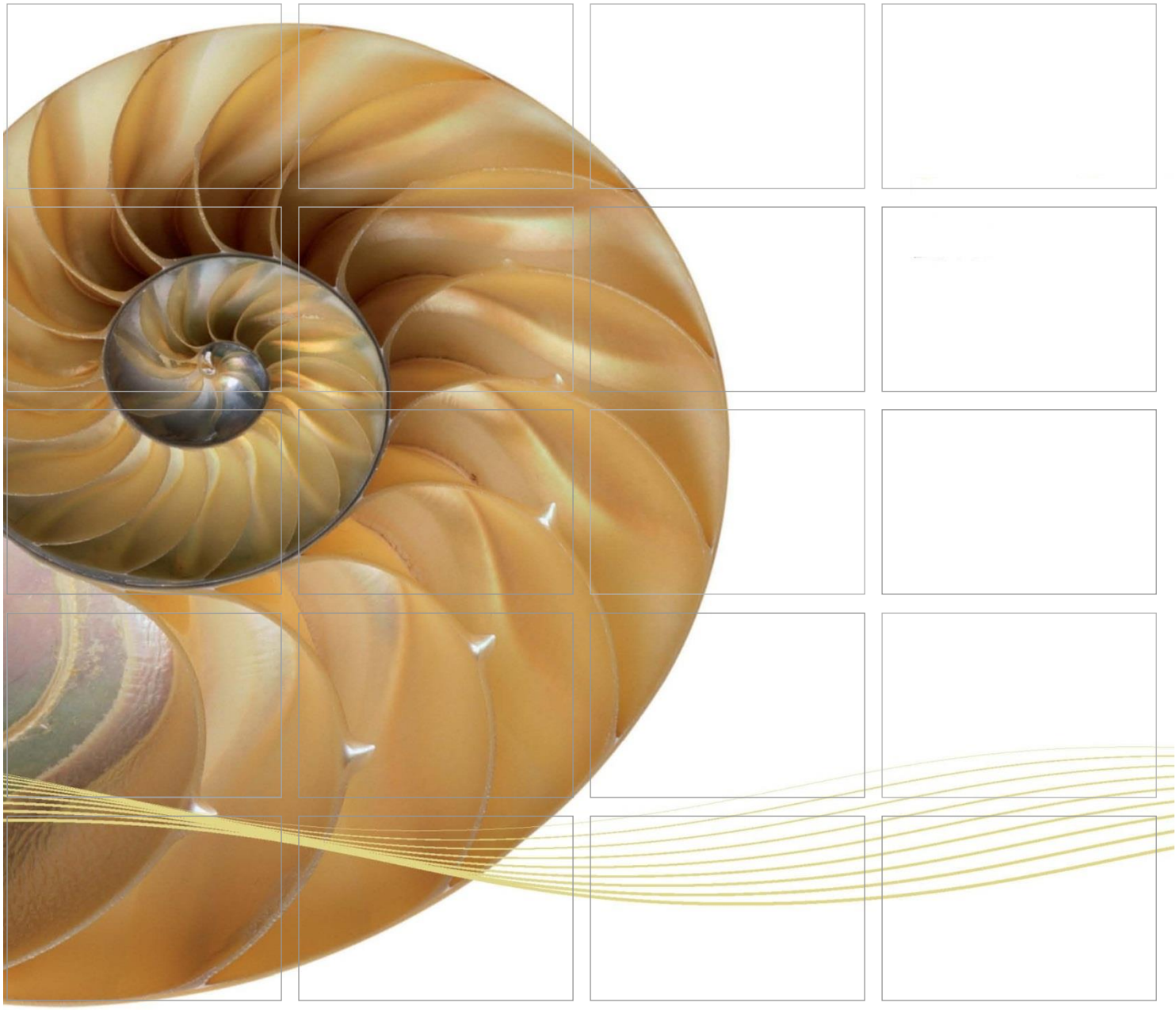
REPORT



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

Fifty-fifth Monthly EM&A Report

13 June 2018

Environmental Resources Management
2507, 25/F One Harbourfront
18 Tak Fung Street
Hunghom, Kowloon
Hong Kong
Telephone 2271 3000
Facsimile 2723 5660

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

Fifty-fifth Monthly EM&A Report

Document Code: 0215660_55th Monthly EM&A_20180613.doc

Environmental Resources Management

2507, 25/F One Harbourfront
18 Tak Fung Street
Hunghom, Kowloon
Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
http://www.erm.com

Client:	Project No:
Gammon	0215660

Summary:	Date:
This document presents the Fifty-fifth Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section.	13 June 2018
	Approved by: *Mr Craig Reid* *Partner*
	Certified by: *Mr Jovy Tam* *ET Leader*

Revision	Description	By	Checked	Approved	Date
	Fifty-fifth Monthly EM&A Report	VAR	JT	CAR	13/06/18

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

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Ref.: HYDHZMBEEM00_0_6576L.18 13 June 2018

AECOM By Fax (3691 2899) and By Post
Supervising Officer's Representative's Office
780 Cheung Tung Road, Lantau, N.T.

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
55th Monthly EM&A Report for May 2018 (EP-354/2009/D)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (May 2018) (ET's ref.: "*0215660_55th Monthly EM&A_20180613.doc*" dated 13 June 2018) certified by the ET Leader and provided to us via e-mail on 13 June 2018.

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.

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, TMC, ENPO Site

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

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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 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 Fifty-fifth Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 31 May 2018 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;
- Installation of pier head and deck segments;

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 May 2018 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

Summary of marine travel route record for April and this reporting period will be provided when available.

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 June 2018 include the following:

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Installation of pier head and deck segments;
- Asphalt paving;
- Construction of sign gantries, light poles and street furniture;
- Parapets and barriers installation; and
- Slope work of Viaducts A, B, C & D.

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of June 2018 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

- Asphalt paving;
- Construction of sign gantries, light poles and street furniture;
- Parapets and barriers installation; and
- Slope work of Viaducts A, B, C & D.

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

24-hour TSP Monitoring	6 sessions
1-hour TSP Monitoring	6 sessions
Water Quality Monitoring	13 sessions
Noise Monitoring	6 sessions
Impact Dolphin Monitoring	2 sessions
Joint Environmental Site Inspection	5 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

One (1) Action Level of Dissolved Oxygen (DO) exceedance was recorded for water quality impact monitoring in the reporting month.

Impact Dolphin Monitoring

One (1) Limit Level exceedance was observed for the quarterly dolphin monitoring data between March and May 2018, whilst 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.

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 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.

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 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 Fifty-fifth 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 May 2018.

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.

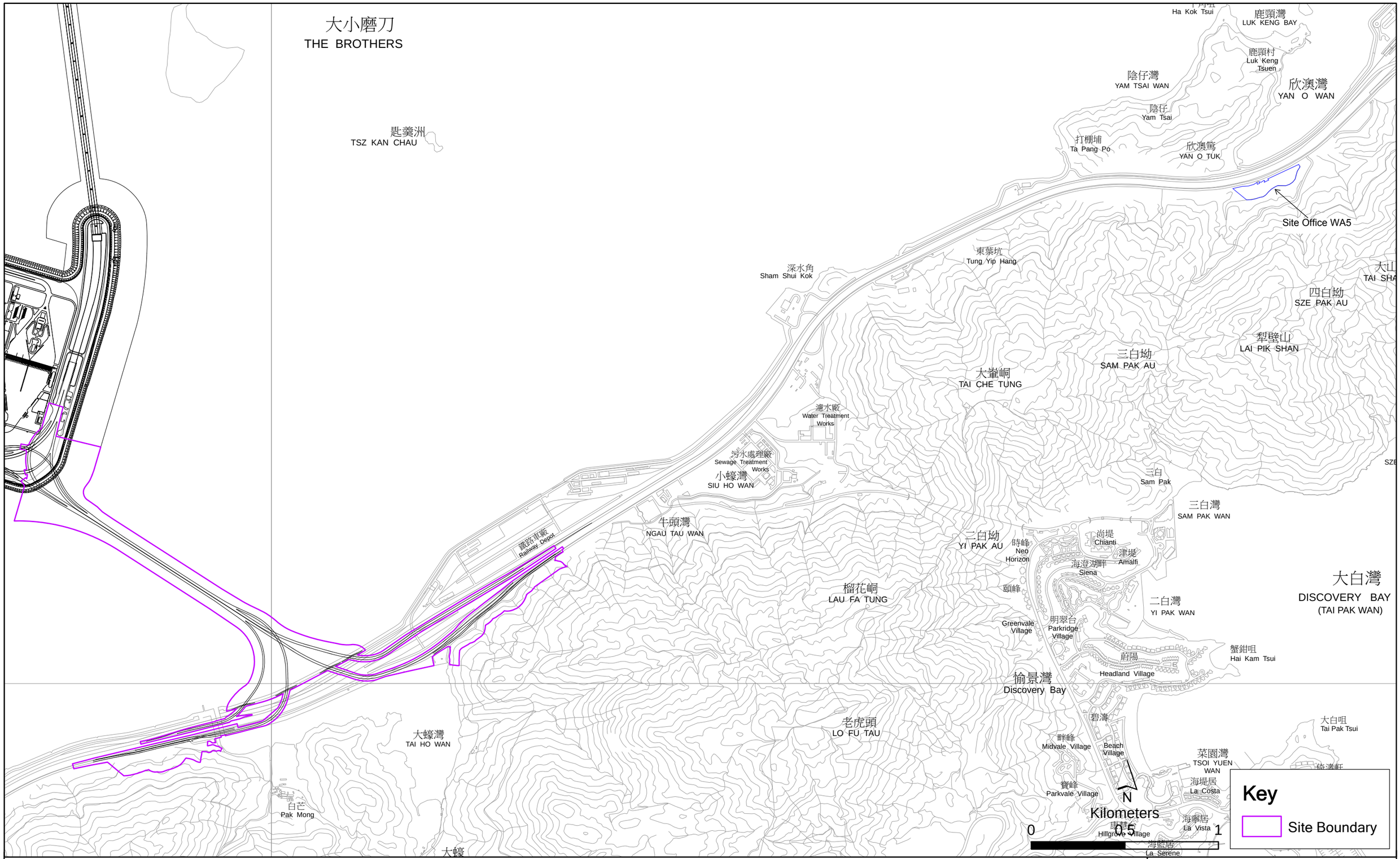

Figure 1.1

General Layout Plan of the Project

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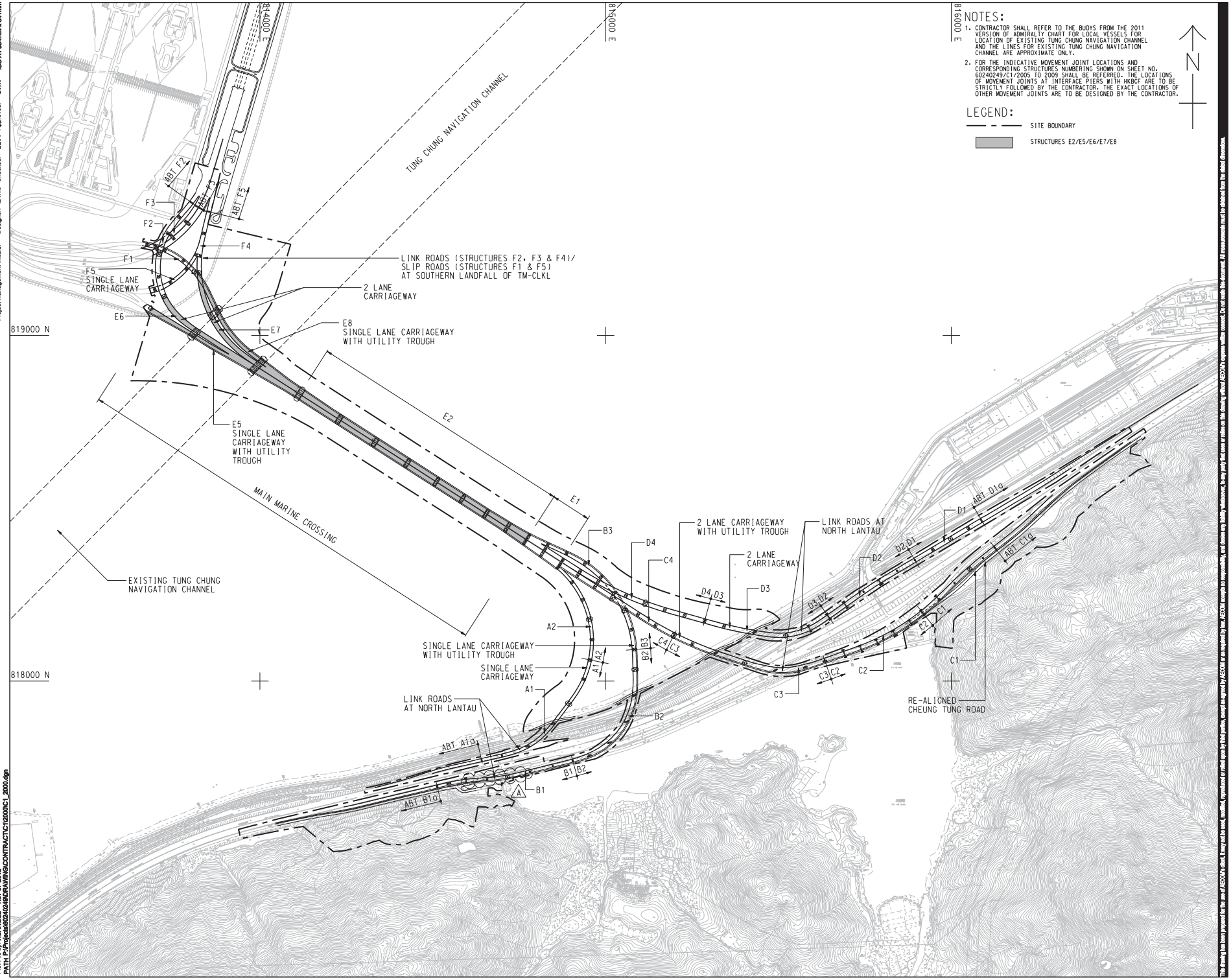
Environmental Resources Management

ERM



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

IVR 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 審核
A	NOV. 12	TENDER ADDENDUM NO. 1	CWN
-	OCT. 12	TENDER DRAWING	CWN

STATUS
狀況

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.
合同編號
HY/2012/07

SHEET TITLE
圖紙名稱
SOUTHERN CONNECTION GENERAL LAYOUT PLAN

SHEET NUMBER
圖紙編號
60240249/C1/2000A

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

Plot File by: HUANGC2 Nov-07-2012
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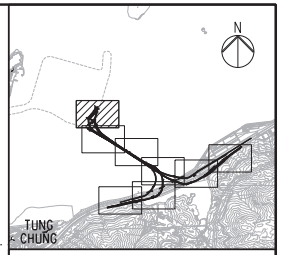

KEY PLAN

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

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

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RL	07/13
Checked	Approved
DS	DOP
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Client: 香港特別行政區政府 路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港段管理處 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**

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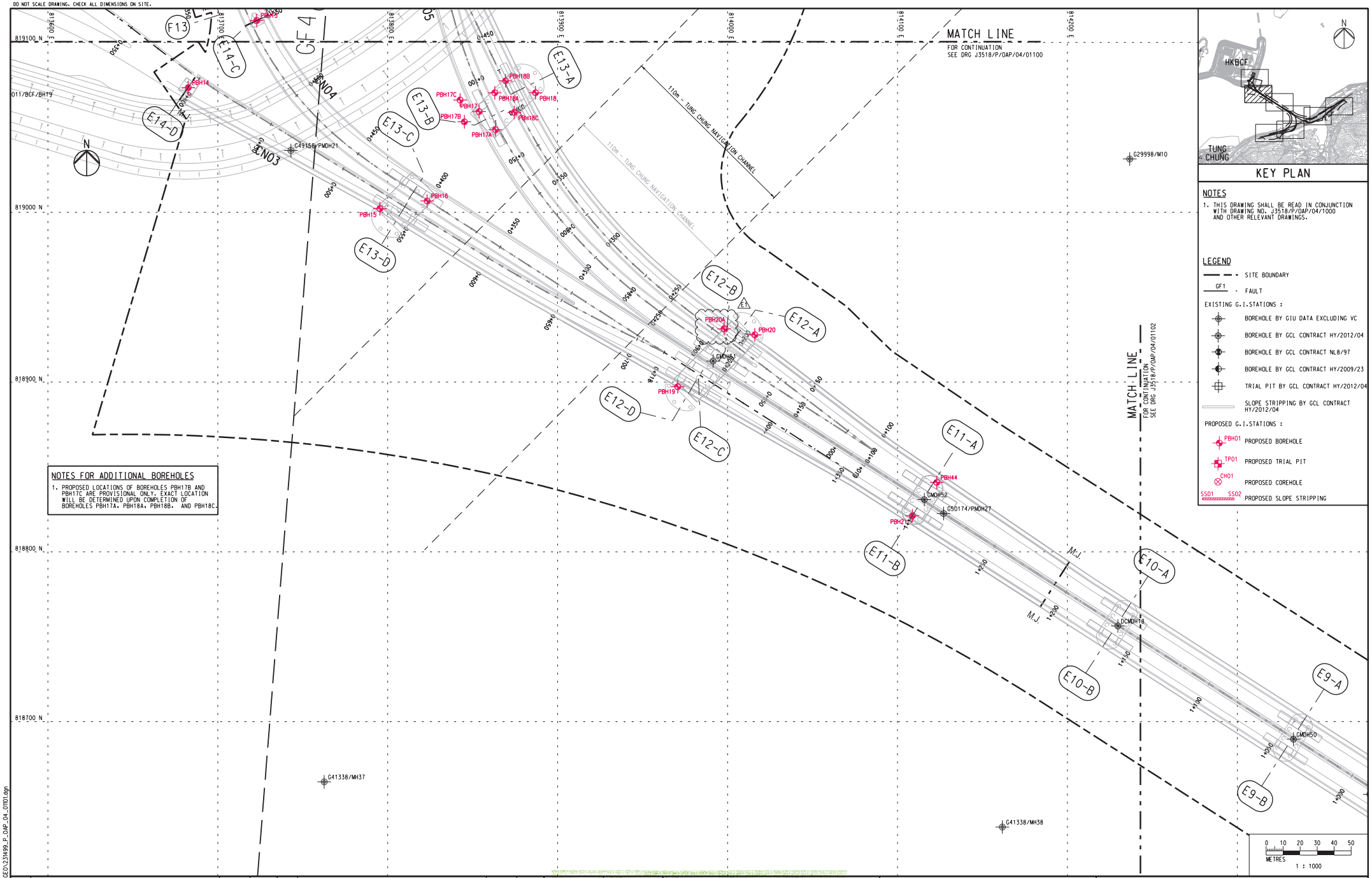

KEY PLAN

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

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.

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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

Originator: ARUP

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

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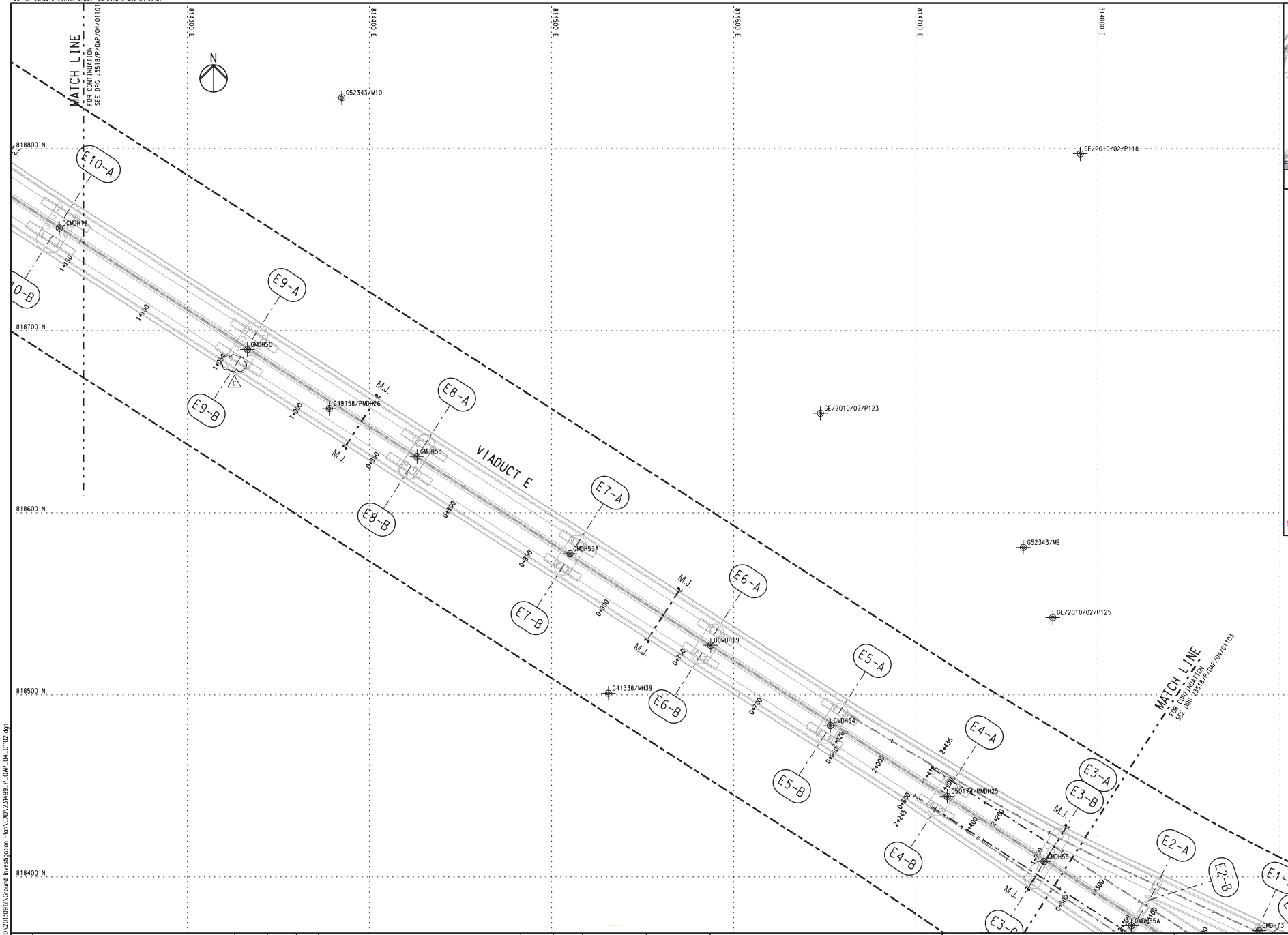

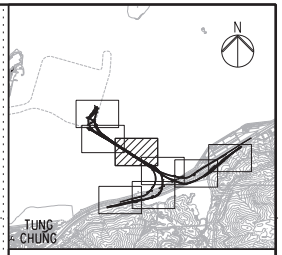

KEY PLAN

NOTES

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LEGEND

SITE BOUNDARY

GF1 FAULT

EXISTING G.I.STATIONS :

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- 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

Rev	Description	By	Date	Rev	Description	By	Date
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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 1.2d**

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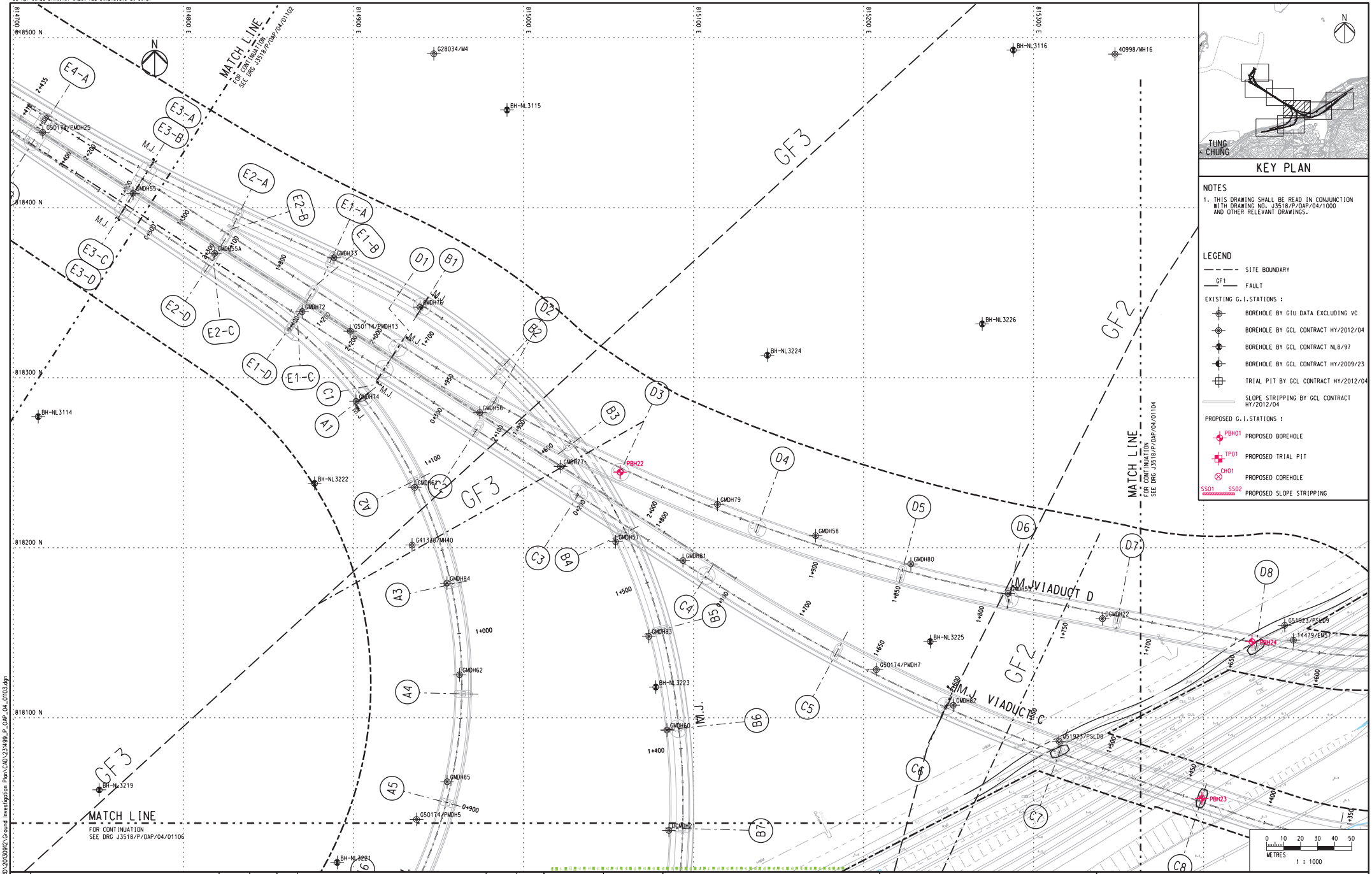

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Client: 路政署 HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

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 1.2e**

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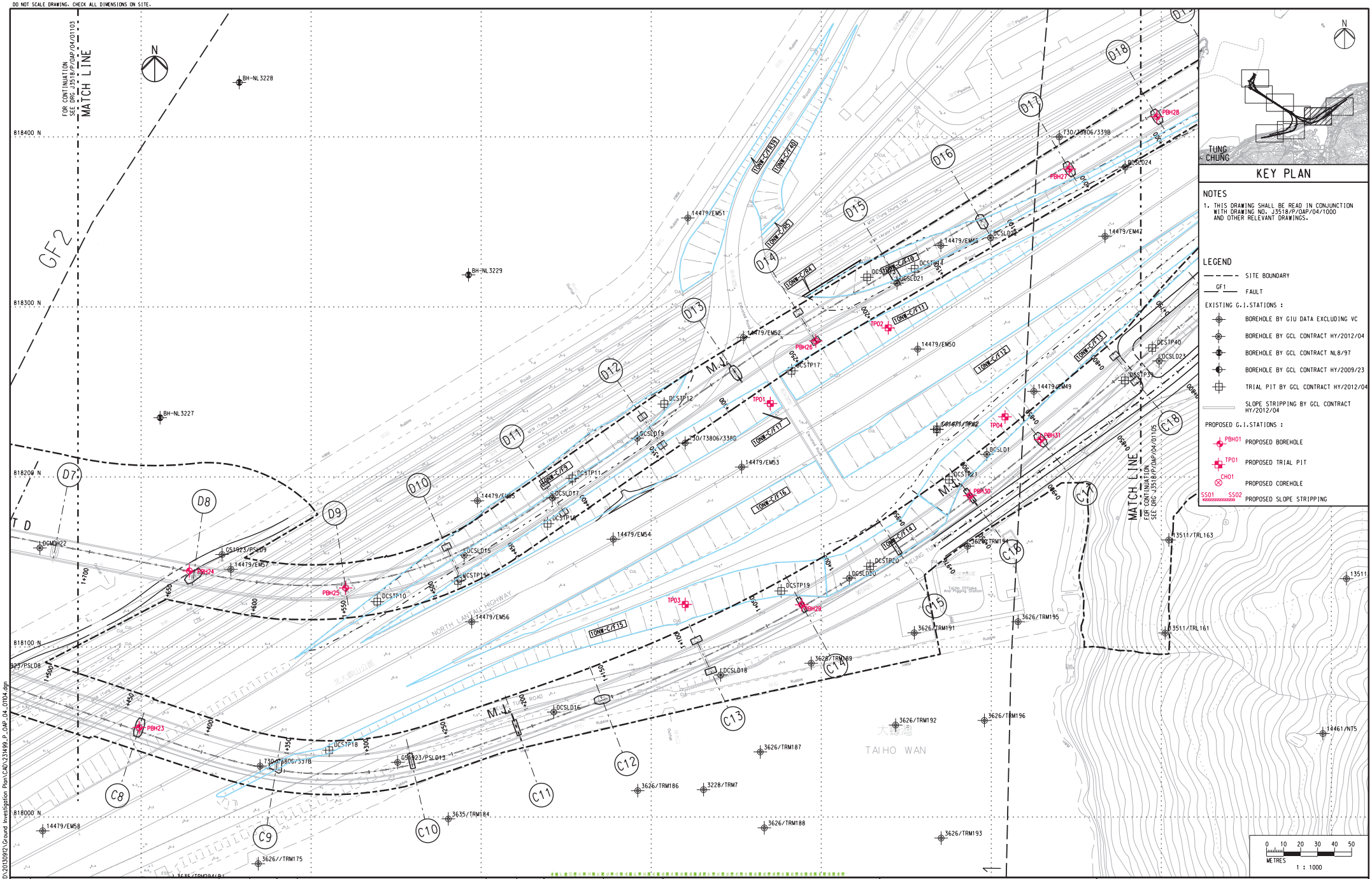


Rev	Description	By	Date	Rev	Description	By	Date
A	SUBMISSION	RC	07/13				
B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				

Drawn: RL — Date: 07/13
Checked: DS — Approved: 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

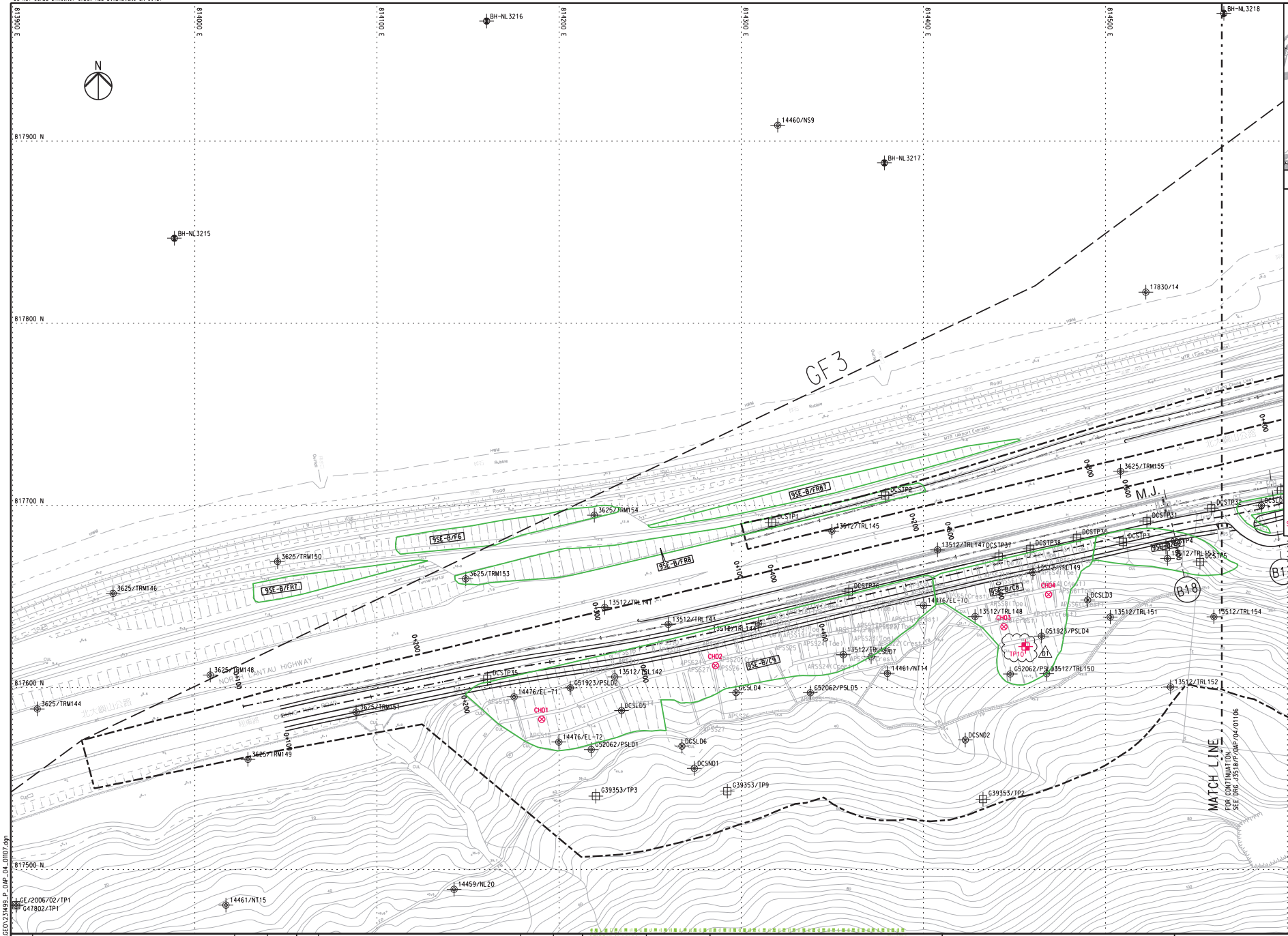
Supervising Officer: AECOM
Contractor: Gammon
Originator: ARUP

Drawing title: **Figure 1.2f**

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

Printed by : 12/9/2013
File name : J3518\RECORD\20130912\Ground Investigation Plan\CAD\231499_P_OAP_04_01104.dgn

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

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: RL — Date: 07/13

Checked: DS — Approved: 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 1.2g**

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

Printed by : 07/11/2013
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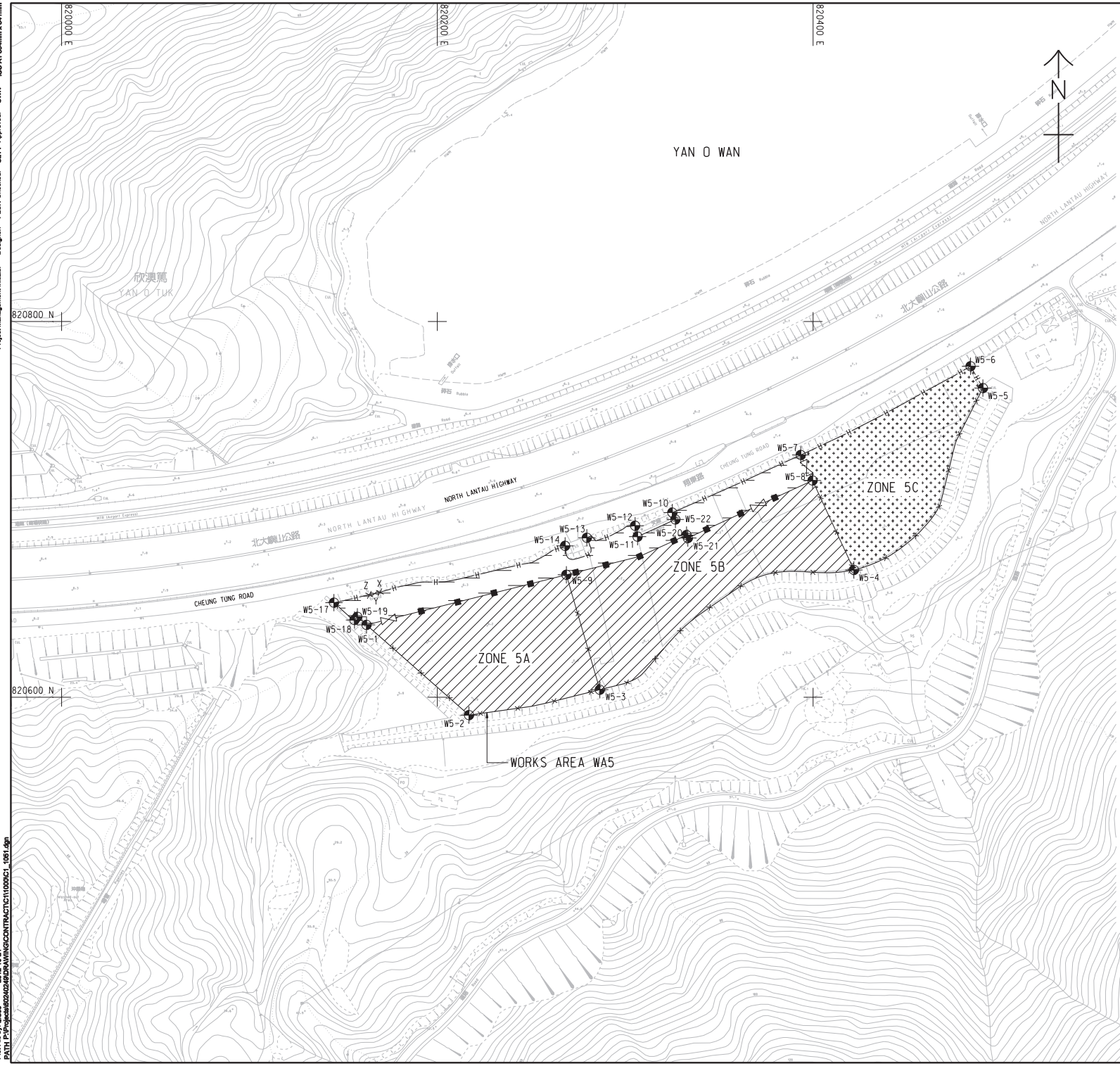

NOTES:

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

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ISSUE/REVISION 修訂

VER. 修訂	DATE 日期	DESCRIPTION 內容修訂	CHK. 審核
-	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. 合同編號: 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\DRAWING\CONTRACT\C1\1000\C1_1051.dgn

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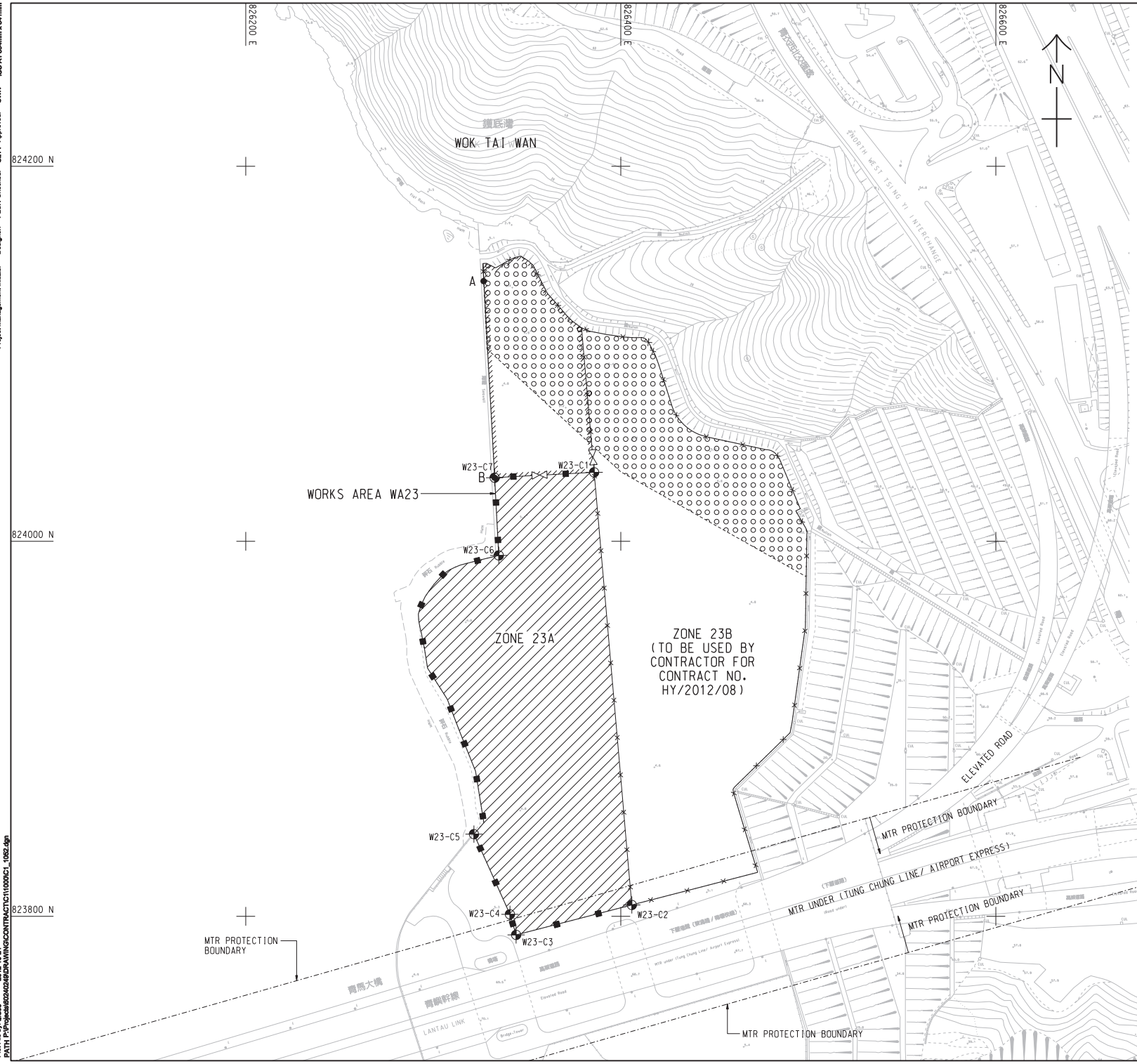

NOTES:

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

MR 修訂	DATE 日期	DESCRIPTION 內容修訂	CHK. 審核
-	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. 合同編號: 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: PLCK Checked: SLYY Approved: CWN Designer: ISO A1 594mm x 841mm

Plot File by: LIUJ3 2012-10-24
PATH P:\Projects\60240249\DRAWING\CONTRACT\C1\1000\C1_1052.dgn

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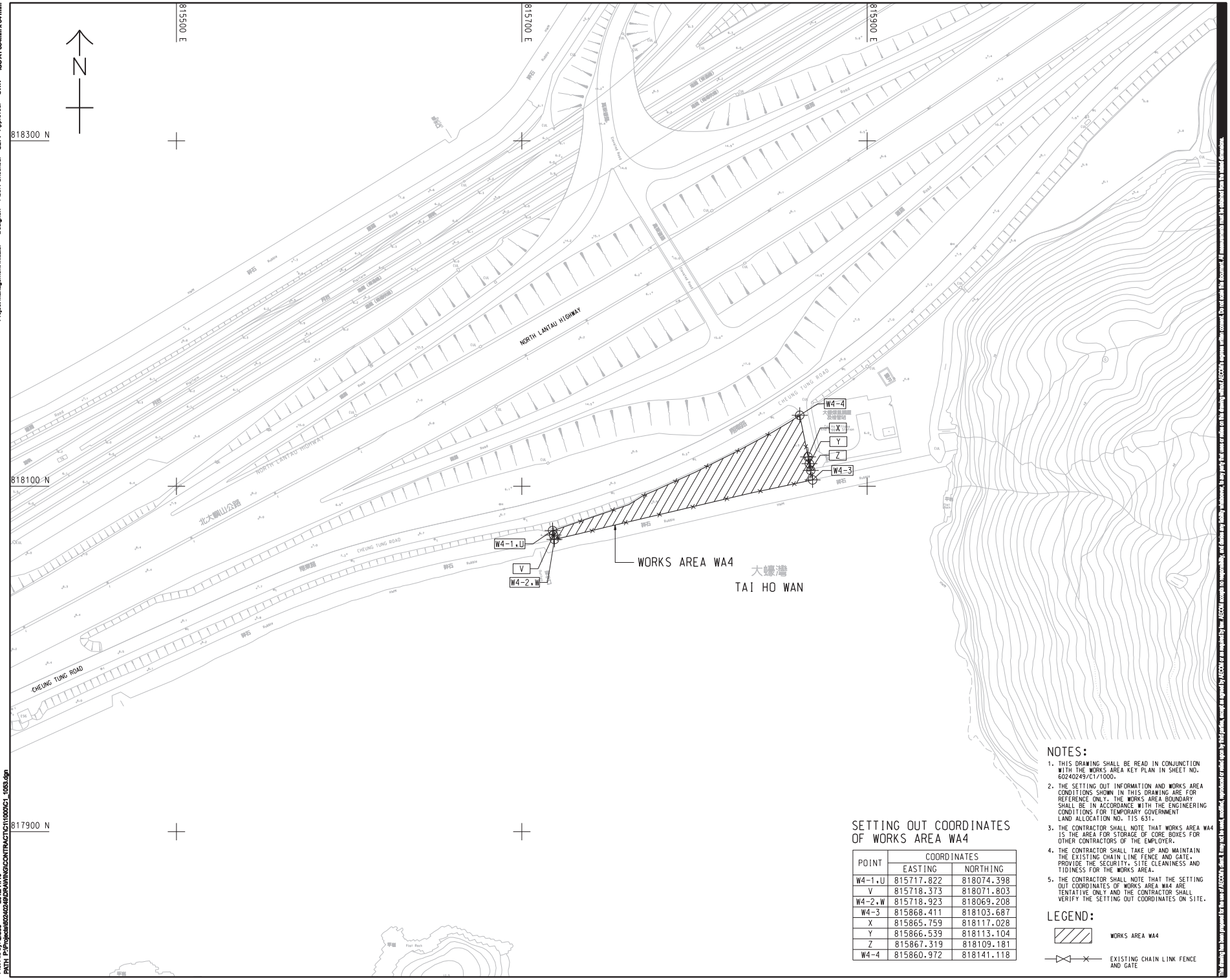

NOTES:

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. T15 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.

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

LEGEND:

WORKS AREA WA4

EXISTING CHAIN LINK FENCE AND GATE

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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Figure 1.2j

ISSUE/REVISION
修訂

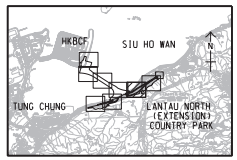
VR. 修訂	DATE 日期	DESCRIPTION 內容修訂	CHK. 審核
-	NOV. 12	TENDER ADDENDUM NO. 1	CWN

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

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

Plot File by: LIUJ3 2012/11/16
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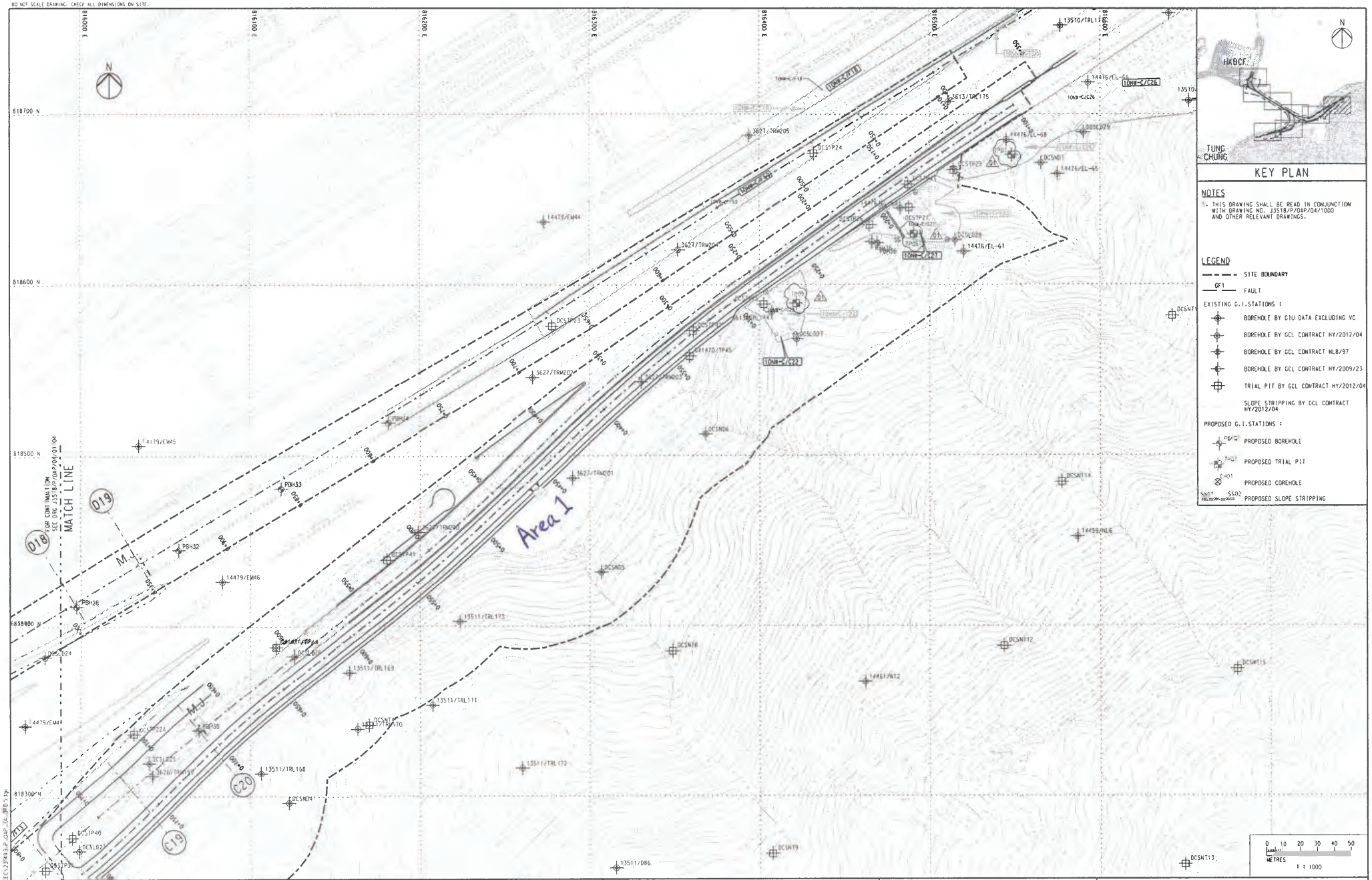

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B	SUBMISSION	RL	07/13				
C	SUBMISSION	RL	09/13				
D1	ETA INTERNAL REVIEW	RL	10/13				

Drawn	RL
Date	07/13
Checked	DS
Approved	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

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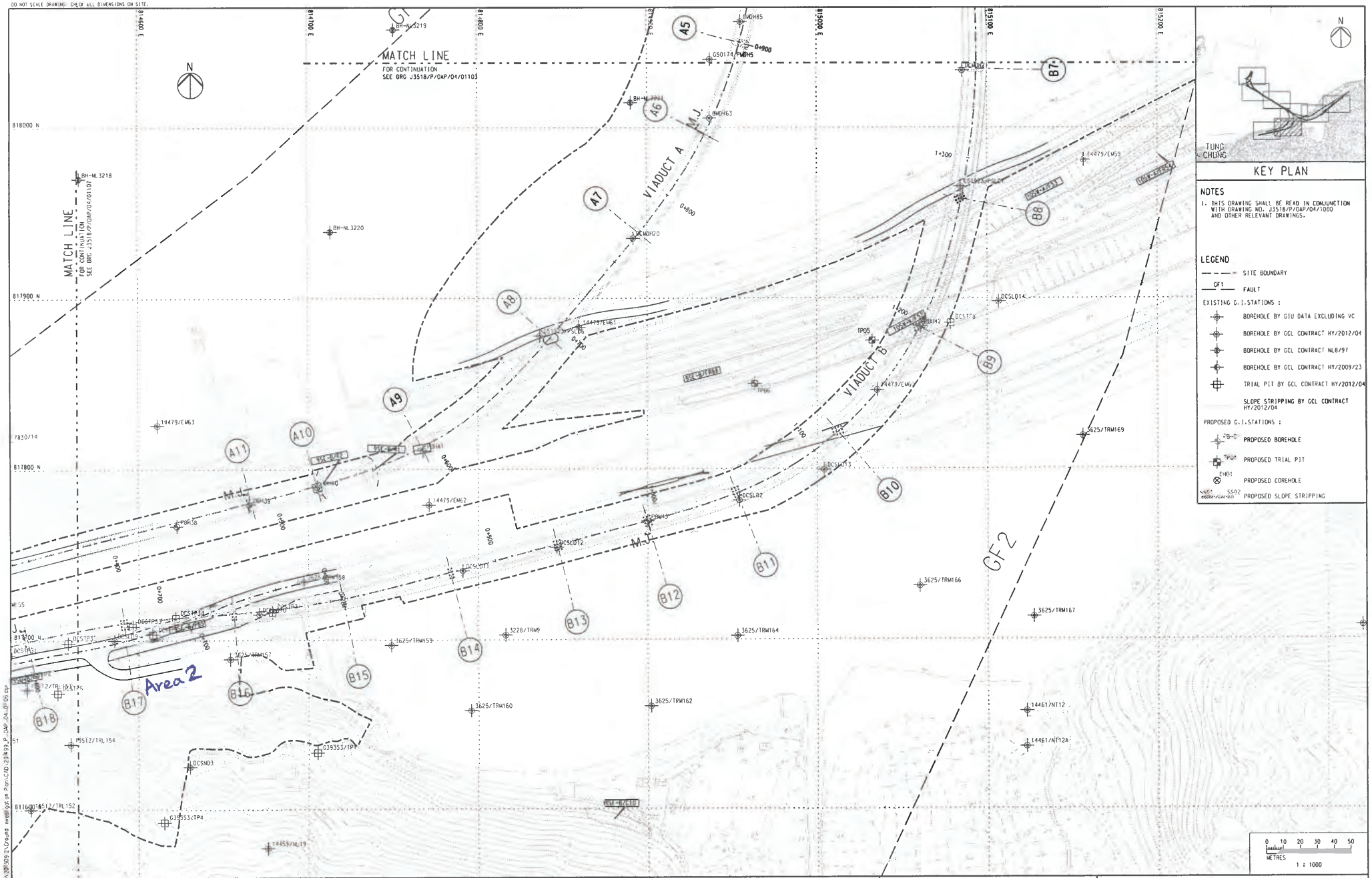

Rev	Description	By	Date	Rev	Description	By	Date
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B	[illegible]	RC	07/13				
C	[illegible]	RC	09/13				

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

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 1.2l**

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

Printed by: 9/9/2015
F:\Temp\J3518P/OAP/04/01106 21Ground overall gotcon Plan(CAD_23/499_P_OAP_04_01106.dgn

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 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:

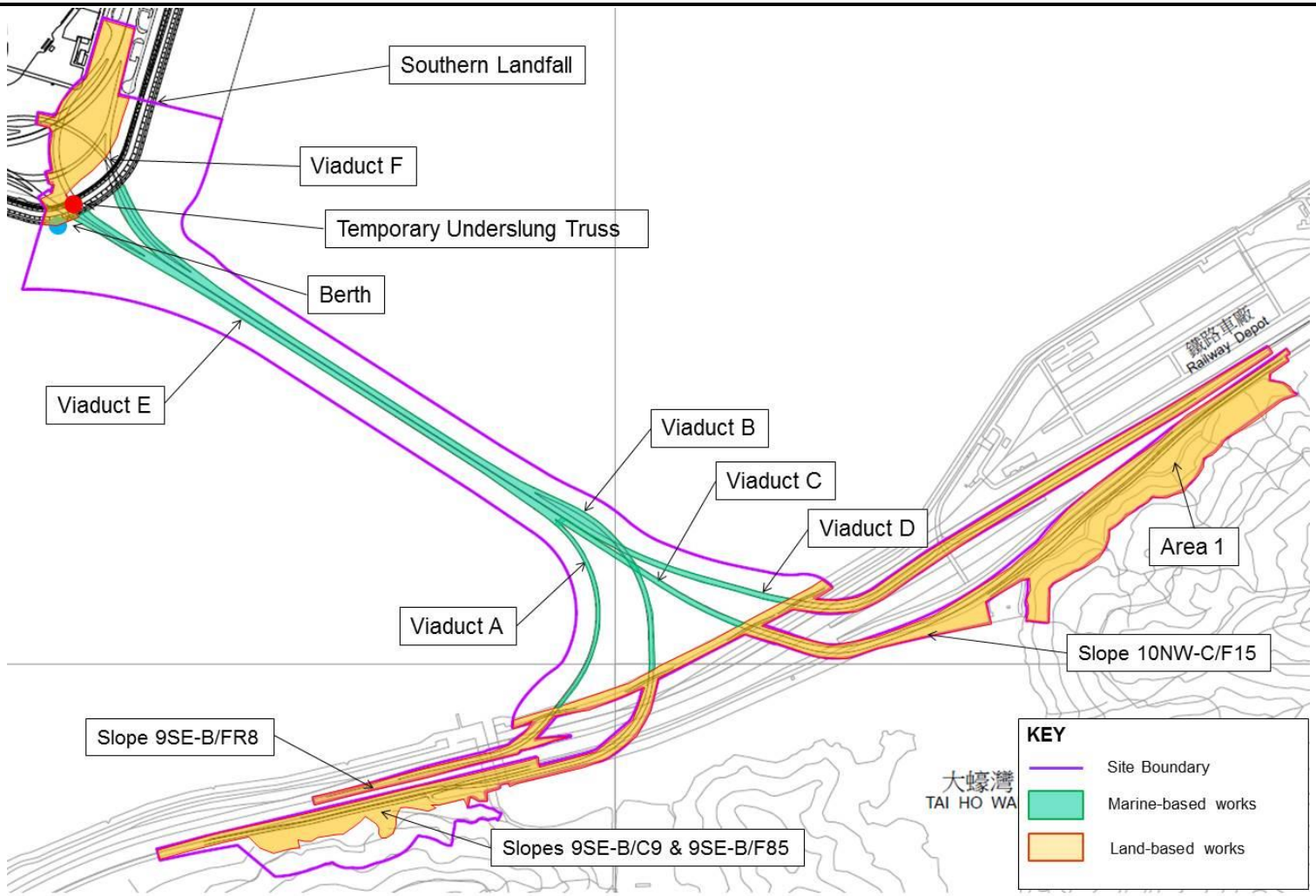
Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Installation of pier head and deck segments;
- Asphalt paving;
- Construction of sign gantries, light poles and street furniture;
- Parapets and barriers installation; and
- Slope work of Viaducts A, B, C & D.

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



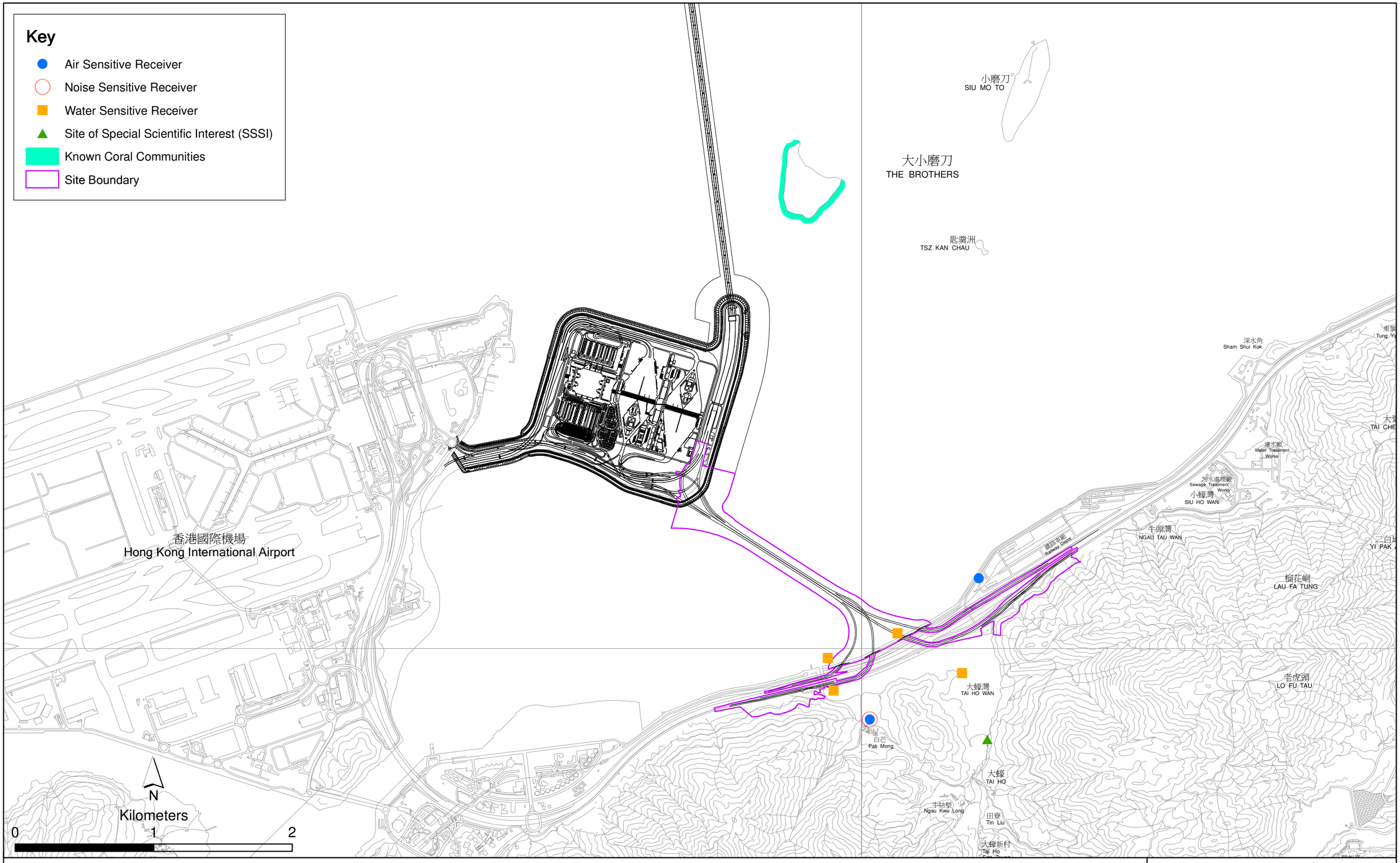


Figure 1.4

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	4, 10, 16, 19, 25 and 31 May 2018
ASR 8A	Area 4	On ground at the works area, Area 4	4, 10, 16, 19, 25 and 31 May 2018

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*.

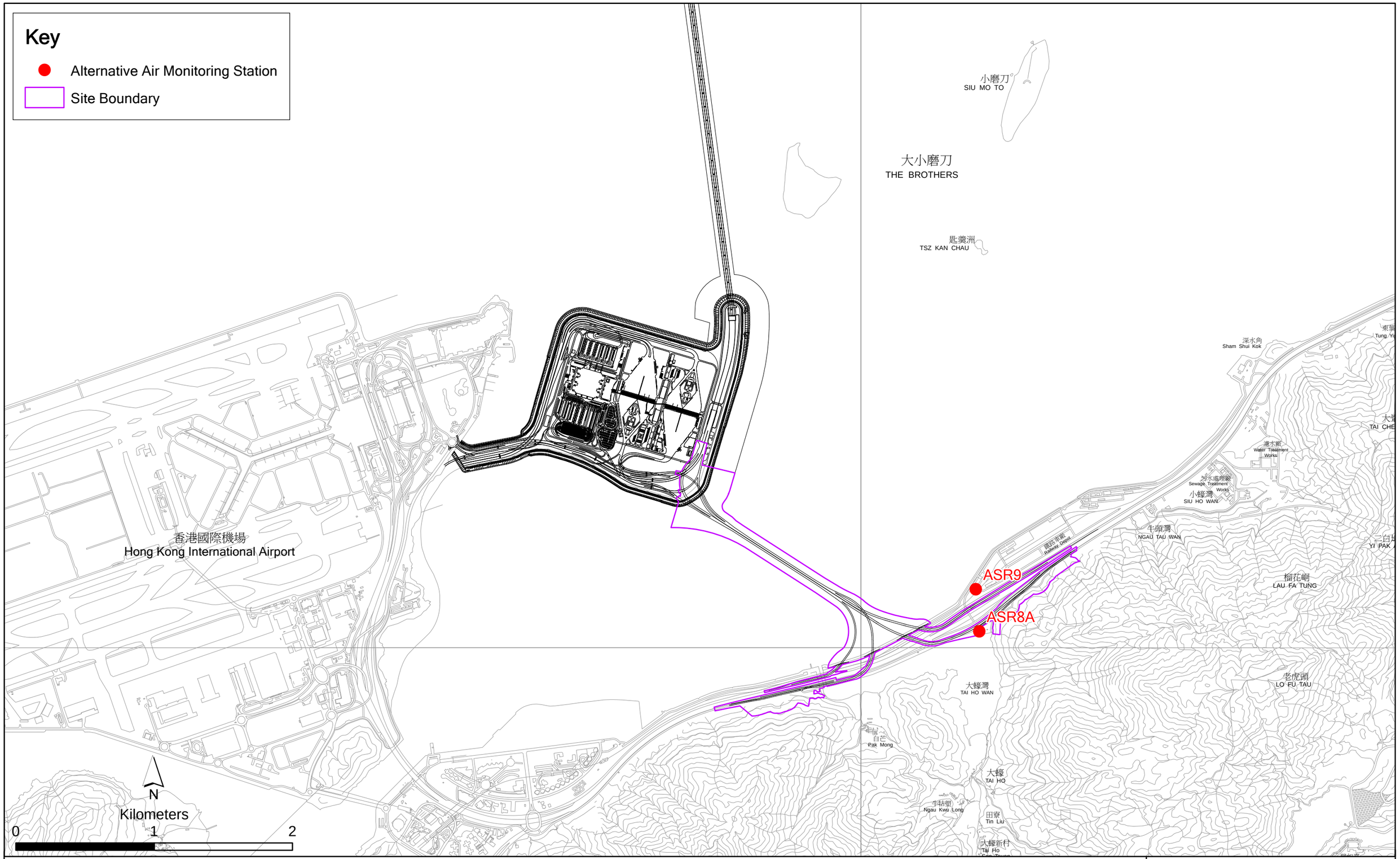


Figure 2.1

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 May 2018 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	86	14-236	394	500
ASR 9	86	14-200	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	35	10-65	178	260
ASR 9	46	25-75	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 4, 10, 16, 19, 25 and 31 May 2018 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	4, 10, 16, 19, 25 and 31 May 2018

Table 2.6 Noise Monitoring Equipment

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31
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*.

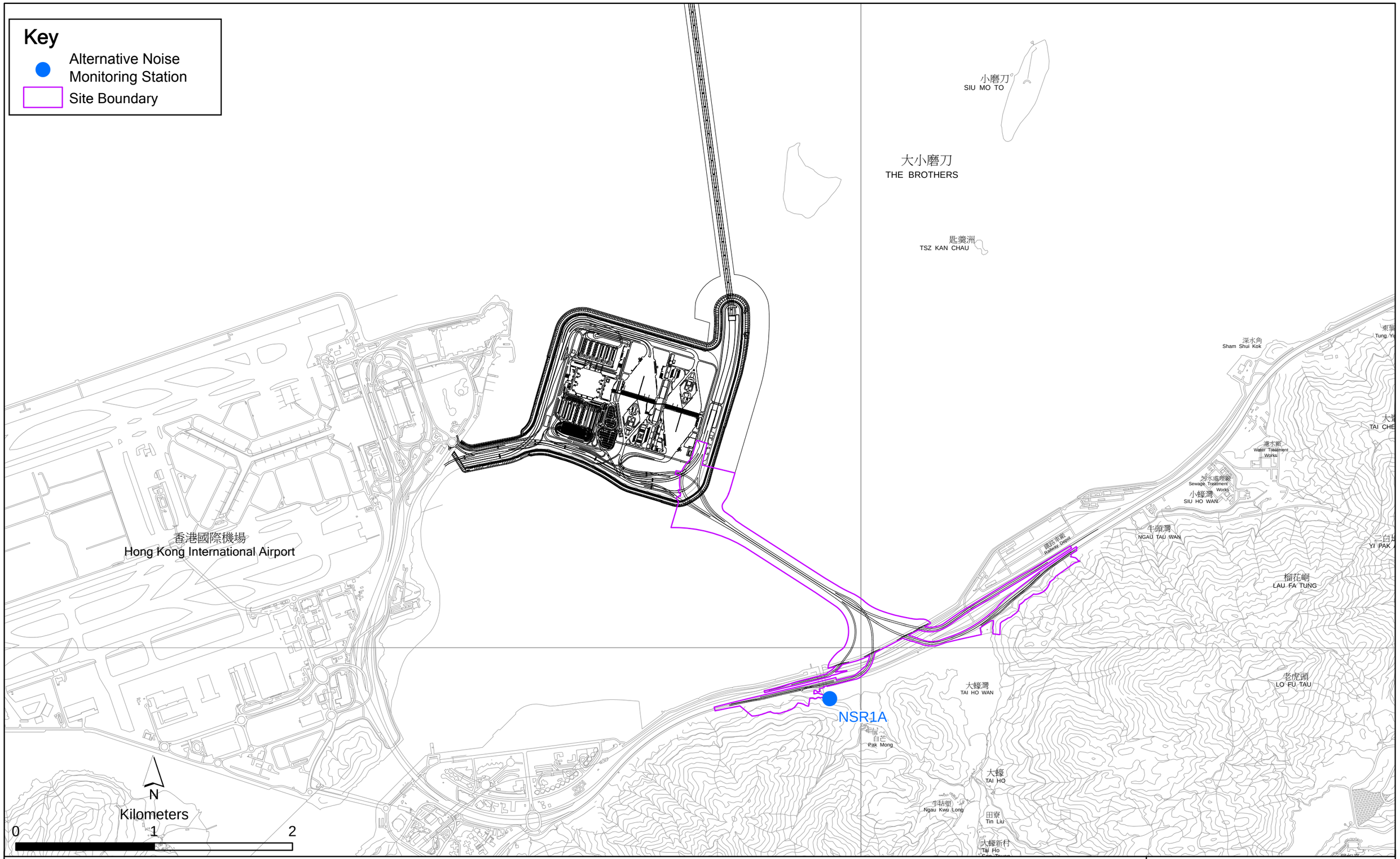


Figure 2.2

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	63	62-64	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*.

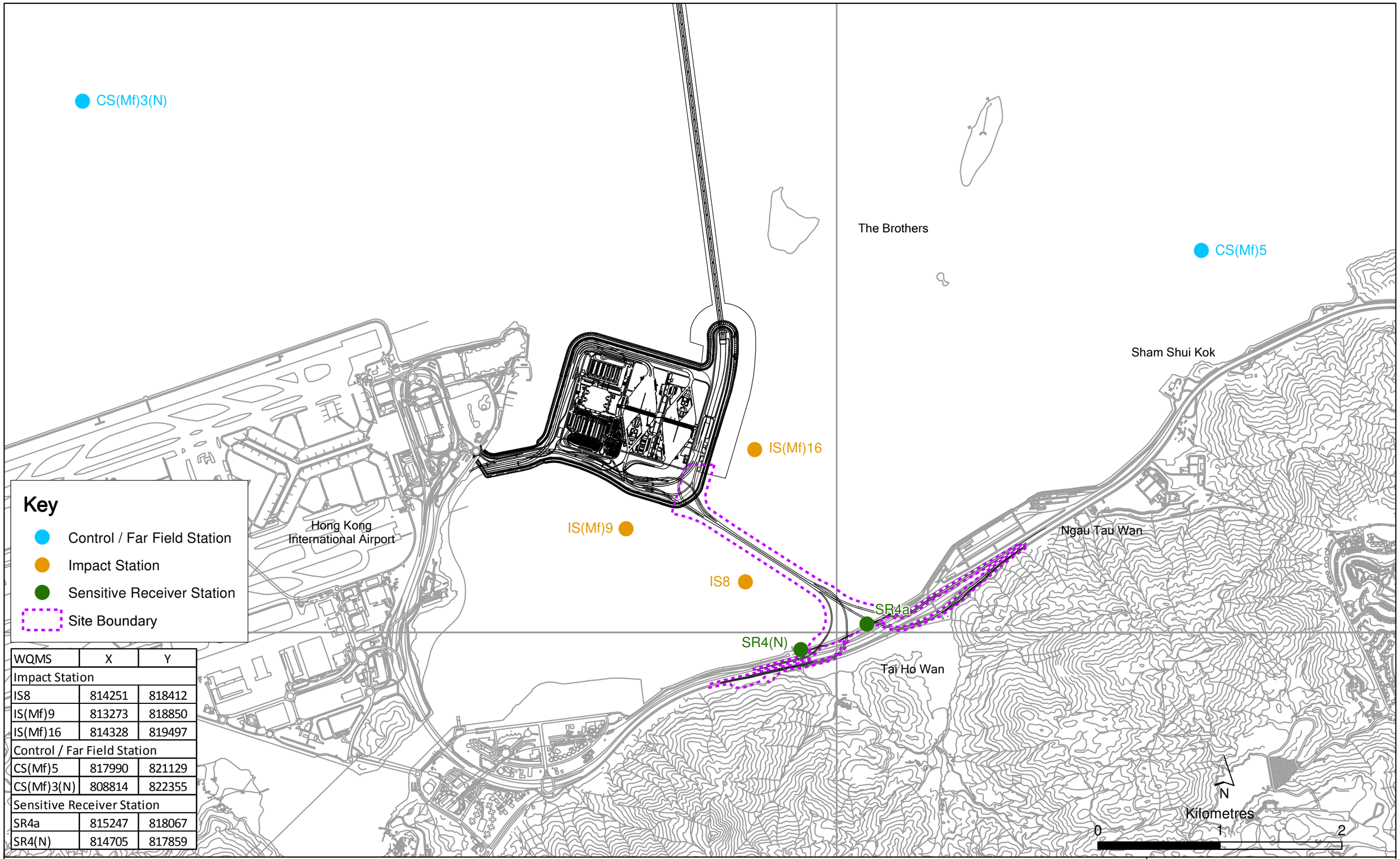
Major noise sources during the noise monitoring included noise from crane and excavator operation, and nearby traffic noise and aircraft noise.

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		
SR4a	815247	818067
SR4(N)	814705	817859

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(N)	Sensitive receiver (Tai Ho Inlet)	814705	817859			
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.

Water Quality Monitoring Station SR4 was relocated to SR4(N) since 2 March 2018.

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 / YSI 6920 V2
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 May 2018 is provided in *Appendix F*.

2.3.3 *Results and Observations*

In total of 13 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*.

One (1) Action Level of Dissolved Oxygen (DO) exceedance was recorded for water quality impact monitoring in the reporting month. No action is thus required to be undertaken 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.

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).

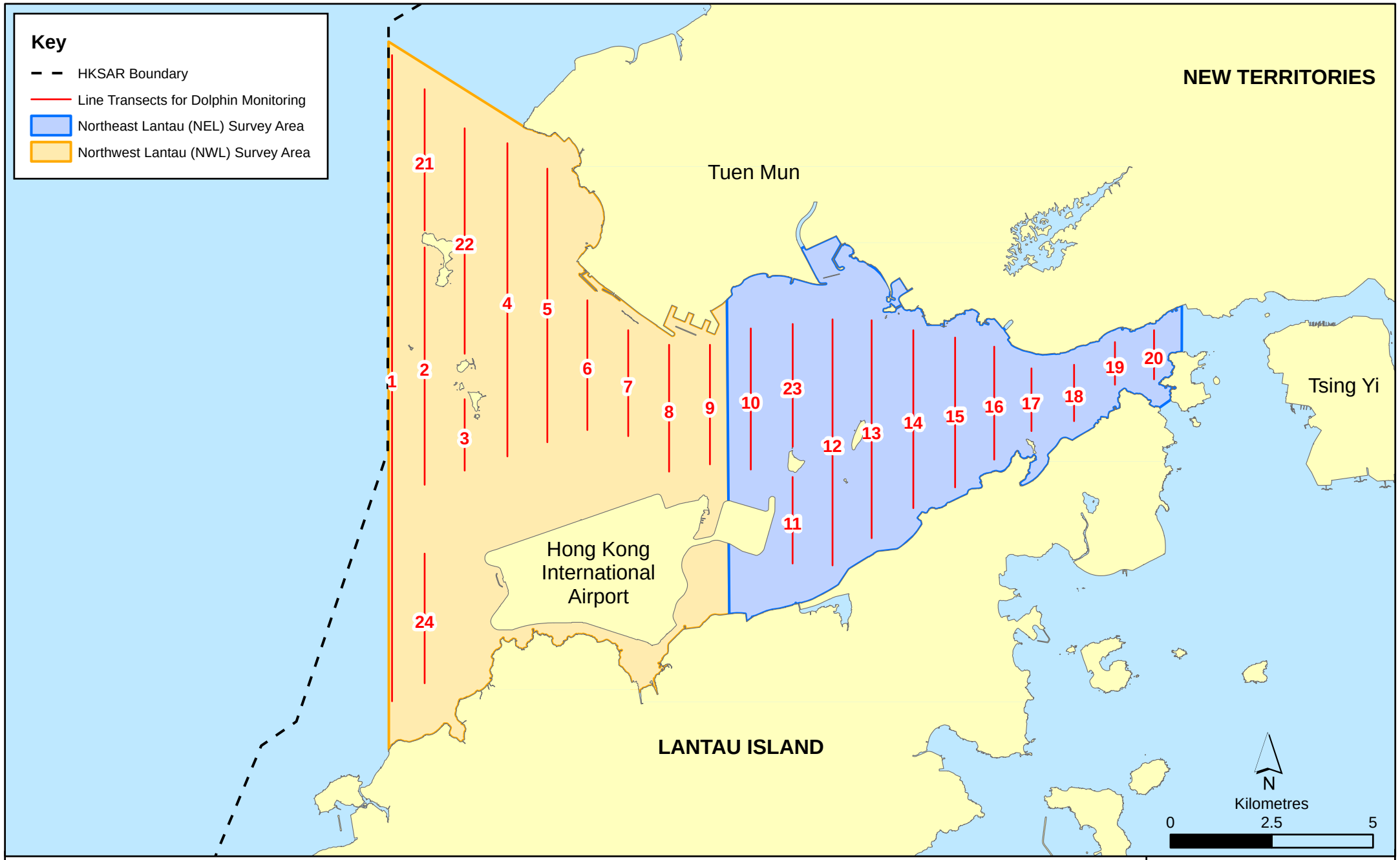

Figure 2.4

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 7, 10, 16 and 30 May 2018 (*Appendix F*).

2.4.7 *Results and Observations*

A total of 261.40 km of survey effort was collected, with 83.9% 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 May 2018. Among the two areas, 95.70 km and 165.70 km of survey effort were collected from NEL and NWL survey areas, respectively. The total survey effort conducted on primary and secondary lines were 189.44 km and 71.96 km, respectively. The survey efforts are summarized in *Appendix K*.

No Chinese White Dolphins was sighted during the two sets of monitoring surveys in May 2018.

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 May 2018 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: May 7th / 10th	0.0	0.0
	Set 2: May 16th / 30th	0.0	0.0
NWL	Set 1: May 7th / 10th	0.0	0.0
	Set 2: May 16th / 30th	0.0	0.0

Note: Dolphin Encounter Rates are deduced from the two sets of surveys (two surveys in each set) in May 2018 in Northeast (NEL) and Northwest Lantau (NWL)

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	0.0	0.0	0.0	0.0

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in May 2018 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau

One (1) Limit Level exceedance was observed for the quarterly dolphin monitoring data between March and May 2018, whilst 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 May 2018 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, five (5) site inspections were carried out on 2, 9, 16, 23 and 31 May 2018.

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
2 May 2018	Southern Landfall (Portion A)(Portion S-c) • Chemical containers were observed not placed in drip tray. • Stagnant water was observed in the drip tray. • General refuse should be removed.	Southern Landfall (Portion A)(Portion S-c) • The Contractor was reminded to place chemical containers in drip tray. • The Contractor was reminded to clear stagnant water in the drip tray. • The Contractor was reminded to clear general refuse.
9 May 2018	Viaduct E (Pier E13CD) • Wastewater in the drip tray should be cleared. • Chemical containers were observed not placed in drip tray. Viaduct E • Refuse in the gully should be removed.	Viaduct B (Pier E13CD) • The Contractor was reminded to clear wastewater in the drip tray. • The Contractor was reminded to place chemical containers in drip tray. Viaduct E • The Contractor was reminded to remove refuse in the gully.
16 May 2018	Viaduct C (Pier C5) • Chemical containers were observed not placed in drip tray. Viaduct C (Ramp C)(Area I) • Stagnant water was observed in the drip tray.	Viaduct C (Pier C5) • The Contractor was reminded to place chemical containers in drip tray. Viaduct C (Ramp C)(Area I) • The Contractor was reminded to clear stagnant water in the drip tray.
23 May 2018	Viaduct E (Pier E7) • Refuse in the gully should be removed. Viaduct E (Pier E10) • Unauthorized chemical containers should not be used to store chemicals and should be removed. Viaduct E (Pier E11) • General refuse should be disposed of in the skip and removed regularly.	Viaduct E (Pier E7) • The Contractor was reminded to remove refuse in the gully. Viaduct E (Pier E10) • The Contractor was reminded to remove unauthorized chemical containers. Viaduct E (Pier E11) • The Contractor was reminded to remove general refuse on the deck.
31 May 2018	Pak Mong (near Pier B17) • General refuse should be disposed of in the skip. Viaduct E (Pier E10) • Watering should be implemented when breaking oversize concrete. Viaduct E (E11) • The opened cement bag should be covered by tarpaulin for dust suppression.	Pak Mong (near Pier B17) • The Contractor was reminded to dispose of the general refuse in the skip. Viaduct E (Pier E10) • The Contractor was reminded to provide watering when breaking concrete. Viaduct E (Pier E11) • The Contractor was reminded to cover the opened cement bag by tarpaulin.

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
May 2018	4,492	1,336	1,481	438,160	56	0	0	0	0

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-RW0650-17	19 Dec 2017	18 Jun 2018	GCL	General works at WA5
Construction Noise Permit for night works and works in general holidays	GW-RS0244-18	30 Mar 2018	29 Sep 2018	GCL	Broad Permit for Whole Site Areas
Construction Noise Permit for night works and works in general holidays	GW-RS0328-18	30 Apr 2018	29 Jun 2018	GCL	Broad Permit for Segment Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS0411-18	26 May 2018	31 May 2018	GCL	Street Lamp Replacement at East Coast Road
Construction Noise Permit for night works and works in general holidays	GW-RS0064-18	1 Feb 2018	29 Jul 2018	GCL	Pre-casted pile cap shell installation at E8-E13

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.

One (1) Action Level of Dissolved Oxygen (DO) exceedance was recorded for water quality impact monitoring in the reporting month. The exceedance were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix N*.

One (1) Limit Level exceedance was observed for the quarterly dolphin monitoring data between March and May 2018, whilst 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.

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 2.5*.

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*.

3 FUTURE KEY ISSUES

3.1 CONSTRUCTION PROGRAMME FOR THE COMING MONTH

As informed by the Contractor, the major works for this Contract in June 2018 will be:

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Road works along North Lantau Highway;
- Installation of pier head and deck segments;
- Asphalt paving;
- Construction of sign gantries, light poles and street furniture;
- Parapets and barriers installation; and
- Slope work of Viaducts A, B, C & D.

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of June 2018 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 June 2018 are provided in *Appendix F*.

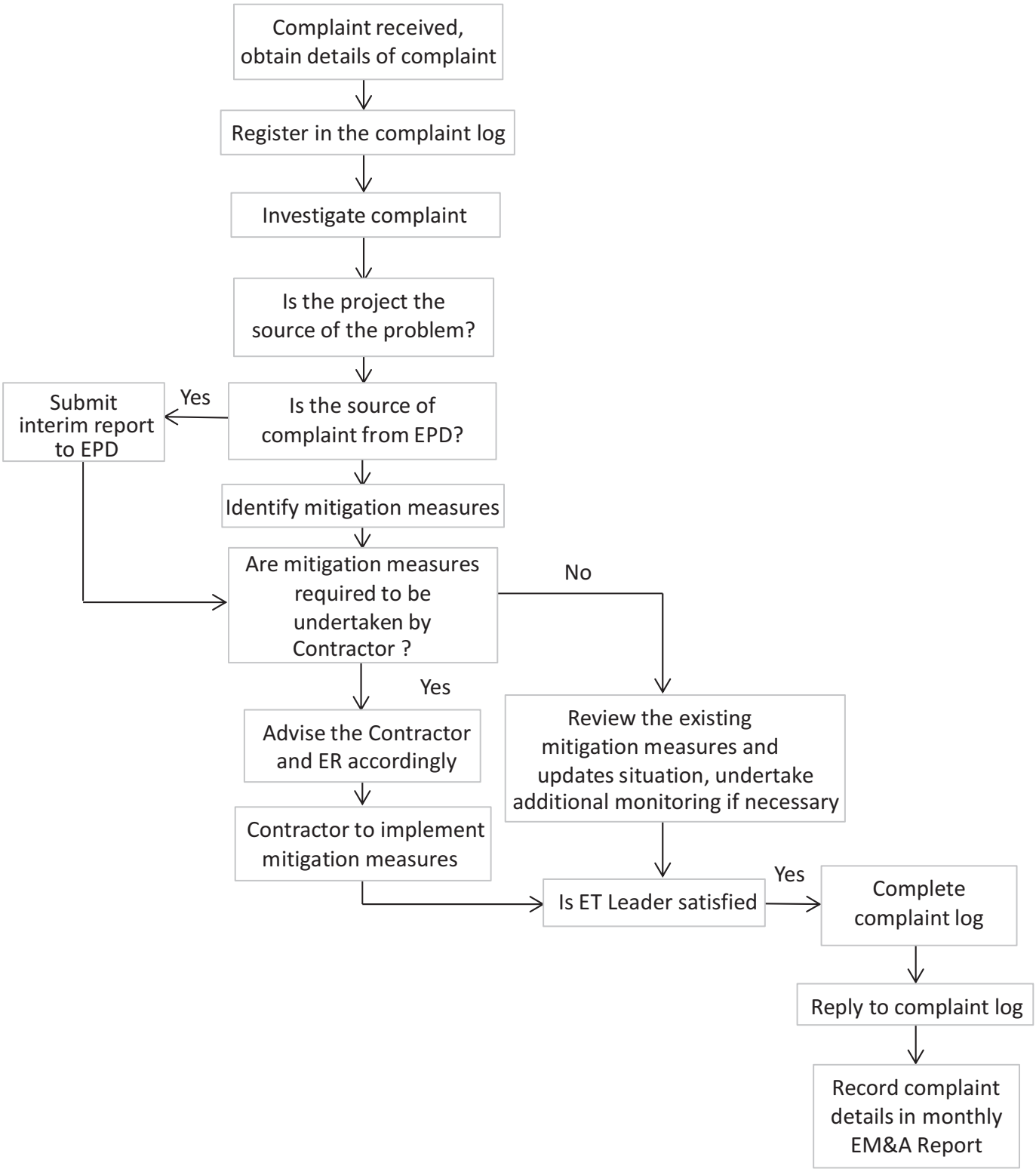

Figure 2.5 Environmental Complaint Handling Procedure

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4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Fifty-fifth Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 31 May 2018 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.

One (1) Action Level of Dissolved Oxygen (DO) exceedance was recorded for water quality impact monitoring in the reporting month.

No Chinese White Dolphins was sighted during the two sets of monitoring surveys in May 2018. One (1) Limit Level exceedance was observed for the quarterly dolphin monitoring data between March and May 2018, whilst 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.

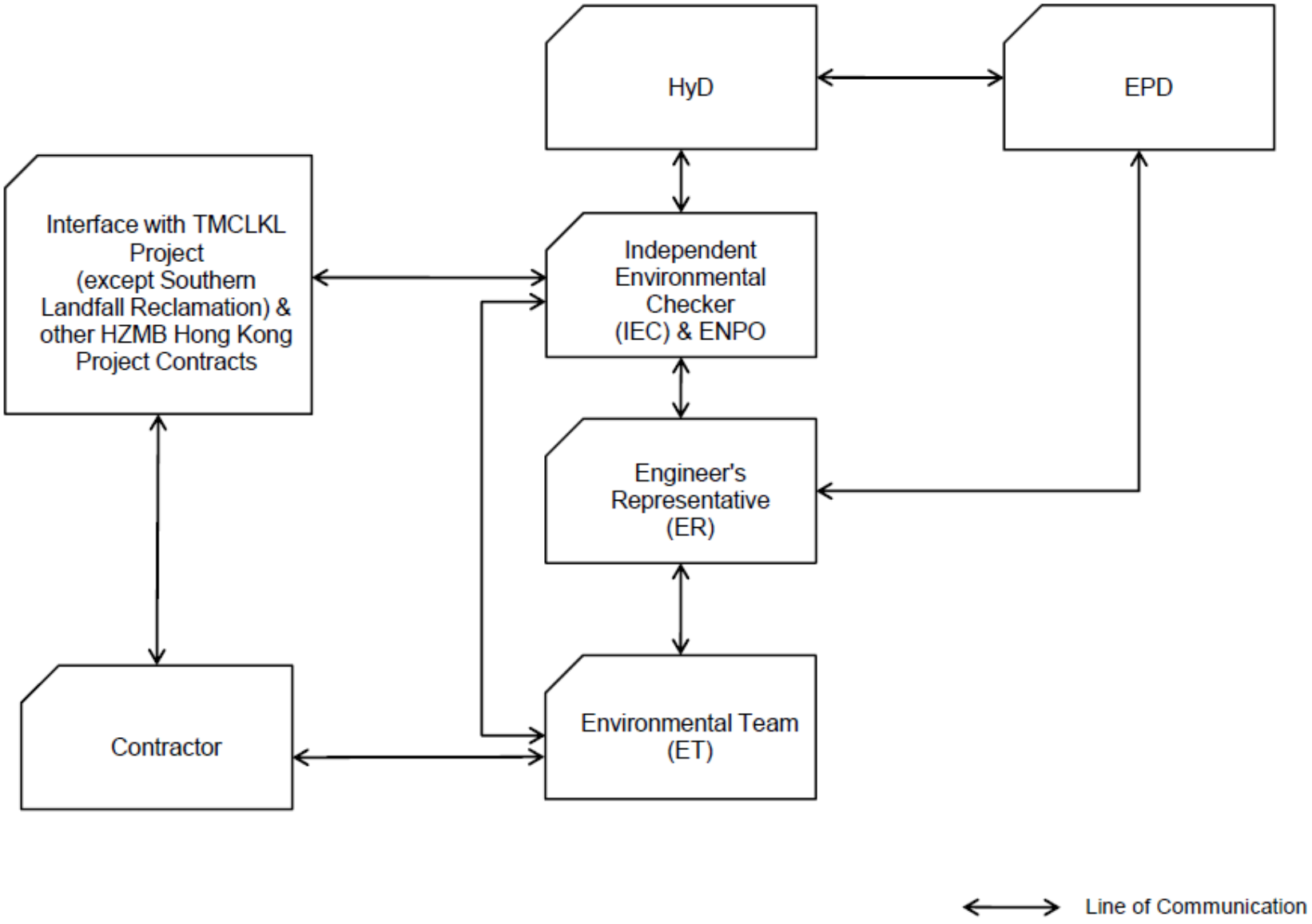
Environmental site inspection was carried out five (5) times in May 2018. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.

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

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

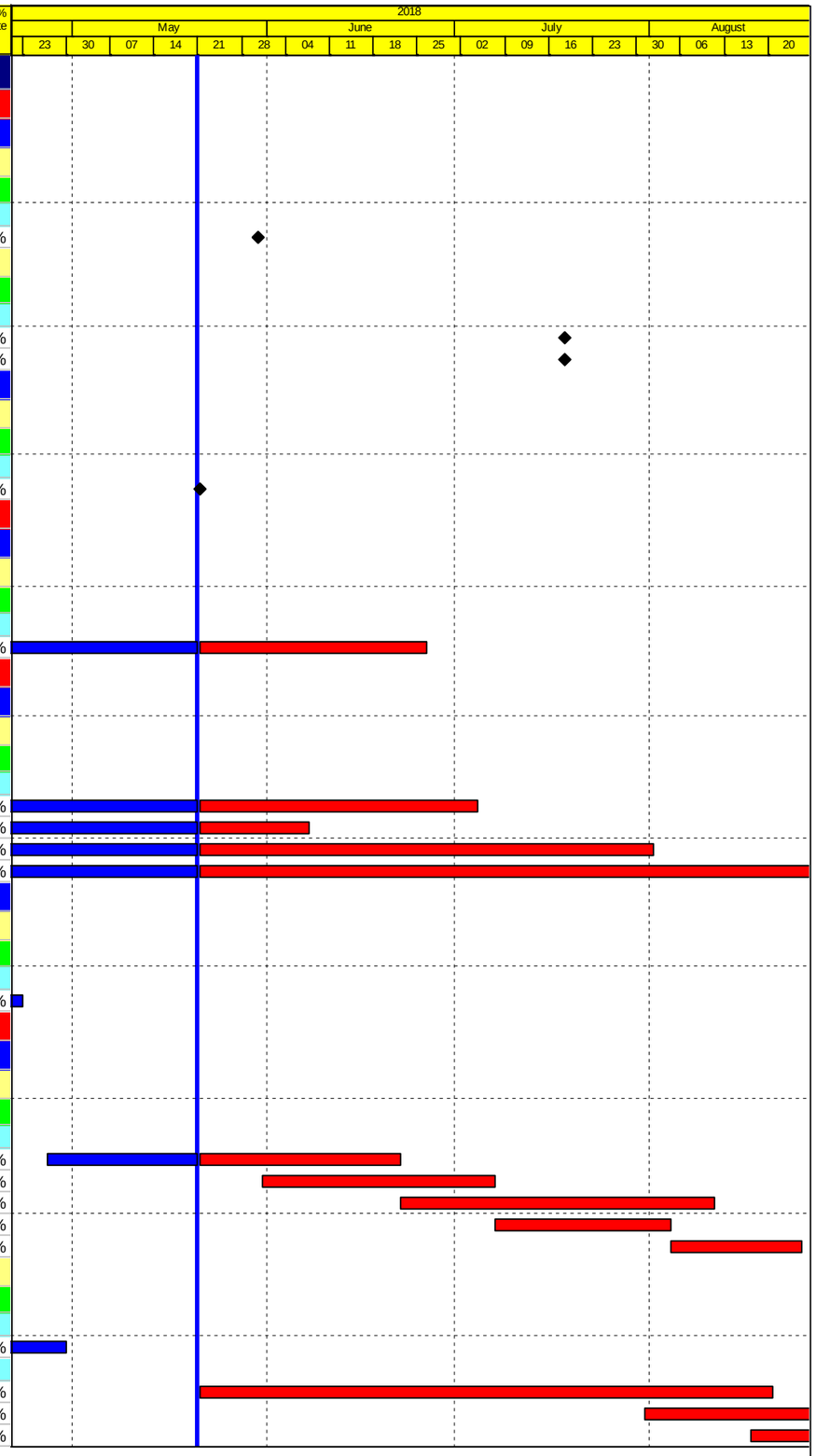
Environmental Resources Management

ERM

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
HY/2012/07 Tuen Mun-Chek Lap Kok Link - Southern Connection									
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	30-May-18*		08-Apr-16	-782	0%
Section of the Works									
Completion Date									
General									
KD13	KD13 - Section 7: All Works at Viaduct C (EoT 6-Oct-16)	0		0	18-Jul-18*		06-Oct-16	-650	0%
KD14	KD14 - Section 8: All Works at Viaduct D (EoT 7-Oct-16)	0		0	18-Jul-18*		06-Oct-16	-650	0%
Portion Handover Dates									
Possession of the Works Area									
Access Dates									
General									
POS02-6B	Portion A - Area 6B (To be confirmed)	0	21-May-18*	0		20-Aug-20		823	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	30	26-Jun-18	12-Sep-16	19-Oct-16	-497	95%
Procurement									
Precast Parapets & Barriers									
Viaduct A to F									
Precast Parapet Manufacture									
General									
PP6011-01	Viaduct A - Precast Parapets/Barriers Production	90	01-Sep-16 A	36	04-Jul-18	05-Sep-16	19-Oct-16	-503	95%
PP6011-02	Viaduct B - Precast Parapets/Barriers Production	120	03-May-16 A	15	07-Jun-18	31-Oct-16	16-Nov-16	-458	95%
PP6011-05	Viaduct E - Precast Parapets/Barriers Production	180	02-Jul-16 A	60	01-Aug-18	16-Dec-17	02-Mar-18	-122	95%
PP6011-06	Viaduct F - Precast Parapets/Barriers Production	198	05-Mar-18 A	148	15-Nov-18	21-Dec-17	26-Jun-18	-118	10%
Bearings									
Viaduct F									
Bearing Design & Manufacture									
General									
PPBRF9	Bearing Delivery - Viaduct F	34	18-Jul-17 A	0	23-Apr-18 A				100%
Construction									
Foundation & Substructure Works									
Ramp A									
Abutment & Approach Ramp A									
Ramp Finishes, E&M & Roadworks									
ARA-C7710	Ramp A - Parapet Panels	66	27-Apr-18 A	26	22-Jun-18	24-Oct-16	23-Nov-16	-463	0%
ARA-C7720	Ramp A - Ducting, Gantry & TCSS Provisions (KD5)	30	31-May-18	30	07-Jul-18	03-Nov-16	07-Dec-16	-463	0%
ARA-C7810	Ramp A - Drainage, Fire Main & E&M Services	42	22-Jun-18	42	11-Aug-18	24-Jan-17	16-Mar-17	-414	0%
ARA-C7820	Ramp A - Railings, Light Poles, Signs & Street Furniture	24	07-Jul-18	24	04-Aug-18	10-Feb-17	09-Mar-17	-414	0%
ARA-C7830	Ramp A - Deck Paving & Roadmarking (KD11)	18	04-Aug-18	18	25-Aug-18	10-Mar-17	30-Mar-17	-414	0%
Ramp B									
Abutment & Approach Ramp B									
Ramp Structure									
ARB-C6160	Ramp B - RC Wall - Backfill with ramp drainage	48	14-Mar-18 A	0	30-Apr-18 A				100%
Ramp Finishes, E&M & Roadworks									
ARB-C7710	Ramp B - Parapet Panels	76	21-May-18	76	20-Aug-18	24-Aug-16	23-Nov-16	-513	0%
ARB-C7720	Ramp B - Ducting, Gantry & TCSS Provisions (KD5)	30	31-Jul-18	30	03-Sep-18	03-Nov-16	07-Dec-16	-513	0%
ARB-C7810	Ramp B - Drainage, Fire Main & E&M Services	42	17-Aug-18	42	06-Oct-18	07-Feb-17	27-Mar-17	-452	0%



Actual Work
Planned Bar
Critical Bar
Milestone

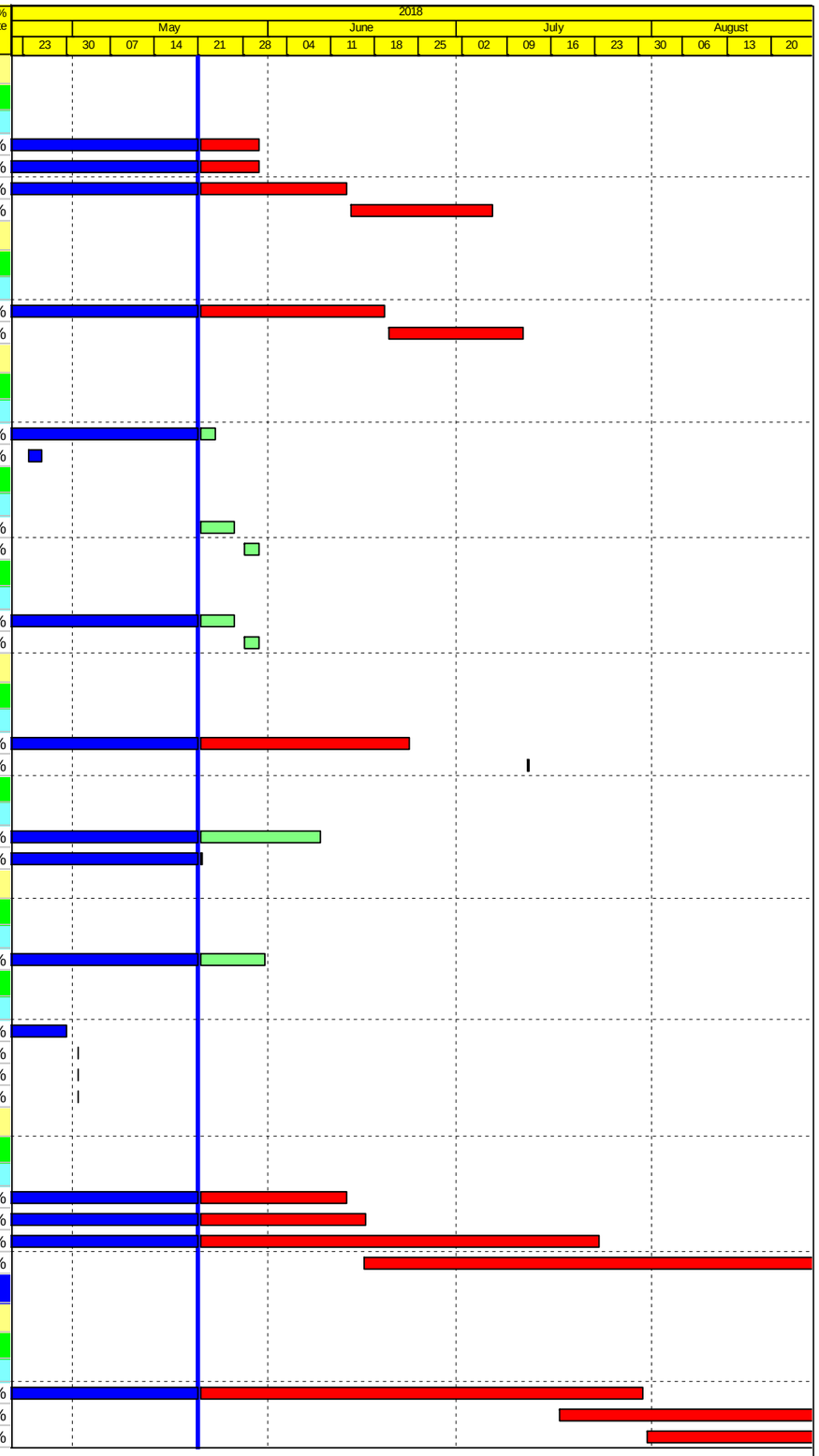
Project ID: TMCLK-DWPL-M60
Layout: J3518-DWP-3MRP Submission - M60
Filter: TASK filters: 3-Month Lookahead, No CC
Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 1 of 7 Pages)
(Progress as of 21-May-18)

Date	Revision	Checked	Approved
24-Apr-18		PKN	HF
28-May-...		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M60

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
Ramp C									
Abutment & Approach Ramp C									
Ramp Finishes, E&M & Roadworks									
ARC-C7720	Ramp C - Ducting, Gantry & TCSS Provisions (KD3)	36	18-Sep-17 A	8	30-May-18	30-Mar-16	08-Apr-16	-634	98%
ARC-C7810	Ramp C - Drainage, Fire Main & E&M Services	54	15-Jan-18 A	8	30-May-18	12-Sep-16	21-Sep-16	-497	98%
ARC-C7820	Ramp C - Railings, Light Poles, Signs & Street Furniture	30	21-Feb-18 A	20	13-Jun-18	22-Aug-16	13-Sep-16	-515	85%
ARC-C7830	Ramp C - Deck Paving & Roadmarking (KD13)	18	14-Jun-18	18	06-Jul-18	14-Sep-16	06-Oct-16	-515	0%
Ramp D									
Abutment & Approach Ramp D									
Ramp Finishes, E&M & Roadworks									
ARD-C7820	Ramp D - Railings, Light Poles, Signs & Street Furniture	30	21-Feb-18 A	24	19-Jun-18	17-Aug-16	13-Sep-16	-519	85%
ARD-C7830	Ramp D - Deck Paving & Roadmarking (KD14)	18	20-Jun-18	18	11-Jul-18	14-Sep-16	06-Oct-16	-519	0%
Viaduct E - Bridge E5, E6, E7, E8									
Pier E12D (E5b)									
Pile Cap Dolphin									
E12D-C3150	E12D Dolphin - Marine Pile Cap - Rebar, Concreting	5	09-Apr-18 A	2	23-May-18	19-Aug-20	20-Aug-20	667	100%
E12D-C3160	E12D Dolphin - Marine Pile Cap - CJ preparation & Curing	3	24-Apr-18 A	0	26-Apr-18 A				100%
Pier E13A (E8c)									
Pile Cap Dolphin									
E13A-C3150	E13A Dolphin - Marine Pile Cap - Rebar, Concreting	5	21-May-18	5	26-May-18	03-Aug-18	08-Aug-18	61	0%
E13A-C3160	E13A Dolphin - Marine Pile Cap - CJ preparation & Curing	3	28-May-18	3	30-May-18	09-Aug-18	11-Aug-18	61	0%
Pier E13D (E5c)									
Pile Cap Dolphin									
E13D-C3150	E13D Dolphin - Marine Pile Cap - Rebar, Concreting	5	12-Apr-18 A	5	26-May-18	03-Aug-18	08-Aug-18	61	70%
E13D-C3160	E13D Dolphin - Marine Pile Cap - CJ preparation & Curing	3	28-May-18	3	30-May-18	09-Aug-18	11-Aug-18	61	0%
Viaduct F - Bridge F3									
Pier F10 (F3c)									
Pier Head Segment									
F10-C5110	F10 Pier Head - Scaffold, Temp Works	30	12-Sep-17 A	28	23-Jun-18	01-Feb-18	08-Mar-18	-85	0%
F10-C5210	F10 Pier Head - Erect last PH segment (1 nr)	1	12-Jul-18	1	12-Jul-18	16-Mar-18	16-Mar-18	-93	0%
Pier F11 (F3b)									
Pier Head Segment									
F11-C5110	F11 Pier Head - Scaffold, Temp Works	33	15-Mar-18 A	17	09-Jun-18	01-Aug-20	20-Aug-20	653	0%
F11-C5210	F11 Pier Head - Erect PH Segment (2 nr)	2	06-Apr-18 A	1	21-May-18	16-Mar-18	16-Mar-18	-51	0%
Viaduct F - Bridge F4									
Pier F16 (F5a/F4a)									
Pier Head Segment									
F16-C5410	F16 Pier Head - Curing, Remove Formwork	12	21-Mar-18 A	9	31-May-18	11-Aug-20	20-Aug-20	660	50%
Pier F18 (F4c)									
Pier Head Segment									
F18-C5110	F18 Pier Head - Scaffold, Temp Works	25	21-Feb-18 A	0	30-Apr-18 A				100%
F18-C5210	F18 Pier Head - Erect PH Segment (1 nr)	2	02-May-18 A	0	02-May-18 A				100%
F18-C5310	F18 Pier Head - Construct Diaphragm (2nd Cast) in PHS	20	02-May-18 A	0	02-May-18 A				100%
F18-C5410	F18 Pier Head - Curing, Remove Temp Works	5	02-May-18 A	0	02-May-18 A				100%
Ramp F									
Abutment & Approach Ramp F									
Ramp Structure									
ARF-C6130	Ramp F -Abutment wall (RF-6)	14	18-Apr-18 A	20	13-Jun-18	23-Jan-18	14-Feb-18	-93	20%
ARF-C6140	Ramp F - Column and beam (FB2 & FB3)	54	14-Feb-18 A	23	16-Jun-18	01-Nov-17	27-Nov-17	-161	56%
ARF-C6150	Ramp F - Column and beam (FB1 & FB3)	86	26-Mar-18 A	52	23-Jul-18	20-Jan-18	24-Mar-18	-95	10%
ARF-C6160	Ramp F - Ramp deck	71	16-Jun-18	71	08-Sep-18	15-Feb-18	17-May-18	-95	0%
Superstructure & Associated Works									
Viaduct A									
Bridge A2									
Deck Fnishes, E&M and Roadworks									
VA2-C7710	Viaduct A2 - Parapet Panels	118	13-Feb-18 A	58	30-Jul-18	31-Aug-16	09-Nov-16	-507	7%
VA2-C7720	Viaduct A2 - Gantry & TCSS Provisions (KD5)	36	17-Jul-18	36	27-Aug-18	27-Oct-16	07-Dec-16	-507	0%
VA2-C7810	Viaduct A2 - Drainage, Fire Main & E&M Services	60	31-Jul-18	60	10-Oct-18	10-Jan-17	23-Mar-17	-458	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPL-M60
Layout: J3518-DWP-3MRP Submission - M60
Filter: TASK filters: 3-Month Lookahead, No CO
Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 2 of 7 Pages)
(Progress as of 21-May-18)

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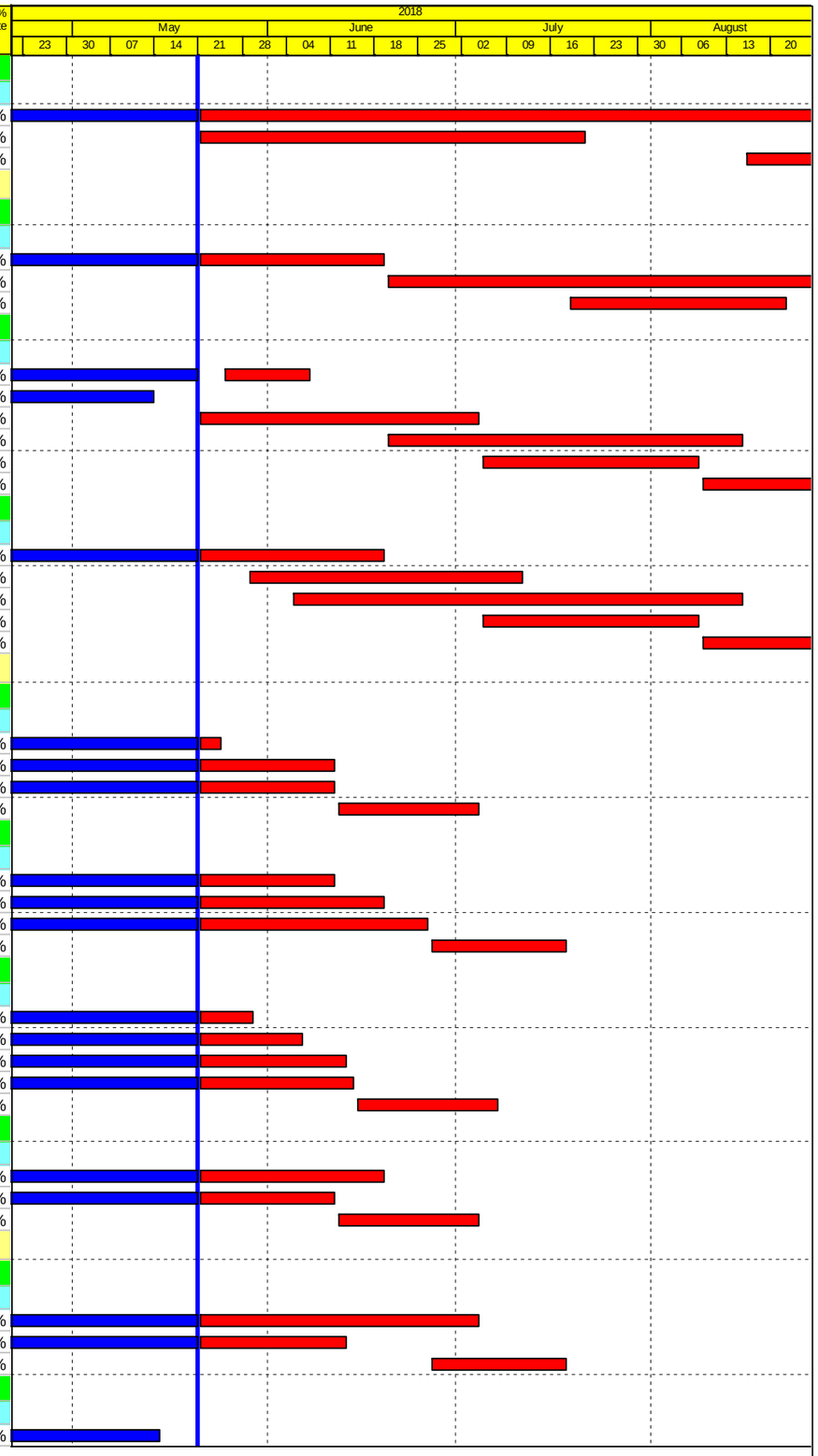
28-May-...		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M60

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
Bridge A1									
Deck Fnishes, E&M and Roadworks									
VA1-C7710	Viaduct A1 - Parapet Panels	220	10-Feb-18 A	96	12-Sep-18	01-Aug-16	23-Nov-16	-533	80%
VA1-C7715	Viaduct A1 - Parapet Panels (with MTR access)	51	21-May-18	51	21-Jul-18	23-Sep-16	23-Nov-16	-488	0%
VA1-C7720	Viaduct A1 - Gantry & TCSS Provisions (KD5)	36	16-Aug-18	36	27-Sep-18	27-Oct-16	07-Dec-16	-533	0%
Viaduct B									
Bridge B3									
Deck Fnishes, E&M and Roadworks									
VB3-C7720	Viaduct B3 - Gantry & TCSS Provisions (KD5)	36	21-Mar-18 A	24	19-Jun-18	10-Nov-16	07-Dec-16	-449	20%
VB3-C7810	Viaduct B3 - Drainage, Fire Main & E&M Services	60	20-Jun-18	60	29-Aug-18	11-Jan-17	24-Mar-17	-423	0%
VB3-C7820	Viaduct B3 - Railings, Light Poles, Signs & Street Furniture	30	19-Jul-18	30	22-Aug-18	11-Feb-17	17-Mar-17	-423	0%
Bridge B2									
Deck Fnishes, E&M and Roadworks									
VB2-C7710	Viaduct B2 - Parapet Panels	60	15-Aug-17 A	12	07-Jun-18	10-Nov-16	23-Nov-16	-452	85%
VB2-C7715	Viaduct B2 - Parapet Panels (with MTR access)	52	04-Apr-18 A	0	14-May-18 A				100%
VB2-C7720	Viaduct B2 - Gantry & TCSS Provisions (KD5)	36	21-May-18	36	04-Jul-18	27-Oct-16	07-Dec-16	-461	0%
VB2-C7810	Viaduct B2 - Drainage, Fire Main & E&M Services	48	20-Jun-18	48	15-Aug-18	11-Jan-17	10-Mar-17	-423	0%
VB2-C7820	Viaduct B2 - Railings, Light Poles, Signs & Street Furniture	30	05-Jul-18	30	08-Aug-18	11-Feb-17	17-Mar-17	-411	0%
VB2-C7830	Viaduct B2 - Deck Paving & Roadmarking (KD12)	18	09-Aug-18	18	29-Aug-18	18-Mar-17	08-Apr-17	-411	0%
Bridge B1									
Deck Fnishes, E&M and Roadworks									
VB1-C7710	Viaduct B1 - Parapet Panels	83	06-Nov-17 A	24	19-Jun-18	20-Oct-16	16-Nov-16	-467	85%
VB1-C7720	Viaduct B1 - Gantry & TCSS Provisions (KD5)	36	29-May-18	36	11-Jul-18	27-Oct-16	07-Dec-16	-467	0%
VB1-C7810	Viaduct B1 - Drainage, Fire Main & E&M Services	60	05-Jun-18	60	15-Aug-18	11-Jan-17	24-Mar-17	-411	0%
VB1-C7820	Viaduct B1 - Railings, Light Poles, Signs & Street Furniture	30	05-Jul-18	30	08-Aug-18	11-Feb-17	17-Mar-17	-411	0%
VB1-C7830	Viaduct B1 - Deck Paving & Roadmarking (KD12)	18	09-Aug-18	18	29-Aug-18	18-Mar-17	08-Apr-17	-411	0%
Viaduct C									
Bridge C4									
Deck Fnishes, E&M and Roadworks									
VC4-C7720	Viaduct C4 - Gantry & TCSS Provisions (KD4)	36	01-Feb-18 A	3	24-May-18	04-Oct-16	06-Oct-16	-480	90%
VC4-C7810	Viaduct C4 - Drainage, Fire Main & E&M Services	60	21-Feb-18 A	18	11-Jun-18	14-Sep-16	06-Oct-16	-495	75%
VC4-C7820	Viaduct C4 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	18	11-Jun-18	24-Aug-16	13-Sep-16	-513	85%
VC4-C7830	Viaduct C4 - Deck Paving & Roadmarking (KD13)	18	12-Jun-18	18	04-Jul-18	14-Sep-16	06-Oct-16	-513	0%
Bridge C3									
Deck Fnishes, E&M and Roadworks									
VC3-C7720	Viaduct C3 - Gantry & TCSS Provisions (KD4)	36	21-Feb-18 A	18	11-Jun-18	14-Sep-16	06-Oct-16	-495	50%
VC3-C7810	Viaduct C3 - Drainage, Fire Main & E&M Services	48	21-Feb-18 A	24	19-Jun-18	07-Sep-16	06-Oct-16	-501	80%
VC3-C7820	Viaduct C3 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	30	26-Jun-18	10-Aug-16	13-Sep-16	-525	30%
VC3-C7830	Viaduct C3 - Deck Paving & Roadmarking (KD13)	18	27-Jun-18	18	18-Jul-18	14-Sep-16	06-Oct-16	-525	0%
Bridge C2									
Deck Fnishes, E&M and Roadworks									
VC2-C7710	Viaduct C2 - Parapet Panels	48	13-Jun-17 A	7	29-May-18	13-Sep-16	21-Sep-16	-496	95%
VC2-C7720	Viaduct C2 - Gantry & TCSS Provisions (KD4)	36	10-Feb-18 A	14	06-Jun-18	05-Sep-16	21-Sep-16	-503	85%
VC2-C7810	Viaduct C2 - Drainage, Fire Main & E&M Services	60	22-Jan-18 A	20	13-Jun-18	29-Aug-16	21-Sep-16	-509	80%
VC2-C7820	Viaduct C2 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	21	14-Jun-18	20-Aug-16	13-Sep-16	-516	90%
VC2-C7830	Viaduct C2 - Deck Paving & Roadmarking (KD13)	18	15-Jun-18	18	07-Jul-18	14-Sep-16	06-Oct-16	-516	0%
Bridge C1									
Deck Fnishes, E&M and Roadworks									
VC1-C7810	Viaduct C1 - Drainage, Fire Main & E&M Services	60	22-Jan-18 A	24	19-Jun-18	07-Sep-16	06-Oct-16	-501	70%
VC1-C7820	Viaduct C1 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	18	11-Jun-18	24-Aug-16	13-Sep-16	-513	80%
VC1-C7830	Viaduct C1 - Deck Paving & Roadmarking (KD13)	18	12-Jun-18	18	04-Jul-18	14-Sep-16	06-Oct-16	-513	0%
Viaduct D									
Bridge D3									
Deck Fnishes, E&M and Roadworks									
VD3-C7810	Viaduct D3 - Drainage, Fire Main & E&M Services	60	21-Feb-18 A	36	04-Jul-18	10-Aug-16	21-Sep-16	-525	75%
VD3-C7820	Viaduct D3 - Railings, Light Poles, Signs & Street Furniture	30	01-Mar-18 A	20	13-Jun-18	22-Aug-16	13-Sep-16	-515	75%
VD3-C7830	Viaduct D3 - Deck Paving & Roadmarking (KD14)	18	27-Jun-18	18	18-Jul-18	14-Sep-16	06-Oct-16	-525	0%
Bridge D2									
Deck Fnishes, E&M and Roadworks									
VD2-C7715	Viaduct D2 - Parapet Panels (with MTR access)	74	24-Feb-18 A	0	15-May-18 A				100%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPL-M60
Layout: J3518-DWP-3MRP Submission - M60
Filter: TASK filters: 3-Month Lookahead, No CC
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Tuen Mun - Chek Lap Kok Link - Southern Connection
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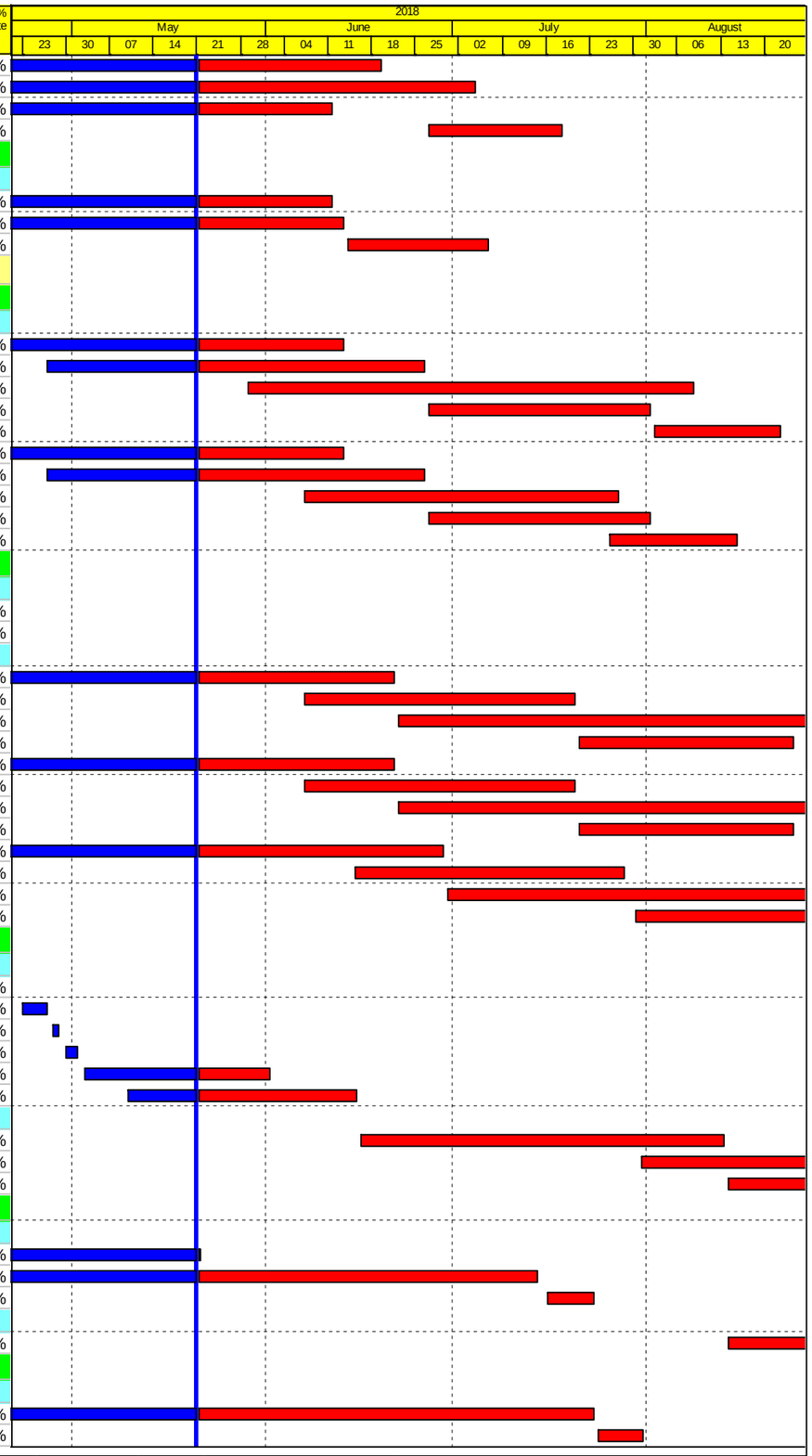
Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Physical % Complete
VD2-C7720	Viaduct D2 - Gantry & TCSS Provisions (KD4)	36	12-Feb-18 A	24	19-Jun-18	10-Aug-16	06-Sep-16	-525	75%
VD2-C7810	Viaduct D2 - Drainage, Fire Main & E&M Services	48	22-Jan-18 A	36	04-Jul-18	10-Aug-16	21-Sep-16	-525	60%
VD2-C7820	Viaduct D2 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	18	11-Jun-18	24-Aug-16	13-Sep-16	-513	60%
VD2-C7830	Viaduct D2 - Deck Paving & Roadmarking (KD14)	18	27-Jun-18	18	18-Jul-18	14-Sep-16	06-Oct-16	-525	0%
Bridge D1									
Deck Fnishes, E&M and Roadworks									
VD1-C7810	Viaduct D1 - Drainage, Fire Main & E&M Services	60	22-Jan-18 A	18	11-Jun-18	31-Aug-16	21-Sep-16	-507	85%
VD1-C7820	Viaduct D1 - Railings, Light Poles, Signs & Street Furniture	30	21-Mar-18 A	20	13-Jun-18	22-Aug-16	13-Sep-16	-515	70%
VD1-C7830	Viaduct D1 - Deck Paving & Roadmarking (KD14)	18	14-Jun-18	18	06-Jul-18	14-Sep-16	06-Oct-16	-515	0%
Viaduct E									
Bridge E1									
Deck Fnishes, E&M and Roadworks									
VE1AB-C77	Viaduct E1A/B - Parapet Panels	48	27-Nov-17 A	20	13-Jun-18	19-Jul-16	10-Aug-16	-544	95%
VE1AB-C77	Viaduct E1A/B - Gantry & TCSS Provisions (KD4)	36	27-Apr-18 A	30	26-Jun-18	07-Jul-16	10-Aug-16	-554	0%
VE1AB-C78	Viaduct E1A/B - Drainage, Fire Main & E&M Services	60	29-May-18	60	08-Aug-18	14-Jul-16	22-Sep-16	-554	0%
VE1AB-C78	Viaduct E1A/B - Railings, Light Poles, Signs & Street Furniture	30	27-Jun-18	30	01-Aug-18	11-Aug-16	14-Sep-16	-554	0%
VE1AB-C78	Viaduct E1A/B - Deck Paving & Roadmarking (KD10)	18	02-Aug-18	18	22-Aug-18	15-Sep-16	07-Oct-16	-554	0%
VE1CD-C77	Viaduct E1C/D - Parapet Panels	56	21-Dec-17 A	20	13-Jun-18	26-Jul-16	17-Aug-16	-538	95%
VE1CD-C77	Viaduct E1C/D - Gantry & TCSS Provisions (KD4)	36	27-Apr-18 A	30	26-Jun-18	14-Jul-16	17-Aug-16	-548	0%
VE1CD-C78	Viaduct E1C/D - Drainage, Fire Main & E&M Services	42	07-Jun-18	42	27-Jul-18	01-Sep-16	22-Oct-16	-520	0%
VE1CD-C78	Viaduct E1C/D - Railings, Light Poles, Signs & Street Furniture	30	27-Jun-18	30	01-Aug-18	18-Aug-16	22-Sep-16	-548	0%
VE1CD-C78	Viaduct E1C/D - Deck Paving & Roadmarking (KD10)	18	26-Jul-18	18	15-Aug-18	15-Sep-16	07-Oct-16	-548	0%
Bridge E2									
Deck Span Segment									
E11B-C6610	E10A-E11A / E10A-E8: Install Bearing & Stress Continuity Tendons	24	30-Mar-18 A	0	21-Apr-18 A				100%
E11B-C6620	E10B-E11B / E10B-E8B: Install Bearing & Stress Continuity Tendons	24	21-Mar-18 A	0	21-Apr-18 A				100%
Deck Fnishes, E&M and Roadworks									
VE21-C7710	Viaduct E2-1 (E3-E6) - Parapet Panels	48	15-Feb-18 A	26	21-Jun-18	15-Mar-18	18-Apr-18	-52	80%
VE21-C7720	Viaduct E2-1 (E3-E6) - Gantry & TCSS Provisions (KD4)	36	07-Jun-18	36	20-Jul-18	04-Apr-18	17-May-18	-52	0%
VE21-C7810	Viaduct E2-1 (E3-E6) - Drainage, Fire Main & E&M Services	60	22-Jun-18	60	31-Aug-18	17-May-18	28-Jul-18	-29	0%
VE21-C7820	Viaduct E2-1 (E3-E6) - Railings, Light Poles, Signs & Street Furniture	30	21-Jul-18	30	24-Aug-18	15-Jun-18	21-Jul-18	-29	0%
VE22-C7710	Viaduct E2-2 (E6-E8) - Parapet Panels	48	19-Mar-18 A	26	21-Jun-18	15-Mar-18	18-Apr-18	-52	80%
VE22-C7720	Viaduct E2-2 (E6-E8) - Gantry & TCSS Provisions (KD4)	36	07-Jun-18	36	20-Jul-18	04-Apr-18	17-May-18	-52	0%
VE22-C7810	Viaduct E2-2 (E6-E8) - Drainage, Fire Main & E&M Services	60	22-Jun-18	60	31-Aug-18	17-May-18	28-Jul-18	-29	0%
VE22-C7820	Viaduct E2-2 (E6-E8) - Railings, Light Poles, Signs & Street Furniture	30	21-Jul-18	30	24-Aug-18	15-Jun-18	21-Jul-18	-29	0%
VE23-C7710	Viaduct E2-3 (E8-E10) - Parapet Panels	48	18-Apr-18 A	33	29-Jun-18	07-Mar-18	18-Apr-18	-59	60%
VE23-C7720	Viaduct E2-3 (E8-E10) - Gantry & TCSS Provisions (KD4)	36	15-Jun-18	36	28-Jul-18	04-Apr-18	17-May-18	-59	0%
VE23-C7810	Viaduct E2-3 (E8-E10) - Drainage, Fire Main & E&M Services	60	30-Jun-18	60	08-Sep-18	17-May-18	28-Jul-18	-36	0%
VE23-C7820	Viaduct E2-3 (E8-E10) - Railings, Light Poles, Signs & Street Furniture	30	30-Jul-18	30	01-Sep-18	15-Jun-18	21-Jul-18	-36	0%
Bridge E5									
Deck Span Segment									
E13D-C6250	E14D Deck - Cantilever span (4 seg) - KF	5	18-Apr-18 A	0	21-Apr-18 A				100%
E13D-C6260	E14D Deck - Adjustment of segments,stressing and remove KF	4	23-Apr-18 A	0	27-Apr-18 A				100%
E14D-C6510	E14D Deck - Stitching S1 Between E13D & E14D	8	28-Apr-18 A	0	29-Apr-18 A				100%
E14D-C6520	E14D Deck - Stitching S2 Between E13D & E14D	8	30-Apr-18 A	0	02-May-18 A				100%
E14D-C6610	E14D Deck - Dismantle Truss & Clear Deck (KD1)	15	03-May-18 A	10	01-Jun-18	05-Dec-17	15-Dec-17	-132	60%
VE5-C6910	Viaduct E5 - Final Stressing to Span	12	10-May-18 A	22	15-Jun-18	21-Nov-17	15-Dec-17	-144	85%
Deck Fnishes, E&M and Roadworks									
VE5-C7710	Viaduct E5 - Parapet Panels	48	16-Jun-18	48	13-Aug-18	16-Dec-17	13-Feb-18	-144	0%
VE5-C7720	Viaduct E5 - Gantry & TCSS Provisions (KD4)	36	31-Jul-18	36	10-Sep-18	04-Apr-18	17-May-18	-96	0%
VE5-C7810	Viaduct E5 - Drainage, Fire Main & E&M Services	60	14-Aug-18	60	25-Oct-18	10-May-18	21-Jul-18	-79	0%
Bridge E6									
Deck Span Segment									
E13C-C6310	E13C Deck - Stitch between E12C and E13C	12	16-Mar-18 A	1	21-May-18	20-Aug-20	20-Aug-20	730	95%
VE6-C6910	Viaduct E6 - Final Stressing to Span	12	22-Mar-18 A	45	14-Jul-18	12-Dec-17	05-Feb-18	-126	92%
VE6-C6920	Viadcct E6 - Install, grout permanent bearing and load transfer at pier E14(	7	16-Jul-18	7	23-Jul-18	06-Feb-18	13-Feb-18	-126	0%
Deck Fnishes, E&M and Roadworks									
VE6-C7710	Viaduct E6 - Parapet Panels	48	14-Aug-18	48	10-Oct-18	14-Feb-18	18-Apr-18	-144	0%
Bridge E7									
Deck Span Segment									
VE7-C6910	Viaduct E7 - Final Stressing to Span	12	21-Apr-18 A	52	23-Jul-18	04-Dec-17	05-Feb-18	-133	95%
VE7-C6920	Viaduct E7 - Install, grout permanent bearing and load transfer to E14C	7	24-Jul-18	7	31-Jul-18	06-Feb-18	13-Feb-18	-133	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPL-M60
Layout: J3518-DWP-3MRP Submission - M60
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 7 Pages)

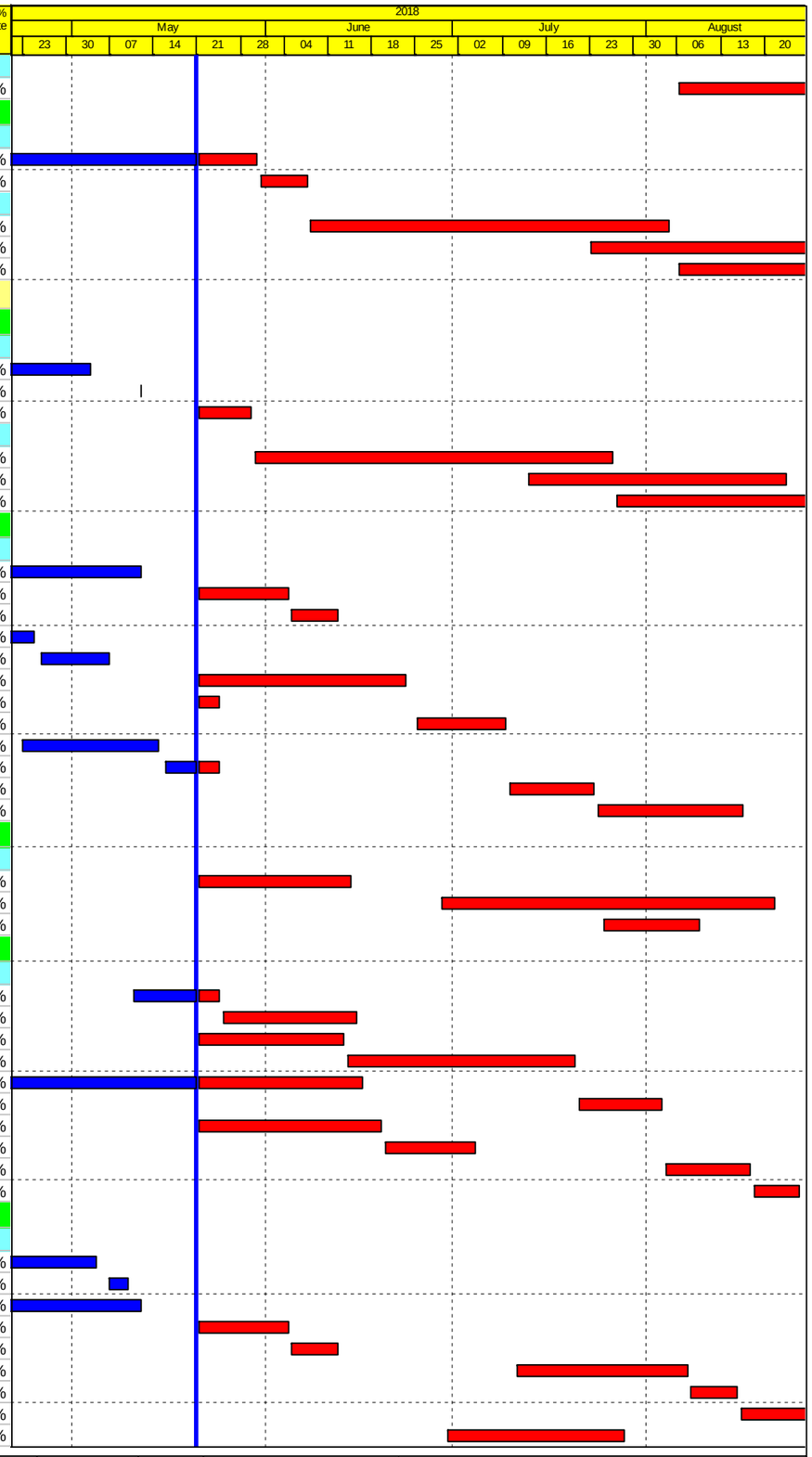
(Progress as of 21-May-18)

Date	Revision	Checked	Approved
24-Apr-18		PKN	HF
28-May-...		PKN	HF

DWG. No.:

J3518/GCL/PGM/3MRP-M60

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									
VE7-C7710	Viaduct E7 - Parapet Panels	48	06-Aug-18	48	02-Oct-18	14-Feb-18	18-Apr-18	-137	0%
Bridge E8									
Deck Span Segment									
VE8-C6910	Viaduct E8 - Final Stressing to Span	12	19-Apr-18 A	8	30-May-18	29-Nov-17	07-Dec-17	-137	90%
VE8-C6920	Viaduct E8 - Install, grout permanent bearing and load transfer	7	31-May-18	7	07-Jun-18	08-Dec-17	15-Dec-17	-137	0%
Deck Fnishes, E&M and Roadworks									
VE8-C7710	Viaduct E8 - Parapet Panels	48	08-Jun-18	48	04-Aug-18	16-Dec-17	13-Feb-18	-137	0%
VE8-C7720	Viaduct E8 - Gantry & TCSS Provisions (KD4)	36	23-Jul-18	36	01-Sep-18	04-Apr-18	17-May-18	-89	0%
VE8-C7810	Viaduct E8 - Drainage, Fire Main & E&M Services	60	06-Aug-18	60	16-Oct-18	10-May-18	21-Jul-18	-72	0%
Viaduct F									
Bridge F1									
Deck Span Segment									
E14A-C6410	E14A Deck - Stitching to E14A-F1,release U tendon,stress bar breakup stit	21	06-Apr-18 A	0	04-May-18 A				100%
VF1-C6910	Viaduct F1 - Final Stressing	28	12-May-18 A	0	12-May-18 A				100%
VF1-C6920	Viaduct F1 - Install, grout permanent bearing and load transfer at piers F3	7	21-May-18	7	29-May-18	06-Feb-18	13-Feb-18	-81	0%
Deck Fnishes, E&M and Roadworks									
VF1-C7710	Viaduct F1 - Parapet Panels	48	30-May-18	48	26-Jul-18	14-Feb-18	18-Apr-18	-81	0%
VF1-C7720	Viaduct F1 - Gantry & TCSS Provisions (KD4)	36	13-Jul-18	36	23-Aug-18	04-Apr-18	17-May-18	-81	0%
VF1-C7810	Viaduct F1 - Drainage, Fire Main & E&M Services	60	27-Jul-18	60	06-Oct-18	12-May-18	24-Jul-18	-62	0%
Bridge F2									
Deck Span Segment									
F04-C6410	F4 Deck - Stitching to E14C-F4	12	16-Apr-18 A	0	12-May-18 A				100%
F04-C6420	F4 Deck - release U tendon, stress bar & break up temp stitch @E14C	12	21-May-18	12	04-Jun-18	24-Apr-18	08-May-18	-22	0%
F04-C6430	F4 Deck - Install, grout permanent bearing and load transfer	7	05-Jun-18	7	12-Jun-18	09-May-18	16-May-18	-22	0%
F05-C6330	F5 Deck - Cantilever span (2 nr) - crane	3	16-Apr-18 A	0	25-Apr-18 A				100%
F05-C6410	F5 Deck - Stitching to F4-F5	12	26-Apr-18 A	0	07-May-18 A				100%
F06-C6410	F6 Deck - Stitching to F5-F6 and remove proping	28	21-May-18	28	23-Jun-18	13-Apr-18	16-May-18	-31	0%
F07-C6330	F7 Deck - Cantilever Span (2 nr) - crane	3	21-May-18	3	24-May-18	14-May-18	16-May-18	-6	0%
F07-C6410	F7 Deck - Stitching to F6-F7	12	25-Jun-18	12	09-Jul-18	17-May-18	31-May-18	-31	0%
F08-C6210	F8 Deck - Falsework for End Span to F7	30	23-Apr-18 A	0	15-May-18 A				100%
F08-C6310	F8 Deck - End Span to F7 (7 nr) - Crane	7	16-May-18 A	3	24-May-18	19-Jan-18	22-Jan-18	-96	95%
F08-C6410	F8 Deck - Stitching to F7-F8	12	10-Jul-18	12	23-Jul-18	01-Jun-18	14-Jun-18	-31	0%
VF2-C6910	Viaduct F2 - Final Stressing	21	24-Jul-18	21	16-Aug-18	15-Jun-18	11-Jul-18	-31	0%
Bridge F3									
Deck Span Segment									
F10-C6210	F9-F10 Deck - Erect Falsework (with Sliding System)	21	21-May-18	21	14-Jun-18	11-Jan-18	03-Feb-18	-103	0%
F10-C6310	F9-F10 Deck - Span Segment (33 nr) - Crane	45	29-Jun-18	45	21-Aug-18	06-Feb-18	06-Apr-18	-113	0%
F11-C6210	F10-F11 Deck - Erect Falsework (stage 1)	14	25-Jul-18	14	09-Aug-18	17-Mar-18	06-Apr-18	-103	0%
Bridge F4									
Deck Span Segment									
F16-C6210	F16 Deck - Cantilever Span (3 nr) & stitches towards E14B,F15,F17) - cra	19	11-May-18 A	3	24-May-18	06-Jan-18	09-Jan-18	-107	33%
F16-C6310	F16 Deck - Cantilever Span (5 nr) & stitches - crane	19	25-May-18	19	15-Jun-18	10-Jan-18	31-Jan-18	-107	0%
F16-C6320	F16 Deck - Construct props with footing	24	21-May-18	24	13-Jun-18	29-Dec-17	22-Jan-18	-136	0%
F16-C6330	F16 Deck - Cantilever Span (12 nr) - THB / crane	30	14-Jun-18	30	20-Jul-18	23-Jan-18	01-Mar-18	-113	0%
F17-C6310	F17 Deck - Cantilever Span (12 nr) - crane (Props at 5th Pair)	23	26-Mar-18 A	23	16-Jun-18	07-Mar-18	06-Apr-18	-59	95%
F17-C6410	F17 Deck - Stitching to F16-F17	12	21-Jul-18	12	03-Aug-18	07-Apr-18	20-Apr-18	-86	0%
F18-C6210	F18 Deck - Falsework for End Span to F17	24	21-May-18	24	19-Jun-18	06-Mar-18	06-Apr-18	-60	0%
F18-C6310	F18 Deck - End Span to F17 (9 nr) - Crane	12	20-Jun-18	12	04-Jul-18	07-Apr-18	20-Apr-18	-60	0%
F18-C6410	F18 Deck - Stitching to F17-F18	12	04-Aug-18	12	17-Aug-18	21-Apr-18	05-May-18	-86	0%
F18-C6420	F18 Deck - Grout bearing & load transfer at F17 & F18	7	18-Aug-18	7	25-Aug-18	07-May-18	14-May-18	-86	0%
Bridge F5									
Deck Span Segment									
F13-C6210	F13 Deck - Falsework for End Span to F14	24	07-Apr-18 A	0	05-May-18 A				100%
F13-C6310	F13 Deck - End Span to F14 (7 nr) - Crane	14	07-May-18 A	0	10-May-18 A				100%
F14-C6320	F14 Deck - Cantilever Span (12 nr) - crane	20	27-Mar-18 A	0	12-May-18 A				100%
F14-C6410	F14 Deck - Stitching to F13-F14 & Clear Deck (KD2)	12	21-May-18	12	04-Jun-18	21-Apr-18	05-May-18	-24	0%
F14-C6420	F14 Deck - Install, grout permanent bearing and load transfer at F14	7	05-Jun-18	7	12-Jun-18	11-May-18	18-May-18	-20	0%
F15-C6210	F15 - Falsework for End Span to F14	24	11-Jul-18	24	07-Aug-18	12-Apr-18	10-May-18	-73	0%
F15-C6310	F15 - End Span to F14 (7 nr) - Crane	7	08-Aug-18	7	15-Aug-18	11-May-18	18-May-18	-73	0%
F15-C6410	F15 Deck - Stitching to F14-F15	12	16-Aug-18	12	29-Aug-18	19-May-18	02-Jun-18	-73	0%
F15-C6510	F15 - Falsework for End Span to F16	24	30-Jun-18	24	28-Jul-18	22-Feb-18	21-Mar-18	-103	0%



Actual Work
Planned Bar
Critical Bar
Milestone

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Layout: J3518-DWP-3MRP Submission - M60
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Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection

3-Month Rolling Programme (Page 5 of 7 Pages)

(Progress as of 21-May-18)

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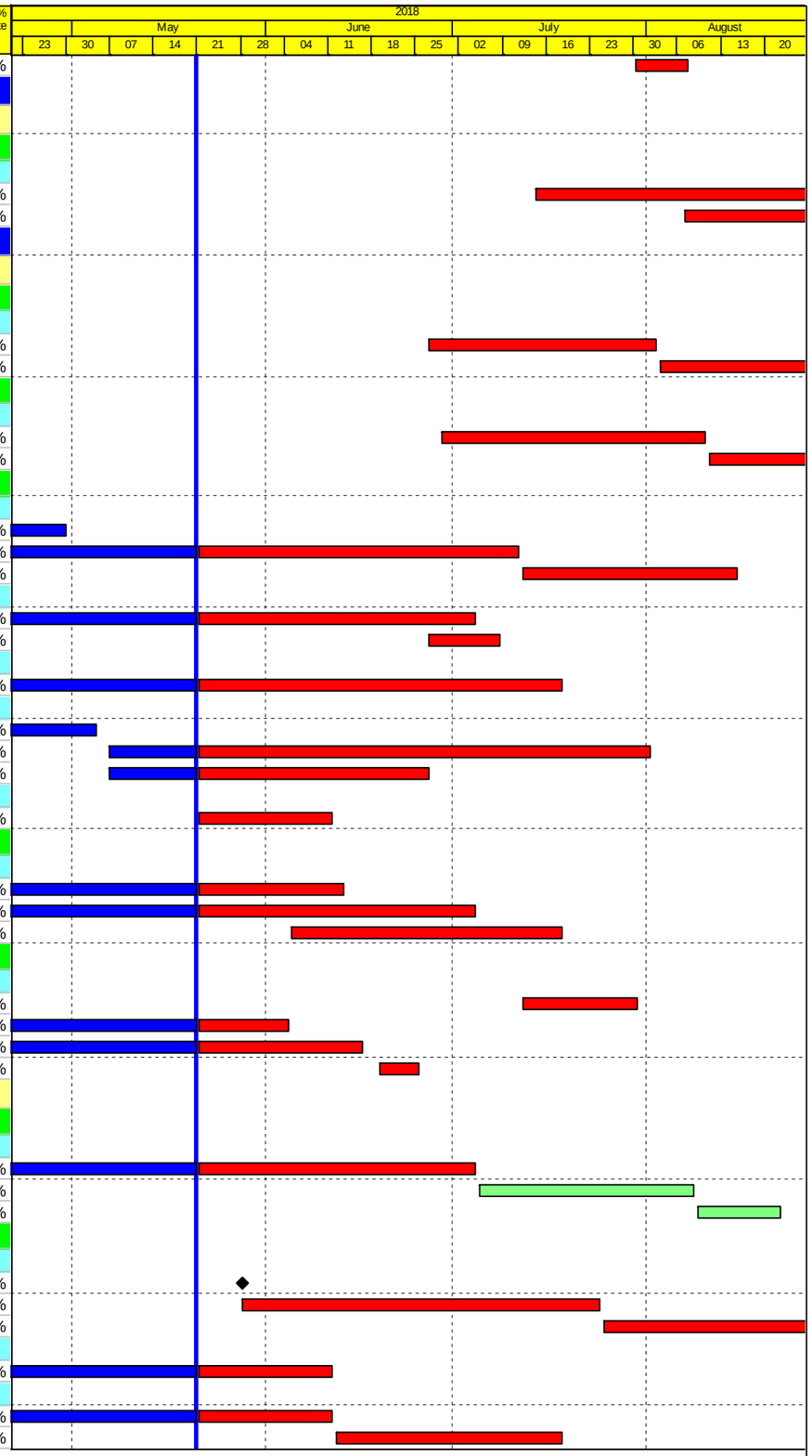
28-May-...		PKN	HF

DWG. No.:

J3518/GCL/PGM/3MRP-M60

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
F15-C6610	F15 - End Span to F16 (7 nr) - Crane	8	30-Jul-18	8	07-Aug-18	02-May-18	10-May-18	-73	0%
CEDD Access Track Re-Provisioning Works									
Viaduct A to D									
Access Tracks									
General									
PR30060	Construct perm. realignment of CEDD access track at Pier A8	42	14-Jul-18*	42	31-Aug-18	02-Dec-16	23-Jan-17	-474	0%
PR30070	Construct perm. realignment of CEDD access track at Pier B8	42	07-Aug-18	42	24-Sep-18	28-Dec-16	18-Feb-17	-474	0%
At-Grade Works & Miscellaneous Works									
At-Grade Works Along North Lantau Highway									
Slope Works Near Viaduct A									
Slope 9SE-B/FR8									
GFXX501	9SE-B/FR8 - Demolish existing wall stem	31	27-Jun-18	31	02-Aug-18	20-Oct-16	24-Nov-16	-497	0%
GFXX541	9SE-B/FR8 - Construct New Wall Stem	90	03-Aug-18	90	19-Nov-18	25-Nov-16	16-Mar-17	-497	0%
Slope Works Near Viaduct B									
Slope 10SW-A/F52									
GFXX495	10SW-A/F52 - Slopework - Phase 1	36	29-Jun-18	36	10-Aug-18	09-Nov-16	20-Dec-16	-482	0%
GFXX535	10SW-A/F52 - Slopework - Phase 2	68	11-Aug-18	68	01-Nov-18	21-Dec-16	16-Mar-17	-482	0%
Slope Works Near Viaduct D									
Slope 10NW-C/F9									
M201200	10NW-C/F9 - Site clearance and excavation to formation	48	16-Oct-17 A	0	30-Apr-18 A				100%
M201205	10NW-C/F9 - Fill and compact filled material	52	03-Apr-18 A	42	11-Jul-18	10-Jan-17	02-Mar-17	-400	10%
M201210	10NW-C/F9 - Install Geo. Instru. & Baseline Monitoring	30	12-Jul-18	30	15-Aug-18	03-Mar-17	07-Apr-17	-400	0%
Slope 10NW-C/F10									
M201230	10NW-C/F10 - Fill and compact filled material	160	16-Oct-17 A	36	04-Jul-18	20-Feb-17	01-Apr-17	-368	85%
M201300	10NW-C/F10 - Slope drainage	12	27-Jun-18	12	08-Jul-18	26-Mar-17	07-Apr-17	-457	0%
Slope 10NW-C/F11									
M201290	10NW-C/F11 - Fill and compact filled material - Phase 2	72	16-Apr-18 A	48	18-Jul-18	10-Feb-17	07-Apr-17	-376	50%
Slope 10NW-C/F17									
M201195	10NW-C/F17 - Excavation to formation & subsoil drain (remaining area)	52	01-Mar-18 A	0	05-May-18 A				100%
M201197	10NW-C/F17 - Fill and compact filled material	60	07-May-18 A	60	01-Aug-18	03-Mar-17	18-May-17	-358	20%
M201198	10NW-C/F17 - Construct POP	30	07-May-18 A	30	27-Jun-18	03-Mar-17	07-Apr-17	-358	20%
Slope 10NW-C/F50									
M201148	10NW-C/F50 - Fill and compact filled material	18	21-May-18	18	11-Jun-18	17-Mar-17	07-Apr-17	-346	0%
Road Works Along NLH Westbound									
General									
RW10020	NLH W/B (Viaduct C) - Road Drainage Works for tie-in	104	26-Jun-17 A	20	13-Jun-18	15-Mar-17	07-Apr-17	-348	90%
RW11010	NLH W/B (Viaduct B) - Drainage for ramp B tie out	48	15-Dec-17 A	36	04-Jul-18	10-Feb-17	23-Mar-17	-376	80%
RW11020	NLH W/B (Viaduct B) - Profile Barrier and roadwork	36	05-Jun-18	36	18-Jul-18	24-Feb-17	07-Apr-17	-376	0%
Road Works Along NLH Eastbound									
General									
RW20080-5	Ch275-800 Portion 4-7(Viaduct D area)Asphalt laying & road marking	16	12-Jul-18	16	30-Jul-18	20-Mar-17	07-Apr-17	-386	0%
RW20084	NLH E/B Viaduct A - Ch200-388 Roadwork (SL & HS) & Reinstate NLH	127	17-Dec-16 A	12	04-Jun-18	24-Mar-17	07-Apr-17	-340	90%
RW2096	NLH E/B (Gantries 319 - 322) - Footing & A-Frame at NLH (Central Reser	55	12-Apr-18 A	23	16-Jun-18	04-Nov-16	30-Nov-16	-454	60%
RW21008	NLH E/B (Gantries 319 - 322) - Erection of Gantry beams	6	19-Jun-18	6	25-Jun-18	01-Dec-16	07-Dec-16	-454	0%
At-Grade Works Along Cheung Tung Road									
Slope Works Near Viaduct B									
Slope 9SE-B/F85									
SWVB4020	9SE-B/F85 - Fill and compact filled material	60	16-Jan-18 A	36	04-Jul-18	02-Feb-18	19-Mar-18	-84	50%
SWVB4035	9SE-B/F85 - Install Geo. Instru. & Baseline Monitoring	30	05-Jul-18	30	08-Aug-18	13-Oct-18	17-Nov-18	84	0%
SWVB4040	9SE-B/F85 - Hydroseeding	12	09-Aug-18	12	22-Aug-18	19-Nov-18	01-Dec-18	84	0%
Slope Works Near Viaduct C									
Slope PF1 & PF2									
SWVC6990	10NW-PF1 & PF2 complete site site clearance	0	28-May-18*	0		21-Dec-17		-158	0%
SWVC7000	10NW - PF2 slope works	48	28-May-18	48	24-Jul-18	21-Dec-17	21-Feb-18	-123	0%
SWVC7010	10NW - PF2 slope works	52	25-Jul-18*	52	22-Sep-18	22-Feb-18	27-Apr-18	-123	0%
Slope 10NW-C/F13									
SWVC4000	10NW-C/F13 - Slope works	100	25-Jan-18 A	18	11-Jun-18	07-Apr-18	27-Apr-18	-36	90%
Slope 10NW-C/F14									
SWVC5000	10NW-C/F14 - Slope works	100	01-Mar-18 A	18	11-Jun-18	27-Feb-18	19-Mar-18	-66	95%
SWVC6010	10NW-C/F14 - Install Geo. Instru. & Baseline Monitoring	30	12-Jun-18	30	18-Jul-18	20-Mar-18	27-Apr-18	-66	0%



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Tuen Mun - Chek Lap Kok Link - Southern Connection
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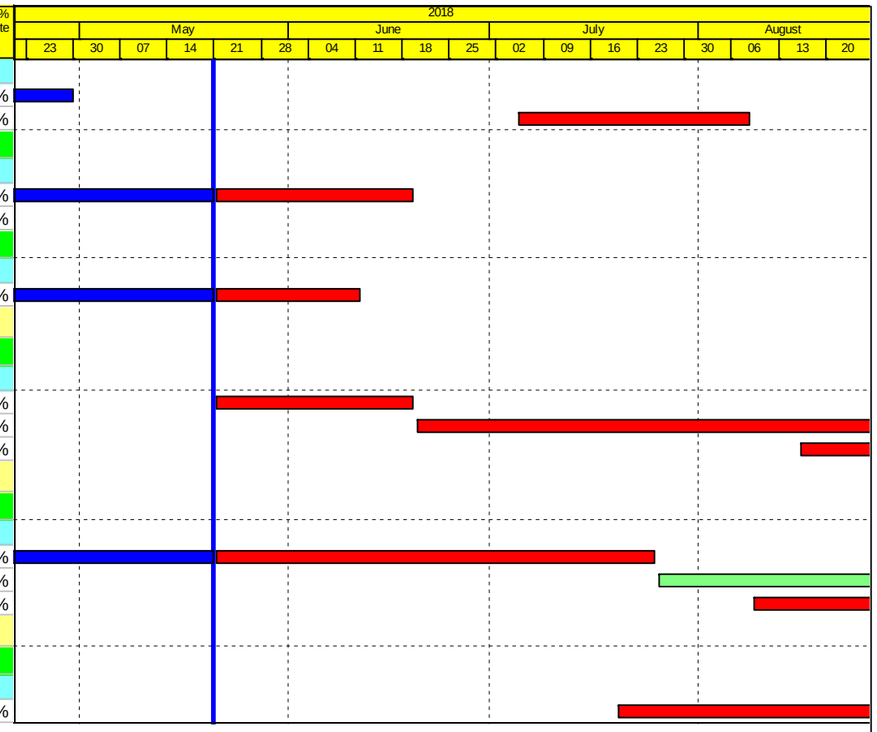
Slope 10NW-C/F15									
SWVC6000	10NW-C/F15 - Slope works	114	18-Sep-17 A	0	30-Apr-18 A				100%
SWVC6005	10NW-C/F15 - Install Geo. Instru. & Baseline Monitoring	30	05-Jul-18*	30	08-Aug-18	20-Mar-18	27-Apr-18	-84	0%
Re-alignment of CTR Along Viaduct B									
General									
RP00077-1	Ch100-300: Street Lighting, thrie beam, bus stop & water point, etc	48	08-Dec-17 A	24	19-Jun-18	17-May-17	14-Jun-17	-300	75%
RP00082	Ch100-300: TCSS pillar box	24	07-Mar-18 A	0	21-Apr-18 A				100%
Re-alignment of CTR Along Viaduct C									
East Portion									
RW60080	CTR Tie in Works	116	18-May-17 A	18	11-Jun-18	17-Mar-17	07-Apr-17	-346	80%
At-Grade Works at Southern Landfall									
HKBCF Area									
General									
RW30010	South Landfall - Mobilisation for Portion B Works	24	21-May-18*	24	19-Jun-18	10-Jan-18	06-Feb-18	-104	0%
RW30014	South Landfall - DN300 Fresh water main works installation & connection (I	60	20-Jun-18	60	29-Aug-18	07-Feb-18	25-Apr-18	-104	0%
RW30016	South Landfall - Stormwater drainage works (Portion B)	60	16-Aug-18	60	27-Oct-18	12-Apr-18	23-Jun-18	-104	0%
Watermain from Tung Chung to Southern Landfall									
Watermain Works									
General									
WM00190	Viaduct B1 - Lay DN450 Fresh Water Main	42	21-Apr-18 A	54	25-Jul-18	27-Jan-18	07-Apr-18	-89	0%
WM00200	Viaduct B2 - Lay DN450 Fresh Water Main	48	26-Jul-18	48	19-Sep-18	03-Aug-18	28-Sep-18	7	0%
WM00220	Viaduct E1 - Lay DN450 Fresh Water Main	36	09-Aug-18	36	19-Sep-18	09-Apr-18	21-May-18	-101	0%
Landscaping Works & Establishment Works									
Lanscape Softworks									
General									
LW00012	Deliver & Stockpile Top Soil (29,000 cu.m) to BCF Near Ramp F	180	20-Jul-18	180	25-Feb-19	28-Nov-17	11-Jul-18	-187	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: TMCLK-DWPL-M60
Layout: J3518-DWP-3MRP Submission - M60
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 7 Pages)

(Progress as of 21-May-18)

Date	Revision	Checked	Approved
24-Apr-18		PKN	HF
28-May-...		PKN	HF

DWG. No.:

J3518/GCL/PGM/3MRP-M60

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			Status
						D	C	O	
			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			Status
						D	C	O	
		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	:	28/03/2018

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	19 Mar 2018
Slope (m)	:	2.05242
Intercept (b)	:	-0.01383
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1014
Ta(K)	:	297

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.0	3.324	1.626	56	56.12
2	13 holes	9.0	3.007	1.472	50	50.11
3	10 holes	6.8	2.613	1.280	45	45.10
4	7 holes	4.5	2.126	1.043	40	40.09
5	5 holes	2.5	1.585	0.779	32	32.07

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):27.222 Intercept(b): 10.946 Correlation Coefficient(r): 0.9960

Checked by: Magnum Fan Date: 05/04/2018

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR9
Calibrated by : P.F.Yeung
Date : 28/03/2018

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

Calibration Orifice and Standard Calibration Relationship
Serial Number : 2454
Service Date : 19 Mar 2018
Slope (m) : 2.05242
Intercept (b) : -0.01383
Correlation Coefficient(r) : 0.99994

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

Calibration Condition
Pa (hpa) : 1014
Ta(K) : 297

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.8	3.293	1.611	60	60.13
2	13 holes	8.2	2.870	1.405	55	55.12
3	10 holes	6.2	2.495	1.223	50	50.11
4	7 holes	4.0	2.004	0.983	43	43.09
5	5 holes	2.4	1.553	0.763	35	35.08

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):29.402 Intercept(b):13.509 Correlation Coefficient(r): 0.9970

Checked by: Magnum Fan Date: 05/04/2018

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR8(A)
Calibrated by	:	P.F.Yeung
Date	:	28/05/2018

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	19 Mar 2018
Slope (m)	:	2.05242
Intercept (b)	:	-0.01383
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1010
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	3.303	1.616	56	55.27
2	13 holes	9.0	2.961	1.449	51	50.34
3	10 holes	6.6	2.536	1.242	45	44.41
4	7 holes	4.4	2.070	1.015	38	37.51
5	5 holes	2.6	1.591	0.782	30	29.61

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):30.570 Intercept(b): 6.100 Correlation Coefficient(r): 0.9945

Checked by: Magnum Fan Date: 03/06/2018

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR9
Calibrated by	:	P.F.Yeung
Date	:	28/05/2018

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	19 Mar 2018
Slope (m)	:	2.05242
Intercept (b)	:	-0.01383
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1010
Ta(K)	:	305

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.0	3.273	1.602	54	53.30
2	13 holes	9.0	2.961	1.449	48	47.38
3	10 holes	6.7	2.555	1.251	43	42.44
4	7 holes	4.6	2.117	1.038	38	37.51
5	5 holes	2.6	1.591	0.782	28	27.64

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):29.893 Intercept(b):5.045 Correlation Coefficient(r): 0.9950

Checked by: Magnum Fan Date: 03/06/2018

TISCH Environmental

RECALIBRATION DUE DATE:
March 19, 2019

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	March 19, 2018	**Rootsmeter S/N:** 438320	**Ta:** 294	°K
Operator:	Jim Tisch		**Pa:** 746.8	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **2454**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4300	3.2	2.00
2	3	4	1	1.0040	6.4	4.00
3	5	6	1	0.9030	7.9	5.00
4	7	8	1	0.8590	8.7	5.50
5	9	10	1	0.7080	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9917	0.6935	1.4113	0.9957	0.6963	0.8874
0.9874	0.9835	1.9959	0.9914	0.9875	1.2549
0.9854	1.0913	2.2315	0.9894	1.0957	1.4030
0.9843	1.1459	2.3405	0.9883	1.1506	1.4715
0.9789	1.3826	2.8227	0.9829	1.3882	1.7747
QSTD	**m=**	**2.05242**	**QA**	**m=**	**1.28519**
	b=	**-0.01383**		**b=**	**-0.00869**
	r=	**0.99994**		**r=**	**0.99994**

Calculations

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

For subsequent flow rate calculations:

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

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

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

Key

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

RECALIBRATION

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

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

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

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. : C173478
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-1452) Date of Receipt / 收件日期 : 23 June 2017

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10997142
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 : 28 June 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 Engineer

Date of Issue : 30 June 2017
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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. : C173478
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	93.8	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.985	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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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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

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. : C173884
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-1541) Date of Receipt / 收件日期 : 3 July 2017

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00603867
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 : 16 July 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
Engineer

Date of Issue 簽發日期 : 17 July 2017

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
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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. : C173884
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 6.4.

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 Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	* 92.5	± 1.1

* Out of IEC 61672 Class 1 Spec.

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.9	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.9 (Ref.)
				104.00		104.1
				114.00		114.4

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

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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. : C173884
證書編號

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.9	Ref.
			Slow			93.8	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.6	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.2	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.9	Ref.
					2 kHz	95.1	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.7	-0.2 ± 1.5
					250 Hz	93.9	0.0 ± 1.4
					500 Hz	93.9	0.0 ± 1.4
					1 kHz	93.9	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	88.1	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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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. : C173884
證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 316987

- 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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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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. : AH040200
Date of Issue : 04 May 2018

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin,
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	:	16H104234
Date of Received	:	Apr 30, 2018
Date of Calibration	:	Apr 30, 2018 to Apr 30, 2018
Date of Next Calibration[a]	:	Jul 30, 2018

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	4.05	0.05	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.08	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
13.0	13.1	0.1	Satisfactory
25.0	25.1	0.1	Satisfactory
38.0	38.3	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: _____
LAM Ho-yee, Emma
Assistant 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
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AH040200
Date of Issue : 04 May 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.11	0.11	Satisfactory
2.56	2.68	0.12	Satisfactory
4.72	4.69	-0.03	Satisfactory
6.76	6.7	-0.06	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	143.2	-2.5	Satisfactory
0.01	1412	1437	1.8	Satisfactory
0.1	12890	12840	-0.4	Satisfactory
0.5	58670	57789	-1.5	Satisfactory
1.0	111900	108344	-3.2	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.87	-1.3	Satisfactory
20	20.23	1.2	Satisfactory
30	30.60	2.0	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.1	--	--
10	10.1	1.0	Satisfactory
20	19.7	-1.5	Satisfactory
100	103.4	3.4	Satisfactory
800	813.2	1.7	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.*

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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. : AH040201
Date of Issue : 04 May 2018

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin,
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	:	17H105557
Date of Received	:	Apr 30, 2018
Date of Calibration	:	Apr 30, 2018 to Apr 30, 2018
Date of Next Calibration[a]	:	Jul 30, 2018

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
13.0	13.2	0.2	Satisfactory
25.0	25.2	0.2	Satisfactory
38.0	38.1	0.1	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

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: _____
LAM Ho-yee, Emma
Assistant 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
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AH040201
Date of Issue : 04 May 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.14	0.14	Satisfactory
2.56	2.64	0.08	Satisfactory
4.72	4.66	-0.06	Satisfactory
6.76	6.67	-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	150.1	2.2	Satisfactory
0.01	1412	1439	1.9	Satisfactory
0.1	12890	12876	-0.1	Satisfactory
0.5	58670	57766	-1.5	Satisfactory
1.0	111900	108629	-2.9	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.9	-1.0	Satisfactory
20	20.34	1.7	Satisfactory
30	30.54	1.8	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.1	--	--
10	10.2	2.0	Satisfactory
20	19.6	-2.0	Satisfactory
100	103	3.0	Satisfactory
800	808.3	1.0	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.*

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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. : AH060035
Date of Issue : 06 June 2018

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
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	:	16H104233
Date of Received	:	Mar 27, 2018
Date of Calibration	:	Mar 27, 2018 to Mar 27, 2018
Date of Next Calibration[a]	:	Jun 27, 2018

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	3.98	-0.02	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	9.96	-0.05	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	16.3	-0.2	Satisfactory
26.5	26.4	-0.1	Satisfactory
34.0	33.9	-0.1	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

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: _____
LAM Ho-yee, Emma
Assistant Laboratory Manager

This report supersedes the previous report no AH030201 dated 03 April 2018.

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. : AH060035
Date of Issue : 06 June 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.13	+0.13	Satisfactory
4.39	4.29	-0.10	Satisfactory
5.84	5.74	-0.10	Satisfactory
7.31	7.27	-0.04	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	150.8	+2.7	Satisfactory
0.01	1412	1442	+2.1	Satisfactory
0.1	12890	12708	-1.4	Satisfactory
0.5	58670	58072	-1.0	Satisfactory
1.0	111900	107309	-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	10.15	+1.5	Satisfactory
20	20.19	+1.0	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	0.1	--	--
10	9.5	-5.0	Satisfactory
20	19.4	-3.0	Satisfactory
100	97.2	-2.8	Satisfactory
800	781	-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.*

This report supersedes the previous report no AH030201 dated 03 April 2018.

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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. : AH060034
Date of Issue : 06 June 2018

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
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	:	17E100747
Date of Received	:	Mar 27, 2018
Date of Calibration	:	Mar 27, 2018 to Mar 27, 2018
Date of Next Calibration[a]	:	Jun 27, 2018

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	7.44	+0.02	Satisfactory
10.01	10.09	+0.08	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	16.3	-0.2	Satisfactory
26.5	26.3	-0.2	Satisfactory
34.0	33.8	-0.2	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: _____
LAM Ho-yee, Emma
Assistant Laboratory Manager

This report supersedes the previous report no AH030200 dated 03 April 2018.

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. : AH060034
Date of Issue : 06 June 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.16	+0.16	Satisfactory
4.39	4.31	-0.08	Satisfactory
5.84	5.76	-0.08	Satisfactory
7.31	7.25	-0.06	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	151.8	+3.3	Satisfactory
0.01	1412	1398	-1.0	Satisfactory
0.1	12890	12690	-1.6	Satisfactory
0.5	58670	58110	-1.0	Satisfactory
1.0	111900	107658	-3.8	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.13	+1.3	Satisfactory
20	20.11	+0.5	Satisfactory
30	30.12	+0.4	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.1	--	--
10	9.8	-2.0	Satisfactory
20	19.7	-1.5	Satisfactory
100	95.7	-4.3	Satisfactory
800	787	-1.6	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
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. : AH030025
Date of Issue : 09 March 2018

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 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	000109DF
Date of Received	:	Mar 02, 2018
Date of Calibration	:	Mar 02, 2018 to Mar 02, 2018
Date of Next Calibration[a]	:	Jun 02, 2018

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	3.97	-0.03	Satisfactory
7.42	7.46	+0.04	Satisfactory
10.01	10.08	+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
18.0	17.9	-0.1	Satisfactory
22.0	21.9	-0.1	Satisfactory
36.0	35.9	-0.1	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 : _____
LAM Ho-yee, Emma
Assistant Laboratory Manager

專業化驗有限公司
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AH030025
Date of Issue : 09 March 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.16	+0.16	Satisfactory
2.44	2.38	-0.06	Satisfactory
5.84	5.77	-0.07	Satisfactory
7.06	6.98	-0.08	Satisfactory
8.53	8.48	-0.05	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	144	-2.0	Satisfactory
0.01	1412	1422	+0.7	Satisfactory
0.1	12890	12716	-1.3	Satisfactory
0.5	58670	57921	-1.3	Satisfactory
1.0	111900	109891	-1.8	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	19.90	-0.5	Satisfactory
30	29.78	-0.7	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.1	--	--
10	9.7	-3.0	Satisfactory
20	19.6	-2.0	Satisfactory
100	96.4	-3.6	Satisfactory
800	782	-2.2	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.*

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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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 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	0001C6A7
Date of Received	:	Mar 02, 2018
Date of Calibration	:	Mar 02, 2018 to Mar 02, 2018
Date of Next Calibration[a]	:	Jun 02, 2018

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	3.95	-0.05	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	10.06	+0.05	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
18.0	17.9	-0.1	Satisfactory
22.0	21.9	-0.1	Satisfactory
36.0	35.9	-0.1	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*
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(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY: _____
LAM Ho-yee, Emma
Assistant Laboratory Manager

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AH030026
Date of Issue : 09 March 2018

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.00	0.13	+0.13	Satisfactory
2.44	2.40	-0.04	Satisfactory
5.84	5.77	-0.07	Satisfactory
7.06	6.99	-0.07	Satisfactory
8.53	8.50	-0.03	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	143.2	-2.5	Satisfactory
0.01	1412	1429	+1.2	Satisfactory
0.1	12890	12730	-1.2	Satisfactory
0.5	58670	58276	-0.7	Satisfactory
1.0	111900	109414	-2.2	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.97	-0.3	Satisfactory
20	19.89	-0.5	Satisfactory
30	29.84	-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	0.1	--	--
10	9.5	-0.5	Satisfactory
20	19.4	-3.0	Satisfactory
100	94.7	-5.3	Satisfactory
800	779	-2.6	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.*

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. : C175727
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-2277) Date of Receipt / 收件日期 : 3 October 2017

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 : 13 October 2017

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 : H C Chan
Engineer

Certified By / 核證 : K C Lee
Engineer

Date of Issue / 簽發日期 : 16 October 2017

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試儀器均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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. : C175727
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	S16493

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
1.9	1.7	+0.2	0.2	2.0
4.0	3.8	+0.2	0.2	2.0
6.0	5.9	+0.1	0.3	2.0
8.0	8.0	0.0	0.3	2.0
10.0	10.1	-0.1	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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

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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 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 : 01 April 2018

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)
1.71	1.6
1.19	1.1
0.47	0.4

Wind Direction Test

Global Wate (o)	Marine Compass (o)
271.10	270
0.04	0
90.25	90
180.66	180

Calibrated by: Ho

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 31 May 2018)

Alternative Noise Monitoring at Pak Mong Village Entrance

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 to 31 May 2018)

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-May	02-May	03-May	04-May	05-May
					1-hr TSP Monitoring 24-hr TSP Monitoring	
06-May	07-May	08-May	09-May	10-May	11-May	12-May
				1-hr TSP Monitoring 24-hr TSP Monitoring		
13-May	14-May	15-May	16-May	17-May	18-May	19-May
			1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring
20-May	21-May	22-May	23-May	24-May	25-May	26-May
					1-hr TSP Monitoring 24-hr TSP Monitoring	
27-May	28-May	29-May	30-May	31-May		
				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 30 June 2018)

Alternative Noise Monitoring at Pak Mong Village Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Jun	02-Jun
03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun
			Noise Impact Monitoring			
10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
		Noise Impact Monitoring			Noise Impact Monitoring	
17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
				Noise Impact Monitoring		
24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
			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 30 June 2018)

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Jun	02-Jun
03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun
			1-hr TSP Monitoring 24-hr TSP Monitoring			
10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
		1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring	
17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
				1-hr TSP Monitoring 24-hr TSP Monitoring		
24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
			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 (May 2018)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-May	2-May	3-May	4-May	5-May
			ebb tide 12:40 - 16:10 flood tide 6:05 - 9:35		ebb tide 13:52 - 17:22 flood tide 7:02 - 10:32	
6-May	7-May	8-May	9-May	10-May	11-May	12-May
	ebb tide 16:09 - 19:33 flood tide 3:40 - 7:10		ebb tide 7:33 - 11:01 flood tide 11:55 - 15:25		ebb tide 9:01 - 12:31 flood tide 14:22 - 17:52	
13-May	14-May	15-May	16-May	17-May	18-May	19-May
ebb tide 10:02 - 13:32 flood tide 16:06 - 19:36			ebb tide 11:49 - 15:19 flood tide 5:10 - 8:40		ebb tide 13:16 - 16:46 flood tide 6:22 - 9:52	
20-May	21-May	22-May	23-May	24-May	25-May	26-May
	ebb tide 15:59 - 18:53 flood tide 8:45 - 12:15		ebb tide 6:53 - 10:23 flood tide 12:04 - 15:34		ebb tide 8:47 - 12:17 flood tide 14:37 - 18:07	
27-May	28-May	29-May	30-May	31-May		
	ebb tide 10:37 - 14:07 flood tide 17:20 - 20:50		ebb tide 11:48 - 15:18 flood tide 18:49 - 22:19			

HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (June 2018)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jun	2-Jun
					ebb tide 12:57 - 16:27 flood tide 20:09 - 23:39	
3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun
	ebb tide 14:49 - 18:19 flood tide 7:42 - 11:12		ebb tide 16:26 - 19:56 flood tide 9:37 - 13:07		ebb tide 7:56 - 10:58 flood tide 12:33 - 16:03	
10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
	ebb tide 9:29 - 12:59 flood tide 15:51 - 19:21		ebb tide 10:50 - 14:20 flood tide 17:43 - 21:13		ebb tide 12:20 - 15:50 flood tide 19:31 - 23:01	
17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
	ebb tide 14:50 - 18:20 flood tide 7:46 - 11:16		ebb tide 16:55 - 19:40 flood tide 10:15 - 13:45		ebb tide 7:40 - 10:49 flood tide 13:11 - 16:41	
24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
	ebb tide 9:42 - 13:12 flood tide 16:33 - 20:03		ebb tide 10:55 - 14:25 flood tide 18:01 - 21:31		ebb tide 12:05 - 15:35 flood tide 19:16 - 22:46	

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 31 May 2018)

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 30 June 2018)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jun	2-Jun
3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun
		Impact Dolphin Monitoring				
10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
			Impact Dolphin Monitoring			
17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
		Impact Dolphin Monitoring				
24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
		Impact Dolphin 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.

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	2018-05-04	ASR8A	8:00	1-hr TSP	147	394	500
TMCLKL	HY/2012/07	2018-05-04	ASR8A	9:02	1-hr TSP	88		
TMCLKL	HY/2012/07	2018-05-04	ASR8A	10:10	1-hr TSP	102		
TMCLKL	HY/2012/07	2018-05-10	ASR8A	8:30	1-hr TSP	91		
TMCLKL	HY/2012/07	2018-05-10	ASR8A	9:32	1-hr TSP	164		
TMCLKL	HY/2012/07	2018-05-10	ASR8A	10:40	1-hr TSP	45		
TMCLKL	HY/2012/07	2018-05-16	ASR8A	8:00	1-hr TSP	56		
TMCLKL	HY/2012/07	2018-05-16	ASR8A	9:02	1-hr TSP	30		
TMCLKL	HY/2012/07	2018-05-16	ASR8A	10:04	1-hr TSP	28		
TMCLKL	HY/2012/07	2018-05-19	ASR8A	8:04	1-hr TSP	81		
TMCLKL	HY/2012/07	2018-05-19	ASR8A	9:06	1-hr TSP	73		
TMCLKL	HY/2012/07	2018-05-19	ASR8A	10:10	1-hr TSP	79		
TMCLKL	HY/2012/07	2018-05-25	ASR8A	8:00	1-hr TSP	47		
TMCLKL	HY/2012/07	2018-05-25	ASR8A	9:02	1-hr TSP	21		
TMCLKL	HY/2012/07	2018-05-25	ASR8A	10:10	1-hr TSP	14		
TMCLKL	HY/2012/07	2018-05-31	ASR8A	8:27	1-hr TSP	121		
TMCLKL	HY/2012/07	2018-05-31	ASR8A	9:29	1-hr TSP	236		
TMCLKL	HY/2012/07	2018-05-31	ASR8A	10:35	1-hr TSP	124		
					Average	86		
					Min.	14		
					Max.	236		

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

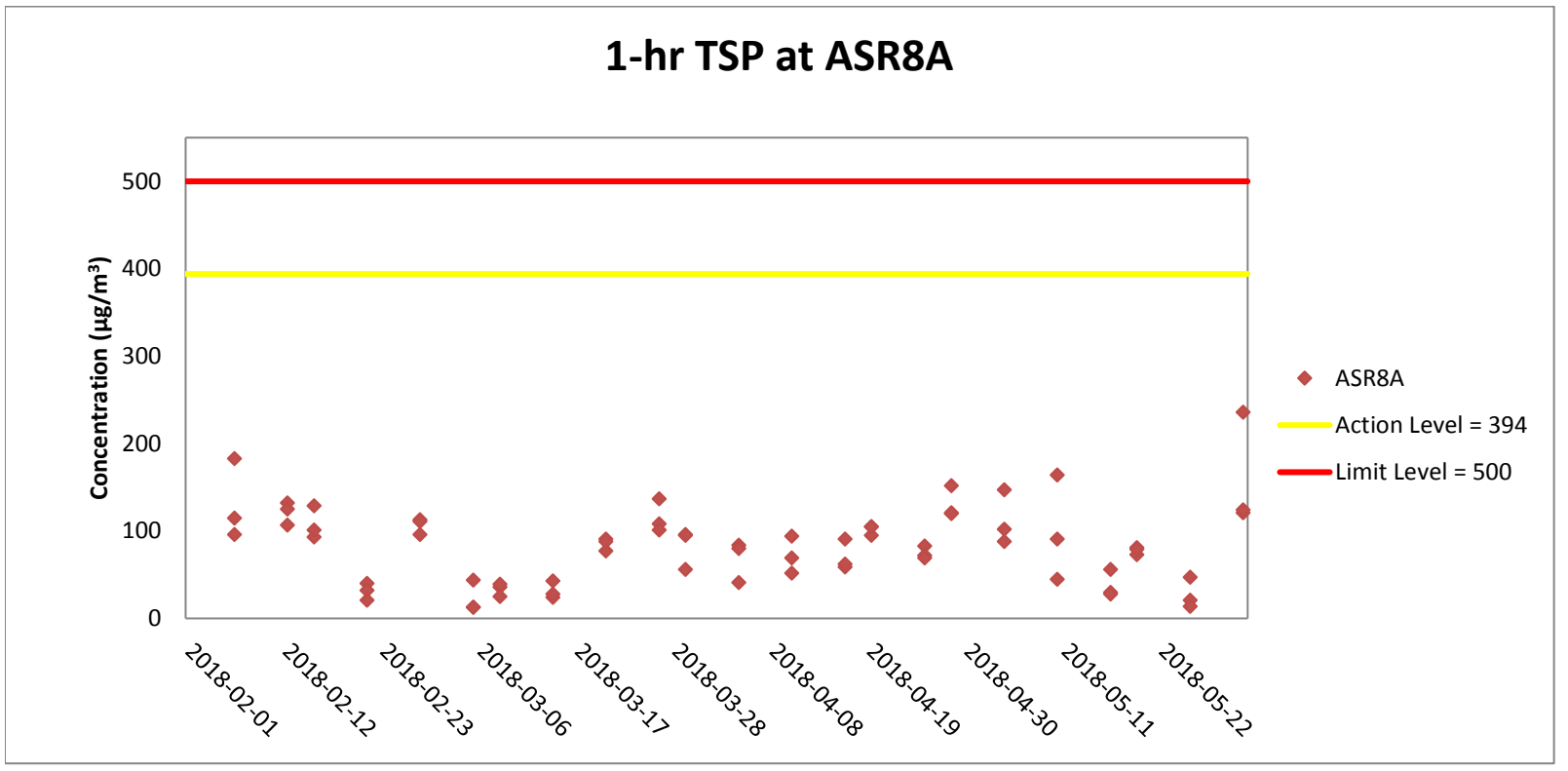
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2018-05-04	ASR9	8:12	1-hr TSP	164	393	500
TMCLKL	HY/2012/07	2018-05-04	ASR9	9:14	1-hr TSP	118		
TMCLKL	HY/2012/07	2018-05-04	ASR9	10:21	1-hr TSP	138		
TMCLKL	HY/2012/07	2018-05-10	ASR9	8:40	1-hr TSP	200		
TMCLKL	HY/2012/07	2018-05-10	ASR9	9:42	1-hr TSP	108		
TMCLKL	HY/2012/07	2018-05-10	ASR9	10:51	1-hr TSP	68		
TMCLKL	HY/2012/07	2018-05-16	ASR9	8:10	1-hr TSP	14		
TMCLKL	HY/2012/07	2018-05-16	ASR9	9:12	1-hr TSP	69		
TMCLKL	HY/2012/07	2018-05-16	ASR9	10:14	1-hr TSP	57		
TMCLKL	HY/2012/07	2018-05-19	ASR9	8:15	1-hr TSP	82		
TMCLKL	HY/2012/07	2018-05-19	ASR9	9:17	1-hr TSP	74		
TMCLKL	HY/2012/07	2018-05-19	ASR9	10:22	1-hr TSP	68		
TMCLKL	HY/2012/07	2018-05-25	ASR9	8:11	1-hr TSP	68		
TMCLKL	HY/2012/07	2018-05-25	ASR9	9:13	1-hr TSP	39		
TMCLKL	HY/2012/07	2018-05-25	ASR9	10:23	1-hr TSP	31		
TMCLKL	HY/2012/07	2018-05-31	ASR9	8:38	1-hr TSP	98		
TMCLKL	HY/2012/07	2018-05-31	ASR9	9:40	1-hr TSP	58		
TMCLKL	HY/2012/07	2018-05-31	ASR9	10:47	1-hr TSP	85		
					Average	86		
					Min.	14		
					Max.	200		

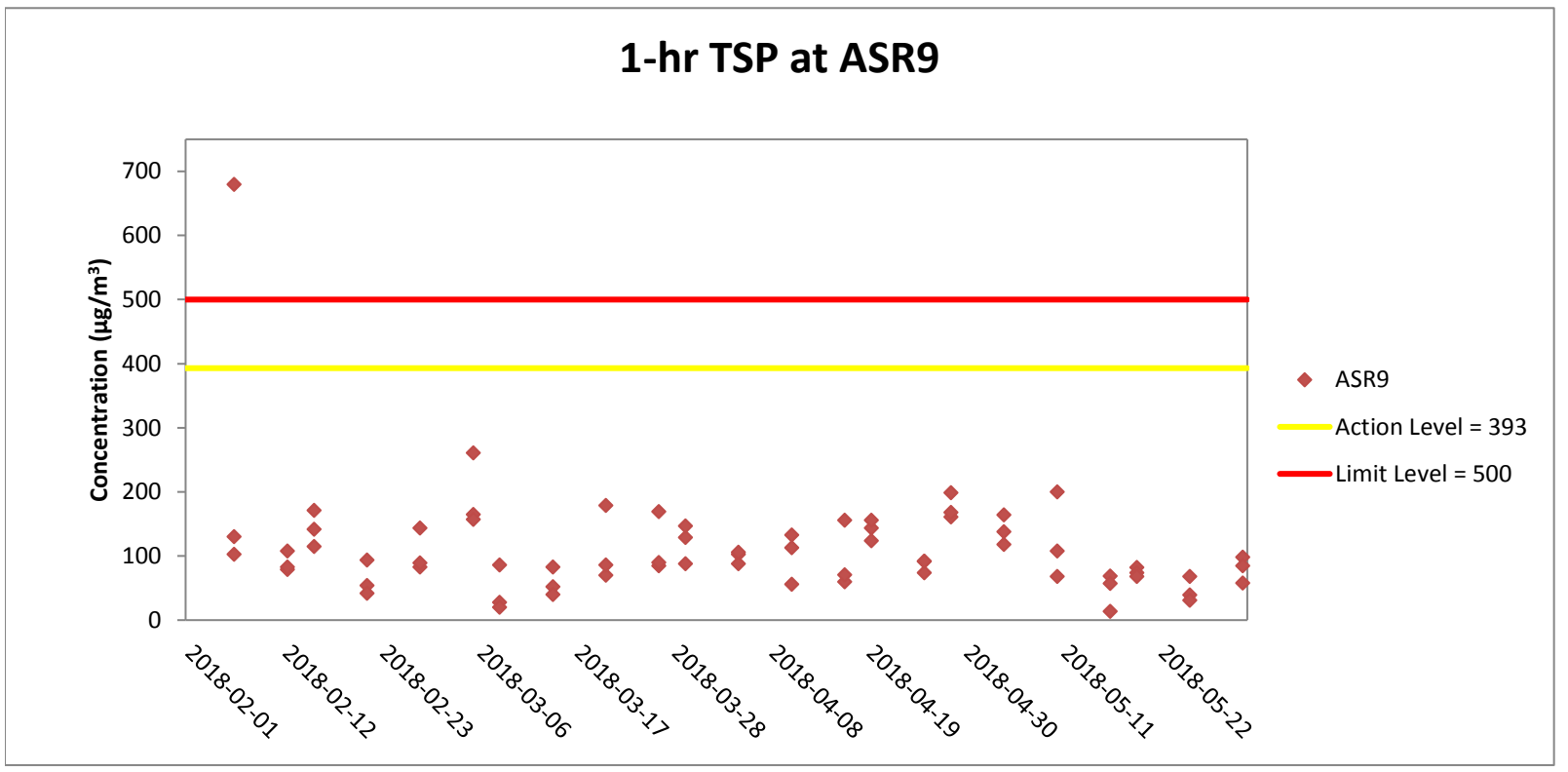
24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR8A

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	2018-05-04	ASR8A	11:12	24-hr TSP	65	178	260
TMCLKL	HY/2012/07	2018-05-10	ASR8A	11:42	24-hr TSP	58		
TMCLKL	HY/2012/07	2018-05-16	ASR8A	11:08	24-hr TSP	14		
TMCLKL	HY/2012/07	2018-05-19	ASR8A	11:12	24-hr TSP	26		
TMCLKL	HY/2012/07	2018-05-25	ASR8A	11:12	24-hr TSP	10		
TMCLKL	HY/2012/07	2018-05-31	ASR8A	11:37	24-hr TSP	34		
					Average	35		
					Min.	10		
					Max.	65		

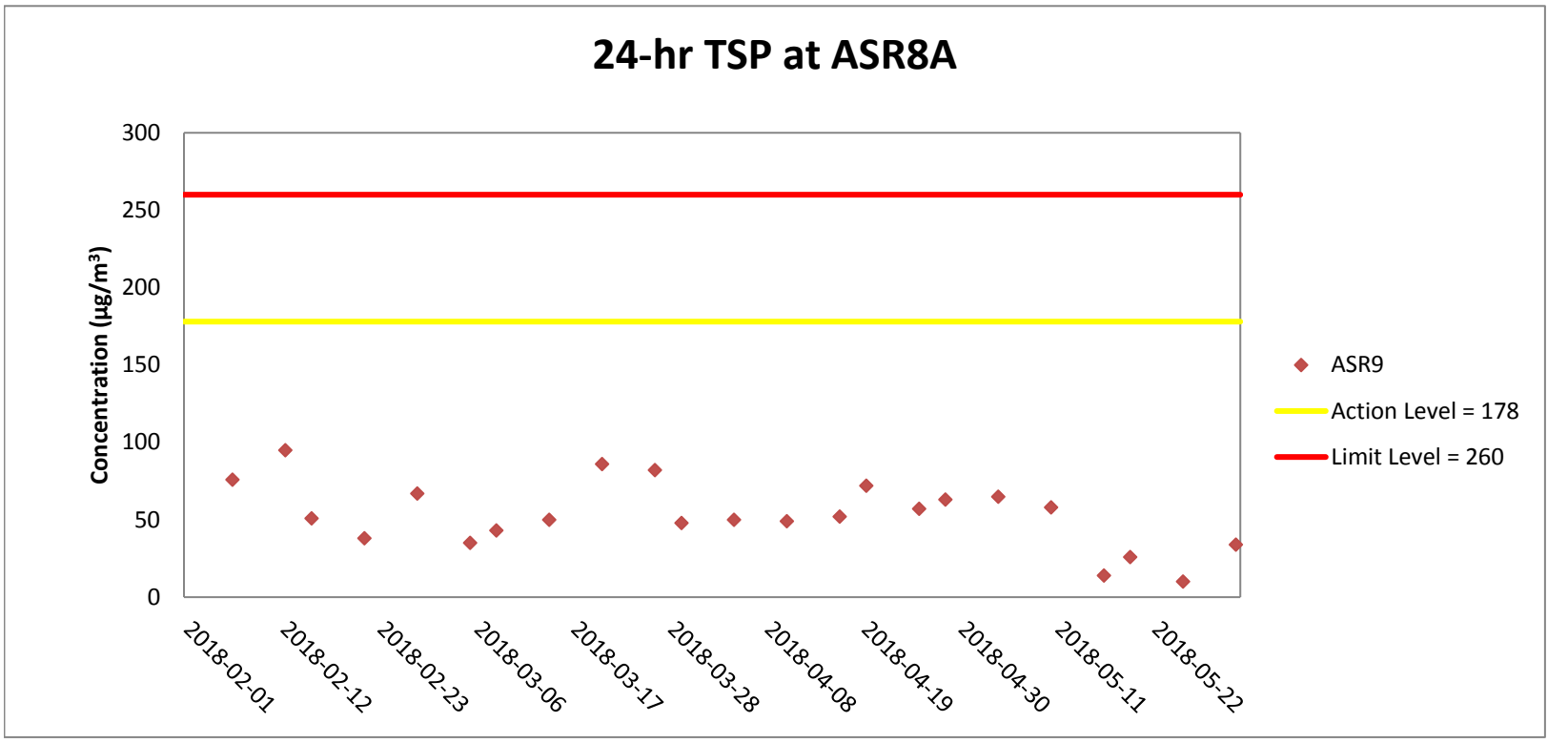
24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR9

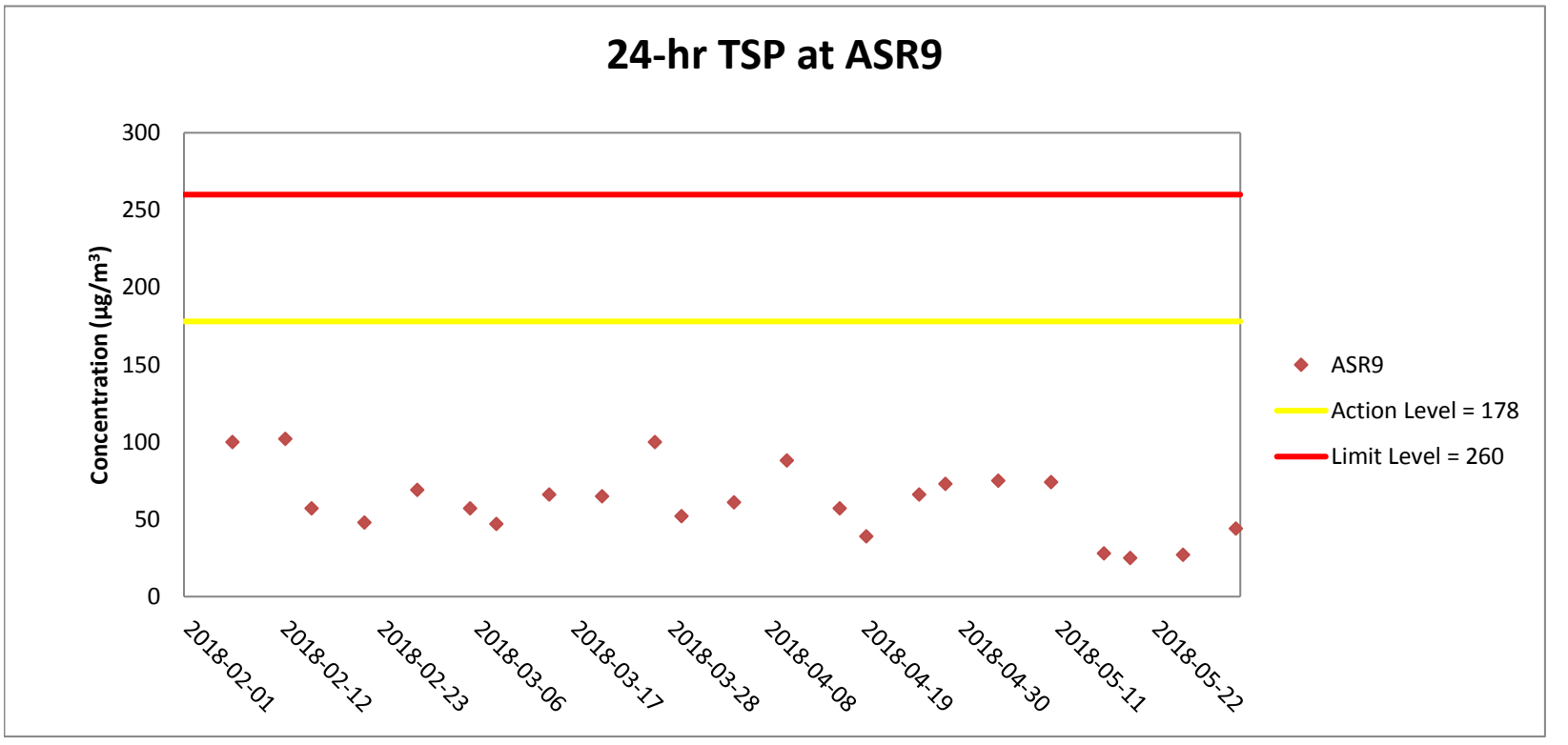
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2018-05-04	ASR9	11:23	24-hr TSP	75	178	260
TMCLKL	HY/2012/07	2018-05-10	ASR9	11:53	24-hr TSP	74		
TMCLKL	HY/2012/07	2018-05-16	ASR9	11:19	24-hr TSP	28		
TMCLKL	HY/2012/07	2018-05-19	ASR9	11:24	24-hr TSP	25		
TMCLKL	HY/2012/07	2018-05-25	ASR9	11:25	24-hr TSP	27		
TMCLKL	HY/2012/07	2018-05-31	ASR9	11:49	24-hr TSP	44		
					Average	46		
					Min.	25		
					Max.	75		





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; Installation of pier head and deck segments; Asphalt paving; Sign gantries construction; Parapet installation; and Slope work of Viaducts A, B,C & D.





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Major construction works undertaken within the reporting period include Pier construction; Re-alignment of Cheung Tung Road; Road works along North Lantau Highway; Installation of pier head and deck segments; Asphalt paving; Sign gantries construction; Parapet installation; and Slope work of Viaducts A, B,C & D.

Appendix H

Meteorological Data for the Reporting Month

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2018/5/4	0	0.81	124
2018/5/4	1	2.55	159
2018/5/4	2	1.14	153
2018/5/4	3	0.45	123
2018/5/4	4	0.34	185
2018/5/4	5	0.85	176
2018/5/4	6	0.60	186
2018/5/4	7	2.62	177
2018/5/4	8	3.45	169
2018/5/4	9	4.80	159
2018/5/4	10	4.54	162
2018/5/4	11	2.44	157
2018/5/4	12	3.06	164
2018/5/4	13	2.20	150
2018/5/4	14	0.40	138
2018/5/4	15	1.33	157
2018/5/4	16	3.37	165
2018/5/4	17	2.80	165
2018/5/4	18	3.19	171
2018/5/4	19	3.36	171
2018/5/4	20	3.86	164
2018/5/4	21	4.43	162
2018/5/4	22	3.10	159
2018/5/4	23	1.61	171
2018/5/5	0	2.08	155
2018/5/5	1	2.94	164
2018/5/5	2	2.94	157
2018/5/5	3	2.57	158
2018/5/5	4	0.47	127
2018/5/5	5	0.65	60
2018/5/5	6	0.31	83
2018/5/5	7	0.38	92
2018/5/5	8	1.56	162
2018/5/5	9	3.74	152
2018/5/5	10	1.76	135
2018/5/5	11	2.40	164
2018/5/5	12	1.46	153
2018/5/5	13	2.39	155
2018/5/5	14	3.35	160
2018/5/5	15	2.74	160
2018/5/5	16	3.11	167
2018/5/5	17	1.69	157
2018/5/5	18	3.09	172
2018/5/5	19	4.00	166
2018/5/5	20	3.03	167
2018/5/5	21	2.38	164
2018/5/5	22	1.89	175
2018/5/5	23	0.82	167
2018/5/10	0	1.33	114
2018/5/10	1	2.02	171
2018/5/10	2	1.31	158
2018/5/10	3	1.53	141
2018/5/10	4	0.67	112
2018/5/10	5	0.47	159
2018/5/10	6	0.95	136
2018/5/10	7	2.20	162
2018/5/10	8	1.51	157
2018/5/10	9	1.17	144
2018/5/10	10	4.25	161
2018/5/10	11	1.56	170
2018/5/10	12	0.61	101
2018/5/10	13	1.48	138
2018/5/10	14	4.18	161
2018/5/10	15	2.56	155
2018/5/10	16	0.32	134
2018/5/10	17	1.55	142
2018/5/10	18	3.47	168
2018/5/10	19	2.22	181
2018/5/10	20	3.51	166
2018/5/10	21	2.67	158
2018/5/10	22	1.67	161
2018/5/10	23	3.79	164

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2018/5/11	0	3.08	165
2018/5/11	1	3.52	179
2018/5/11	2	2.16	179
2018/5/11	3	2.54	168
2018/5/11	4	2.72	175
2018/5/11	5	4.15	166
2018/5/11	6	3.88	173
2018/5/11	7	1.50	164
2018/5/11	8	1.28	153
2018/5/11	9	2.64	171
2018/5/11	10	3.38	162
2018/5/11	11	3.37	153
2018/5/11	12	4.02	142
2018/5/11	13	2.41	143
2018/5/11	14	1.48	165
2018/5/11	15	2.35	156
2018/5/11	16	2.71	161
2018/5/11	17	2.69	163
2018/5/11	18	3.56	164
2018/5/11	19	2.95	164
2018/5/11	20	3.27	170
2018/5/11	21	3.62	176
2018/5/11	22	3.83	179
2018/5/11	23	2.41	174
2018/5/16	0	1.00	179
2018/5/16	1	0.25	164
2018/5/16	2	0.02	135
2018/5/16	3	0.02	154
2018/5/16	4	0.02	155
2018/5/16	5	0.02	156
2018/5/16	6	0.05	139
2018/5/16	7	0.77	142
2018/5/16	8	1.63	175
2018/5/16	9	3.07	180
2018/5/16	10	2.73	176
2018/5/16	11	3.35	176
2018/5/16	12	3.15	176
2018/5/16	13	3.36	168
2018/5/16	14	2.70	167
2018/5/16	15	2.40	173
2018/5/16	16	1.64	143
2018/5/16	17	0.83	133
2018/5/16	18	1.15	144
2018/5/16	19	2.26	164
2018/5/16	20	1.47	159
2018/5/16	21	0.41	146
2018/5/16	22	1.00	166
2018/5/16	23	1.27	169
2018/5/17	0	1.46	165
2018/5/17	1	0.96	164
2018/5/17	2	0.96	175
2018/5/17	3	0.73	155
2018/5/17	4	1.32	160
2018/5/17	5	1.19	176
2018/5/17	6	1.05	168
2018/5/17	7	1.63	167
2018/5/17	8	2.34	166
2018/5/17	9	2.16	160
2018/5/17	10	0.67	209
2018/5/17	11	0.01	265
2018/5/17	12	2.03	181
2018/5/17	13	3.48	161
2018/5/17	14	3.32	160
2018/5/17	15	2.22	146
2018/5/17	16	2.08	147
2018/5/17	17	0.74	131
2018/5/17	18	0.82	152
2018/5/17	19	1.07	158
2018/5/17	20	2.09	146
2018/5/17	21	2.23	166
2018/5/17	22	2.07	168
2018/5/17	23	0.90	166

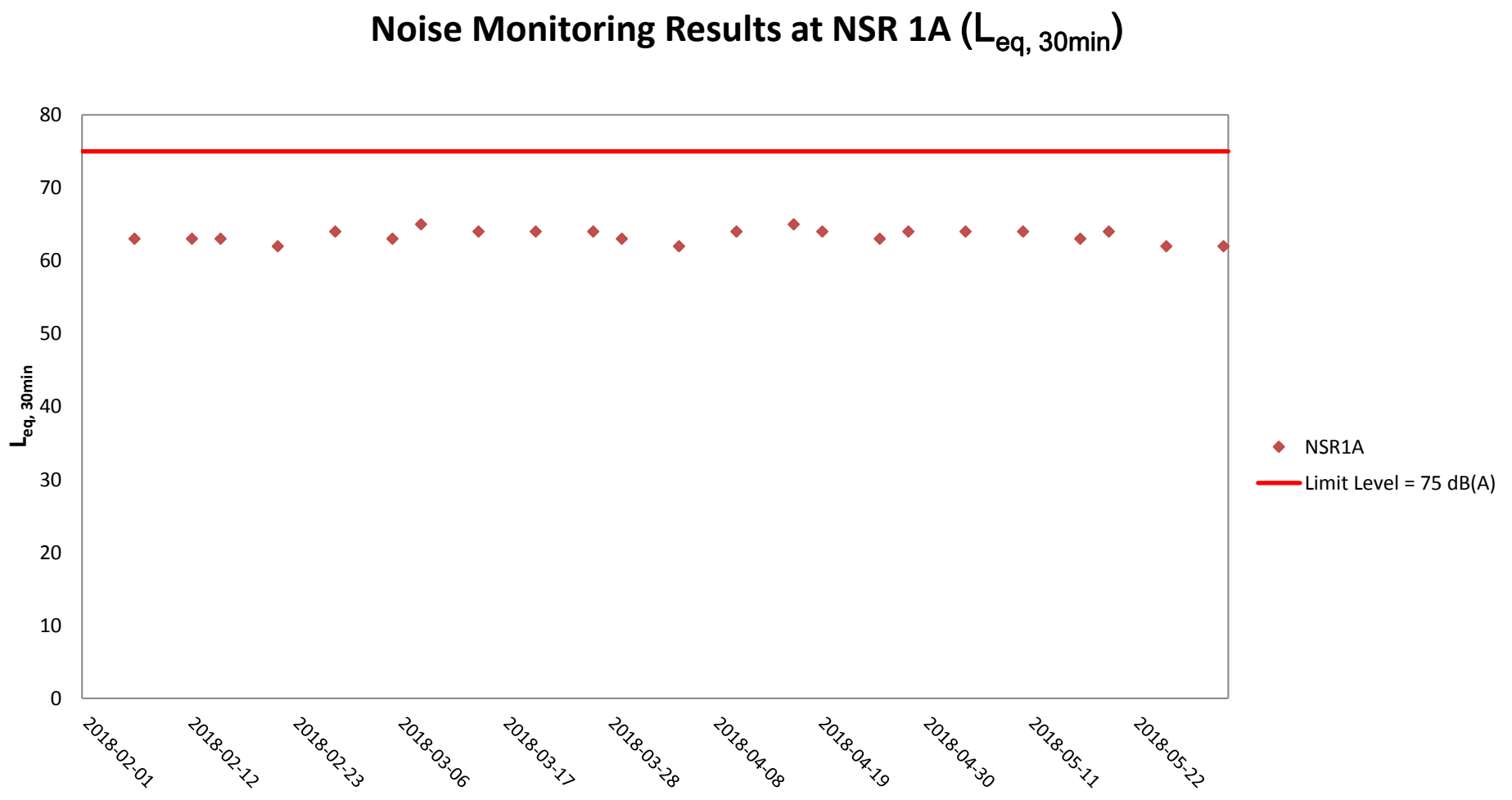
Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2018/5/19	0	0.14	171
2018/5/19	1	0.12	166
2018/5/19	2	0.04	169
2018/5/19	3	0.02	187
2018/5/19	4	0.08	185
2018/5/19	5	0.02	188
2018/5/19	6	0.02	186
2018/5/19	7	0.02	259
2018/5/19	8	0.04	183
2018/5/19	9	0.03	113
2018/5/19	10	0.27	109
2018/5/19	11	0.11	181
2018/5/19	12	0.39	93
2018/5/19	13	0.38	163
2018/5/19	14	0.07	158
2018/5/19	15	0.04	211
2018/5/19	16	0.02	214
2018/5/19	17	0.09	234
2018/5/19	18	1.07	135
2018/5/19	19	0.54	155
2018/5/19	20	0.20	164
2018/5/19	21	0.56	185
2018/5/19	22	0.54	162
2018/5/19	23	0.22	162
2018/5/20	0	0.25	173
2018/5/20	1	0.28	186
2018/5/20	2	0.18	183
2018/5/20	3	0.21	166
2018/5/20	4	0.06	183
2018/5/20	5	0.13	187
2018/5/20	6	0.02	177
2018/5/20	7	0.02	183
2018/5/20	8	0.12	107
2018/5/20	9	0.10	228
2018/5/20	10	0.31	157
2018/5/20	11	0.05	166
2018/5/20	12	0.08	241
2018/5/20	13	0.04	248
2018/5/20	14	0.07	186
2018/5/20	15	0.11	196
2018/5/20	16	0.70	159
2018/5/20	17	1.75	155
2018/5/20	18	1.21	148
2018/5/20	19	1.78	164
2018/5/20	20	1.08	170
2018/5/20	21	1.14	178
2018/5/20	22	1.63	172
2018/5/20	23	1.27	159
2018/5/25	0	0.02	173
2018/5/25	1	0.15	181
2018/5/25	2	0.32	180
2018/5/25	3	0.26	176
2018/5/25	4	0.04	165
2018/5/25	5	0.30	176
2018/5/25	6	0.08	150
2018/5/25	7	1.08	151
2018/5/25	8	2.54	160
2018/5/25	9	3.14	159
2018/5/25	10	2.65	166
2018/5/25	11	2.15	165
2018/5/25	12	2.81	171
2018/5/25	13	3.13	180
2018/5/25	14	3.41	181
2018/5/25	15	3.66	176
2018/5/25	16	4.52	170
2018/5/25	17	3.19	179
2018/5/25	18	2.93	175
2018/5/25	19	0.79	175
2018/5/25	20	1.26	161
2018/5/25	21	2.34	172
2018/5/25	22	1.64	174
2018/5/25	23	2.09	175

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
2018/5/26	0	1.46	163
2018/5/26	1	1.37	173
2018/5/26	2	0.19	212
2018/5/26	3	0.09	196
2018/5/26	4	0.42	180
2018/5/26	5	0.02	160
2018/5/26	6	0.03	163
2018/5/26	7	0.51	221
2018/5/26	8	0.31	202
2018/5/26	9	0.09	214
2018/5/26	10	0.21	222
2018/5/26	11	0.22	185
2018/5/26	12	0.46	177
2018/5/26	13	0.73	185
2018/5/26	14	3.36	171
2018/5/26	15	3.95	169
2018/5/26	16	2.84	179
2018/5/26	17	1.76	181
2018/5/26	18	0.83	166
2018/5/26	19	1.86	164
2018/5/26	20	1.63	165
2018/5/26	21	0.27	164
2018/5/26	22	0.03	174
2018/5/26	23	0.15	178
2018/5/31	0	0.27	184
2018/5/31	1	0.05	170
2018/5/31	2	0.47	173
2018/5/31	3	0.31	180
2018/5/31	4	0.15	176
2018/5/31	5	0.13	183
2018/5/31	6	0.02	159
2018/5/31	7	0.01	45
2018/5/31	8	0.08	130
2018/5/31	9	0.00	155
2018/5/31	10	0.03	283
2018/5/31	11	0.10	142
2018/5/31	12	0.06	171
2018/5/31	13	0.12	196
2018/5/31	14	0.09	200
2018/5/31	15	0.20	132
2018/5/31	16	0.89	158
2018/5/31	17	0.86	146
2018/5/31	18	0.41	130
2018/5/31	19	0.16	162
2018/5/31	20	0.27	171
2018/5/31	21	0.40	172
2018/5/31	22	0.37	170
2018/5/31	23	0.32	165
2018/6/1	0	0.38	180
2018/6/1	1	0.40	183
2018/6/1	2	0.22	185
2018/6/1	3	0.28	185
2018/6/1	4	0.28	188
2018/6/1	5	0.15	184
2018/6/1	6	0.03	171
2018/6/1	7	0.01	132
2018/6/1	8	0.00	292
2018/6/1	9	0.02	338
2018/6/1	10	0.01	296
2018/6/1	11	0.10	154
2018/6/1	12	0.95	183
2018/6/1	13	0.94	184
2018/6/1	14	1.82	161
2018/6/1	15	0.68	153
2018/6/1	16	0.30	169
2018/6/1	17	0.74	174
2018/6/1	18	0.48	119
2018/6/1	19	0.43	101
2018/6/1	20	0.54	101
2018/6/1	21	0.23	146
2018/6/1	22	1.01	131
2018/6/1	23	0.88	162

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	2018-05-04	NSR1A	Sunny	9:32	64	65	61	75	1.8	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2018-05-10	NSR1A	Cloudy	10:04	64	65	62	75	2.5	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2018-05-16	NSR1A	Sunny	10:25	63	64	60	75	0.3	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2018-05-19	NSR1A	Sunny	9:29	64	65	61	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2018-05-25	NSR1A	Sunny	9:30	62	63	59	75	0.6	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
TMCLKL	HY/2012/07	2018-05-31	NSR1A	Sunny	9:54	62	63	59	75	0.5	RION NL31 (S/N 00603867)	RION NC73 (S/N 10486660)
					Min.	62						
					Max.	64						
					Average	63						



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Appendix K

Impact Dolphin Monitoring Survey Results

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	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Surface	1	1	26.0	7.9	27.0	6.7	6.5	5.2	7.5	8.3	9.1
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Surface	1	2	26.0	8.2	27.2	6.7		5.0		8.4	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Middle	2	1	25.3	7.9	28.1	6.3		9.8		9.4	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Middle	2	2	25.3	8.2	28.2	6.3		8.9		7.9	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Bottom	3	1	25.5	7.9	27.8	6.3	6.3	8.0		10.3	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)5	14:05	12.5	Bottom	3	2	25.5	8.2	28.0	6.3		8.3		10.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Surface	1	1	26.3	8.0	24.8	6.9	6.8	7.6	11.4	8.7	9.1
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Surface	1	2	25.8	8.0	24.8	6.7		7.6		8.2	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Middle	2	1	25.8	8.1	26.5	7.0		10.7		8.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Middle	2	2	25.4	8.0	26.6	6.7		10.3		9.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Bottom	3	1	25.8	8.1	27.1	7.1	7.0	16.2		10.4	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	CS(Mf)3(N)	13:34	7.0	Bottom	3	2	25.3	8.0	27.1	6.9		16.2		9.8	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Surface	1	1	26.5	8.0	27.0	7.8	7.8	2.6	4.1	3.3	3.9
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Surface	1	2	26.6	8.3	27.1	7.8		2.3		4.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Bottom	3	1	25.9	8.0	28.0	7.3	7.3	5.7		4.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)16	13:38	5.9	Bottom	3	2	25.9	8.3	28.2	7.3		5.7		3.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Surface	1	1	26.0	8.0	27.0	7.3	7.4	3.0	4.0	4.9	5.6
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Surface	1	2	26.1	8.3	26.9	7.4		2.8		5.9	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Bottom	3	1	25.9	8.0	27.5	7.0	7.0	5.1		5.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4a	13:27	5.1	Bottom	3	2	26.0	8.3	27.8	7.0		5.1		6.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Surface	1	1	26.4	8.0	27.4	7.3	7.4	4.3	4.2	5.8	10.1
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Surface	1	2	26.4	8.3	27.6	7.4		4.0		6.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Bottom	3	1	26.4	8.0	27.4	7.3	7.4	4.4		14.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	SR4(N)	13:22	4.0	Bottom	3	2	26.4	8.3	27.6	7.4		4.1		14.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Surface	1	1	26.1	8.0	27.4	7.6	7.7	3.4	3.3	4.4	5.7
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Surface	1	2	26.1	8.3	27.5	7.7		3.1		5.2	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Bottom	3	1	26.1	8.0	27.3	7.7	7.7	3.6		6.9	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS8	13:17	4.4	Bottom	3	2	26.2	8.3	27.5	7.7		2.9		6.3	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Surface	1	1	26.3	8.0	27.1	8.1	8.1	2.5	2.6	4.7	4.7
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Surface	1	2	26.3	8.3	27.3	8.1		2.6		4.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Bottom	3	1	26.4	8.0	27.0	8.0	8.1	2.6		4.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Ebb	IS(Mf)9	13:08	3.5	Bottom	3	2	26.4	8.3	27.2	8.1		2.7		5.4	

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	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Surface	1	1	25.5	7.9	26.4	6.4	6.4	3.4	3.3	6.4	6.6
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Surface	1	2	25.5	8.0	26.6	6.4		3.2		6.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Middle	2	1	25.5	7.9	27.1	6.3		3.6		5.7	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Middle	2	2	25.5	8.0	27.2	6.4		3.4		5.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Bottom	3	1	25.2	7.9	29.3	6.2	6.2	3.2		7.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)5	7:01	12.3	Bottom	3	2	25.2	8.1	29.5	6.2		3.1		8.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Surface	1	1	26.0	7.9	23.9	6.3	6.2	5.7	7.8	11.9	12.7
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Surface	1	2	25.6	7.9	24.0	6.1		5.7		11.9	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Middle	2	1	26.0	7.9	23.9	6.3		7.1		11.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Middle	2	2	25.6	7.9	24.0	6.1		7.1		12.8	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Bottom	3	1	26.0	7.9	24.1	6.2	6.2	10.2		15.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	CS(Mf)3(N)	8:08	7.2	Bottom	3	2	25.5	7.9	24.1	6.1		11.1		13.3	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Surface	1	1	25.5	7.9	27.1	6.4	6.5	5.1	5.9	6.9	6.4
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Surface	1	2	25.6	8.0	27.3	6.5		4.9		6.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Bottom	3	1	25.5	7.9	27.1	6.5	6.5	6.8		6.6	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)16	7:33	5.7	Bottom	3	2	25.5	8.0	27.3	6.5		6.7		5.4	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Surface	1	1	25.5	7.9	25.8	6.5	6.5	4.0	4.8	5.1	5.5
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Surface	1	2	25.5	8.0	26.0	6.5		3.6		4.9	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Bottom	3	1	25.5	7.9	26.1	6.4	6.5	5.8		6.7	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4a	7:42	5.0	Bottom	3	2	25.5	8.0	26.2	6.5		5.7		5.4	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Surface	1	1	25.5	7.9	26.3	6.4	6.4	5.5	6.7	5.0	6.6
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Surface	1	2	25.5	8.0	26.5	6.4		6.3		6.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Bottom	3	1	25.5	7.9	26.4	6.4	6.4	7.4		7.2	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	SR4(N)	7:49	3.9	Bottom	3	2	25.5	8.0	26.5	6.4		7.4		8.1	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Surface	1	1	25.5	7.9	27.0	6.4	6.5	4.8	5.4	5.9	6.2
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Surface	1	2	25.6	8.0	27.2	6.5		5.0		6.8	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Bottom	3	1	25.5	7.9	27.3	6.4	6.5	5.9		6.7	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS8	7:56	4.1	Bottom	3	2	25.6	8.0	27.4	6.5		6.0		5.5	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Surface	1	1	25.6	7.9	27.4	6.5	6.6	3.6	3.4	7.7	7.1
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Surface	1	2	25.6	8.0	27.6	6.6		3.4		6.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Bottom	3	1	25.6	7.9	27.4	6.5	6.6	3.4		7.0	
TMCLKL	HY/2012/07	2018-05-02	Mid-Flood	IS(Mf)9	8:04	3.3	Bottom	3	2	25.6	8.0	27.6	6.6		3.3		7.7	

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	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Surface	1	1	25.7	8.1	28.2	6.9	6.6	3.0	7.3	4.6	5.8
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Surface	1	2	25.6	8.0	28.0	6.8		3.1		4.9	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Middle	2	1	25.2	8.1	29.9	6.4		6.3		5.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Middle	2	2	25.2	8.0	29.7	6.3		6.6		4.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Bottom	3	1	25.1	8.1	30.3	6.4	6.4	12.5		8.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)5	15:45	13.0	Bottom	3	2	25.1	8.0	30.1	6.4		12.1		6.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Surface	1	1	26.2	8.1	25.8	6.7	6.7	6.9	6.9	7.1	7.4
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Surface	1	2	25.7	8.1	25.8	6.7		6.7		6.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Middle	2	1	25.8	8.1	27.4	6.7		6.6		8.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Middle	2	2	25.4	8.1	27.5	6.7		7.2		7.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Bottom	3	1	25.8	8.1	28.1	6.6	6.7	6.6		7.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	CS(Mf)3(N)	14:47	7.2	Bottom	3	2	25.4	8.1	28.2	6.7		7.2		7.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Surface	1	1	25.7	8.1	27.9	7.2	7.2	2.6	2.5	1.1	2.7
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Surface	1	2	25.6	8.0	27.8	7.1		2.8		1.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Bottom	3	1	25.4	8.1	28.8	6.7	6.7	2.1		3.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)16	15:12	5.9	Bottom	3	2	25.4	8.0	28.6	6.7		2.5		4.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Surface	1	1	26.0	8.1	27.7	7.2	7.2	2.6	3.1	5.6	4.9
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Surface	1	2	25.9	8.0	27.5	7.1		3.0		5.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Bottom	3	1	25.9	8.1	27.8	7.2	7.2	3.1		4.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4a	15:02	5.3	Bottom	3	2	25.9	8.0	27.6	7.1		3.5		4.0	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Surface	1	1	26.3	8.1	27.2	7.3	7.3	3.0	3.3	6.1	5.7
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Surface	1	2	26.3	8.0	27.1	7.2		3.3		6.6	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Bottom	3	1	26.3	8.1	27.3	7.3	7.3	3.3		5.0	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	SR4(N)	14:53	5.0	Bottom	3	2	26.2	8.0	27.1	7.2		3.4		5.0	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Surface	1	1	26.0	8.1	27.1	7.1	7.1	3.1	3.7	3.6	4.2
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Surface	1	2	26.0	8.0	27.0	7.1		3.4		3.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Bottom	3	1	26.0	8.1	27.2	7.1	7.1	4.0		4.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS8	14:46	4.4	Bottom	3	2	26.0	8.0	27.0	7.1		4.4		4.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Surface	1	1	26.0	8.2	27.0	7.4	7.4	4.3	4.4	4.6	6.1
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Surface	1	2	26.0	8.0	26.9	7.3		4.7		3.5	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Bottom	3	1	26.0	8.2	27.0	7.4	7.4	4.2		9.0	
TMCLKL	HY/2012/07	2018-05-04	Mid-Ebb	IS(Mf)9	14:34	4.3	Bottom	3	2	26.0	8.0	26.9	7.4		4.4		7.3	

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	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Surface	1	1	25.4	8.1	28.4	6.5	6.4	2.1	2.5	3.8	5.3
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Surface	1	2	25.4	8.0	28.2	6.4		2.1		3.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Middle	2	1	25.2	8.1	29.7	6.3		2.6		4.6	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Middle	2	2	25.2	8.0	29.5	6.3		2.4		6.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Bottom	3	1	25.2	8.1	29.9	6.3	6.3	2.8		6.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)5	7:43	12.1	Bottom	3	2	25.1	8.0	29.8	6.3		3.0		7.2	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Surface	1	1	25.7	8.1	25.1	7.5	7.5	4.7	5.9	3.9	5.3
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Surface	1	2	26.1	8.1	25.1	7.5		5.0		4.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Middle	2	1	25.8	8.1	25.3	7.4		5.9		6.0	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Middle	2	2	26.2	8.1	25.2	7.4		5.5		6.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Bottom	3	1	25.8	8.1	25.4	7.4	7.4	7.2		5.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	CS(Mf)3(N)	8:52	7.3	Bottom	3	2	26.2	8.1	25.4	7.4		7.3		6.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Surface	1	1	25.5	8.1	28.2	6.3	6.3	3.4	3.6	6.7	6.7
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Surface	1	2	25.4	8.0	28.0	6.3		3.5		7.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Bottom	3	1	25.4	8.1	28.3	6.3	6.3	3.5		6.2	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)16	8:11	5.6	Bottom	3	2	25.4	8.0	28.1	6.3		3.8		6.6	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Surface	1	1	25.5	8.1	27.9	6.4	6.4	2.4	2.7	2.3	2.6
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Surface	1	2	25.5	8.0	27.7	6.4		2.5		2.5	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Bottom	3	1	25.5	8.1	28.1	6.4	6.4	2.8		3.1	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4a	8:21	4.8	Bottom	3	2	25.5	8.0	28.0	6.4		3.0		2.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Surface	1	1	25.7	8.1	27.9	6.2	6.2	4.3	4.2	4.8	5.0
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Surface	1	2	25.6	7.9	27.7	6.2		4.3		5.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Bottom	3	1	25.7	8.1	27.9	6.2	6.2	4.1		5.7	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	SR4(N)	8:27	3.8	Bottom	3	2	25.6	7.9	27.7	6.2		4.2		4.3	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Surface	1	1	25.6	8.1	27.4	6.6	6.6	2.2	2.5	3.4	3.2
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Surface	1	2	25.6	8.0	27.2	6.6		2.4		3.6	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Bottom	3	1	25.5	8.1	27.8	6.6	6.6	2.6		2.9	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS8	8:35	4.1	Bottom	3	2	25.5	8.0	27.6	6.6		2.9		2.8	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Surface	1	1	25.7	8.1	27.0	6.7	6.7	2.4	2.5	2.9	3.4
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Surface	1	2	25.7	8.0	26.8	6.7		2.5		3.9	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Bottom	3	1	25.7	8.1	27.0	6.7	6.7	2.5		3.4	
TMCLKL	HY/2012/07	2018-05-04	Mid-Flood	IS(Mf)9	8:42	3.3	Bottom	3	2	25.7	8.0	26.8	6.7		2.5		3.3	

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	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Surface	1	1	26.8	8.0	25.0	7.6	7.6	2.7	3.3	3.2	4.1
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Surface	1	2	26.8	8.0	24.9	7.6		2.7		3.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Middle	2	1	26.7	8.0	25.4	7.5		2.6		2.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Middle	2	2	26.7	8.0	25.2	7.5		3.0		3.5	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Bottom	3	1	26.1	8.0	29.3	6.3	6.3	4.1		4.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)5	17:40	13.8	Bottom	3	2	26.1	8.0	29.1	6.3		4.4		6.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Surface	1	1	27.4	7.8	22.9	7.3	7.3	4.2	4.3	2.2	4.7
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Surface	1	2	27.0	7.9	23.0	7.3		4.1		2.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Middle	2	1	27.1	7.8	23.4	7.2		4.2		3.2	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Middle	2	2	26.7	7.9	23.6	7.2		4.1		3.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Bottom	3	1	26.9	7.8	24.8	6.8	6.8	4.6		7.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	CS(Mf)3(N)	17:01	7.3	Bottom	3	2	26.5	7.9	25.0	6.8		4.4		8.3	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Surface	1	1	26.7	8.1	26.2	9.5	9.5	3.3	4.7	5.5	4.8
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Surface	1	2	26.7	8.1	26.1	9.4		3.7		3.7	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Bottom	3	1	26.4	8.1	28.0	8.7	8.7	5.8		5.6	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)16	17:13	5.9	Bottom	3	2	26.3	8.1	27.8	8.7		5.9		4.5	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Surface	1	1	26.7	8.1	25.4	8.7	8.7	4.2	6.5	3.9	3.7
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Surface	1	2	26.6	8.1	25.2	8.6		4.9		3.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Bottom	3	1	26.4	8.1	27.6	8.4	8.4	8.1		3.2	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4a	17:02	5.5	Bottom	3	2	26.4	8.1	27.5	8.3		8.6		4.7	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Surface	1	1	27.1	8.2	26.5	10.7	10.6	4.9	6.2	6.7	6.3
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Surface	1	2	27.1	8.2	26.3	10.5		5.5		6.6	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Bottom	3	1	27.0	8.2	27.1	10.1	10.0	7.2		5.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	SR4(N)	16:54	3.5	Bottom	3	2	27.0	8.2	27.0	9.8		7.0		6.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Surface	1	1	27.0	8.2	26.2	10.7	10.6	2.9	4.3	6.0	5.1
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Surface	1	2	27.0	8.2	26.0	10.5		3.2		4.7	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Bottom	3	1	26.8	8.2	27.0	9.9	9.8	5.4		4.3	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS8	16:47	4.3	Bottom	3	2	26.8	8.2	26.8	9.7		5.5		5.3	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Surface	1	1	26.9	8.2	26.7	9.9	9.9	4.1	4.9	3.1	4.7
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Surface	1	2	26.9	8.2	25.4	9.9		4.8		4.4	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Bottom	3	1	26.8	8.2	27.2	9.8	9.8	5.1		6.3	
TMCLKL	HY/2012/07	2018-05-07	Mid-Ebb	IS(Mf)9	16:37	3.9	Bottom	3	2	26.8	8.2	27.0	9.7		5.6		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	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Surface	1	1	26.2	8.0	26.2	6.9	6.8	1.3	1.5	2.5	3.6
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Surface	1	2	26.2	8.0	26.4	7.0		1.2		4.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Middle	2	1	25.7	8.0	28.8	6.6		1.6		2.3	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Middle	2	2	25.7	8.0	29.1	6.7		1.5		4.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Bottom	3	1	25.5	8.0	29.9	6.5	6.5	1.9		3.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)5	4:54	12.3	Bottom	3	2	25.6	8.0	30.1	6.5		1.6		5.0	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Surface	1	1	26.9	7.8	21.4	6.5	6.3	3.3	3.9	3.6	4.4
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Surface	1	2	26.5	7.9	21.4	6.6		3.2		3.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Middle	2	1	26.8	7.7	22.6	5.9		4.4		2.5	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Middle	2	2	26.4	7.8	22.6	6.2		4.2		3.2	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Bottom	3	1	26.8	7.8	23.8	6.0	6.1	4.1		6.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	CS(Mf)3(N)	6:02	7.2	Bottom	3	2	26.4	7.9	23.8	6.1		4.1		7.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Surface	1	1	26.3	8.0	26.7	7.3	7.3	2.6	3.2	4.6	4.8
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Surface	1	2	26.3	8.0	26.9	7.3		2.4		4.7	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Bottom	3	1	25.6	8.0	28.9	6.6	6.6	3.7		5.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)16	5:25	5.7	Bottom	3	2	25.7	8.0	29.0	6.6		3.9		4.6	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Surface	1	1	26.4	8.1	26.6	7.6	7.6	3.1	4.4	4.6	4.3
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Surface	1	2	26.4	8.1	26.8	7.6		3.0		3.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Bottom	3	1	26.2	8.1	27.8	7.9	7.9	6.0		3.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4a	5:34	5.2	Bottom	3	2	26.2	8.1	27.9	7.9		5.5		4.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Surface	1	1	26.4	8.1	26.9	7.8	7.8	3.3	3.4	4.0	4.4
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Surface	1	2	26.4	8.1	27.1	7.8		3.1		4.6	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Bottom	3	1	26.3	8.1	27.3	7.7	7.8	3.8		4.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	SR4(N)	5:40	3.9	Bottom	3	2	26.4	8.1	27.5	7.8		3.5		4.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Surface	1	1	26.4	8.1	26.7	7.9	8.0	2.3	3.1	3.2	5.4
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Surface	1	2	26.4	8.1	26.9	8.0		2.0		4.6	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Bottom	3	1	26.3	8.1	27.9	8.2	8.3	4.0		7.1	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS8	5:48	4.3	Bottom	3	2	26.3	8.1	28.1	8.3		4.2		6.8	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Surface	1	1	26.4	8.1	26.3	7.7	7.7	2.0	2.7	3.9	4.2
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Surface	1	2	26.4	8.1	26.5	7.7		1.8		2.9	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Bottom	3	1	26.4	8.1	26.4	7.7	7.8	3.7		5.4	
TMCLKL	HY/2012/07	2018-05-07	Mid-Flood	IS(Mf)9	5:55	3.3	Bottom	3	2	26.4	8.1	26.5	7.8		3.3		4.4	

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	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Surface	1	1	25.6	7.7	26.6	6.8	6.5	1.1	1.6	2.7	4.4
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Surface	1	2	25.4	8.0	26.5	6.8		1.3		3.1	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Middle	2	1	25.0	7.7	31.8	6.3		1.8		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Middle	2	2	24.9	8.0	31.6	6.2		1.9		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Bottom	3	1	24.9	7.7	32.0	6.3	6.3	1.8		6.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)5	8:24	12.3	Bottom	3	2	24.9	8.0	31.8	6.2		1.9		4.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Surface	1	1	26.9	7.8	20.8	6.7	6.6	5.2	6.8	2.4	4.0
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Surface	1	2	26.5	7.8	20.9	6.7		5.4		3.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Middle	2	1	26.6	7.8	25.1	6.5		7.5		3.0	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Middle	2	2	26.2	7.8	25.3	6.5		7.3		4.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Bottom	3	1	26.5	7.8	26.5	6.4	6.4	7.7		5.7	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	CS(Mf)3(N)	9:25	7.4	Bottom	3	2	26.1	7.8	26.6	6.4		7.6		4.7	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Surface	1	1	26.4	7.6	23.5	7.1	7.1	1.2	3.3	0.8	1.4
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Surface	1	2	26.4	8.0	23.4	7.0		1.3		1.2	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Bottom	3	1	26.0	7.6	29.1	6.3	6.3	5.3		1.8	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)16	8:56	5.9	Bottom	3	2	26.0	8.0	28.9	6.3		5.2		1.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Surface	1	1	26.6	7.6	23.8	7.2	7.2	1.8	4.5	3.0	3.0
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Surface	1	2	26.6	8.0	23.7	7.1		1.8		2.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Bottom	3	1	26.6	7.6	24.6	6.7	6.7	7.1		2.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4a	9:03	5.5	Bottom	3	2	26.6	8.0	24.4	6.6		7.2		3.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Surface	1	1	26.6	7.5	23.8	7.1	7.1	3.1	3.2	5.0	4.1
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Surface	1	2	26.5	7.6	23.7	7.0		3.4		3.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Bottom	3	1	26.6	7.5	23.8	7.1	7.1	3.0		3.2	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	SR4(N)	9:09	3.6	Bottom	3	2	26.5	7.6	23.7	7.0		3.2		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Surface	1	1	26.5	7.5	23.3	7.0	7.0	6.9	8.2	4.1	3.4
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Surface	1	2	26.5	7.5	23.1	6.9		7.4		2.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Bottom	3	1	26.5	7.5	26.0	6.3	6.3	9.3		3.0	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS8	9:17	4.2	Bottom	3	2	26.5	7.6	25.8	6.3		9.0		4.0	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Surface	1	1	26.4	7.6	23.2	7.2	7.2	4.2	5.1	3.1	4.0
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Surface	1	2	26.4	8.0	23.2	7.1		5.2		3.7	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Bottom	3	1	26.4	7.6	23.3	6.7	6.7	5.6		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Ebb	IS(Mf)9	9:26	3.6	Bottom	3	2	26.4	8.0	23.2	6.7		5.5		4.8	

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	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Surface	1	1	26.1	8.0	25.5	7.1	6.7	1.1	2.0	3.2	4.3
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Surface	1	2	26.2	7.9	25.7	7.1		0.9		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Middle	2	1	25.3	8.0	30.0	6.2		1.4		4.4	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Middle	2	2	25.3	7.9	30.2	6.3		1.2		4.5	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Bottom	3	1	24.9	8.0	31.8	6.1	6.1	3.8		3.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)5	13:46	13.6	Bottom	3	2	24.9	7.9	31.9	6.1		3.8		5.0	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Surface	1	1	26.8	7.9	24.1	6.7	6.7	5.6	5.9	4.0	4.9
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Surface	1	2	26.4	7.9	24.3	6.7		5.6		4.9	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Middle	2	1	26.7	7.9	24.3	6.7		5.7		5.8	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Middle	2	2	26.3	7.9	24.4	6.6		6.0		4.1	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Bottom	3	1	26.5	7.9	27.2	6.4	6.4	6.4		5.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	CS(Mf)3(N)	13:56	7.2	Bottom	3	2	26.2	7.9	27.3	6.3		6.2		5.1	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Surface	1	1	26.4	8.0	24.1	7.3	7.4	2.6	2.5	3.6	4.3
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Surface	1	2	26.5	7.9	24.3	7.4		2.2		4.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Bottom	3	1	26.4	8.0	24.1	7.3	7.3	2.6		4.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)16	13:10	5.9	Bottom	3	2	26.5	7.9	24.3	7.3		2.4		4.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Surface	1	1	26.6	8.0	24.3	7.2	7.2	3.5	4.9	2.3	3.0
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Surface	1	2	26.6	7.9	24.4	7.2		3.5		3.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Bottom	3	1	25.9	8.0	27.8	6.2	6.2	6.0		3.1	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4a	12:59	5.3	Bottom	3	2	25.9	7.8	28.0	6.2		6.4		3.2	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Surface	1	1	26.5	8.0	24.2	6.8	6.8	5.6	6.7	4.3	4.1
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Surface	1	2	26.5	7.9	24.3	6.8		5.0		3.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Bottom	3	1	26.3	8.0	25.5	6.4	6.4	7.9		3.7	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	SR4(N)	12:51	4.1	Bottom	3	2	26.3	7.9	25.7	6.4		8.1		4.8	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Surface	1	1	26.3	8.0	24.1	6.9	6.9	4.2	6.7	2.9	2.8
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Surface	1	2	26.3	7.9	24.1	6.9		3.9		2.6	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Bottom	3	1	26.1	8.0	27.1	6.2	6.2	10.0		2.7	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS8	12:44	4.4	Bottom	3	2	26.1	7.9	27.3	6.2		8.7		2.8	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Surface	1	1	26.4	8.0	23.1	7.4	7.4	1.9	4.7	4.1	4.6
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Surface	1	2	26.4	7.9	23.2	7.4		1.6		3.8	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Bottom	3	1	26.4	8.0	23.6	6.7	6.7	8.0		5.3	
TMCLKL	HY/2012/07	2018-05-09	Mid-Flood	IS(Mf)9	12:31	3.6	Bottom	3	2	26.5	7.9	23.8	6.7		7.3		5.2	

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	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Surface	1	1	25.0	8.0	29.8	6.2	6.1	1.7	2.1	3.2	4.4
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Surface	1	2	25.0	7.9	30.0	6.3		1.5		3.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Middle	2	1	24.8	8.0	31.5	5.9		1.9		4.5	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Middle	2	2	24.8	7.9	31.7	6.0		1.8		4.5	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Bottom	3	1	24.8	8.0	31.6	5.9	5.9	3.1		5.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)5	10:16	12.5	Bottom	3	2	24.8	7.8	31.8	5.9		2.7		6.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Surface	1	1	25.8	7.9	28.1	7.3	7.1	3.6	3.9	5.3	5.8
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Surface	1	2	26.2	7.9	28.0	7.1		3.8		5.9	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Middle	2	1	25.3	7.9	29.6	7.0		3.6		6.5	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Middle	2	2	25.7	7.9	29.5	6.9		3.6		5.2	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Bottom	3	1	25.2	7.9	30.6	6.7	6.7	4.4		6.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	CS(Mf)3(N)	11:28	7.1	Bottom	3	2	25.5	7.9	30.4	6.6		4.4		5.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Surface	1	1	24.8	8.0	28.2	6.4	6.5	1.7	2.5	3.4	2.7
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Surface	1	2	24.8	7.9	28.4	6.5		2.0		2.1	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Bottom	3	1	24.9	8.0	29.1	6.5	6.5	3.2		2.1	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)16	10:52	5.9	Bottom	3	2	24.9	7.9	29.8	6.5		3.2		3.3	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Surface	1	1	25.0	8.0	28.7	6.1	6.2	3.0	5.3	1.7	2.3
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Surface	1	2	25.0	7.9	28.9	6.2		2.8		1.9	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Bottom	3	1	25.0	8.0	29.0	6.1	6.1	6.8		2.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4a	11:00	5.8	Bottom	3	2	25.0	7.9	29.2	6.1		8.4		2.8	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Surface	1	1	24.9	8.0	27.3	6.4	6.4	2.9	3.7	2.3	3.4
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Surface	1	2	24.9	7.9	27.5	6.4		3.1		3.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Bottom	3	1	24.9	8.0	28.0	6.3	6.3	4.4		3.6	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	SR4(N)	11:06	4.2	Bottom	3	2	24.9	7.9	28.1	6.2		4.4		4.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Surface	1	1	24.9	8.0	27.5	6.8	6.8	1.7	2.4	1.8	1.6
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Surface	1	2	24.9	8.0	27.7	6.8		1.8		1.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Bottom	3	1	24.9	8.0	28.3	6.4	6.4	2.9		1.6	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS8	11:13	5.6	Bottom	3	2	24.9	8.0	28.4	6.4		3.3		1.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Surface	1	1	24.8	8.0	27.2	6.8	6.8	1.8	2.1	4.3	5.0
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Surface	1	2	24.8	8.0	27.3	6.8		2.2		3.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Bottom	3	1	24.8	8.0	27.2	6.7	6.8	2.1		5.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Ebb	IS(Mf)9	11:22	3.3	Bottom	3	2	24.8	8.0	27.4	6.8		2.2		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	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Surface	1	1	25.3	8.0	27.9	6.8	6.4	1.5	3.1	2.6	3.4
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Surface	1	2	25.3	8.0	28.0	6.8		1.4		2.2	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Middle	2	1	24.9	8.0	31.1	6.0		2.2		3.3	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Middle	2	2	25.0	8.0	31.3	6.0		2.5		4.6	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Bottom	3	1	24.8	8.0	31.6	5.9	5.9	5.4		4.2	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)5	16:20	12.0	Bottom	3	2	24.8	8.0	31.8	5.9		5.5		3.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Surface	1	1	26.4	7.7	19.2	6.9	6.7	5.8	5.0	4.4	5.7
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Surface	1	2	26.8	7.7	19.1	6.9		6.0		3.8	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Middle	2	1	25.7	7.7	23.8	6.6		4.8		5.6	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Middle	2	2	26.1	7.7	23.9	6.4		4.4		4.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Bottom	3	1	25.6	7.7	25.0	6.5	6.5	4.4		8.5	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	CS(Mf)3(N)	15:28	7.2	Bottom	3	2	26.0	7.8	24.9	6.4		4.4		7.6	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Surface	1	1	25.4	8.0	27.2	6.9	7.0	2.3	4.4	5.4	6.2
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Surface	1	2	25.5	7.9	27.3	7.0		2.4		5.2	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Bottom	3	1	25.0	8.0	29.0	6.4	6.4	6.1		7.2	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)16	15:41	5.9	Bottom	3	2	25.0	7.9	29.2	6.4		6.9		7.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Surface	1	1	25.6	8.0	27.6	6.8	6.8	3.2	3.6	2.8	3.6
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Surface	1	2	25.6	7.9	27.7	6.7		3.3		2.9	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Bottom	3	1	25.4	8.0	28.4	6.4	6.5	3.9		4.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4a	15:29	5.4	Bottom	3	2	25.5	7.9	28.5	6.5		4.1		4.7	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Surface	1	1	25.6	8.0	27.7	6.7	6.8	3.6	3.8	5.9	7.4
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Surface	1	2	25.6	7.9	27.9	6.8		3.8		6.8	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Bottom	3	1	25.6	8.0	27.8	6.7	6.7	3.7		7.9	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	SR4(N)	15:20	3.5	Bottom	3	2	25.6	7.9	27.9	6.7		3.9		9.0	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Surface	1	1	25.4	8.0	27.8	6.7	6.8	2.9	3.2	5.0	4.7
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Surface	1	2	25.4	8.0	27.9	6.8		3.2		5.1	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Bottom	3	1	25.0	8.0	28.8	6.5	6.5	3.2		4.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS8	15:13	4.4	Bottom	3	2	25.1	7.9	28.9	6.5		3.4		4.1	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Surface	1	1	25.2	8.0	28.2	6.5	6.5	4.9	5.7	2.4	4.3
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Surface	1	2	25.2	8.0	28.3	6.5		5.2		3.4	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Bottom	3	1	25.1	8.0	28.9	5.9	5.9	5.9		5.5	
TMCLKL	HY/2012/07	2018-05-11	Mid-Flood	IS(Mf)9	15:03	4.0	Bottom	3	2	25.1	8.0	29.2	5.8		6.7		5.8	

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	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Surface	1	1	26.3	8.2	22.5	7.0	6.6	5.4	5.1	5.2	7.7
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Surface	1	2	26.3	8.1	22.4	7.0		4.9		6.2	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Middle	2	1	25.5	8.1	28.0	6.1		5.2		7.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Middle	2	2	25.4	8.1	27.9	6.1		4.8		6.9	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Bottom	3	1	25.2	8.1	30.6	6.0	6.1	5.5		10.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)5	11:21	12.4	Bottom	3	2	25.1	8.1	30.4	6.1		4.9		9.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Surface	1	1	26.3	8.1	21.6	6.8	6.6	14.1	18.3	4.7	5.4
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Surface	1	2	26.3	8.1	21.3	6.7		14.2		4.9	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Middle	2	1	26.0	8.1	23.9	6.4		19.6		4.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Middle	2	2	26.0	8.1	23.3	6.4		20.6		5.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Bottom	3	1	25.9	8.1	25.6	6.4	6.4	20.3		6.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	CS(Mf)3(N)	12:21	6.7	Bottom	3	2	25.9	8.1	25.1	6.4		21.1		5.8	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Surface	1	1	27.2	8.1	23.3	7.7	7.7	3.2	3.8	3.7	5.7
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Surface	1	2	27.1	8.2	23.1	7.7		2.7		5.2	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Bottom	3	1	25.6	8.1	27.3	6.4	6.5	4.8		7.9	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)16	12:01	5.9	Bottom	3	2	25.6	8.1	27.1	6.5		4.3		6.1	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Surface	1	1	27.5	8.1	22.3	8.1	8.1	3.2	6.7	4.9	6.3
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Surface	1	2	27.4	8.2	22.1	8.0		2.7		3.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Bottom	3	1	25.7	8.0	26.4	6.1	6.2	10.2		9.0	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4a	12:11	5.7	Bottom	3	2	25.7	8.1	26.3	6.2		10.6		7.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Surface	1	1	27.1	8.1	22.8	8.2	8.2	4.6	5.4	6.7	6.8
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Surface	1	2	27.1	8.2	22.7	8.2		3.9		6.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Bottom	3	1	26.6	8.1	24.3	7.6	7.6	6.9		7.0	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	SR4(N)	12:17	4.1	Bottom	3	2	26.6	8.1	24.1	7.6		6.3		6.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Surface	1	1	27.5	8.2	21.3	9.2	9.3	4.0	4.8	5.5	6.7
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Surface	1	2	27.5	8.2	21.2	9.4		3.4		5.4	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Bottom	3	1	26.3	8.1	24.8	7.3	7.4	6.1		7.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS8	12:25	4.4	Bottom	3	2	26.2	8.1	24.7	7.4		5.8		8.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Surface	1	1	26.8	8.2	22.1	8.9	8.9	4.5	5.1	3.6	6.2
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Surface	1	2	26.8	8.2	21.9	8.8		3.9		2.8	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Bottom	3	1	26.4	8.0	23.9	7.5	7.5	6.3		8.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Ebb	IS(Mf)9	12:33	3.3	Bottom	3	2	26.3	8.0	23.7	7.4		5.5		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	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Surface	1	1	25.7	8.0	24.8	6.8	6.4	4.7	6.9	5.9	6.5
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Surface	1	2	25.8	8.0	24.9	6.8		4.3		6.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Middle	2	1	25.3	8.0	29.5	5.9		4.9		5.4	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Middle	2	2	25.3	8.0	29.6	5.9		5.0		6.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Bottom	3	1	25.3	7.9	30.1	6.0	6.0	11.4		7.3	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)5	18:09	13.8	Bottom	3	2	25.3	8.0	30.3	5.9		10.8		7.0	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Surface	1	1	27.7	8.3	15.1	8.7	8.4	11.4	11.7	6.3	6.1
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Surface	1	2	27.8	8.3	13.8	8.8		11.2		5.4	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Middle	2	1	27.1	8.2	18.4	8.1		11.4		5.8	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Middle	2	2	27.1	8.1	18.0	7.8		11.3		7.0	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Bottom	3	1	26.3	8.1	22.4	7.4	7.3	12.5		6.3	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	CS(Mf)3(N)	17:02	6.7	Bottom	3	2	26.3	8.1	21.9	7.2		12.6		5.8	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Surface	1	1	27.2	8.2	20.8	9.2	9.2	5.2	6.5	6.6	6.9
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Surface	1	2	27.2	8.2	20.9	9.1		4.8		5.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Bottom	3	1	26.5	8.1	23.8	7.7	7.7	8.2		7.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)16	17:30	5.9	Bottom	3	2	26.6	8.1	24.0	7.6		7.9		7.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Surface	1	1	27.6	8.3	18.9	9.4	9.4	6.3	9.3	7.4	7.8
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Surface	1	2	27.6	8.2	19.0	9.3		5.7		7.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Bottom	3	1	26.3	8.1	22.4	7.2	7.1	13.3		7.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4a	17:18	5.0	Bottom	3	2	26.3	8.0	23.9	6.9		11.8		8.4	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Surface	1	1	27.4	8.2	20.4	9.0	9.0	11.0	10.5	16.4	16.8
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Surface	1	2	27.4	8.2	20.5	8.9		9.7		16.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Bottom	3	1	27.4	8.2	20.4	8.9	8.9	11.2		16.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	SR4(N)	17:09	3.4	Bottom	3	2	27.4	8.2	20.5	8.9		10.0		17.3	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Surface	1	1	27.2	8.0	19.9	9.0	9.0	7.2	7.4	7.5	8.1
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Surface	1	2	27.2	8.2	20.1	9.0		6.3		7.3	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Bottom	3	1	27.0	8.0	21.5	8.4	8.4	8.7		9.0	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS8	17:00	3.8	Bottom	3	2	27.0	8.1	21.8	8.3		7.3		8.6	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Surface	1	1	26.7	8.3	22.9	8.8	8.7	8.1	9.4	10.6	10.8
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Surface	1	2	26.7	8.3	23.2	8.6		8.7		9.7	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Bottom	3	1	26.5	8.3	24.0	8.2	8.2	10.2		11.5	
TMCLKL	HY/2012/07	2018-05-13	Mid-Flood	IS(Mf)9	16:47	3.2	Bottom	3	2	26.6	8.3	24.1	8.1		10.4		11.4	

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	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Surface	1	1	27.7	8.0	21.6	7.1	6.8	5.5	10.6	6.1	7.8
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Surface	1	2	27.7	8.0	21.6	7.1		5.5		5.2	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Middle	2	1	26.7	8.0	24.0	6.4		8.0		6.8	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Middle	2	2	26.8	8.0	24.0	6.4		8.0		5.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Bottom	3	1	26.7	8.0	25.7	6.0	6.0	18.2		11.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)5	13:32	13.4	Bottom	3	2	26.7	8.0	25.7	6.0		18.1		11.1	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Surface	1	1	27.0	8.2	23.5	6.8	6.8	14.8	17.2	11.4	11.6
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Surface	1	2	27.0	8.2	23.0	6.8		14.8		12.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Middle	2	1	26.8	8.2	24.3	6.7		16.4		11.2	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Middle	2	2	26.8	8.2	23.8	6.7		16.5		11.1	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Bottom	3	1	26.6	8.2	25.2	6.7	6.7	20.1		12.8	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	CS(Mf)3(N)	12:46	7.1	Bottom	3	2	26.6	8.2	24.7	6.7		20.4		11.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Surface	1	1	27.7	8.0	22.0	7.0	6.7	5.8	7.4	4.9	6.8
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Surface	1	2	27.7	8.0	22.0	7.0		5.8		4.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Middle	2	1	26.7	8.0	24.2	6.4		11.1		7.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Middle	2	2	26.8	8.0	24.2	6.4		11.1		7.3	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Bottom	3	1	26.6	8.0	24.8	6.3	6.3	5.3		8.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)16	13:01	6.4	Bottom	3	2	26.6	8.0	24.8	6.3		5.3		7.8	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Surface	1	1	27.6	8.0	21.8	6.9	6.8	5.3	9.0	8.2	8.2
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Surface	1	2	27.6	8.0	22.0	6.7		5.3		7.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Bottom	3	1	26.6	8.0	24.7	6.2	6.1	12.5		8.4	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4a	12:48	5.4	Bottom	3	2	26.6	8.0	25.1	5.9		12.8		8.5	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Surface	1	1	28.0	8.0	20.9	6.9	6.9	10.9	8.4	9.7	10.2
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Surface	1	2	28.0	8.0	21.2	6.8		10.9		10.3	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Bottom	3	1	27.8	8.0	21.0	6.7	6.7	5.9		10.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	SR4(N)	12:40	4.2	Bottom	3	2	27.8	8.0	21.2	6.7		5.8		10.2	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Surface	1	1	27.8	8.0	21.5	7.1	7.1	4.9	6.1	5.3	5.8
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Surface	1	2	27.8	8.0	21.7	7.0		4.9		6.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Bottom	3	1	27.5	8.0	22.2	6.6	6.7	7.2		5.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS8	12:30	4.5	Bottom	3	2	27.5	8.0	22.4	6.7		7.2		5.8	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Surface	1	1	27.9	8.0	21.4	7.6	7.5	6.9	9.8	5.3	6.4
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Surface	1	2	27.9	8.0	21.6	7.4		6.9		5.7	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Bottom	3	1	27.4	8.0	22.1	6.9	6.9	12.6		6.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Ebb	IS(Mf)9	12:18	4.3	Bottom	3	2	27.5	8.0	22.1	6.9		12.7		8.0	

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	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Surface	1	1	27.0	8.0	21.3	6.4	6.4	3.1	7.4	8.0	7.7
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Surface	1	2	27.0	8.0	21.4	6.5		3.6		7.3	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Middle	2	1	26.7	8.0	22.8	6.4		5.5		7.4	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Middle	2	2	26.8	8.0	23.0	6.4		5.2		7.4	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Bottom	3	1	26.2	8.0	26.9	5.9	5.9	13.4		7.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)5	6:12	12.5	Bottom	3	2	26.2	8.0	27.2	5.9		13.6		7.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Surface	1	1	27.3	8.2	20.7	6.7	6.7	18.3	21.1	15.7	18.2
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Surface	1	2	27.3	8.2	20.3	6.7		18.4		16.5	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Middle	2	1	27.3	8.2	20.8	6.6		20.9		18.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Middle	2	2	27.3	8.1	20.3	6.6		20.6		17.3	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Bottom	3	1	27.3	8.2	20.8	6.6	6.6	24.3		20.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	CS(Mf)3(N)	7:23	7.3	Bottom	3	2	27.3	8.1	20.4	6.6		24.2		20.5	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Surface	1	1	27.2	8.0	21.0	6.5	6.6	3.4	4.0	5.7	7.1
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Surface	1	2	27.2	8.0	21.2	6.6		3.4		5.2	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Bottom	3	1	27.0	8.0	22.1	6.4	6.5	4.5		9.6	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)16	6:43	5.9	Bottom	3	2	27.1	8.0	22.3	6.5		4.6		8.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Surface	1	1	27.1	8.0	20.5	6.5	6.6	5.0	6.6	6.0	6.3
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Surface	1	2	27.1	8.0	20.7	6.6		4.7		6.5	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Bottom	3	1	27.1	8.0	20.6	6.6	6.6	8.3		5.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4a	6:52	5.7	Bottom	3	2	27.1	8.0	20.8	6.6		8.3		6.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Surface	1	1	27.1	8.0	20.9	6.4	6.5	9.3	11.7	8.7	9.6
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Surface	1	2	27.1	8.0	21.1	6.5		9.3		8.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Bottom	3	1	27.1	8.0	20.9	6.4	6.5	14.2		10.7	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	SR4(N)	6:58	4.1	Bottom	3	2	27.1	8.0	21.1	6.5		14.1		10.8	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Surface	1	1	27.1	8.0	20.7	6.5	6.6	4.4	5.4	6.1	7.5
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Surface	1	2	27.1	8.0	20.9	6.6		4.5		6.0	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Bottom	3	1	27.1	8.0	21.2	6.4	6.5	6.7		8.1	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS8	7:06	5.6	Bottom	3	2	27.1	8.0	21.4	6.5		6.1		9.9	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Surface	1	1	27.1	8.0	21.5	6.5	6.6	3.7	4.6	4.8	6.1
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Surface	1	2	27.2	8.0	21.8	6.6		3.3		5.5	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Bottom	3	1	27.1	8.0	22.5	6.3	6.4	5.7		7.1	
TMCLKL	HY/2012/07	2018-05-16	Mid-Flood	IS(Mf)9	7:16	3.4	Bottom	3	2	27.1	8.0	22.7	6.4		5.7		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	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Surface	1	1	28.4	7.9	21.0	6.1	5.8	8.8	18.5	10.3	10.9
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Surface	1	2	28.4	8.0	21.2	6.0		9.4		10.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Middle	2	1	26.8	7.9	25.4	5.6		10.7		9.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Middle	2	2	26.8	8.0	25.7	5.5		10.4		11.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Bottom	3	1	26.8	7.9	26.3	5.6	5.6	35.8		11.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)5	14:59	14.0	Bottom	3	2	26.8	8.0	26.6	5.5		36.1		12.8	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Surface	1	1	28.3	8.1	21.1	6.6	6.6	13.2	16.6	10.0	10.5
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Surface	1	2	28.3	8.1	20.8	6.6		13.0		9.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Middle	2	1	28.0	8.1	21.3	6.5		14.1		10.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Middle	2	2	28.0	8.0	20.9	6.5		14.3		11.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Bottom	3	1	27.0	8.1	24.5	6.2	6.2	22.5		10.6	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	CS(Mf)3(N)	14:12	7.2	Bottom	3	2	27.0	8.1	24.1	6.2		22.7		10.8	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Surface	1	1	27.7	7.9	22.9	5.9	5.8	5.4	6.5	5.3	5.3
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Surface	1	2	27.7	7.9	23.1	5.8		5.5		5.0	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Middle	2	1	27.1	7.9	24.3	5.7		6.3		5.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Middle	2	2	27.1	7.9	24.6	5.7		6.4		5.4	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Bottom	3	1	26.9	7.9	25.3	5.7	5.7	7.7		5.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)16	14:29	6.3	Bottom	3	2	26.9	7.9	25.5	5.6		7.8		5.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Surface	1	1	27.9	7.9	22.1	5.8	5.8	10.0	10.5	5.8	6.9
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Surface	1	2	27.9	7.9	22.3	5.7		9.2		6.0	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Bottom	3	1	27.8	7.9	22.4	5.8	5.8	12.2		8.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4a	14:17	5.8	Bottom	3	2	27.8	7.9	22.6	5.7		10.4		7.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Surface	1	1	28.6	7.9	20.9	6.3	6.3	6.7	9.8	10.3	12.0
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Surface	1	2	28.6	7.9	21.1	6.2		7.4		12.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Bottom	3	1	28.3	7.9	21.3	6.1	6.1	12.7		11.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	SR4(N)	14:09	4.5	Bottom	3	2	28.4	7.9	21.5	6.0		12.3		13.6	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Surface	1	1	28.1	7.9	21.7	6.4	6.4	6.5	7.7	3.6	5.3
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Surface	1	2	28.1	7.9	22.0	6.3		6.6		4.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Bottom	3	1	27.9	7.9	22.3	5.9	5.9	9.3		6.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS8	14:01	4.9	Bottom	3	2	28.0	7.9	22.4	5.8		8.4		7.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Surface	1	1	28.2	7.9	21.9	6.2	6.2	7.7	13.0	5.5	4.7
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Surface	1	2	28.2	7.9	22.0	6.1		7.3		4.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Bottom	3	1	28.0	7.9	22.1	5.9	5.9	17.2		4.0	
TMCLKL	HY/2012/07	2018-05-18	Mid-Ebb	IS(Mf)9	13:51	4.4	Bottom	3	2	28.1	7.9	22.3	5.8		19.7		4.9	

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	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Surface	1	1	27.6	8.0	20.8	6.1	6.2	4.7	6.9	9.2	9.1
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Surface	1	2	27.6	8.0	20.8	6.1		5.4		10.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Middle	2	1	26.9	8.0	22.1	6.2		7.1		9.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Middle	2	2	26.9	8.0	22.1	6.2		7.6		9.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Bottom	3	1	26.9	8.0	26.8	5.8	5.8	7.9		8.0	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)5	7:30	11.0	Bottom	3	2	26.9	8.0	26.8	5.8		8.7		8.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Surface	1	1	27.8	8.1	20.3	6.5	6.5	17.2	19.7	11.0	12.8
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Surface	1	2	27.8	8.1	20.0	6.5		17.1		11.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Middle	2	1	27.7	8.1	20.4	6.5		19.4		13.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Middle	2	2	27.7	8.1	20.1	6.5		19.4		12.9	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Bottom	3	1	27.7	8.1	20.5	6.5	6.5	22.7		13.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	CS(Mf)3(N)	8:26	7.2	Bottom	3	2	27.7	8.1	20.2	6.4		22.2		14.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Surface	1	1	27.6	7.9	21.2	6.0	6.0	5.2	5.6	6.5	8.3
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Surface	1	2	27.6	7.9	21.4	6.0		5.1		6.8	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Bottom	3	1	27.6	7.9	21.3	6.1	6.1	6.1		8.7	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)16	7:58	5.9	Bottom	3	2	27.6	7.9	21.7	6.0		6.0		11.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Surface	1	1	27.7	7.9	20.4	6.1	6.0	8.1	9.2	11.3	12.0
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Surface	1	2	27.7	7.9	20.6	5.8		8.9		12.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Bottom	3	1	27.6	7.9	20.5	6.1	6.0	9.3		11.2	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4a	8:05	5.6	Bottom	3	2	27.6	7.9	20.7	5.8		10.5		13.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Surface	1	1	27.7	7.9	20.5	6.1	6.0	8.3	8.4	11.6	12.4
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Surface	1	2	27.7	7.9	20.8	5.8		8.8		11.0	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Bottom	3	1	27.7	7.9	20.5	6.1	6.0	8.0		13.9	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	SR4(N)	8:11	3.9	Bottom	3	2	27.7	7.9	20.8	5.8		8.3		13.1	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Surface	1	1	27.8	7.9	20.5	6.2	6.2	3.9	4.2	8.6	9.1
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Surface	1	2	27.8	7.9	20.7	6.1		3.8		9.4	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Bottom	3	1	27.7	7.9	21.0	6.1	6.1	4.5		7.9	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS8	8:21	4.5	Bottom	3	2	27.7	7.9	21.2	6.0		4.5		10.3	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Surface	1	1	27.7	7.9	21.9	6.0	6.1	3.5	3.4	7.0	7.5
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Surface	1	2	27.7	7.9	22.1	6.1		3.4		7.5	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Bottom	3	1	27.7	7.9	21.9	6.1	6.1	3.4		7.4	
TMCLKL	HY/2012/07	2018-05-18	Mid-Flood	IS(Mf)9	8:28	3.7	Bottom	3	2	27.7	7.9	22.1	6.1		3.3		8.2	

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	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Surface	1	1	29.1	8.1	19.7	7.6	7.1	3.6	4.7	4.0	5.4
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Surface	1	2	29.1	8.0	19.9	7.5		3.6		2.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Middle	2	1	28.4	8.0	21.7	6.7		4.8		5.5	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Middle	2	2	28.5	8.0	22.3	6.6		4.8		6.3	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Bottom	3	1	26.6	8.0	28.2	5.4	5.3	5.7		7.1	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)5	17:47	11.8	Bottom	3	2	26.6	8.0	28.5	5.2		5.7		6.7	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Surface	1	1	29.4	8.0	18.7	7.4	6.4	4.3	6.6	5.4	6.1
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Surface	1	2	29.8	7.9	18.6	7.4		3.9		6.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Middle	2	1	27.4	7.9	24.0	5.4		8.0		6.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Middle	2	2	27.9	7.8	23.9	5.4		7.7		7.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Bottom	3	1	27.4	7.9	24.3	5.4	5.5	7.9		5.5	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	CS(Mf)3(N)	16:54	7.1	Bottom	3	2	27.9	7.8	24.2	5.5		7.9		5.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Surface	1	1	29.3	8.3	20.7	9.5	9.5	3.1	3.1	4.9	5.0
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Surface	1	2	29.4	8.3	20.9	9.4		3.1		4.3	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Bottom	3	1	27.5	8.0	24.9	6.5	6.5	3.0		5.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)16	17:18	5.9	Bottom	3	2	27.4	7.9	25.4	6.4		3.0		5.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Surface	1	1	28.7	8.0	21.5	7.0	6.9	4.7	7.3	7.2	7.9
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Surface	1	2	28.7	8.0	21.7	6.7		4.7		8.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Bottom	3	1	27.8	7.9	23.5	5.6	5.5	9.9		8.0	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4a	17:06	4.6	Bottom	3	2	27.8	7.9	23.8	5.3		9.9		7.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Surface	1	1	29.8	8.1	19.8	8.2	8.2	4.9	5.2	5.0	4.9
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Surface	1	2	29.8	8.1	20.1	8.2		4.9		4.5	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Bottom	3	1	29.7	8.1	20.0	8.1	8.1	5.5		5.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	SR4(N)	17:00	3.1	Bottom	3	2	29.7	8.1	20.2	8.1		5.5		4.8	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Surface	1	1	29.1	8.2	20.2	9.2	9.2	4.2	5.0	5.0	5.2
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Surface	1	2	29.1	8.2	20.5	9.2		4.2		5.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Bottom	3	1	28.5	8.0	22.2	6.3	6.3	5.8		5.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS8	16:52	4.3	Bottom	3	2	28.5	8.0	22.4	6.3		5.8		5.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Surface	1	1	30.0	8.3	19.8	9.6	9.7	2.8	5.4	4.7	5.9
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Surface	1	2	29.9	8.2	20.0	9.7		2.8		6.0	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Bottom	3	1	28.5	7.9	22.0	5.6	5.5	7.9		6.0	
TMCLKL	HY/2012/07	2018-05-21	Mid-Ebb	IS(Mf)9	16:39	3.7	Bottom	3	2	28.5	7.9	22.2	5.4		7.9		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	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Surface	1	1	28.4	7.9	18.9	6.3	6.0	4.4	4.4	5.0	6.4
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Surface	1	2	28.4	8.0	18.7	6.5		4.4		5.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Middle	2	1	27.6	7.9	24.3	5.6		4.0		5.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Middle	2	2	27.6	7.9	24.3	5.6		4.0		4.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Bottom	3	1	26.5	8.0	28.6	5.2	5.4	4.7		9.1	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)5	9:46	14.0	Bottom	3	2	26.5	8.0	28.3	5.5		4.7		8.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Surface	1	1	28.5	7.9	18.5	6.3	6.1	5.4	7.5	4.0	3.4
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Surface	1	2	29.0	7.8	18.4	6.2		5.6		4.3	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Middle	2	1	28.3	7.9	19.7	5.9		6.6		2.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Middle	2	2	28.7	7.8	19.6	5.8		6.3		2.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Bottom	3	1	28.2	7.9	20.3	5.7	5.7	10.7		3.2	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	CS(Mf)3(N)	11:08	7.2	Bottom	3	2	28.6	7.8	20.2	5.7		10.6		3.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Surface	1	1	28.6	8.0	20.5	6.5	6.6	4.3	4.5	3.8	4.7
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Surface	1	2	28.6	8.0	20.3	6.7		4.3		4.4	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Bottom	3	1	28.5	8.0	21.5	6.4	6.5	4.7		5.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)16	10:13	5.8	Bottom	3	2	28.5	8.0	21.3	6.5		4.7		4.8	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Surface	1	1	28.5	7.9	18.6	6.4	6.5	6.3	6.8	8.3	8.8
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Surface	1	2	28.5	8.0	18.4	6.6		6.3		8.8	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Bottom	3	1	28.4	7.9	19.9	6.1	6.2	7.2		9.6	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4a	10:21	5.6	Bottom	3	2	28.4	8.0	19.7	6.3		7.2		8.3	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Surface	1	1	28.6	7.9	19.2	6.3	6.4	7.0	7.0	7.9	8.8
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Surface	1	2	28.6	8.0	19.0	6.5		7.0		8.5	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Bottom	3	1	28.7	7.9	19.1	6.3	6.4	6.9		9.8	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	SR4(N)	10:26	3.9	Bottom	3	2	28.6	8.0	18.9	6.5		6.9		8.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Surface	1	1	28.6	8.0	19.3	6.3	6.4	4.9	4.9	5.0	4.6
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Surface	1	2	28.6	8.0	19.1	6.5		4.9		4.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Bottom	3	1	28.6	8.0	20.8	6.3	6.4	4.9		3.7	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS8	10:33	4.5	Bottom	3	2	28.6	8.0	20.5	6.4		4.9		4.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Surface	1	1	28.8	8.0	20.1	7.0	7.1	4.2	4.3	5.1	4.4
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Surface	1	2	28.8	8.0	19.9	7.2		4.2		4.1	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Bottom	3	1	28.8	8.0	21.5	7.0	7.1	4.4		4.9	
TMCLKL	HY/2012/07	2018-05-21	Mid-Flood	IS(Mf)9	10:41	3.7	Bottom	3	2	28.8	8.0	21.3	7.1		4.4		3.5	

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	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Surface	1	1	28.6	8.1	21.5	6.9	6.2	3.5	4.1	3.0	2.9
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Surface	1	2	28.6	8.1	21.2	6.9		3.5		3.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Middle	2	1	26.8	8.0	28.5	5.5		4.0		3.1	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Middle	2	2	26.8	8.0	28.1	5.5		4.0		2.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Bottom	3	1	26.2	8.0	30.7	5.0	5.0	4.7		2.9	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)5	7:40	12.6	Bottom	3	2	26.2	8.0	30.3	5.0		4.8		2.2	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Surface	1	1	29.2	7.9	18.6	6.3	6.2	5.4	5.6	4.3	5.6
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Surface	1	2	28.8	8.0	18.7	6.3		5.4		4.8	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Middle	2	1	28.9	7.9	20.1	6.0		4.9		6.4	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Middle	2	2	28.6	8.0	20.1	6.0		4.9		6.3	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Bottom	3	1	28.8	7.9	21.1	5.7	5.7	6.4		6.9	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	CS(Mf)3(N)	8:47	6.7	Bottom	3	2	28.4	8.0	21.2	5.7		6.4		5.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Surface	1	1	28.8	8.3	21.7	8.5	8.5	4.8	5.4	4.3	4.5
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Surface	1	2	28.8	8.3	21.5	8.5		4.8		3.8	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Bottom	3	1	27.4	8.0	26.8	5.8	5.8	6.0		4.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)16	8:12	5.8	Bottom	3	2	27.4	8.0	26.5	5.8		6.0		5.3	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Surface	1	1	28.7	8.1	21.1	7.2	7.2	4.0	7.8	3.9	4.0
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Surface	1	2	28.7	8.1	20.9	7.2		4.0		4.8	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Bottom	3	1	28.2	7.9	23.1	4.9	4.9	11.6		3.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4a	8:20	5.7	Bottom	3	2	28.2	7.9	22.7	4.9		11.6		3.6	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Surface	1	1	28.6	8.1	21.2	6.6	6.6	5.2	5.5	3.0	6.1
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Surface	1	2	28.6	8.1	21.0	6.6		5.2		2.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Bottom	3	1	28.6	8.1	21.3	6.6	6.6	5.7		9.1	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	SR4(N)	8:27	4.2	Bottom	3	2	28.6	8.1	21.1	6.6		5.7		9.6	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Surface	1	1	28.9	8.3	21.4	9.3	9.3	4.5	7.7	3.7	4.6
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Surface	1	2	28.8	8.3	21.2	9.3		4.5		5.1	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Bottom	3	1	28.7	8.1	22.3	6.8	6.8	10.8		4.4	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS8	8:34	4.4	Bottom	3	2	28.7	8.1	22.1	6.8		10.8		5.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Surface	1	1	28.9	8.2	21.0	8.6	8.6	5.2	10.1	4.8	5.3
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Surface	1	2	28.9	8.2	20.8	8.6		5.2		5.3	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Bottom	3	1	28.8	8.1	21.5	7.0	7.0	14.9		5.9	
TMCLKL	HY/2012/07	2018-05-23	Mid-Ebb	IS(Mf)9	8:44	3.4	Bottom	3	2	28.8	8.1	21.2	7.0		14.9		5.2	

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	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Surface	1	1	29.2	8.0	20.1	9.0	7.5	4.7	7.5	4.6	3.9
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Surface	1	2	29.2	8.0	19.9	9.0		4.7		3.8	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Middle	2	1	27.1	8.0	28.5	5.9		4.5		4.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Middle	2	2	27.1	8.0	28.0	5.9		4.5		3.2	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Bottom	3	1	26.1	8.2	31.0	5.4	5.4	13.2		3.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)5	13:43	13.2	Bottom	3	2	26.1	8.2	30.7	5.4		13.2		4.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Surface	1	1	30.0	7.9	17.4	7.9	7.2	5.3	5.1	3.9	4.0
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Surface	1	2	29.6	8.1	17.6	7.9		5.2		3.9	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Middle	2	1	29.2	7.9	19.6	6.5		4.9		3.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Middle	2	2	28.8	8.0	19.7	6.5		4.9		4.1	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Bottom	3	1	29.0	7.9	20.5	6.4	6.4	5.2		4.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	CS(Mf)3(N)	13:04	6.4	Bottom	3	2	28.6	8.0	20.5	6.3		5.1		4.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Surface	1	1	29.2	8.0	20.2	9.6	9.6	5.7	6.1	3.2	2.8
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Surface	1	2	29.2	8.0	20.0	9.6		5.7		2.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Bottom	3	1	28.3	8.3	22.9	7.0	7.0	6.5		2.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)16	13:15	5.9	Bottom	3	2	28.3	8.3	22.6	7.0		6.5		2.6	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Surface	1	1	29.8	7.9	19.6	9.8	9.8	5.5	8.1	3.5	5.1
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Surface	1	2	29.7	7.9	19.4	9.8		5.5		4.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Bottom	3	1	28.3	8.3	23.2	6.1	6.1	10.5		5.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4a	13:04	5.0	Bottom	3	2	28.3	8.3	23.0	6.1		10.7		7.0	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Surface	1	1	29.1	8.0	20.2	9.3	9.3	10.0	11.0	6.5	6.1
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Surface	1	2	29.1	8.0	20.0	9.3		10.0		5.3	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Bottom	3	1	28.9	8.3	22.0	7.3	7.3	12.0		6.9	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	SR4(N)	12:59	3.4	Bottom	3	2	28.9	8.3	21.8	7.3		12.0		5.6	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Surface	1	1	29.1	8.2	20.3	8.5	8.5	8.3	9.0	3.1	4.1
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Surface	1	2	29.0	8.2	20.1	8.5		8.3		4.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Bottom	3	1	28.9	8.2	20.8	8.1	8.1	9.7		4.5	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS8	12:53	3.8	Bottom	3	2	28.9	8.2	20.6	8.1		9.7		4.1	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Surface	1	1	29.7	8.4	20.1	11.2	11.2	5.2	5.0	5.2	5.3
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Surface	1	2	29.7	8.4	19.9	11.2		5.1		5.7	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Bottom	3	1	29.5	8.5	21.0	11.2	11.2	4.6		4.8	
TMCLKL	HY/2012/07	2018-05-23	Mid-Flood	IS(Mf)9	12:43	3.2	Bottom	3	2	29.5	8.5	20.7	11.2		4.9		5.4	

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	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Surface	1	1	28.1	8.1	24.2	6.6	6.5	3.0	3.3	3.8	3.9
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Surface	1	2	28.1	8.1	24.0	6.8		3.1		4.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Middle	2	1	27.1	8.1	25.7	6.1		3.2		4.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Middle	2	2	27.1	8.0	25.5	6.3		3.3		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Bottom	3	1	26.5	8.0	30.5	5.0	5.1	3.6		3.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	12.6	Bottom	3	2	26.5	8.1	30.2	5.2		3.7		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Surface	1	1	29.5	8.0	18.1	7.2	6.6	2.9	5.5	4.1	5.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Surface	1	2	29.1	8.1	18.2	7.2		2.9		5.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Middle	2	1	28.9	7.9	21.4	5.9		5.9		6.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Middle	2	2	28.5	8.0	21.5	5.9		5.9		7.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Bottom	3	1	28.6	7.9	22.9	5.5	5.5	7.6		5.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	7.2	Bottom	3	2	28.2	7.9	23.0	5.5		7.9		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Surface	1	1	28.6	8.2	23.5	7.2	7.2	4.5	5.3	2.8	3.3
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Surface	1	2	28.6	8.2	23.0	7.2		4.6		2.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Bottom	3	1	28.0	8.1	25.3	6.5	6.6	6.1		3.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	5.8	Bottom	3	2	28.0	8.1	25.1	6.6		6.1		4.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Surface	1	1	28.6	8.1	23.0	6.2	6.2	7.5	10.2	4.1	5.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Surface	1	2	28.6	8.1	22.7	6.2		7.6		4.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Bottom	3	1	27.8	8.0	26.0	5.1	5.1	12.8		6.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	5.4	Bottom	3	2	27.8	8.0	25.6	5.1		12.9		8.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Surface	1	1	29.1	8.2	21.5	7.5	7.5	6.1	6.1	3.1	4.4
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Surface	1	2	29.1	8.2	21.2	7.5		6.2		4.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Bottom	3	1	29.1	8.2	21.4	7.5	7.5	6.0		5.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	3.8	Bottom	3	2	29.1	8.2	21.2	7.5		6.0		4.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Surface	1	1	29.2	8.3	21.2	7.8	7.8	2.5	2.9	3.5	3.9
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Surface	1	2	29.2	8.3	21.0	7.8		2.6		4.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Bottom	3	1	28.2	7.8	24.6	4.4	4.5	3.2		3.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	4.3	Bottom	3	2	28.2	7.8	24.2	4.5		3.2		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Surface	1	1	29.2	8.3	21.8	8.6	8.6	5.9	6.0	3.0	2.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Surface	1	2	29.1	8.3	21.6	8.6		5.9		2.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Bottom	3	1	29.2	8.2	21.8	8.7	8.7	6.0		2.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	3.2	Bottom	3	2	29.1	8.3	21.6	8.6		6.1		2.5	

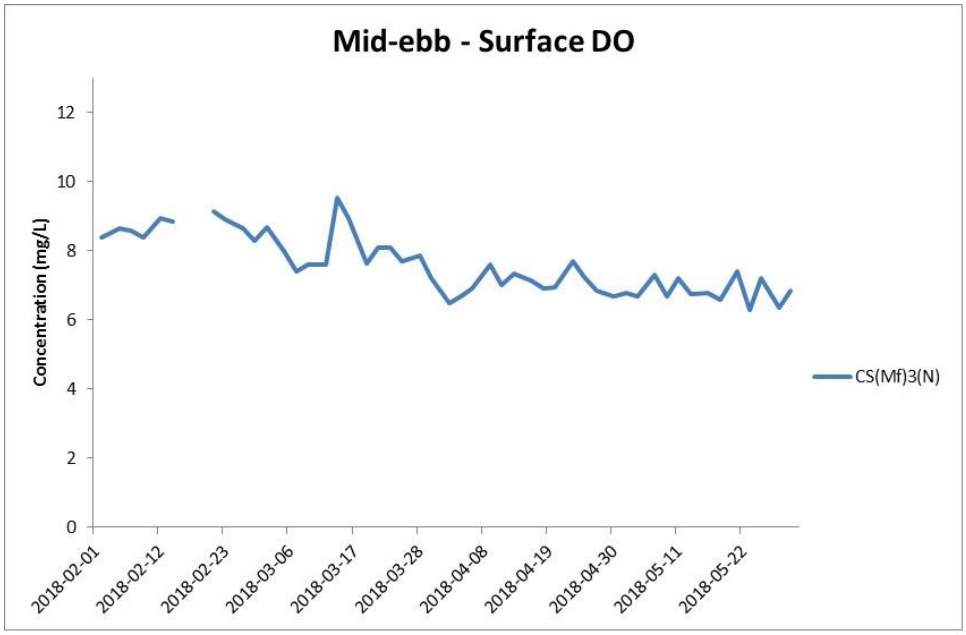
Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Depth (m)	Level	Level Code	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Surface	1	1	29.2	8.2	20.6	7.9	7.1	2.7	5.4	5.3	5.4
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Surface	1	2	29.2	8.2	20.8	7.9		2.7		5.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Middle	2	1	27.1	8.0	25.7	6.2		7.3		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Middle	2	2	27.2	8.0	25.9	6.2		7.5		5.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Bottom	3	1	26.8	7.9	29.0	5.7	5.8	6.0		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	12.4	Bottom	3	2	26.8	8.0	29.3	5.8		6.0		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Surface	1	1	29.8	8.1	16.8	8.0	7.4	5.8	4.8	4.8	4.8
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Surface	1	2	30.2	8.0	16.7	8.1		5.7		3.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Middle	2	1	29.0	8.0	19.1	6.8		4.3		5.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Middle	2	2	29.4	7.9	19.0	6.8		4.3		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Bottom	3	1	28.5	7.9	22.1	6.2	6.2	4.4		4.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	7.3	Bottom	3	2	28.9	7.9	22.1	6.2		4.2		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Surface	1	1	29.2	8.3	21.1	9.3	9.3	2.6	2.9	4.3	4.2
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Surface	1	2	29.2	8.3	21.3	9.3		2.6		4.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Bottom	3	1	29.2	8.3	21.2	9.3	9.4	3.1		4.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	5.7	Bottom	3	2	29.2	8.3	21.5	9.4		3.2		3.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Surface	1	1	29.0	8.2	21.1	8.4	8.4	6.4	6.2	6.2	6.3
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Surface	1	2	29.0	8.3	21.4	8.4		6.6		6.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Bottom	3	1	28.0	8.0	25.3	6.7	6.7	5.8		7.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	5.0	Bottom	3	2	27.9	8.0	25.7	6.7		5.9		5.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Surface	1	1	29.7	8.3	21.3	9.0	9.1	3.1	3.3	4.4	4.7
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Surface	1	2	29.7	8.3	21.5	9.1		3.3		6.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Bottom	3	1	29.7	8.3	21.3	9.0	9.1	3.3		4.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	3.4	Bottom	3	2	29.7	8.3	21.6	9.1		3.4		4.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Surface	1	1	29.9	8.3	21.5	9.3	9.4	1.8	1.8	3.5	3.7
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Surface	1	2	29.9	8.3	21.7	9.4		1.8		3.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Bottom	3	1	30.0	8.3	21.4	9.3	9.4	1.6		4.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	4.0	Bottom	3	2	30.0	8.3	21.6	9.4		1.8		3.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	2.9	Surface	1	1					9.1		1.8		2.8
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	2.9	Surface	1	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	2.9	Middle	2	1	30.0	8.3	21.6	9.0		1.7		2.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	2.9	Middle	2	2	30.0	8.3	21.8	9.1		1.8		3.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	2.9	Bottom	3	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	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	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Surface	1	1	29.0	8.0	23.2	6.3	5.7	3.0	3.0	5.3	5.0
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Surface	1	2	29.3	7.9	23.2	6.3		3.1		3.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Middle	2	1	27.4	7.9	27.8	5.2		2.6		4.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Middle	2	2	27.7	7.9	27.7	5.1		2.6		3.2	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Bottom	3	1	26.8	7.9	29.7	4.8	4.8	3.5		5.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)5	11:35	13.1	Bottom	3	2	27.2	7.9	29.6	4.8		3.3		7.7	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Surface	1	1	29.1	8.1	20.6	6.4	5.9	5.3	6.5	6.5	9.6
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Surface	1	2	29.1	8.1	20.8	6.3		5.2		5.6	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Middle	2	1	28.5	8.0	22.9	5.5		6.8		7.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Middle	2	2	28.6	8.0	23.1	5.5		6.8		10.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Bottom	3	1	28.3	8.0	23.9	5.3	5.3	7.4		13.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	CS(Mf)3(N)	12:50	7.1	Bottom	3	2	28.3	8.0	24.2	5.2		7.4		13.4	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Surface	1	1	29.3	8.0	22.6	6.5	6.5	5.4	4.2	7.6	7.5
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Surface	1	2	29.6	7.9	22.5	6.5		5.7		8.0	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Bottom	3	1	28.1	7.9	25.4	5.5	5.5	2.9		6.9	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)16	12:14	5.8	Bottom	3	2	28.4	7.9	25.4	5.5		2.7		7.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Surface	1	1	29.9	8.0	21.2	6.7	6.7	4.6	6.2	9.5	10.1
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Surface	1	2	30.2	8.0	21.2	6.7		4.7		9.9	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Bottom	3	1	27.7	7.9	27.0	4.9	4.9	7.8		9.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4a	12:23	5.4	Bottom	3	2	28.0	7.9	26.9	4.9		7.8		11.2	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Surface	1	1	30.1	8.1	21.0	7.4	7.4	5.4	5.9	8.4	7.3
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Surface	1	2	30.5	8.0	20.9	7.4		5.4		8.4	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Bottom	3	1	30.0	8.0	21.1	7.3	7.4	6.3		6.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	SR4(N)	12:33	4.0	Bottom	3	2	30.4	8.0	21.0	7.4		6.3		5.9	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Surface	1	1	30.0	8.0	21.8	7.3	7.3	3.7	5.7	7.6	7.2
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Surface	1	2	30.4	8.0	21.8	7.3		3.7		7.1	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Bottom	3	1	29.6	8.0	22.3	6.7	6.7	7.7		7.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS8	12:43	4.0	Bottom	3	2	29.9	8.0	22.2	6.7		7.7		6.7	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Surface	1	1	29.8	8.0	22.0	7.1	7.1	7.1	8.8	6.0	6.1
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Surface	1	2	30.1	8.0	21.9	7.1		7.2		3.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Bottom	3	1	29.5	8.0	22.3	6.3	6.3	10.4		7.0	
TMCLKL	HY/2012/07	2018-05-28	Mid-Ebb	IS(Mf)9	12:54	3.7	Bottom	3	2	29.8	8.0	22.2	6.3		10.5		7.7	

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	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Surface	1	1	29.3	8.0	22.5	6.7	5.9	3.0	4.9	4.4	5.4
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Surface	1	2	29.7	7.9	22.4	6.7		3.1		4.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Middle	2	1	27.1	7.9	28.7	5.0		4.2		5.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Middle	2	2	27.5	7.8	28.7	5.0		4.2		6.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Bottom	3	1	26.9	7.9	29.4	5.0	5.1	7.4		5.6	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)5	18:50	13.1	Bottom	3	2	27.2	7.8	29.4	5.1		7.5		5.1	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Surface	1	1	30.9	8.3	16.3	8.0	7.1	5.6	9.2	6.7	7.0
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Surface	1	2	30.9	8.3	16.3	8.1		5.6		7.2	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Middle	2	1	29.0	8.1	21.8	6.2		8.4		6.6	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Middle	2	2	29.0	8.1	22.0	6.2		8.2		6.2	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Bottom	3	1	28.7	8.1	22.7	5.8	5.8	13.7		6.9	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	CS(Mf)3(N)	17:36	7.3	Bottom	3	2	28.7	8.1	23.0	5.8		13.8		8.2	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Surface	1	1	29.1	8.1	23.1	7.0	7.0	8.8	10.2	3.6	4.4
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Surface	1	2	29.4	7.9	23.1	7.0		8.6		3.6	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Bottom	3	1	28.9	8.0	23.6	6.3	6.3	11.6		4.4	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)16	18:23	5.7	Bottom	3	2	29.2	7.9	23.6	6.3		11.6		5.8	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Surface	1	1	30.4	8.1	21.4	8.3	8.3	3.5	6.2	9.2	10.7
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Surface	1	2	30.8	8.1	21.3	8.3		3.5		7.9	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Bottom	3	1	28.8	8.0	23.5	6.5	6.5	8.9		12.7	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4a	18:12	4.7	Bottom	3	2	29.2	7.9	23.4	6.5		8.9		13.0	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Surface	1	1	29.9	8.0	22.2	7.5	7.5	7.8	8.0	8.2	8.7
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Surface	1	2	30.2	8.0	22.1	7.5		7.8		8.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Bottom	3	1	29.8	8.0	22.2	7.5	7.5	8.1		8.0	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	SR4(N)	18:06	3.3	Bottom	3	2	30.2	8.0	22.2	7.5		8.2		10.1	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Surface	1	1	30.4	8.1	21.3	8.7	8.8	3.3	4.8	8.4	7.5
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Surface	1	2	30.7	8.1	21.3	8.8		3.4		7.7	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Bottom	3	1	30.0	8.1	21.9	8.1	8.2	6.1		6.7	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS8	18:01	3.1	Bottom	3	2	30.4	8.0	21.8	8.2		6.3		7.3	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	Surface	1	1					8.5		3.9		5.9
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	Surface	1	2									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	Middle	2	1	30.2	8.1	22.0	8.5		3.9		5.1	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	Middle	2	2	30.6	8.1	21.9	8.5		3.8		6.6	
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	Bottom	3	1									
TMCLKL	HY/2012/07	2018-05-28	Mid-Flood	IS(Mf)9	17:54	2.7	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	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Surface	1	1	28.8	8.1	25.5	6.5	6.3	5.5	6.1	6.0	6.2
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Surface	1	2	28.8	8.2	25.3	6.5		5.7		5.5	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Middle	2	1	28.3	8.0	26.5	6.0		6.0		5.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Middle	2	2	28.3	8.1	26.3	6.0		5.9		6.3	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Bottom	3	1	27.7	8.0	28.1	5.3	5.3	6.9		5.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)5	13:06	11.8	Bottom	3	2	27.7	8.2	27.9	5.3		6.8		7.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Surface	1	1	30.6	7.9	21.2	6.9	6.5	2.1	2.4	4.7	5.3
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Surface	1	2	30.3	8.0	21.3	6.8		2.1		4.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Middle	2	1	29.7	7.8	22.8	6.2		2.0		5.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Middle	2	2	29.3	7.9	22.9	6.2		2.0		5.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Bottom	3	1	29.1	7.9	23.9	5.5	5.5	3.2		5.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	CS(Mf)3(N)	14:24	7.1	Bottom	3	2	28.8	7.9	24.0	5.5		3.2		6.5	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Surface	1	1	28.7	8.0	25.7	5.8	5.8	5.3	5.6	5.0	5.5
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Surface	1	2	28.7	8.2	25.4	5.8		5.4		5.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Bottom	3	1	28.2	8.0	26.8	5.5	5.5	5.7		6.4	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)16	13:40	5.8	Bottom	3	2	28.3	8.2	26.4	5.5		6.1		5.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Surface	1	1	30.0	8.2	23.7	8.0	8.0	5.4	9.3	4.5	5.9
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Surface	1	2	30.0	8.2	23.4	8.0		5.4		4.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Bottom	3	1	28.8	8.0	25.6	5.4	5.4	13.4		7.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4a	13:48	4.6	Bottom	3	2	28.7	8.2	25.4	5.4		13.0		6.4	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Surface	1	1	30.6	8.1	23.3	8.2	8.2	7.5	7.7	5.0	5.8
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Surface	1	2	30.6	8.2	23.1	8.2		7.4		5.8	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Bottom	3	1	30.2	8.2	23.5	8.0	8.1	8.0		6.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	SR4(N)	13:57	4.0	Bottom	3	2	30.2	8.2	23.2	8.1		7.9		5.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Surface	1	1	30.3	8.3	23.8	9.2	9.2	3.8	5.8	4.4	4.2
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Surface	1	2	30.3	8.2	23.6	9.2		3.7		2.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Bottom	3	1	29.7	8.1	24.4	7.6	7.7	7.8		5.0	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS8	14:02	3.8	Bottom	3	2	29.6	8.2	24.1	7.7		7.7		4.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	2.9	Surface	1	1					7.0		9.7		5.1
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	2.9	Surface	1	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	2.9	Middle	2	1	29.4	8.1	24.8	7.0		9.7		4.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	2.9	Middle	2	2	29.3	8.1	24.6	6.9		9.7		5.3	
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	2.9	Bottom	3	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Ebb	IS(Mf)9	14:11	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	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Surface	1	1	28.7	8.0	24.7	6.1	5.7	4.6	6.3	2.7	4.3
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Surface	1	2	28.6	7.9	24.5	6.1		4.6		3.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Middle	2	1	27.8	8.0	27.7	5.2		5.9		3.8	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Middle	2	2	27.8	7.9	27.4	5.2		5.9		3.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Bottom	3	1	27.6	8.0	28.3	5.0	5.0	8.3		5.3	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)5	20:21	11.9	Bottom	3	2	27.6	7.9	28.0	5.0		8.3		7.0	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Surface	1	1	30.3	7.8	20.1	6.3	5.9	3.2	6.4	7.1	7.2
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Surface	1	2	30.0	7.9	20.1	6.3		3.2		6.3	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Middle	2	1	29.7	7.8	22.4	5.6		5.3		7.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Middle	2	2	29.4	7.8	22.5	5.5		5.6		6.3	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Bottom	3	1	29.6	7.8	22.8	5.6	5.6	10.6		8.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	CS(Mf)3(N)	19:07	7.1	Bottom	3	2	29.3	7.8	22.9	5.6		10.6		7.0	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Surface	1	1	29.5	8.1	24.0	7.3	7.4	7.4	8.1	6.6	7.7
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Surface	1	2	29.5	8.0	23.8	7.4		7.4		7.2	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Bottom	3	1	29.4	8.1	24.1	7.3	7.3	8.7		7.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)16	19:53	4.6	Bottom	3	2	29.4	8.0	23.9	7.3		8.7		9.4	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Surface	1	1	29.8	8.2	23.3	8.3	8.4	3.0	3.9	7.4	9.7
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Surface	1	2	29.8	8.0	23.1	8.4		3.0		9.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Bottom	3	1	29.8	8.2	23.4	8.3	8.3	5.0		10.4	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4a	19:41	4.0	Bottom	3	2	29.8	8.0	23.2	8.3		4.6		11.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Surface	1	1	29.9	8.2	23.8	8.9	8.9	8.1	8.1	13.5	14.1
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Surface	1	2	29.9	8.1	23.6	8.9		8.1		13.0	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Middle	2	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Middle	2	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Bottom	3	1	29.8	8.2	23.8	8.8	8.9	8.0		15.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	SR4(N)	19:36	3.2	Bottom	3	2	29.8	8.1	23.6	8.9		8.0		14.1	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Surface	1	1					8.5		9.2		7.2
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Surface	1	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Middle	2	1	29.7	8.2	24.0	8.5		9.2		7.6	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Middle	2	2	29.7	8.1	23.7	8.5		9.2		6.7	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Bottom	3	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS8	19:31	2.8	Bottom	3	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Surface	1	1					9.5		15.5		6.4
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Surface	1	2									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Middle	2	1	30.3	8.1	24.1	9.5		15.5		5.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Middle	2	2	30.3	8.1	23.9	9.5		15.5		6.9	
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Bottom	3	1									
TMCLKL	HY/2012/07	2018-05-30	Mid-Flood	IS(Mf)9	19:21	2.8	Bottom	3	2									



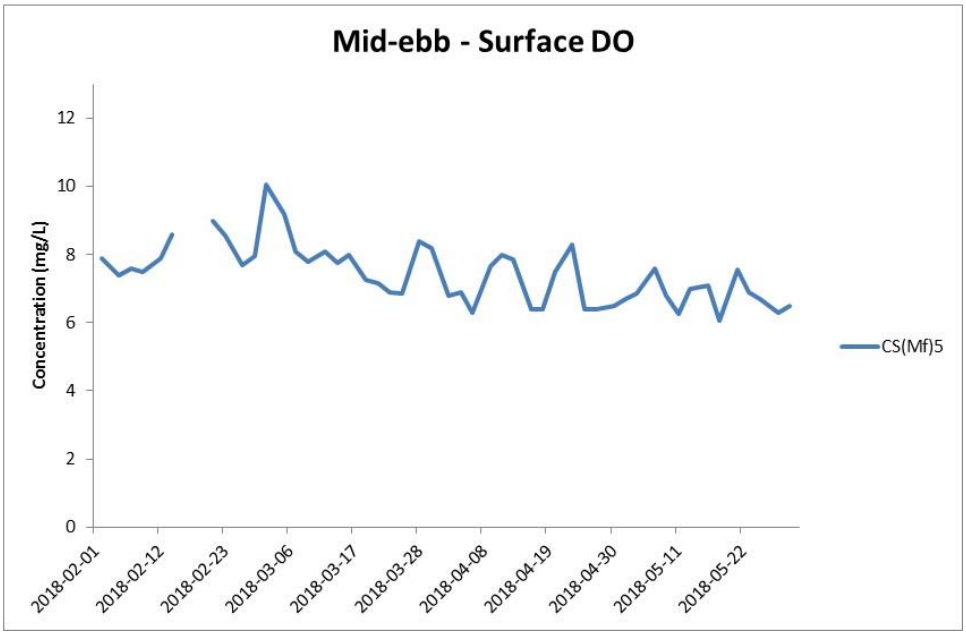
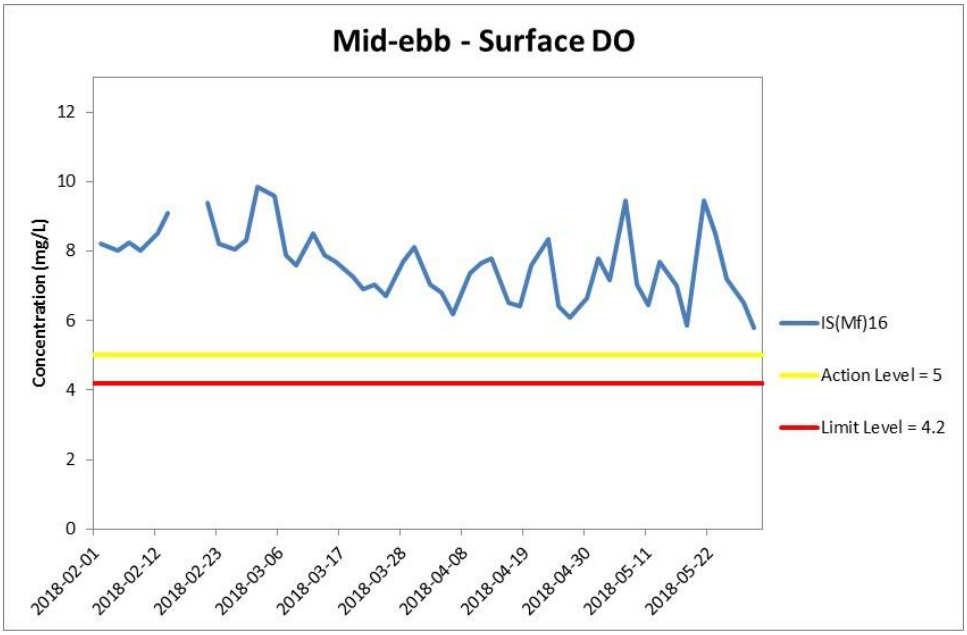


Figure J1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



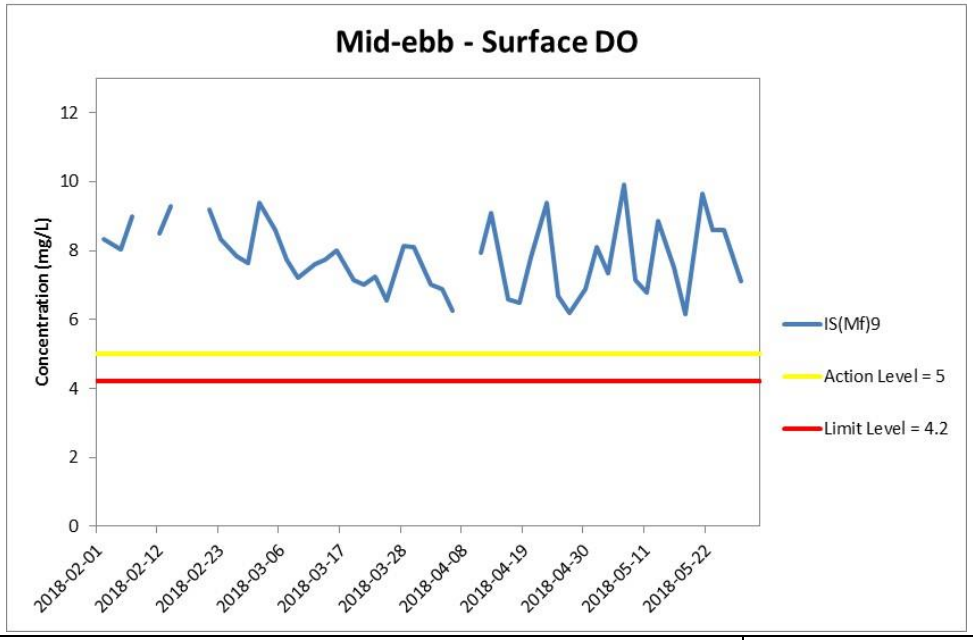
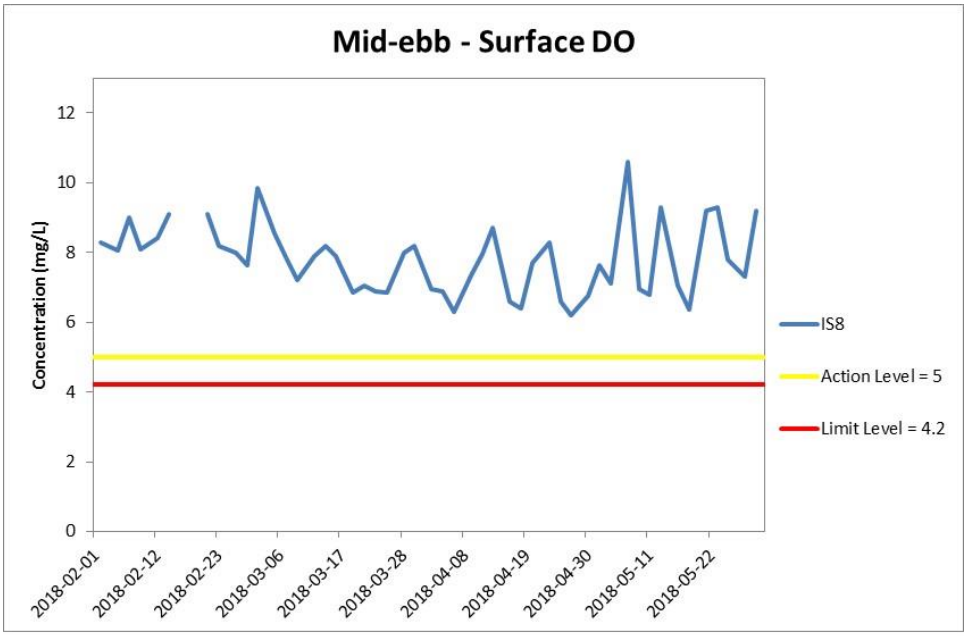


Figure J2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



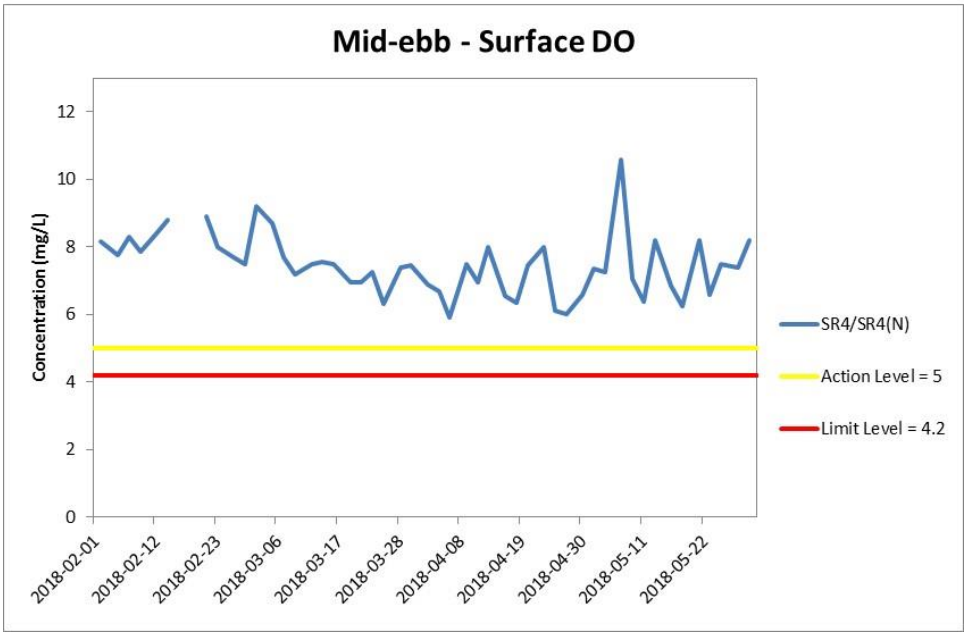


Figure J3 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

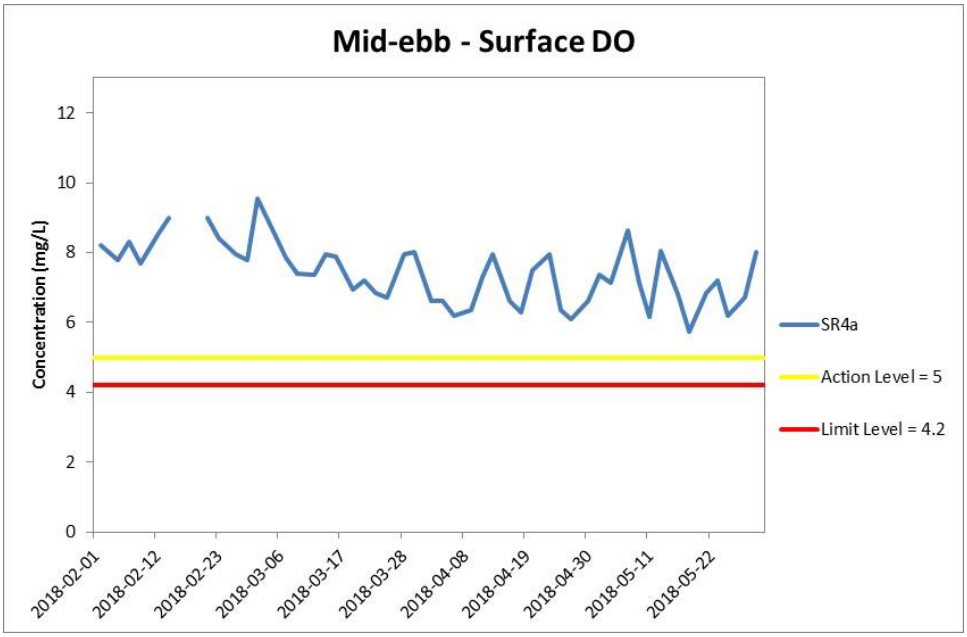
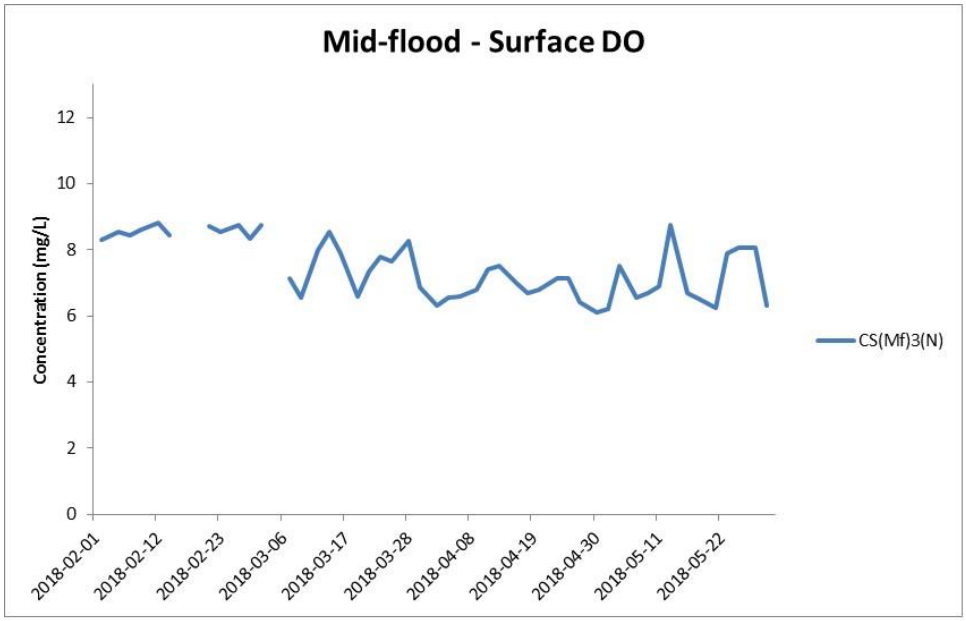


Figure J4 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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



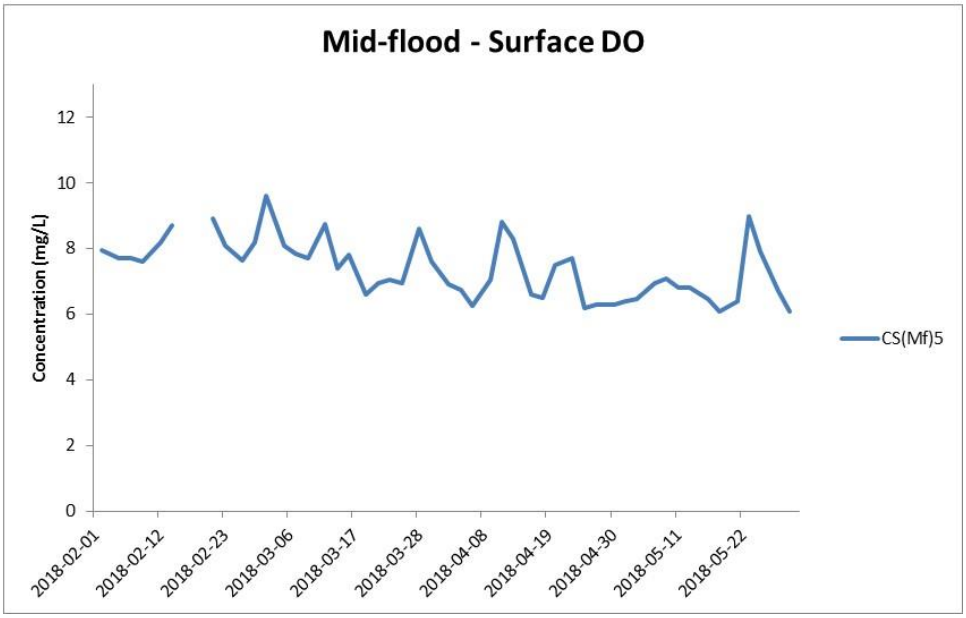


Figure J5 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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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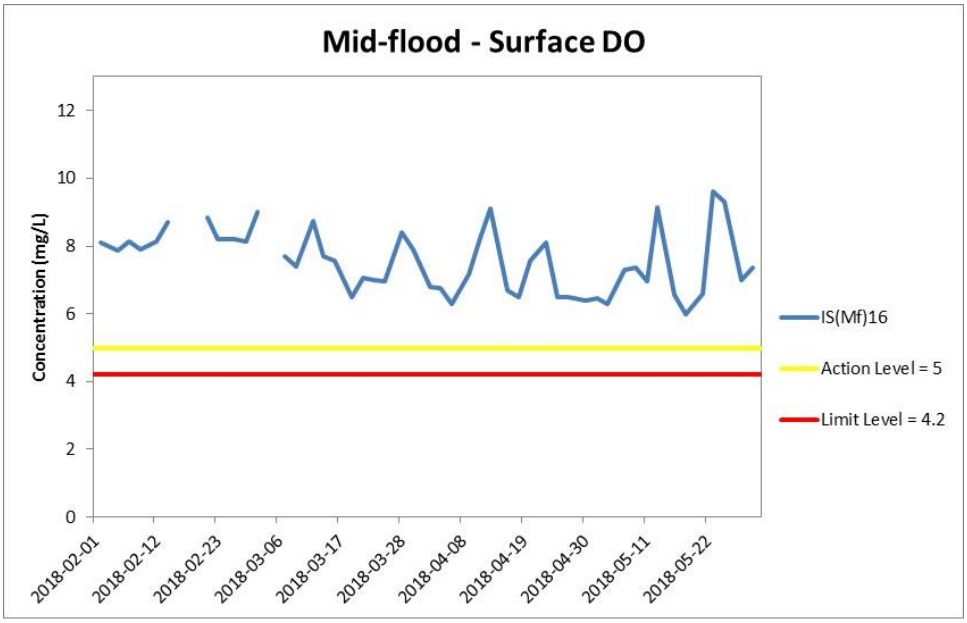


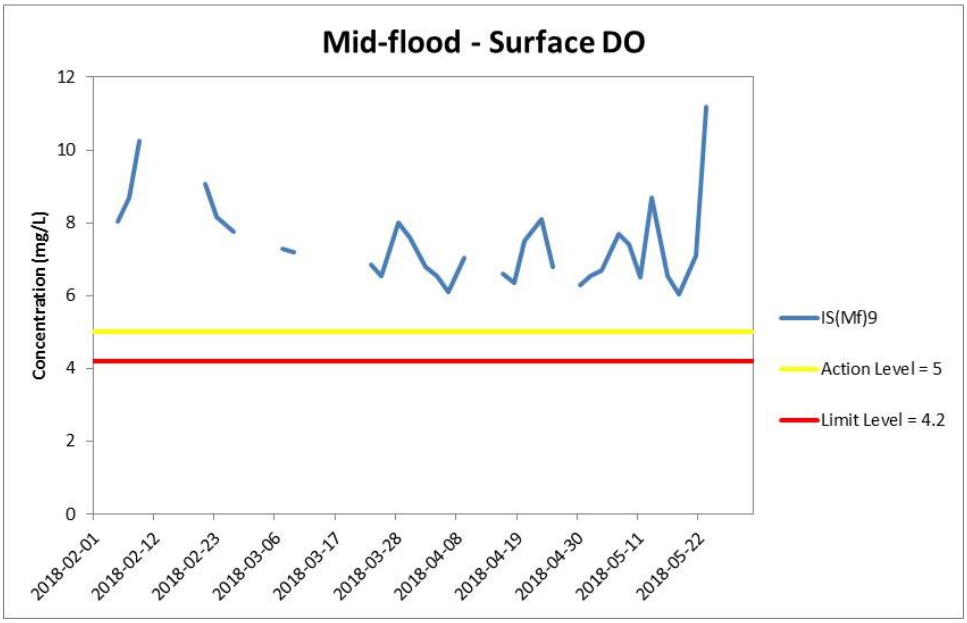
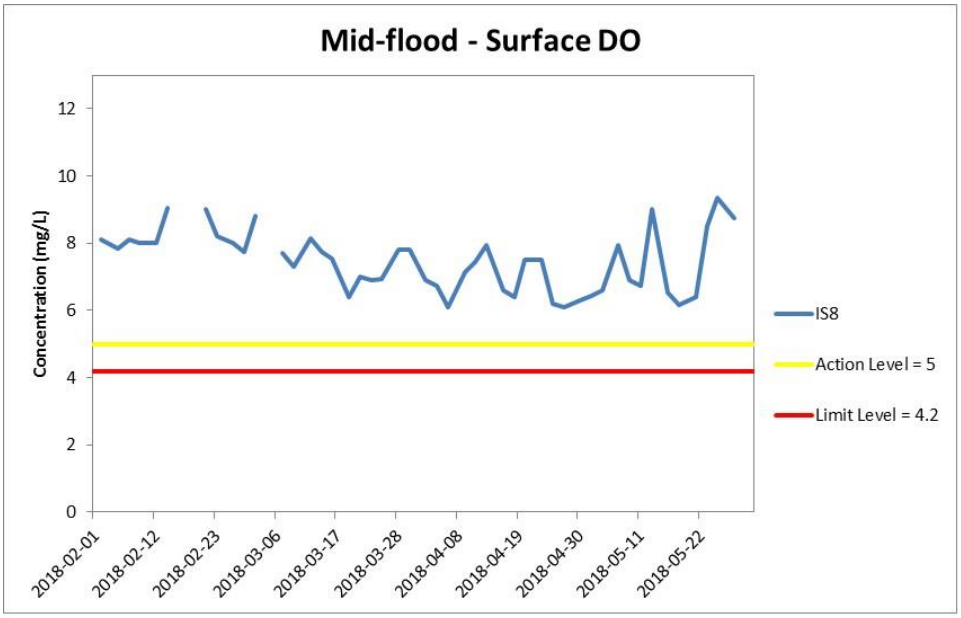


Figure J6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.)
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



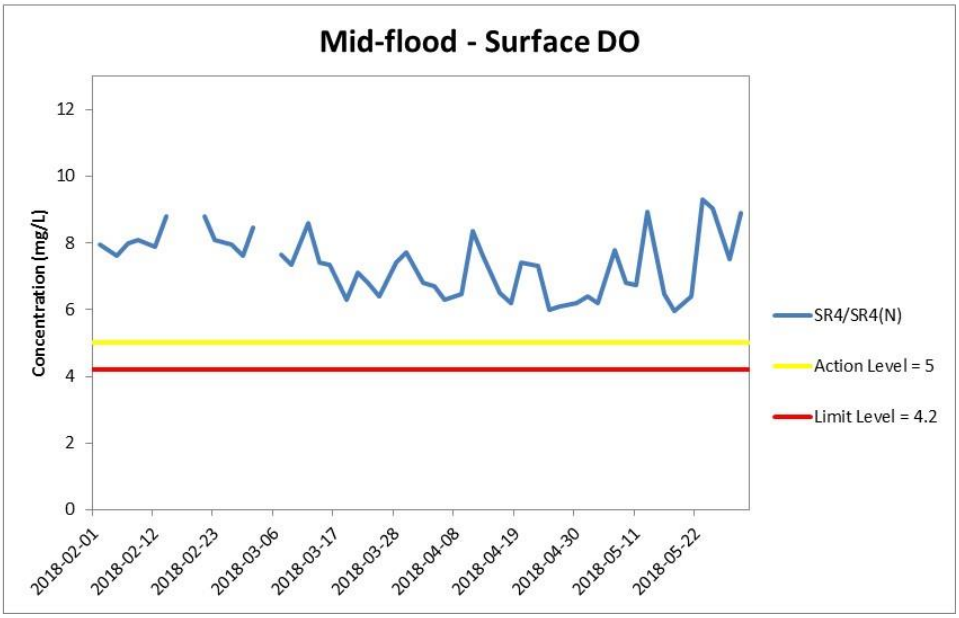


Figure J7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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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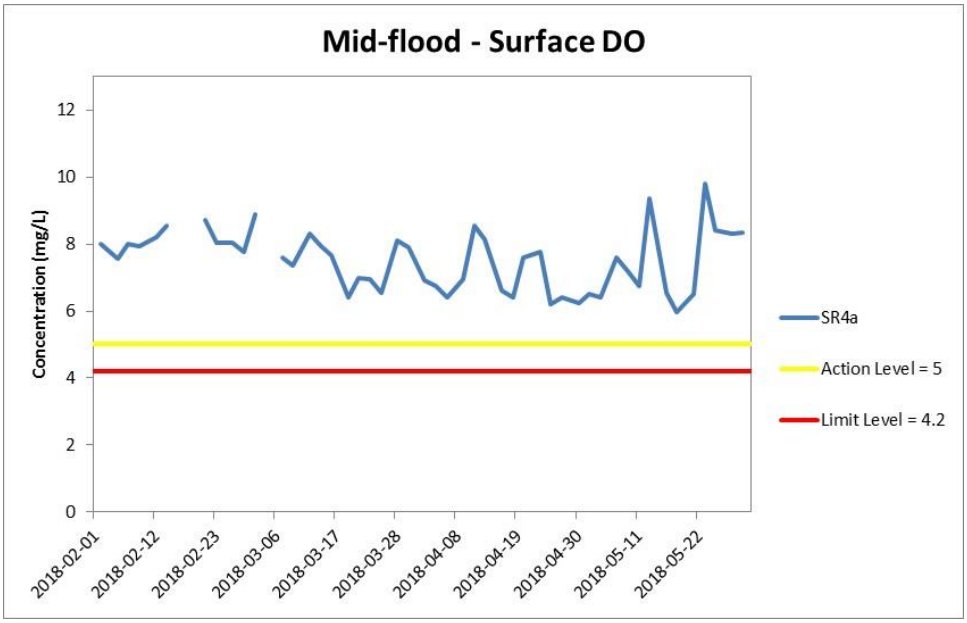

Figure J8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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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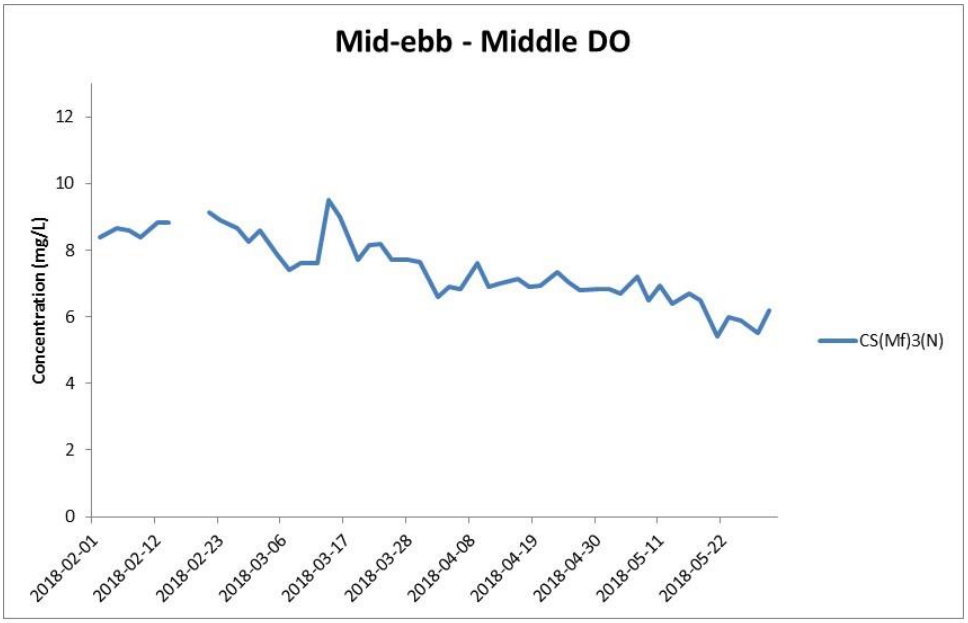

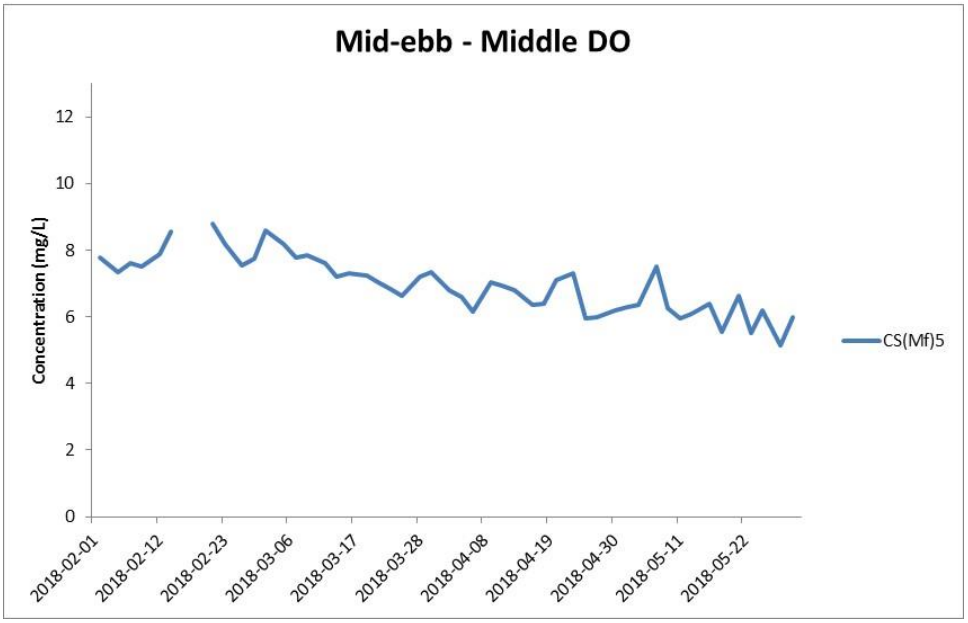

Figure J9 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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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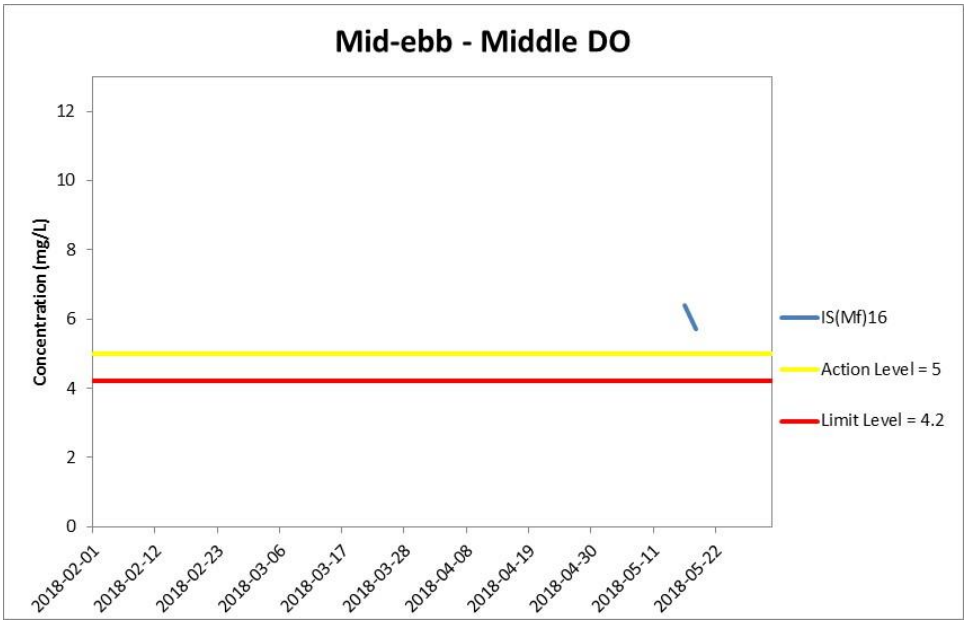
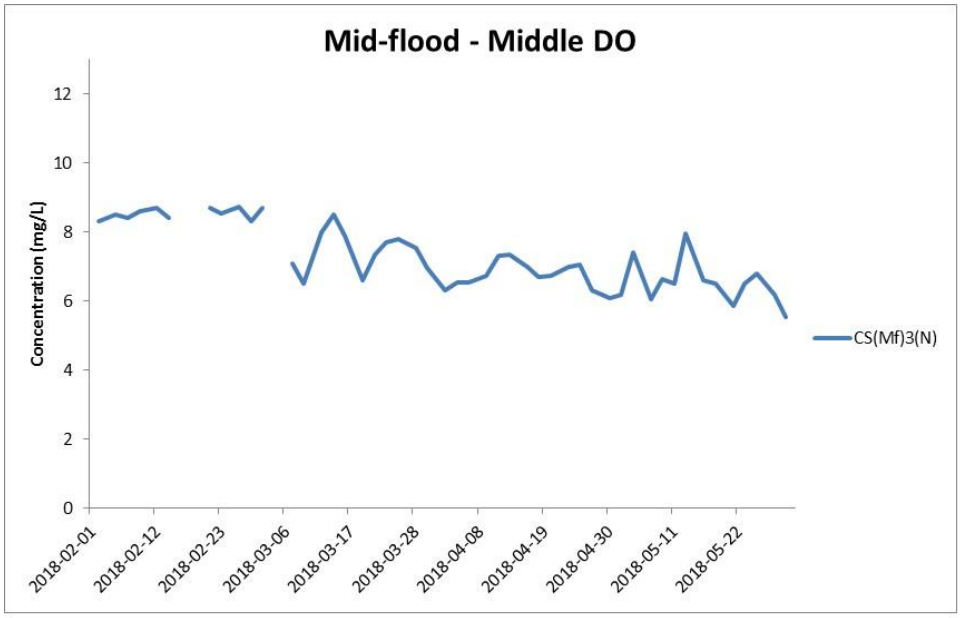


Figure J10 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 February and 31 May 2018 at IS(Mf)16.

(Weather condition varied between sunny to rainy within the reporting period.) 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



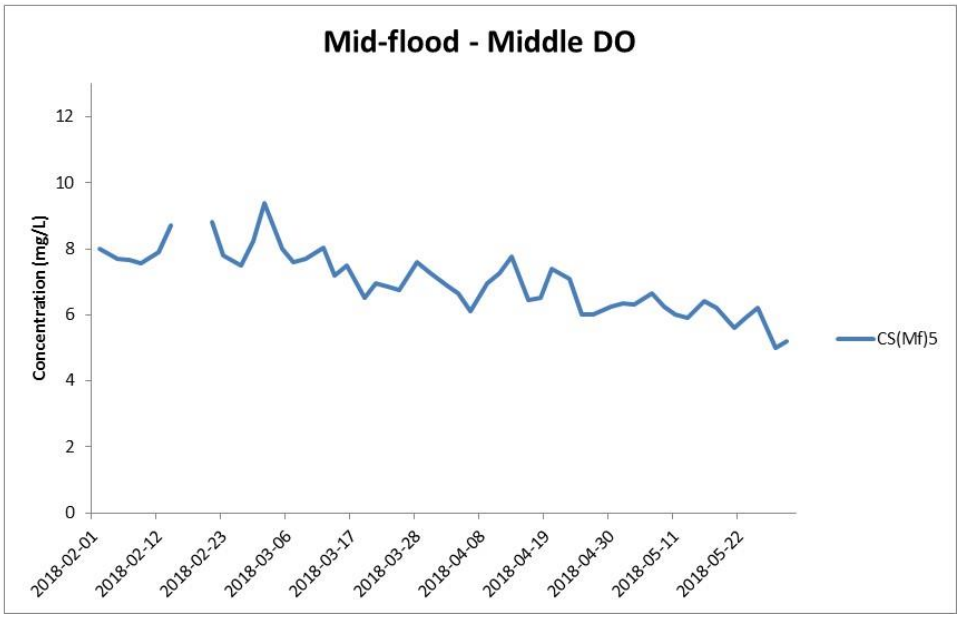


Figure J11 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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

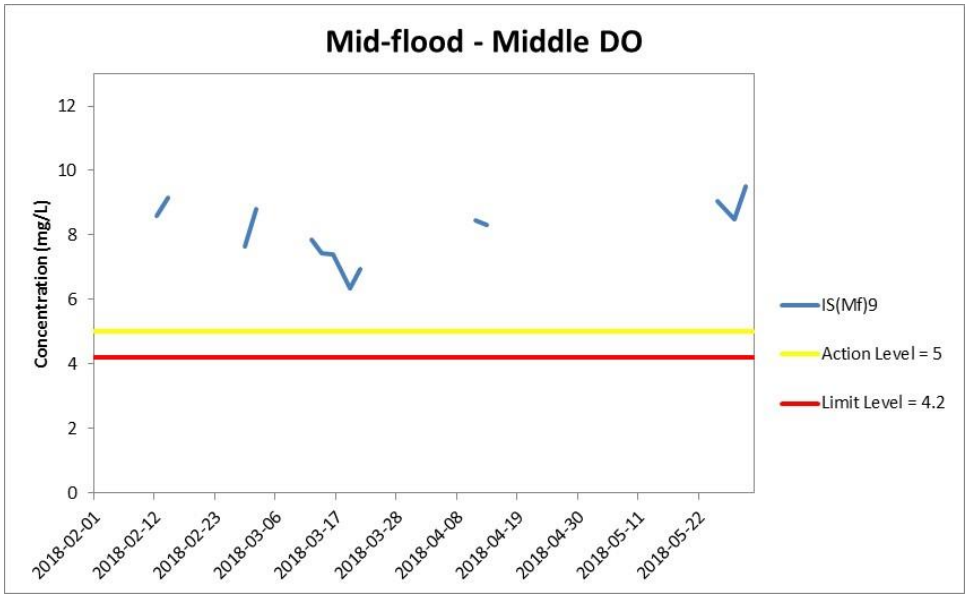
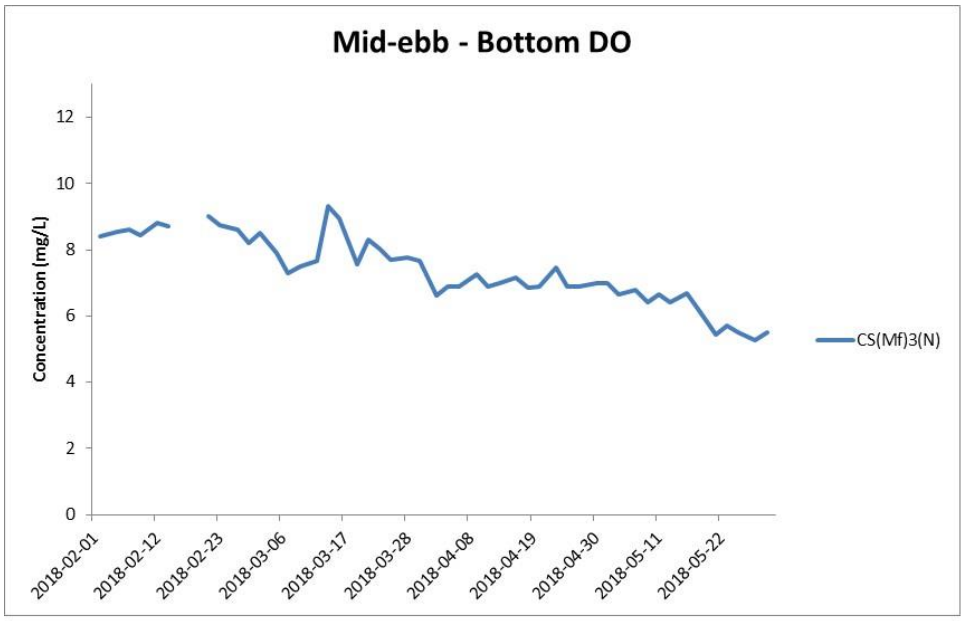


Figure J12 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 February and 31 May 2018 at IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



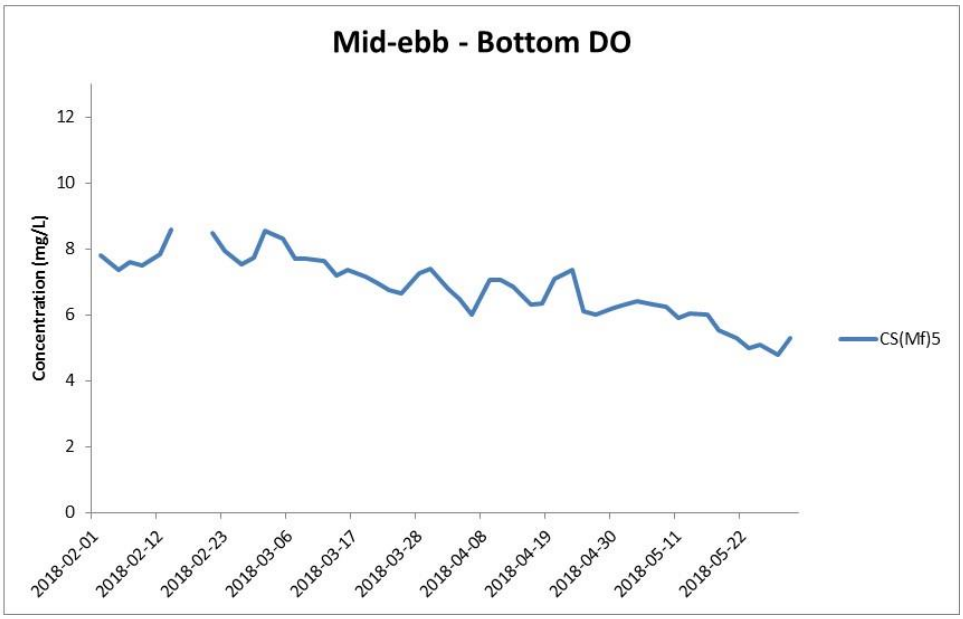


Figure J13 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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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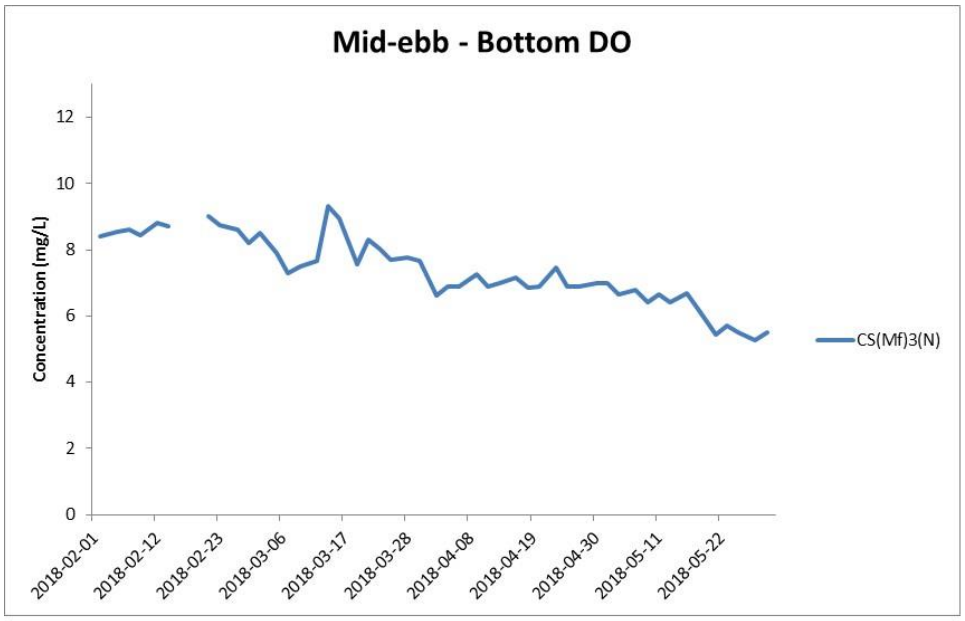

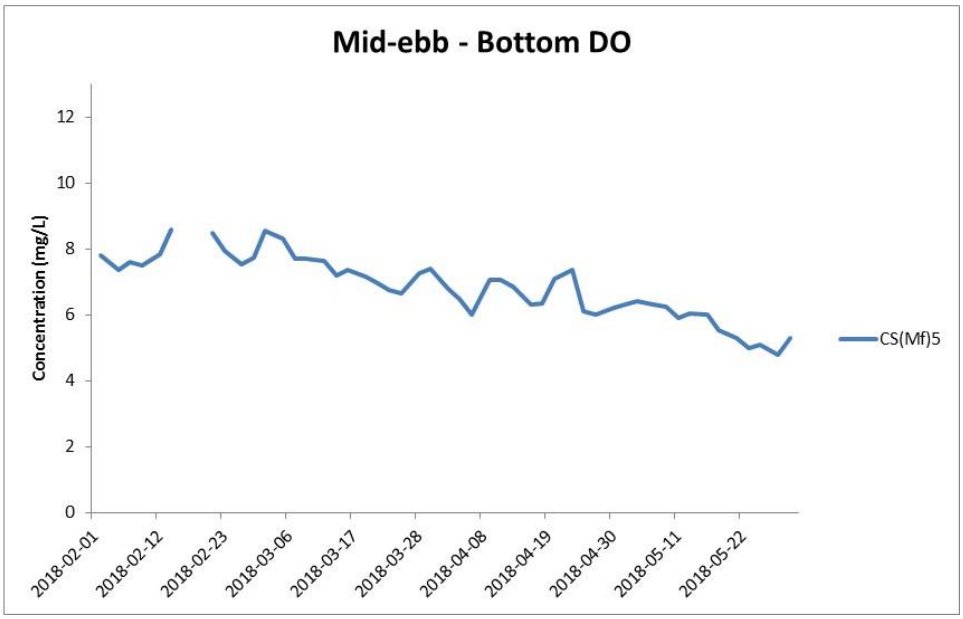

Figure J14 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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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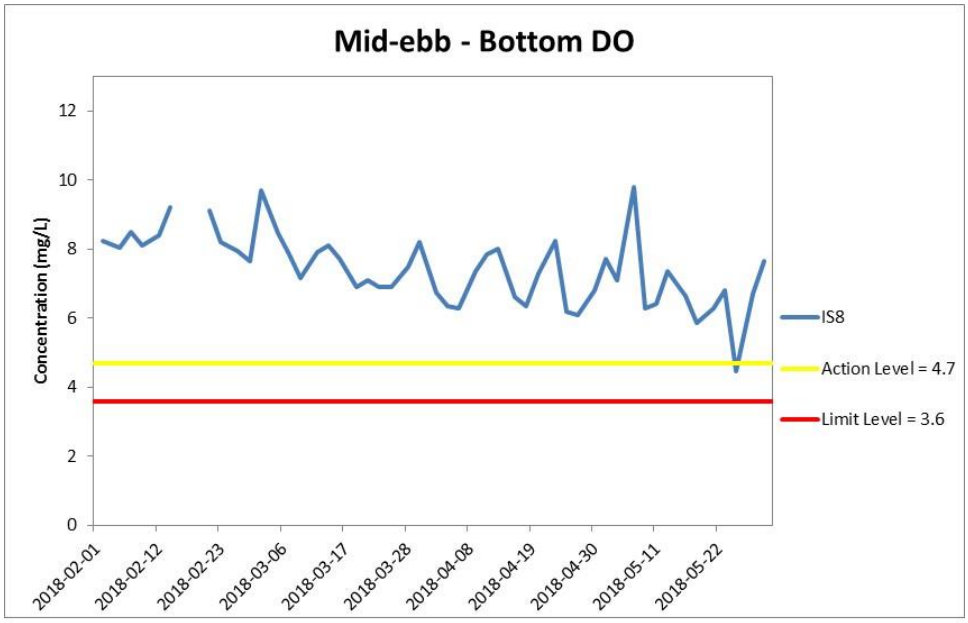

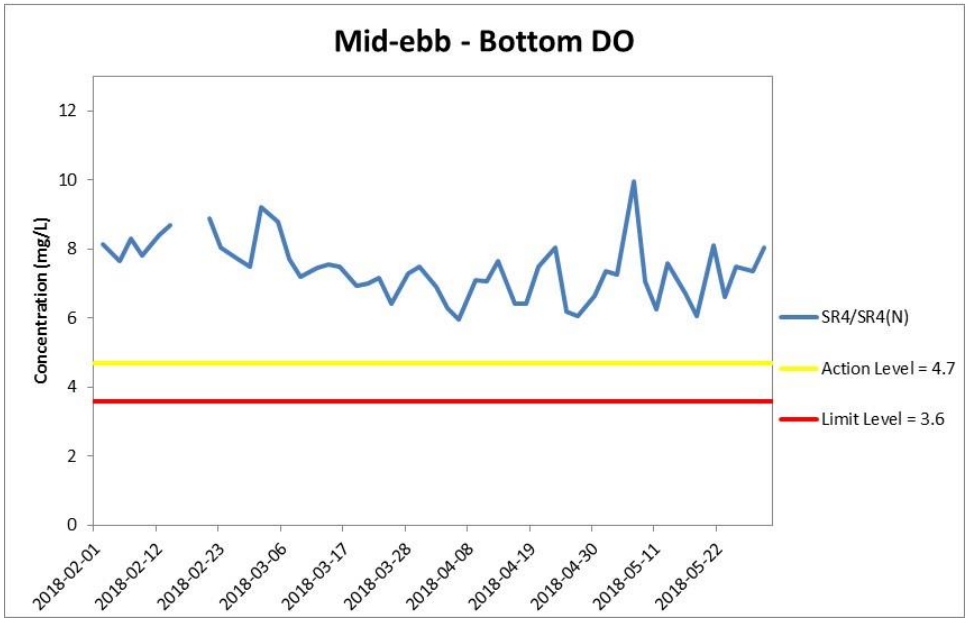

Figure J15 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

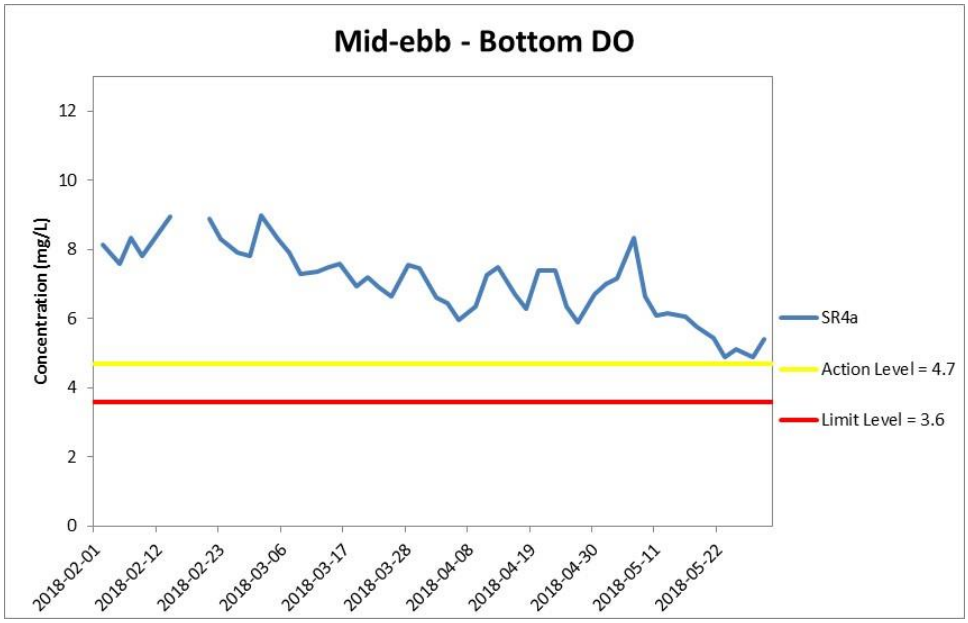

Figure J16 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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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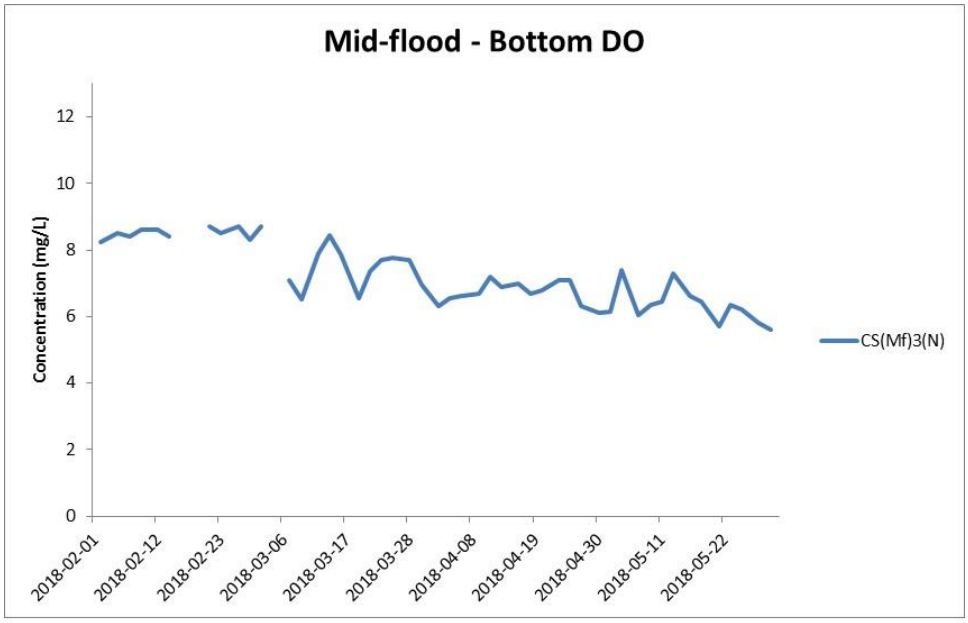


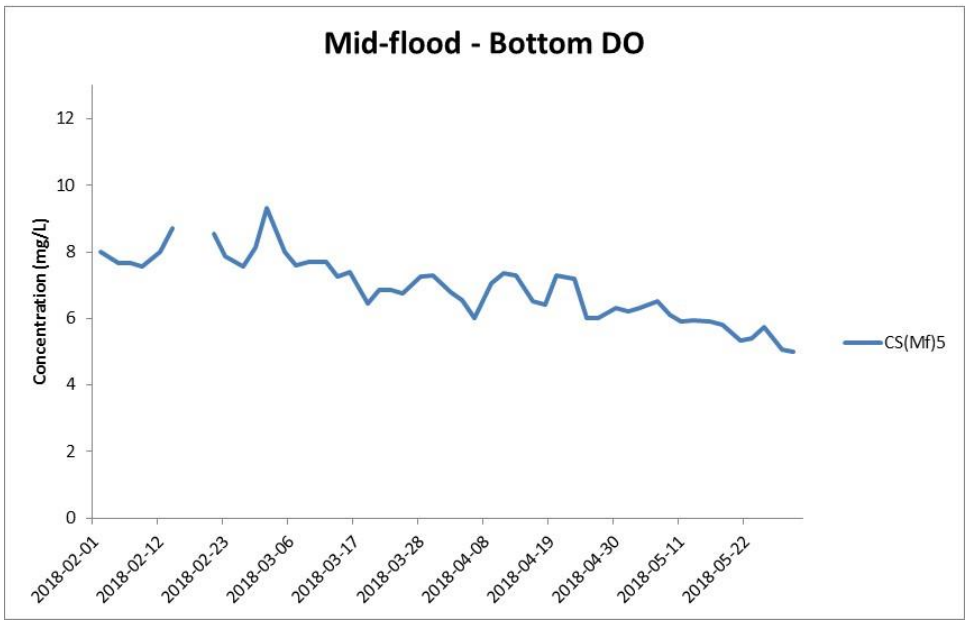
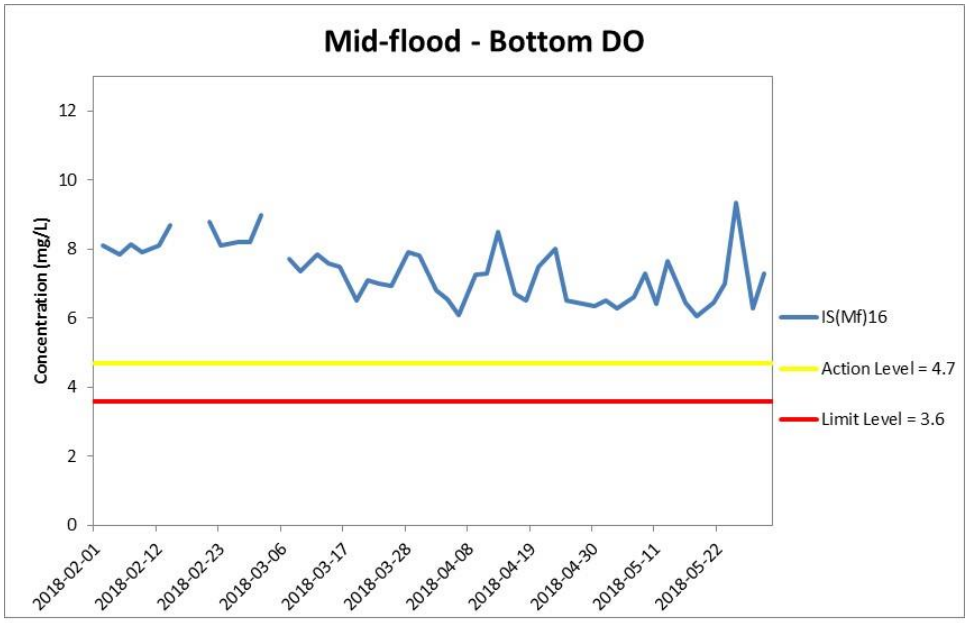


Figure J17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



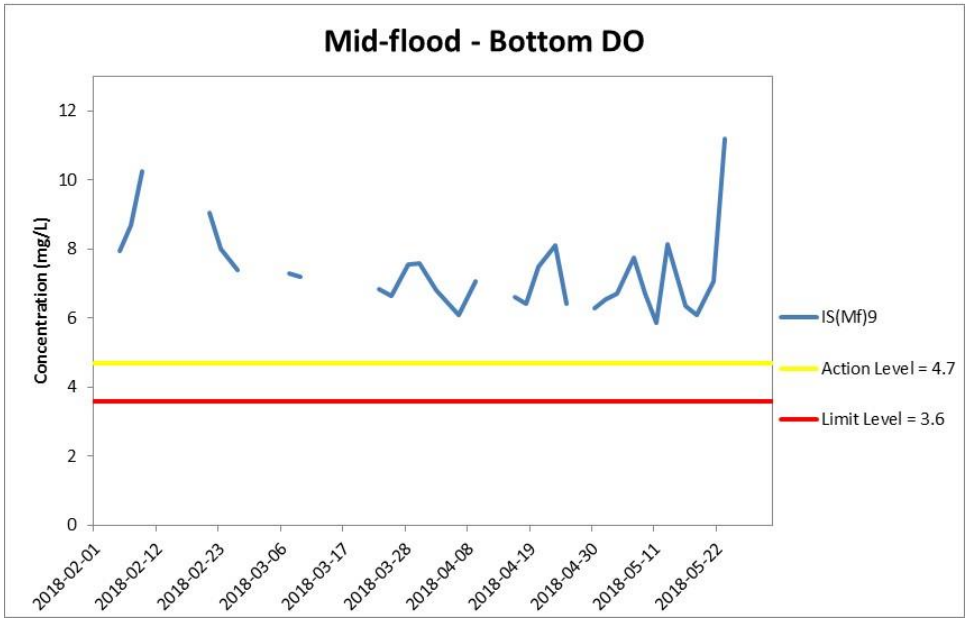
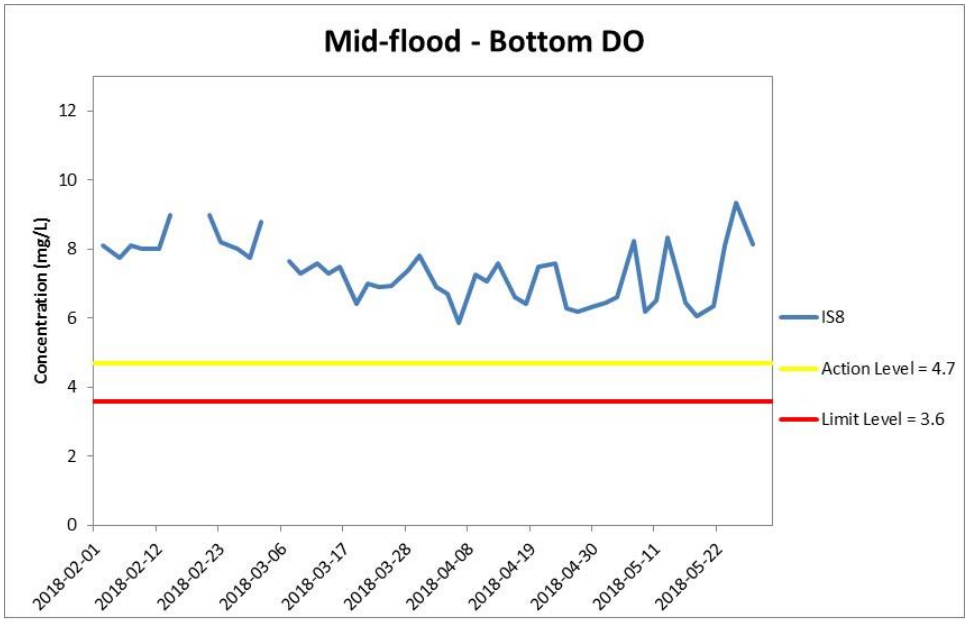


Figure J18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



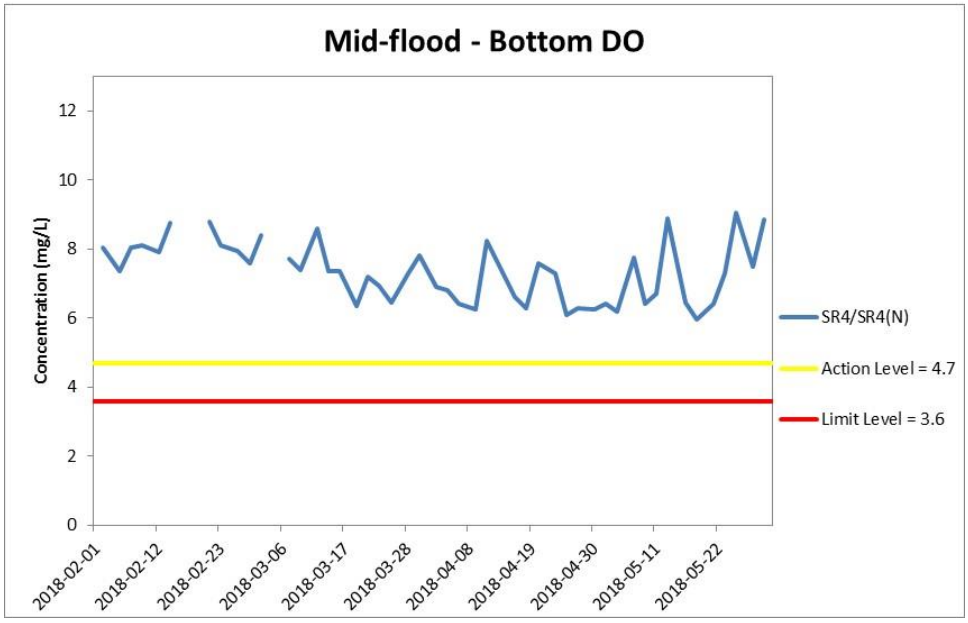


Figure J19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

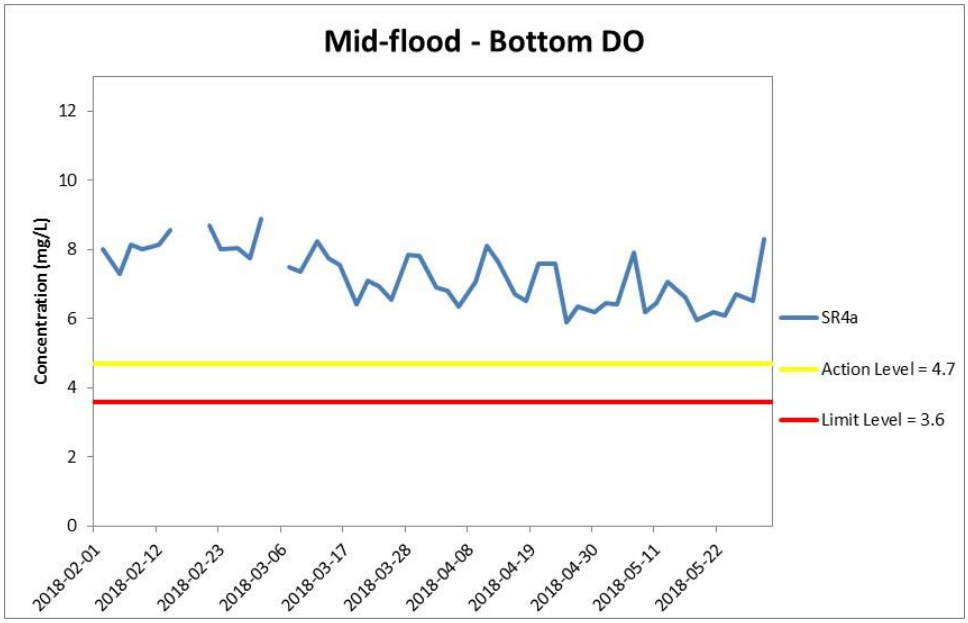
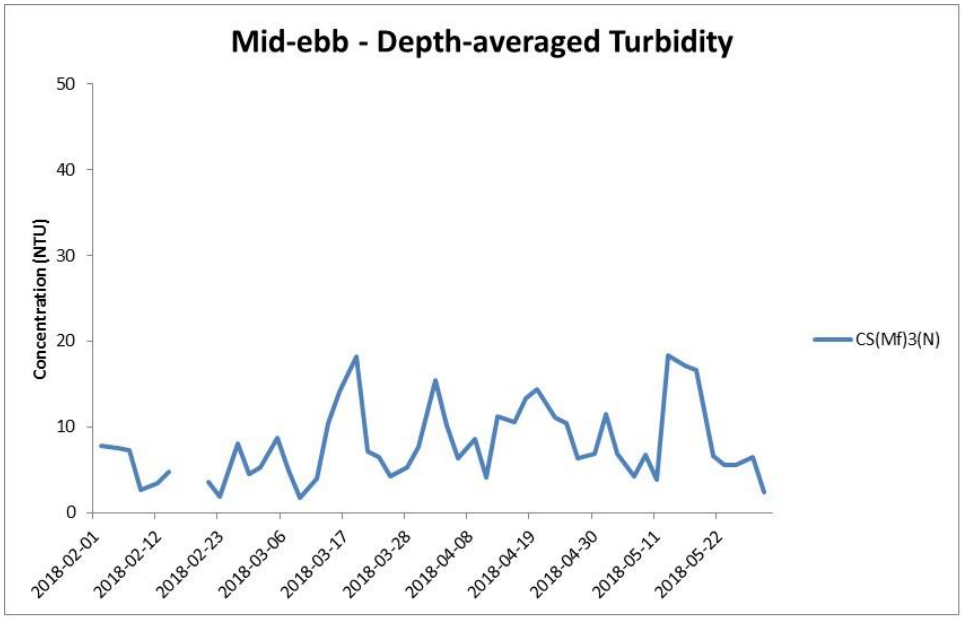


Figure J20 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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



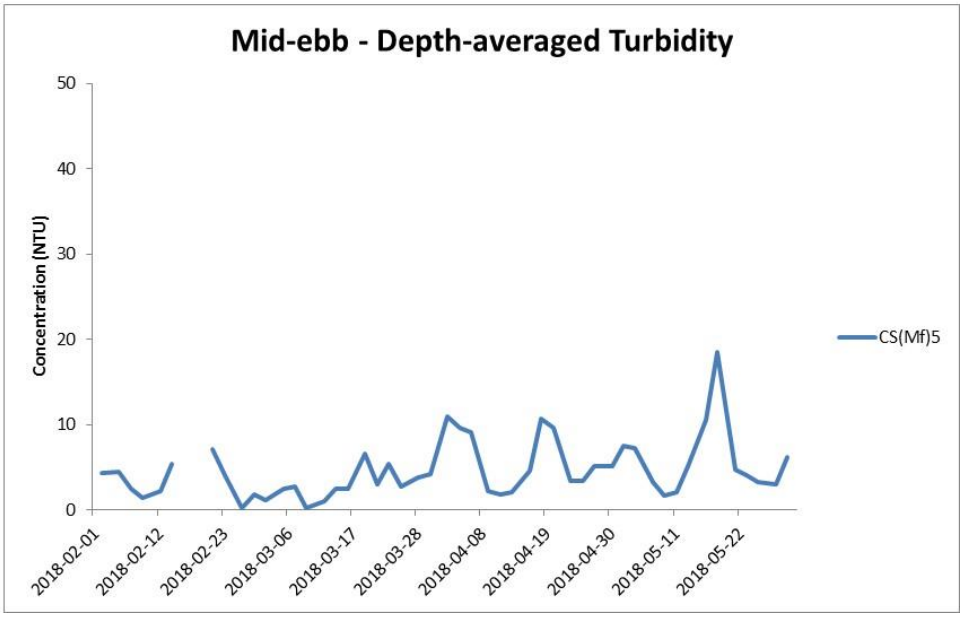
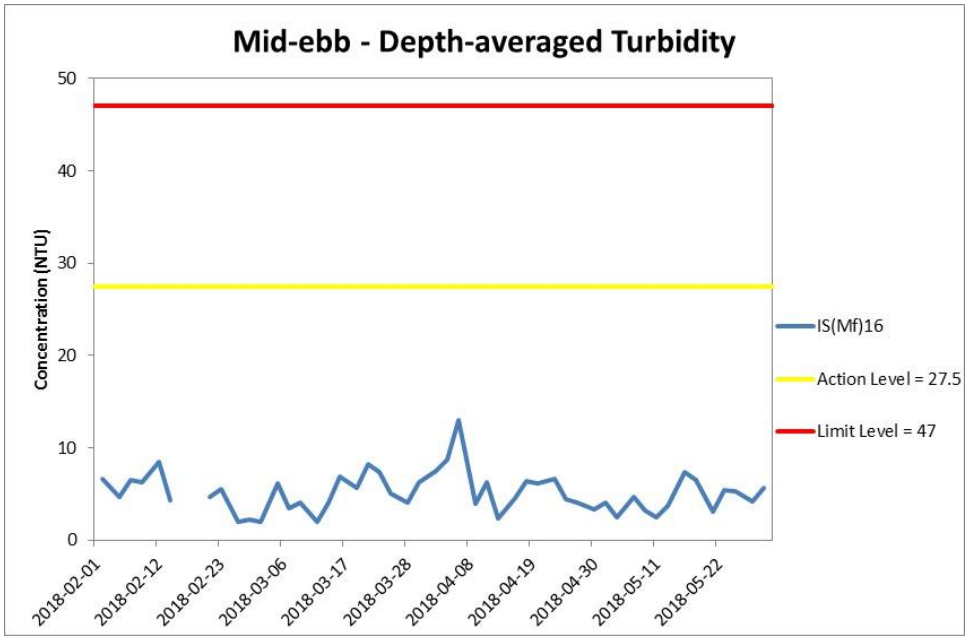


Figure J21 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



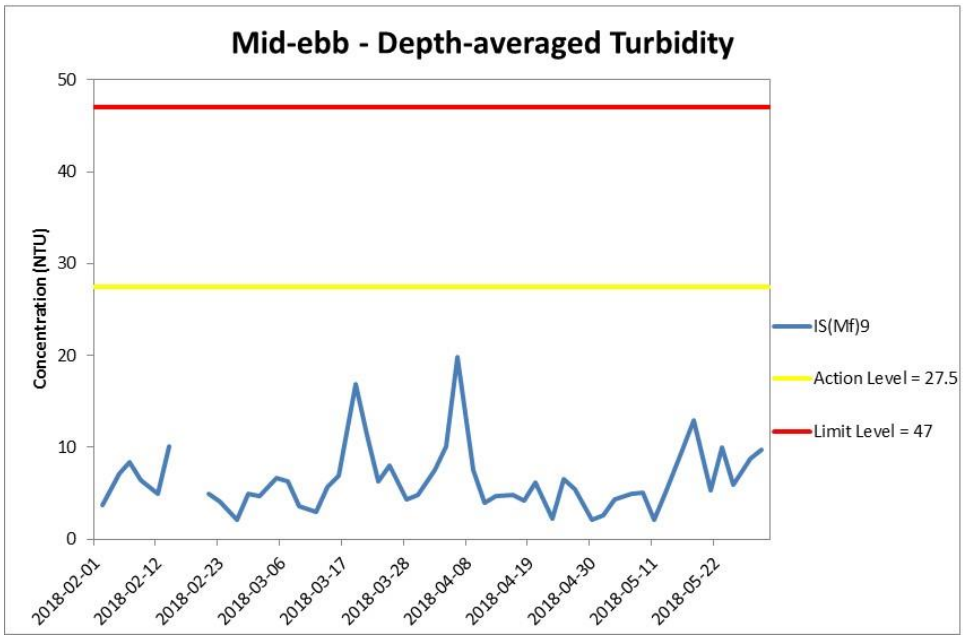
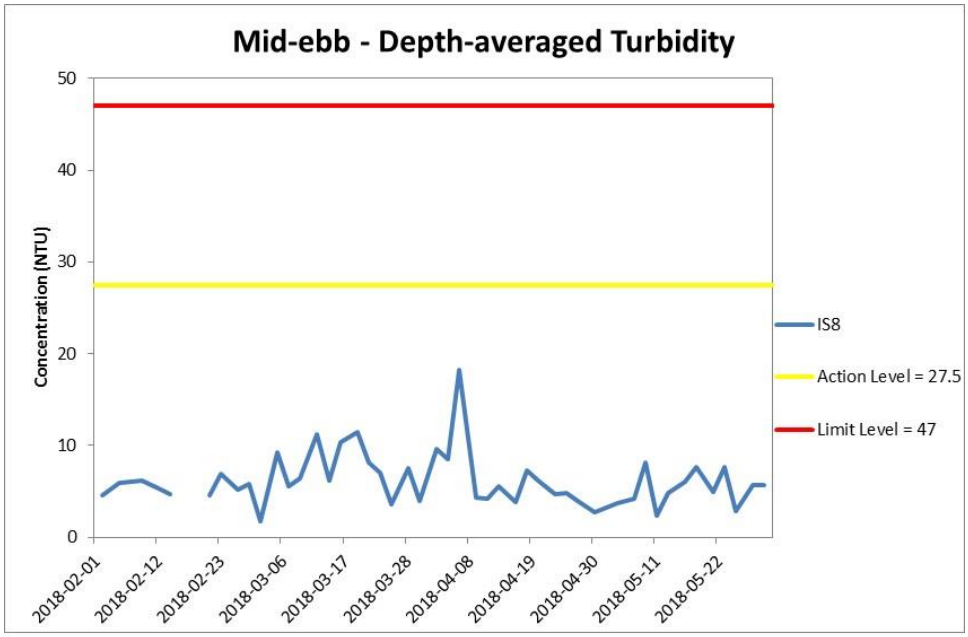


Figure J22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



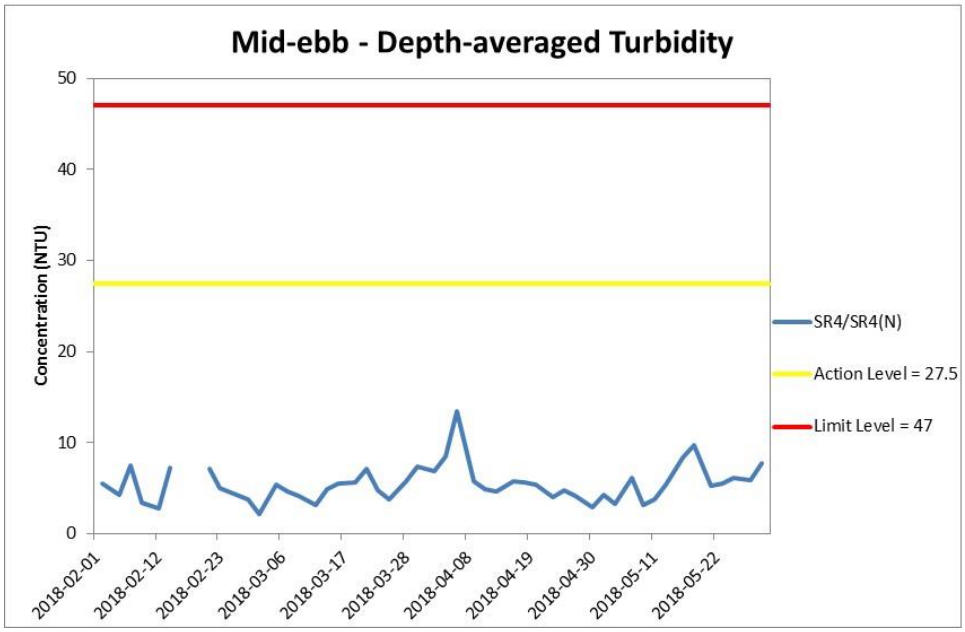


Figure J23 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

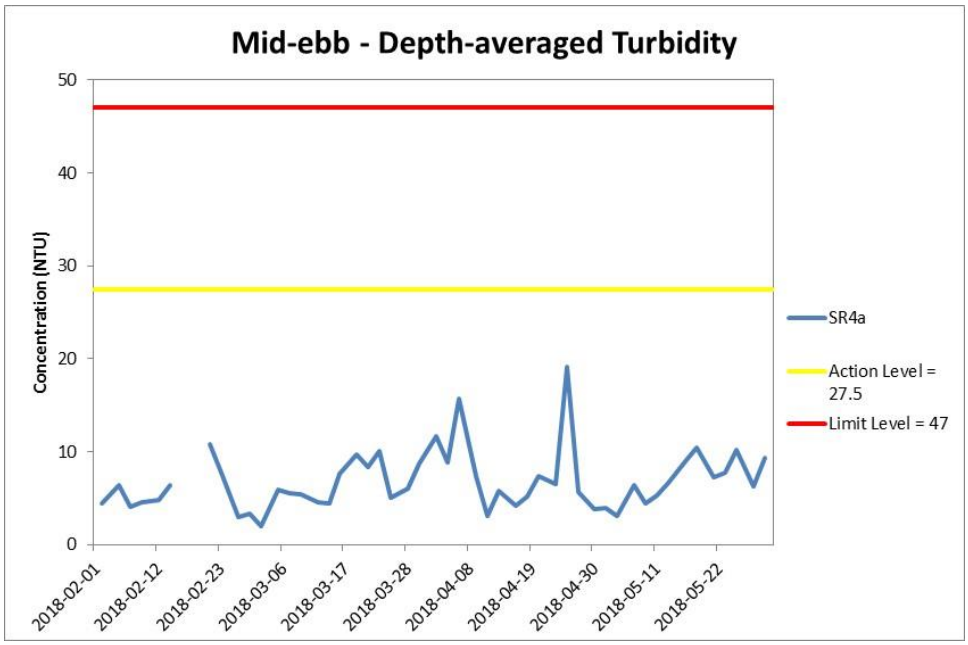
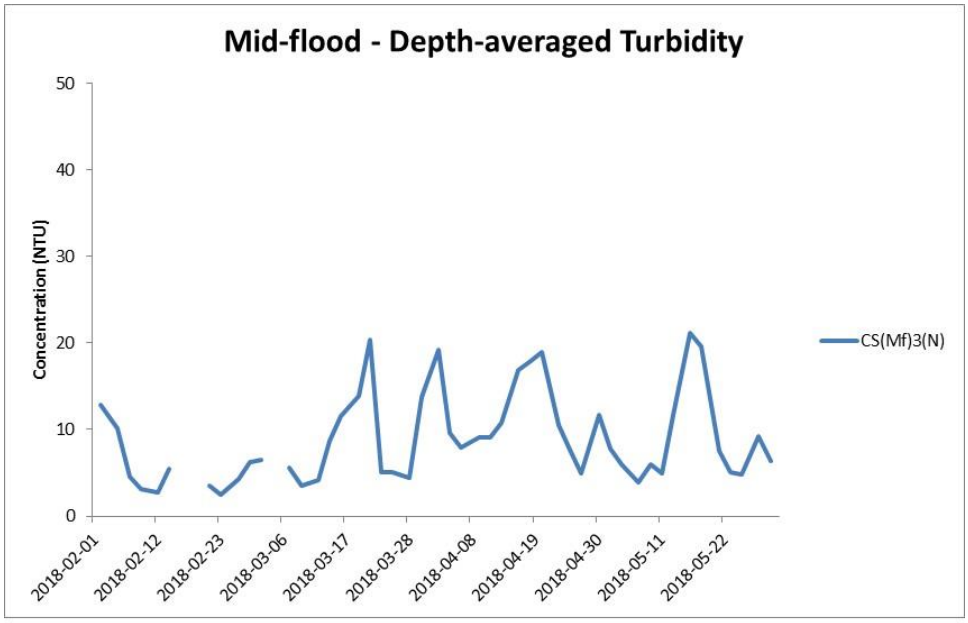


Figure J24 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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



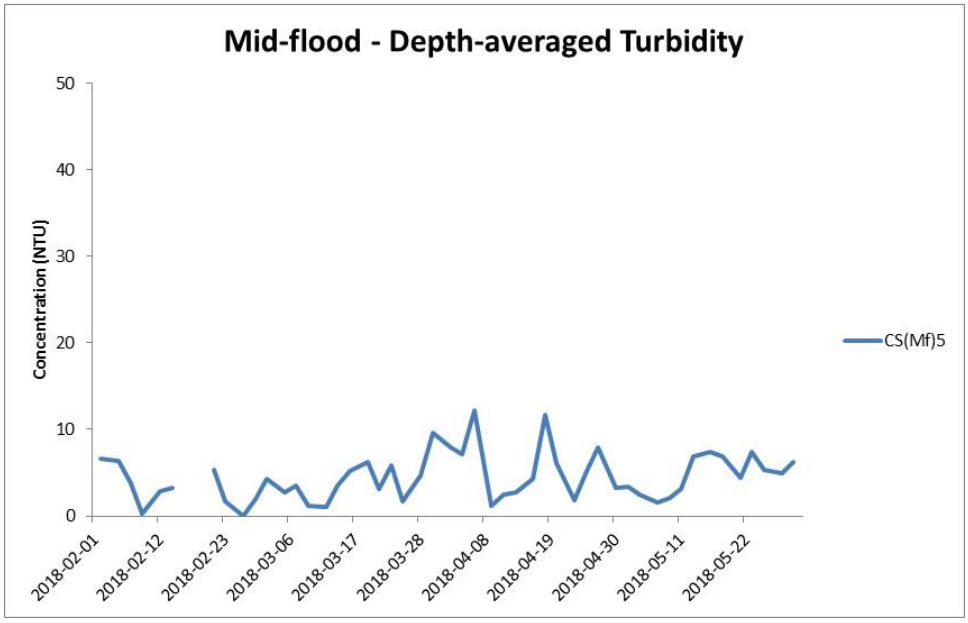
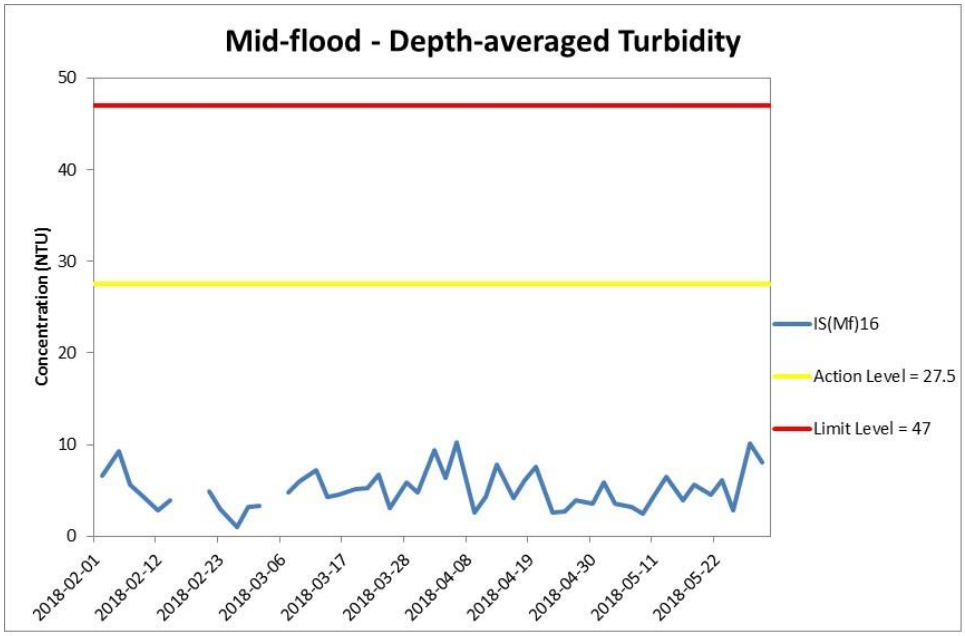


Figure J25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(MF)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



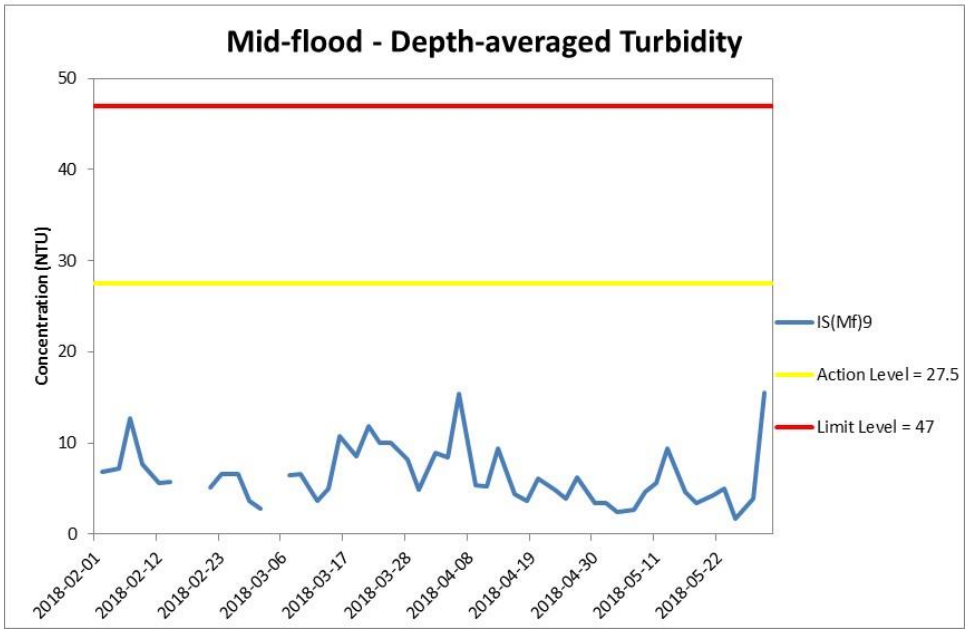
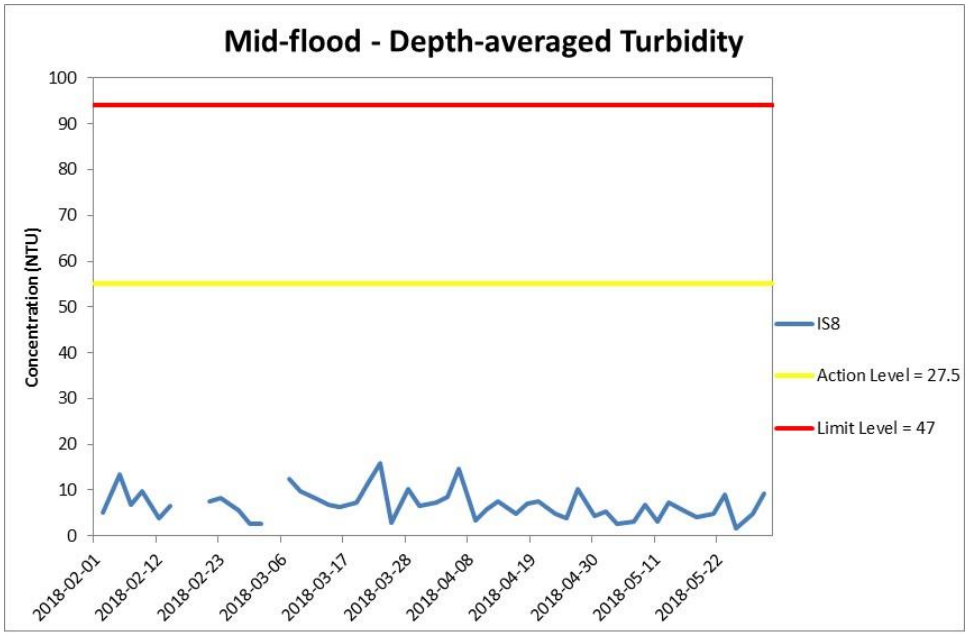


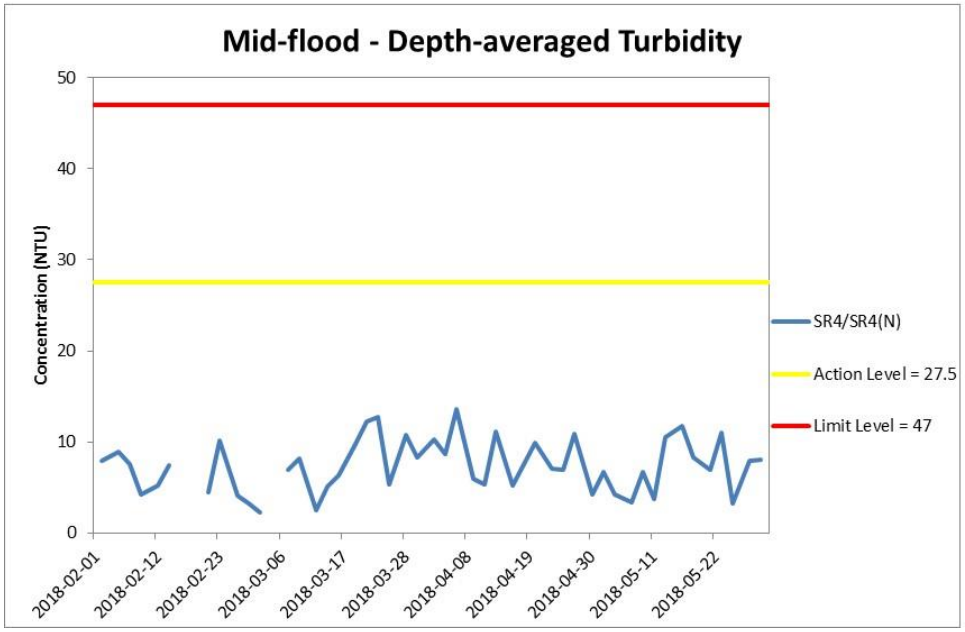
Figure J26 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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 J27 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

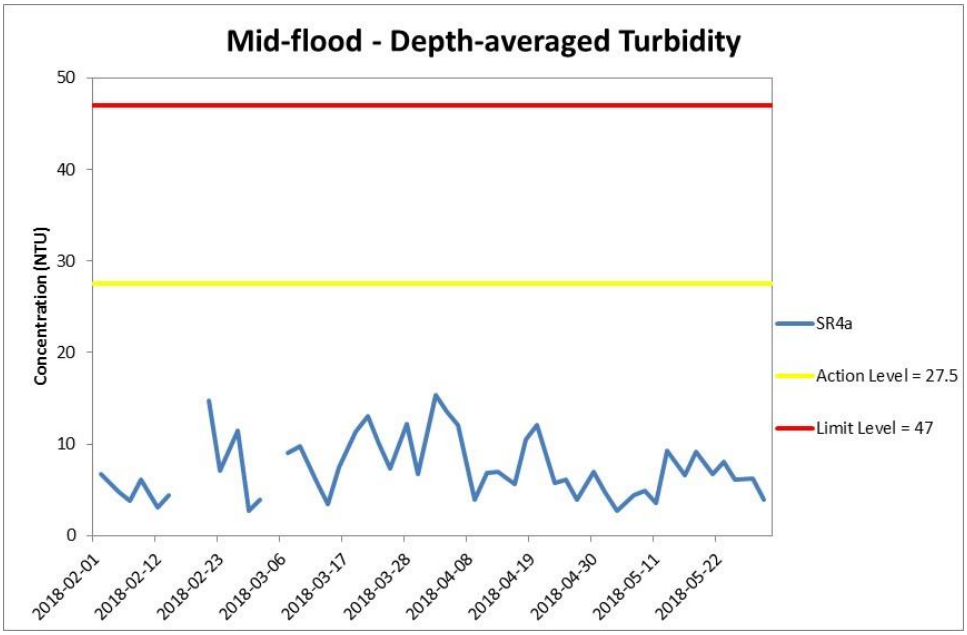
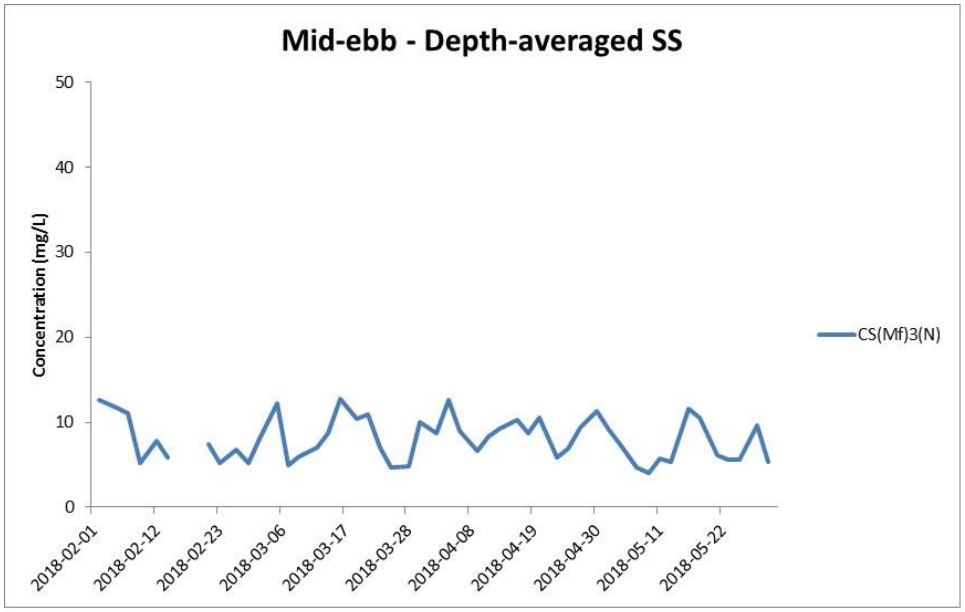


Figure J28 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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



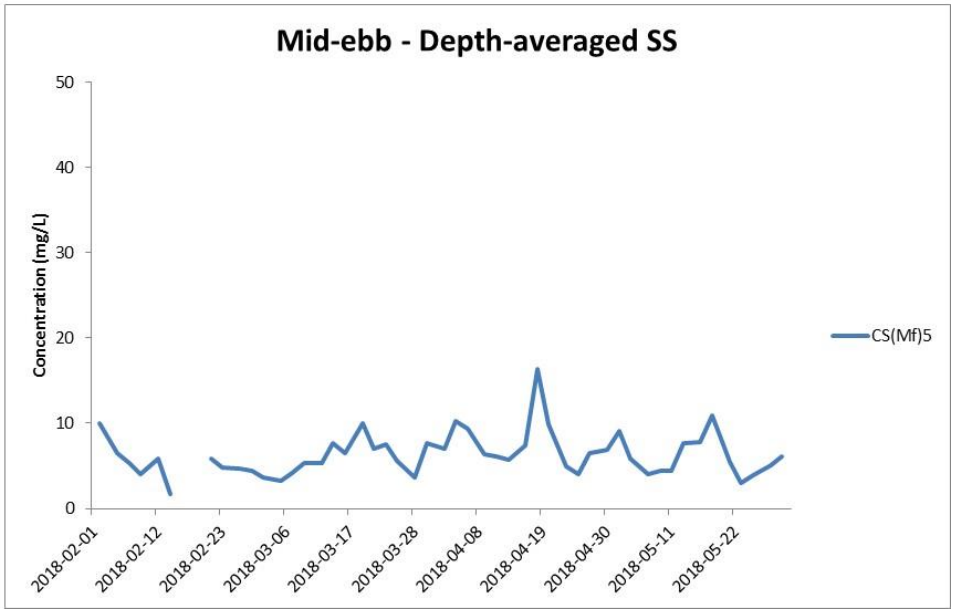
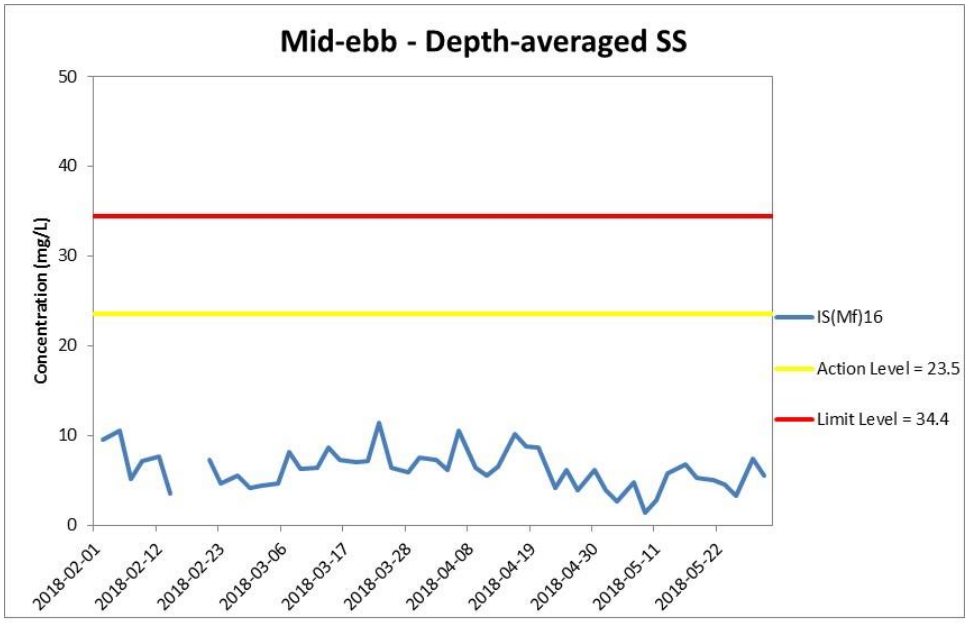


Figure J29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



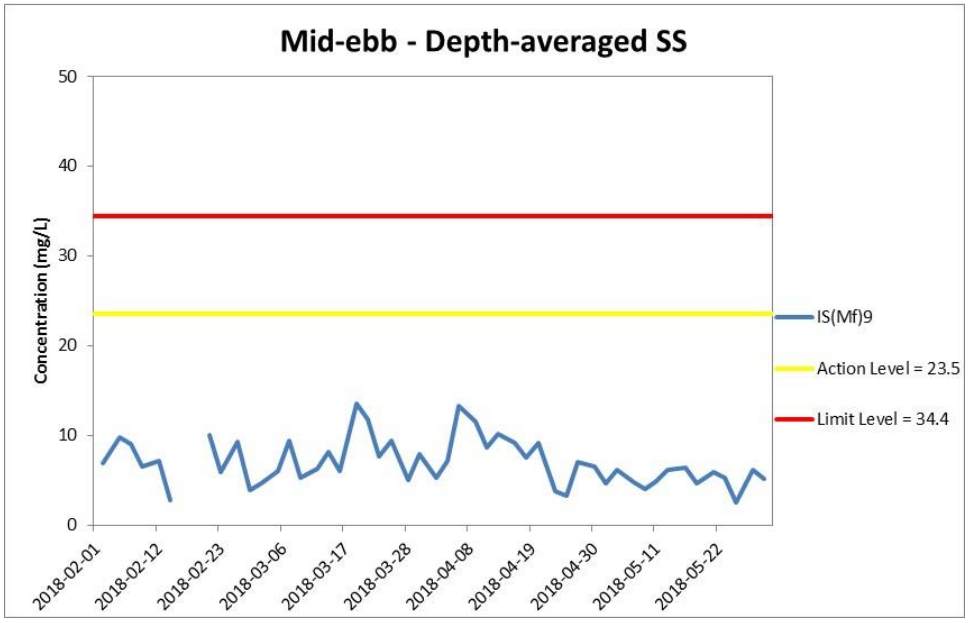
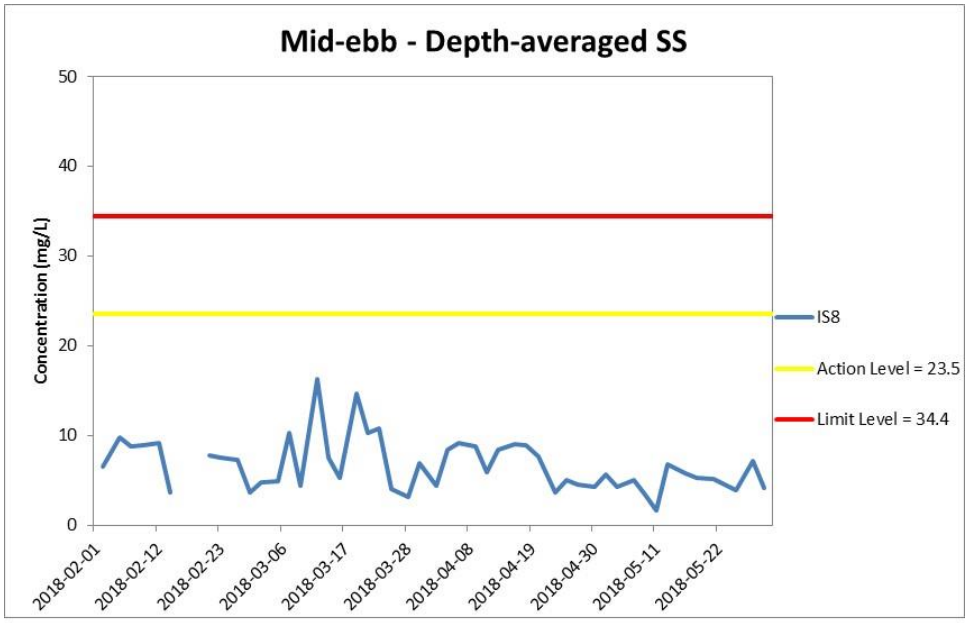


Figure J30 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



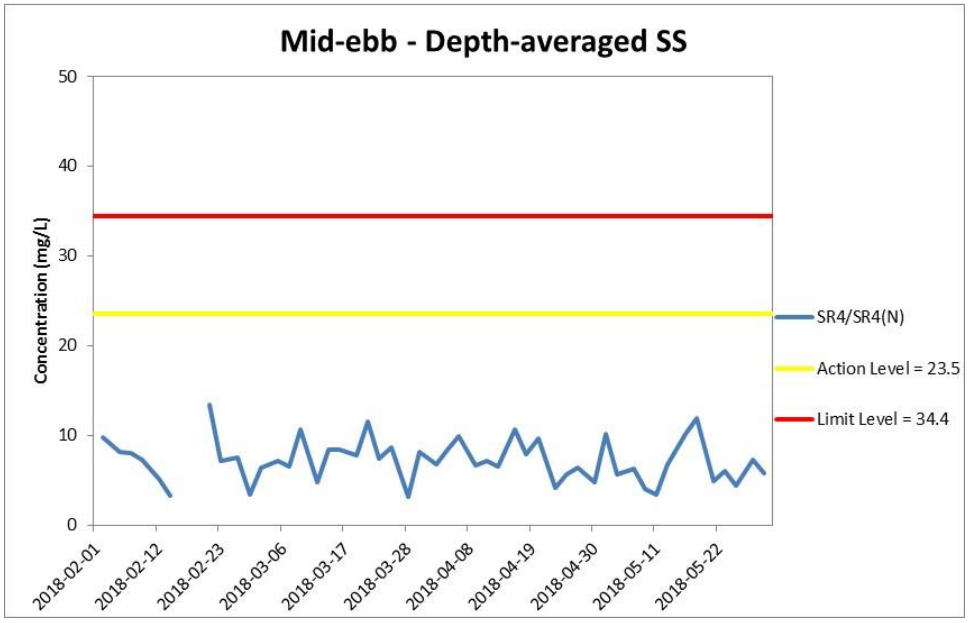


Figure J31 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

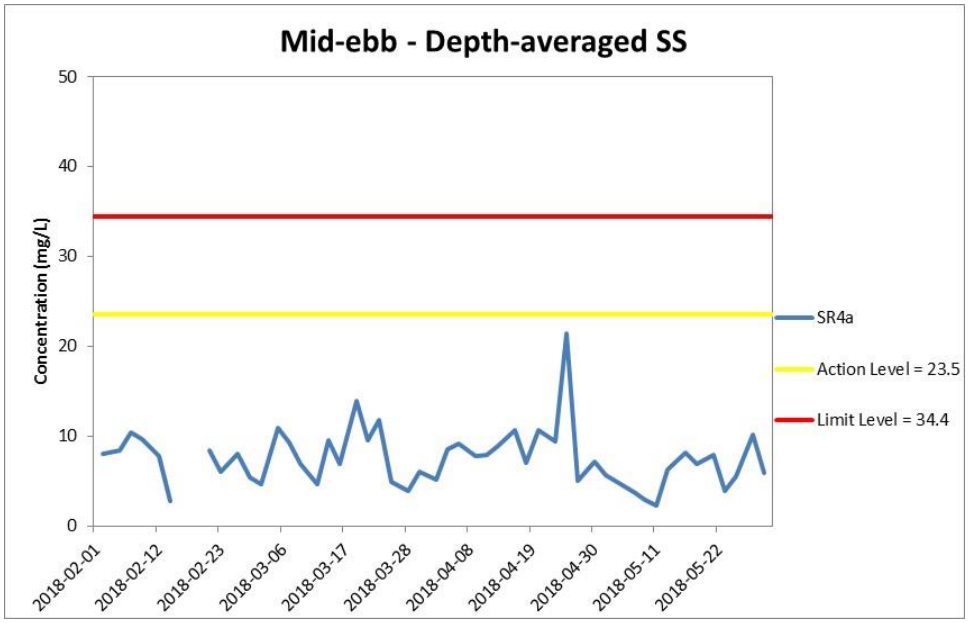
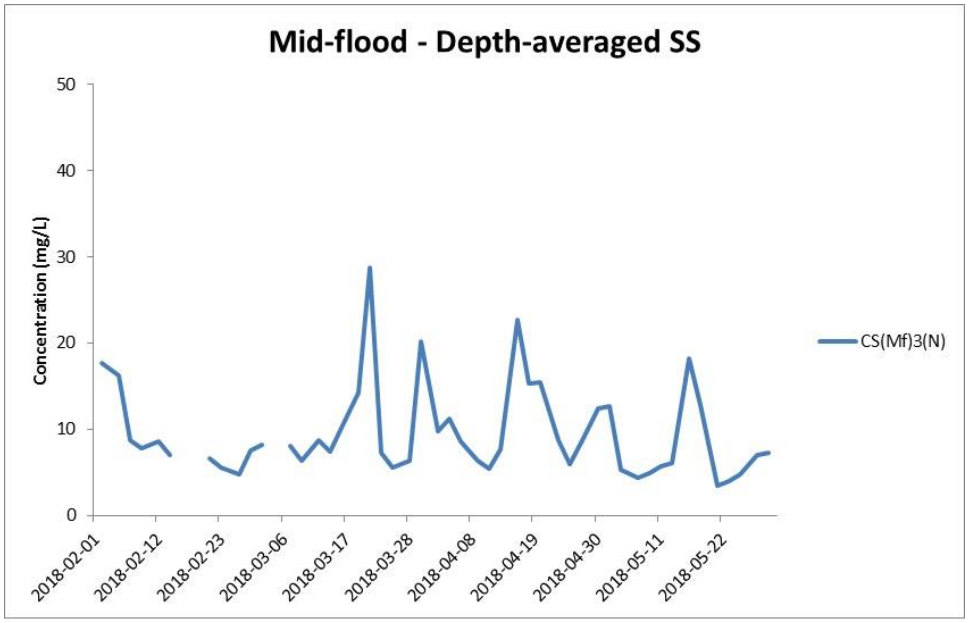


Figure J32 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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



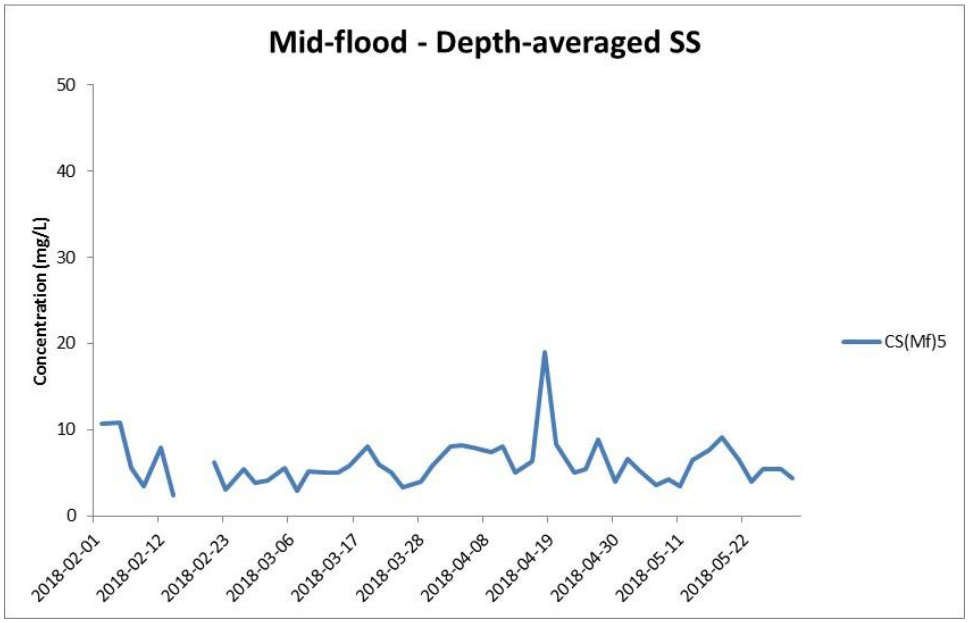
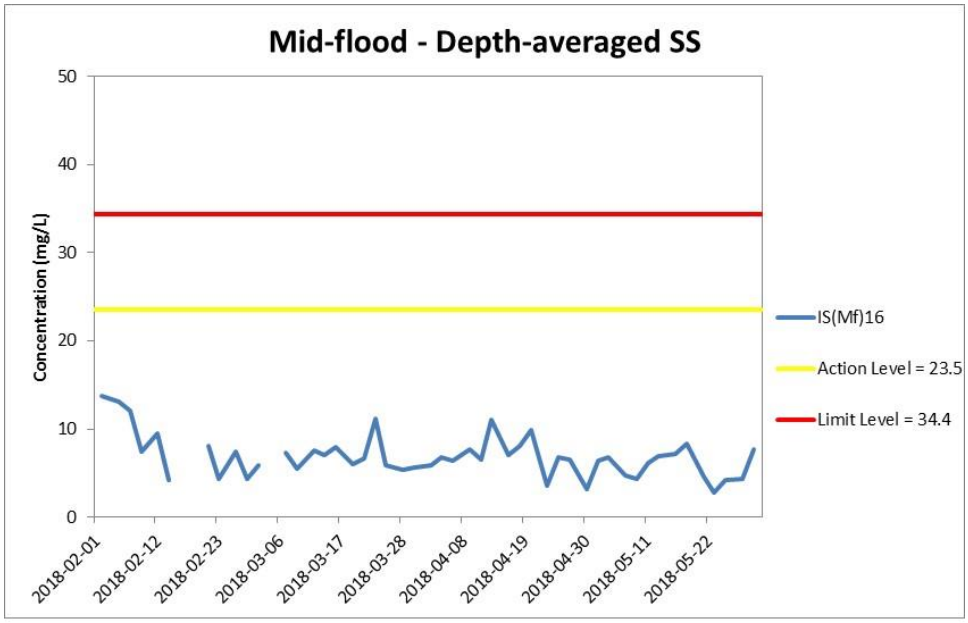


Figure J33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 February and 31 May 2018 at CS(Mf)3(N) and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period.) 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



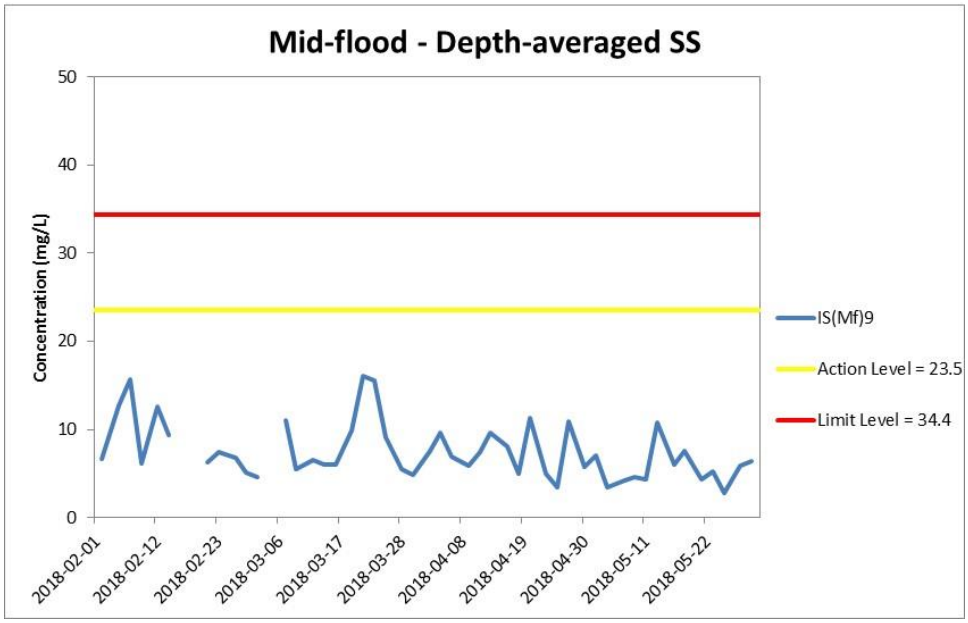
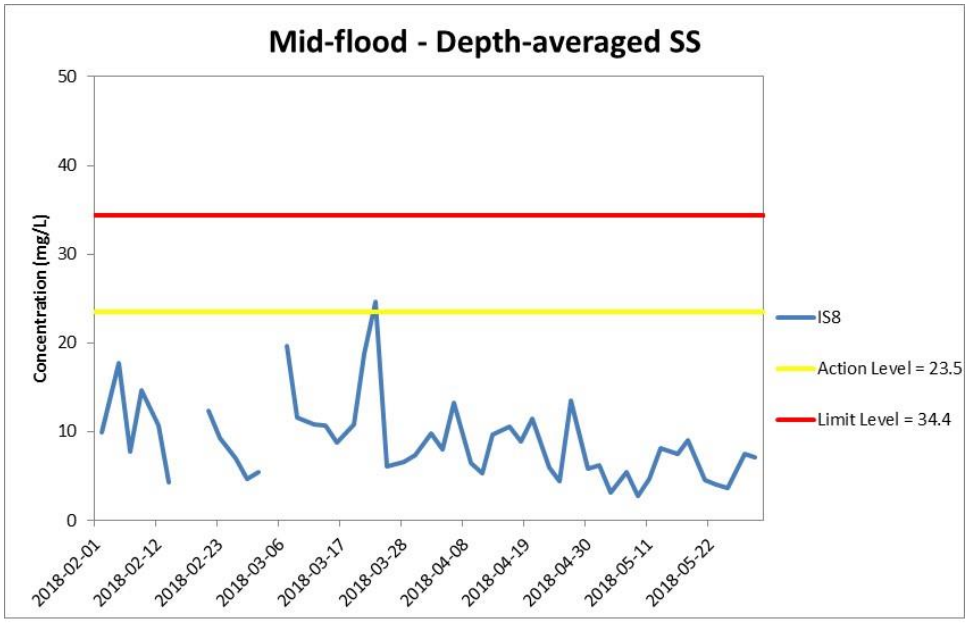


Figure J34 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 February and 31 May 2018 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period.) 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



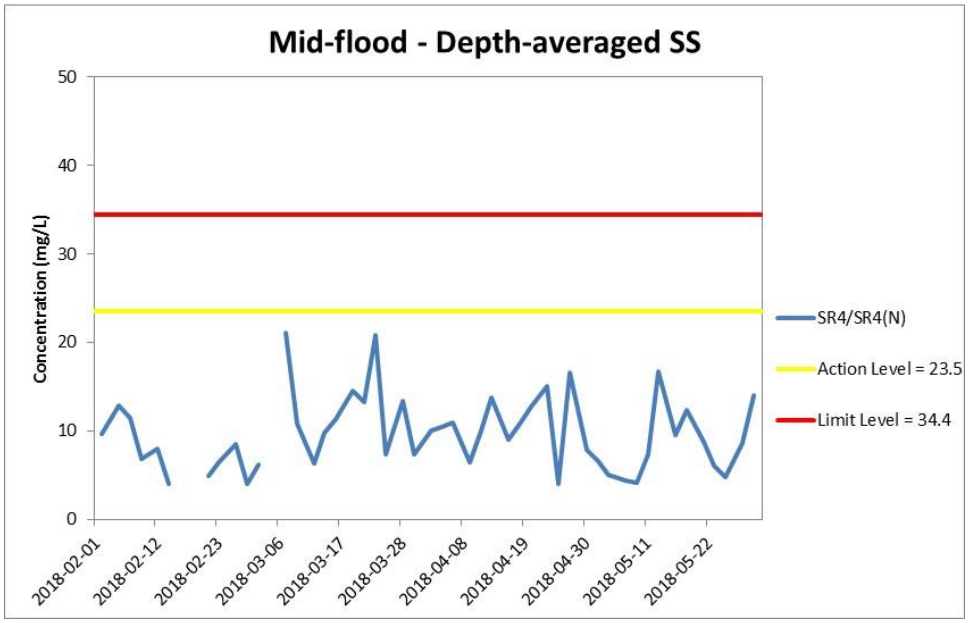


Figure J35 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 February and 31 May 2018 at IS8 and SR4/SR4(N).

(Weather condition varied between sunny to rainy within the reporting period.) 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

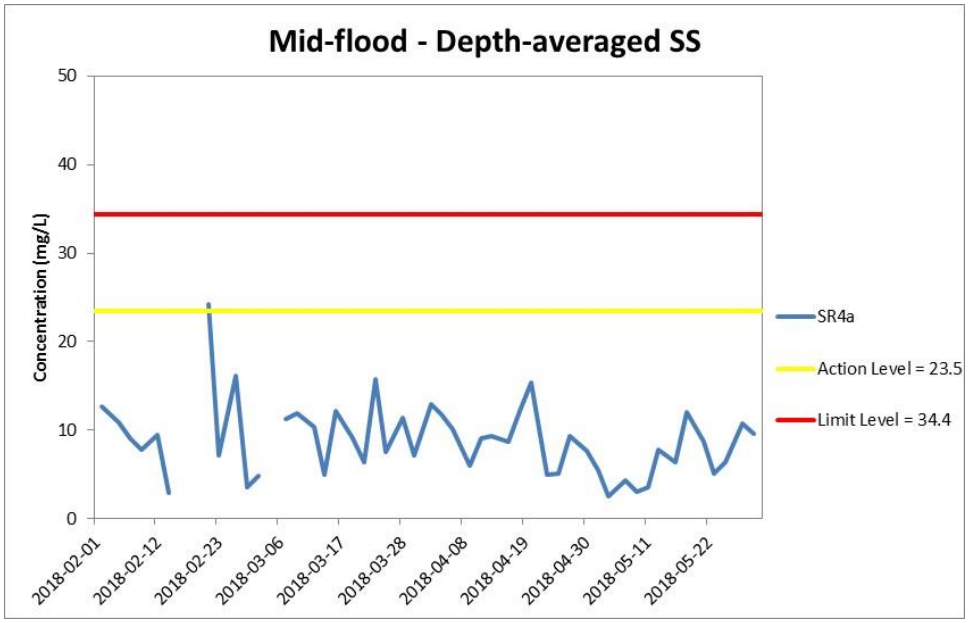


Figure J36 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 February and 31 May 2018 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period.) 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 J

Impact Water Quality Monitoring Results and Graphical Presentation

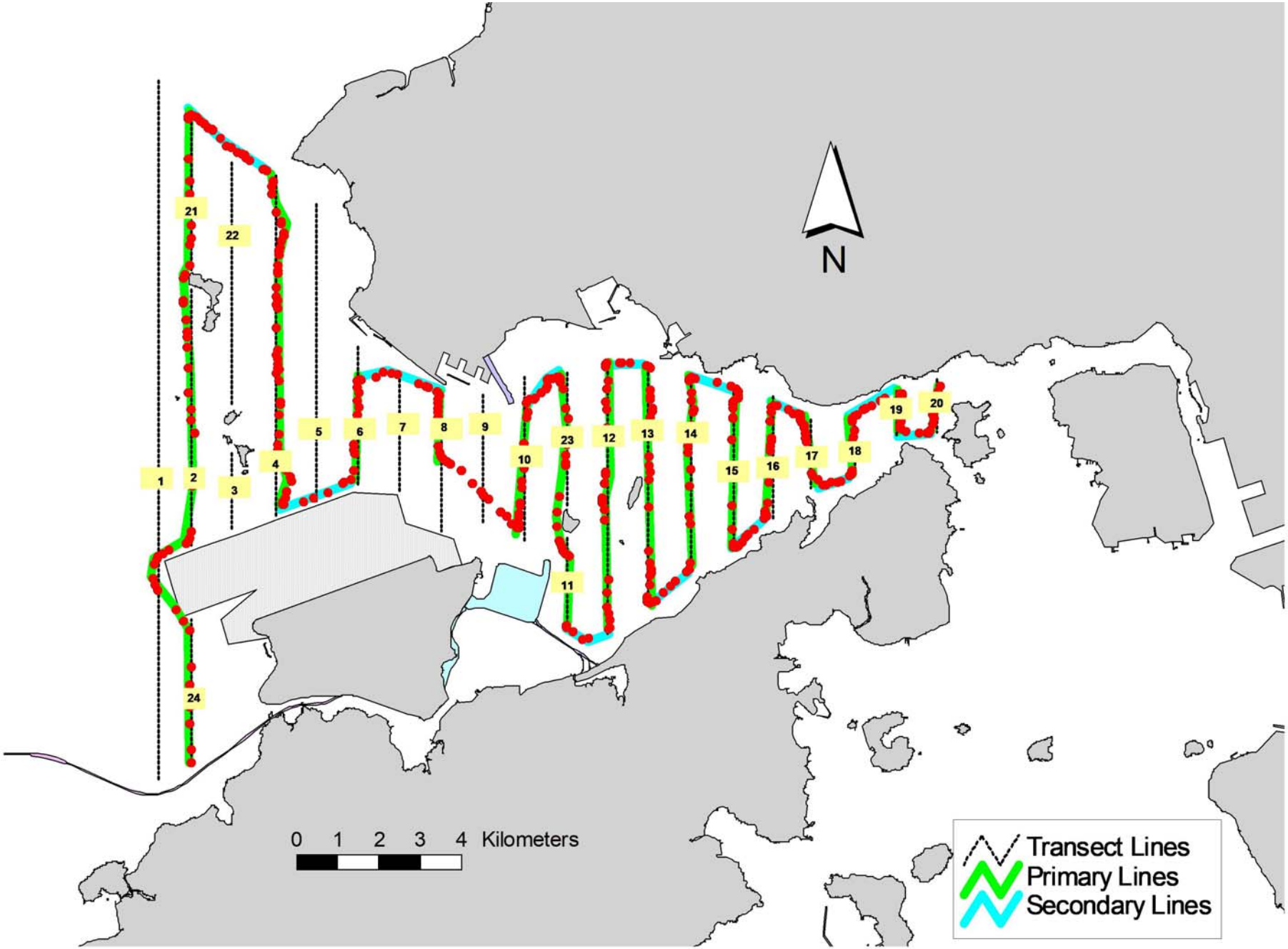


Figure 2. Survey Route on May 7th, 2018

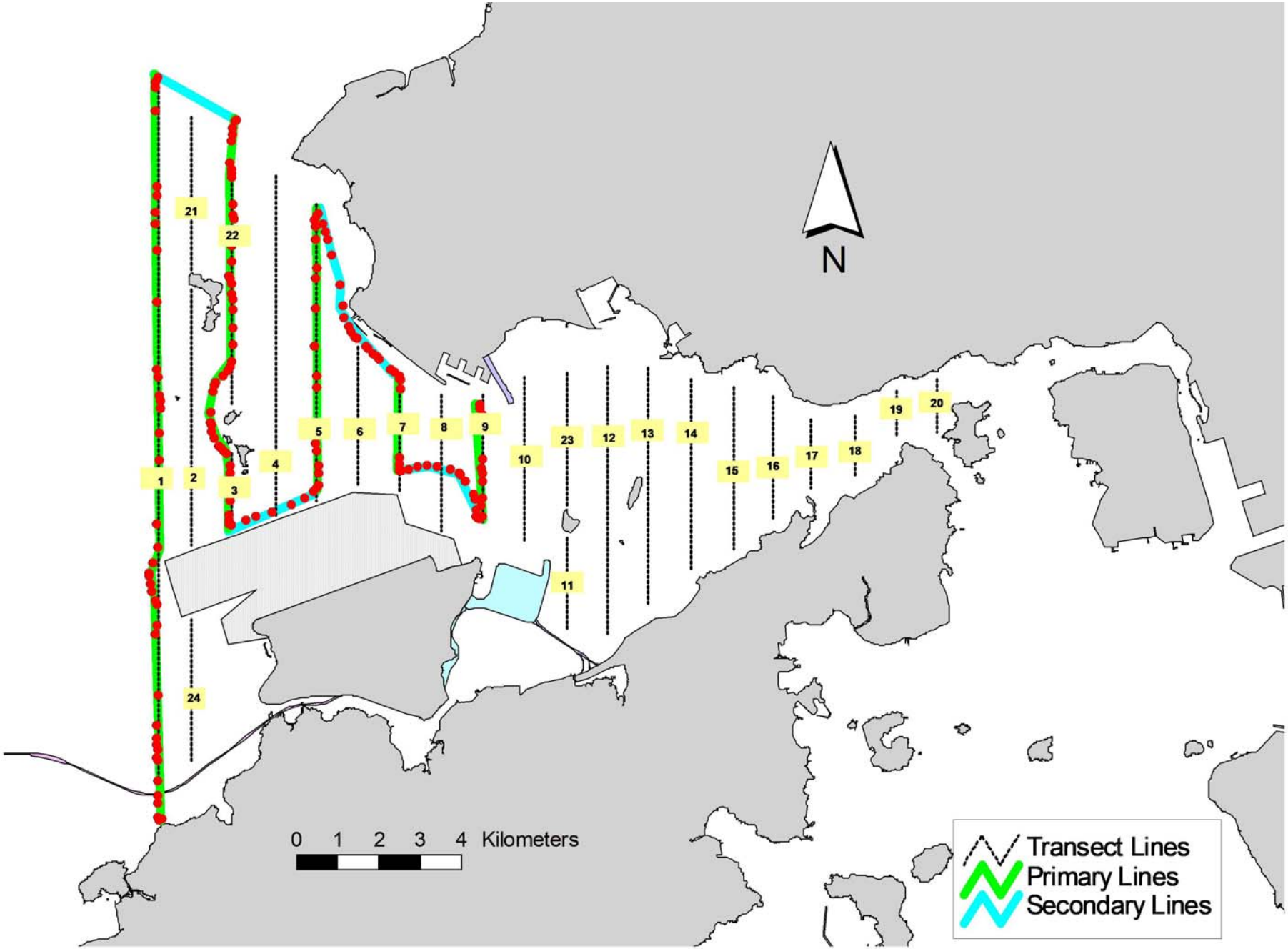


Figure 3. Survey Route on May 10th, 2018

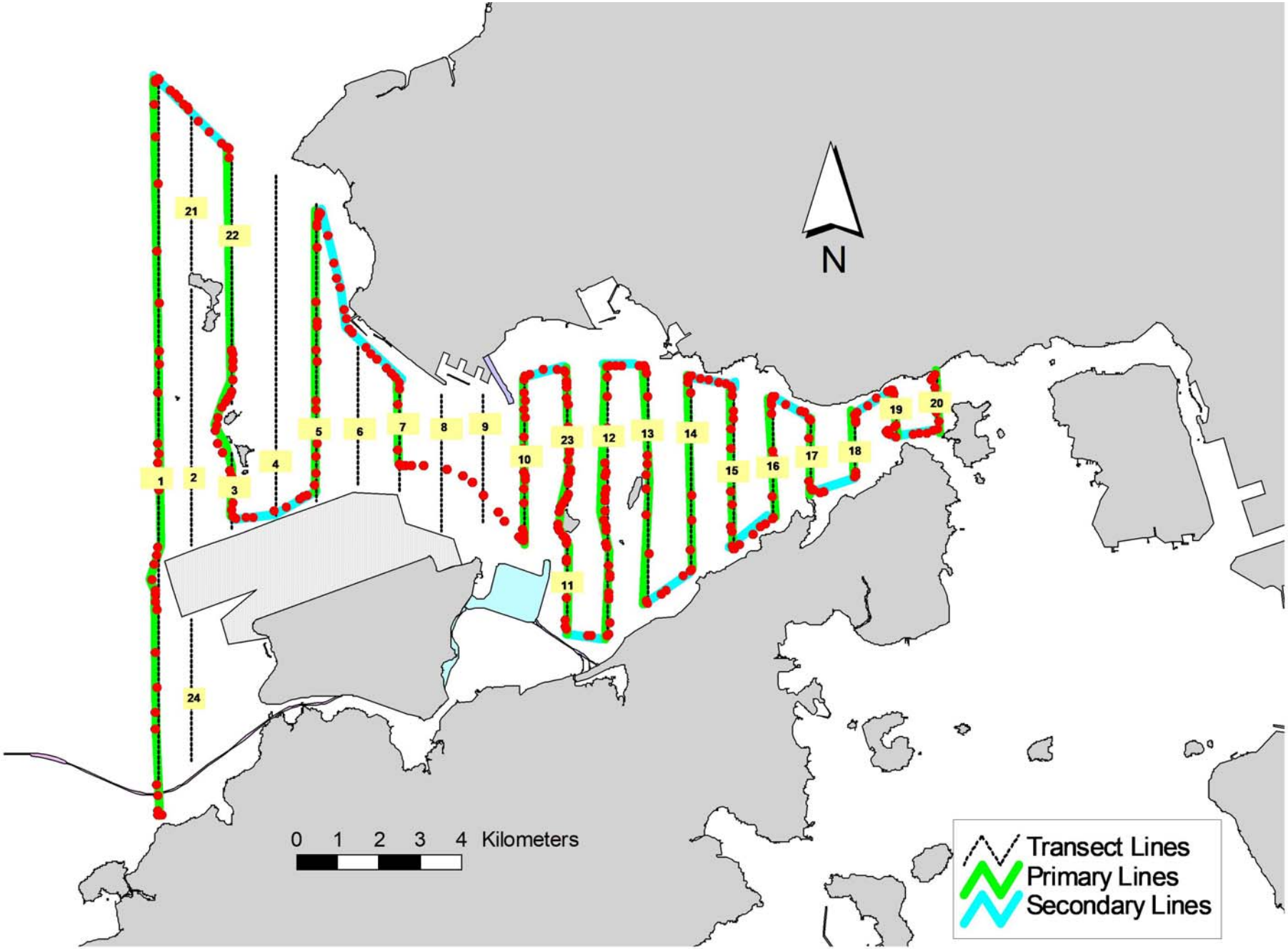


Figure 4. Survey Route on May 16th, 2018

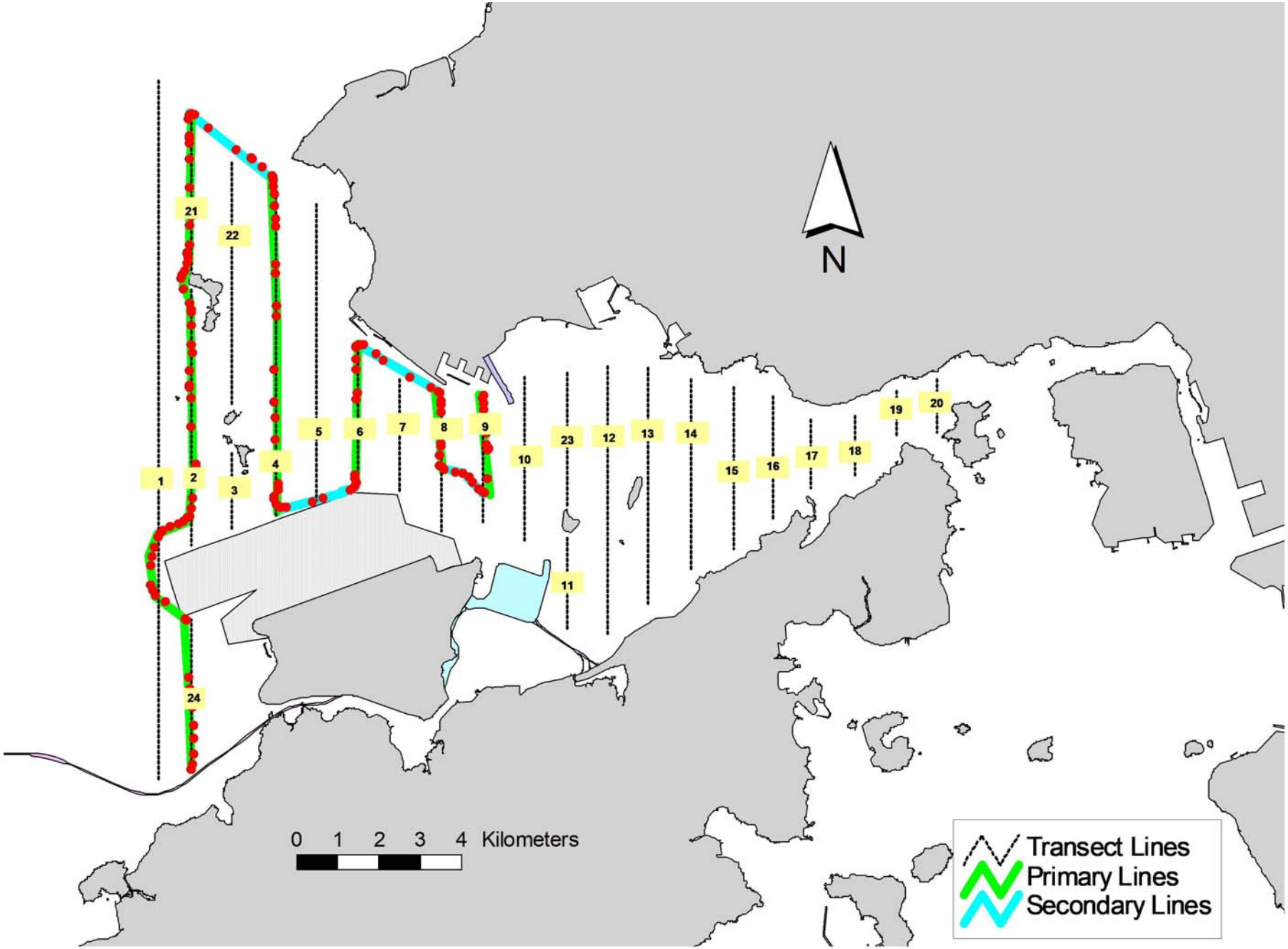


Figure 5. Survey Route on May 30th, 2018

Appendix I. HKLR03 Survey Effort Database (May 2018)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
7-May-18	NW LANTAU	3	18.59	SPRING	STANDARD36826	HKLR	P
7-May-18	NW LANTAU	4	5.80	SPRING	STANDARD36826	HKLR	P
7-May-18	NW LANTAU	3	9.41	SPRING	STANDARD36826	HKLR	S
7-May-18	NE LANTAU	2	22.70	SPRING	STANDARD36826	HKLR	P
7-May-18	NE LANTAU	3	11.82	SPRING	STANDARD36826	HKLR	P
7-May-18	NE LANTAU	2	7.15	SPRING	STANDARD36826	HKLR	S
7-May-18	NE LANTAU	3	5.23	SPRING	STANDARD36826	HKLR	S
10-May-18	NW LANTAU	3	13.41	SPRING	STANDARD36826	HKLR	P
10-May-18	NW LANTAU	4	21.03	SPRING	STANDARD36826	HKLR	P
10-May-18	NW LANTAU	3	6.20	SPRING	STANDARD36826	HKLR	S
10-May-18	NW LANTAU	4	6.66	SPRING	STANDARD36826	HKLR	S
16-May-18	NE LANTAU	2	19.20	SPRING	STANDARD36826	HKLR	P
16-May-18	NE LANTAU	3	17.50	SPRING	STANDARD36826	HKLR	P
16-May-18	NE LANTAU	2	11.20	SPRING	STANDARD36826	HKLR	S
16-May-18	NE LANTAU	3	0.90	SPRING	STANDARD36826	HKLR	S
16-May-18	NW LANTAU	2	4.80	SPRING	STANDARD36826	HKLR	P
16-May-18	NW LANTAU	3	27.00	SPRING	STANDARD36826	HKLR	P
16-May-18	NW LANTAU	2	4.50	SPRING	STANDARD36826	HKLR	S
16-May-18	NW LANTAU	3	6.50	SPRING	STANDARD36826	HKLR	S
30-May-18	NW LANTAU	2	2.60	SPRING	STANDARD36826	HKLR	P
30-May-18	NW LANTAU	3	18.99	SPRING	STANDARD36826	HKLR	P
30-May-18	NW LANTAU	4	6.00	SPRING	STANDARD36826	HKLR	P
30-May-18	NW LANTAU	2	4.90	SPRING	STANDARD36826	HKLR	S
30-May-18	NW LANTAU	3	6.81	SPRING	STANDARD36826	HKLR	S
30-May-18	NW LANTAU	4	2.50	SPRING	STANDARD36826	HKLR	S

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

	ACTION			
EVENT	**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**
Action Level				
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
Limit Level				
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 2018 (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	4.288	0.405	0.137	-	4.151	-	-	-	-	-	-	211.060	-	2.540	0.084	-
Feb	2.662	0.241	0.826	-	1.836	-	-	-	-	-	-	184.880	-	12.280	0.028	-
Mar	5.916	0.289	2.503	-	1.536	1.877	-	-	-	-	1.200	307.670	-	30.190	0.161	-
Apr	6.103	0.352	0.852	-	1.274	3.977	-	-	-	-	-	349.640	-	19.150	0.112	-
May	4.492	0.616	1.333	0.148	1.676	1.336	-	-	-	-	-	438.160	-	-	0.056	-
Jun	-	0.000	-	-	-	-	-	-	-	-			-			-
SUB-TOTAL	**23.461**	**1.902**	**5.649**	**0.148**	**10.474**	**7.190**	**-**	**-**	**-**	**-**	**1.200**	**1491.410**	**-**	**64.160**	**0.441**	**-**
Jul	-	0.000	-	-	-	-	-	-	-	-			-			-
Aug	-	0.000	-	-	-	-	-	-	-	-			-			-
Sep	-	0.000	-	-	-	-	-	-	-	-			-			-
Oct	-	0.000	-	-	-	-	-	-	-	-			-			-
Nov	-	0.000	-	-	-	-	-	-	-	-			-			-
Dec	-	0.000	-	-	-	-	-	-	-	-			-			-
TOTAL	**23.461**	**1.902**	**5.649**	**0.148**	**10.474**	**7.190**	**-**	**-**	**-**	**-**	**1.200**	**1,491.410**	**-**	**64.160**	**0.441**	**-**

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	1
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	1	138
	Limit	0	15
Impact Dolphin Monitoring	Action	0	11
	Limit	0	11

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 (May 2018)	0	0	0
Total No. received since project commencement	12	0	0

Email message

Environmental Resources Management

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com

To	Ramboll 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	29 May 2018

ERM

Dear Sir/ Madam,

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

<u>Action Level Exceedance</u>
0215660_25 May 2018_ Bottom-depth DO_E_Station IS8

A total of one exceedance was recorded on 25 May 2018.

Regards,

Mr Jovy Tam
Environmental Team Leader

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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_25 May 2018_ Bottom-depth DO_E_Station IS8** **[Total No. of Exceedances = 1]**	
Date	25 May 2018 (Measured) 26 May 2018 (*In situ* results received by ERM) 01 June 2018 (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)	
Action Levels for DO	Bottom-depth DO	4.7 mg/L
Limit Levels for DO	Bottom-depth DO	3.6 mg/L
Measured Levels	Action Level Exceedance 1. Mid-ebb at IS8 (Bottom-depth DO = 4.5mg/L)	
Works Undertaken (at the time of monitoring event)	No major marine works was undertaken under this Contract on 25 May 2018.	
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 25 May 2018. • Apart from marginal DO exceedance at IS8, 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. • 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 IS8 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.	
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 May 2018 and locations of water quality monitoring stations are attached. Site photo record on 25 May 2018 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	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Surface	1	28.1	8.1	24.2	6.6	6.5	3.0	3.3	3.8	3.9
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Surface	2	28.1	8.1	24.0	6.8		3.1		4.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Middle	1	27.1	8.1	25.7	6.1		3.2		4.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Middle	2	27.1	8.0	25.5	6.3		3.3		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Bottom	1	26.5	8.0	30.5	5.0	5.1	3.6		3.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)5	9:57	Bottom	2	26.5	8.1	30.2	5.2		3.7		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Surface	1	29.5	8.0	18.1	7.2	6.6	2.9	5.5	4.1	5.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Surface	2	29.1	8.1	18.2	7.2		2.9		5.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Middle	1	28.9	7.9	21.4	5.9		5.9		6.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Middle	2	28.5	8.0	21.5	5.9		5.9		7.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Bottom	1	28.6	7.9	22.9	5.5	5.5	7.6		5.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	CS(Mf)3(N)	11:11	Bottom	2	28.2	7.9	23.0	5.5		7.9		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Surface	1	28.6	8.2	23.5	7.2	7.2	4.5	5.3	2.8	3.3
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Surface	2	28.6	8.2	23.0	7.2		4.6		2.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Bottom	1	28.0	8.1	25.3	6.5	6.6	6.1		3.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)16	10:28	Bottom	2	28.0	8.1	25.1	6.6		6.1		4.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Surface	1	28.6	8.1	23.0	6.2	6.2	7.5	10.2	4.1	5.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Surface	2	28.6	8.1	22.7	6.2		7.6		4.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Bottom	1	27.8	8.0	26.0	5.1	5.1	12.8		6.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4a	10:38	Bottom	2	27.8	8.0	25.6	5.1		12.9		8.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Surface	1	29.1	8.2	21.5	7.5	7.5	6.1	6.1	3.1	4.4
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Surface	2	29.1	8.2	21.2	7.5		6.2		4.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Bottom	1	29.1	8.2	21.4	7.5	7.5	6.0		5.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	SR4(N)	10:45	Bottom	2	29.1	8.2	21.2	7.5		6.0		4.6	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Surface	1	29.2	8.3	21.2	7.8	7.8	2.5	2.9	3.5	3.9
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Surface	2	29.2	8.3	21.0	7.8		2.6		4.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Bottom	1	28.2	7.8	24.6	4.4	4.5	3.2		3.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS8	10:52	Bottom	2	28.2	7.8	24.2	4.5		3.2		3.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Surface	1	29.2	8.3	21.8	8.6	8.6	5.9	6.0	3.0	2.6
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Surface	2	29.1	8.3	21.6	8.6		5.9		2.5	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Bottom	1	29.2	8.2	21.8	8.7	8.7	6.0		2.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Ebb	IS(Mf)9	11:01	Bottom	2	29.1	8.3	21.6	8.6		6.1		2.5	

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	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Surface	1	29.2	8.2	20.6	7.9	7.1	2.7	5.4	5.3	5.4
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Surface	2	29.2	8.2	20.8	7.9		2.7		5.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Middle	1	27.1	8.0	25.7	6.2		7.3		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Middle	2	27.2	8.0	25.9	6.2		7.5		5.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Bottom	1	26.8	7.9	29.0	5.7	5.8	6.0		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)5	16:03	Bottom	2	26.8	8.0	29.3	5.8		6.0		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Surface	1	29.8	8.1	16.8	8.0	7.4	5.8	4.8	4.8	4.8
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Surface	2	30.2	8.0	16.7	8.1		5.7		3.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Middle	1	29.0	8.0	19.1	6.8		4.3		5.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Middle	2	29.4	7.9	19.0	6.8		4.3		5.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Bottom	1	28.5	7.9	22.1	6.2	6.2	4.4		4.9	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	CS(Mf)3(N)	14:55	Bottom	2	28.9	7.9	22.1	6.2		4.2		5.1	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Surface	1	29.2	8.3	21.1	9.3	9.3	2.6	2.9	4.3	4.2
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Surface	2	29.2	8.3	21.3	9.3		2.6		4.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Bottom	1	29.2	8.3	21.2	9.3	9.4	3.1		4.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)16	15:37	Bottom	2	29.2	8.3	21.5	9.4		3.2		3.8	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Surface	1	29.0	8.2	21.1	8.4	8.4	6.4	6.2	6.2	6.3
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Surface	2	29.0	8.3	21.4	8.4		6.6		6.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Bottom	1	28.0	8.0	25.3	6.7	6.7	5.8		7.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4a	15:27	Bottom	2	27.9	8.0	25.7	6.7		5.9		5.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Surface	1	29.7	8.3	21.3	9.0	9.1	3.1	3.3	4.4	4.7
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Surface	2	29.7	8.3	21.5	9.1		3.3		6.0	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Bottom	1	29.7	8.3	21.3	9.0	9.1	3.3		4.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	SR4(N)	15:21	Bottom	2	29.7	8.3	21.6	9.1		3.4		4.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Surface	1	29.9	8.3	21.5	9.3	9.4	1.8	1.8	3.5	3.7
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Surface	2	29.9	8.3	21.7	9.4		1.8		3.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Middle	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Middle	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Bottom	1	30.0	8.3	21.4	9.3	9.4	1.6		4.4	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS8	15:16	Bottom	2	30.0	8.3	21.6	9.4		1.8		3.7	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Surface	1					9.1		1.8		2.8
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Surface	2									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Middle	1	30.0	8.3	21.6	9.0		1.7		2.3	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Middle	2	30.0	8.3	21.8	9.1		1.8		3.2	
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Bottom	1									
TMCLKL	HY/2012/07	2018-05-25	Mid-Flood	IS(Mf)9	15:07	Bottom	2									

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level
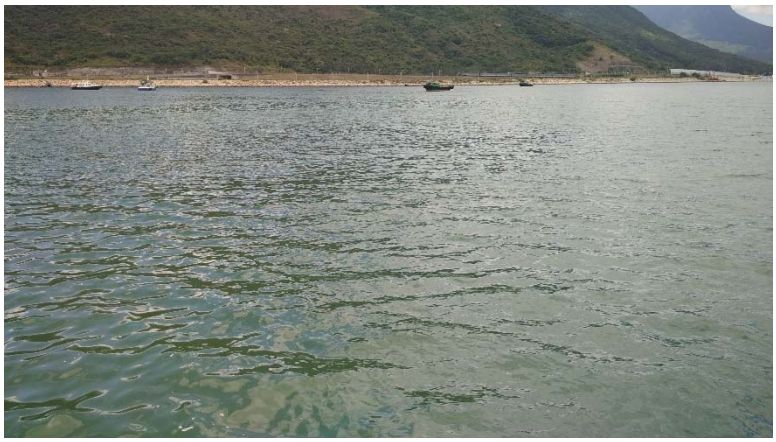
Photo 1 - Mid-Ebb at IS8 on 25 May 2018