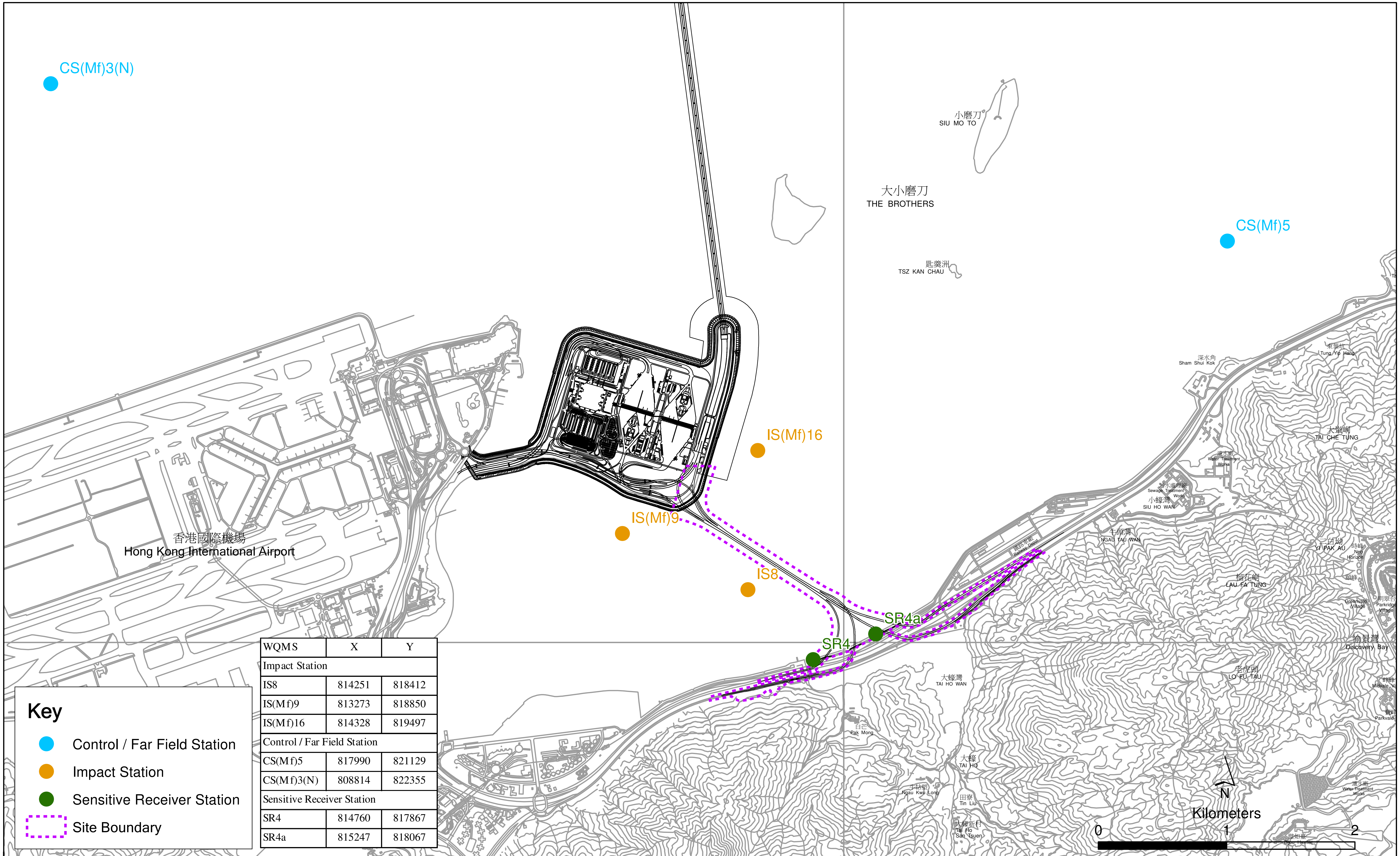
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 13 September 2017. • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • DO levels were generally lower at water quality monitoring stations due to two possible reasons of natural variation: 1. Natural ability for water to hold dissolved oxygen is reduced due to higher water temperature in summer months. 2. The higher Salinity recorded at the bottom level of the deeper CS(Mf)5 and IS(Mf)16 monitoring stations was possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level as the DO exceedances recorded at the bottom level showed higher levels of Salinity than the middle and surface levels.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 13 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 13 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Surface	1	29.3	7.9	20.9	5.6	5.2	1.5	1.8	4.1	3.8
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Surface	2	29.4	7.9	21.1	5.7		1.6		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Middle	1	28.3	7.9	26.3	4.7		1.2		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Middle	2	28.5	7.9	26.5	4.7		1.2		4.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Bottom	1	27.7	7.9	28.9	4.1	4.1	2.5		4.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)5	19:05	Bottom	2	27.9	7.9	29.3	4.0		2.7		4.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Surface	1	29.3	7.8	18.4	4.8	4.9	2.0	2.5	6.1	6.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Surface	2	29.1	7.8	18.6	4.9		1.9		6.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Middle	1	29.4	7.9	21.0	4.9		2.6		6.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Middle	2	29.2	7.9	21.1	5.0		2.5		5.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Bottom	1	29.2	7.9	21.9	4.7	4.8	3.1		6.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	CS(Mf)3(N)	17:10	Bottom	2	28.9	7.9	22.0	4.9		3.1		7.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Surface	1	29.6	7.9	19.8	6.2	5.3	3.5	4.7	7.5	8.0
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Surface	2	29.8	8.0	20.0	6.3		3.5		6.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Middle	1	28.3	7.9	25.4	4.4		5.7		7.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Middle	2	28.5	7.9	25.7	4.4		5.8		7.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Bottom	1	28.0	7.9	26.6	4.2	4.2	5.0		9.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)16	18:33	Bottom	2	28.2	7.9	26.8	4.1		4.9		9.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Surface	1	29.3	7.9	20.1	5.6	5.6	3.7	8.0	6.8	7.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Surface	2	29.4	7.9	20.3	5.6		3.7		5.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Bottom	1	28.9	7.8	21.3	4.6	4.6	12.0		9.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4a	18:21	Bottom	2	29.1	7.8	21.5	4.5		12.4		8.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Surface	1	29.4	7.9	19.9	5.8	5.8	3.6	7.1	5.3	5.0
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Surface	2	29.5	7.9	20.1	5.8		3.8		4.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Bottom	1	29.0	7.8	21.1	4.6	4.6	10.0		5.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	SR4	18:16	Bottom	2	29.2	7.8	21.3	4.5		10.8		5.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Surface	1	29.8	7.9	19.5	6.2	6.3	3.7	8.0	6.2	9.1
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Surface	2	29.9	8.0	19.7	6.3		4.1		7.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Bottom	1	28.8	7.8	22.0	4.2	4.2	11.8		11.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS8	18:09	Bottom	2	29.0	7.8	22.7	4.1		12.2		11.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Surface	1	30.1	7.9	19.1	6.8	6.8	2.9	3.8	3.8	5.3
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Surface	2	30.3	8.0	19.3	6.8		3.1		2.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Bottom	1	29.6	7.9	19.4	6.2	6.2	4.4		7.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Ebb	IS(Mf)9	18:01	Bottom	2	29.7	7.9	19.6	6.2		4.8		6.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Surface	1	29.1	7.8	20.0	5.3	4.6	1.5	2.9	2.9	3.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Surface	2	29.3	7.9	20.2	5.3		1.3		4.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Middle	1	28.2	7.8	25.1	4.0		2.5		2.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Middle	2	28.3	7.9	25.4	3.9		2.4		3.2	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Bottom	1	27.7	7.9	28.3	3.7	3.7	4.9		3.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)5	12:12	Bottom	2	27.9	7.9	28.6	3.7		4.9		4.3	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Surface	1	29.4	7.7	14.6	4.9	4.9	1.4	4.5	2.8	4.1
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Surface	2	29.7	7.7	14.5	4.8		1.5		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Middle	1	28.9	7.8	18.8	4.9		5.4		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Middle	2	29.1	7.8	18.7	4.9		5.4		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Bottom	1	28.8	7.8	20.4	5.0	5.0	6.5		5.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	CS(Mf)3(N)	13:16	Bottom	2	29.0	7.8	20.4	4.9		6.6		5.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Surface	1	29.2	7.8	19.5	5.4	5.4	3.4	7.0	5.2	7.3
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Surface	2	29.4	7.9	19.7	5.4		3.2		5.5	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Bottom	1	28.6	7.8	22.2	4.2	4.2	10.5		9.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)16	12:41	Bottom	2	28.8	7.8	22.4	4.1		10.9		9.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Surface	1	29.0	7.8	20.2	4.9	4.9	3.4	6.7	4.1	5.4
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Surface	2	29.2	7.9	20.3	4.9		3.5		3.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Bottom	1	28.7	7.8	21.8	4.3	4.3	9.8		6.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4a	12:53	Bottom	2	28.9	7.8	22.0	4.2		9.9		7.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Surface	1	29.3	7.8	19.6	5.3	5.3	2.8	3.5	7.7	9.8
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Surface	2	29.4	7.9	19.8	5.3		2.7		8.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Bottom	1	29.0	7.8	20.3	4.9	4.9	4.2		11.6	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	SR4	12:59	Bottom	2	29.1	7.8	20.6	4.9		4.4		11.4	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Surface	1	29.3	7.8	19.7	5.3	5.3	4.0	4.7	3.2	5.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Surface	2	29.4	7.9	19.9	5.3		4.0		2.9	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Bottom	1	28.9	7.8	20.8	4.7	4.7	5.4		8.7	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS8	13:14	Bottom	2	29.1	7.9	21.0	4.7		5.4		7.0	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Surface	1	29.6	7.8	19.1	5.6	5.7	3.3	5.1	3.5	6.5
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Surface	2	29.8	7.9	19.3	5.7		3.1		3.8	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Middle	1									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Middle	2									
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Bottom	1	28.9	7.8	21.2	4.6	4.6	6.9		10.1	
TMCLKL	HY/2012/07	2017-09-13	Mid-Flood	IS(Mf)9	13:23	Bottom	2	29.1	7.8	21.4	4.6		7.1		8.7	

Note: Indicates Exceedance of Action Level

Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

Environmental Resources Management

ERM

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 13 SEPTEMBER 2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 13 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 13 September 2017

Photo 3 - Mid-Ebb at IS(Mf)16 on 13 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 13 SEPTEMBER 2017

Photo 4 - Mid-Ebb at SR4a on 13 September 2017

Photo 5 - Mid-Ebb at SR4 on 13 September 2017

Photo 6 - Mid-Ebb at IS8 on 13 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 13 SEPTEMBER 2017

Photo 7 - Mid-Flood at CS(Mf)5 on 13 September 2017

Photo 8 - Mid-Flood at CS(Mf)3(N) on 13 September 2017

Photo 9 - Mid-Flood at IS(Mf)16 on 13 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 13 SEPTEMBER 2017

Photo 10 - Mid-Flood at SR4a on 13 September 2017

Photo 11 - Mid-Flood at IS(Mf)9 on 13 September 2017

Email message

Environmental Resources Management

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25 Westlands Road
Quarry Bay, Hong Kong
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To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	18 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_15 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_15 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_15 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)
0215660_15 September 2017_ Bottom-depth DO_E_Station SR4a
0215660_15 September 2017_ Bottom-depth DO_F_Station CS(Mf)5

Limit Level Exceedance
0215660_15 September 2017_ Depth-averaged turbidity_F_Station IS8

A total of six exceedances were recorded on 15 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

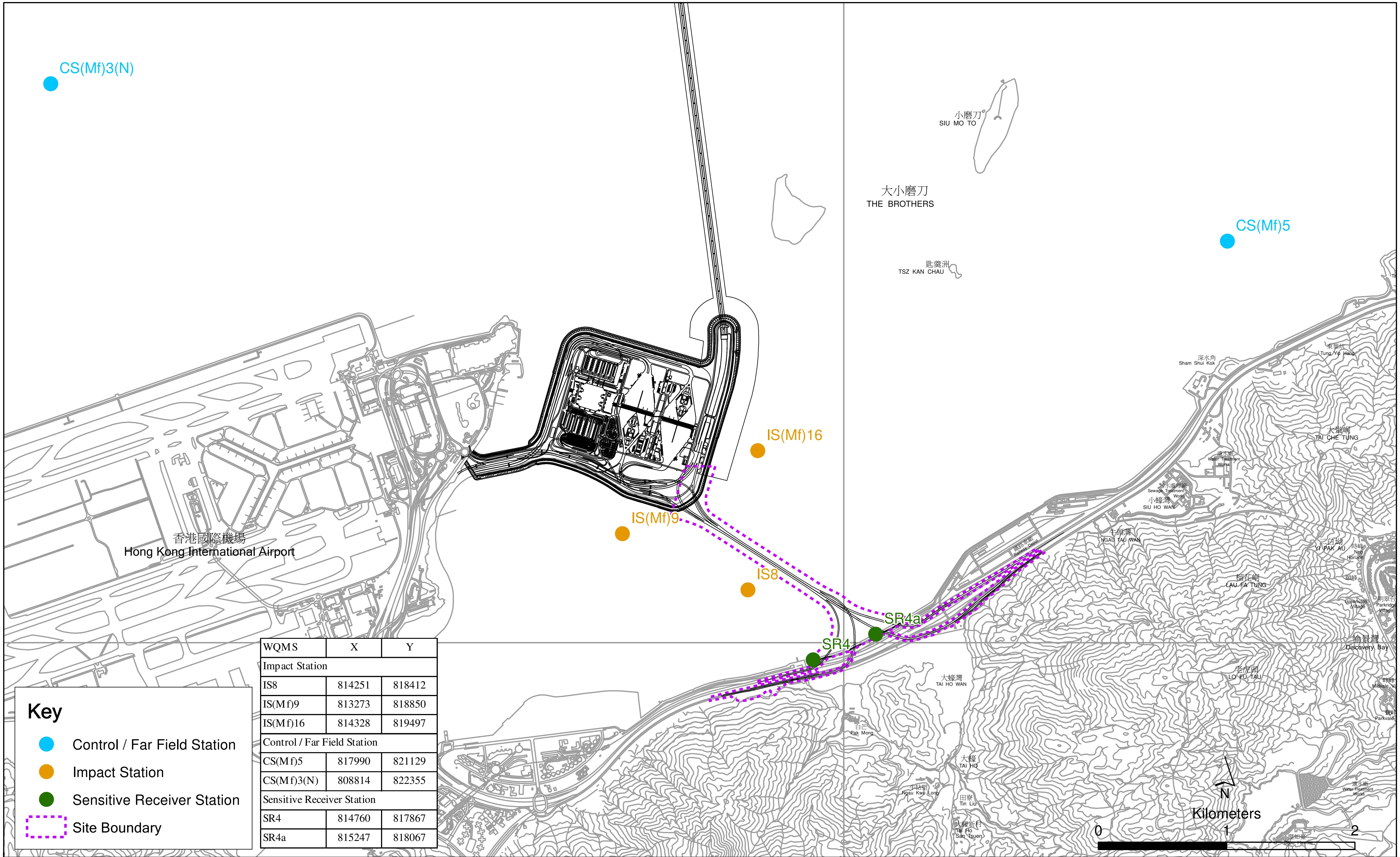
Log No.	**Action Level Exceedance** **0215660_15 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5** **0215660_15 September 2017_ Bottom-depth DO_E_Station CS(Mf)5** **0215660_15 September 2017_ Bottom-depth DO_E_Station CS(Mf)3(N)** **0215660_15 September 2017_ Bottom-depth DO_E_Station SR4a** **0215660_15 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **Limit Level Exceedance** **0215660_15 September 2017_ Depth-averaged turbidity_F_Station IS8** **[Total No. of Exceedances = 6]**	
Date	15 September 2017 (Measured) 16 September 2017 (*In situ* results received by ERM) 25 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO), Depth-averaged Turbidity	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Action Levels for Turbidity	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data i.e. 27.5 NTU	
Limit Levels for Turbidity	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data i.e. 47.0 NTU	
Measured Levels	Action Level Exceedance 1. Mid-ebb at CS(Mf)5 (Surface and Middle-depth DO = 4.9mg/L); 2. Mid-ebb at CS(Mf)5 (Bottom -depth DO = 3.8mg/L); 3. Mid-ebb at CS(Mf)3(N) (Bottom-depth DO = 4.6mg/L); 4. Mid-ebb at SR4a (Bottom-depth DO = 4.6mg/L); 5. Mid-flood at CS(Mf)5 (Bottom-depth DO = 3.7mg/L); Limit Level Exceedance 6. Mid-flood at IS8 (Depth-averaged turbidity = 77.8mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 15 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 15 September 2017. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • Marginal exceedance at bottom level at SR4a during mid-ebb tide had a similar DO pattern with the upstream control station, CS(Mf)3(N), in which action level exceedance was observed at the bottom level at the same tide. • DO levels were generally lower at water quality monitoring stations due to two possible reasons of natural variation: 1. Natural ability for water to hold dissolved oxygen is reduced due to higher water temperature in summer months. 2. The higher Salinity recorded at the bottom level of the deeper CS(Mf)5 and CS(Mf)3(N) monitoring stations was possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level as the DO exceedances recorded at the bottom level showed higher levels of Salinity than the middle and surface levels. • Levels of depth-averaged Turbidity at all monitoring stations, except Mid-flood at IS8, were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • Levels of depth-averaged Suspended Solids at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • No construction vessels under this Contract associated with muddy plumes or discharges of muddy waters from platforms.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 15 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 15 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Surface	1	28.6	7.9	21.0	5.2	4.9	3.2	4.2	2.6	2.4
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Surface	2	28.4	7.9	20.7	5.2		3.2		2.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Middle	1	28.6	8.0	23.8	4.6		3.4		2.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Middle	2	28.4	7.9	23.5	4.6		3.4		2.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Bottom	1	27.8	8.0	29.4	3.7	3.8	6.2		2.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)5	7:55	Bottom	2	27.7	7.9	28.9	3.8		5.5		2.1	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Surface	1	28.9	7.9	17.3	5.2	5.0	15.3	16.9	3.7	4.0
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Surface	2	28.6	7.7	17.4	5.3		14.4		4.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Middle	1	28.7	8.0	21.8	4.6		17.7		4.4	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Middle	2	28.5	7.9	21.8	4.7		16.8		4	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Bottom	1	28.7	8.0	22.6	4.5	4.6	19.0		4.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	CS(Mf)3(N)	9:37	Bottom	2	28.4	7.8	22.6	4.6		18.1		3.1	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Surface	1	28.7	8.1	21.7	6.2	6.2	4.8	5.1	2.3	3.1
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Surface	2	28.6	8.0	21.5	6.2		4.9		2.9	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Bottom	1	28.7	8.0	23.2	4.9	5.0	5.4		3.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)16	8:28	Bottom	2	28.6	7.9	22.9	5.0		5.4		3.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Surface	1	28.8	8.0	22.0	5.5	5.5	7.8	10.1	4.2	5.0
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Surface	2	28.6	7.9	21.7	5.4		7.3		3.9	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Bottom	1	28.6	7.9	23.2	4.5	4.6	12.5		6.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4a	8:40	Bottom	2	28.5	7.9	22.9	4.6		12.7		5.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Surface	1	28.8	8.0	21.7	5.4	5.4	7.2	8.0	6.7	6.4
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Surface	2	28.7	7.9	21.5	5.4		7.1		5	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Bottom	1	28.9	8.0	21.9	5.2	5.2	9.7		6.8	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	SR4	8:45	Bottom	2	28.7	7.9	21.6	5.2		7.9		7.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Surface	1	28.7	8.1	21.5	6.3	6.3	4.4	9.6	2.8	2.7
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Surface	2	28.6	8.0	21.3	6.3		4.5		2.1	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Bottom	1	28.8	8.0	22.2	5.4	5.5	14.9		2.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS8	8:56	Bottom	2	28.7	7.9	22.0	5.5		14.6		3.4	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Surface	1	28.7	8.1	21.4	6.6	6.6	4.6	4.6	3.6	3.0
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Surface	2	28.6	8.0	21.2	6.6		4.6		2.9	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Bottom	1	28.8	8.0	21.7	5.9	6.0	4.4		2.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Ebb	IS(Mf)9	9:10	Bottom	2	28.6	8.0	21.5	6.0		4.6		3.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Surface	1	29.5	7.8	20.9	5.8	5.2	4.1	9.3	1.6	2.6
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Surface	2	29.3	7.9	21.1	5.8		4.3		1.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Middle	1	28.2	7.8	26.1	4.6		7.8		2.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Middle	2	28.1	7.8	26.4	4.6		7.6		3.4	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Bottom	1	27.8	7.8	28.8	3.7	3.7	15.5		3.5	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)5	16:29	Bottom	2	27.6	7.8	29.0	3.7		16.7		2.5	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Surface	1	30.4	7.6	12.2	5.2	5.3	18.4	17.0	3.8	4.1
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Surface	2	30.2	7.5	12.1	5.3		17.8		4.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Middle	1	29.7	7.6	15.5	5.2		16.9		4.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Middle	2	29.4	7.6	15.6	5.3		16.0		4.8	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Bottom	1	29.5	7.6	16.6	5.1	5.2	16.6		3.2	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	CS(Mf)3(N)	15:09	Bottom	2	29.3	7.6	16.7	5.2		16.1		3.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Surface	1	29.1	7.8	20.1	6.5	6.3	3.0	4.8	3.2	5.2
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Surface	2	28.9	7.9	20.3	6.4		3.3		2.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Middle	1	28.9	7.8	21.0	6.1		3.3		7.1	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Middle	2	28.8	7.9	21.2	6.0		3.7		7.4	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Bottom	1	28.6	7.8	22.8	4.8	4.9	7.8		5.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)16	15:57	Bottom	2	28.5	7.8	22.9	4.9		7.4		5.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Surface	1	29.5	7.8	19.2	6.4	6.4	2.0	3.7	2.1	2.5
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Surface	2	29.3	7.9	19.3	6.4		1.9		2.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Bottom	1	29.2	7.8	19.6	6.2	6.2	5.5		2.8	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4a	15:44	Bottom	2	29.0	7.9	19.8	6.2		5.2		2.9	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Surface	1	29.4	7.8	19.5	6.5	6.5	2.9	7.9	2.2	2.9
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Surface	2	29.3	7.9	19.7	6.4		3.1		2.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Bottom	1	29.0	7.8	21.2	5.4	5.5	12.4		3.6	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	SR4	15:39	Bottom	2	28.8	7.8	21.4	5.5		13.2		3.5	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Surface	1	29.4	7.8	19.6	6.5	6.5	17.3	77.8	6.6	13.6
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Surface	2	29.2	7.9	19.8	6.4		16.0		5.3	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Bottom	1	29.2	7.8	20.2	6.0	6.1	143.7		21.8	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS8	15:26	Bottom	2	29.0	7.9	20.4	6.1		134.0		20.7	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Surface	1	29.4	7.9	21.1	6.6	6.6	8.6	14.5	8.3	10.3
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Surface	2	29.2	7.9	21.3	6.6		8.7		9.8	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Middle	1									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Middle	2									
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Bottom	1	29.2	7.8	21.8	6.1	6.1	19.8		12	
TMCLKL	HY/2012/07	2017/09/15	Mid-Flood	IS(Mf)9	15:14	Bottom	2	29.0	7.9	22.0	6.1		20.9		10.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

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CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), SR4A AND IS8 ON 15 SEPTEMBER 2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 15 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 15 September 2017

Photo 3 - Mid-Ebb at SR4a on 15 September 2017

Photo 4 - Mid-Flood at CS(Mf)5 on 15 September 2017

Photo 5 - Mid-Flood at IS8 on 15 September 2017

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	19 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_18 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_18 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_18 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5
0215660_18 September 2017_ Bottom-depth DO_F_Station CS(Mf)5

A total of four exceedances were recorded on 18 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

ERM

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	27 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_18 September 2017_ Depth-averaged SS_F_Station SR4

A total of one exceedance was recorded on 18 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK – SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

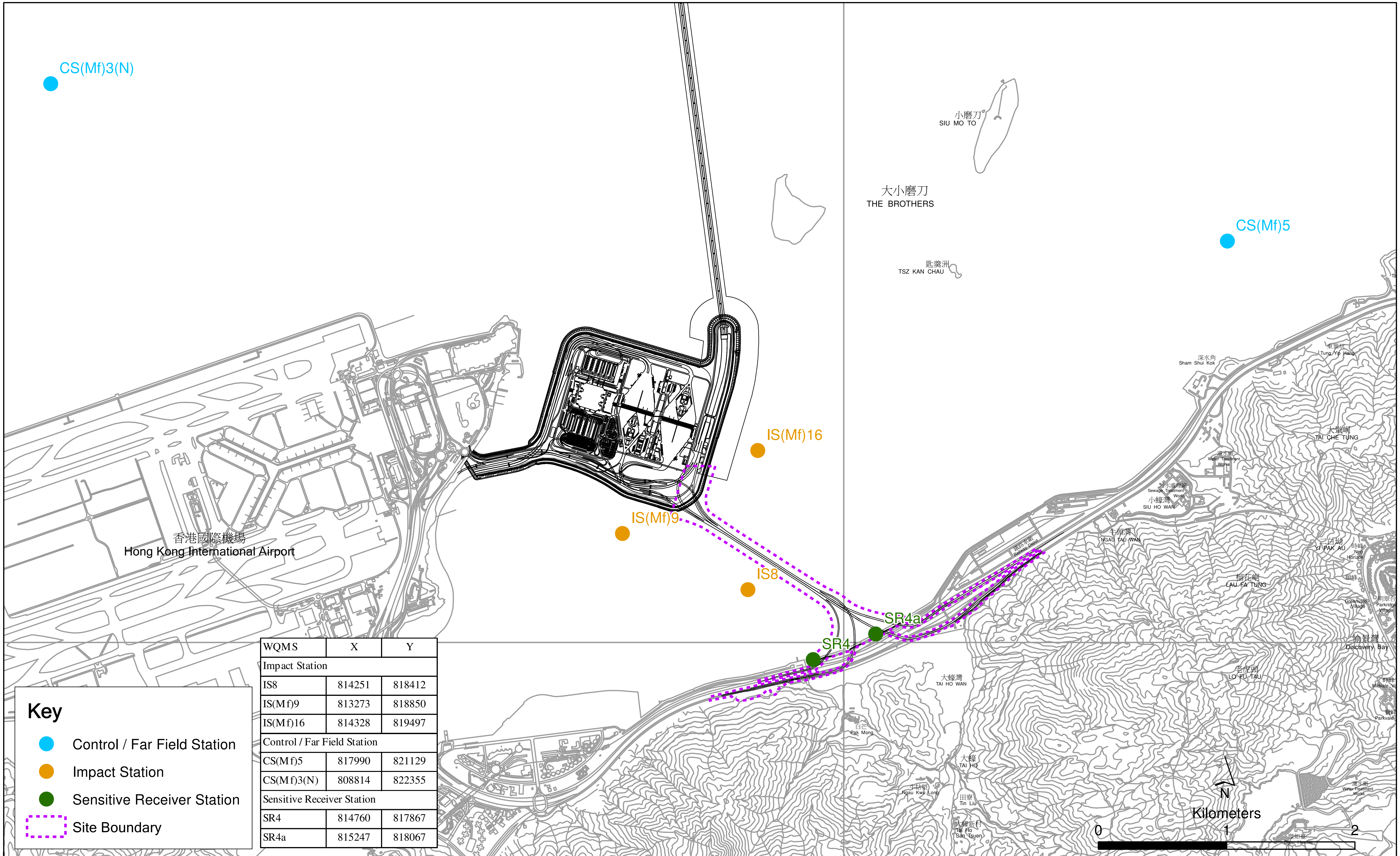
Log No.	<u>**Action Level Exceedance**</u> **0215660_18 September 2017_ Bottom-depth DO_E_Station CS(Mf)5** **0215660_18 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)** **0215660_18 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5** **0215660_18 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **0215660_18 September 2017_ Depth-averaged SS_F_Station SR4** **[Total No. of Exceedances = 5]**	
Date	18 September 2017 (Measured) 19 September 2017 (*In situ* results received by ERM) 26 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Action Levels for SS	SS	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels for SS	SS	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-ebb at CS(Mf)5 (Bottom-depth DO = 4.4mg/L); 2. Mid-ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.9mg/L); 3. Mid-flood at CS(Mf)5 (Surface and Middle-depth DO = 4.9mg/L); 4. Mid-flood at CS(Mf)5 (Bottom-depth DO = 4.4mg/L). 5. Mid-flood at SR4 (depth-averaged SS = 23.7 mg/L);	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 18 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 18 September 2017. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • Apart from SR4, depth-averaged SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. Depth-averaged SS levels at SR4 at mid-ebb tides were similar to those at other stations apart from the marginal exceedance observed at mid-flood tide. • All monitored parameters, except DO at CS(Mf)5, CS(Mf)3(N) and SS at SR4, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • DO levels were generally lower at water quality monitoring stations due to two possible reasons of natural variation: 1. Natural ability for water to hold dissolved oxygen is reduced due to higher water temperature in summer months. 2. The higher Salinity recorded at the bottom level of the deeper CS(Mf)5 and CS(Mf)3(N) monitoring stations was possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level as the DO exceedances recorded at the bottom level showed higher levels of Salinity than the middle and surface levels.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 18 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 18 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Surface	1	29.3	7.9	21.9	5.6	5.2	3.1	3.7	3.1	3.5
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Surface	2	29.3	7.9	21.9	5.7		2.9		3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Middle	1	28.3	7.9	26.1	4.7		2.7		3.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Middle	2	28.4	7.9	25.9	4.7		2.7		3.6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Bottom	1	27.8	7.9	28.9	4.4	4.4	5.5		4.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)5	11:15	Bottom	2	28.1	7.9	28.6	4.3		5.2		3.7	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Surface	1	29.9	7.8	18.8	5.5	4.9	9.3	15.9	2.7	7.4
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Surface	2	30.1	7.8	18.8	5.4		9.3		2.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Middle	1	28.7	7.8	24.3	4.3		16.8		2	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Middle	2	28.9	7.8	24.3	4.2		16.6		3.6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Bottom	1	28.8	7.8	25.4	5.1	5.1	21.7		17.4	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	CS(Mf)3(N)	12:36	Bottom	2	29.1	7.8	25.5	5.0		21.7		16	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Surface	1	29.3	8.0	21.3	6.3	5.9	4.3	5.7	4.6	4.9
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Surface	2	29.4	8.0	21.3	6.3		4.0		4.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Middle	1	29.1	7.9	22.8	5.5		6.6		4.2	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Middle	2	29.3	7.9	22.5	5.6		6.0		4.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Bottom	1	28.6	7.9	24.5	4.9	4.9	6.7		6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)16	11:48	Bottom	2	28.7	7.9	24.4	4.8		6.4		5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Surface	1	29.4	8.0	21.0	5.8	5.9	4.9	7.0	5.1	5.8
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Surface	2	29.6	7.9	20.8	5.9		4.5		5.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Bottom	1	28.9	7.8	23.1	4.8	4.7	9.9		5.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4a	11:58	Bottom	2	29.1	7.8	22.8	4.6		8.7		6.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Surface	1	29.6	8.0	20.6	6.3	6.4	4.5	7.3	5.8	6.1
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Surface	2	29.7	7.9	20.4	6.4		4.0		6.6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Bottom	1	29.0	7.8	22.7	4.9	4.9	10.7		6.4	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	SR4	12:03	Bottom	2	29.2	7.8	22.5	4.8		10.0		5.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Surface	1	29.8	8.1	20.2	7.8	7.9	3.0	5.9	3.3	3.3
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Surface	2	30.0	8.1	20.0	7.9		2.5		3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Bottom	1	28.9	7.9	23.5	5.1	5.1	9.5		3.2	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS8	12:15	Bottom	2	29.1	7.9	23.3	5.0		8.7		3.7	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Surface	1	29.8	8.1	19.7	7.9	8.0	3.1	3.2	3.3	3.3
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Surface	2	29.9	8.1	19.5	8.0		2.8		2.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Bottom	1	29.3	8.0	21.3	7.0	7.0	3.5		3.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Ebb	IS(Mf)9	12:24	Bottom	2	29.6	7.9	21.1	6.9		3.2		3.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Surface	1	28.8	7.9	24.3	4.9	4.9	4.5	6.4	4.3	5.5
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Surface	2	29.0	7.9	24.1	5.0		4.1		4.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Middle	1	28.4	7.9	27.1	4.8		5.8		4.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Middle	2	28.5	7.9	26.9	4.8		5.2		5.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Bottom	1	28.1	7.9	27.9	4.4	4.4	9.5		6.7	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)5	18:38	Bottom	2	28.3	7.9	27.6	4.3		9.0		7.4	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Surface	1	30.1	7.7	16.6	5.7	5.4	16.1	20.5	8.7	8.5
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Surface	2	30.4	7.9	16.6	5.7		16.1		9	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Middle	1	29.6	7.7	19.3	5.1		18.8		8.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Middle	2	29.9	7.9	19.3	5.0		18.8		9.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Bottom	1	29.5	7.7	20.1	5.2	5.2	26.6		7.7	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	CS(Mf)3(N)	17:22	Bottom	2	29.7	7.9	20.1	5.1		26.6		7.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Surface	1	29.4	8.1	22.1	7.3	7.4	4.1	7.9	5.9	7.9
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Surface	2	29.6	8.0	21.9	7.4		3.7		5.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Bottom	1	29.0	7.9	23.4	5.4	5.4	12.2		9.4	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)16	18:04	Bottom	2	29.2	7.9	23.2	5.4		11.5		10.5	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Surface	1	29.3	8.0	22.4	6.1	6.1	11.1	13.6	13.3	16.4
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Surface	2	29.4	7.9	22.2	6.1		10.5		13	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Middle	1								18.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Middle	2								17.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Bottom	1	29.3	8.0	22.6	6.1	6.1	17.0		18.3	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4a	17:51	Bottom	2	29.4	7.9	22.4	6.0		15.9		17.8	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Surface	1	29.3	8.0	22.3	6.8	6.8	15.6	14.8	23.9	23.7
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Surface	2	29.4	8.0	22.1	6.7		14.4		22.6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Bottom	1	29.2	8.0	22.4	6.6	6.6	14.7		23.4	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	SR4	17:46	Bottom	2	29.4	7.9	22.2	6.6		14.6		24.7	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Surface	1	29.4	8.0	22.3	6.9	6.9	13.7	15.3	16.8	20.2
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Surface	2	29.5	8.0	22.0	6.9		14.7		17.1	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Middle	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Middle	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Bottom	1	29.3	8.0	22.4	6.8	6.8	17.4		22.6	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS8	17:35	Bottom	2	29.5	8.0	22.1	6.8		15.4		24.1	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Surface	1					8.6		7.2		10.1
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Surface	2									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Middle	1	29.8	8.1	21.8	8.6		7.6		10.2	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Middle	2	29.9	8.1	21.6	8.5		6.7		10	
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Bottom	1									
TMCLKL	HY/2012/07	2017/09/18	Mid-Flood	IS(Mf)9	17:25	Bottom	2									

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
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CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management
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CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5 , CS(MF)3(N) AND SR4 ON 18 SEPTEMBER 2017

Photo 1 - Mid-Flood at CS(Mf)5 on 18 September 2017

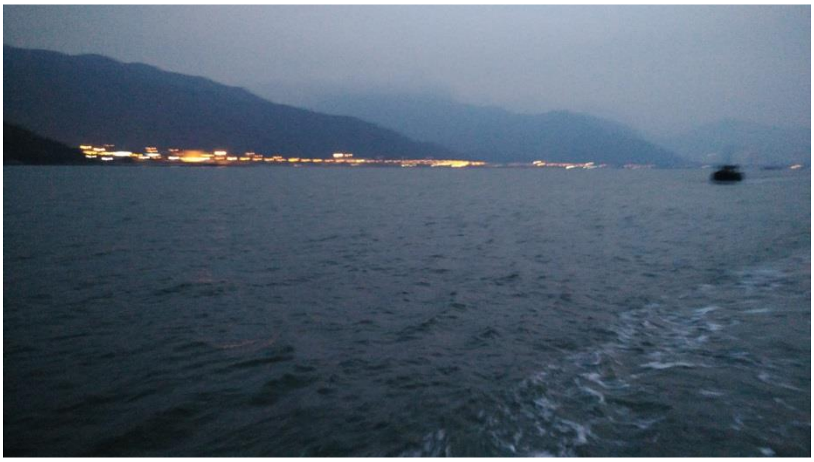

Photo 2 - Mid-Flood at SR4 on 18 September 2017

Photo 3 - Mid-Ebb at CS(Mf)5 on 18 September 2017

Photo 4 - Mid-Ebb at CS(Mf)3(N) on 18 September 2017

Email message

Environmental Resources Management

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25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
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E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	21 September 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_20 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_20 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_20 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5
0215660_20 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_20 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_20 September 2017_ Bottom-depth DO_F_Station CS(Mf)3(N)

A total of six exceedances were recorded on 20 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

Log No.	**Action Level Exceedance** **0215660_20 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5** **0215660_20 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)** **0215660_20 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)5** **0215660_20 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **0215660_20 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)** **0215660_20 September 2017_ Bottom-depth DO_F_Station CS(Mf)3(N)** **[Total No. of Exceedances = 6]**	
Date	20 September 2017 (Measured) 21 September 2017 (*In situ* results received by ERM) 27 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Measured Levels	Action Level Exceedance 1. Mid-ebb at CS(Mf)5 (Surface and Middle-depth DO = 4.9mg/L); 2. Mid-ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.7mg/L); 3. Mid-flood at CS(Mf)5 (Surface and Middle-depth DO = 4.8mg/L); 4. Mid-flood at CS(Mf)5 (Bottom-depth DO = 4.5mg/L); 5. Mid-flood at CS(Mf)3(N) (Surface and Middle-depth DO = 4.7mg/L); 6. Mid-flood at CS(Mf)3(N) (Bottom-depth DO = 4.6mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 20 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 20 September 2017. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality. • DO levels were generally lower at water quality monitoring stations due to two possible reasons of natural variation: 1. Natural ability for water to hold dissolved oxygen is reduced due to higher water temperature in summer months. 2. The higher Salinity recorded at the bottom level of the deeper CS(Mf)5 and CS(Mf)3(N) monitoring stations was possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level as the DO exceedances recorded at the bottom level showed higher levels of Salinity than the middle and surface levels.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 20 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 20 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Surface	1	29.4	7.9	24.1	5.0	4.9	4.2	6.3	5.8	6.6
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Surface	2	29.3	7.9	24.3	5.0		5.0		6.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Middle	1	29.0	7.9	24.9	4.7		6.7		6	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Middle	2	28.8	7.9	25.1	4.7		7.3		7.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Bottom	1	28.9	7.9	25.0	4.7	4.7	6.9		6.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)5	12:16	Bottom	2	28.8	7.9	25.2	4.7		7.6		7.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Surface	1	29.7	7.7	20.8	4.7	4.7	15.2	19.0	5.7	6.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Surface	2	29.4	7.7	20.8	4.8		14.1		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Middle	1	29.4	7.8	21.9	4.6		18.2		5.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Middle	2	29.1	7.8	21.8	4.7		17.4		5.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Bottom	1	29.3	7.8	23.0	4.7	4.8	24.3		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	CS(Mf)3(N)	14:18	Bottom	2	29.0	7.8	22.8	4.8		24.6		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Surface	1	29.3	7.9	23.0	5.7	5.5	7.7	10.1	5.7	5.1
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Surface	2	29.2	7.9	23.2	5.7		8.3		4.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Middle	1	29.1	7.9	23.7	5.2		9.5			
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Middle	2	29.0	7.9	24.0	5.2		10.3			
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Bottom	1	29.0	7.9	24.9	4.9	5.0	12.0		4.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)16	12:54	Bottom	2	28.8	7.9	25.2	5.0		12.7		5.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	Surface	1	29.3	7.9	22.8	5.4	5.5	12.0	12.1	13.5	14.0
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	Surface	2	29.2	7.9	23.1	5.5		12.4		14.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	Bottom	1	29.3	7.9	22.9	5.4	5.5	11.8		13.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4a	13:12	Bottom	2	29.1	7.9	23.1	5.5		12.0		14.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	Surface	1	29.6	7.9	22.4	5.5	5.5	6.0	8.7	4.6	5.5
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	Surface	2	29.4	7.9	22.6	5.5		6.4		4.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	Bottom	1	29.3	7.9	22.9	5.5	5.6	11.1		6.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	SR4	13:18	Bottom	2	29.1	7.9	23.2	5.6		11.1		6.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	Surface	1	29.6	7.9	22.8	5.9	6.0	6.0	7.1	6.7	6.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	Surface	2	29.4	7.9	23.0	6.0		6.2		5.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	Bottom	1	29.4	7.9	23.0	5.8	5.9	8.0		7.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS8	13:29	Bottom	2	29.2	7.9	23.2	5.9		8.1		7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	Surface	1	29.6	7.9	22.8	5.9	5.9	4.1	5.8	5.3	6.0
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	Surface	2	29.4	7.9	23.0	5.9		4.5		3.6	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	Bottom	1	29.4	7.9	23.0	5.9	5.9	7.0		8.4	
TMCLKL	HY/2012/07	2017-09-20	Mid-Ebb	IS(Mf)9	13:38	Bottom	2	29.2	7.9	23.2	5.9		7.5		6.6	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Surface	1	29.4	7.9	23.2	4.9	4.8	4.7	11.1	6.2	9.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Surface	2	29.2	7.9	23.4	4.9		5.1		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Middle	1	29.0	7.9	25.5	4.6		10.5		8.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Middle	2	28.8	7.9	25.8	4.6		11.0		8.1	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Bottom	1	28.9	7.9	25.9	4.5	4.5	17.2		14.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)5	19:45	Bottom	2	28.7	7.9	26.2	4.5		18.2		15	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Surface	1	29.9	7.6	18.4	4.8	4.7	16.2	19.0	5.7	6.4
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Surface	2	30.1	7.6	18.3	4.7		17.0		4.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Middle	1	29.5	7.7	20.4	4.7		19.1		5.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Middle	2	29.8	7.7	20.4	4.6		20.0		5.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Bottom	1	29.4	7.7	21.1	4.6	4.6	20.5		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	CS(Mf)3(N)	18:07	Bottom	2	29.7	7.7	21.1	4.5		21.3		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Surface	1	29.6	7.8	21.7	5.0	5.1	6.2	10.8	8.2	10.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Surface	2	29.4	7.8	21.9	5.0		6.8		9.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Middle	1	29.6	7.9	22.4	5.1		12.4		8.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Middle	2	29.4	7.9	22.6	5.2		13.2		7.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Bottom	1	29.6	7.9	22.8	5.3	5.3	12.6		16.3	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)16	19:06	Bottom	2	29.4	7.9	23.0	5.3		13.8		13.7	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	Surface	1	29.7	7.8	21.8	5.3	5.3	10.4	12.3	10.4	9.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	Surface	2	29.5	7.9	22.0	5.3		10.4		8.6	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	Bottom	1	29.7	7.8	22.0	5.3	5.4	14.2		9.5	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4a	18:53	Bottom	2	29.5	7.9	22.2	5.4		14.3		11	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	Surface	1	29.6	7.9	22.6	5.3	5.3	12.5	13.0	13.9	16.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	Surface	2	29.4	7.9	22.9	5.3		13.2		15	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	Bottom	1	29.5	7.9	22.7	5.3	5.4	13.2		18.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	SR4	18:47	Bottom	2	29.4	7.9	22.9	5.4		13.0		19.9	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		Surface	1					5.5		23.7		19.7
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		Surface	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8	18:30	Middle	1	29.6	7.9	22.8	5.5		22.3		19.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8	18:30	Middle	2	29.4	7.9	23.0	5.5		25.1		20.2	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		Bottom	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS8		Bottom	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		Surface	1					6.1		13.1		14.9
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		Surface	2									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9	18:21	Middle	1	29.7	7.9	23.0	6.1		12.8		15.8	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9	18:21	Middle	2	29.5	8.0	23.2	6.1		13.4		14	
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		Bottom	1									
TMCLKL	HY/2012/07	2017-09-20	Mid-Flood	IS(Mf)9		Bottom	2									

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5 AND CS(MF)3(N) ON 20 SEPTEMBER 2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 20 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 20 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5 AND CS(MF)3(N) ON 20 SEPTEMBER 2017

Photo 3 - Mid-Flood at CS(Mf)5 on 20 September 2017

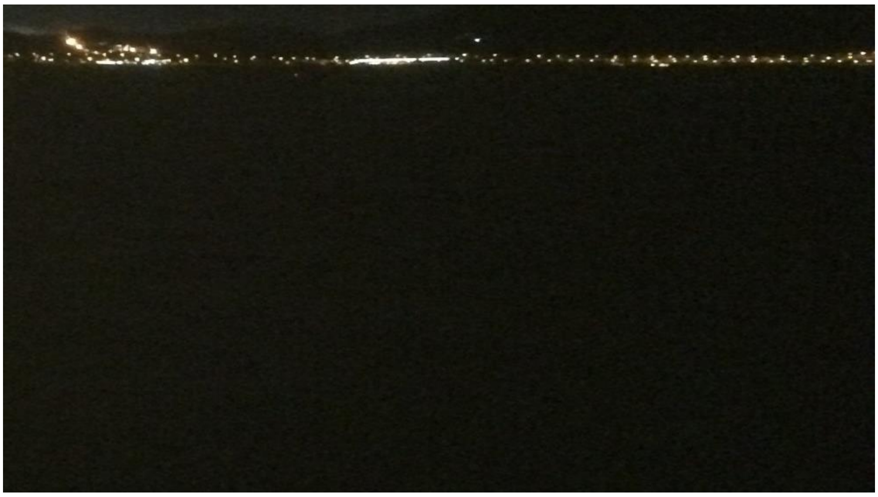
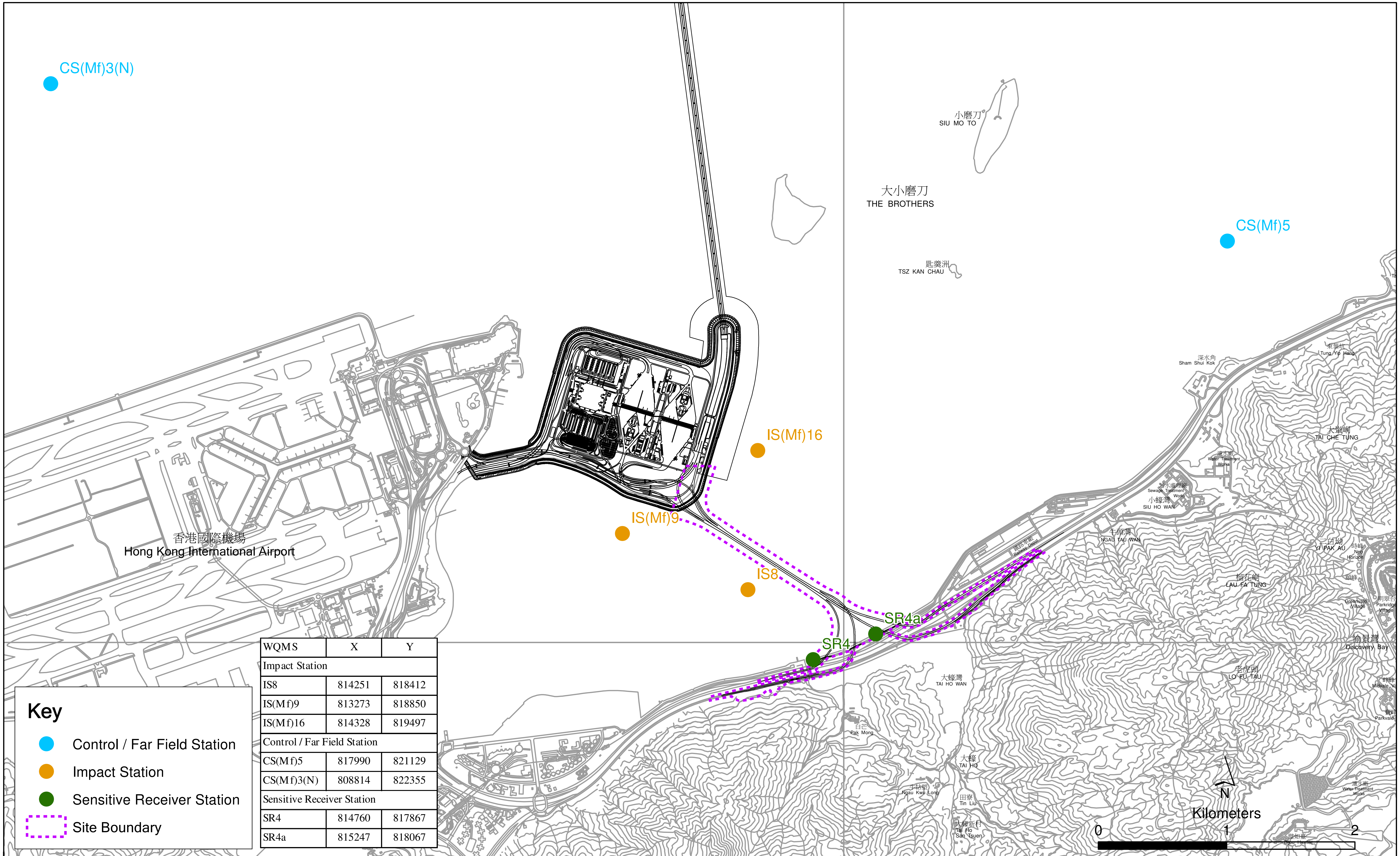


Photo 4 - Mid-Flood at CS(Mf)3(N) on 20 September 2017



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

Email
message

Environmental
Resources
Management

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ERM

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	23 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_22 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5
0215660_22 September 2017_ Bottom-depth DO_E_Station CS(Mf)5
0215660_22 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)
0215660_22 September 2017_ Bottom-depth DO_E_Station IS(Mf)16
0215660_22 September 2017_ Surface and Middle-depth DO_E_Station SR4a
0215660_22 September 2017_ Surface and Middle-depth DO_E_Station SR4
0215660_22 September 2017_ Surface and Middle DO-depth_F_Station CS(Mf)5
0215660_22 September 2017_ Bottom-depth DO_F_Station CS(Mf)5
0215660_22 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)
0215660_22 September 2017_ Bottom-depth DO_F_Station IS(Mf)16
0215660_22 September 2017_ Surface and Middle-depth DO_F_Station SR4a
0215660_22 September 2017_ Surface and Middle-depth DO_F_Station SR4
0215660_22 September 2017_ Surface and Middle-depth DO_F_Station IS8
0215660_22 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9

A total of fourteen exceedances were recorded on 22 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

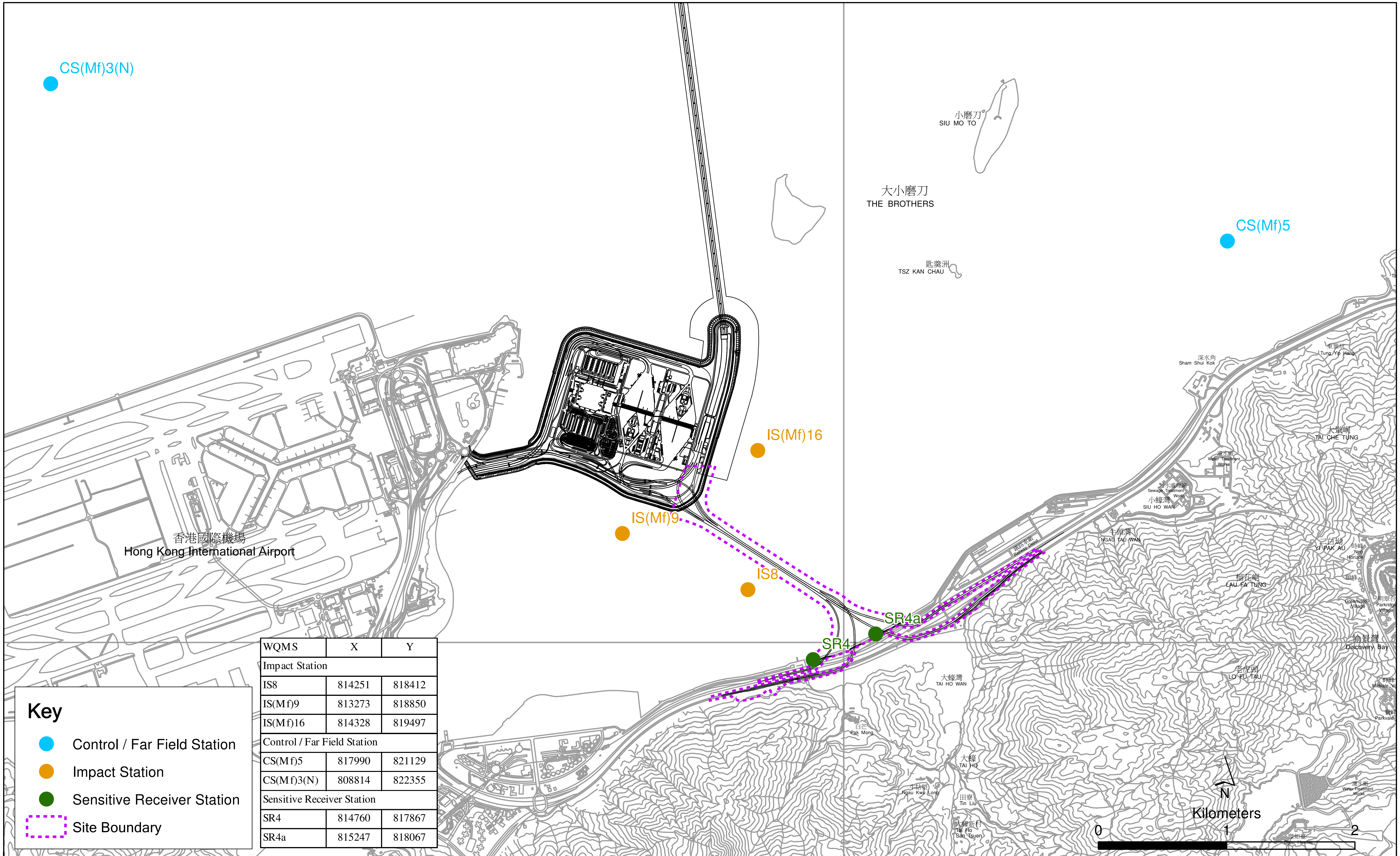
Log No.	<u>Action Level Exceedance</u> **0215660_22 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)5** **0215660_22 September 2017_ Bottom-depth DO_E_Station CS(Mf)5** **0215660_22 September 2017_ Surface and Middle-depth DO_E_Station CS(Mf)3(N)** **0215660_22 September 2017_ Bottom-depth DO_E_Station IS(Mf)16** **0215660_22 September 2017_ Surface and Middle-depth DO_E_Station SR4a** **0215660_22 September 2017_ Surface and Middle-depth DO_E_Station SR4** **0215660_22 September 2017_ Surface and Middle DO-depth_F_Station CS(Mf)5** **0215660_22 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station CS(Mf)3(N)** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)16** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station SR4a** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station SR4** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station IS8** **0215660_22 September 2017_ Surface and Middle-depth DO_F_Station IS(Mf)9** **[Total No. of Exceedances = 14]**	
Date	22 September 2017 (Measured) 23 September 2017 (*In situ* results received by ERM) 29 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-Ebb at CS(Mf)5 (Surface and Middle-depth DO = 4.8 mg/L); 2. Mid-Ebb at CS(Mf)5 (Bottom-depth DO = 4.6 mg/L); 3. Mid-Ebb at CS(Mf)3(N) (Surface and Middle-depth DO = 4.7 mg/L); 4. Mid-Ebb at IS(Mf)16 (Bottom-depth DO = 4.6 mg/L); 5. Mid-Ebb at SR4a (Surface and Middle-depth DO = 4.8 mg/L); 6. Mid-Ebb at SR4 (Surface and Middle-depth DO = 4.8 mg/L); 7. Mid-Flood at CS(Mf)5 (Surface and Middle-depth DO = 4.8 mg/L); 8. Mid-Flood at CS(Mf)5 (Bottom-depth DO = 4.5 mg/L); 9. Mid-Flood at CS(Mf)3(N) (Surface and Middle-depth DO = 4.7 mg/L); 10. Mid-Flood at IS(Mf)16 (Surface and Middle-depth DO = 4.7 mg/L); 11. Mid-Flood at SR4a (Surface and Middle-depth DO = 4.8 mg/L); 12. Mid-Flood at SR4a (Surface and Middle-depth DO = 4.9 mg/L); 13. Mid-Flood at IS8 (Surface and Middle-depth DO = 4.7 mg/L); 14. Mid-Flood at IS(Mf)9 (Surface and Middle-depth DO = 4.9 mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 22 September 2017.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 22 September 2017. • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • CS(Mf)3(N) and CS(Mf)5 are distant (>5km and >3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality.
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results on 22 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 22 September 2017 is attached.

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Surface	1	30.1	7.9	22.1	5.1	4.8	5.9	11.7	5.9	8.5
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Surface	2	30.3	7.8	21.9	5.1		6.2		6.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Middle	1	29.2	7.9	24.1	4.5		9.8		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Middle	2	29.3	7.8	23.9	4.6		10.6		7.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Bottom	1	29.1	7.9	24.3	4.6	4.6	19.1		13.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)5	14:48	Bottom	2	29.3	7.8	24.0	4.5		18.6		11.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Surface	1	29.6	7.9	21.6	4.7	4.7	8.7	12.8	5.5	11.4
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Surface	2	29.9	7.9	21.5	4.7		8.8		4.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Middle	1	29.2	8.0	22.7	4.8		12.0		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Middle	2	29.5	7.9	22.6	4.7		12.4		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Bottom	1	29.1	8.0	24.1	4.8	4.8	17.0		22.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	CS(Mf)3(N)	13:01	Bottom	2	29.4	8.0	24.1	4.7		17.8		20.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Surface	1	29.5	7.8	22.8	5.2	5.2	6.1	7.1	7	8.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Surface	2	29.7	7.8	22.6	5.3		6.5		5.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Middle	1	29.4	7.8	22.9	5.0		7.5		6.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Middle	2	29.5	7.8	22.7	5.1		7.8		5.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Bottom	1	29.2	7.9	24.0	4.6	4.6	6.9		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)16	14:08	Bottom	2	29.3	7.8	23.7	4.6		7.7		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	Surface	1	29.3	7.8	22.7	4.8	4.8	8.0	9.3	7.3	8.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	Surface	2	29.5	7.8	22.5	4.8		8.8		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	Bottom	1	29.3	7.8	23.0	4.8	4.8	10.0		8.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4a	13:51	Bottom	2	29.5	7.8	22.8	4.8		10.5		9.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	Surface	1	29.4	7.8	22.4	4.8	4.8	11.4	11.8	6.5	10.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	Surface	2	29.6	7.8	22.2	4.8		11.7		7.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	Bottom	1	29.3	7.8	23.0	4.8	4.8	11.9		12.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	SR4	13:45	Bottom	2	29.5	7.8	22.8	4.8		12.3		13.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	Surface	1	29.6	7.8	22.5	5.1	5.2	6.0	10.8	5.3	8.7
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	Surface	2	29.8	7.8	22.3	5.2		6.7		5.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	Bottom	1	29.2	7.8	23.2	5.0	5.0	15.0		11.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS8	13:35	Bottom	2	29.4	7.8	22.9	5.0		15.6		12.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	Surface	1	29.8	7.8	22.5	5.3	5.3	4.4	7.8	4.5	4.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	Surface	2	30.0	7.8	22.3	5.3		5.1		4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	Bottom	1	29.2	7.8	23.1	5.1	5.1	10.8		4.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Ebb	IS(Mf)9	13:22	Bottom	2	29.4	7.8	22.8	5.1		10.9		3.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Surface	1	29.5	7.8	21.5	4.9	4.8	5.5	9.8	5.2	6.7
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Surface	2	29.3	7.8	21.7	4.9		5.9		5.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Middle	1	29.5	7.9	22.7	4.6		6.9		5.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Middle	2	29.3	7.9	22.9	4.6		7.3		5.1	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Bottom	1	29.4	7.9	23.5	4.5	4.5	15.5		9.6	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)5	07:11	Bottom	2	29.2	7.9	23.8	4.5		17.5		8.7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Surface	1	29.3	7.9	19.8	4.7	4.7	14.1	22.1	5.5	11.4
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Surface	2	29.6	7.8	19.7	4.6		15.6		4.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Middle	1	29.4	7.9	20.5	4.7		22.2		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Middle	2	29.6	7.8	20.5	4.6		22.6		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Bottom	1	29.4	7.9	20.9	4.7	4.7	29.5		22.3	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	CS(Mf)3(N)	08:36	Bottom	2	29.6	7.9	20.9	4.6		28.7		20.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Surface	1	29.5	7.8	22.2	4.7	4.7	7.1	8.0	6.1	8.2
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Surface	2	29.3	7.8	22.4	4.7		8.0		5.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Middle	1	29.4	7.8	22.4	4.7		8.3		8.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Middle	2	29.3	7.8	22.7	4.7		8.5		9.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Bottom	1	29.4	7.8	22.5	4.7	4.7	8.2		8.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)16	07:58	Bottom	2	29.2	7.8	22.7	4.7		8.0		9.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	08:11	Surface	1	29.4	7.8	21.5	4.8	4.8	6.6	7.5	5.9	6.8
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	08:11	Surface	2	29.2	7.8	21.8	4.8		7.2		7.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	08:11	Bottom	1	29.4	7.8	21.6	4.8	4.8	7.8		7.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4a	08:11	Bottom	2	29.3	7.8	21.8	4.8		8.4		6.4	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	08:16	Surface	1	29.4	7.8	21.4	4.9	4.9	6.8	10.3	7.3	7.3
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	08:16	Surface	2	29.2	7.8	21.6	4.9		7.2		8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	08:16	Bottom	1	29.4	7.8	21.8	4.8	4.8	12.7		7	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	SR4	08:16	Bottom	2	29.2	7.8	22.1	4.8		14.5		6.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	08:28	Surface	1	29.4	7.8	22.0	4.7	4.7	10.8	14.0	7.7	8.6
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	08:28	Surface	2	29.2	7.8	22.2	4.7		11.6		6.5	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	08:28	Bottom	1	29.4	7.8	22.5	4.7	4.7	16.2		9.9	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS8	08:28	Bottom	2	29.2	7.8	22.7	4.7		17.4		10.2	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	08:37	Surface	1	29.3	7.8	22.4	4.9	4.9	6.2	7.9	6	7.0
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	08:37	Surface	2	29.1	7.8	22.6	4.9		6.5		6.1	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	08:37	Bottom	1	29.3	7.8	23.2	4.7	4.7	9.2		7.8	
TMCLKL	HY/2012/07	2017-09-22	Mid-Flood	IS(Mf)9	08:37	Bottom	2	29.2	7.8	23.4	4.7		9.8		7.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 22 SEPTEMBER 2017

Photo 1 - Mid-Ebb at CS(Mf)5 on 22 September 2017

Photo 2 - Mid-Ebb at CS(Mf)3(N) on 22 September 2017

Photo 3 - Mid-Ebb at IS(Mf)16 on 22 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 22 SEPTEMBER 2017

Photo 4 - Mid-Ebb at SR4a on 22 September 2017

Photo 5 - Mid-Ebb at SR4 on 22 September 2017

Photo 6 - Mid-Flood at CS(Mf)5 on 22 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 22 SEPTEMBER 2017

Photo 7 - Mid-Flood at CS(Mf)3(N) on 22 September 2017

Photo 8 - Mid-Flood at IS(Mf)16 on 22 September 2017

Photo 9 - Mid-Flood at SR4a on 22 September 2017

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT CS(MF)5, CS(MF)3(N), IS(MF)16, IS(MF)9, SR4, SR4A AND IS8 ON 22 SEPTEMBER 2017

Photo 10 - Mid-Flood at SR4 on 22 September 2017

Photo 11 - Mid-Flood at IS8 on 22 September 2017

Photo 12 - Mid-Flood at IS(Mf)9 on 22 September 2017

Email message

Environmental Resources Management

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To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	12 October 2017

ERM

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_25 September 2017_ Depth-averaged SS_F_Station IS8

A total of one exceedance was recorded on 25 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

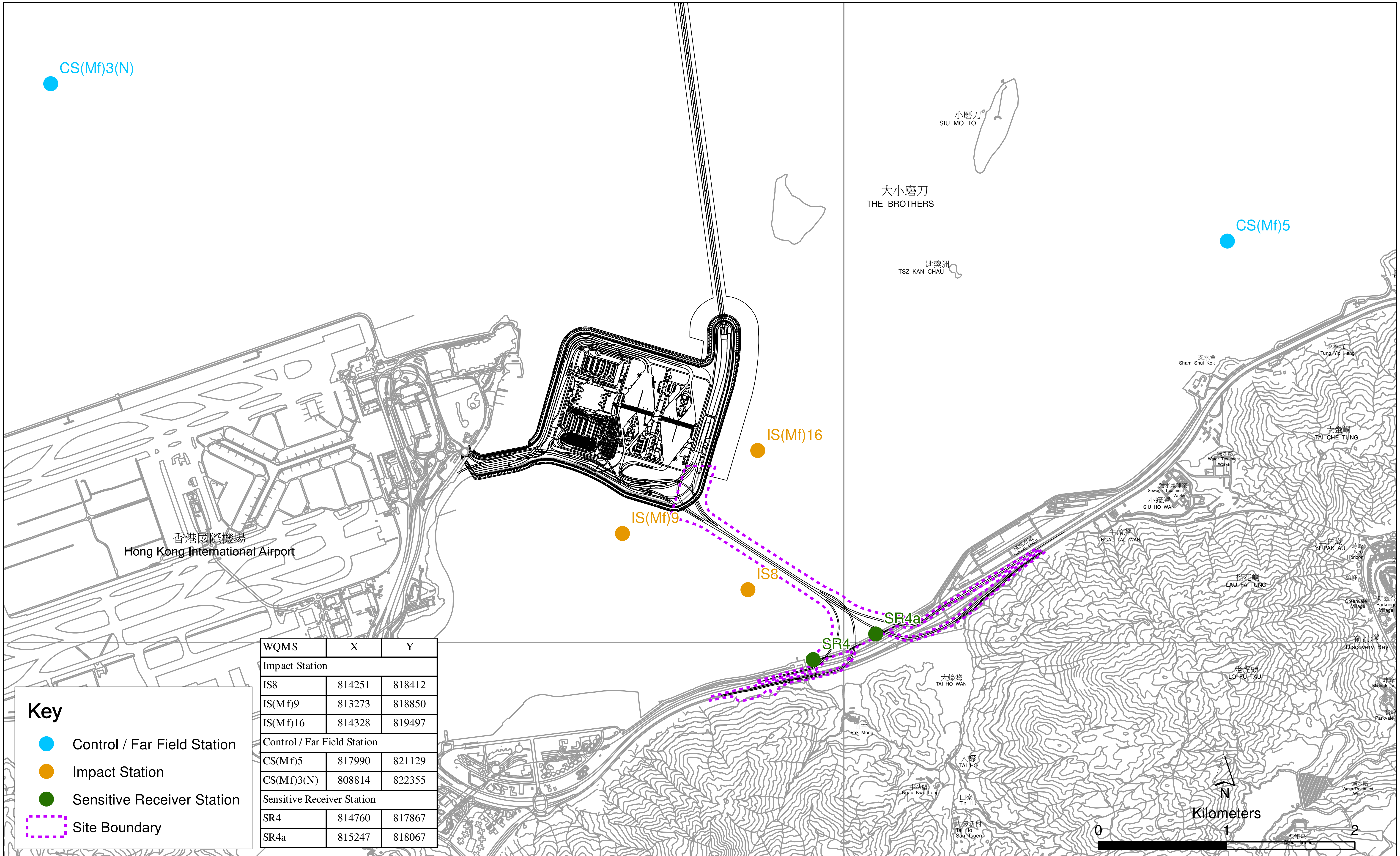
Log No.	<u>**Action Level Exceedance**</u> **0215660_25 September 2017_ Depth-averaged SS_F_Station IS8** **[Total No. of Exceedances = 1]**	
Date	25 September 2017 (Measured) 26 September 2017 (*In situ* results received by ERM) 30 September 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Depth-averaged Suspended Solids (SS)	
Action Levels for SS	SS	120% of upstream control station at the same tide of the same day and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels for SS	SS	130% of upstream control station at the same tide of the same day and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-flood at IS8 (Depth-averaged SS = 23.7mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 25 September 2017.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedance of depth-averaged SS is unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 25 September 2017. • Apart from IS8, depth-averaged SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. Depth-averaged SS levels at IS8 at mid-ebb tides were similar to those at other stations apart from the marginal exceedance observed at mid-flood tide. • Depth-averaged Turbidity levels and average DO levels at all stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day.	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 25 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 25 September 2017 is attached.	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Surface	1	29.9	7.9	23.6	5.7	5.3	4.1	3.7	5.4	7.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Surface	2	29.7	7.9	23.8	5.6		3.9		4.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Middle	1	29.2	7.9	25.4	4.9		2.3		6.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Middle	2	29.1	7.9	25.6	4.8		3.3		7.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Bottom	1	29.2	7.9	26.5	4.7	4.7	4.3		10.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)5	15:58	Bottom	2	29.0	7.9	26.7	4.7		4.4		8.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Surface	1	29.7	7.8	20.9	5.0	5.2	6.3	8.0	3.7	9.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Surface	2	29.5	7.9	20.8	5.1		5.9		4.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Middle	1	29.6	7.9	22.5	5.2		7.5		10.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Middle	2	29.3	8.0	22.5	5.3		6.1		9.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Bottom	1	29.4	7.9	24.1	5.2	5.3	12.0		15.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	CS(Mf)3(N)	14:35	Bottom	2	29.2	8.0	24.1	5.3		10.1		13.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	Surface	1	29.7	7.9	23.5	5.5	5.5	6.8	6.3	7.0	7.6
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	Surface	2	29.5	7.9	23.8	5.4		7.0		6.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	Bottom	1	29.2	7.9	24.6	4.9	4.9	6.3		8.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)16	15:31	Bottom	2	29.1	7.9	24.8	4.9		5.2		7.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	Surface	1	29.5	7.9	23.7	5.1	5.1	8.3	10.8	13.2	13.4
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	Surface	2	29.3	7.9	24.0	5.1		10.1		14.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	Bottom	1	29.5	7.9	23.8	5.0	5.0	11.9		12.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4a	15:18	Bottom	2	29.3	7.9	24.0	5.0		12.8		13.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	Surface	1	29.7	7.9	23.5	5.3	5.3	5.7	8.6	13.7	15.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	Surface	2	29.5	7.9	23.7	5.2		6.2		15.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	Bottom	1	29.4	7.8	23.8	4.8	4.8	10.5		16.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	SR4	15:13	Bottom	2	29.3	7.8	24.1	4.8		12.1		15.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	Surface	1	29.7	7.9	23.5	5.6	5.6	6.9	8.3	10.7	13.0
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	Surface	2	29.5	7.9	23.7	5.5		8.3		11.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	Bottom	1	29.6	7.9	23.6	5.5	5.5	8.7		15.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS8	15:05	Bottom	2	29.5	7.9	23.8	5.5		9.2		14.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	Surface	1	29.8	7.9	23.6	5.8	5.8	4.3	6.4	12.6	12.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	Surface	2	29.6	7.9	23.8	5.7		5.0		12.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	Bottom	1	29.7	7.9	23.6	5.6	5.6	7.6		11.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Ebb	IS(Mf)9	14:56	Bottom	2	29.5	7.9	23.9	5.6		8.6		12.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Surface	1	29.4	7.9	23.2	5.5	5.2	4.6	6.8	11.4	13.7
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Surface	2	29.2	7.9	23.4	5.4		4.4		10.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Middle	1	29.2	7.9	24.2	5.0		5.5		13.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Middle	2	29.0	7.9	24.5	5.0		5.3		12.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Bottom	1	29.2	7.9	24.9	4.8	4.8	10.9		17.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)5	09:35	Bottom	2	29.0	7.9	25.2	4.8		10.3		17.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Surface	1	29.9	7.8	19.0	5.2	5.1	6.4	7.3	3.7	9.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Surface	2	29.7	7.9	19.0	5.3		6.1		4.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Middle	1	29.6	7.8	19.9	4.9		6.6		10.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Middle	2	29.3	7.8	19.9	5.0		5.7		9.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Bottom	1	29.5	7.8	21.4	4.8	4.9	10.0		15.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	CS(Mf)3(N)	10:51	Bottom	2	29.3	7.9	21.3	4.9		9.1		13.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	Surface	1	29.4	7.9	23.3	5.4	5.4	5.1	5.5	6.0	6.3
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	Surface	2	29.2	7.9	23.5	5.4		5.0		5.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	Bottom	1	29.2	7.9	23.7	5.2	5.2	5.9		6.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)16	10:04	Bottom	2	29.1	7.9	24.0	5.2		5.9		7.2	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	Surface	1	29.4	7.9	23.3	5.2	5.2	11.8	12.0	14.6	14.2
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	Surface	2	29.2	7.9	23.5	5.2		11.6		14.0	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	Bottom	1	29.4	7.9	23.3	5.2	5.2	12.5		14.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4a	10:14	Bottom	2	29.2	7.9	23.6	5.2		12.1		13.9	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	Surface	1	29.4	7.9	23.7	5.1	5.1	15.3	15.0	21.0	21.5
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	Surface	2	29.2	7.9	23.9	5.0		15.8		21.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	Bottom	1	29.4	7.9	23.9	5.0	5.0	14.2		21.8	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	SR4	10:19	Bottom	2	29.2	7.9	24.1	5.0		14.6		21.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	Surface	1	29.3	7.9	23.9	5.0	5.0	21.8	24.0	20.9	23.7
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	Surface	2	29.1	7.9	24.1	5.0		22.2		20.1	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	Bottom	1	29.3	7.9	23.9	5.0		26.0		26.4	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS8	10:31	Bottom	2	29.1	7.9	24.2	5.0		26.0		27.5	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	Surface	1	29.3	7.9	23.5	5.6	5.6	6.7	7.5	10.9	11.1
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	Surface	2	29.1	7.9	23.7	5.6		6.6		11.7	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	Bottom	1	29.3	7.9	23.7	5.5		8.3		11.6	
TMCLKL	HY/2012/07	2017-09-25	Mid-Flood	IS(Mf)9	10:38	Bottom	2	29.1	7.9	23.9	5.5		8.5		10.1	

Note: Indicates Exceedance of Action Level

Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Key

- Control / Far Field Station
- Impact Station
- Sensitive Receiver Station
- Site Boundary

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT IS8 ON 25 SEPTEMBER 2017

Photo 1 - Mid-Flood at IS8 on 25 September 2017

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	28 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_27 September 2017_ Bottom-depth DO_F_Station CS(Mf)5

A total of one exceedance was recorded on 27 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

Notification of Exceedance

<table>
<tr><td>Log No.</td><td colspan="2"><u>Action Level Exceedance</u>
0215660_27 September 2017_ Bottom-depth DO_F_Station CS(Mf)5

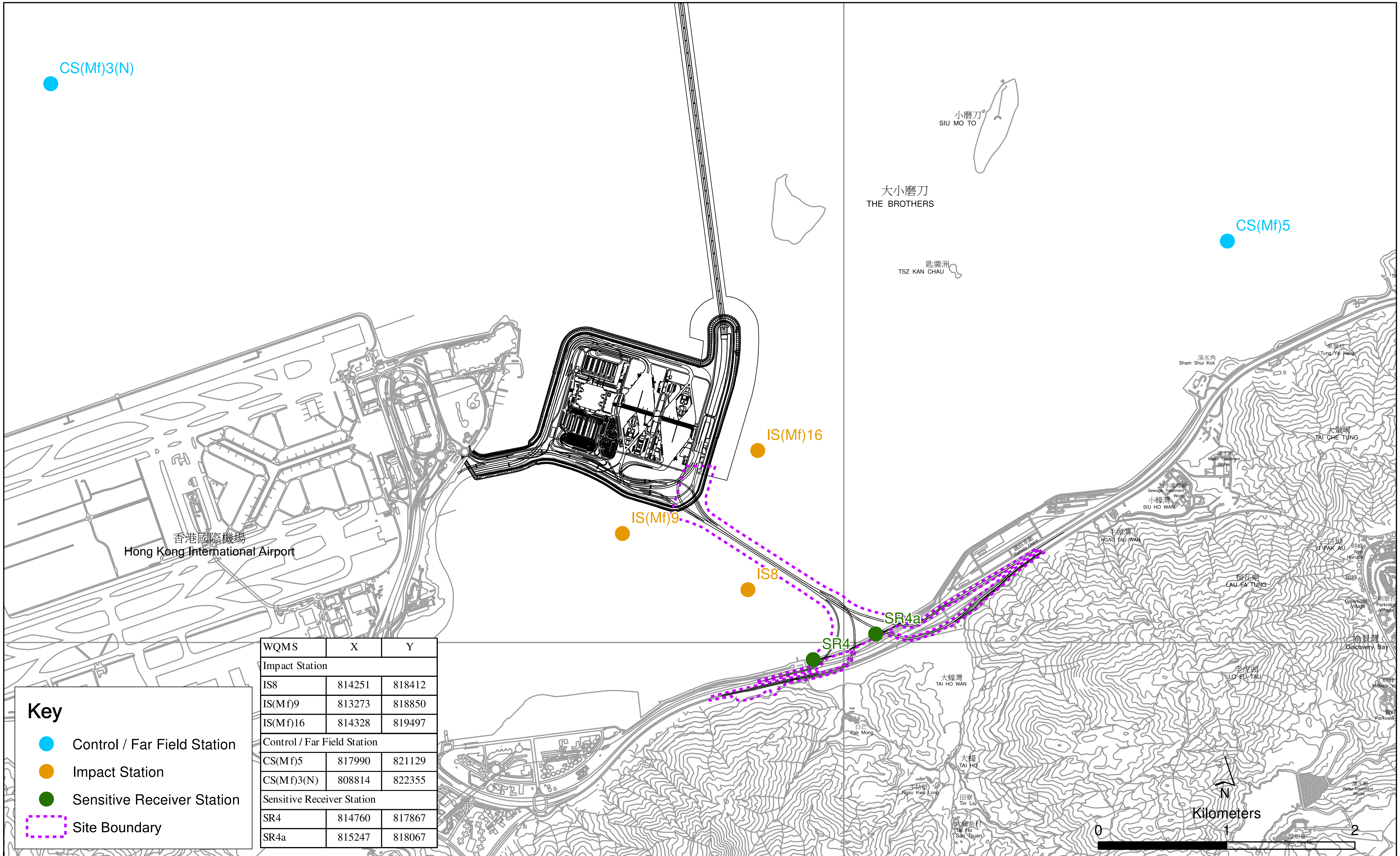
[Total No. of Exceedances = 1]</td></tr>
<tr><td>Date</td><td colspan="2">27 September 2017 (Measured)
28 September 2017 (In situ results received by ERM)
9 October 2017 (Laboratory results received by ERM)</td></tr>
<tr><td>Monitoring Station</td><td colspan="2">CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)</td></tr>
<tr><td>Parameter(s) with Exceedance(s)</td><td colspan="2">Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)</td></tr>
<tr><td rowspan="2">Action Levels for DO</td><td>Surface and Middle-depth DO</td><td>5.0 mg/L</td></tr>
<tr><td>Bottom-depth DO</td><td>4.7 mg/L</td></tr>
<tr><td rowspan="2">Limit Levels for DO</td><td>Surface and Middle-depth DO</td><td>4.2 mg/L</td></tr>
<tr><td>Bottom-depth DO</td><td>3.6 mg/L</td></tr>
<tr><td>Measured Levels</td><td colspan="2"><u>Action Level Exceedance</u>
1. Mid-flood at CS(Mf)5 (Bottom-depth DO = 4.5mg/L).</td></tr>
<tr><td>Works Undertaken (at the time of monitoring event)</td><td colspan="2">No major marine works was undertaken under this Contract on 27 September 2017.</td></tr>
<tr><td>Possible Reason for Action or Limit Level Exceedance(s)</td><td colspan="2">The exceedance of bottom-depth DO is unlikely to be due to the Project, in view of the following:
• No marine works was undertaken under this Contract on 27 September 2017.
• CS(Mf)5 is distant (>3km respectively) from the marine works area under this Contract, thus the observed exceedance should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality.
• DO levels were generally lower at water quality monitoring stations due to two possible reasons of natural variation:
1. Natural ability for water to hold dissolved oxygen is reduced due to higher water temperature in summer months.
2. The higher Salinity recorded at the bottom level of the deeper CS(Mf)5 monitoring station was possibly caused by the stratification of seawater during summer when the freshwater discharged from the Pearl River tended to form a surface layer of lower salinity water, which is probably responsible for the lower Salinity recorded at the surface and middle levels compared to the higher Salinity recorded at the bottom level of the monitoring stations. The stratification of seawater in the water column is likely a contributing factor to the results of lower levels of DO at the bottom level as the DO exceedance recorded at the bottom level showed higher levels of Salinity than the middle and surface levels.</td></tr>
<tr><td>Actions Taken / To Be Taken</td><td colspan="2">No immediate action is considered necessary. The ET will monitor for future trends in exceedances.</td></tr>
<tr><td>Remarks</td><td colspan="2">The monitoring results on 27 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 27 September 2017 is attached.</td></tr>
</table>

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Surface	1.0	30.9	7.9	18.0	6.2	5.6	3.4	2.9	3.0	2.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Surface	2.0	30.8	7.9	18.2	6.1		2.9		2.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Middle	1.0	30.0	7.9	22.9	5.0		2.7		3.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Middle	2.0	29.8	7.9	23.1	5.0		2.7		2.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Bottom	1	29.7	7.9	25.4	5.0	5.0	3.1		2.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)5	17:46	Bottom	2	29.5	7.9	25.8	5.0		2.6		3.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Surface	1.0	30.6	7.7	15.1	5.5	5.4	7.4	13.2	1.2	2.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Surface	2.0	30.9	7.8	15.2	5.7		6.9		1.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Middle	1.0	29.8	7.7	19.2	5.2		11.8		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Middle	2.0	30.1	7.9	19.0	5.3		12.8		2.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Bottom	1	29.5	7.8	22.0	5.0	5.1	20.4		4.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	CS(Mf)3(N)	16:35	Bottom	2	29.8	7.9	22.1	5.2		19.7		3.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	Surface	1.0	31.1	7.9	19.1	6.4	6.4	5.4	7.8	3.5	2.9
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	Surface	2.0	30.9	7.9	19.3	6.3		5.0		3.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	Bottom	1	30.4	7.9	21.1	5.5	5.6	10.4		2.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)16	17:20	Bottom	2	30.2	7.9	21.4	5.6		10.4		2.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	Surface	1.0	30.7	7.9	19.6	5.5	5.6	8.8	10.6	6.8	7.4
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	Surface	2.0	30.5	7.9	19.8	5.6		8.5		8.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	Bottom	1	30.1	7.9	21.2	5.0	5.0	12.8		7.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4a	17:09	Bottom	2	29.9	7.8	21.4	4.9		12.3		7.0	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	Surface	1.0	30.6	7.9	20.2	5.8	5.8	8.1	8.5	4.5	4.5
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	Surface	2.0	30.4	7.9	20.4	5.8		7.8		5.0	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	Bottom	1	30.4	7.9	20.6	5.5	5.5	9.3		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	SR4	17:05	Bottom	2	30.2	7.9	20.8	5.5		8.6		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	Surface	1.0	30.6	7.9	20.0	6.1	6.1	6.5	10.0	4.6	3.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	Surface	2.0	30.4	7.9	20.2	6.0		6.2		4.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	Bottom	1	30.1	7.9	21.6	5.2	5.2	13.8		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS8	16:55	Bottom	2	29.9	7.8	21.8	5.2		13.6		3.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	Surface	1.0	30.9	7.9	20.7	6.4	6.4	7.4	8.3	3.2	5.0
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	Surface	2.0	30.8	7.9	20.1	6.4		7.0		4.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	Bottom	1	30.7	7.9	21.6	5.9	5.9	9.3		6.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Ebb	IS(Mf)9	16:46	Bottom	2	30.5	7.9	21.9	5.9		9.6		5.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Surface	1.0	30.4	7.9	19.6	5.4	5.1	3.5	3.7	0.9	0.7
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Surface	2.0	30.3	7.9	19.8	5.4		3.0		0.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Middle	1.0	29.8	7.9	22.2	4.7		3.6		0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Middle	2.0	29.6	7.8	22.4	4.7		3.1		0.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Bottom	1	29.5	7.9	25.0	4.5	4.5	4.6		<0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)5	11:31	Bottom	2	29.3	7.9	25.2	4.5		4.1		<0.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Surface	1.0	30.8	7.6	12.0	5.8	5.5	6.6	11.6	2.7	3.8
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Surface	2.0	30.8	7.6	12.0	5.8		6.6		2.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Middle	1.0	29.9	7.7	17.6	5.1		12.5		2.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Middle	2.0	29.9	7.7	17.6	5.1		12.5		2.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Bottom	1	29.7	7.7	20.5	5.1	5.1	15.6		5.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	CS(Mf)3(N)	13:02	Bottom	2	29.7	7.7	20.5	5.1		15.8		6.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Surface	1.0	30.2	7.9	19.6	5.3	5.3	6.2	10.2	2.6	4.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Surface	2.0	30.0	7.8	19.9	5.3		5.9		2.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Middle	1.0	30.0	7.9	20.3	5.2		9.0		5.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Middle	2.0	29.9	7.8	20.5	5.2		9.0		4.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Bottom	1	29.9	7.9	22.6	4.9	4.9	15.6		5.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)16	11:58	Bottom	2	29.7	7.8	22.8	4.9		15.3		6.9	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	Surface	1.0	30.3	7.9	18.2	5.4	5.4	8.3	11.6	7.6	7.7
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	Surface	2.0	30.1	7.8	18.4	5.4		7.8		8.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	Bottom	1	30.0	7.9	19.8	5.0	5.0	15.5		7.4	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4a	12:09	Bottom	2	29.9	7.8	20.0	5.0		14.9		7.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	Surface	1.0	30.7	7.9	17.5	5.8	5.8	4.6	6.0	3.0	3.6
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	Surface	2.0	30.5	7.8	17.6	5.8		4.1		2.7	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	Bottom	1	30.3	7.9	18.7	5.4	5.4	7.8		4.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	SR4	12:13	Bottom	2	30.1	7.8	18.9	5.4		7.6		4.6	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	Surface	1.0	30.6	7.9	18.3	5.6	5.6	9.1	10.6	6.5	7.1
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	Surface	2.0	30.4	7.8	18.5	5.5		8.5		8.1	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	Bottom	1	30.2	7.9	19.5	5.3	5.3	12.0		6.2	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS8	12:26	Bottom	2	30.0	7.8	19.7	5.3		12.7		7.5	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	Surface	1.0	30.5	7.9	19.8	5.6	5.6	6.4	6.6	5.1	4.5
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	Surface	2.0	30.3	7.9	20.0	5.6		5.9		4.8	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9		Middle	1.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9		Middle	2.0									
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	Bottom	1	30.4	7.9	20.4	5.6	5.6	7.4		4.3	
TMCLKL	HY/2012/07	2017-09-27	Mid-Flood	IS(Mf)9	12:34	Bottom	2	30.2	7.9	20.6	5.6		6.7		3.9	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

Photo 1 - Mid-Flood at CS(Mf)5 on 27 September 2017



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

Email message

Environmental Resources Management

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll Environ – Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section
Subject	Notification of Exceedance for Marine Water Quality Impact Monitoring
Date	30 September 2017

Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following Log no.:

Action Level Exceedance
0215660_29 September 2017_ Bottom-depth DO_E_Station IS8
0215660_29 September 2017_ Bottom-depth DO_E_Station IS(Mf)9
0215660_29 September 2017_ Bottom-depth DO_E_Station SR4a
0215660_29 September 2017_ Bottom-depth DO_E_Station SR4
0215660_29 September 2017_ Bottom-depth DO_F_Station CS(Mf)5

A total of five exceedances were recorded on 29 September 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07
TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Marine Water Quality Impact Monitoring

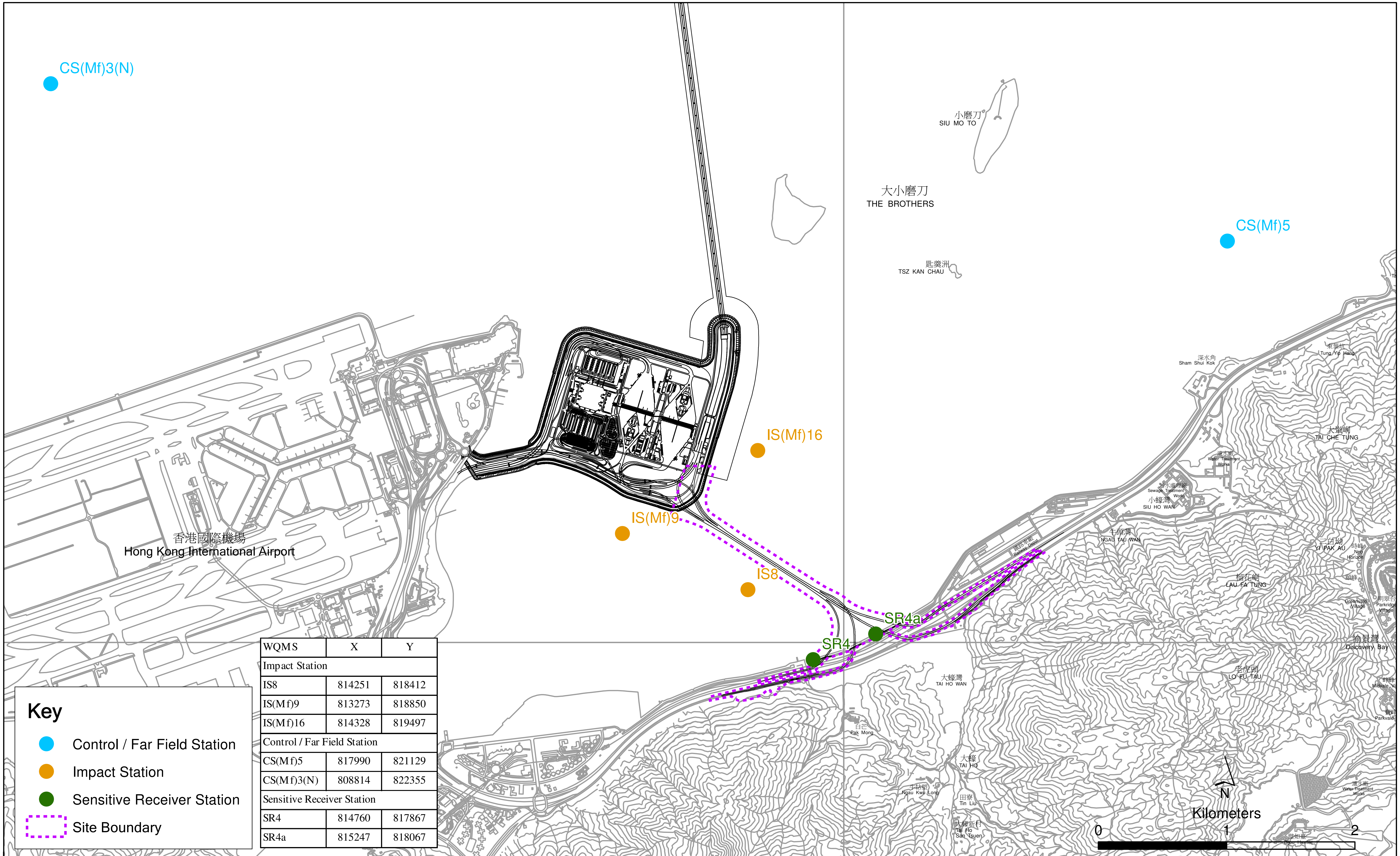
Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> **0215660_30 September 2017_ Bottom-depth DO_E_Station IS8** **0215660_30 September 2017_ Bottom-depth DO_E_Station IS(Mf)9** **0215660_30 September 2017_ Bottom-depth DO_E_Station SR4a** **0215660_30 September 2017_ Bottom-depth DO_E_Station SR4** **0215660_30 September 2017_ Bottom-depth DO_F_Station CS(Mf)5** **[Total No. of Exceedances = 5]**	
Date	29 September 2017 (Measured) 30 September 2017 (*In situ* results received by ERM) 11 October 2017 (Laboratory results received by ERM)	
Monitoring Station	CS(Mf)5, SR4a, SR4, IS8, IS(Mf)16, IS(Mf)9, CS(Mf)3(N)	
Parameter(s) with Exceedance(s)	Surface and Middle-depth DO, Bottom-depth Dissolved Oxygen (DO)	
Action Levels for DO	Surface and Middle-depth DO	5.0 mg/L
	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Surface and Middle-depth DO	4.2 mg/L
	Bottom-depth DO	3.6 mg/L
Measured Levels	<u>Action Level Exceedance</u> 1. Mid-ebb at IS8 (Bottom-depth DO = 4.5mg/L); 2. Mid-ebb at IS(Mf)9 (Bottom-depth DO = 4.6mg/L); 3. Mid-ebb at SR4a (Bottom-depth DO = 4.0mg/L); 4. Mid-ebb at SR4 (Bottom-depth DO = 4.6mg/L); and 5. Mid-flood at CS(Mf)5 (Bottom-depth DO = 4.5mg/L).	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 29 September 2017.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances of surface and middle and bottom-depth DO are unlikely to be due to the Project, in view of the following: • No marine works was undertaken under this Contract on 29 September 2017. • All monitored parameters, except DO, at all monitoring stations were in compliance with the Action and Limit Levels during both mid-ebb and mid-flood tides on the same day. • CS(Mf)5 are distant (>3km respectively) from the marine works area under this Contract, thus the observed exceedances should not be affected by the marine works under this Contract and they are considered to be natural fluctuation in water quality.	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 29 September 2017 and locations of water quality monitoring stations are attached. Site photo record on 29 September 2017 is attached.	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Surface	1	30.1	7.8	19.5	5.9	5.5	1.8	1.7	1.2	1.5
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Surface	2	29.8	7.9	19.8	5.8		1.8		1.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Middle	1	30.2	7.8	22.1	5.1		1.7		1.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Middle	2	29.9	7.9	22.4	5.0		1.7		1.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Bottom	1	29.9	7.8	25.3	4.9	4.9	1.7		1.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)5	06:43	Bottom	2	29.6	7.9	25.6	4.8		1.7		1.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Surface	1	30.2	7.8	16.9	6.0	5.7	5.0	5.9	3.2	3.5
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Surface	2	30.4	7.8	16.9	6.1		5.5		2.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Middle	1	30.1	7.8	20.5	5.2		4.7		3.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Middle	2	30.4	7.7	20.3	5.3		4.7		3.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Bottom	1	29.4	7.8	25.4	4.6	4.7	7.6		3.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	CS(Mf)3(N)	08:06	Bottom	2	29.7	7.8	25.5	4.8		8.1		5.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	Surface	1	30.0	7.8	18.5	6.2	6.2	3.2	4.3	1.7	4.7
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	Surface	2	29.8	8.0	18.8	6.1		2.8		1.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	Bottom	1	29.9	7.8	23.2	4.8	4.8	5.8		8.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)16	07:12	Bottom	2	29.6	7.9	24.0	4.8		5.2		7.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	Surface	1	30.6	7.8	20.1	6.0	6.0	4.1	5.2	2.1	3.6
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	Surface	2	30.3	7.9	20.4	5.9		3.7		3.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	Bottom	1	29.9	7.7	23.0	4.0	4.0	6.6		4.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4a	07:24	Bottom	2	29.6	7.8	23.3	4.0		6.3		3.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	Surface	1	30.3	7.7	20.7	5.1	5.1	6.2	9.5	4.5	3.7
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	Surface	2	30.0	7.9	21.0	5.1		5.9		2.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	Bottom	1	30.1	7.7	22.1	4.6	4.6	12.5		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	SR4	07:28	Bottom	2	29.8	7.8	22.4	4.5		13.5		3.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	Surface	1	30.5	7.9	18.7	7.1	7.1	2.8	5.6	2.1	2.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	Surface	2	30.2	8.0	18.9	7.0		2.3		2.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	Bottom	1	30.2	7.7	22.1	4.4	4.5	8.7		4.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS8	07:41	Bottom	2	30.0	7.8	22.3	4.5		8.4		2.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	Surface	1	30.2	7.9	18.4	6.9	6.9	2.9	6.0	2.3	3.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	Surface	2	29.9	8.1	18.6	6.8		2.6		2.5	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	Bottom	1	30.2	7.7	21.3	4.5	4.6	9.3		5.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Ebb	IS(Mf)9	07:51	Bottom	2	30.0	7.8	21.4	4.7		9.0		4.7	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Replicate	Temperature (^{o}C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Surface	1	30.0	8.0	24.0	5.6	5.5	1.9	3.5	2.1	3.3
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Surface	2	30.2	7.9	23.7	5.7		1.8		2.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Middle	1	29.6	8.0	27.4	5.3		2.2		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Middle	2	29.9	7.9	27.1	5.4		2.1		3.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Bottom	1	29.1	8.0	30.0	4.5	4.5	6.4		4.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)5	16:37	Bottom	2	29.4	7.9	29.7	4.5		6.5		3.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Surface	1	31.1	7.8	15.2	6.2	5.7	6.6	8.6	4.6	5.1
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Surface	2	31.4	7.8	15.2	6.3		6.8		5.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Middle	1	30.3	7.7	19.7	5.1		10.4		4.7	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Middle	2	30.5	7.7	19.8	5.2		11.1		5.4	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Bottom	1	30.0	7.7	21.6	4.9	5.0	8.5		6.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	CS(Mf)3(N)	15:00	Bottom	2	30.2	7.7	21.6	5.1		8.4		4.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	Surface	1	30.9	8.2	19.9	9.4	9.4	2.7	7.3	3.7	3.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	Surface	2	31.2	8.1	19.7	9.3		2.7		3.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	Bottom	1	30.0	7.8	22.6	5.5	5.5	11.8		4.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)16	15:56	Bottom	2	30.2	7.8	22.4	5.5		11.8		4.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	Surface	1	30.3	7.9	21.4	6.4	6.4	5.6	5.3	5.1	4.9
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	Surface	2	30.6	7.9	21.2	6.4		6.4		4.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	Bottom	1	30.1	7.9	22.3	5.5	5.5	4.4		4.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4a	15:41	Bottom	2	30.3	7.8	22.1	5.5		4.9		5.1	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	Surface	1	30.7	8.0	20.9	6.8	7.0	14.3	14.2	13.6	13.1
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	Surface	2	31.0	7.9	20.6	7.1		15.1		12.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	Bottom	1	30.0	7.8	22.5	4.9	5.0	13.8		12.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	SR4	15:37	Bottom	2	30.3	7.8	22.1	5.0		13.6		13.3	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	Surface	1	30.7	8.0	20.9	7.3	7.4	10.2	14.2	8.3	8.3
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	Surface	2	31.0	8.0	20.7	7.5		11.6		7.8	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	Bottom	1	30.2	7.9	21.8	5.9	5.9	18.9		7.9	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS8	15:25	Bottom	2	30.5	7.8	21.6	5.9		16.0		9.0	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	Surface	1	31.2	8.3	20.0	11.8	11.8	7.7	9.5	6.9	7.8
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	Surface	2	31.4	8.3	19.8	11.7		9.0		6.6	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9		Middle	1									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9		Middle	2									
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	Bottom	1	31.2	8.2	20.5	9.2	9.3	10.1		9.2	
TMCLKL	HY/2012/07	2017-09-29	Mid-Flood	IS(Mf)9	15:13	Bottom	2	31.5	8.2	20.3	9.4		11.2		8.6	

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)5	817990	821129
CS(Mf)3(N)	808814	822355
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Locations of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 28/4/2017

Environmental Resources Management

ERM

CONTRACT NO. HY/2012/07 – WQM SITE PHOTOS AT IS8, IS(MF)9, SR4A, SR4 AND CS(MF)5 ON 29 SEPTEMBER 2017

Photo 1 - Mid-Ebb at IS8 on 29 September 2017

Photo 2 - Mid-Ebb at IS(Mf)9 on 29 September 2017

Photo 3 - Mid-Ebb at SR4a on 29 September 2017

Photo 4 - Mid-Ebb at SR4 on 29 September 2017

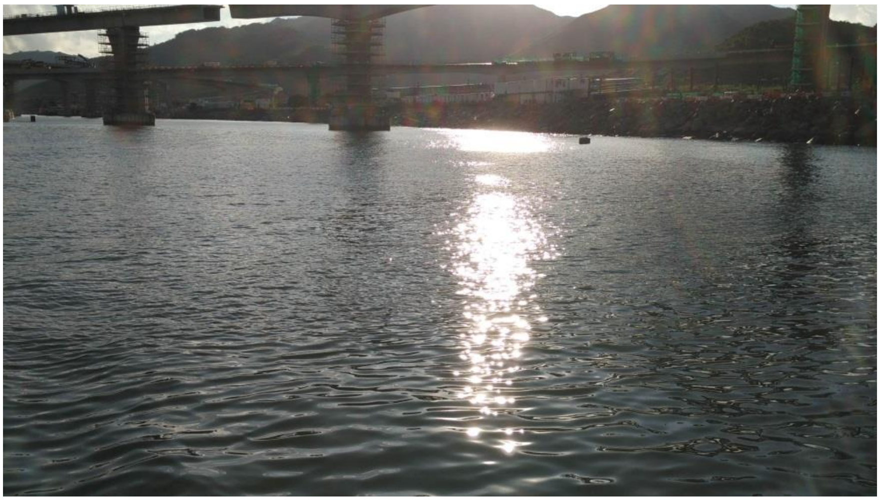


Photo 5 - Mid-Flood at CS(Mf)5 on 29 September 2017