

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

Thirty-third Monthly EM&A Report

08 August 2016

Environmental Resources Management
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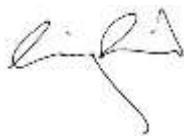



Contract No. HY/2012/07 Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

**Environmental Resources
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Thirty-third Monthly EM&A Report

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Client: Gammon		Project No: 0215660			
Summary: This document presents the Thirty-third Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section.		Date: 08 August 2016			
		Approved by: 			
		Mr Craig Reid Partner			
		Certified by: 			
		Mr Jovy Tam ET Leader			
	Thirty-third Monthly EM&A Report	VAR	JT	CAR	08/08/16
Revision	Description	By	Checked	Approved	Date
<p>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.</p> <p>We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.</p>		<p>Distribution</p> <p><input type="checkbox"/> Internal</p> <p><input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Confidential</p>			
		 			



Ref.: HYDHZMBEEM00_0_4462L.16

11 August 2016

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

By Fax (3691 2899) and By Post

Attention: Mr. Daniel Ip

Dear Mr. Ip,

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

**Contract No. HY/2012/07 TM-CLKL Southern Connection Viaduct
Section
33rd Monthly EM&A Report for July 2016 (EP-354/2009/D)**

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (July 2016) (ET's ref.: "0215660_33rd Monthly EM&A_201600808.doc" dated 8 Aug. 2016) certified by the ET Leader and provided to us via e-mail on 10 Aug. 2016.

Please be informed that we have no adverse comments on the captioned monthly EM&A 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, ENPO Site

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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 Environ Hong Kong Ltd. was employed by the HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) in accordance with *Environmental Permit No. EP-354/2009/A*. Further applications for variation of environmental permit (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

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

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

This is the Thirty-third Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 31 July 2016 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:

Marine Works

- Uninstallation of marine piling platform;
- Pier construction;
- Launching gantry operation; and

- Installation of deck segment and pier head segment.

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Construction of land section of berth at Southern Landfall;
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

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

24-hour TSP Monitoring	6 sessions
1-hour TSP Monitoring	6 sessions
Noise Monitoring	6 sessions
Impact Water Quality Monitoring	13 sessions
Impact Dolphin Monitoring	2 sessions
Joint Environmental Site Inspection	4 sessions

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Levels was recorded for construction air 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

No exceedance of Action and Limit Levels was recorded for water quality impact monitoring in the reporting period.

Impact Dolphin Monitoring

During this month of dolphin monitoring, no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Chinese White Dolphins 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, where

comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

Daily marine mammal exclusion zone monitoring was undertaken during the period of marine works under this Contract. No sighting of the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was recorded in July 2016 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.

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 August 2016 include the following:

Marine Works

- Uninstallation of marine piling platform;
- Pier construction;
- Launching gantry operation; and
- Installation of deck segment and pier head segment.

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Construction of land section of berth at Southern Landfall;
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of August 2016 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

1.1

BACKGROUND

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

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

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

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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 Thirty-third 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 July 2016.

1.3 ORGANIZATION STRUCTURE

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

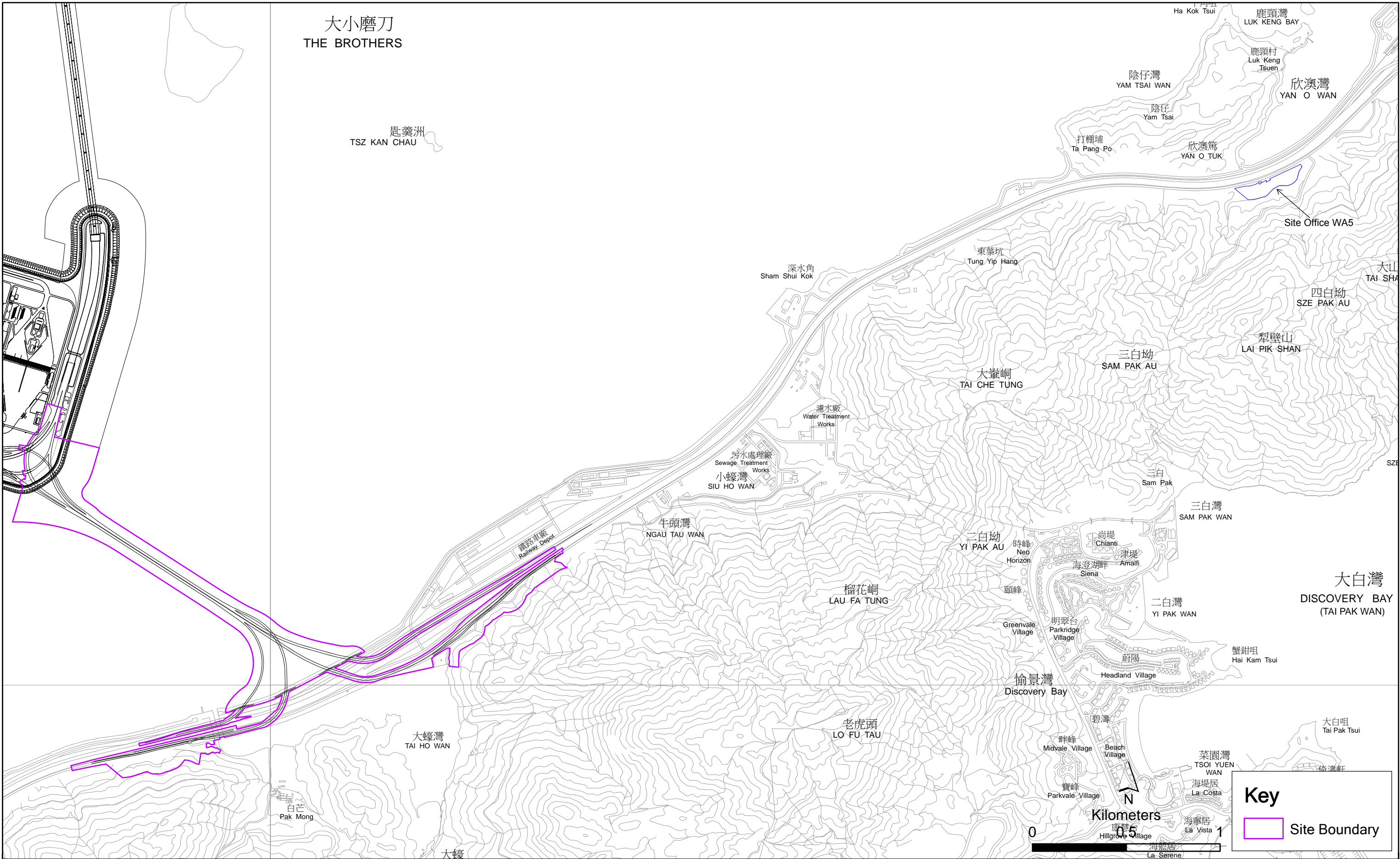
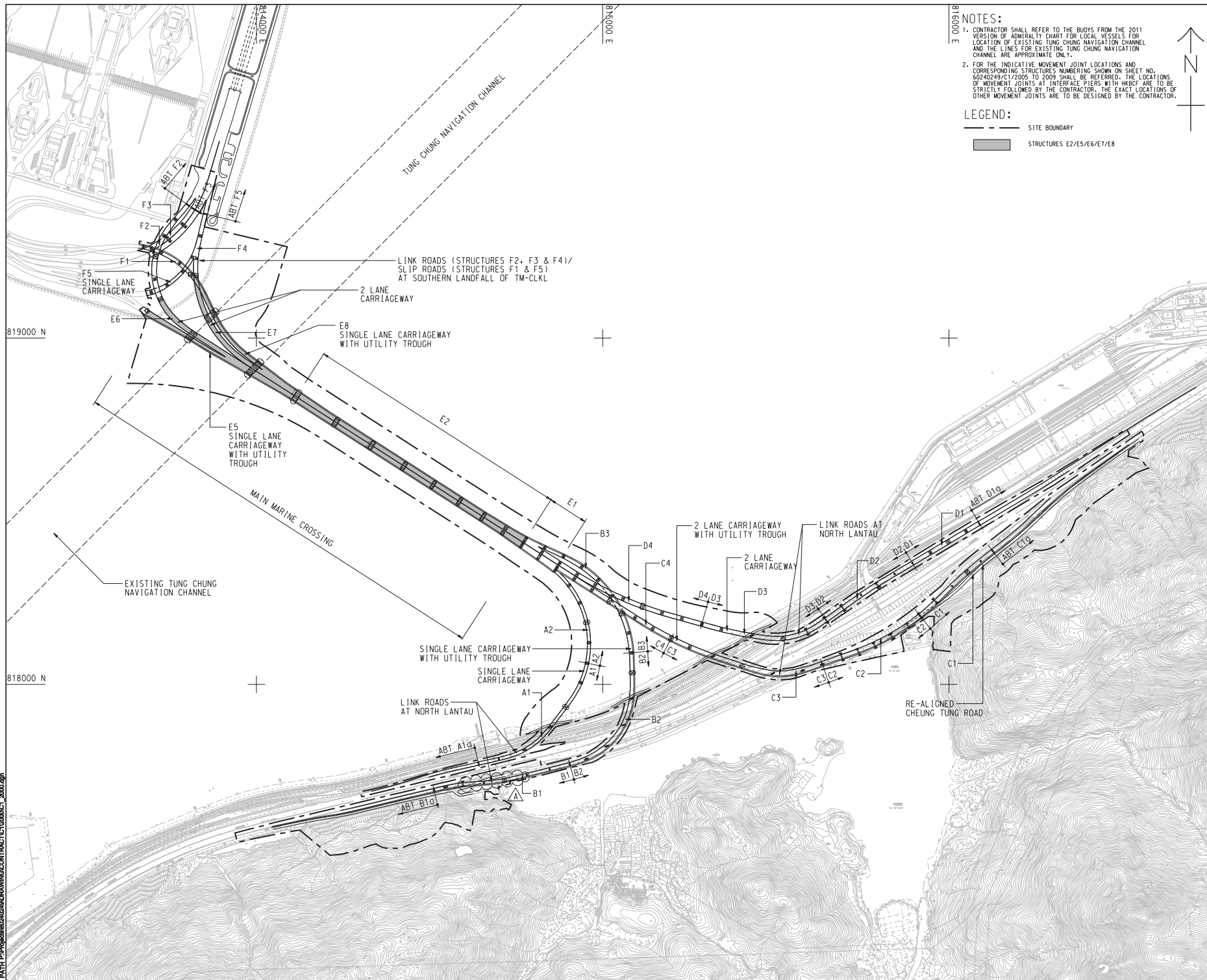


Figure 1.1

General Layout Plan of the Project



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Date: 6/8/2014



NOTES:

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

LEGEND:

- SITE BOUNDARY
- STRUCTURES E2/E5/E6/E7/E8

AECOM

PROJECT
 TUEN MUN - CHEK LAP KOK LINK

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

CLIENT
 路政署
HIGHWAYS DEPARTMENT
 港務局 橋樑工程處
 Hong Kong - Zhuhai - Hainan Bridge
 Hong Kong Project Management Office

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS

Figure 1.2a

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.

STATUS

SCALE	DIMENSION UNIT
A1 : 6000	METRES

KEY PLAN

PROJECT NO. 60240249	CONTRACT NO. HY/2012/07
SHEET TITLE SOUTHERN CONNECTION GENERAL LAYOUT PLAN	
SHEET NUMBER 60240249/C1/2000A	

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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

MATCH LINE
 FOR CONTINUATION
 SEE DRG. J3518/P/OAP/04/01101



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C	SUBMISSION	RC	09/13				

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Client: **路政署 HIGHWAYS DEPARTMENT**
 路政署 香港特別行政區 運輸署
 Hong Kong - Zhuhai - Macao Bridge
 Hong Kong Project Management Office

Supervising Officer: **AECOM**
 Contractor: **Gammon**

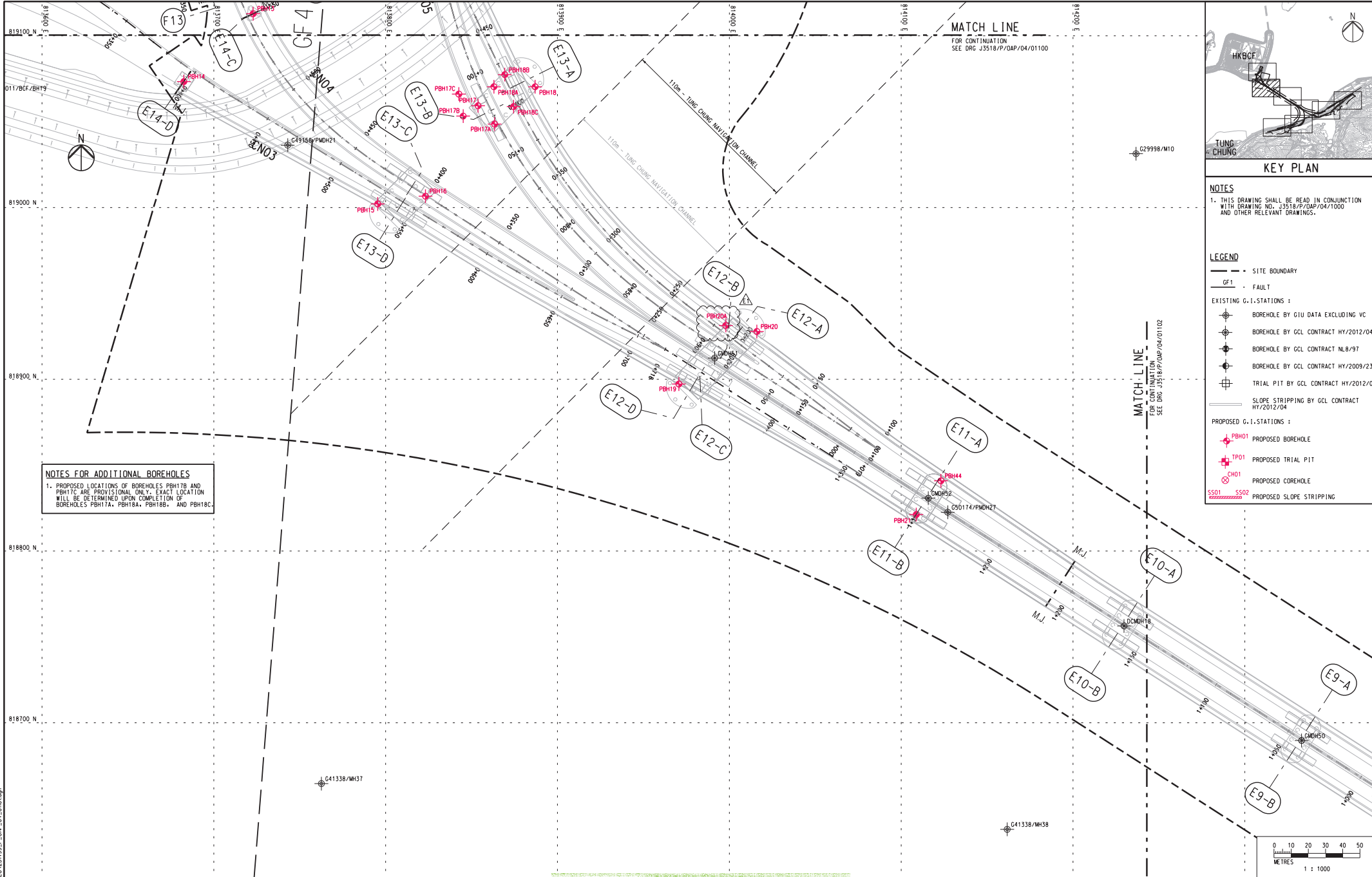
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Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Originator: **ARUP**

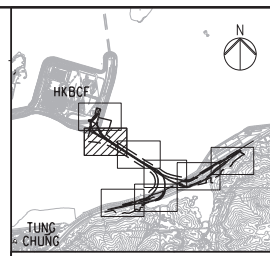
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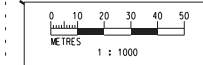


KEY PLAN

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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

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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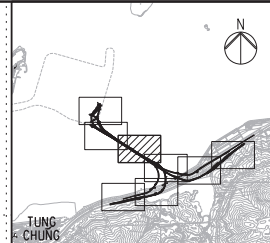
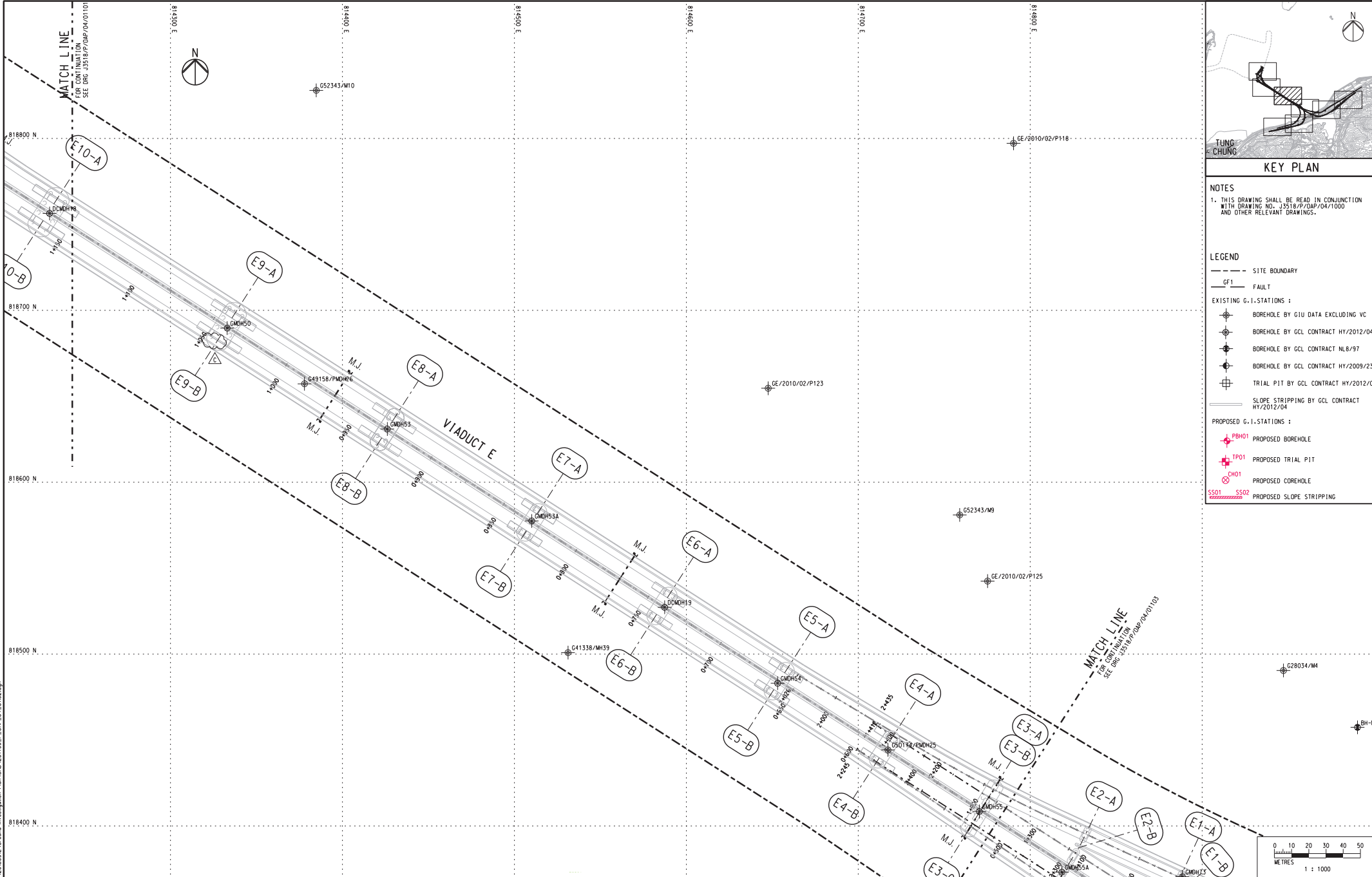
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Client	 路政署 HIGHWAYS DEPARTMENT 香港渠務及港務工程處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office
Supervising Officer	
Contractor	
Originator	

Project Title	Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section
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Rev.	E1

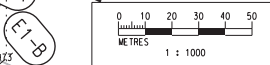
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 - ⊕ CH01 PROPOSED COREHOLE
 - SS01 SS02 PROPOSED SLOPE STRIPPING



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C	SUBMISSION	RC	09/13				

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Client

 路政署 HIGHWAYS DEPARTMENT
 香港港大聯合港工程管理局
 Hong Kong Project Management Office

Supervising Officer

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

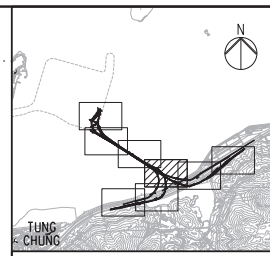
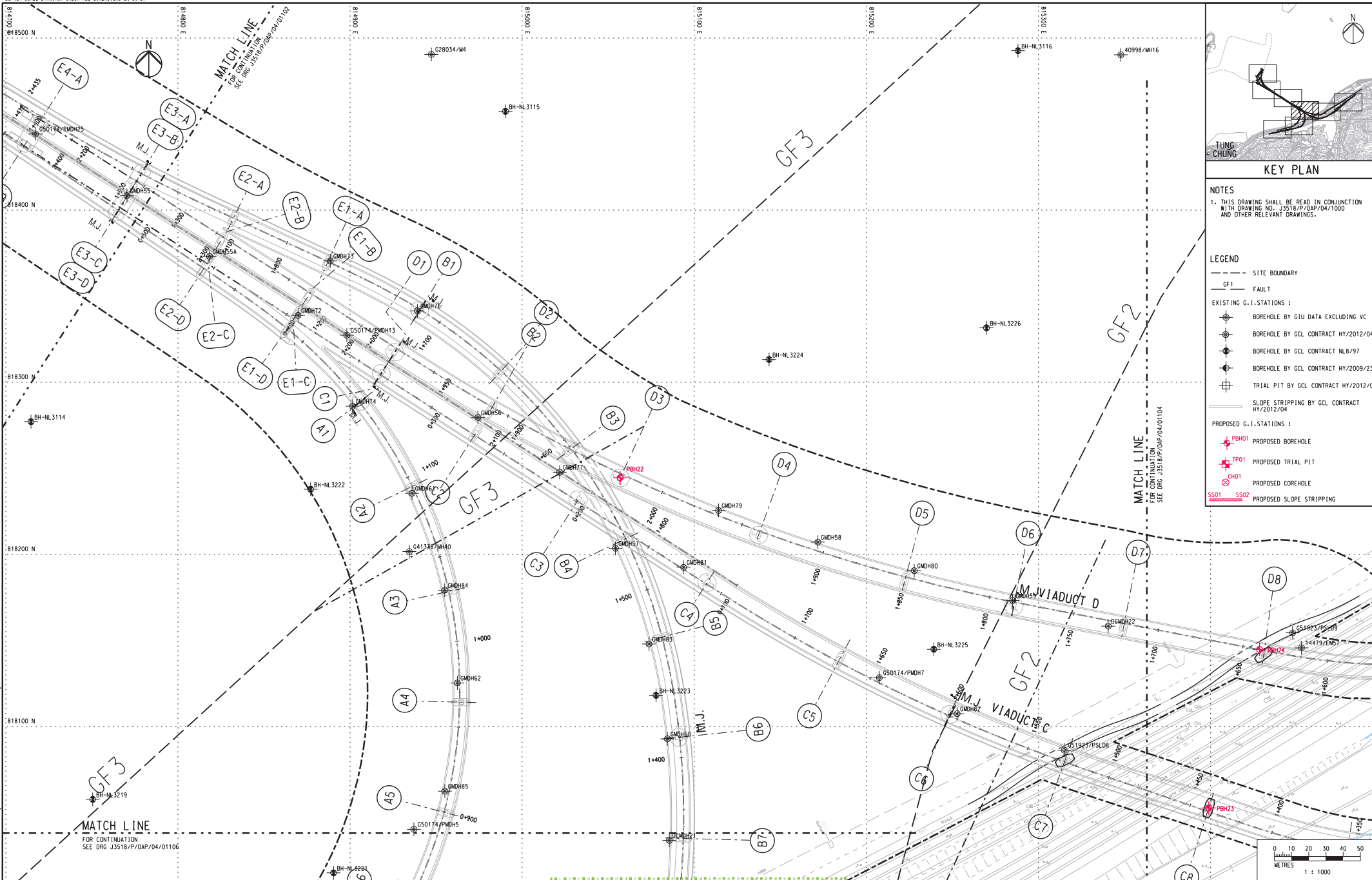
Contractor

Originator

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LEGEND

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	SLOPE STRIPPING BY GCL CONTRACT HY/2012/04
PROPOSED G.I. STATIONS :	
	PROPOSED BOREHOLE
	PROPOSED TRIAL PIT
	PROPOSED COREHOLE
	PROPOSED SLOPE STRIPPING



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

Checked	Approved
DS	DOP

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Client

Supervising Officer

Project Title

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

Contractor

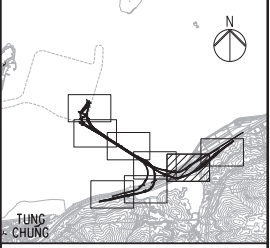
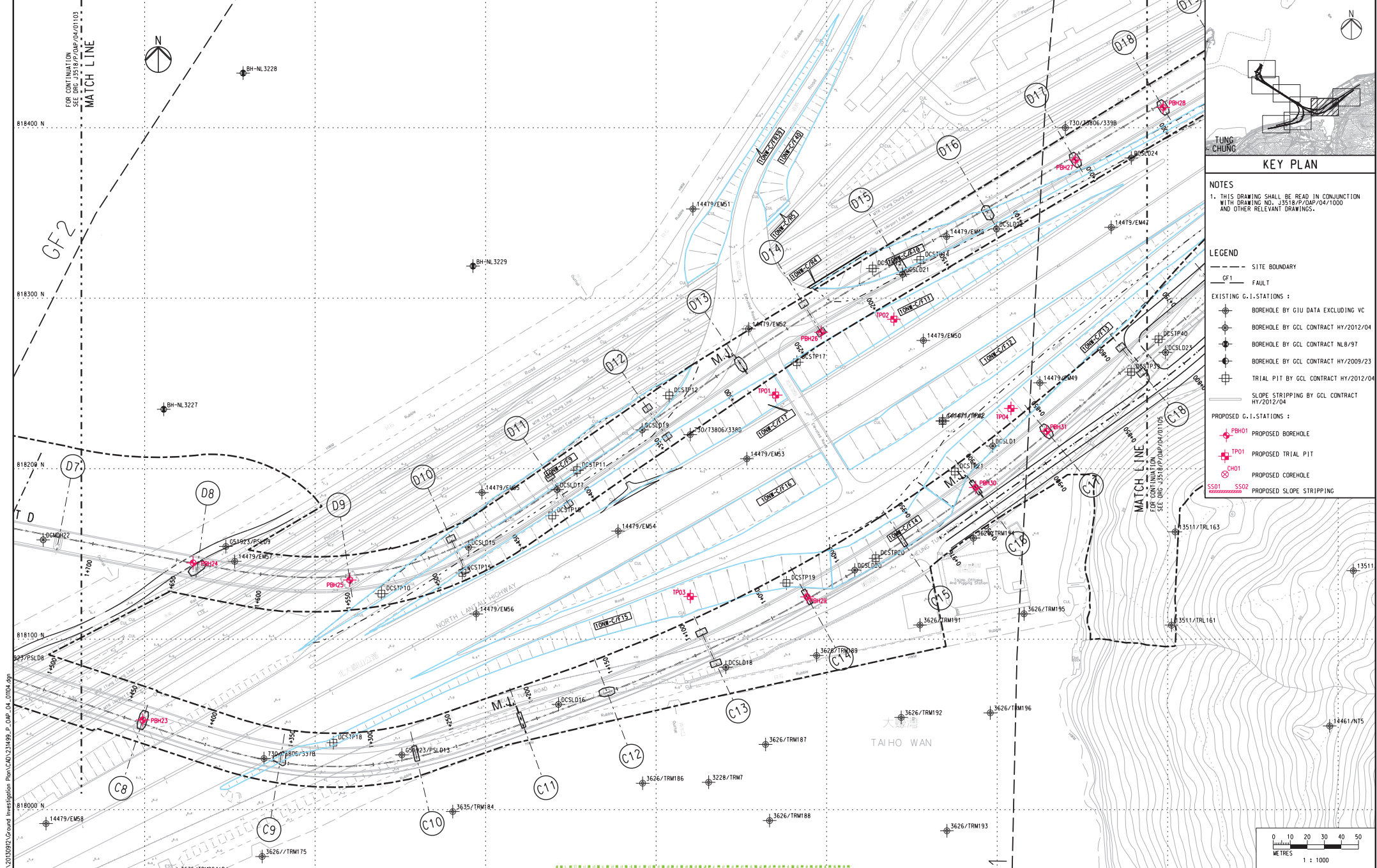
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Drawing title

Figure 1.2e

Drawing no. J3518/P/OAP/04/011003 Rev. C

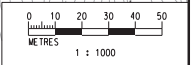
DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



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 NL6/97
 - ⊕ BOREHOLE BY GCL CONTRACT HY/2009/23
 - ⊕ TRIAL PIT 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	Drawn	Date
A	SUBMISSION	RC	07/13					RL	07/13
B	SUBMISSION	RC	07/13					Checked	Approved
C	SUBMISSION	RC	09/13					DS	DOP
								Scale	1:1000 @ A1 / 1:2000 @ A3

Client
 路政署
HIGHWAYS DEPARTMENT
 港珠澳大橋香港工程總處
 Hong Kong - Zhuhai - Macao Bridge
 Hong Kong Project Management Office

Supervising Officer
AECOM

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

Contractor
Gammon

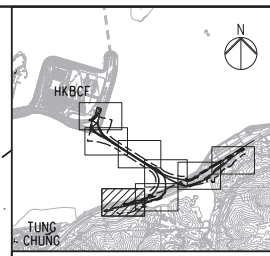
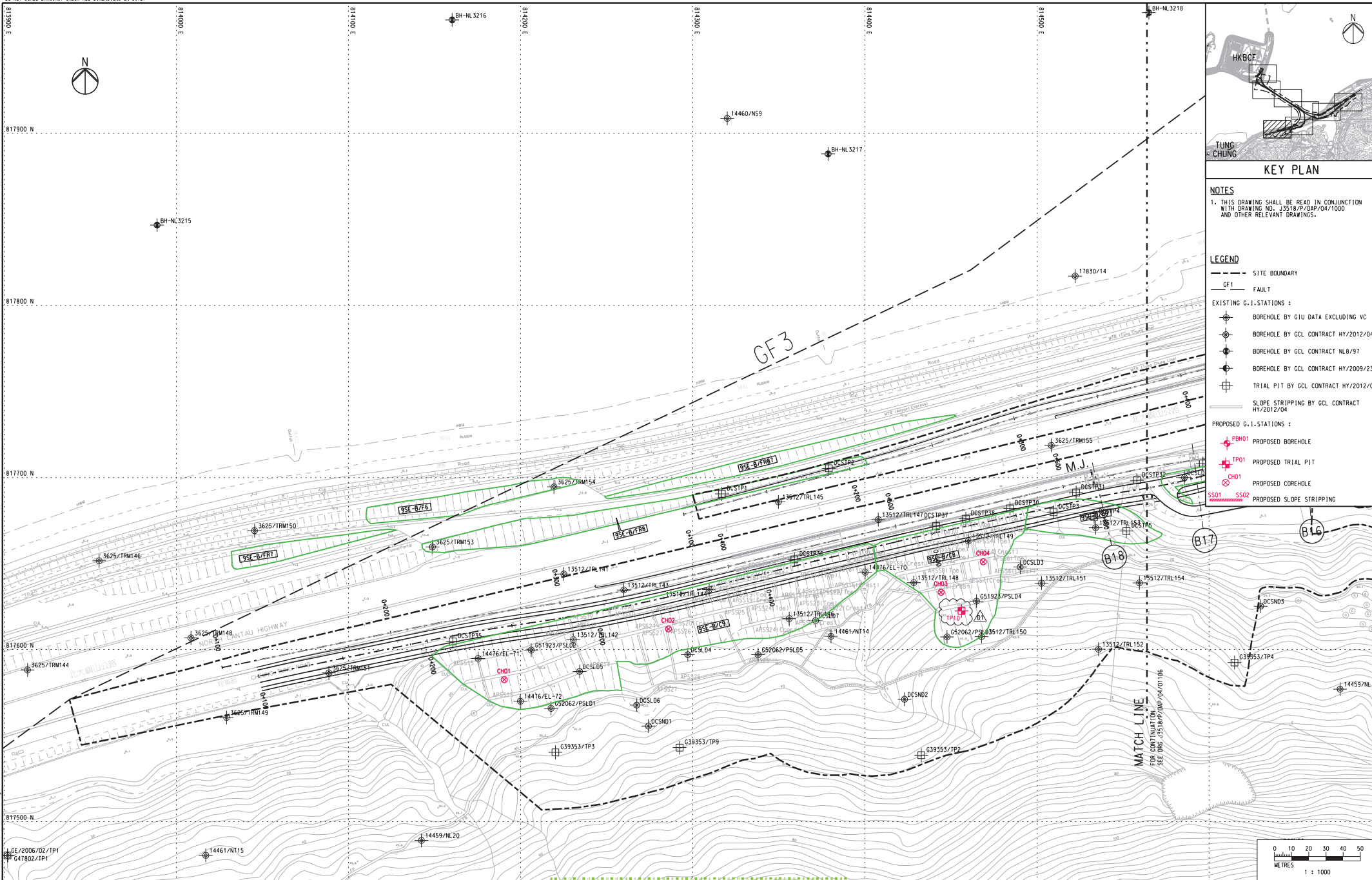
Originator
ARUP

Drawing title
Figure 1.2f

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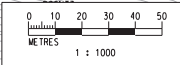
DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



KEY PLAN

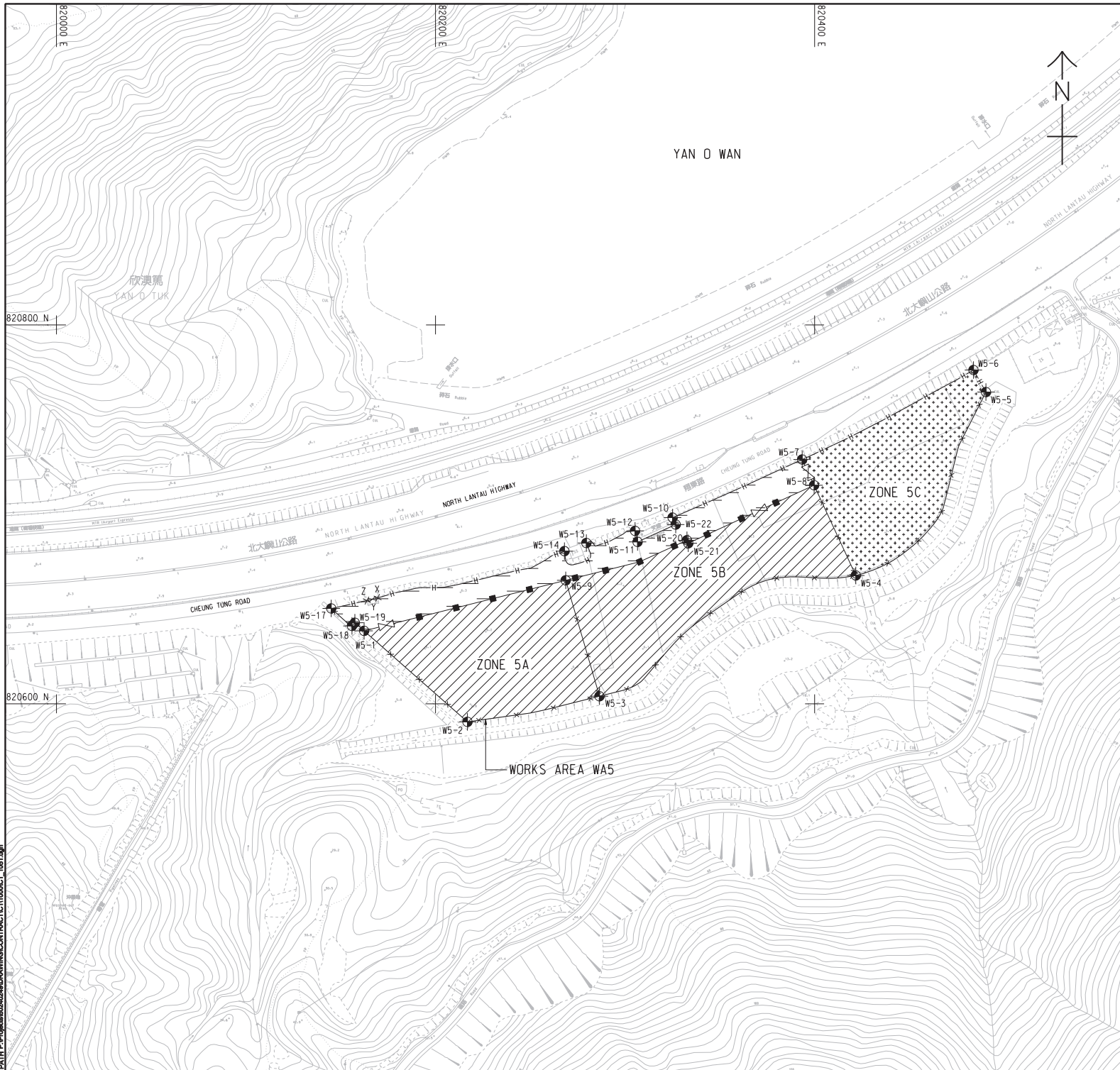
NOTES
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- SITE BOUNDARY
 - GF1 FAULT
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 - ⊕ BOREHOLE BY GCL CONTRACT HY/2009/23
 - ⊕ TRIAL PIT BY GCL CONTRACT HY/2012/04
 - SLOPE STRIPPING BY GCL CONTRACT HY/2012/04
 - PROPOSED G.I. STATIONS:
 - ⊕ PBH01 PROPOSED BOREHOLE
 - ⊕ TP01 PROPOSED TRIAL PIT
 - ⊕ CH01 PROPOSED COREHOLE
 - SS01 SS02 PROPOSED SLOPE STRIPPING



Printed by : 07/11/2013
 File name : J:\3518\p\oap\04\1000\231469.dwg

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NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/C1/1000.
- 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 619. IN CASE OF DISCREPANCY BETWEEN THE BOUNDARY SHOWN ON THIS DRAWING AND THE BOUNDARY INDICATED ON THE ENGINEERING CONDITIONS, THE LATTER SHALL PREVAIL.
- DEMARCATION OF THE WORKS AREA SHALL BE DETERMINED ON SITE.
- REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6110 AND H6111 FOR DETAILS OF HOARDING.
- REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6121 AND H6122 FOR DETAILS OF CHAIN LINK FENCE.
- REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H6121 FOR DETAILS OF GATE.
- 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.
- THE LOCATION AND WIDTH OF GATE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
- 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.
- THE TENTATIVE OCCUPATION PERIOD SHALL BE REFERRED TO EMPLOYER'S REQUIREMENTS PART 2 AND PART 14 SECTION 1 CLAUSE 1.45A.
- THE WORKS AREAS SHOWN ON THIS DRAWING ARE TO BE SHARE-USED AMONG THE CONTRACTS OF TM-CLK RELATED CONTRACTS. THE AREAS HATCHED WITH [diagonal lines] ARE TENTATIVELY ALLOCATED FOR THE USE OF THIS CONTRACT.
- 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.
- 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 W5

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 NO.
60240249

TUEN MUN - CHEK LAP KOK LINK

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

CLIENT
路政署
HIGHWAYS DEPARTMENT
香港公路管理工程署
Hong Kong - Zhuhai - Hainan Bridge
Hong Kong Project Management Office

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
九利建築師

ISSUE/REVISION

NO.	DATE	DESCRIPTION

STATUS

DATE	DESCRIPTION	CHK.
OCT. 12	TENDER DRAWING	CWN

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DIMENSION UNIT
METRES

Figure 1.2h

PROJECT NO.
60240249

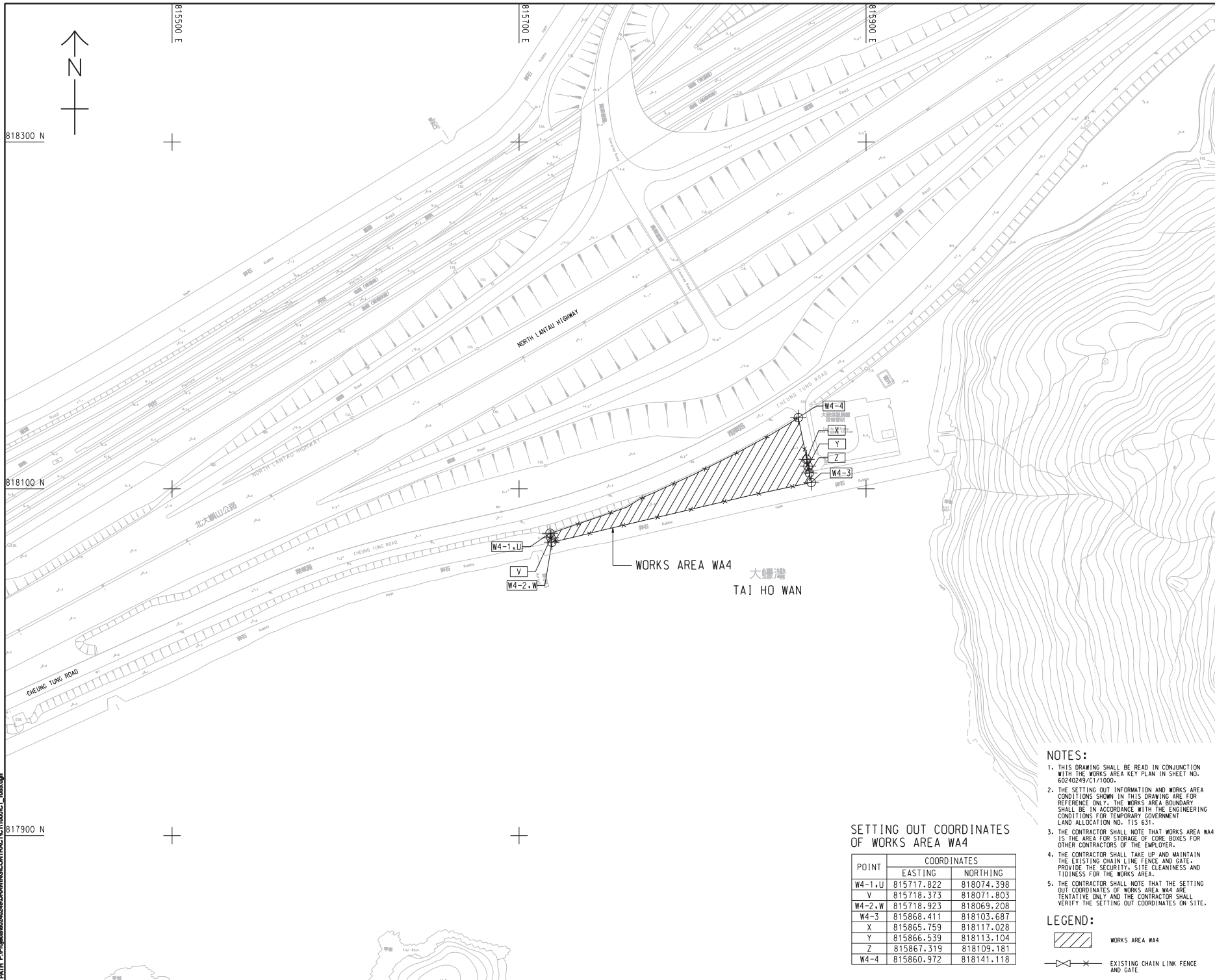
CONTRACT NO.
HY/2012/07

SHEET TITLE
WORKS AREA AND HOARDING PLAN

SHEET NUMBER
60240249/C1/1051

SHEET 1 OF 2

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WORKS AREA WA4
 大蠔灣
 TAI HO WAN

SETTING OUT COORDINATES OF WORKS AREA WA4

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

- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/C1/100.
 - 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.
 - THE CONTRACTOR SHALL NOTE THAT WORKS AREA WA4 IS THE AREA FOR STORAGE OF CORE BOXES FOR OTHER CONTRACTORS OF THE EMPLOYER.
 - THE CONTRACTOR SHALL TAKE UP AND MAINTAIN THE EXISTING CHAIN LINK FENCE AND GATE. PROVIDE THE SECURITY, SITE CLEANLINESS AND TIDINESS FOR THE WORKS AREA.
 - THE CONTRACTOR SHALL NOTE THAT THE SETTING OUT COORDINATES OF WORKS AREA WA4 ARE TENTATIVE ONLY AND THE CONTRACTOR SHALL VERIFY THE SETTING OUT COORDINATES ON SITE.

LEGEND:

WORKS AREA WA4

EXISTING CHAIN LINK FENCE AND GATE

AECOM

PROJECT
 TUEN MUN - CHEK LAP KOK LINK

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

CLIENT
 路政署 DEPARTMENT OF HIGHWAYS
 港務局 港務工程管理局
 Hong Kong + Zhuhai + Hainan Bridge
 Hong Kong Project Management Office

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS

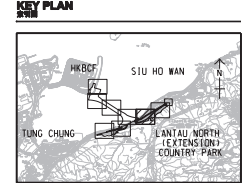
Figure 1.2j

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
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DIMENSION UNIT
 METRES



PROJECT NO.
 60240249

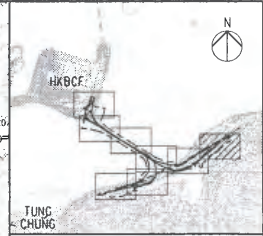
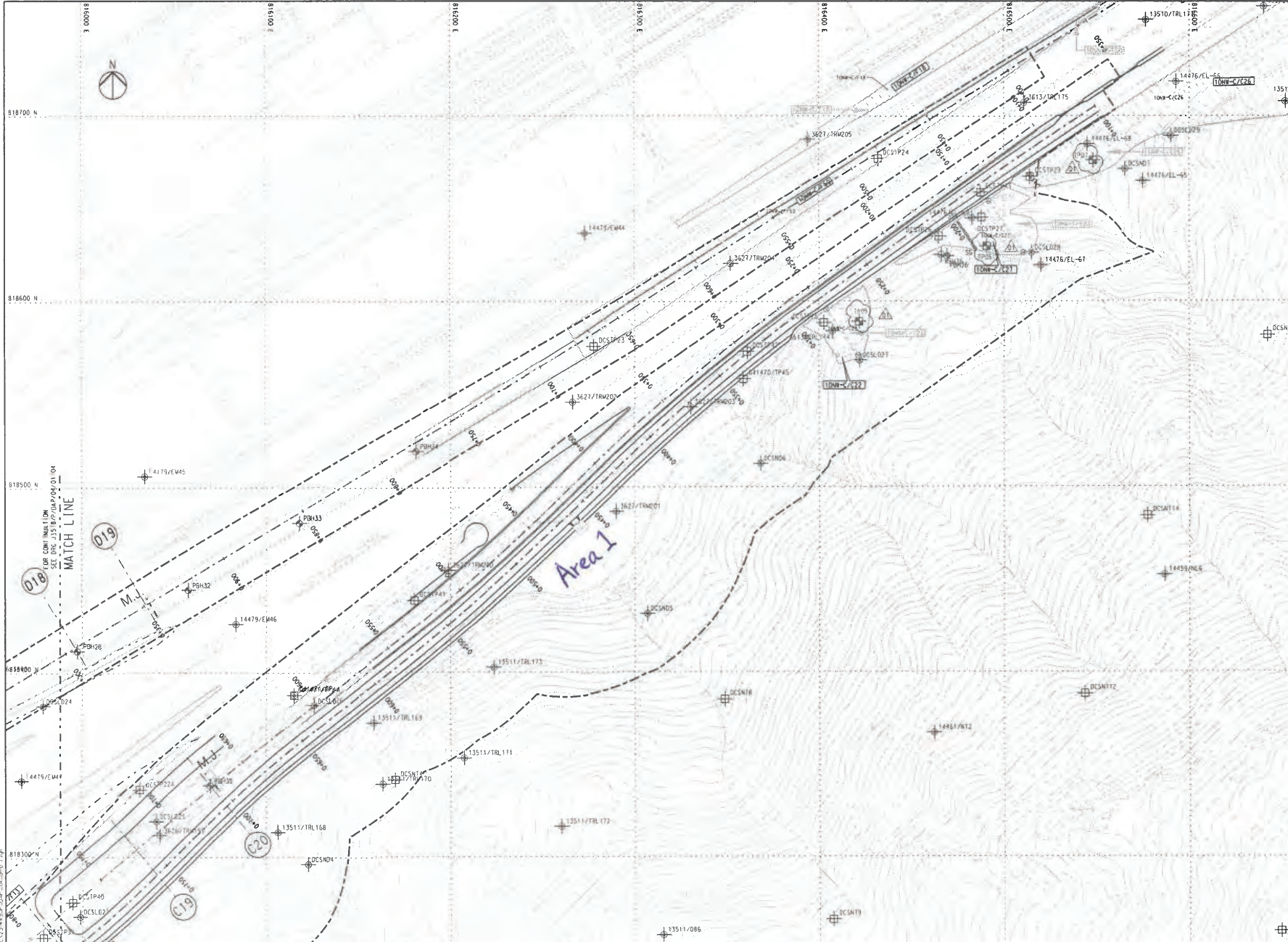
CONTRACT NO.
 HY/2012/07

SHEET TITLE
 WORKS AREA WA4

SHEET NUMBER
 60240249/C1/1053

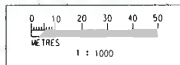
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NOTES
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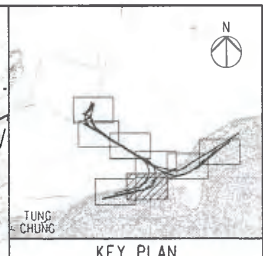
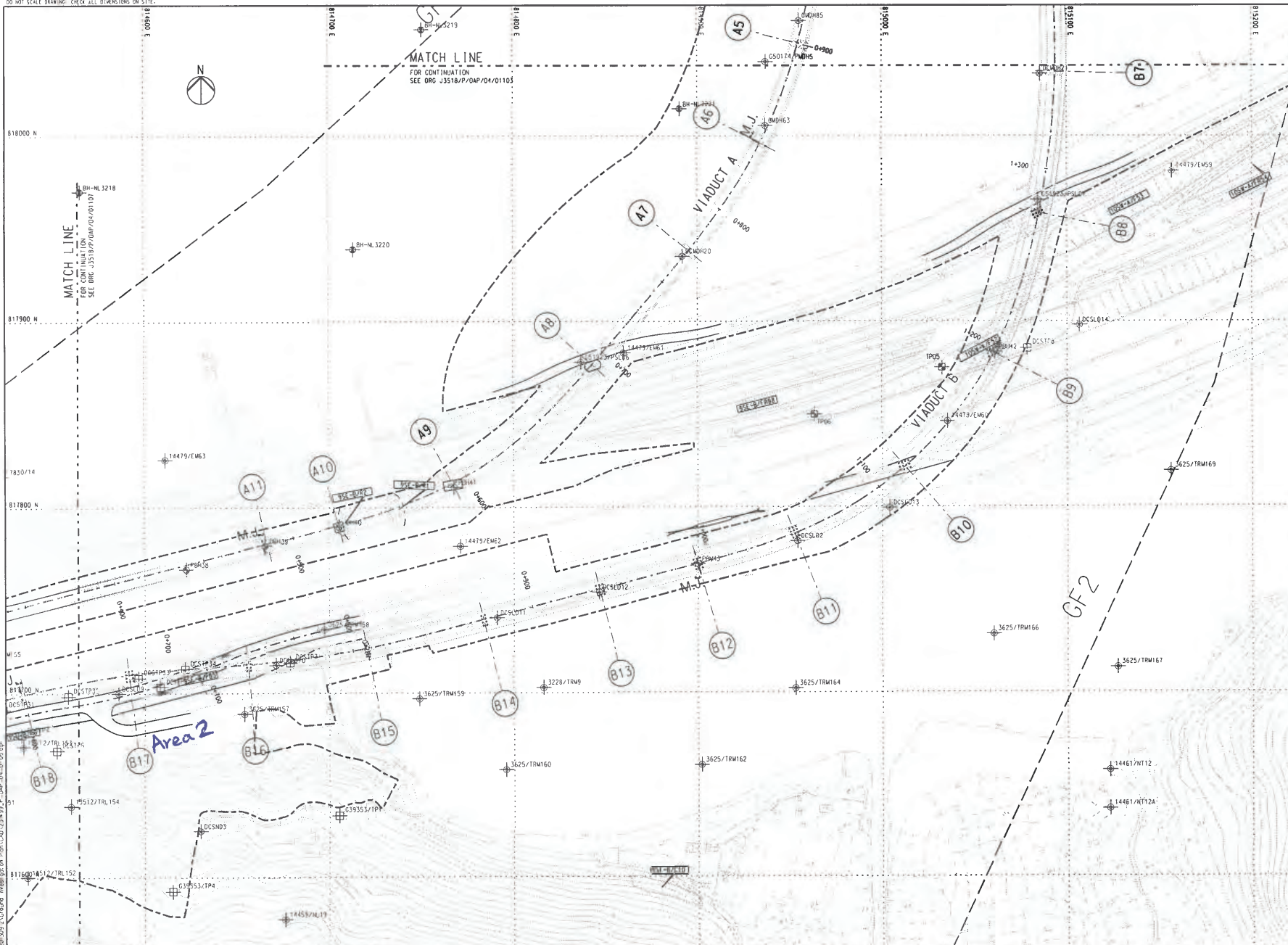
- LEGEND**
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- ⊕ BOREHOLE BY GIU DATA EXCLUDING VC
 - ⊕ BOREHOLE BY GCL CONTRACT HY/2012/04
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 - ⊕ BOREHOLE BY GCL CONTRACT HY/2009/23
 - ⊕ TRIAL PIT BY GCL CONTRACT HY/2012/04
 - ⊕ SLOPE STRIPPING BY GCL CONTRACT HY/2012/04
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- ⊕ P6-0 PROPOSED BOREHOLE
 - ⊕ T-01 PROPOSED TRIAL PIT
 - ⊕ C-01 PROPOSED COREHOLE
 - ⊕ S5-01 PROPOSED SLOPE STRIPPING



Rev	Description	By	Date	Rev	Description	By	Date
01	ISSUED FOR CONSTRUCTION	RL	07/13				
02	ISSUED FOR CONSTRUCTION	RL	07/13				
03	ISSUED FOR CONSTRUCTION	RL	07/13				
04	ISSUED FOR CONSTRUCTION	RL	07/13				
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50	ISSUED FOR CONSTRUCTION	RL	07/13				

Client 路政署 HIGHWAYS DEPARTMENT 港珠澳大桥香港工程指挥部 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office	Project Title Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section	Drawing title Figure 1.2k
Scale 1:1000 @ A1 / 1:2000 @ A3		Drawing no. J3518/P/OAP/04/01105 Rev. D1

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



NOTES
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LEGEND

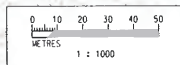
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- GF1- FAULT

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- ⊕ BOREHOLE BY GCL CONTRACT NL8/97
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- ⊕ TRIAL PIT BY GCL CONTRACT HY/2012/04
- ▭ SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I. STATIONS :

- ⊕ PROPOSED BOREHOLE
- ⊕ PROPOSED TRIAL PIT
- ⊕ PROPOSED COREHOLE
- ▭ PROPOSED SLOPE STRIPPING



Rev	Description	By	Date	Rev	Description	By	Date
1	COMPLETION	RL	07/13				
2	SUBMITTAL	RL	07/13				
3	SUBMITTAL	RL	07/13				

Drawn	Date	Client
RL	07/13	路政署 HIGHWAYS DEPARTMENT
Checked	Approved	港珠澳大橋香港工程管理有限公司 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office
DS	DOP	
Scale	1:1000 @ A1 / 1:2000 @ A3	

Supervising Officer	Contractor	Originator
AZCOM	Gammon	ARUP

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

Drawing Title: **Figure 1.2I**

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

Plotted By: RL
 P: J:\3518\CD\0003\2\Ground\rev\04\01106.dwg
 Plot Date: 08/08/13

Table 1.1 *Contact Information of Key Personnel*

Party	Position	Name	Telephone	Fax
HyD (Highways Department)	Project Coordinator	Stanley Chan	2762 3406	3188 6614
	Senior Engineer	Steven Shum	2762 4133	3188 6614
SOR (AECOM Asia Company Limited)	Chief Resident Engineer	Daniel Ip	3553 3800	2492 2057
	Resident Engineer	Kingman Chan	3691 3950	3691 2899
ENPO / IEC (Ramboll Environ Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3547 2133	3465 2899
	IEC	Dr. F.C. Tsang	3547 2134	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 was 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:

Marine Works

- Uninstallation of marine piling platform;
- Pier construction;
- Launching gantry operation; and
- Installation of deck segment and pier head segment.

Land-based Works

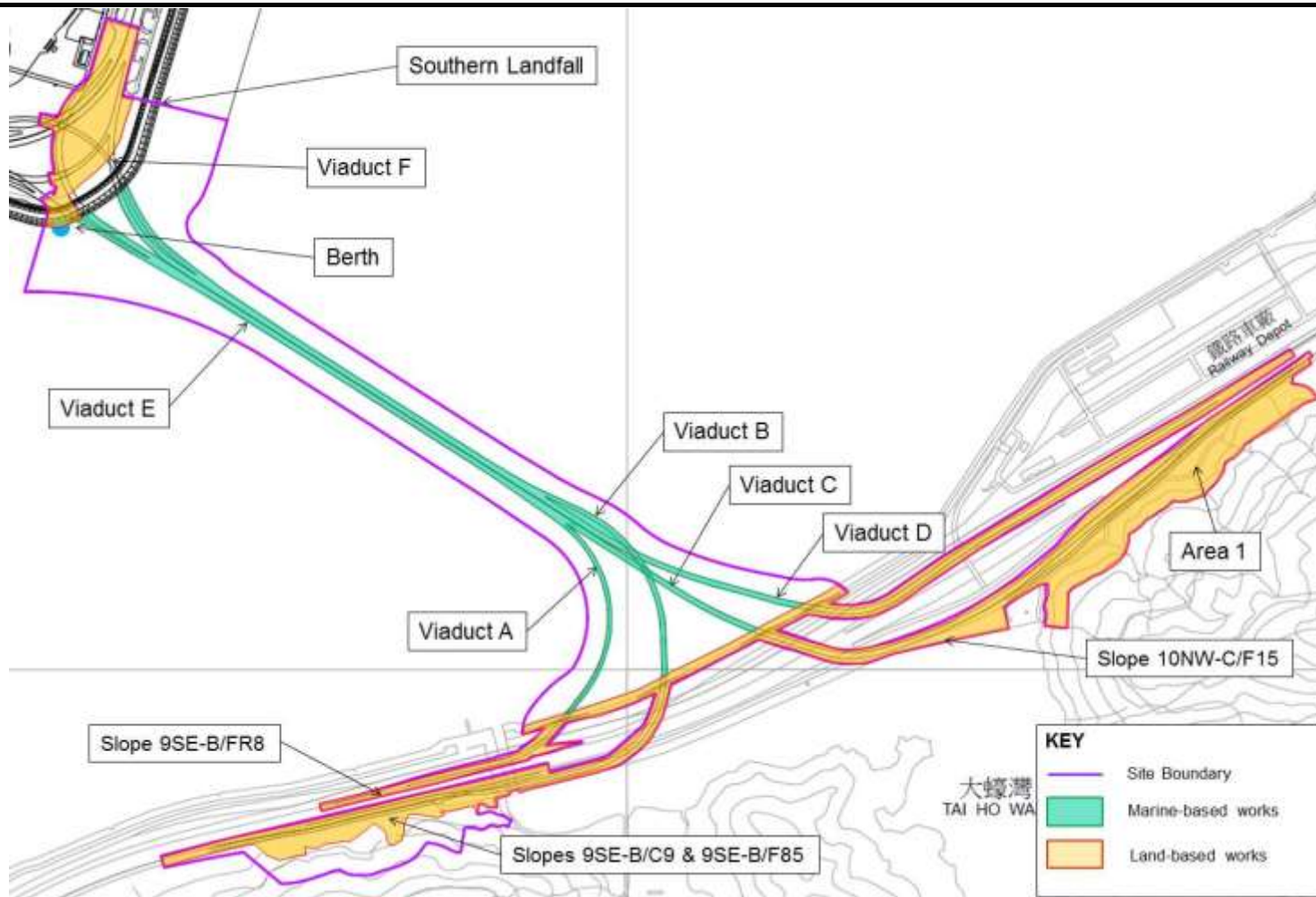
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Construction of land section of berth at Southern Landfall;

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

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

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

Figure 1.3 Locations of Construction Activities in the Reporting Month



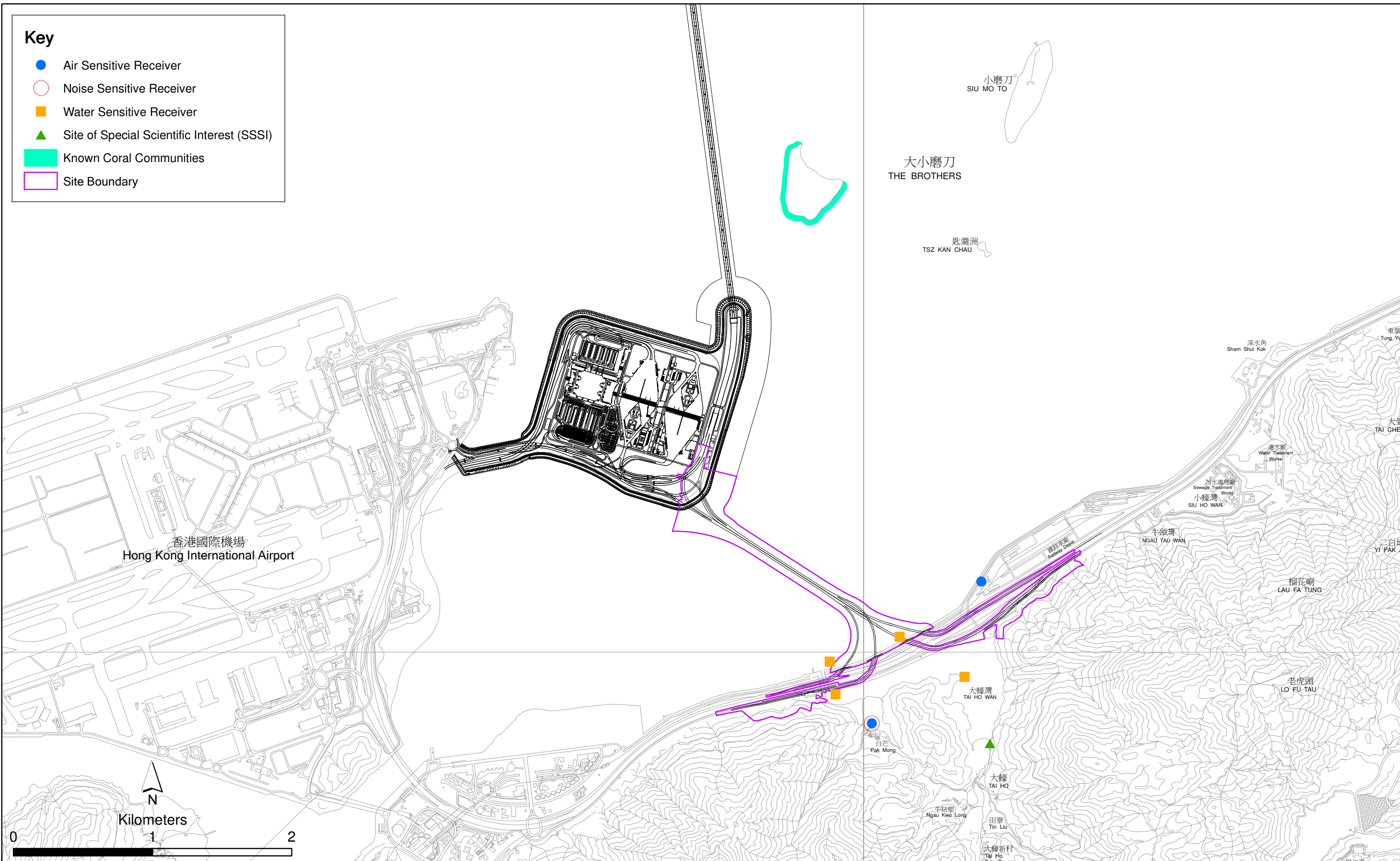


Figure 1.4

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

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, 7, 13, 19, 25 and 29 July 2016
ASR 8A	Area 4	On ground at the works area, Area 4	4, 7, 13, 19, 25 and 29 July 2016

High Volume Samplers (HVSs) were used for carried out 1-hour and 24-hour TSP monitoring on 4, 7, 13, 19, 25 and 29 July 2016 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 anemometer 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*.

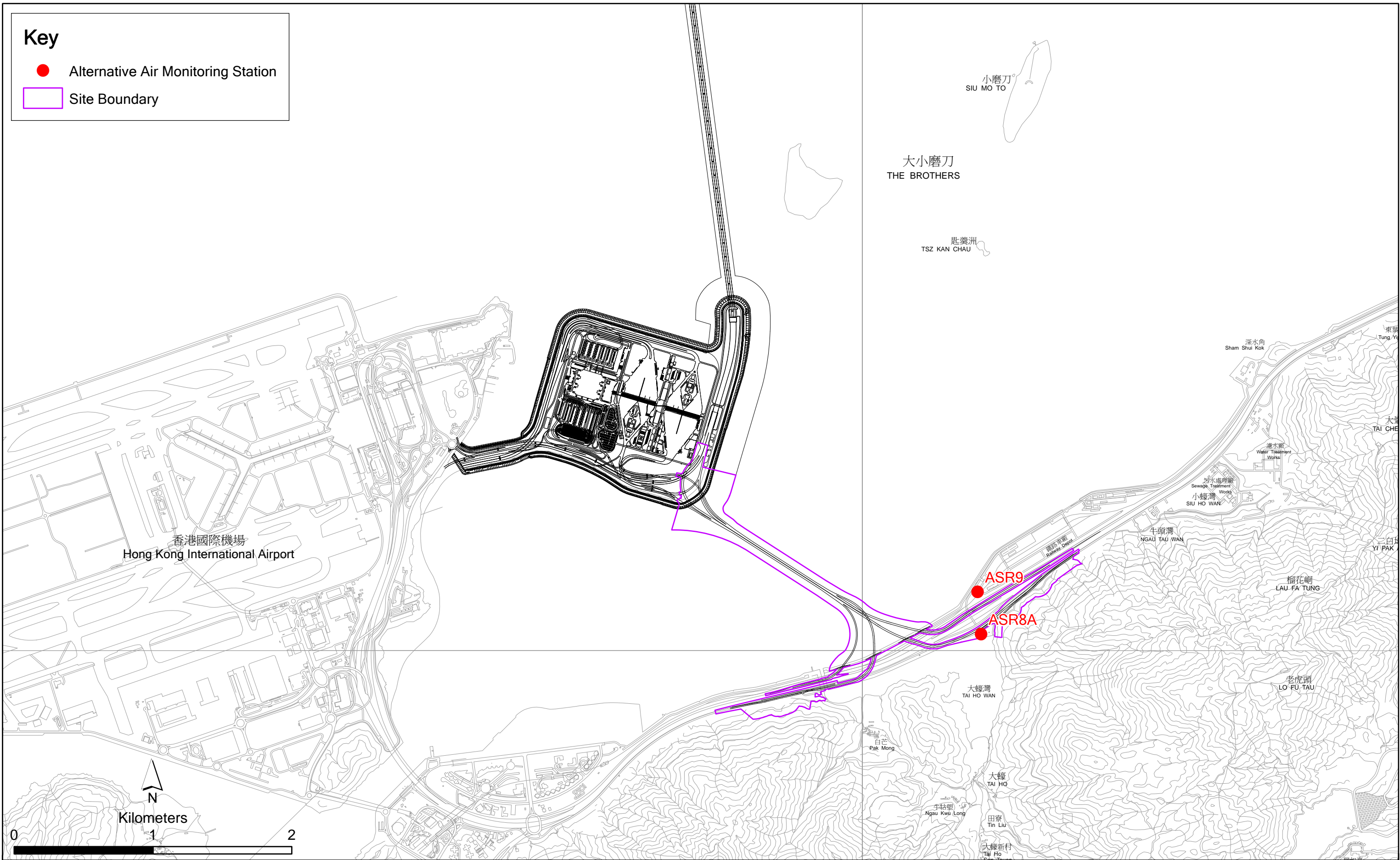


Figure 2.1

Locations of Air Quality Monitoring Stations

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 July 2016 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 ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
ASR 8A	57	47 - 69	394	500
ASR 9	68	44 - 107	393	500

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

Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
ASR 8A	46	43 - 50	178	260
ASR 9	55	42 - 102	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, 7, 13, 19, 25 and 29 July 2016 by 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, 7, 13, 19, 25 and 29 July 2016

Table 2.6 *Noise Monitoring Equipment*

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31
Acoustic Calibrator	Rion NC-73



Figure 2.2

Location of Noise Monitoring Station

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*.

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

	Average , dB(A), Leq (30mins)	Range, dB(A), Leq (30mins)	Limit Level, dB(A), Leq (30mins)
NSR 1A	59	56 - 60	75

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

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

2.3 *WATER QUALITY MONITORING*

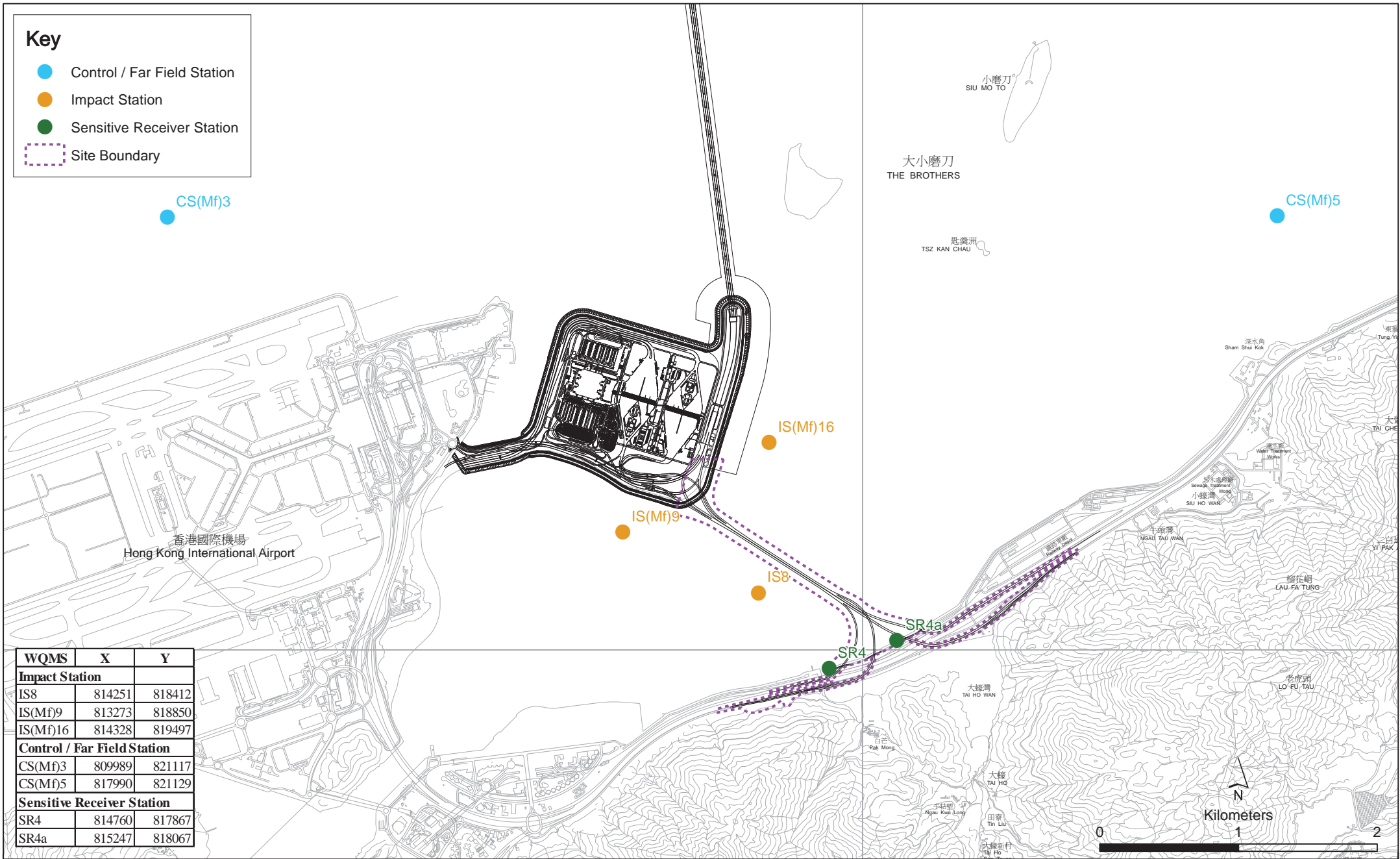
2.3.1 *Monitoring Requirements and Equipment*

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*.

Key

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



WQMS	X	Y
Impact Station		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
Control / Far Field Station		
CS(Mf)3	809989	821117
CS(Mf)5	817990	821129
Sensitive Receiver Station		
SR4	814760	817867
SR4a	815247	818067

Figure 2.3

Locations of Water Quality Monitoring Stations

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)	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	• Water depth (m) • Salinity (ppt) • Dissolved Oxygen (DO) (mg/L and % of saturation)		
IS8	Impact Station (Close to HKBCF construction site)	814251	818412			
SR4	Sensitive receiver (Tai Ho Inlet)	814760	817867	• Suspended Solid (SS) (mg/L)		
SR4a	Sensitive receiver	815247	818067			
CS(Mf)3	Control Station	809989	821117			
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.

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
DO and Salinity	YSI Pro2030
Turbidity meter	HACH Model 2100Q
pH meter	Thermo Scientific Orion 2 Star
Positioning Equipment	Koden913MK2 with KBG-3 DGPS antenna
Water Depth Detector	Speedtech Instrument SM-5
Water Sampler	Kemmerer 1520 (1520-C25) 2.2L with messenger

2.3.2 *Monitoring Schedule for the Reporting Month*

The schedule for water quality monitoring in July 2016 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*.

Neither Action nor Limit Levels exceedances was recorded at all monitoring stations for impact water quality monitoring in the reporting month. No action is thus required to be undertaken in accordance with the Event Action Plan 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 dolphins. 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.

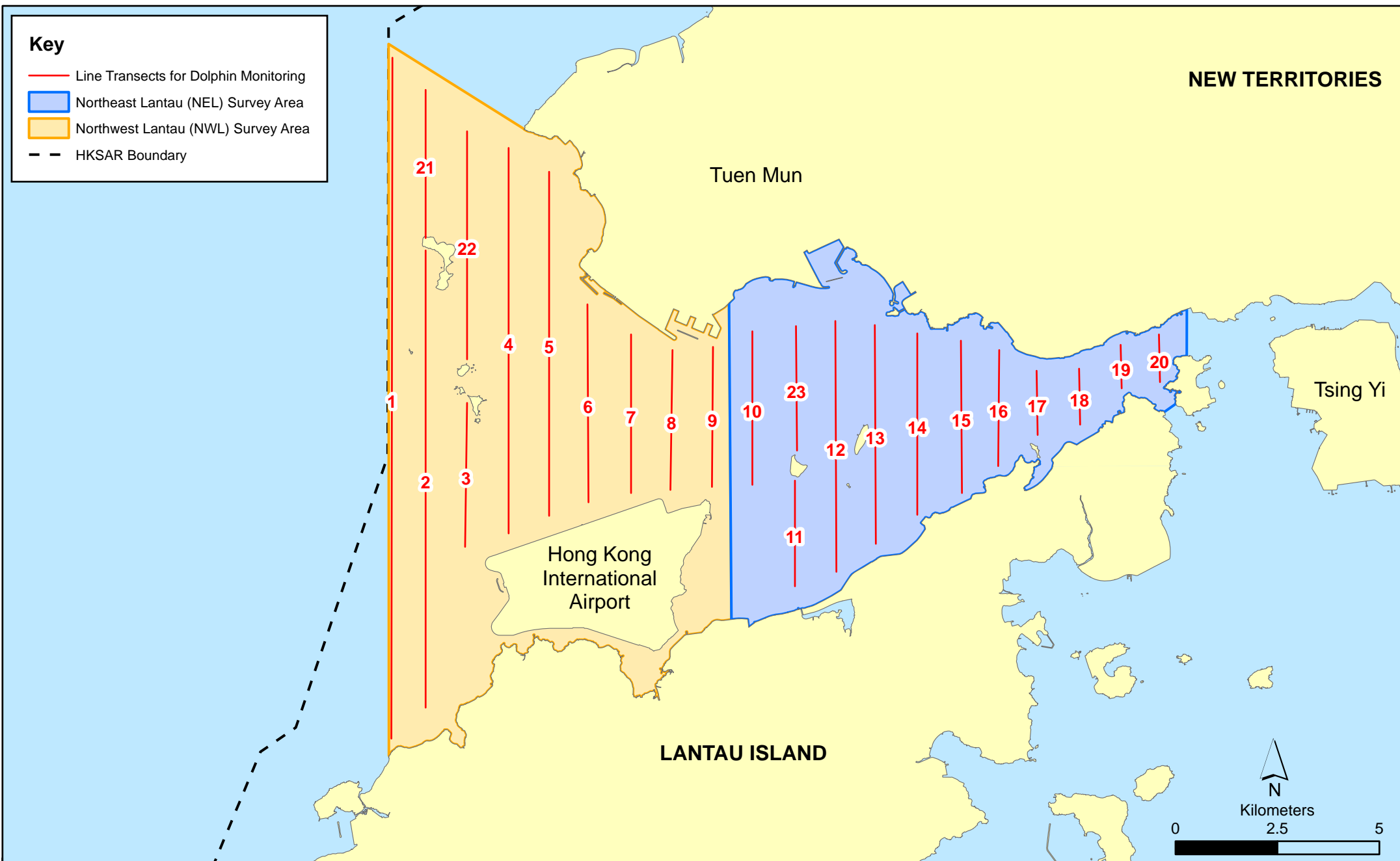


Figure 2.4

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

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	805475	815913	14	Start Point	817537	820220
2	End Point	805477	826654	14	End Point	817537	824613
3	Start Point	806464	819435	15	Start Point	818568	820735
3	End Point	806464	822911	15	End Point	818568	824433
4	Start Point	807518	819771	16	Start Point	819532	821420
4	End Point	807518	829230	16	End Point	819532	824209
5	Start Point	808504	820220	17	Start Point	820451	822125
5	End Point	808504	828602	17	End Point	820451	823671
6	Start Point	809490	820466	18	Start Point	821504	822371
6	End Point	809490	825352	18	End Point	821504	823761
7	Start Point	810499	820880	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	820872	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				
12	End Point	815542	824882				

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 5, 12, 18 and 27 July 2016 (*Appendix F*).

2.4.7 *Results and Observations*

A total of 302.51 km of survey effort was collected, with 92.5% 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 July 2016. Among the two areas, 115.61 km and 186.90 km of survey effort were collected from NEL and NWL survey areas respectively. The total survey effort conducted on primary and secondary lines were 217.67 km and 84.84 km respectively. The survey efforts are summarized in *Appendix K*.

Four (4) groups of seven (7) Chinese White Dolphins were sighted during the two sets of monitoring surveys in July 2016. All four (4) dolphin sightings were made in NWL, while none was sighted in NEL. During the surveys in July 2016, three (3) sightings were made on primary lines during on-effort search. None of the dolphin groups was associated with operating fishing vessel or sighted in the proximity of the Project's alignment. The distribution of dolphin sighting during the reporting month is shown in *Figure 2.5*.

Encounter rates of Chinese White Dolphins are deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in July 2016 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: Jul 5 th / 12 th	0.0	0.0
	Set 2: Jul 18 th / 27 th	0.0	0.0
NWL	Set 1: Jul 5 th / 12 th	4.6	9.2
	Set 2: Jul 18 th / 27 th	0.0	0.0

Note: Dolphin Encounter Rates are deduced from the two sets of surveys (two surveys in each set) in July 2016 in Northeast (NEL) and Northwest Lantau (NWL)

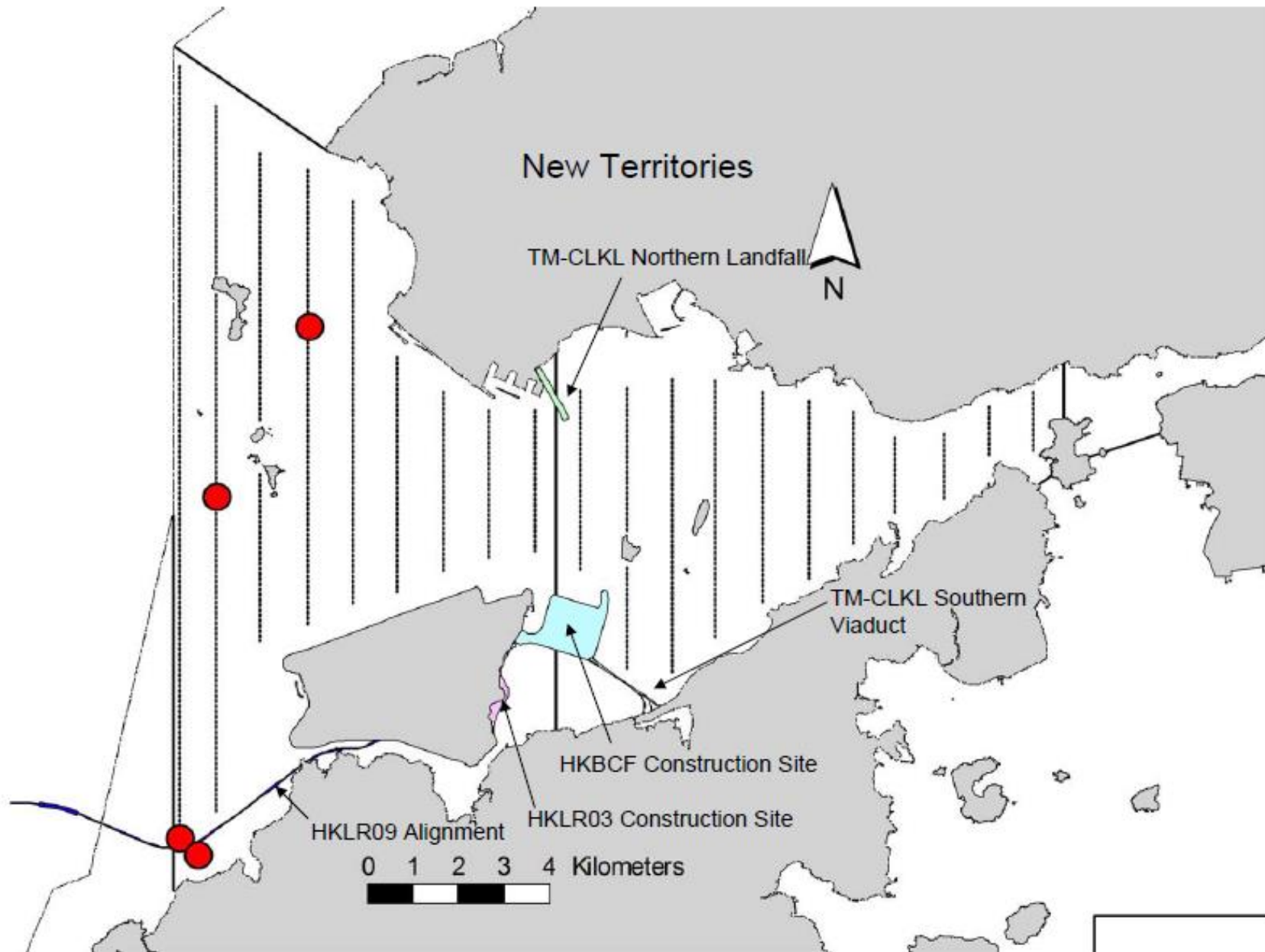


Figure 2.5

Date 5/8/2016

HY/2012/07 TM-CLKL Southern Connection Viaduct Section
 The distribution of dolphin sightings during the reporting period
 (Source: Adopted from HKLR03 Monitoring Survey in July 2016)

Environmental
 Resources
 Management



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	2.3	1.8	4.6	3.6

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in July 2016 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau

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, where 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 Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) were recorded in July 2016 during the exclusion zone monitoring.

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

2.5 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, four (4) site inspections were carried out on 6, 13, 20 and 28 July 2016.

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

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

Inspection Date	Environmental Observations	Recommendations/ Remarks
6 July 2016	<p>Abutment D</p> <ul style="list-style-type: none"> • Refuse and excessive soil were found in the drainage outside entrance. • A drip tray was not plugged. • Stagnant water was accumulated in a drip tray. 	<p>Abutment D</p> <ul style="list-style-type: none"> • Refuse and excessive soil in the drainage should be cleaned up regularly. • Drip tray should be plugged. • Stagnant water accumulated in drip tray should be cleaned up regularly.
13 July 2016	<p>Seafront</p> <ul style="list-style-type: none"> • Chemical containers were not placed in drip tray. • Oil stain was found on the ground. 	<p>Seafront</p> <ul style="list-style-type: none"> • Chemical containers should be placed in drip tray. • Oil stain should be removed.
20 July 2016	<p>Southern landfall</p> <ul style="list-style-type: none"> • A chemical container was not placed in drip tray. • The land was partially dry. • The label for general fill storage was not displayed. • The checklist for a wetsep was not displayed. 	<p>Southern landfall</p> <ul style="list-style-type: none"> • Chemical container should be placed in drip tray. • Watering should be applied regularly. • General fill storage should be properly labelled. • Checklist for wetsep should be displayed.
28 July 2016	<p>Pier E1</p> <ul style="list-style-type: none"> • A chemical container was not placed in drip tray. • The gutter was not properly installed. <p>Pier C18</p> <ul style="list-style-type: none"> • The soil stockpile was not well covered. • The unpaved area was partially dry. 	<p>Pier E1</p> <ul style="list-style-type: none"> • Chemical container should be placed in drip tray. • Gutter should be properly installed. <p>Pier C18</p> <ul style="list-style-type: none"> • The soil stockpile should be well covered. • Watering should be applied regularly.

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)
July 2016	277	0	230	94,760	1,890	2,200	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 March 2015	N/A	HyD	Tuen Mun- Chek Lap Kok Link
Environmental Permit	EP-353/2009/K	17 July 2015	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-RW0339-16	17 Jun 2016	19 Dec 2016	GCL	General works at WA5
Construction Noise Permit for night works and works in general holidays	GW-RS0383-16	20 Apr 2016	19 Oct 2016	GCL	For Broad Permit
Construction Noise Permit for night works and works in general holidays	GW-RW0707-16	11 Jul 2016	30 Sep 2016	GCL	Broad Permit for Segment Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RW0504-16	25 May 2016	31 Aug 2016	GCL	Broad Permit for Segment Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS0718-16	13 Jul 2016	13 Jan 2017	GCL	Pre-casted pile cap shell installation at E10-E13
Construction Noise Permit for night works and works in general holidays	GW-RS0109-16	5 Feb 2016	14 Aug 2016	GCL	Pre-casted pile cap shell installation at E10-E13
Marine Dumping Permit	EP/MD/17-066	19 Jul 2016	31 Aug 2016	GCL	For dumping Type I (Dedicated Site) and Type II

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Marine Dumping Permit	EP/MD/17-037	14 Jun 2016	13 Dec 2016	GCL	sediment For dumping Type I sediment

2.8 *IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*

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

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

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

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

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

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

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

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

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

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

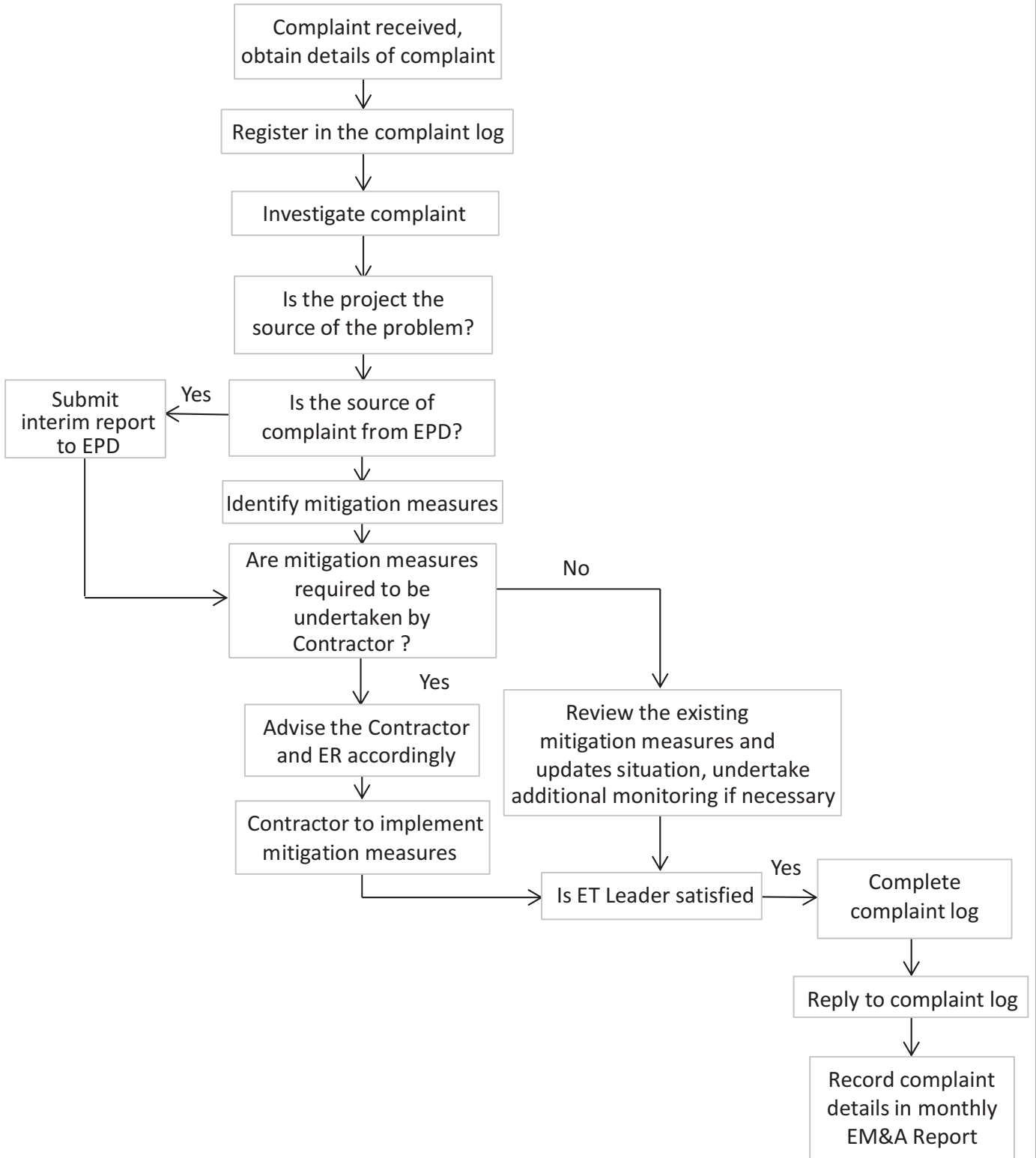


Figure 2.6

Environmental Complaint Handling Procedure

3 *FUTURE KEY ISSUES*

3.1 *CONSTRUCTION PROGRAMME FOR THE COMING MONTH*

As informed by the Contractor, the major works for this Contract in August 2016 will be:

Marine Works

- Uninstallation of marine piling platform;
- Pier construction;
- Launching gantry operation; and
- Installation of deck segment and pier head segment.

Land-based Works

- Pier construction;
- Re-alignment of Cheung Tung Road;
- Construction of land section of berth at Southern Landfall;
- Installation of pier head and deck segments; and
- Slope work of Viaducts A, B & C.

3.2 *KEY ISSUES FOR THE COMING MONTH*

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of August 2016 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 August 2016 are provided in *Appendix F*.

4.1 CONCLUSIONS

This Thirty-third Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 31 July 2016 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 water quality, air quality and noise monitoring complied with the Action and Limit levels in the reporting period.

Four (4) group of seven (7) Chinese White Dolphin were sighted during the two sets of monitoring surveys in July 2016. There was no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Chinese White Dolphins noticeable from general observations during the dolphin monitoring in this reporting month.

Environmental site inspection was carried out four (4) times in July 2016. 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



↔ Line of Communication

Appendix B

Three-Month Rolling Construction Programme

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016															
												June				July				August				September			
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05
HY/2012/07 - TM-CLK Link-SC [DWP Revision G] - Status Update 21-06-2016																											
Contract Key Dates																											
Possession Dates / Access Period																											
POS02-3	Portion A - Area 3	0	25-Jun-16*	0%	0	25-Jun-16			0	0	0%																
POS02-4	Portion A - Area 4	0	25-Jun-16*	0%	0	25-Jun-16			0	0	0%																
POS02-5	Portion A - Area 5	0	21-Jun-16*	0%	0	17-May-16			-35	0	0%																
POS02-6	Portion A - Area 6	0	25-Jun-16*	0%	0	25-Jun-16			0	0	0%																
POS03-7	Portion B - Area 7	0	25-Jun-16*	0%	0	25-Jun-16			0	0	0%																
POS03-8	Portion B - Area 8	0	21-Jun-16*	0%	0	17-May-16			-35	0	0%																
Section Completion Dates																											
Vacate Works Area																											
VAC05	Vacate Works Area WA5 (Zone 5C) (CoW + 758 days) - Letter D06850	0		0%	0	30-Jun-16*		29-Jun-16	0	1313	0%																
General Submissions																											
General Requirements																											
Temporary Works Design																											
PR00130	Unloading Jetty at HKBCF - Working Platform design and approval	90	02-Jun-14 A	93.33%	6	27-Jun-16	18-Jan-16	23-Jan-16	-123	8	75%																
Land Works																											
Land GI Works																											
PR02204	SQR Sampling & Testing and Approval	110	14-Aug-14 A	94.55%	6	27-Jun-16	30-Mar-15	09-Apr-15	-361	75	95%																
PR03110	Trial Pits along Cheung Tung Road	20	21-Oct-13 A	70%	6	27-Jun-16	09-Jul-15	15-Jul-15	-282	100	95%																
Design Submissions																											
Detailed Design (v18.8 18-08-14)																											
General Submissions																											
ARDD0037-1	Preparation of Seismic Performance Report Viaduct A,B,C,D - AP12.01	50	21-Aug-15 A	100%	0	23-May-16 A					100%																
ARDD0037-2	IC/SO Approval of Seismic Performance Report Viaduct A,B,C,D - AP12.01	75	22-Feb-16 A	60%	30	02-Aug-16	25-May-16	07-Jul-16	-18	361	60%																
ARDD0037-5	IC/SO Approval of Seismic Performance Report Viaduct E - AP12.02	75	22-Feb-16 A	80%	15	12-Jul-16	16-Jun-16	07-Jul-16	-3	376	80%																
ARDD0037-7	Preparation of Seismic Performance Report Viaduct F - AP12.03	160	21-Aug-15 A	5%	152	26-Jan-17	06-Aug-15	16-Mar-16	-215	0	5%																
ARDD0040-1	Preparation of Operation and Maintenance Manual - AP08.00	30	01-Sep-15 A	0%	34	08-Aug-16	26-Jan-16	16-Mar-16	-97	0	0%																
ARDD0040-2	IC/SO Approval of Operation and Maintenance Manual - AP08.00	75	09-Aug-16	0%	75	23-Nov-16	17-Mar-16	07-Jul-16	-97	282	0%																
ARDD0042-2	IC/SO Approval of O&M Facility Provisions DDA - BP11.01	75	14-Jan-15 A	54.67%	34	08-Aug-16	26-Jan-16	16-Mar-16	-97	0	50%																
Viaduct A																											
Viaduct Design																											
ARDD0435-8	Viaduct A - IC/SO Consent of Supplemental Working Drawings Viaduct A	10	10-Sep-15 A	98%	0	25-Aug-16	30-May-16	30-May-16	-61	0	98%																
ARDD0435-9	Viaduct A - IC/SO Consent of Supplemental Working Drawings Viaduct A	0		0%	0	25-Aug-16		30-May-16	-61	0	0%																
Viaduct F1 & F3																											
Viaduct Design																											
ARDD0486-2	Viaduct F1 & F3 - Coordination and Further Issue of Construction Method	60	02-Mar-15 A	16.67%	50	30-Aug-16	22-Dec-15	07-Mar-16	-120	0	16.7%																
ARDD0486-3	Viaduct F1 & F3 - Preparation of Draft Working Drawing Set	60	02-Mar-15 A	16.67%	50	30-Aug-16	22-Dec-15	07-Mar-16	-120	0	16.7%																
ARDD0486-5	Viaduct F1 & F3 - Preparation and Coordination of DDA/Working Drawing	10	31-Aug-16	0%	10	13-Sep-16	08-Mar-16	21-Mar-16	-120	0	0%																
ARDD0486-7	Viaduct F1 & F3 - IC/SO Consent of Supplemental Working Drawings Viad	10	14-Sep-16	0%	10	28-Sep-16	22-Mar-16	07-Apr-16	-120	0	0%																
Viaduct F2, F4 and F5																											
Viaduct Design																											
ARDD0530-2	Viaduct F2, F4 & F5 - GCL/FRE Issue of Construction Method/Temporary	0		0%	0	21-Jun-16		05-Nov-15	-152	0	0%																
ARDD0530-3	Viaduct F2, F4 & F5 - Coordination and Further Issue of Construction Mett	60	21-Jun-16	0%	60	13-Sep-16	06-Nov-15	01-Feb-16	-152	0	0%																
ARDD0530-4	Viaduct F2, F4 & F5 - Preparation of Draft Working Drawing Set	60	21-Jun-16	0%	60	13-Sep-16	06-Nov-15	01-Feb-16	-152	0	0%																
ARDD0530-6	Viaduct F2, F4 & F5 - Preparation and Coordination of DDA/Working Draw	10	14-Sep-16	0%	10	28-Sep-16	02-Feb-16	18-Feb-16	-152	0	0%																
ARDD0530-8	Viaduct F2, F4 & F5 - IC/SO Consent of Supplemental Drawings of Viaduc	10	14-Sep-16	0%	10	28-Sep-16	22-Mar-16	07-Apr-16	-120	0	0%																
Parapet and Utility Trough																											
ARDD0562-4	IC/SO Approval of DDA -DP30.01	75	31-Jul-14 A	98%	2	22-Jun-16	15-Feb-16	16-Feb-16	-86	32	98%																
ARDD0566	IC/SO Approval of DDA -DP31.01	75	24-Oct-14 A	89.33%	8	30-Jun-16	02-Feb-16	16-Feb-16	-92	0	80%																
ARDD0566-1	IC/SO Approval of DDA -DP31.01	0		0%	0	30-Jun-16		16-Feb-16	-92	93	0%																
Slopeworks for Viaduct B: 9SE- B/C8, B/C9, B/F9, B/F85+ 10SW-A/F52, A/F53																											
ARDD0580-5	Preparation of Slope A/F52 Submission - CP12.03	20	10-Feb-15 A	80%	4	24-Jun-16	02-Oct-15	07-Oct-15	-176	0	100%																
ARDD0580-6	IC/SO Approval of Slope - CP12.03	75	21-Sep-15 A	95%	4	24-Jun-16	02-Oct-15	07-Oct-15	-176	0	95%																
Slopeworks for Viaduct D: 10NW -C/R4, C/F9, C/F10, C/F11, C/F17, C/F50																											
ARDD0603	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	75	16-Dec-14 A	92%	6	28-Jun-16	18-Jun-15	25-Jun-15	-249	0	95%																
ARDD0603-1	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	0		0%	0	28-Jun-16		25-Jun-15	-249	0	0%																

<ul style="list-style-type: none"> Actual Work Planned Bar Critical Bar Milestone 	Project ID: J3518DWPrG-M37 Layout: J3518-DWP-3MRP Submission - M37 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 13 Pages) (Progress as of 21-Jun-16)	<table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>29-Apr-16</td> <td></td> <td>PKN</td> <td>HF</td> </tr> <tr> <td>31-May-...</td> <td></td> <td>PKN</td> <td>HF</td> </tr> <tr> <td>02-Jul-16</td> <td></td> <td>PKN</td> <td>HF</td> </tr> </table>	Date	Revision	Checked	Approved	29-Apr-16		PKN	HF	31-May-...		PKN	HF	02-Jul-16		PKN	HF	DWG. No.: J3518/GCL/PGM/3MRP-M37
Date	Revision	Checked	Approved																	
29-Apr-16		PKN	HF																	
31-May-...		PKN	HF																	
02-Jul-16		PKN	HF																	

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016																												
												June							July							August							September							
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	03	10	17	24	31	07	14	21	28	
ARDD0604-2	IC/SO Approval of Slope Combined AIP/DDA -CP14.02	75	23-May-15 A	78.67%	16	13-Jul-16	13-Oct-15	04-Nov-15	-169	0	75%	[Gantt bar: 13-Jul-16 to 04-Nov-15]																												
ARDD0604-3	IC/SO Approval of Revised Slope Combined AIP/DDA -CP14.02	0		0%	0	13-Jul-16		04-Nov-15	-169	80	0%	[Gantt bar: 13-Jul-16 to 04-Nov-15]																												
Waterworks, Drainage & Utility Diversions																																								
ARDD0629	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	75	22-Jul-14 A	92%	6	28-Jun-16	26-Jan-16	02-Feb-16	-97	0	95%	[Gantt bar: 28-Jun-16 to 02-Feb-16]																												
ARDD0629-1	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	0		0%	0	28-Jun-16		02-Feb-16	-97	296	0%	[Gantt bar: 28-Jun-16 to 02-Feb-16]																												
ARDD0629-2	Gov't Approval of Submissions for Waterworks, Drainage & Utility Diversior	75	02-Jan-14 A	92%	6	28-Jun-16	26-Jan-16	02-Feb-16	-97	0	95%	[Gantt bar: 28-Jun-16 to 02-Feb-16]																												
Viaduct Approach Ramp Retaining Walls																																								
Approach Ramp B																																								
ARDD0664	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	75	14-Oct-14 A	84%	12	07-Jul-16	15-Jan-16	01-Feb-16	-104	0	90%	[Gantt bar: 07-Jul-16 to 01-Feb-16]																												
ARDD0664-1	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	0		0%	0	07-Jul-16		01-Feb-16	-104	26	0%	[Gantt bar: 07-Jul-16 to 01-Feb-16]																												
Approach A																																								
ARDD0670	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	75	03-Oct-14 A	92%	6	28-Jun-16	22-Jan-20	31-Jan-20	887	0	95%	[Gantt bar: 28-Jun-16 to 31-Jan-20]																												
ARDD0670-1	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	0		0%	0	28-Jun-16		31-Jan-20	887	887	0%	[Gantt bar: 28-Jun-16 to 31-Jan-20]																												
Approach F																																								
ARDD0676	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	75	23-Dec-14 A	34.67%	49	29-Aug-16	16-Jan-15	27-Mar-15	-351	0	70%	[Gantt bar: 29-Aug-16 to 27-Mar-15]																												
ARDD0676-1	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	0		0%	0	29-Aug-16		17-Mar-16	-111	190	0%	[Gantt bar: 29-Aug-16 to 17-Mar-16]																												
Landscape																																								
ARDD0701	Water Supply Application to WSD	0		0%	0	21-Jun-16		17-Dec-15	-122	0	0%	[Gantt bar: 21-Jun-16 to 17-Dec-15]																												
ARDD0702	Gov't Approval of LVIA	40	21-Jun-16	0%	40	16-Aug-16	18-Dec-15	18-Feb-16	-122	127	0%	[Gantt bar: 16-Aug-16 to 18-Feb-16]																												
Segment Target Geometry And Erection Engineering																																								
Viaduct A																																								
ARDD0716	Viaduct A - Confirmation of Erection Sequence from Freyssinet	0		0%	0	21-Jun-16		31-Jan-20	893	893	0%	[Gantt bar: 21-Jun-16 to 31-Jan-20]																												
ARDD0717	Viaduct A - Erection Sequence Analysis	31	23-Jan-16 A	45.16%	17	14-Jul-16	15-Feb-16	08-Mar-16	-86	0	40%	[Gantt bar: 14-Jul-16 to 08-Mar-16]																												
ARDD0718	Viaduct A - Target Geometry Analysis	20	15-Jul-16	0%	20	11-Aug-16	09-Mar-16	08-Apr-16	-86	0	0%	[Gantt bar: 11-Aug-16 to 08-Apr-16]																												
ARDD0719	Viaduct A - Segment Geometry Schedules	10	12-Aug-16	0%	10	25-Aug-16	11-Apr-16	22-Apr-16	-86	0	0%	[Gantt bar: 25-Aug-16 to 22-Apr-16]																												
ARDD0719-1	Viaduct A - Issue of Pierhead Segments Bridge A1, A2	0		0%	0	25-Aug-16		30-May-16	-61	0	0%	[Gantt bar: 25-Aug-16 to 30-May-16]																												
ARDD0719-3	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A2 (Final	0		0%	0	25-Aug-16		30-May-16	-61	0	0%	[Gantt bar: 25-Aug-16 to 30-May-16]																												
ARDD0719-4	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A1 (Final	0		0%	0	25-Aug-16		22-Apr-16	-86	0	0%	[Gantt bar: 25-Aug-16 to 22-Apr-16]																												
ARDD0719-5	Viaduct A - Issue Erection Manual	20	26-Aug-16	0%	20	23-Sep-16	25-Apr-16	23-May-16	-86	0	0%	[Gantt bar: 23-Sep-16 to 23-May-16]																												
Viaduct E5 and E6																																								
ARDD0734	Viaduct E5 & E6 - Segment Geometry Schedules	10	05-May-14 A	60%	4	24-Jun-16	22-Mar-16	29-Mar-16	-60	3	90%	[Gantt bar: 24-Jun-16 to 29-Mar-16]																												
TGP0570	Viaduct E5 & E6 - Issue of Optimised Casting Data and Segment Catalogue	40	30-Apr-15 A	82.5%	7	29-Jun-16	17-Mar-16	29-Mar-16	-63	0	90%	[Gantt bar: 29-Jun-16 to 29-Mar-16]																												
TGP0590	Viaduct E5 & E6 - Issue Erection Manual	10	30-Jun-16	0%	10	14-Jul-16	30-Mar-16	13-Apr-16	-63	222	0%	[Gantt bar: 14-Jul-16 to 13-Apr-16]																												
Viaduct E7 & E8																																								
ARDD0739	Viaduct E7 & E8 - Segment Geometry Schedules	10	05-May-14 A	60%	4	24-Jun-16	22-Mar-16	29-Mar-16	-60	3	90%	[Gantt bar: 24-Jun-16 to 29-Mar-16]																												
TGP0760	Viaduct E7 & E8 - Issue of Optimised Casting Data and Segment Catalogue	40	31-Jul-15 A	82.5%	7	29-Jun-16	17-Mar-16	29-Mar-16	-63	0	90%	[Gantt bar: 29-Jun-16 to 29-Mar-16]																												
TGP0790	Viaduct E7 & E8 - Issue Erection Manual	10	30-Jun-16	0%	10	14-Jul-16	30-Mar-16	13-Apr-16	-63	222	0%	[Gantt bar: 14-Jul-16 to 13-Apr-16]																												
Viaduct F																																								
ARDD0752	Viaduct F - Erection Sequence Analysis	30	21-Jun-16	0%	30	02-Aug-16	06-Nov-15	17-Dec-15	-152	0	0%	[Gantt bar: 02-Aug-16 to 17-Dec-15]																												
ARDD0753	Viaduct F - Target Geometry Analysis	30	03-Aug-16	0%	30	13-Sep-16	18-Dec-15	01-Feb-16	-152	0	0%	[Gantt bar: 13-Sep-16 to 01-Feb-16]																												
ARDD0754	Viaduct F - Segment Geometry Schedules	10	14-Sep-16	0%	10	28-Sep-16	02-Feb-16	18-Feb-16	-152	0	0%	[Gantt bar: 28-Sep-16 to 18-Feb-16]																												
Major Procurement																																								
Marine Permanent Navigaion Aids																																								
PR65011	Design & Approvals for Marine Navigation Aids	150	23-Oct-13 A	90%	15	08-Jul-16	30-Nov-15	16-Dec-15	-162	0	90%	[Gantt bar: 08-Jul-16 to 16-Dec-15]																												
PR65012	Procure & Deliver Marine Navigation Aids	240	09-Jul-16	0%	240	29-Apr-17	17-Dec-15	11-Oct-16	-162	0	0%	[Gantt bar: 29-Apr-17 to 11-Oct-16]																												
Deck Segment Installation Equipment																																								
Lifting Frames																																								
Lifting Frames 3 & 4																																								
PR68017	Lifting Frame 3&4 Fabrication	85	29-Sep-14 A	65.88%	29	25-Jul-16	06-Aug-15	08-Sep-15	-258	0	67%	[Gantt bar: 25-Jul-16 to 08-Sep-15]																												
PR68018	Lifting Frame 3&4 Delivery	30	26-Jul-16	0%	30	29-Aug-16	09-Sep-15	15-Oct-15	-258	41	0%	[Gantt bar: 29-Aug-16 to 15-Oct-15]																												
Unloading Frames																																								
Type 1 (at B6 and D6)																																								
PR69110	Unloading Frame Type 1 Fabrication	80	23-Feb-15 A	27.5%	58	27-Aug-16	25-Nov-16	07-Feb-17	131	0	28%	[Gantt bar: 27-Aug-16 to 07-Feb-17]																												
PR69120	Unloading Frame Type 1 Delivery (UF-1A & UF-1B)	24	29-Aug-16	0%	24	26-Sep-16	08-Feb-17	07-Mar-17	131	0	0%	[Gantt bar: 26-Sep-16 to 07-Mar-17]																												
Type 2 (at Bridge E1)																																								
PR69170	Unloading Frame Type 2 Design	50	21-Jun-16	0%	50	18-Aug-16	08-Aug-19	08-Oct-19	928	0	0%	[Gantt bar: 18-Aug-16 to 08-Oct-19]																												
PR69180	Unloading Frame Type 2 Fabrication	80	27-Jul-16	0%	80	31-Oct-16	12-Sep-19	17-Dec-19	928	0	0%	[Gantt bar: 31-Oct-16 to 17-Dec-19]																												
Deck Segments & Precast Pile Cap Shells																																								

■ Actual Work
■ Planned Bar
■ Critical Bar
◆ Milestone

Project ID: J3518DWPrG-M37
 Layout: J3518-DWP-3MRP Submission - M37
 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 2 of 13 Pages)
(Progress as of 21-Jun-16)

Date	Revision	Checked	Approved
29-Apr-16		PKN	HF
31-May-...		PKN	HF
02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016															
												June				July				August				September			
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05
Preliminaries																											
MBBE0050	Precast Segment Mould Fabrication & Erection (Viaduct A)	52	24-Dec-14 A	92.31%	4	24-Jun-16	31-May-16	03-Jun-16	-17	1068	100%																
MBBE0054	Precast Segment Mould Design (Viaduct F1 to F5)	42	21-Jun-16*	0%	42	09-Aug-16	29-Feb-16	21-Apr-16	-90	0	0%																
MBBE0056	Precast Segment Mould Fabrication & Erection (Viaduct F1 to F5)	52	04-Jul-16	0%	52	01-Sep-16	11-Mar-16	17-May-16	-90	54	0%																
Viaduct B																											
Precast Deck Segments																											
MBBE130-1	B: Progressive Match Cast Segment Manufacture & Delivery remaining seg	597	24-Oct-14 A	98.83%	7	28-Jun-16	20-May-16	27-May-16	-26	172	99.4%																
Viaduct E																											
Precast Deck Segments																											
MBE00014	Viaduct E2 - Pier Head Segment Casting	0	21-Jun-16	0%	0		01-Feb-20		1072	1072	0%																
Viaduct E1																											
MBEE0130-5	E1: Progressive Segment Manufacture & Delivery remaining segments (18	456	08-Apr-15 A	95.2%	22	16-Jul-16	20-Oct-15	14-Nov-15	-196	1050	95.2%																
Viaduct E2																											
MBEE0130-7	E2: Progressive Segment Manufacture & Delivery remaining segments (41	376	06-May-15 A	34.57%	246	19-Apr-17	17-Nov-15	14-Sep-16	-173	826	34.8%																
Viaduct E5, E6, E7 & E8																											
MBEE0130-9	E5-6-7-8: Progressive Segment Manufacture & Delivery remaining segmer	360	06-May-15 A	11.2%	320	19-Jul-17	06-Feb-16	08-Mar-17	-106	752	11.2%																
Viaduct D																											
Precast Deck Segments																											
MBDE0130-7	D: Progressive Match Cast Segment Manufacture & Delivery (311 Nr)	315	05-May-15 A	56.9%	136	30-Nov-16	23-Oct-15	09-Apr-16	-194	154	56.9%																
Viaduct C																											
Precast Deck Segments																											
MBCE0130-1	C: Progressive Segment Manufacture & Delivery remaining segments (388	265	19-May-15 A	41%	156	24-Dec-16	23-Nov-15	06-Jun-16	-168	62	41%																
Viaduct A																											
Precast Deck Segments																											
MBAA1100	Viaduct A - Pier Head Segment Casting	0	26-Aug-16	0%	0		31-May-16		-73	0	0%																
MBAE0120	A: Commence Segment Casting on Approval of DDA	0	26-Aug-16	0%	0		31-May-16		-73	0	0%																
MBAE0130-1	A: Progressive Segment Manufacture & Delivery remaining segments (179	122	26-Aug-16	0%	122	21-Jan-17	31-May-16	25-Oct-16	-73	30	0%																
Parapets																											
PP6010	Procure Sub-Contractor for Precast Parapets/Barriers	40	21-Aug-15 A	0%	40	06-Aug-16	28-Dec-15	16-Feb-16	-140	80	37.5%																
PP6011	Precast Parapets/Barriers Detail Design & Procure Moulds	120	06-Oct-15 A	0%	120	11-Nov-16	29-Jul-15	18-Dec-15	-265	0	37.5%																
Materials																											
Bearings																											
Viaduct A																											
PPBRA5	SO review & comment on design submission - Viaduct A	36	21-Jun-16	0%	36	02-Aug-16	22-Apr-16	04-Jun-16	-48	0	0%																
PPBRA6	Bearing Design Amendment & re-issue - Viaduct A	12	03-Aug-16	0%	12	16-Aug-16	14-Jun-16	27-Jun-16	-42	6	0%																
PPBRA7	Manufacture of Bearing - Viaduct A	54	21-Jun-16	0%	54	23-Aug-16	22-Apr-16	27-Jun-16	-48	0	0%																
PPBRA8	Testing Bearing - Viaduct A	18	24-Aug-16	0%	18	13-Sep-16	28-Jun-16	19-Jul-16	-48	0	0%																
PPBRA9	Bearing Delivery - Viaduct A	48	14-Sep-16	0%	48	11-Nov-16	20-Jul-16	13-Sep-16	-48	0	0%																
Viaduct C																											
PPBRC6	Bearing Design Ammendment & re-issue - Viaduct C	12	30-May-16 A	100%	0	11-Jun-16 A					100%																
PPBRC99	Site preparation Bearings for Viaduct C	6	21-Jun-16	0%	6	27-Jun-16	23-Jan-20	01-Feb-20	1066	1066	0%																
Viaduct D																											
PPBRD99	Site preparation Bearings for Viaduct D	38	21-Jun-16	0%	38	04-Aug-16	11-Dec-15	27-Jan-16	-152	0	0%																
Viaduct E																											
PPBRE3	Bearing design and submission - Viaduct E (E1, E2, E5, E6, E7 & E8)	12	28-Nov-13 A	75%	3	23-Jun-16	04-Jan-16	06-Jan-16	-135	0	100%																
PPBRE4	Design check by ICE - Viaduct E (E1, E2, E5, E6, E7 & E8)	24	04-Apr-14 A	37.5%	15	08-Jul-16	04-Jan-16	20-Jan-16	-135	0	100%																
PPBRE5	SO review & comment on design submission - Viaduct E (E1, E2, E5, E6, E	36	26-Sep-14 A	25%	27	22-Jul-16	04-Jan-16	03-Feb-16	-135	0	100%																
PPBRE6	Bearing Design Amendment & re-issue - Viaduct E (E1, E2, E5, E6, E7 & E	12	23-Jul-16	0%	12	05-Aug-16	04-Feb-16	20-Feb-16	-135	0	0%																
PPBRE7	Manufacture of Bearing - Viaduct E (E1, E2, E5, E6, E7 & E8)	54	02-Jun-14 A	27.78%	39	05-Aug-16	04-Jan-16	20-Feb-16	-135	0	100%																
PPBRE8	Testing Bearing - Viaduct E (E1, E2, E5, E6, E7 & E8)	24	03-Aug-15 A	0%	51	19-Aug-16	04-Jan-16	05-Mar-16	-135	0	100%																
PPBRE9	Bearing Delivery - Viaduct E (E1, E2, E5, E6, E7 & E8)	48	19-Nov-14 A	0%	87	03-Oct-16	04-Jan-16	21-Apr-16	-135	0	100%																
Bridge E1																											
PP7360	Site preparation Bearings for Viaduct E1	18	02-Jul-16	0%	18	23-Jul-16	23-Mar-16	16-Apr-16	-79	8	0%																
Bridge E2																											
PP7290	Site preparation Bearings for Viaduct E2	18	16-Jul-16	0%	18	05-Aug-16	31-Mar-16	21-Apr-16	-87	48	0%																
Viaduct F																											
PPBRF1	Preliminary Design of Bearings - Viaduct F	70	21-Jun-16	0%	70	10-Sep-16	07-Aug-15	30-Oct-15	-257	0	0%																
PPBRF3	Bearing design and submission - Viaduct F	12	12-Sep-16	0%	12	26-Sep-16	31-Oct-15	13-Nov-15	-257	0	0%																

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Tuen Mun - Chek Lap Kok Link - Southern Connection
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												June				July				August				September						
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26
Movement Joints																														
PPMJ01	Design & Submission of MJ	138	08-Feb-14 A	75.36%	34	30-Jul-16	19-Oct-15	27-Nov-15	-197	1038	30%	[Gantt Bar]																		
PPMJ02-1	MJ Design Approval	96	26-May-14 A	39.58%	58	27-Aug-16	19-Oct-15	28-Dec-15	-197	0	40%	[Gantt Bar]																		
PPMJ02-2	Manufacture & delivery of MJ	188	21-Jun-16	0%	188	06-Feb-17	19-Oct-15	08-Jun-16	-197	0	0%	[Gantt Bar]																		
Other Sub-Contract Procurement																														
Structural Health Monitoring System (SHMS)																														
PP7778	SHMS - So approval of Final System Proposal	30	16-Dec-14 A	73.33%	8	29-Jun-16	30-Jul-15	07-Aug-15	-264	0	75%	[Gantt Bar]																		
PP7780	SHMS - Prepare Civil Work Provision	66	21-Jun-16	0%	66	06-Sep-16	30-Jul-15	16-Oct-15	-264	0	0%	[Gantt Bar]																		
PP7788	SHMS - FAT & Delivery for Bridge E5-E6-E7-E8 equipment	54	20-Jul-16	0%	54	21-Sep-16	27-Aug-15	31-Oct-15	-264	100	0%	[Gantt Bar]																		
Site Preparation / Mobilisations																														
Tree Felling / Transplant																														
Approved Trees in Contract																														
TR00220	Tree transplant for Viaduct B - affecting Pier B18 & Abutment B	90	17-Feb-14 A	92.22%	7	28-Jun-16	02-Feb-16	12-Feb-16	-110	1065	96%	[Gantt Bar]																		
Unloading Jetty at HKBCF																														
PR09060	Unloading Jetty at HKBCF - Conditional survey & temp jetty formation	15	21-Jun-16	0%	15	08-Jul-16	08-Jan-16	25-Jan-16	-131	0	0%	[Gantt Bar]																		
PR09070	Unloading Jetty at HKBCF - Install Unloading Frame incl. testing/commissio	56	09-Jul-16	0%	56	12-Sep-16	26-Jan-16	07-Apr-16	-131	215	0%	[Gantt Bar]																		
CONSTRUCTION																														
PILING AND SUBSTRUCTURE																														
Viaduct A																														
Bridge A2																														
Pier A1 (A2e)																														
Pier Head Segments																														
SA2E0380	A1 (A2e) - Pier Head Segment - Temporary Platform	6	28-Jul-16*	0%	6	03-Aug-16	09-Jul-16	15-Jul-16	-16	0	0%	[Gantt Bar]																		
SA2E0381	A1 (A2e) - Pier Head Segment Bearings	2	04-Aug-16	0%	2	05-Aug-16	16-Jul-16	18-Jul-16	-16	0	0%	[Gantt Bar]																		
SA2E0382	A1 (A2e) - Pier Head Segment Lift & Temp Support (2 seg)	7	06-Aug-16	0%	7	13-Aug-16	19-Jul-16	26-Jul-16	-16	87	0%	[Gantt Bar]																		
Pier A2 (A2d)																														
Pier Works																														
SA2D0340	A2 (A2d) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldin	6	23-Apr-16 A	100%	0	02-Jul-16 A					100%	[Gantt Bar]																		
Pier A4 (A2b)																														
Pier Works																														
SA2B0340	A4 (A2b) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldin	6	14-May-16 A	100%	0	25-May-16 A					100%	[Gantt Bar]																		
Pier A5 (A2a)																														
Pier Works																														
SA2A0310	A5 (A2a) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	10-May-16 A	100%	0	31-May-16 A					100%	[Gantt Bar]																		
SA2A0330	A5 (A2a) - Type 4B Pier Head Concreting	1	01-Jun-16 A	100%	0	01-Jun-16 A					100%	[Gantt Bar]																		
SA2A0340	A5 (A2a) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldin	6	02-Jun-16 A	100%	0	14-Jun-16 A					100%	[Gantt Bar]																		
Pier A6 (A1f)																														
Pier Works																														
SA1F0310	A6 (A1f) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	9	08-Apr-16 A	100%	0	27-May-16 A					100%	[Gantt Bar]																		
SA1F0330	A6 (A1f) - Type 4B-MJ Pier Head Concreting	1	28-May-16 A	100%	0	28-May-16 A					100%	[Gantt Bar]																		
SA1F0340	A6 (A1f) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaffo	6	29-May-16 A	50%	3	23-Jun-16	10-Sep-16	13-Sep-16	69	77	50%	[Gantt Bar]																		
SA1F0350	A6 (A1f) - Type 4B-Bearing Plinth	6	21-Jun-16	0%	6	27-Jun-16	07-Sep-16	13-Sep-16	66	74	0%	[Gantt Bar]																		
Bridge A1																														
Pier A9 (A1c)																														
Pier Works																														
SA1C0210	A9 (A1c) - Type 5B Pier Head Formwork & Prep for Concreting	3	18-May-16 A	100%	0	28-May-16 A					100%	[Gantt Bar]																		
SA1C0220	A9 (A1c) - Type 5B Pier Head Concreting	1	30-May-16 A	100%	0	30-May-16 A					100%	[Gantt Bar]																		
SA1C0270	A9 (A1c) - Type 5B Pier Head Curing & Striking of Forms & Remove Scafft	6	31-May-16 A	0%	6	27-Jun-16	11-Jun-16	17-Jun-16	-8	0	0%	[Gantt Bar]																		
SA1C0280	A9 (A1c) - Type 5B Pier Backfilling Works	4	24-Jun-16	0%	4	28-Jun-16	15-Jun-16	18-Jun-16	-8	73	0%	[Gantt Bar]																		
Abutment & Approach Ramp A																														
SA1A0250	AR-A - RE Walls - Excavation/formation/drainage filter & bottom layer to g	72	14-Mar-16 A	79.17%	15	08-Jul-16	13-Jan-20	01-Feb-20	1057	1057	10%	[Gantt Bar]																		
SA1A0290	AR-A - RC Walls construction	48	21-Jun-16	0%	48	16-Aug-16	08-Jul-16	01-Sep-16	14	126	0%	[Gantt Bar]																		
Viaduct B																														
Bridge B1																														
Pier B17 (B1c)																														
Socketted H-Pile Installation																														
GFXX324-3	B17 (B1c) - Predrilling	6	13-Aug-16	0%	6	19-Aug-16	02-Mar-16	08-Mar-16	-133	0	0%	[Gantt Bar]																		
GFXX324-5	B17 (B1c) - Confirm Rockhead Levels	6	20-Aug-16	0%	6	26-Aug-16	09-Mar-16	15-Mar-16	-133	0	0%	[Gantt Bar]																		
GFXX325-3	B17 (B1c) - Install SH Pile (10 nr) (incl. proof drilling)	45	27-Aug-16	0%	45	21-Oct-16	16-Mar-16	12-May-16	-133	0	0%	[Gantt Bar]																		

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												June					July					August				September						
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26		
Pier B18 (B1b) & Abutment B																																
Preliminary Works for Land Piling																																
PB180030	B18 (B1b) - Install Geo. Instru. & Baseline Monitoring	36	02-Jul-16	0%	36	12-Aug-16	18-Dec-15	01-Feb-16	-155	0	0%																					
Socketted H-Pile Installation																																
GFXX324-4	B18 (B1b) - Predrilling	6	13-Aug-16	0%	6	19-Aug-16	02-Feb-16	11-Feb-16	-155	0	0%																					
GFXX324-6	B18 (B1b) - Confirm Rockhead Levels	6	20-Aug-16	0%	6	26-Aug-16	12-Feb-16	18-Feb-16	-155	0	0%																					
GFXX325-4	B18 (B1b) - Install SH Pile (6 no.) (incl. proof drilling)	27	27-Aug-16	0%	27	28-Sep-16	19-Feb-16	21-Mar-16	-155	0	0%																					
Viaduct C																																
Bridge C4																																
Pier C3 (C4c)																																
Pier Head Segments																																
SC4C0378	C3 (C4c) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	22	20-May-16 A	36.36%	14	07-Jul-16	12-Nov-15	27-Nov-15	-177	0	30%																					
SC4C0380	C3 (C4c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	08-Jul-16	0%	6	14-Jul-16	28-Nov-15	05-Dec-15	-176	22	0%																					
Pier C6 (C3f)																																
Pier Head Segments																																
SC3F0370	C6 (C3f) - Pier Head Segment - Temporary Platform	6	16-May-16 A	100%	0	26-May-16 A					100%																					
SC3F0371	C6 (C3f) - Pier Head Segment Bearings	2	27-May-16 A	100%	0	02-Jun-16 A					100%																					
SC3F0372	C6 (C3f) - Pier Head Segment Lift & Temp Support (2 seg)	7	04-Jun-16 A	100%	0	07-Jun-16 A					100%																					
Bridge C3																																
Pier C8 (C3d)																																
Pier Head Segments																																
SC3D0370	C8 (C3d) - Pier Head Segment - Temporary Platform	6	02-Jun-16 A	100%	0	09-Jun-16 A					100%																					
SC3D0372	C8 (C3d) - Pier Head Segment Lift & Fix (1 seg)	2	21-Jun-16	0%	2	22-Jun-16	21-Dec-15	22-Dec-15	-144	0	0%																					
SC3D0378	C8 (C3d) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	22	23-Jun-16	0%	22	19-Jul-16	23-Dec-15	20-Jan-16	-144	0	0%																					
SC3D0380	C8 (C3d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Jul-16	0%	6	26-Jul-16	21-Jan-16	27-Jan-16	-144	86	0%																					
Pier C10 (C3b)																																
Pier Head Segments																																
SC3B0372	C10 (C3b) - Pier Head Segment Lift & Fix (1 seg)	2	21-Jun-16	0%	2	22-Jun-16	01-Apr-16	02-Apr-16	-65	0	0%																					
SC3B0378	C10 (C3b) - Pier Head Segment Diaphragm - Rebar, Formwork, Concretir	24	23-Jun-16	0%	24	21-Jul-16	05-Apr-16	03-May-16	-65	0	0%																					
SC3B0380	C10 (C3b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	22-Jul-16	0%	6	28-Jul-16	04-May-16	10-May-16	-65	165	0%																					
Pier C9 (C3c)																																
Pier Head Segments																																
SC3C0378	C9 (C3c) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	30	17-Jun-16 A	16.67%	25	20-Jul-16	24-Feb-16	23-Mar-16	-94	0	0%																					
SC3C0380	C9 (C3c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	3	21-Jul-16	0%	3	23-Jul-16	24-Mar-16	30-Mar-16	-94	0	0%																					
Pier C11 (C3a)																																
Pier Head Segments																																
SC3A0372	C11 (C3a) - Pier Head Segment Lift & Fix (2 seg)	7	13-May-16 A	0%	7	28-Jun-16	02-Apr-16	11-Apr-16	-64	0	0%																					
SC3A380	C11 (C3a) - C11-A Diaphragm	24	29-Jun-16	0%	24	27-Jul-16	12-Apr-16	10-May-16	-64	0	0%																					
SC3A382	C11 (C3a) - C11-B Diaphragm	24	28-Jul-16	0%	24	24-Aug-16	11-May-16	08-Jun-16	-64	166	0%																					
Bridge C2																																
Pier C13 (C2e) Portal																																
Portal																																
SC2ER302	C13 (C2e) - Portal Beam Side Formwork & Prep for Concreting	20	12-Mar-16 A	60%	8	29-Jun-16	18-Feb-16	26-Feb-16	-99	0	100%																					
SC2ER310	C13 (C2e) - Portal Beam Concreting	1	30-Jun-16	0%	1	30-Jun-16	27-Feb-16	27-Feb-16	-99	0	0%																					
SC2ER320	C13 (C2e) - Portal Beam Curing/Striking of Forms/Remove Scaffolding	14	02-Jul-16	0%	14	18-Jul-16	29-Feb-16	15-Mar-16	-99	2	0%																					
Pier C15 (C2c)																																
Pier Head Segments																																
SC2C0378	C15 (C2c) - Pier Head Segment Diaphragm - Rebar, Formwork, Concretin	22	21-Jun-16	0%	22	16-Jul-16	14-Apr-16	10-May-16	-55	0	0%																					
SC2C0380	C15 (C2c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	18-Jul-16	0%	6	23-Jul-16	11-May-16	18-May-16	-55	43	0%																					
Pier C12 (C2f)																																
Pier Head Segments																																
SC2F0378	C12 (C2f) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	22	18-May-16 A	100%	0	18-Jun-16 A					100%																					
SC2F0380	C12 (C2f) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	19-Jun-16 A	0%	6	27-Jun-16	21-May-16	27-May-16	-25	0	5%																					
Pier C14 (C2d)																																
Pier Head Segments																																
SC2D0378	C14 (C2d) - Pier Head Segment Diaphragm - Concreting	2	16-Mar-16 A	0%	2	22-Jun-16	31-Jan-20	01-Feb-20	1070	1070	50%																					
SC2D0380	C14 (C2d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Mar-16 A	0%	6	27-Jun-16	12-Apr-16	18-Apr-16	-57	22	50%																					
Pier C16 (C2b)																																
Pier Head Segments																																
SC2B380	C16 (C2b) - C16A Diaphragm	24	21-Jun-16	0%	24	19-Jul-16	15-Feb-16	12-Mar-16	-102	0	0%																					
SC2B382	C16 (C2b) - C16B Diaphragm	24	20-Jul-16	0%	24	16-Aug-16	14-Mar-16	14-Apr-16	-102	23	0%																					

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												June					July					August				September			
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19
Bridge C1																													
Pier C18 (C3d) Portal																													
Portal																													
SC1ER280	C18 (C1e) - Portal Beam Scaffolding	12	21-Jun-16*	0%	12	05-Jul-16	11-Dec-15	24-Dec-15	-152	0	0%																		
SC1ER310	C18 (C1e) - Portal Beam Rebar, Formwork, Concreting	45	06-Jul-16	0%	45	26-Aug-16	28-Dec-15	22-Feb-16	-152	0	0%																		
SC1ER320	C18 (C1e) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	27-Aug-16	0%	14	12-Sep-16	23-Feb-16	09-Mar-16	-152	0	0%																		
Pier C17 (C2a)																													
Pier Head Segments																													
SC2A0370	C17 (C2a) - Pier Head Segment - Temporary Platform	6	21-Jun-16*	0%	6	27-Jun-16	15-Dec-15	21-Dec-15	-149	0	0%																		
SC2A0372	C17 (C2a) - Pier Head Segment Lift & Fix (1 seg)	2	28-Jun-16	0%	2	29-Jun-16	22-Dec-15	23-Dec-15	-149	0	0%																		
SC2A0378	C17 (C2a) - Pier Head Segment Diaphragm - Rebar, Formwork, Concretir	23	30-Jun-16	0%	23	27-Jul-16	24-Dec-15	22-Jan-16	-149	0	0%																		
SC2A0380	C17 (C2a) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	28-Jul-16	0%	6	03-Aug-16	23-Jan-16	29-Jan-16	-149	0	0%																		
Pier C19 (C1d)																													
Pier Head Segments																													
SC1D0380	C19 (C1d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	19-Mar-16 A	16.67%	5	25-Jun-16	05-Oct-16	11-Oct-16	88	126	16%																		
Abutment & Approach Ramp C																													
SC1C0250	AR-C - RE Walls - Erect fencing, Excavation/formation/ drainage filter & bo	12	22-Apr-15 A	83.33%	2	22-Jun-16	29-Nov-19	30-Nov-19	1022	0	90%																		
SC1C0251	AR-C - RE Walls - Upper layers with backfill in stages (exclude 800dia Tcc	48	23-Jun-16	0%	48	18-Aug-16	02-Dec-19	01-Feb-20	1022	1022	0%																		
SC1C0254	AR-C - RC Walls - Backfill	12	16-May-16 A	0%	12	05-Jul-16	25-Apr-16	09-May-16	-46	0	0%																		
SC1C0256	AR-C - RC Walls - Concrete Parapets	26	06-Jul-16	0%	26	04-Aug-16	10-May-16	10-Jun-16	-46	55	0%																		
SC1C0257	ARC - Utility work - Termination of 800 dia Tcc	1	21-Jun-16*	0%	1	21-Jun-16	16-Feb-16	16-Feb-16	-101	0	0%																		
SC1C0258	ARC - Utility work - Remove 800 dia Tcc and backfill	18	22-Jun-16	0%	18	13-Jul-16	17-Feb-16	08-Mar-16	-101	0	0%																		
SC1C0259	ARC - RE Walls - Remaining bay @800 Tcc	38	14-Jul-16	0%	38	26-Aug-16	09-Mar-16	26-Apr-16	-101	0	0%																		
SC1C0259A	ARC - RC Walls - Remaining bays @800Tcc	36	27-Aug-16	0%	36	11-Oct-16	27-Apr-16	10-Jun-16	-101	0	0%																		
Viaduct D																													
Bridge D3																													
Pier D6 (D4a)																													
Pier Head Segments																													
SD4A0370	D6 (D4a) - Pier Head Segment - Temporary Platform	6	21-Jun-16*	0%	6	27-Jun-16	21-Jan-16	27-Jan-16	-120	32	0%																		
SD4A0371	D6 (D4a) - Pier Head Segment Bearings	2	05-Aug-16	0%	2	06-Aug-16	28-Jan-16	29-Jan-16	-152	0	0%																		
SD4A0372	D6 (D4a) - Pier Head Segment Lift & Temp Support (2 seg)	7	08-Aug-16	0%	7	15-Aug-16	30-Jan-16	06-Feb-16	-152	46	0%																		
Bridge D2																													
Pier D8 (D3d)																													
Pier Head Segments																													
SD3D0378	D8 (D3d) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	23	21-Jun-16	0%	23	18-Jul-16	19-Jan-16	17-Feb-16	-122	0	0%																		
SD3D0380	D8 (D3d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	19-Jul-16	0%	6	25-Jul-16	18-Feb-16	25-Feb-16	-121	77	0%																		
Pier D12 (D2e)																													
Portal																													
SD2ER320	D12 (D2e) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	09-May-16 A	0%	14	07-Jul-16	12-Apr-16	27-Apr-16	-57	0	0%																		
SD2ER325	D12 (D2e) - Pier Backfilling Works	4	08-Jul-16	0%	4	12-Jul-16	13-Jun-16	16-Jun-16	-21	206	0%																		
Pier D9 (D3c)																													
Pier Head Segments																													
SD3C0372	D9 (D3c) - Pier Head Segment Lift & Fix (1 seg)	2	21-Jun-16	0%	2	22-Jun-16	20-Feb-16	22-Feb-16	-97	0	0%																		
SD3C0378	D9 (D3c) - Pier Head Segment Diaphragm - Rebar, Formwork, Concreting	22	23-Jun-16	0%	22	19-Jul-16	23-Feb-16	18-Mar-16	-97	0	0%																		
SD3C0380	D9 (D3c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Jul-16	0%	6	26-Jul-16	19-Mar-16	29-Mar-16	-97	0	0%																		
Pier D10 (D3b)																													
Portal																													
SD3BR300	D10 (D3b) - Portal Beam Rebarwork & Inserts	16	29-Apr-16 A	0%	16	09-Jul-16	09-Mar-16	30-Mar-16	-82	0	0%																		
SD3BR305	D10 (D3b) - Portal Beam Side Formwork & Prep for Concreting	16	11-Jul-16	0%	16	28-Jul-16	31-Mar-16	19-Apr-16	-82	0	0%																		
SD3BR310	D10 (D3b) - Portal Beam Concreting	1	29-Jul-16	0%	1	29-Jul-16	20-Apr-16	20-Apr-16	-82	0	0%																		
SD3BR320	D10 (D3b) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	30-Jul-16	0%	14	15-Aug-16	21-Apr-16	07-May-16	-82	0	0%																		
Pier D13 (D2d)																													
Pier Works																													
SD2D0360	D13 (D2d) - Type 5B-MJ Pier Backfilling Works	4	14-Jun-16 A	0%	4	24-Jun-16	19-Feb-16	23-Feb-16	-98	0	10%																		
Pier Head Segments																													
SD2D0370	D13 (D2d) - Pier Head Segment - Temporary Platform	6	25-Jun-16*	0%	6	02-Jul-16	24-Feb-16	01-Mar-16	-98	0	0%																		
SD2D0371	D13 (D2d) - Pier Head Segment Bearings	2	04-Jul-16	0%	2	05-Jul-16	02-Mar-16	03-Mar-16	-98	0	0%																		
SD2D0372	D13 (D2d) - D13A - Pier Head Segment Lift & Fix (1 seg)	1	06-Jul-16	0%	1	06-Jul-16	04-Mar-16	04-Mar-16	-98	0	0%																		
SD2D380	D13 (D2d) - D13B - Pier Head Segment Lift & Fix (1 seg)	1	01-Aug-16	0%	1	01-Aug-16	02-Apr-16	02-Apr-16	-98	0	0%																		
SD2D382	D13 (D2d) - D13A - Diaphragm	24	07-Jul-16	0%	24	03-Aug-16	05-Mar-16	06-Apr-16	-98	0	0%																		
SD2D384	D13 (D2d) - D13B - Diaphragm	24	04-Aug-16	0%	24	31-Aug-16	07-Apr-16	05-May-16	-98	54	0%																		
Pier D11 (D3a)																													

- █ Actual Work
- █ Planned Bar
- █ Critical Bar
- ◆ Milestone

Project ID: J3518DWPrG-M37
 Layout: J3518-DWP-3MRP Submission - M37
 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 6 of 13 Pages)
(Progress as of 21-Jun-16)

Date	Revision	Checked	Approved
29-Apr-16		PKN	HF
31-May-...		PKN	HF
02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016																							
												June					July					August				September									
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26					
Portal																																			
SD3AR310	D11 (D3a) - Portal Beam Rebar, Formwork, Concreting	45	08-Apr-16 A	27%	33	29-Jul-16	15-Apr-16	25-May-16	-54	0	27%																								
SD3AR320	D11 (D3a) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	29-Jul-16	0%	14	15-Aug-16	26-May-16	11-Jun-16	-54	63	0%																								
Bridge D1																																			
Pier D15 (D2b)																																			
Pier Head Segments																																			
SD2B0380	D15 (D2b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	3	21-May-16 A	0%	3	23-Jun-16	23-May-16	25-May-16	-24	22	0%																								
Abutment & Approach Ramp D																																			
SD1B0252	AR-D - Box structure - Bay 1 & Bay 8	55	21-Jun-16*	0%	55	24-Aug-16	24-Mar-16	02-Jun-16	-69	0	0%																								
SD1B0290	AR-D - Backfill embankment	90	02-Nov-15 A	33.33%	60	30-Aug-16	08-Oct-16	17-Dec-16	91	0	0%																								
SD1B0300	AR-D - RC Walls - Concrete parapets / Profile barriers	24	25-Aug-16	0%	24	22-Sep-16	11-Aug-16	07-Sep-16	-12	0	0%																								
SD1B0400	AR-D - Drainage	45	24-Aug-16	0%	45	18-Oct-16	12-Dec-16	08-Feb-17	91	0	0%																								
SD1B0402	AR-D - Subbase	6	08-Sep-16	0%	6	14-Sep-16	18-Jun-16	24-Jun-16	-69	6	0%																								
SD1B0420	AR-D - Ductings for TCSS civil work provisions (for KD4)	12	25-Aug-16	0%	12	07-Sep-16	03-Jun-16	17-Jun-16	-69	0	0%																								
Viaduct E																																			
Viaduct E1																																			
Bridge E1 - Piling & Substructure																																			
E1A, E1B, E1C & E1D (E1a1-2-3-4)																																			
Pier Head Segments - E1A, E1B, E1C & E1D																																			
Pier Head Segments - E1D (E1a1)																																			
SE1A1372	E1D (E1a1) - Pier Head Segment Lift & Fix (1 seg)	2	23-May-16 A	100%	0	23-May-16 A					100%																								
SE1A1378	E1D (E1a1) - Pier Head Segment Diaphragm - Rebar, Formwork, Concret	25	24-May-16 A	0%	25	20-Jul-16	31-Dec-19	01-Feb-20	1047	1047	50%																								
SE1A1380	E1D (E1a1) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	08-Jun-16 A	0%	6	27-Jun-16	28-May-16	03-Jun-16	-19	57	50%																								
E2A, E2B, E2C & E2D (E1b1-2-3-4)																																			
Pier Head Segments - E2A, E2B, E2C & E2D																																			
Pier Head Segments - E2D (E1b1)																																			
SE1B1378	E2D (E1b1) - Pier Head Segment Diaphragm - Rebar, Formwork, Concret	22	03-May-16 A	13.64%	19	13-Jul-16	08-Jan-20	01-Feb-20	1053	1053	50%																								
SE1B1380	E2D (E1b1) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-May-16 A	0%	6	27-Jun-16	18-May-16	24-May-16	-28	19	50%																								
Viaduct E2																																			
Bridge E2 - Piling & Substructure																																			
E3A,E3B, E3C & E3D (E2a - 1/2/3/4)																																			
Pier Head Segements - E3A,E3B, E3C & E3D																																			
Pier Head Segment - E3D (E2a1)																																			
SE2A1372	E3D (E2a1) - Pier Head Segment Lift & Temp Support (2 seg)	7	23-Jun-16*	0%	7	30-Jun-16	16-May-16	24-May-16	-31	113	0%																								
E4A & E4B (E2b - 1/2)																																			
Pier Works - E4A & E4B																																			
Pier Works - E4B (E2b1)																																			
E4B2030	E4B - Seagull Pier Temp. Work, Rebar, Formwork,Concreting - Upper Dia	24	09-May-16 A	30%	17	11-Jul-16	11-Jul-15	30-Jul-15	-280	0	30%																								
E4B2040	E4B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	11-Jul-16	0%	20	03-Aug-16	31-Jul-15	22-Aug-15	-280	0	0%																								
Pier Head Segements - E4A & E4B																																			
Pier head Segment - E4A (E2b2)																																			
E4A3110	E4A - Temp. Work, Grillages, Megashore Towers, Rail Beams	22	11-Mar-16 A	100%	0	24-May-16 A					100%																								
E4A3120	E4A - Install Pierhead Segments (4 nr)	6	29-Apr-16 A	0%	14	07-Jul-16	17-Jun-15	04-Jul-15	-299	0	50%																								
E4A3130	E4A - Diaphragm of PHS - Formwork, Rebar, Concreting	52	08-Jul-16	0%	52	06-Sep-16	06-Jul-15	03-Sep-15	-299	0	0%																								
E4A3140	E4A - Remove Rail Beams, Megashore Towers	13	07-Sep-16	0%	13	22-Sep-16	04-Sep-15	18-Sep-15	-299	0	0%																								
Pier head Segment - E4B (E2b1)																																			
E4B3110	E4B - Temp. Work, Grillages, Megashore Towers, Rail Beams	19	03-Aug-16	0%	19	25-Aug-16	24-Aug-15	14-Sep-15	-280	0	0%																								
E4B3120	E4B - Install Pierhead Segments (4 nr)	6	25-Aug-16	0%	6	01-Sep-16	15-Sep-15	21-Sep-15	-280	0	0%																								
E4B3130	E4B - Diaphragm of PHS - Formwork, Rebar, Concreting	53	01-Sep-16	0%	53	05-Nov-16	22-Sep-15	25-Nov-15	-280	0	0%																								
E5A & E5B (E2c - 1/2)																																			
Pier Works - E5A & E5B																																			
Pier Works - E5A (E2c2)																																			
E5A2020	E5A - Seagull Pier Temp. Work, Rebar, Formwork,Concreting - Arm (Solic	38	23-Feb-16 A	100%	0	04-Jun-16 A					100%																								
E5A2030	E5A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	14	06-Jun-16 A	0%	14	07-Jul-16	21-Dec-15	08-Jan-16	-144	0	50%																								
Pier Works - E5B (E2c1)																																			
E5B2020	E5B - Seagull Pier Temp. Work, Rebar, Formwork,Concreting - Arm (Solid)	73	19-Mar-16 A	53.42%	34	30-Jul-16	16-Mar-16	28-Apr-16	-76	0	60%																								
E5B2030	E5B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	01-Aug-16	0%	21	24-Aug-16	29-Apr-16	25-May-16	-76	0	0%																								
Pier Head Segements - E5A & E5B																																			
Pier head Segment - E5A (E2c2)																																			
E5A3110	E5A - Temp. Work, Rail Beams	21	08-Jul-16	0%	21	01-Aug-16	09-Jan-16	02-Feb-16	-144	0	0%																								
E5A3120	E5A - Install Pierhead Segments (4 nr)	6	02-Aug-16	0%	6	08-Aug-16	03-Feb-16	12-Feb-16	-144	0	0%																								

■ Actual Work
■ Planned Bar
■ Critical Bar
◆ Milestone

Project ID: J3518DWPrG-M37
 Layout: J3518-DWP-3MRP Submission - M37
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 Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 7 of 13 Pages)
(Progress as of 21-Jun-16)

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29-Apr-16		PKN	HF
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02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016															
												June				July				August				September			
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05
E5A3130	E5A - Diaphragm of PHS - Formwork, Rebar, Concreting	41	09-Aug-16	0%	41	26-Sep-16	13-Feb-16	05-Apr-16	-144	0	0%																
Pier head Segment - E5B (E2c1)																											
E5B3110	E5B - Temp. Work, Rail Beams	20	25-Aug-16	0%	20	17-Sep-16	26-May-16	18-Jun-16	-76	0	0%																
E5B3120	E5B - Install Pierhead Segments (4 nr)	6	19-Sep-16	0%	6	24-Sep-16	20-Jun-16	25-Jun-16	-76	0	0%																
E6A & E6B (E2d - 1/2)																											
Pier Works - E6A & E6B																											
Pier Works - E6A (E2d2)																											
E6A2020	E6A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Solid)	59	27-Feb-16 A	100%	0	16-Jun-16 A					100%																
E6A2030	E6A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	17-Jun-16 A	10%	19	13-Jul-16	14-Jul-15	04-Aug-15	-278	0	10%																
Pier Works - E6B (E2d1)																											
E6B2020	E6B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Solid)	68	25-May-16 A	40%	41	08-Aug-16	03-Mar-16	23-Apr-16	-87	0	40%																
E6B2030	E6B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	08-Aug-16	0%	21	01-Sep-16	25-Apr-16	20-May-16	-87	0	0%																
Pier head Segment - E6A & E6B																											
Pier head Segment - E6A (E2d2)																											
E6A3110	E6A - Temp. Work, Rail Beams	20	13-Jul-16	0%	20	05-Aug-16	05-Aug-15	27-Aug-15	-278	0	0%																
E6A3120	E6A - Install Pierhead Segments (4 nr)	6	05-Aug-16	0%	6	12-Aug-16	28-Aug-15	03-Sep-15	-278	0	0%																
E6A3130	E6A - Diaphragm of PHS - Formwork, Rebar, Concreting	43	12-Aug-16	0%	43	04-Oct-16	04-Sep-15	27-Oct-15	-278	0	0%																
Pier head Segment - E6B (E2d1)																											
E6B3110	E6B - Temp. Work, Rail Beams	20	01-Sep-16	0%	20	26-Sep-16	21-May-16	14-Jun-16	-87	0	0%																
E7A & E7B (E2e - 1/2)																											
Pier Works - E7A & E7B																											
Pier Works - E7A (E2e2)																											
E7A2020	E7A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Hollo	44	29-Mar-16 A	50%	22	16-Jul-16	28-Nov-15	23-Dec-15	-163	0	60%																
E7A2030	E7A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Dia	24	18-Jul-16	0%	24	13-Aug-16	24-Dec-15	23-Jan-16	-163	0	0%																
E7A2040	E7A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	15-Aug-16	0%	20	06-Sep-16	25-Jan-16	19-Feb-16	-163	0	0%																
Pier Works - E7B (E2e1)																											
E7B2020	E7B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Hollo	66	12-Apr-16 A	40%	40	06-Aug-16	24-Jun-15	10-Aug-15	-294	0	40%																
E7B2030	E7B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Dia	24	06-Aug-16	0%	24	03-Sep-16	11-Aug-15	07-Sep-15	-294	0	0%																
E7B2040	E7B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	03-Sep-16	0%	20	28-Sep-16	08-Sep-15	02-Oct-15	-294	0	0%																
Pier head Segment - E7A & E7B																											
Pier head Segment - E7A (E2e2)																											
E7A3110	E7A - Temp. Work, Rail Beams	20	07-Sep-16	0%	20	30-Sep-16	20-Feb-16	14-Mar-16	-163	0	0%																
E8A & E8B (E2f - 1/2)																											
Pier Works - E8A & E8B																											
Pier Works - E8A (E2f2)																											
E8A2020	E8A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Solid)	50	26-Apr-16 A	50%	25	20-Jul-16	15-Mar-16	16-Apr-16	-77	0	75%																
E8A2030	E8A - Seagull Pier Temp. Work, Curing, CJ, Remove Formwork & Falsew	21	21-Jul-16	0%	21	13-Aug-16	18-Apr-16	12-May-16	-77	0	0%																
Pier Works - E8B (E2f1)																											
E8B2020	E8B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Solid)	70	27-Apr-16 A	10%	63	02-Sep-16	17-Dec-15	05-Mar-16	-147	0	15%																
E8B2030	E8B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	03-Sep-16	0%	21	28-Sep-16	07-Mar-16	02-Apr-16	-147	0	0%																
Pier head Segment - E8A & E8B																											
Pier head Segment - E8A (E2f2)																											
E8A3110	E8A - Temp. Work, Rail Beams	21	15-Aug-16	0%	21	07-Sep-16	13-May-16	07-Jun-16	-77	0	0%																
E8A3120	E8A - Install Pierhead Segments (4 nr)	6	08-Sep-16	0%	6	14-Sep-16	08-Jun-16	15-Jun-16	-77	0	0%																
E8A3130	E8A - Diaphragm of PHS - Formwork, Rebar, Concreting	48	15-Sep-16	0%	48	12-Nov-16	16-Jun-16	11-Aug-16	-77	0	0%																
E9A & E9B (E2g - 1/2)																											
Pier Works - E9A & E9B																											
Pier Works - E9A (E2g2)																											
E9A2040	E9A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Dia	24	09-May-16 A	10%	22	16-Jul-16	13-Feb-16	09-Mar-16	-103	0	25%																
E9A2050	E9A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	16-Jul-16	0%	20	09-Aug-16	10-Mar-16	06-Apr-16	-103	0	0%																
Pier Works - E9B (E2g1)																											
E9B2030	E9B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Hollo	62	19-Feb-16 A	100%	0	23-May-16 A					100%																
E9B2040	E9B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Dia	24	24-May-16 A	5%	23	18-Jul-16	10-Mar-16	09-Apr-16	-81	0	10%																
E9B2050	E9B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	18-Jul-16	0%	20	10-Aug-16	11-Apr-16	04-May-16	-81	0	0%																
Pier head Segment - E9A & E9B																											
Pier head Segment - E9A (E2g2)																											
E9A3110	E9A - Temp. Work, Rail Beams	21	09-Aug-16	0%	21	02-Sep-16	07-Apr-16	30-Apr-16	-103	0	0%																
E9A3120	E9A - Install Pierhead Segments (4 nr)	6	02-Sep-16	0%	6	09-Sep-16	03-May-16	09-May-16	-103	0	0%																
E9A3130	E9A - Diaphragm of PHS - Formwork, Rebar, Concreting	48	09-Sep-16	0%	48	08-Nov-16	10-May-16	07-Jul-16	-103	0	0%																
Pier head Segment - E9B (E2g1)																											
E9B3110	E9B - Temp. Work, Rail Beams	20	10-Aug-16	0%	20	02-Sep-16	05-May-16	28-May-16	-81	0	0%																
E9B3120	E9B - Install Pierhead Segments (4 nr)	6	02-Sep-16	0%	6	09-Sep-16	30-May-16	04-Jun-16	-81	0	0%																

■ Actual Work
■ Planned Bar
■ Critical Bar
◆ Milestone

Project ID: J3518DWPrg-M37
 Layout: J3518-DWP-3MRP Submission - M37
 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 8 of 13 Pages)
(Progress as of 21-Jun-16)

Date	Revision	Checked	Approved
29-Apr-16		PKN	HF
31-May-...		PKN	HF
02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016																						
												June				July				August				September										
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26				
E9B3130	E9B - Diaphragm of PHS - Formwork, Rebar, Concreting	48	09-Sep-16	0%	48	08-Nov-16	06-Jun-16	02-Aug-16	-81	0	0%																							
E10A & E10B (E2h - 1/2)																																		
Pier Works - E10A & E10B																																		
Pier Works - E10A (E2h2)																																		
E10A2030	E10A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Hol	44	23-Mar-16 A	100%	0	15-Jun-16 A					100%																							
E10A2040	E10A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Di	24	16-Jun-16 A	5%	23	18-Jul-16	10-Mar-16	09-Apr-16	-81	0	5%																							
E10A2050	E10A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	20	18-Jul-16	0%	20	10-Aug-16	11-Apr-16	04-May-16	-81	0	0%																							
Pier Works - E10B (E2h1)																																		
E10B2030	E10B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Arm (Hol	68	05-Apr-16 A	15%	58	27-Aug-16	28-Oct-15	06-Jan-16	-190	0	15%																							
E10B2040	E10B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper D	24	27-Aug-16	0%	24	26-Sep-16	07-Jan-16	03-Feb-16	-190	0	0%																							
Pier head Segments - E10A & E10B																																		
Pier head Segments - E10A (E2h2)																																		
E10A3110	E10A - Temp. Work, Rail Beams	20	10-Aug-16	0%	20	02-Sep-16	05-May-16	28-May-16	-81	0	0%																							
E10A3120	E10A - Install Pierhead Segments (4 nr)	6	02-Sep-16	0%	6	09-Sep-16	30-May-16	04-Jun-16	-81	0	0%																							
E10A3130	E10A - Diaphragm of PHS - Formwork, Rebar, Concreting	52	09-Sep-16	0%	52	12-Nov-16	06-Jun-16	06-Aug-16	-81	0	0%																							
Viaduct E5, E6, E7 & E8																																		
E11A & E11B (E5E6a/E7E8a)																																		
Pier Works - E11A & E11B																																		
Pier Works - E11A (E7E8a)																																		
E11A2030	E11A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	27-Apr-16 A	20%	24	19-Jul-16	06-May-15	03-Jun-15	-334	0	20%																							
E11A2040	E11A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	44	20-Jul-16	0%	44	08-Sep-16	04-Jun-15	27-Jul-15	-334	0	0%																							
E11A2050	E11A - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	09-Sep-16	0%	21	05-Oct-16	28-Jul-15	20-Aug-15	-334	0	0%																							
Pier Works - E11B (E5E6a)																																		
E11B2030	E11B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	13-May-16 A	10%	27	22-Jul-16	09-May-15	10-Jun-15	-331	0	10%																							
E11B2040	E11B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	64	23-Jul-16	0%	64	07-Oct-16	11-Jun-15	26-Aug-15	-331	0	0%																							
E12A, E12B, E12C & E12D (E8b/E7b/E6b/E5b)																																		
Pile Cap Works - E12A, E12B, E12C & E12D																																		
Pile Cap Works - Dolphin E12A (E8b)																																		
SE8BD080	E12A (E8b) Dolphin - Marine Pile Cap - Install precast shell in position	24	17-May-16 A	100%	0	24-May-16 A					100%																							
SE8BD130	E12A (E8b)- Dolphin - Marine Pile Cap - Fixings, Dewatering & Trimming o	11	21-Jun-16	0%	11	04-Jul-16	10-Feb-17	22-Feb-17	191	0	0%																							
SE8BD150	E12A (E8b) - Dolphin - Marine Pile Cap - Rebar, Concreting	5	05-Jul-16	0%	5	09-Jul-16	23-Feb-17	28-Feb-17	191	295	0%																							
Bridge E8 - Pier E12A (E8b)																																		
Pier Works - E12A																																		
Pier Works																																		
E12A2010	E12A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper St	31	02-Apr-16 A	100%	0	30-May-16 A					100%																							
E12A2020	E12A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Di	21	31-May-16 A	0%	21	15-Jul-16	20-Apr-15	14-May-15	-347	0	40%																							
E12A2030	E12A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	16-Jul-16	0%	30	19-Aug-16	15-May-15	19-Jun-15	-347	0	0%																							
E12A2040	E12A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	44	20-Aug-16	0%	44	13-Oct-16	22-Jun-15	12-Aug-15	-347	0	0%																							
Bridge E7 - Pier E12B (E7b)																																		
Pier Works - E12B																																		
Pier Works																																		
E12B2030	E12B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	21	03-May-16 A	100%	0	25-May-16 A					100%																							
E12B2040	E12B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	26-May-16 A	10%	27	22-Jul-16	28-Mar-15	04-May-15	-362	0	10%																							
E12B2050	E12B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	44	23-Jul-16	0%	44	12-Sep-16	05-May-15	26-Jun-15	-362	0	0%																							
E12B2060	E12B - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	13-Sep-16	0%	21	08-Oct-16	27-Jun-15	22-Jul-15	-362	0	0%																							
Bridge E6 - Pier E12C (E6b)																																		
Pier Works - E12C																																		
Pier Works																																		
E12C2020	E12C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	21	18-May-16 A	100%	0	11-Jun-16 A					100%																							
E12C2030	E12C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ai	30	13-Jun-16 A	3%	29	26-Jul-16	12-Aug-15	15-Sep-15	-252	0	5%																							
E12C2040	E12C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ai	44	26-Jul-16	0%	44	15-Sep-16	16-Sep-15	09-Nov-15	-252	0	0%																							
E12C2050	E12C - Seagull Pier Curing, CJ, Remove Formwork & Falsework	21	15-Sep-16	0%	21	13-Oct-16	10-Nov-15	03-Dec-15	-252	0	0%																							
Bridge E5 - Pier E12D (E5b)																																		
Pier Works - E12D																																		
Pier Works																																		
E12D2010	E12D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper S	30	18-Apr-16 A	100%	0	16-Jun-16 A					100%																							
E12D2020	E12D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	21	17-Jun-16 A	3%	20	15-Jul-16	01-Sep-15	24-Sep-15	-235	0	5%																							
E12D2030	E12D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ai	30	15-Jul-16	0%	30	19-Aug-16	25-Sep-15	02-Nov-15	-235	0	0%																							
E12D2040	E12D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ai	44	19-Aug-16	0%	44	13-Oct-16	03-Nov-15	23-Dec-15	-235	0	0%																							
E13A, E13B, E13C & E13D (E8c/E7c/E6c/E5c)																																		
Pile Cap Works - E13C & E13D																																		
Pile Cap Works																																		

<ul style="list-style-type: none"> Actual Work Planned Bar Critical Bar Milestone 	Project ID: J3518DWPrg-M37 Layout: J3518-DWP-3MRP Submission - M37 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 9 of 13 Pages) (Progress as of 21-Jun-16)	<table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>29-Apr-16</td> <td></td> <td>PKN</td> <td>HF</td> </tr> <tr> <td>31-May-16</td> <td></td> <td>PKN</td> <td>HF</td> </tr> <tr> <td>02-Jul-16</td> <td></td> <td>PKN</td> <td>HF</td> </tr> </table>	Date	Revision	Checked	Approved	29-Apr-16		PKN	HF	31-May-16		PKN	HF	02-Jul-16		PKN	HF	DWG. No.: J3518/GCL/PGM/3MRP-M37
Date	Revision	Checked	Approved																	
29-Apr-16		PKN	HF																	
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Activity ID	Activity Name	Orig. Durn.	Act. Start/ FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish/ FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016																		
												June			July			August			September									
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26
SE5C0152	E13C/D (E6c/E5c) - Marine Pile Cap - Rebar, Concreting (2nd pour)	15	12-May-16 A	100%	0	03-Jun-16 A					100%	[Gantt bar: 12-May-16 to 03-Jun-16]																		
SE5C0154	E13C/D (E6c/E5c) - Marine Pile Cap - CJ preparation	4	04-Jun-16 A	100%	0	08-Jun-16 A					100%	[Gantt bar: 04-Jun-16 to 08-Jun-16]																		
SE5C0162	E13C/D (E6c/E5c) - Marine Pile Cap - Rebar, Concreting (Final pour)	7	09-Jun-16 A	42.86%	4	24-Jun-16	24-Mar-15	27-Mar-15	-366	0	70%	[Gantt bar: 09-Jun-16 to 24-Jun-16]																		
SE5C0164	E13C/D (E6c/E5c) - Marine Pile Cap - Curing incl. CJ preparation	4	25-Jun-16	0%	4	29-Jun-16	28-Mar-15	01-Apr-15	-366	0	0%	[Gantt bar: 25-Jun-16 to 29-Jun-16]																		
Bridge E8 - Pier E13A (E8c)																														
Pier Works - E13A																														
Pier Works																														
E13A2010	E13A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper St	30	13-Apr-16 A	83.33%	5	25-Jun-16	20-Mar-15	25-Mar-15	-369	0	95%	[Gantt bar: 13-Apr-16 to 25-Jun-16]																		
E13A2020	E13A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Di	19	27-Jun-16	0%	19	19-Jul-16	26-Mar-15	21-Apr-15	-369	0	0%	[Gantt bar: 27-Jun-16 to 19-Jul-16]																		
E13A2030	E13A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	31	20-Jul-16	0%	31	24-Aug-16	22-Apr-15	29-May-15	-369	0	0%	[Gantt bar: 20-Jul-16 to 24-Aug-16]																		
E13A2040	E13A - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	44	25-Aug-16	0%	44	18-Oct-16	30-May-15	22-Jul-15	-369	0	0%	[Gantt bar: 25-Aug-16 to 18-Oct-16]																		
Bridge E7 - Pier E13B (E7c)																														
Pier Works - E13B																														
Pier Works																														
E13B2000	E13B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Stem	19	05-Mar-16 A	100%	0	17-Jun-16 A					100%	[Gantt bar: 05-Mar-16 to 17-Jun-16]																		
E13B2010	E13B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	18	18-Jun-16 A	0%	23	18-Jul-16	24-Feb-15	21-Mar-15	-390	0	5%	[Gantt bar: 18-Jun-16 to 18-Jul-16]																		
E13B2020	E13B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	28	19-Jul-16	0%	28	19-Aug-16	23-Mar-15	28-Apr-15	-390	0	0%	[Gantt bar: 19-Jul-16 to 19-Aug-16]																		
E13B2030	E13B - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Upper Ar	40	20-Aug-16	0%	40	07-Oct-16	29-Apr-15	16-Jun-15	-390	0	0%	[Gantt bar: 20-Aug-16 to 07-Oct-16]																		
Bridge E6 - Pier E13C (E6c)																														
Pier Works - E13C																														
Pier Works																														
E13C2000	E13C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Stem	19	09-Jul-16	0%	19	30-Jul-16	15-Apr-15	07-May-15	-366	0	0%	[Gantt bar: 09-Jul-16 to 30-Jul-16]																		
E13C2010	E13C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	21	01-Aug-16	0%	21	24-Aug-16	08-May-15	02-Jun-15	-366	0	0%	[Gantt bar: 01-Aug-16 to 24-Aug-16]																		
E13C2020	E13C - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	25-Aug-16	0%	30	29-Sep-16	03-Jun-15	09-Jul-15	-366	0	0%	[Gantt bar: 25-Aug-16 to 29-Sep-16]																		
Bridge E5 - Pier E13D (E5c)																														
Pier Works - E13D																														
Pier Works																														
E13D2000	E13D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Stem	30	15-Jul-16	0%	30	18-Aug-16	08-May-15	12-Jun-15	-352	0	0%	[Gantt bar: 15-Jul-16 to 18-Aug-16]																		
E13D2010	E13D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower D	21	19-Aug-16	0%	21	12-Sep-16	13-Jun-15	09-Jul-15	-352	0	0%	[Gantt bar: 19-Aug-16 to 12-Sep-16]																		
E13D2020	E13D - Seagull Pier Temp. Work, Rebar, Formwork, Concreting - Lower Ar	30	13-Sep-16	0%	30	20-Oct-16	10-Jul-15	13-Aug-15	-352	0	0%	[Gantt bar: 13-Sep-16 to 20-Oct-16]																		
E14A, E14B, E14C & E14D (E8d/E7d/E6d/E5d)																														
Foundation Works - E14																														
GFX540	Review BCF Foundation Design, Pile Test & Finalize Design	67	21-Jun-16	0%	67	07-Sep-16	17-Sep-14	05-Dec-14	-519	0	0%	[Gantt bar: 21-Jun-16 to 07-Sep-16]																		
GFX545	Mobilization & Assembling Bored Pile Plant & Equipment for Viaducts in HKI	14	08-Sep-16	0%	14	24-Sep-16	06-Dec-14	22-Dec-14	-519	0	0%	[Gantt bar: 08-Sep-16 to 24-Sep-16]																		
Viaduct F																														
Approach Ramp F																														
Approach Ramp Land Foundation - HKBCF																														
Approach Ramp F Piling																														
GFX593	AR-F - Pre-drilling for Piles (25 nos)	24	08-Sep-16	0%	24	07-Oct-16	17-Feb-15	19-Mar-15	-460	0	0%	[Gantt bar: 08-Sep-16 to 07-Oct-16]																		
SUPERSTRUCTURE																														
Assembling, relocation and dismantle of lifting equipment																														
Launching Gantry 2																														
FR000099	Assembly of Launching Gantry LG2 on Temp.Loading Platform	12	06-May-15 A	0%	12	05-Jul-16	16-Jan-20	01-Feb-20	1060	1060	0%	[Gantt bar: 06-May-15 to 05-Jul-16]																		
Viaduct B Superstructure																														
Bridge B2 Superstructure																														
Deck installation																														
FR000011B	Viaduct B2 - Cantilever at Pier B10 (B2c) (16 seg) - by crane	17	16-Jun-16 A	0%	26	21-Jul-16	30-Dec-19	01-Feb-20	1046	1046	28.6%	[Gantt bar: 16-Jun-16 to 21-Jul-16]																		
FR000011C	Viaduct B2 - Complete stitches and launch to B11	22	09-Jul-16	0%	22	03-Aug-16	22-Apr-16	19-May-16	-63	0	0%	[Gantt bar: 09-Jul-16 to 03-Aug-16]																		
FR000012	Viaduct B2 - Cantilever at Pier B9 (B2d) (20 seg) - MTR Crossing - LG1	26	21-Apr-16 A	42.31%	15	08-Jul-16	05-Apr-16	21-Apr-16	-63	0	80%	[Gantt bar: 21-Apr-16 to 08-Jul-16]																		
FR000014	Viaduct B2 - Cantilever at Pier B11 (B2b) (16 seg) - LG1 (2 shifts)	4	04-Aug-16	0%	4	08-Aug-16	20-May-16	24-May-16	-63	0	0%	[Gantt bar: 04-Aug-16 to 08-Aug-16]																		
FR000014A	Viaduct B2 - Launching LG1 B11 to B12 - 2 shifts	1	09-Aug-16	0%	1	09-Aug-16	25-May-16	25-May-16	-63	0	0%	[Gantt bar: 09-Aug-16 to 09-Aug-16]																		
FR000015	Viaduct B2 - End Span at Pier B12 (B2a) (6 seg) - LG1 (2 shifts)	6	10-Aug-16	0%	6	16-Aug-16	26-May-16	01-Jun-16	-63	0	0%	[Gantt bar: 10-Aug-16 to 16-Aug-16]																		
FR0000211	Viaduct B2 - Complete B6/B7/B8 stitches & stressing & transport segments	49	13-Jan-16 A	52.58%	23	18-Jul-16	27-Aug-16	23-Sep-16	57	187	100%	[Gantt bar: 13-Jan-16 to 18-Jul-16]																		
Bridge B1 Superstructure																														
Deck installation																														
FR000017	Viaduct B1 - End Span at Pier B12 (B2a) (6 seg) - LG1 (2 shifts)	14	17-Aug-16	0%	14	01-Sep-16	01-Aug-16	16-Aug-16	-14	0	0%	[Gantt bar: 17-Aug-16 to 01-Sep-16]																		
FR000017-T	Viaduct B1 - Launching LG1 B12 to B14 & 1st pair - 2 shifts	4	17-Aug-16	0%	4	20-Aug-16	11-Aug-16	15-Aug-16	-5	0	0%	[Gantt bar: 17-Aug-16 to 20-Aug-16]																		
FR000017A	Viaduct B1 - Launching B12 to B15 & 1st pair - 2 shifts	5	02-Sep-16	0%	5	07-Sep-16	17-Aug-16	22-Aug-16	-14	0	0%	[Gantt bar: 02-Sep-16 to 07-Sep-16]																		
FR000018	Viaduct B1 - Cantilever at Pier B14 (B1f) (24 seg) - LG1 (2 shifts)	6	22-Aug-16	0%	6	27-Aug-16	16-Aug-16	22-Aug-16	-5	9	0%	[Gantt bar: 22-Aug-16 to 27-Aug-16]																		
FR000018B	Viaduct B1 - Cantilever at B13 (24 seg) - 2 shifts	6	21-Jun-16	0%	6	27-Jun-16	25-Jul-16	30-Jul-16	28	42	0%	[Gantt bar: 21-Jun-16 to 27-Jun-16]																		
FR000019	Viaduct B1 - Cantilever at Pier B15 (B1e) (26 seg) - LG1 (2 shifts)	7	08-Sep-16	0%	7	15-Sep-16	23-Aug-16	30-Aug-16	-14	0	0%	[Gantt bar: 08-Sep-16 to 15-Sep-16]																		

■ Actual Work
■ Planned Bar
■ Critical Bar
◆ Milestone

Project ID: J3518DWPrg-M37
 Layout: J3518-DWP-3MRP Submission - M37
 Filter: TASK filters: 3-Month Lookahead, No CC
 Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 10 of 13 Pages)
(Progress as of 21-Jun-16)

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31-May-...		PKN	HF
02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete	2016															
												June				July				August				September			
												23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05
FR000114	Viaduct D1 - Cantilever at Pier D15 (D2b) (14 seg) - Crane	25	21-Jul-16	0%	25	18-Aug-16	26-May-16	24-Jun-16	-46	59	0%																
FR000115-1	Viaduct D1 - Cantilever at Pier D16 (D2a) (14 seg) - THB	22	24-Jun-16	0%	22	20-Jul-16	30-May-16	24-Jun-16	-21	159	0%																
FR000116-1	Viaduct D1 - Relocate THB from Pier D17 to Pier D18	3	21-Jun-16	0%	3	23-Jun-16	30-Jan-20	01-Feb-20	1069	1069	0%																
FR000117	Viaduct D1 - Cantilever at Pier D18 (D1c) (14 seg) - THB	33	19-Apr-16 A	100%	0	14-Jun-16 A					100%																
FR000117-1	Viaduct D1 - Relocate THB from Pier D18 to Pier D16	3	21-Jun-16	0%	3	23-Jun-16	25-Apr-16	27-Apr-16	-46	0	0%																
FR100068	Viaduct D1 - Abutment End Span at Pier D19 (D1b) (3 seg) - Crane	22	01-Apr-16 A	0%	48	16-Aug-16	27-Apr-16	24-Jun-16	-44	136	66.67%																
Viaduct E																											
Bridge E1 Superstructure																											
Deck Installation																											
FR000026A	Viaduct E1 - Launching LG2 B1 to E3A - 2 shifts	2	21-Jun-16	0%	2	22-Jun-16	15-Jan-20	16-Jan-20	1059	0	0%																
FR000033	Viaduct E1 - End Span at Pier E3-A (E2a4) (5 seg) - LG2 (2 shifts)	6	23-Jun-16	0%	6	29-Jun-16	17-Jan-20	23-Jan-20	1059	0	0%																
FR000033-T	Viaduct E1 - Launching LG2 E3A to E1B & 1st pair	5	30-Jun-16	0%	5	06-Jul-16	24-Jan-20	01-Feb-20	1059	1059	0%																
FR000035	Viaduct E1 - Cantilever at Pier E1-B (E1a3) (14 seg) - LG2 (2 shifts)	4	11-Apr-16 A	100%	0	16-Jun-16 A					100%																
FR000035-T	Viaduct E1 - Launching LG2 E3B to D1 - 2 shifts	2	29-Jun-16	0%	2	30-Jun-16	15-Jan-20	16-Jan-20	1052	0	0%																
FR000035A	Viaduct E1 - Launching E1B to E2B & 1st pair - 2 shifts	3	21-Jun-16	0%	3	23-Jun-16	30-Jan-20	01-Feb-20	1069	1069	0%																
FR000037A	Viaduct E1 - Launching LG2 E2B to E3B - 2 shifts	1	21-Jun-16	0%	1	21-Jun-16	07-Jan-20	07-Jan-20	1052	0	0%																
FR000038	Viaduct E1 - End Span at Pier E3-B (E2a3) (6 seg) - LG2 (2 shifts)	6	22-Jun-16	0%	6	28-Jun-16	08-Jan-20	14-Jan-20	1052	0	0%																
FR000040	Viaduct E1 - Cantilever at Pier E2-C (E1b2) (16 seg) - 2 shifts	4	29-May-16 A	0%	4	24-Jun-16	24-Jan-20	31-Jan-20	1067	0	31.25%																
FR000040A	Viaduct E1 - Launching E2C to E1C - 2 shifts	1	25-Jun-16	0%	1	25-Jun-16	01-Feb-20	01-Feb-20	1067	1067	0%																
FR000040B	Viaduct E1 - Cantilever at E1C remaining (4 seg) - 2 shifts	1	26-May-16 A	100%	0	28-May-16 A					100%																
FR000040C	Viaduct E1 - Launching LG2 E1C to E3C - 2 shifts	2	21-Jun-16	0%	2	22-Jun-16	17-Oct-15	19-Oct-15	-198	0	0%																
FR000041	Viaduct E1 - End Span at Pier E3-C (E2a2) (6 seg) - LG2 (2 shifts)	6	23-Jun-16	0%	6	29-Jun-16	20-Oct-15	27-Oct-15	-198	0	0%																
FR000043	Viaduct E1 - Cantilever at Pier E2-D (E1b1) (16 seg) - THB	21	21-Jul-16	0%	21	13-Aug-16	25-May-16	18-Jun-16	-47	134	0%																
FR000044	Viaduct E1 - Cantilever at Pier E1-D (E1a1) (13 seg) - THB	12	03-Sep-16	0%	12	17-Sep-16	04-Jun-16	18-Jun-16	-76	105	0%																
FR000123	Viaduct E1 - End Span at Pier D1 (D4f) (dwn) (7 seg) - LG2 (2 shifts)	6	02-Jul-16	0%	6	08-Jul-16	17-Jan-20	23-Jan-20	1052	0	0%																
FR000123A	Viaduct E1 - Launching LG2 D1 to E2C & 1st pair - 2 shifts	5	09-Jul-16	0%	5	14-Jul-16	24-Jan-20	01-Feb-20	1052	1052	0%																
FR000128-2	Viaduct E1 - Launching LG2 E3B to E3A - 2 shifts	3	22-Jun-16	0%	3	24-Jun-16	20-Jun-16	22-Jun-16	-2	176	0%																
FR000128-3	Viaduct E1 - End Span at Pier E3-C (E2a2) (6 seg) - LG2 (2 shifts)	6	28-Jun-16	0%	6	05-Jul-16	13-Jun-16	18-Jun-16	-13	168	0%																
FR000128A	Viaduct E1 - Launching E3A to E3C - 2 shifts	6	21-Jun-16	0%	6	27-Jun-16	04-Jun-16	11-Jun-16	-13	0	0%																
At-Grade Roadworks & Other Works along NLH																											
Viaduct B Slope Works																											
Slope 10SW-A/F52																											
GFX483	10SW-A/F52 - Mobilization for soldier piling	3	25-Jun-16	0%	3	28-Jun-16	08-Oct-15	10-Oct-15	-210	0	0%																
GFX484	10SW-A/F52 - Installation of Soldier Pile (260nos., 2rigs)	126	29-Jun-16	0%	126	26-Nov-16	12-Oct-15	14-Mar-16	-210	0	0%																
Viaduct A Slope Works																											
Slope 9SE-B/FR8																											
GFX491	9SE-B/FR8 - New wall foundation	72	21-Jun-16	0%	72	13-Sep-16	22-Jun-16	14-Sep-16	1	0	0%																
M110010	9SE-B/FR8 - demolish existing Ret. wall	72	28-Jun-16	0%	72	21-Sep-16	29-Jun-16	22-Sep-16	1	0	0%																
M110020	9SE-B/FR8 - Wall construction	78	06-Jul-16	0%	78	06-Oct-16	07-Jul-16	07-Oct-16	1	0	0%																
At-Grade Roadworks along NLH Westbound																											
RW10020	NLH W/B (Viaduct C) - Road Drainage Works for tie-in	90	03-Sep-16	0%	90	20-Dec-16	05-Nov-16	24-Feb-17	51	6	0%																
At-Grade Roadworks along NLH Eastbound																											
RW20011	NLH E/B (Viaduct D) - Implement TTM for tie-in works	2	24-Aug-16	0%	2	25-Aug-16	12-Dec-16	13-Dec-16	91	38	0%																
RW20072	NLH E/B (Gantries footing 324 - 328) - T&TC meeting	0	21-Jun-16*	0%	0		10-Nov-15		-179	0	0%																
RW20074	NLH E/B (Gantries 324 - 328) - Gazette	48	21-Jun-16	0%	48	16-Aug-16	10-Nov-15	07-Jan-16	-179	0	0%																
RW20076	NLH E/B (Gantries 324 - 328) - Implement TTA	4	17-Aug-16	0%	4	20-Aug-16	08-Jan-16	12-Jan-16	-179	0	0%																
RW20078	NLH E/B (Gantries 324 - 328) - Construction footing (10am to 5pm)	60	22-Aug-16	0%	60	02-Nov-16	13-Jan-16	29-Mar-16	-179	0	0%																
At-Grade Roadworks and Other Works along Cheung Tung Road																											
Re-alignment of Cheung Tung Road adjacent to Viaduct B																											
RP00051	Ch300-620: watermain (DN1000+DN450)	101	15-Apr-15 A	68.32%	32	28-Jul-16	08-Dec-15	16-Jan-16	-155	0	80%																
RP00052	Ch300-620: road drainage	102	04-May-15 A	76.47%	24	19-Jul-16	17-Dec-15	16-Jan-16	-147	8	80%																
RP00053	Ch300-620: towngas(DN250+DN400)	70	10-Nov-15 A	65.71%	24	19-Jul-16	17-Dec-15	16-Jan-16	-147	8	80%																
RP00054	Ch300-620: duct laying 11KV	15	14-Nov-15 A	0%	18	12-Jul-16	24-Dec-15	16-Jan-16	-141	14	80%																
RP00055	Ch300-650: telecom cables	15	12-Nov-15 A	0%	18	12-Jul-16	24-Dec-15	16-Jan-16	-141	14	80%																
RP00056	Ch300-650: street lighting cable & draw pit	17	12-Nov-15 A	0%	18	12-Jul-16	15-Dec-15	07-Jan-16	-149	0	33%																
RP00057	Ch300-650: relocate street lighting pillar box	8	13-Jul-16	0%	8	21-Jul-16	08-Jan-16	16-Jan-16	-149	6	0%																
RP00058	Ch300-650: Roadwork new CTR with tie in	19	15-Feb-16 A	0%	44	11-Aug-16	08-Dec-15	30-Jan-16	-155	0	25%																
RP00059	Ch300-650: TTA to new CTR	1	12-Aug-16	0%	1	12-Aug-16	01-Feb-16	01-Feb-16	-155	0	0%																
RP00060	Ch300-650: towngas(DN250+DN400) connection	28	13-Aug-16	0%	28	14-Sep-16	03-Mar-17	04-Apr-17	164	341	0%																
RP00063	Ch620-750: backfilling for roadwork	29	06-May-15 A	68.97%	9	30-Jun-16	21-Dec-15	02-Jan-16	-144	6	70%																
RP00064	Ch620-750: telecom, 11KV & 132KV ducting	20	20-Aug-15 A	80%	4	24-Jun-16	04-Aug-16	08-Aug-16	37	5	80%																

■ Actual Work
■ Planned Bar
■ Critical Bar
◆ Milestone

Project ID: J3518DWPrg-M37
 Layout: J3518-DWP-3MRP Submission - M37
 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 12 of 13 Pages)
(Progress as of 21-Jun-16)

Date	Revision	Checked	Approved
29-Apr-16		PKN	HF
31-May-...		PKN	HF
02-Jul-16		PKN	HF

DWG. No.:
J3518/GCL/PGM/3MRP-M37

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-Chek Lap
Kok Link - Investigation. Updated EM&A Manual for
Tuen Mun-Chek Lap Kok Link)

*Contract No. HY/2012/07
Tuen Mun – Chek Lap Kok Link
Southern Connection Viaduct Section
Environmental Mitigation and Enhancement Measure Implementation Schedule*

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									
<i>General Marine Works</i>									
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		✓
<i>Temporary Staging work</i>									
	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						
<i>Land Works</i>									
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		✓
<i>Water Quality Monitoring</i>									
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 m ² 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 (donor 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: <ul style="list-style-type: none"> - 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	
		<ul style="list-style-type: none"> - 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 $\mu\text{g}/\text{m}^3$	ASR9A/ASR8A = 178 ASR9C/ASR8/ASR9 = 178	260
1 Hour TSP Level in $\mu\text{g}/\text{m}^3$	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)	<u>Surface and Middle</u> 5.0 mg/L	<u>Surface and Middle</u> 4.2 mg/L
	<u>Bottom</u> 4.7 mg/L	<u>Bottom</u> 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 : 30/05/2016

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 14 Mar 2016
 Slope (m) : 2.10326
 Intercept (b) : -0.06696
 Correlation Coefficient(r) : 0.99989

Standard Condition

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

Calibration Condition

Pa (hpa) : 1008
 Ta(K) : 300

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.8	3.415	1.656	57	56.67
2	13 holes	9.2	3.016	1.466	51	50.70
3	10 holes	7.0	2.630	1.282	45	44.74
4	7 holes	4.8	2.178	1.067	38	37.78
5	5 holes	2.9	1.693	0.837	29	28.83

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

Sampler Calibration Relationship (Linear Regression)

Slope(m): 33.763 Intercept(b): 1.151 Correlation Coefficient(r): 0.9994

Checked by: Magnum Fan

Date: 04/06/2016

High-Volume TSP Sampler
5-Point Calibration Record

Location : ASR9
 Calibrated by : P.F. Yeung
 Date : 30/05/2016

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 14 Mar 2016
 Slope (m) : 2.10326
 Intercept (b) : -0.06696
 Correlation Coefficient(r) : 0.99989

Standard Condition

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

Calibration Condition

Pa (hpa) : 1008
 Ta(K) : 300

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.5	3.371	1.635	57	56.67
2	13 holes	9.0	2.983	1.450	50	49.71
3	10 holes	6.6	2.554	1.246	44	43.74
4	7 holes	4.4	2.085	1.023	36	35.79
5	5 holes	2.7	1.634	0.809	28	27.84

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

Sampler Calibration Relationship (Linear Regression)

Slope(m): 34.438 Intercept(b): 0.303 Correlation Coefficient(r): 0.9993

Checked by: Magnum Fan

Date: 04/06/2016



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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 14, 2016 Rootsmeter S/N 0438320 Ta (K) - 295
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 745.49

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4020	3.2	2.00
2	NA	NA	1.00	1.0060	6.4	4.00
3	NA	NA	1.00	0.9010	7.9	5.00
4	NA	NA	1.00	0.8590	8.8	5.50
5	NA	NA	1.00	0.7090	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9866	0.7037	1.4078	0.9957	0.7102	0.8896
0.9824	0.9765	1.9909	0.9914	0.9855	1.2581
0.9803	1.0880	2.2259	0.9893	1.0980	1.4066
0.9792	1.1399	2.3345	0.9882	1.1504	1.4753
0.9738	1.3735	2.8155	0.9828	1.3862	1.7792
Qstd slope (m) = 2.10326			Qa slope (m) = 1.31703		
intercept (b) = -0.06696			intercept (b) = -0.04232		
coefficient (r) = 0.99989			coefficient (r) = 0.99989		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

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



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C163248
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1307) Date of Receipt / 收件日期 : 10 June 2016

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 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 15 June 2016

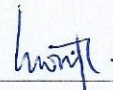
TEST RESULTS / 測試結果

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).

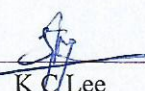
The test equipment used for calibration are traceable to National Standards via :

- 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
測試


H T Wong
Technical Officer

Certified By
核證


K C Lee
Project Engineer

Date of Issue : 17 June 2016
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

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c/o 香港新界屯門興安里一號青山灣機樓四樓

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E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

Page 1 of 2

Certificate of Calibration

校正證書

Certificate No. : C163248
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C153519
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

- Test procedure : MA100N.

- 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	93.7	± 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 $\pm 2\%$	± 1

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

Note :

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.



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. : C153940
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-1557)

Date of Receipt / 收件日期 : 13 July 2015

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.

Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(55 \pm 20)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 22 July 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within manufacturer's specification.

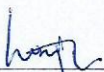
The results are detailed in the subsequent page(s).

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

測試


H T Wong
Assistant Technical Officer

Certified By

核證


K Q Lee
Project Engineer

Date of Issue

簽發日期

22 July 2015

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室所書面批准。

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 - 校正及檢測實驗室

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. : C153940

證書編號

- 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.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C150014
CL281	Multifunction Acoustic Calibrator	DC130171

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

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	93.5	± 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	93.5 (Ref.)
				104.00		103.5
				114.00		113.5

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

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	93.5	Ref.
			Slow			93.5	± 0.3

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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Certificate of Calibration

校正證書

Certificate No. : C153940

證書編號

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	67.1	-26.2 ± 1.5
					125 Hz	77.2	-16.1 ± 1.5
					250 Hz	84.7	-8.6 ± 1.4
					500 Hz	90.2	-3.2 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	94.7	+1.2 ± 1.6
					4 kHz	94.6	+1.0 ± 1.6
					8 kHz	92.4	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.5	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT 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	92.5	-0.8 ± 1.5
					125 Hz	93.3	-0.2 ± 1.5
					250 Hz	93.4	0.0 ± 1.4
					500 Hz	93.5	0.0 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	93.4	-0.2 ± 1.6
					4 kHz	92.8	-0.8 ± 1.6
					8 kHz	90.5	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.7	-6.2 (+3.0 ; -6.0)

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)

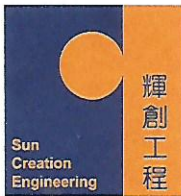
- The uncertainties are for a confidence probability of not less than 95 %.

Note :

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室書面批准。



Certificate of Calibration 校正證書

Certificate No. : C163758
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-1465) Date of Receipt / 收件日期 : 29 June 2016
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 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

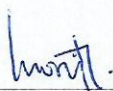
DATE OF TEST / 測試日期 : 11 July 2016


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 : 
測試 : _____
H T Wong
Technical Officer

Certified By : 
核證 : _____
K C Lee
Project Engineer

Date of Issue : 12 July 2016
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.

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Certificate of Calibration

校正證書

Certificate No. : C163758
證書編號

- 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.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C160077
CL281	Multifunction Acoustic Calibrator	PA160023

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading	IEC 61672 Class 1 Spec.
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)	(dB)
30 - 120	L _A	A	Fast	94.00	1	93.4	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)
30 - 120	L _A	A	Fast	94.00	1	93.4 (Ref.)
				104.00		103.4
				114.00		113.4

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading	IEC 61672 Class 1 Spec.
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	(dB)	(dB)
30 - 120	L _A	A	Fast	94.00	1	93.4	Ref.
			Slow			93.4	± 0.3

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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Certificate of Calibration

校正證書

Certificate No. : C163758
證書編號

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	67.1	-26.2 ± 1.5
					125 Hz	77.1	-16.1 ± 1.5
					250 Hz	84.7	-8.6 ± 1.4
					500 Hz	90.1	-3.2 ± 1.4
					1 kHz	93.4	Ref.
					2 kHz	94.7	+1.2 ± 1.6
					4 kHz	94.5	+1.0 ± 1.6
					8 kHz	92.4	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.5	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT 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	92.5	-0.8 ± 1.5
					125 Hz	93.2	-0.2 ± 1.5
					250 Hz	93.4	0.0 ± 1.4
					500 Hz	93.4	0.0 ± 1.4
					1 kHz	93.4	Ref.
					2 kHz	93.3	-0.2 ± 1.6
					4 kHz	92.7	-0.8 ± 1.6
					8 kHz	90.5	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

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 :

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

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Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/012 Manufacturer : HACH

Model No. : 2100Q Serial No. : 12060 C 018447

Date of Calibration : 27/06/2016 Due Date : 26/09/2016

Ref. No. of Turbidity Standard used (4000NTU)

005/6.1/001/9

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	19.6	-2.00
100	97.4	-2.60
800	779	-2.63

(*) Difference = (Measured Value – Theoretical Value) / Theoretical Value x 100

Acceptance Criteria

Difference : -5 % to 5 %

The turbidity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Prepared by : 

Checked by : 



Internal Calibration & Performance Check of pH Meter

Equipment Ref. No. : <u>ET/EW007/005</u>	Manufacturer : <u>Thermo Scientific</u>
Model No. : <u>Orion 2 Star</u>	Serial No. : <u>B29792</u>
Date of Calibration : <u>05/06/2016</u>	Calibration Due Date : <u>04/07/2016</u>

Liquid Junction Error

Primary Standard Solution Used : <u>Phosphate</u>	003/5.2/002/03 (20°C)
Temperature of Solution : <u>25.0 / 20.0</u>	Ref No. of Primary Solution: <u>003/5.2/002/04 (25°C)</u>
pH value of diluted buffer : <u>6.91 / 6.91</u>	$\Delta\text{pH}_{1/2} = \underline{+0.01 / +0.01}$
$\Delta\text{pH} = \text{pH(S)} - \text{pH of diluted buffer} = \underline{0.05 / 0.03}$ (Observed Deviation)	pH (S) = <u>6.86 / 6.88</u>
Liquid Junction Error (ΔpH_j) = $\Delta\text{pH} - \Delta\text{pH}_{1/2} = \underline{0.04 / 0.02}$	

Shift on Stirring

pH of buffer solution (with stirring), $\text{pH}_s = \underline{6.91 / 6.90}$

Shift on stirring, $\Delta\text{pH}_s = \text{pH}_s - \text{pH(S)} - \Delta\text{pH}_j = \underline{0.01 / 0.00}$

Noise

Noise, $\Delta\text{pH}_n =$ difference between max and min reading : 0.01 / 0.01

Verification of ATC

Ref. No. of reference thermometer used:	<u>ET/0521/019</u>	/	<u>ET/0521/019</u>
Temperature record from the reference thermometer (T_R)	<u>25.0</u>	/	<u>20.0</u> °C
Temperature record from the ATC (T_{ATC}):	<u>24.8</u>	/	<u>19.9</u> °C
Temperature Difference, $ T_R - T_{ATC} $	<u>0.2</u>	/	<u>0.1</u> °C
Correction	<u>0.2</u>	/	<u>0.1</u> °C

Acceptance Criteria

Performance Characteristic	Acceptable Range
Liquid Junction Error ΔpH_j	≤ 0.05
Shift on Stirring ΔpH_s	≤ 0.02
Noise ΔpH_n	≤ 0.02
Verification of ATC Temperature Difference	$\leq 0.5^\circ\text{C}$

The pH meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

* Delete as appropriate

Calibrated by:

Checked by :



Internal Calibration & Performance Check of pH Meter

Equipment Ref. No. : <u>ET/EW007/005</u>	Manufacturer : <u>Thermo Scientific</u>
Model No. : <u>Orion 2 Star</u>	Serial No. : <u>B29792</u>
Date of Calibration : <u>05/07/2016</u>	Calibration Due Date : <u>04/08/2016</u>

Liquid Junction Error

Primary Standard Solution Used : <u>Phosphate</u>	003/5.2/002/03 (20°C)
Temperature of Solution : <u>25.0 / 20.0</u>	Ref No. of Primary Solution: <u>003/5.2/002/04 (25°C)</u>
pH value of diluted buffer : <u>6.91 / 6.91</u>	$\Delta\text{pH}_{1/2} = \underline{+0.01 / +0.01}$
$\Delta\text{pH} = \text{pH(S)} - \text{pH of diluted buffer} = \underline{0.05 / 0.03}$ (Observed Deviation)	$\text{pH (S)} = \underline{6.86 / 6.88}$
Liquid Junction Error (ΔpH_j) = $\Delta\text{pH} - \Delta\text{pH}_{1/2} = \underline{0.04 / 0.02}$	

Shift on Stirring

pH of buffer solution (with stirring), $\text{pH}_s = \underline{6.91 / 6.90}$
 Shift on stirring, $\Delta\text{pH}_s = \text{pH}_s - \text{pH(S)} - \Delta\text{pH}_j = \underline{0.01 / 0.00}$

Noise

Noise, $\Delta\text{pH}_n =$ difference between max and min reading : 0.01 / 0.01

Verification of ATC

Ref. No. of reference thermometer used:	<u>ET/0521/019</u>	/	<u>ET/0521/019</u>
Temperature record from the reference thermometer (T_R)	<u>25.0</u>	/	<u>20.0</u> °C
Temperature record from the ATC (T_{ATC}):	<u>24.8</u>	/	<u>19.9</u> °C
Temperature Difference, $ T_R - T_{ATC} $	<u>0.2</u>	/	<u>0.1</u> °C
Correction	<u>0.2</u>	/	<u>0.1</u> °C

Acceptance Criteria

Performance Characteristic	Acceptable Range
Liquid Junction Error ΔpH_j	≤ 0.05
Shift on Stirring ΔpH_s	≤ 0.02
Noise ΔpH_n	≤ 0.02
Verification of ATC Temperature Difference	$\leq 0.5^\circ\text{C}$

The pH meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

* Delete as appropriate

Calibrated by: _____

Checked by: _____



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. :	<u>ET/EW/008/007</u>	Manufacturer :	<u>YSI</u>
Model No. :	<u>Pro 2030</u>	Serial No. :	<u>12H101061</u>
Date of Calibration :	<u>27/05/2016</u>	Calibration Due Date :	<u>26/08/2016</u>

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/017

Ref. No. of Water Bath : ---

	Temperature (°C)			
	Reference Thermometer reading	Measured	Corrected	
		20.0		19.9
DO Meter reading	Measured	20.1	Difference	-0.2

Standardization of sodium thiosulphate (Na₂S₂O₃) solution

Reagent No. of Na ₂ S ₂ O ₃ titrant	CPE/012/4.5/001/13	Reagent No. of 0.025N K ₂ Cr ₂ O ₇	CPE/012/4.4/002/10
		Trial 1	Trial 2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)		0.00	10.20
Final Vol. of Na ₂ S ₂ O ₃ (ml)		10.20	20.50
Vol. of Na ₂ S ₂ O ₃ used (ml)		10.20	10.30
Normality of Na ₂ S ₂ O ₃ solution (N)		0.02451	0.02427
Average Normality (N) of Na ₂ S ₂ O ₃ solution (N)		0.02439	
Acceptance criteria, Deviation		Less than ± 0.001N	

Calculation: Normality of Na₂S₂O₃, N = 0.25 / ml Na₂S₂O₃ used

Linearity Checking

*Determination of dissolved oxygen content by Winkler Titration **

Purging Time (min)	2		5		10	
	1	2	1	2	1	2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.00	22.00	0.00	6.70	10.30
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.00	22.00	28.60	6.70	10.30	13.70
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.00	11.00	6.60	6.70	3.60	3.40
Dissolved Oxygen (DO), mg/L	7.20	7.20	4.32	4.39	2.36	2.23
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.28	7.43	7.36	7.20	7.20	7.20	2.20
5	4.13	4.33	4.23	4.32	4.39	4.36	3.03
10	2.46	2.31	2.39	2.36	2.23	2.30	3.84
Linear regression coefficient				0.9967			



Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

DO meter reading, mg/L	0.00
------------------------	------

Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/003/23	Reagent No. of NaCl (30ppt)	CPE/012/4.8/003/23
-----------------------------	--------------------	-----------------------------	--------------------

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
	1	2	1	2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.40	22.90	32.40
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.40	22.90	32.40	42.00
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.40	11.50	9.50	9.60
Dissolved Oxygen (DO), mg/L	7.46	7.53	6.22	6.29
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: $DO (mg/L) = V \times N \times 8000/298$

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	7.22	7.26	7.24	7.46	7.53	7.50	3.53
30	6.45	6.34	6.4	6.22	6.29	6.26	2.21

Acceptance Criteria

- (1) Differenc between temperature readings from temperature sensor of DO probe and reference thermometer : < 0.5 °C
- (2) Linear regression coefficient : >0.99
- (3) Zero checking: 0.0mg/L
- (4) Difference (%) of DO content from the meter reading and by winkler titration : within ± 5%

The equipment complies # / ~~does not comply~~ # with the specified requirements and is deemed acceptable # / unacceptable # for use.

Delete as appropriate

Calibrated by :

Approved by :



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/007 Manufacturer : YSI
Model No. : Pro 2030 Serial No. : 12H 101061
Date of Calibration : 27/05/2016 Due Date : 26/08/2016

Ref. No. of Salinity Standard used (30ppt)

S/001/5


Salinity Standard Value (ppt)	Measured Salinity (ppt)	Difference * (%)
30.0	29.7	-1.00

(*) Difference (%) = (Measured Salinity – Salinity Standard value) / Salinity Standard value x 100

Acceptance Criteria

Difference : -10 % to 10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : 

Approved by : 

ENVIROTECH SERVICES CO.

Calibration Report of Wind Meter

Date of Calibration : 02 May 2016

Brand of Test Meter: Global Water

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

Direction Sensor: 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

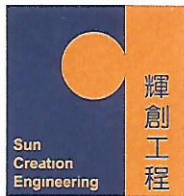
Global Wate: (m/s)	Anemomete (m/s)
0.52	0.6
1.68	1.8
2.73	2.9

Wind Direction Test

Global Wate: (o)	Marine Compass (o)
270.89	270
0.05	0
90.82	90
179.65	180

Calibrated by: *Ho*
Yeung Ping Fai
(Technical Officer)

Checked by: *Fat*
Ho Kam Fat
(Senior Technical Officer)



Certificate of Calibration 校正證書

Certificate No. : C160461
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-0158) Date of Receipt / 收件日期 : 19 January 2016

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

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範


Calibration check

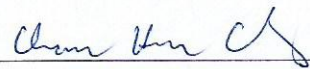
DATE OF TEST / 測試日期 : 27 January 2016

TEST RESULTS / 測試結果

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

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

Tested By : 
測試
M T Leung
Assistant Technical Officer

Certified By : 
核證
H C Chan
Engineer

Date of Issue : 27 January 2016
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。

Certificate of Calibration

校正證書

Certificate No. : C160461

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 :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL386	Multi-function Measuring Instrument	S12109

4. Test procedure : MA130N.

5. Results :

Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
2.0	1.8	+0.2	0.2	2.0
4.1	3.9	+0.2	0.3	2.0
6.0	5.9	+0.1	0.3	2.0
8.0	8.0	0.0	0.3	2.0
10.0	10.2	-0.2	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 :

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室所書面批准。

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 July 2016)**

Alternative Noise Monitoring at Pak Mong Village Entrance

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 to 31 July 2016)**

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Noise Monitoring Schedule (1 to 31 August 2016)**

Alternative Noise Monitoring at Pak Mong Village Entrance

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 to 31 August 2016)**

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug
			1-hr TSP Monitoring 24-hr TSP Monitoring			
07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug
		1-hr TSP Monitoring 24-hr TSP Monitoring				
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
	1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring		
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
			1-hr TSP Monitoring 24-hr TSP Monitoring			
28-Aug	29-Aug	30-Aug	31-Aug			
		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 (July 2016)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	01-Jul	02-Jul
						WQM Mid-Ebb 11:20 (09:35 - 13:05) Mid-Flood 18:12 (16:27 - 19:57)
03-Jul	04-Jul	05-Jul	06-Jul	07-Jul	08-Jul	09-Jul
		WQM Mid-Ebb 13:38 (11:53 - 14:23) Mid-Flood 20:42 (18:53 - 21:27)		WQM Mid-Flood 8:08 (07:23 - 09:53) Mid-Ebb 15:04 (13:19 - 15:49)		WQM Mid-Flood 9:33 (08:48 - 11:18) Mid-Ebb 16:22 (14:37 - 17:07)
10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
		WQM Mid-Flood 12:27 (11:42 - 14:12) Mid-Ebb 18:30 (16:45 - 19:15)		WQM Mid-Ebb 9:21 (08:36 - 11:06) Mid-Flood 15:56 (14:11 - 16:41)		WQM Mid-Ebb 10:51 (10:06 - 12:36) Mid-Flood 17:52 (16:07 - 18:37)
17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul
		WQM Mid-Ebb 12:44 (11:59 - 14:29) Mid-Flood 19:50 (18:05 - 20:35)		WQM Mid-Flood 7:09 (06:54 - 08:54) Mid-Ebb 13:59 (12:14 - 14:44)		WQM Mid-Flood 8:38 (07:53 - 10:23) Mid-Ebb 15:16 (13:31 - 16:01)
24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul
		WQM Mid-Flood 11:27 (10:42 - 13:12) Mid-Ebb 17:34 (15:49 - 18:19)		WQM Mid-Ebb 8:03 (07:18 - 09:48) Mid-Flood 14:22 (12:37 - 15:07)		WQM Mid-Ebb 10:16 (09:31 - 12:01) Mid-Flood 17:18 (15:33 - 18:03)

**HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (August 2016)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug
		WQM Mid-Ebb 12:42 (10:57 - 14:27) Mid-Flood 19:42 (17:57 - 21:27)		WQM Mid-Flood 7:15 (05:30 - 09:00) Mid-Ebb 14:04 (12:19 - 15:49)		WQM Mid-Flood 8:36 (06:51 - 10:21) Mid-Ebb 15:17 (13:32 - 17:02)
07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug
		WQM Mid-Flood 10:46 (09:01 - 12:31) Mid-Ebb 16:56 (15:11 - 18:41)		WQM Mid-Flood 13:13 (11:28 - 14:58) Mid-Ebb 18:46 (17:01 - 20:31)		WQM Mid-Ebb 9:20 (07:35 - 11:05) Mid-Flood 16:48 (15:03 - 18:33)
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
		WQM Mid-Ebb 11:41 (09:56 - 13:26) Mid-Flood 18:49 (17:04 - 20:34)		WQM Mid-Ebb 13:00 (11:15 - 14:45) Mid-Flood 19:53 (18:08 - 21:38)		WQM Mid-Flood 7:45 (06:00 - 09:30) Mid-Ebb 14:16 (12:31 - 16:01)
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
		WQM Mid-Flood 10:18 (08:33 - 12:03) Mid-Ebb 16:22 (14:37 - 18:07)		WQM Mid-Flood 12:52 (11:07 - 14:37) Mid-Ebb 18:26 (16:41 - 20:11)		WQM Mid-Ebb 8:52 (07:07 - 10:37) Mid-Flood 16:13 (14:28 - 17:58)
28-Aug	29-Aug	30-Aug	31-Aug			
		WQM Mid-Ebb 11:44 (09:59 - 13:29) Mid-Flood 18:42 (16:57 - 20:27)				

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 31 July 2016)**

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 31 August 2016)**

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

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	04-07-2016	ASR8A	9:23	1-hr TSP	47	394	500		
TMCLKL	HY/2012/07	04-07-2016	ASR8A	10:25	1-hr TSP	60				
TMCLKL	HY/2012/07	07-07-2016	ASR8A	8:33	1-hr TSP	55				
TMCLKL	HY/2012/07	07-07-2016	ASR8A	9:35	1-hr TSP	47				
TMCLKL	HY/2012/07	07-07-2016	ASR8A	10:37	1-hr TSP	59				
TMCLKL	HY/2012/07	13-07-2016	ASR8A	8:10	1-hr TSP	67				
TMCLKL	HY/2012/07	13-07-2016	ASR8A	9:12	1-hr TSP	56				
TMCLKL	HY/2012/07	13-07-2016	ASR8A	10:14	1-hr TSP	67				
TMCLKL	HY/2012/07	19-07-2016	ASR8A	8:50	1-hr TSP	56				
TMCLKL	HY/2012/07	19-07-2016	ASR8A	9:52	1-hr TSP	61				
TMCLKL	HY/2012/07	19-07-2016	ASR8A	10:54	1-hr TSP	60				
TMCLKL	HY/2012/07	25-07-2016	ASR8A	8:10	1-hr TSP	48				
TMCLKL	HY/2012/07	25-07-2016	ASR8A	9:12	1-hr TSP	48				
TMCLKL	HY/2012/07	25-07-2016	ASR8A	10:14	1-hr TSP	56				
TMCLKL	HY/2012/07	28-07-2016	ASR8A	9:05	1-hr TSP	69				
TMCLKL	HY/2012/07	28-07-2016	ASR8A	10:07	1-hr TSP	65				
TMCLKL	HY/2012/07	28-07-2016	ASR8A	11:09	1-hr TSP	52				
						Average			57	
						Min.			47	
						Max.			69	

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	04-07-2016	ASR9	8:32	1-hr TSP	52	393	500		
TMCLKL	HY/2012/07	04-07-2016	ASR9	9:34	1-hr TSP	89				
TMCLKL	HY/2012/07	04-07-2016	ASR9	10:36	1-hr TSP	61				
TMCLKL	HY/2012/07	07-07-2016	ASR9	8:43	1-hr TSP	57				
TMCLKL	HY/2012/07	07-07-2016	ASR9	9:45	1-hr TSP	86				
TMCLKL	HY/2012/07	07-07-2016	ASR9	10:47	1-hr TSP	61				
TMCLKL	HY/2012/07	13-07-2016	ASR9	8:20	1-hr TSP	52				
TMCLKL	HY/2012/07	13-07-2016	ASR9	9:22	1-hr TSP	74				
TMCLKL	HY/2012/07	13-07-2016	ASR9	10:24	1-hr TSP	44				
TMCLKL	HY/2012/07	19-07-2016	ASR9	9:00	1-hr TSP	63				
TMCLKL	HY/2012/07	19-07-2016	ASR9	10:02	1-hr TSP	52				
TMCLKL	HY/2012/07	19-07-2016	ASR9	11:04	1-hr TSP	56				
TMCLKL	HY/2012/07	25-07-2016	ASR9	8:21	1-hr TSP	107				
TMCLKL	HY/2012/07	25-07-2016	ASR9	9:23	1-hr TSP	96				
TMCLKL	HY/2012/07	25-07-2016	ASR9	10:25	1-hr TSP	102				
TMCLKL	HY/2012/07	28-07-2016	ASR9	9:15	1-hr TSP	49				
TMCLKL	HY/2012/07	28-07-2016	ASR9	10:17	1-hr TSP	56				
TMCLKL	HY/2012/07	28-07-2016	ASR9	11:19	1-hr TSP	60				
						Average			68	
						Min.			44	
						Max.	107			

Action Level Exceedance

Limit Level Exceedance

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

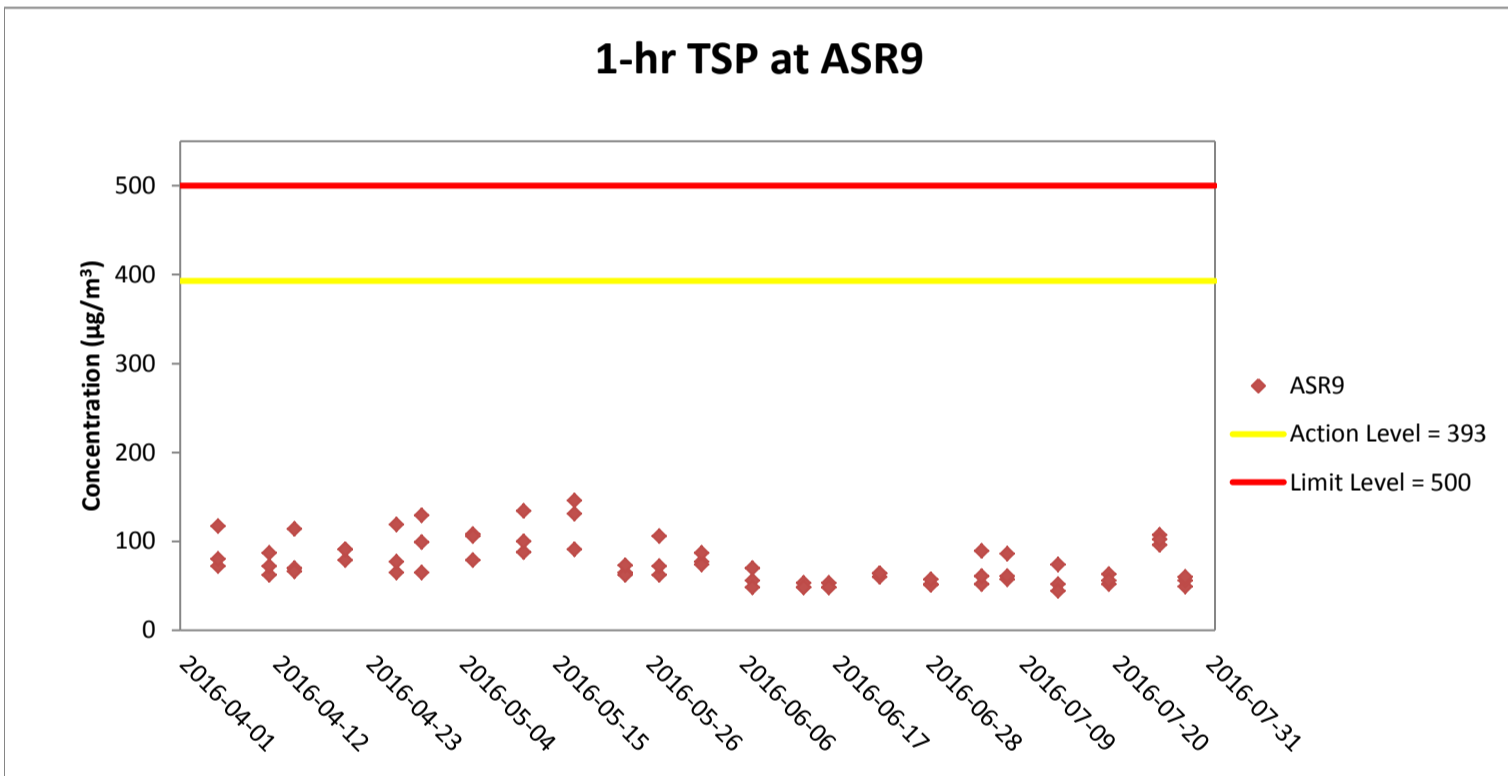
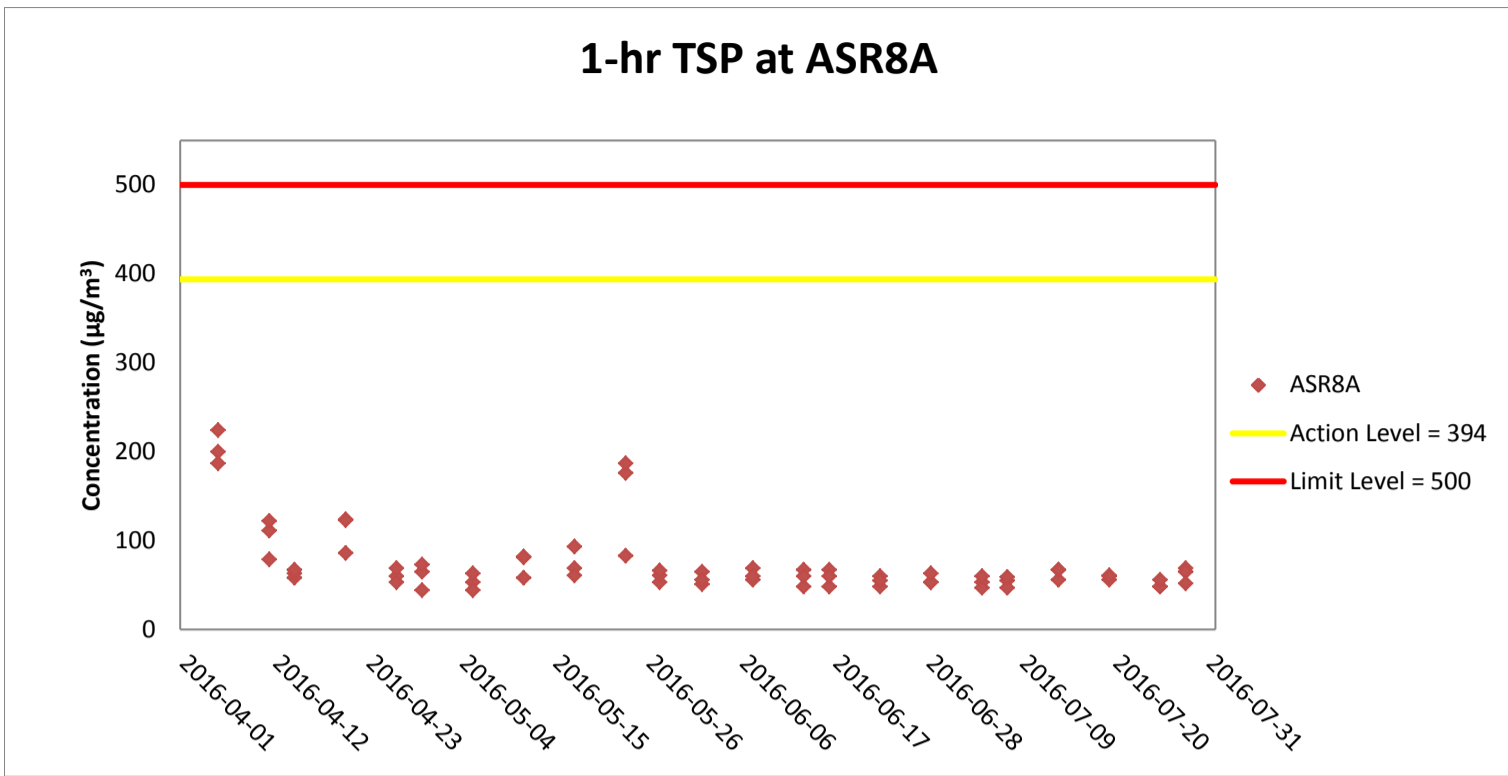
Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	04-07-2016	ASR8A	11:27	24-hr TSP	45	178	260
TMCLKL	HY/2012/07	07-07-2016	ASR8A	11:39	24-hr TSP	50		
TMCLKL	HY/2012/07	13-07-2016	ASR8A	11:16	24-hr TSP	45		
TMCLKL	HY/2012/07	19-07-2016	ASR8A	11:56	24-hr TSP	45		
TMCLKL	HY/2012/07	25-07-2016	ASR8A	11:16	24-hr TSP	43		
TMCLKL	HY/2012/07	28-07-2016	ASR8A	12:11	24-hr TSP	47		
						Average	46	
						Min.	43	
						Max.	50	

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

Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	04-07-2016	ASR9	11:38	24-hr TSP	44	178	260
TMCLKL	HY/2012/07	07-07-2016	ASR9	11:49	24-hr TSP	49		
TMCLKL	HY/2012/07	13-07-2016	ASR9	11:26	24-hr TSP	42		
TMCLKL	HY/2012/07	19-07-2016	ASR9	12:06	24-hr TSP	45		
TMCLKL	HY/2012/07	25-07-2016	ASR9	10:25	1-hr TSP	102		
TMCLKL	HY/2012/07	28-07-2016	ASR9	12:21	24-hr TSP	47		
						Average	55	
						Min.	42	
						Max.	102	

Action Level Exceedance

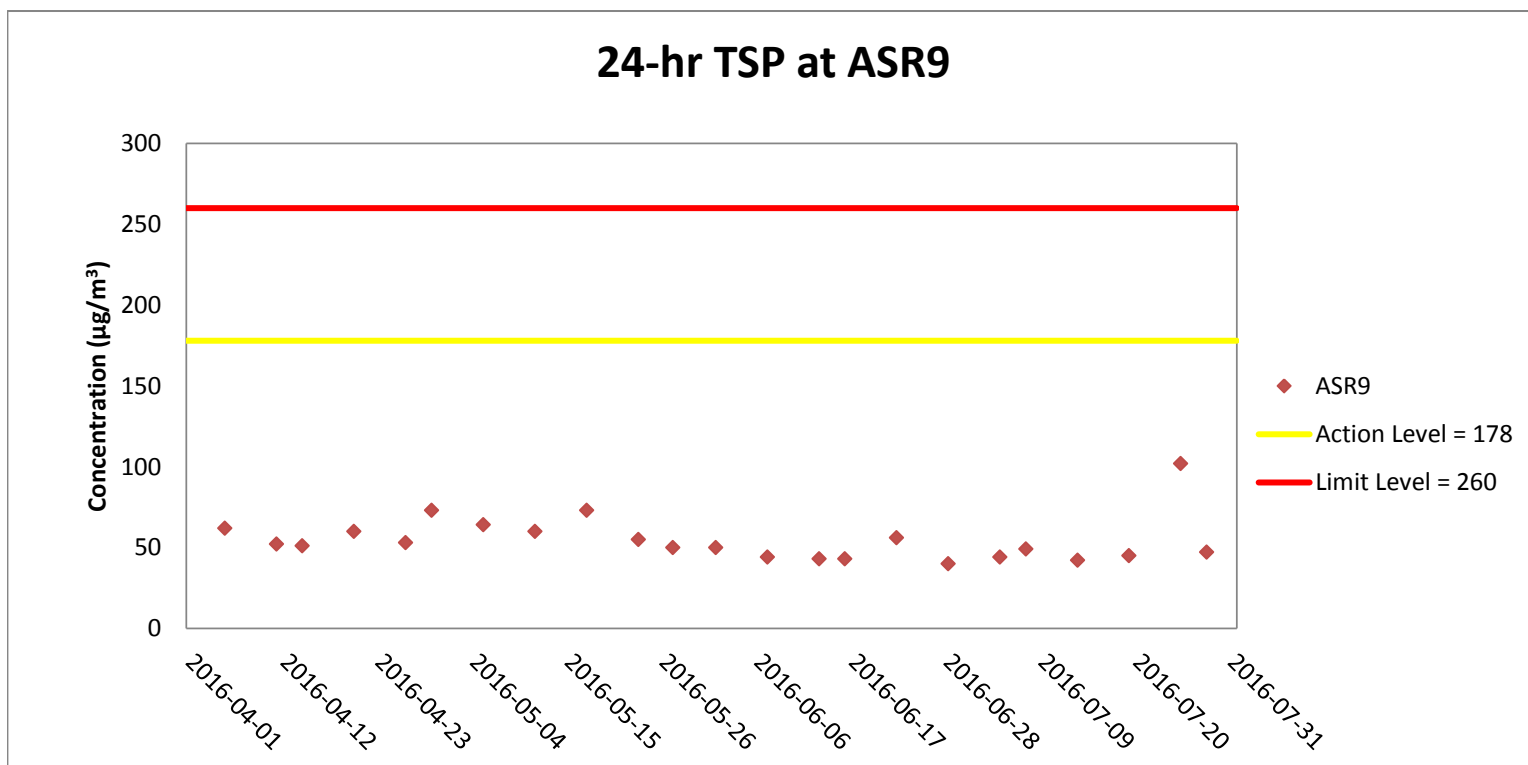
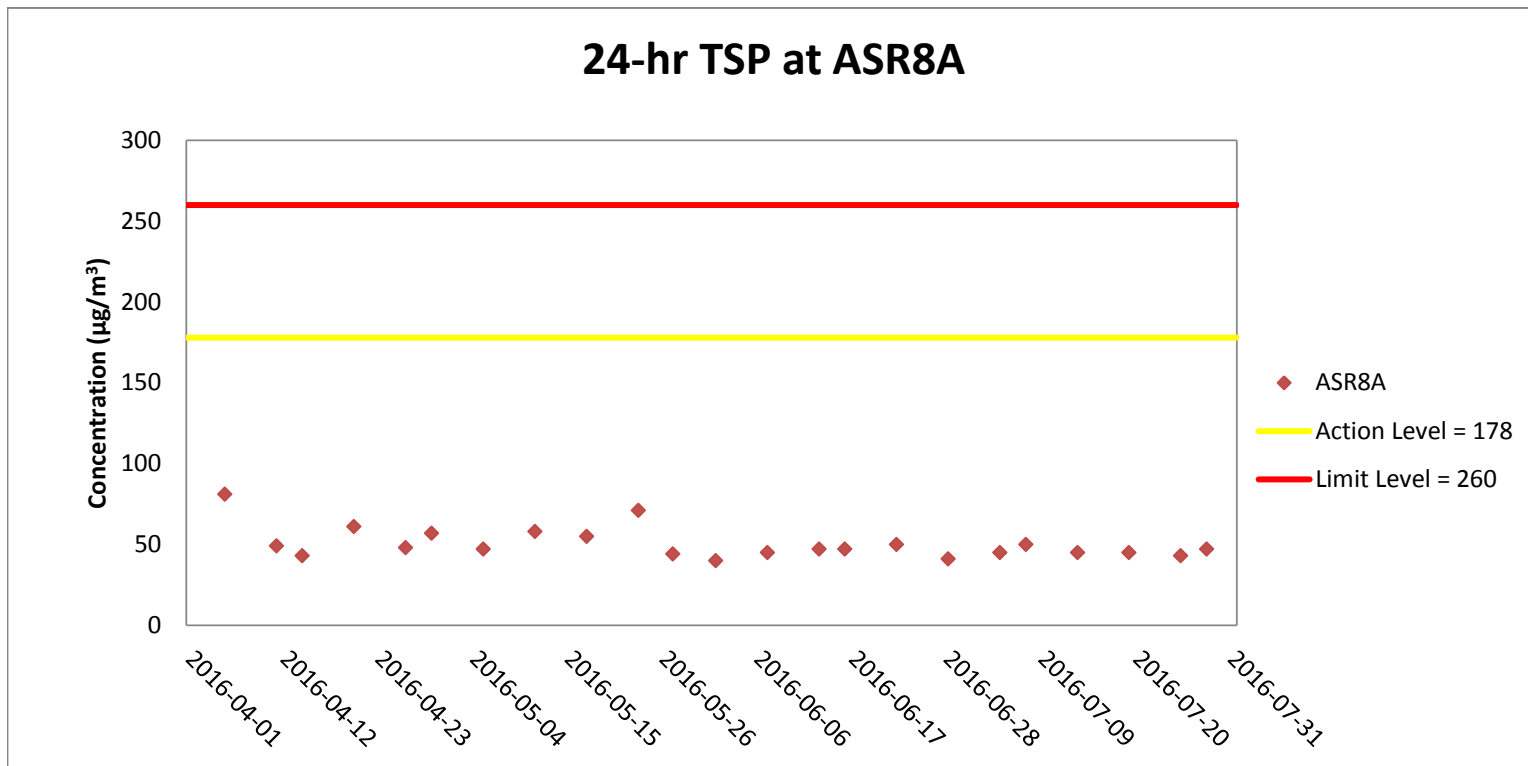
Limit Level Exceedance



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; Construction of land section of berth at Southern Landfall; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.

Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.



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; Construction of land section of berth at Southern Landfall; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.

Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.

Appendix H

Meteorological Data for the Reporting Month

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
04-07-2016	7	2.8	161
04-07-2016	8	2.4	161
04-07-2016	9	3.0	165
04-07-2016	10	2.5	152
04-07-2016	11	3.2	164
04-07-2016	12	3.1	156
04-07-2016	13	3.0	161
04-07-2016	14	4.3	157
04-07-2016	15	3.6	165
04-07-2016	16	2.9	178
04-07-2016	17	1.1	144
04-07-2016	18	0.6	144
04-07-2016	19	1.0	136
04-07-2016	20	1.1	152
04-07-2016	21	1.4	152
04-07-2016	22	1.3	142
04-07-2016	23	0.2	128
05-07-2016	0	0.1	109
05-07-2016	1	0.3	146
05-07-2016	2	0.4	135
05-07-2016	3	0.3	145
05-07-2016	4	0.9	149
05-07-2016	5	0.3	132
05-07-2016	6	0.1	123
05-07-2016	7	0.1	56
05-07-2016	8	1.2	120
05-07-2016	9	1.3	162
05-07-2016	10	2.3	140
05-07-2016	11	2.8	157
05-07-2016	12	1.9	152
07-07-2016	7	0.0	133
07-07-2016	8	0.0	171
07-07-2016	9	0.2	98
07-07-2016	10	0.6	120
07-07-2016	11	0.9	151
07-07-2016	12	0.5	177
07-07-2016	13	0.0	256
07-07-2016	14	1.9	166
07-07-2016	15	2.2	160
07-07-2016	16	2.5	155
07-07-2016	17	2.3	157
07-07-2016	18	1.6	131
07-07-2016	19	1.8	141
07-07-2016	20	0.9	154
07-07-2016	21	0.2	168
07-07-2016	22	0.1	145
07-07-2016	23	0.3	170
08-07-2016	0	0.2	165
08-07-2016	1	0.1	164
08-07-2016	2	0.0	169

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
08-07-2016	3	0.0	205
08-07-2016	4	0.0	152
08-07-2016	5	0.0	350
08-07-2016	6	0.0	227
08-07-2016	7	0.1	252
08-07-2016	8	0.0	273
08-07-2016	9	0.0	187
08-07-2016	10	0.1	258
08-07-2016	11	0.1	244
08-07-2016	12	0.2	140
13-07-2016	7	0.1	87
13-07-2016	8	0.1	71
13-07-2016	9	0.0	28
13-07-2016	10	0.0	83
13-07-2016	11	0.0	287
13-07-2016	12	0.0	224
13-07-2016	13	0.1	247
13-07-2016	14	0.1	288
13-07-2016	15	0.1	222
13-07-2016	16	1.3	194
13-07-2016	17	2.0	152
13-07-2016	18	2.3	151
13-07-2016	19	2.1	157
13-07-2016	20	1.2	165
13-07-2016	21	1.4	174
13-07-2016	22	1.1	145
13-07-2016	23	0.2	156
14-07-2016	0	0.3	164
14-07-2016	1	1.7	154
14-07-2016	2	0.8	182
14-07-2016	3	0.3	160
14-07-2016	4	0.6	160
14-07-2016	5	1.7	152
14-07-2016	6	0.9	170
14-07-2016	7	0.0	104
14-07-2016	8	0.1	227
14-07-2016	9	0.0	73
14-07-2016	10	2.2	134
14-07-2016	11	2.3	156
14-07-2016	12	2.5	162
19-07-2016	7	3.2	154
19-07-2016	8	4.4	161
19-07-2016	9	4.9	158
19-07-2016	10	4.3	162
19-07-2016	11	3.7	163
19-07-2016	12	4.9	150
19-07-2016	13	3.8	170
19-07-2016	14	4.2	161
19-07-2016	15	3.4	159
19-07-2016	16	2.6	154

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
19-07-2016	17	3.0	154
19-07-2016	18	2.7	149
19-07-2016	19	2.7	158
19-07-2016	20	2.4	169
19-07-2016	21	0.7	163
19-07-2016	22	2.2	171
19-07-2016	23	3.1	174
20-07-2016	0	3.5	172
20-07-2016	1	4.4	170
20-07-2016	2	2.9	167
20-07-2016	3	1.4	173
20-07-2016	4	2.2	166
20-07-2016	5	1.8	158
20-07-2016	6	1.8	170
20-07-2016	7	3.1	159
20-07-2016	8	3.6	171
20-07-2016	9	2.8	165
20-07-2016	10	3.5	159
20-07-2016	11	3.2	153
20-07-2016	12	2.7	166
25-07-2016	7	0.0	148
25-07-2016	8	0.1	268
25-07-2016	9	0.3	321
25-07-2016	10	0.0	315
25-07-2016	11	0.1	288
25-07-2016	12	0.3	321
25-07-2016	13	0.4	308
25-07-2016	14	1.0	172
25-07-2016	15	2.0	169
25-07-2016	16	2.9	148
25-07-2016	17	3.1	150
25-07-2016	18	2.9	149
25-07-2016	19	2.2	149
25-07-2016	20	2.4	147
25-07-2016	21	2.1	146
25-07-2016	22	1.6	157
25-07-2016	23	0.5	138
26-07-2016	0	0.0	105
26-07-2016	1	0.0	110
26-07-2016	2	0.0	74
26-07-2016	3	0.0	78
26-07-2016	4	0.0	104
26-07-2016	5	0.0	155
26-07-2016	6	0.0	159
26-07-2016	7	0.0	146
26-07-2016	8	0.5	48
26-07-2016	9	0.5	118
26-07-2016	10	1.3	152
26-07-2016	11	1.3	149
26-07-2016	12	1.1	127

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
29-07-2016	7	0.0	231
29-07-2016	8	0.2	279
29-07-2016	9	0.0	227
29-07-2016	10	0.1	296
29-07-2016	11	0.1	292
29-07-2016	12	0.0	268
29-07-2016	13	0.1	235
29-07-2016	14	0.0	266
29-07-2016	15	0.0	251
29-07-2016	16	0.0	314
29-07-2016	17	0.2	264
29-07-2016	18	1.0	169
29-07-2016	19	0.6	165
29-07-2016	20	0.4	162
29-07-2016	21	0.2	164
29-07-2016	22	0.5	169
29-07-2016	23	0.3	163
30-07-2016	0	0.2	172
30-07-2016	1	0.1	163
30-07-2016	2	0.0	139
30-07-2016	3	0.0	78
30-07-2016	4	0.0	48
30-07-2016	5	0.0	48
30-07-2016	6	0.0	165
30-07-2016	7	0.0	300
30-07-2016	8	0.0	225
30-07-2016	9	0.0	234
30-07-2016	10	0.0	234
30-07-2016	11	0.0	240
30-07-2016	12	0.0	248

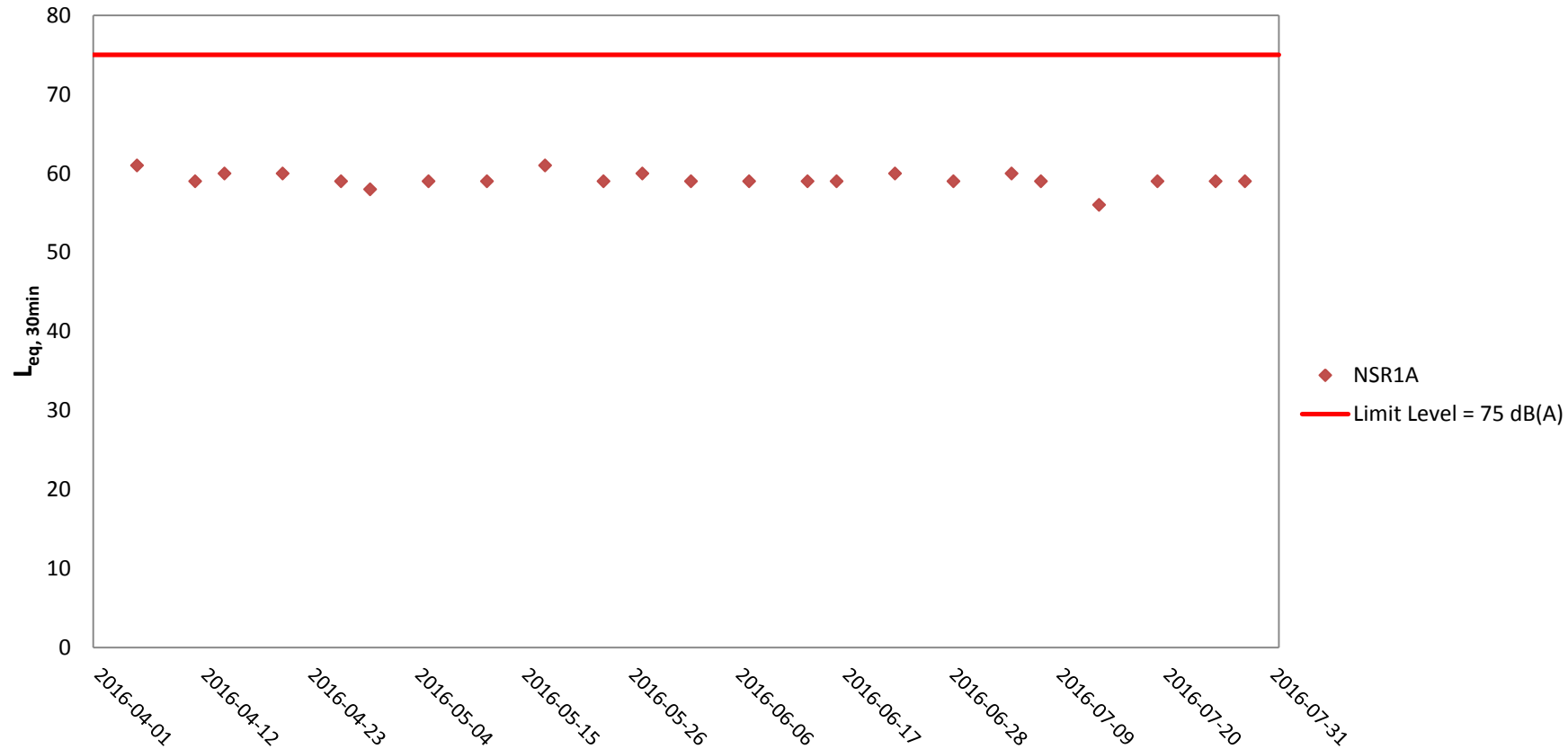
Appendix I

Impact Noise Monitoring Results and Graphical Presentation

Appendix I-1 Noise Monitoring Results

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				
	HY/2012/07	2016-07-04	NSR1A	Sunny	9:44	60	62	55	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
	HY/2012/07	2016-07-07	NSR1A	Sunny	9:55	59	62	55	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
	HY/2012/07	2016-07-13	NSR1A	Cloudy	9:32	56	61	54	75	0.4	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
	HY/2012/07	2016-07-19	NSR1A	Sunny	10:13	59	61	53	75	0.4	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
	HY/2012/07	2016-07-25	NSR1A	Sunny	9:33	59	61	53	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
	HY/2012/07	2016-07-28	NSR1A	Sunny	10:28	59	61	53	75	0.3	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
						Min.	56					
						Max.	60					
						Average	59					

Noise Monitoring Results at NSR 1A ($L_{eq, 30min}$)



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; Construction of land section of berth at Southern Landfall; Installation of pier head and deck segments; and Slope work of Viaducts A, B & C.

Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.

Appendix J

Impact Water Quality Monitoring Results and Graphical Presentation

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Surface	1	1	27	7.68	26.8	6.68	13.2	18.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Surface	1	2	27.1	7.72	26.9	6.65	12.3	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Middle	2	1	27	7.7	27	6.6	11.6	16.4
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Middle	2	2	26.9	7.67	27	6.58	11	15.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Bottom	3	1	26.8	7.68	27.2	6.42	14.2	20
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)5	16:27	Bottom	3	2	26.9	7.66	27.3	6.39	13.5	18.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Surface	1	1	27.1	7.66	26.9	6.77	11.8	16.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Surface	1	2	27.2	7.69	26.9	6.75	12.5	17.9
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Bottom	3	1	27.1	7.63	26.9	6.68	13.3	18.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4a	16:55	Bottom	3	2	27.1	7.6	27	6.65	13.9	19.3
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Surface	1	1	27.2	7.66	27	6.73	10.8	15.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Surface	1	2	27.2	7.63	27	6.7	11.5	16.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Bottom	3	1	27.2	7.65	27	6.65	12.6	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	SR4	17:13	Bottom	3	2	27.1	7.61	27.1	6.61	13.3	18.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Surface	1	1	27.2	7.68	27.2	6.66	11	15.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Surface	1	2	27.3	7.65	27.1	6.63	11.9	16.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Bottom	3	1	27.2	7.58	27.2	6.48	13	18.3
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS8	17:30	Bottom	3	2	27.1	7.63	27.2	6.52	12.2	17.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Surface	1	1	27.3	7.67	27.2	6.58	12.5	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Surface	1	2	27.3	7.7	27.2	6.61	11.8	17.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Middle	2	1	27.2	7.64	27.2	6.64	10.3	14.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Middle	2	2	27.2	7.66	27.3	6.67	9.96	14.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Bottom	3	1	27.1	7.63	27.5	6.43	12.4	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)16	17:50	Bottom	3	2	27.1	7.6	27.5	6.4	13.5	18.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Surface	1	1	27.3	7.68	27.1	6.53	10.5	15
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Surface	1	2	27.3	7.64	27.2	6.57	11.3	15.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Bottom	3	1	27.2	7.6	27.3	6.48	12.2	17.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	IS(Mf)9	18:12	Bottom	3	2	27.2	7.63	27.3	6.44	11.5	16.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Surface	1	1	27.3	7.57	27.2	6.7	11.9	16.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Surface	1	2	27.4	7.61	27.3	6.67	10.8	15.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Middle	2	1	27.3	7.64	27.4	6.6	9.93	14.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Middle	2	2	27.3	7.6	27.4	6.57	9.86	14
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Bottom	3	1	27.1	7.66	27.6	6.33	13.3	19
TMCLKL	HY/2012/07	02-07-2016	Mid-Flood	CS(Mf)3	18:32	Bottom	3	2	27	7.62	27.6	6.36	14.2	20.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Surface	1	1	26.9	7.59	26.7	6.59	13.8	19
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Surface	1	2	27	7.63	26.8	6.56	12.9	18.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Middle	2	1	26.9	7.61	26.9	6.51	12.2	17.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Middle	2	2	26.8	7.58	26.8	6.49	11.6	16.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Bottom	3	1	26.8	7.59	27.1	6.33	14.8	20.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)5	12:49	Bottom	3	2	26.7	7.57	27.2	6.3	14.1	19.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Surface	1	1	27.1	7.57	26.7	6.68	12.4	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Surface	1	2	27	7.6	26.8	6.66	13.1	18.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Bottom	3	1	27	7.54	26.8	6.59	13.9	19.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4a	12:25	Bottom	3	2	26.9	7.51	26.9	6.56	14.5	20.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Surface	1	1	27.1	7.57	26.8	6.64	11.4	15.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Surface	1	2	27	7.54	26.9	6.61	12.1	16.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Bottom	3	1	27.1	7.56	26.9	6.56	13.2	18.9
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	SR4	12:03	Bottom	3	2	27.1	7.52	27	6.52	13.9	19.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Surface	1	1	27.2	7.59	27.1	6.57	11.6	16.4
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Surface	1	2	27.2	7.56	27	6.54	12.5	17.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Bottom	3	1	27.1	7.49	27.1	6.39	13.6	18.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS8	11:41	Bottom	3	2	27	7.54	27.2	6.43	12.8	18

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Surface	1	1	27.2	7.58	27	6.49	13.1	18.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Surface	1	2	27.1	7.61	27.1	6.52	12.4	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Middle	2	1	27.1	7.55	27.2	6.55	10.9	15.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Middle	2	2	27	7.57	27.1	6.58	10.2	14.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Bottom	3	1	26.9	7.54	27.3	6.34	13	19.1
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)16	11:19	Bottom	3	2	27	7.51	27.4	6.31	14.1	20.2
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Surface	1	1	27.1	7.59	26.9	6.44	11.1	15.3
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Surface	1	2	27.2	7.55	27	6.48	11.9	16
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Middle	2	1						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Middle	2	2						
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Bottom	3	1	27.1	7.51	27.1	6.39	12.8	18.3
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	IS(Mf)9	10:57	Bottom	3	2	27	7.54	27.2	6.35	12.1	17.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Surface	1	1	27.3	7.48	27.1	6.61	12.5	17.4
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Surface	1	2	27.2	7.52	27.2	6.58	11.4	16.5
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Middle	2	1	27.2	7.55	27.3	6.51	9.99	14.3
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Middle	2	2	27.1	7.51	27.2	6.48	9.92	14.8
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Bottom	3	1	27	7.57	27.4	6.24	13.9	19.6
TMCLKL	HY/2012/07	02-07-2016	Mid-Ebb	CS(Mf)3	10:35	Bottom	3	2	26.9	7.53	27.5	6.27	14.8	20.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Surface	1	1	27.3	7.7	26.8	6.84	9.43	13.6
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Surface	1	2	27.2	7.71	26.8	6.8	9.48	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Middle	2	1	27.2	7.69	27	6.72	9.57	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Middle	2	2	27.1	7.68	27.1	6.68	9.5	13.6
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Bottom	3	1	27.1	7.74	27.1	6.54	9.98	14.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)5	18:53	Bottom	3	2	27	7.73	27.2	6.5	9.95	14.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Surface	1	1	27.2	7.69	26.9	6.64	9.07	13.1
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Surface	1	2	27.2	7.69	26.9	6.6	9.01	12.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Bottom	3	1	27	7.69	27	6.5	9.77	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4a	19:15	Bottom	3	2	27	7.7	26.9	6.54	9.7	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Surface	1	1	27.2	7.78	26.8	6.74	9.38	13.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Surface	1	2	27.1	7.75	26.9	6.7	9.34	13.2
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Bottom	3	1	27	7.81	26.9	6.43	9.59	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	SR4	19:33	Bottom	3	2	27.1	7.79	27	6.47	9.51	13.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Surface	1	1	27.2	7.74	26.9	6.63	9.44	13.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Surface	1	2	27.2	7.75	26.8	6.66	9.4	13.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Bottom	3	1	27	7.79	26.9	6.51	9.68	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS8	19:50	Bottom	3	2	27	7.79	26.9	6.48	9.64	13.6
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Surface	1	1	27.1	7.79	26.8	6.77	9.62	13.9
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Surface	1	2	27.1	7.79	26.7	6.73	9.59	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Middle	2	1	27	7.76	27.2	6.52	9.74	13.6
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Middle	2	2	27	7.77	27.3	6.55	9.7	14.2
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Bottom	3	1	26.9	7.81	27.3	6.39	10.4	14.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)16	20:13	Bottom	3	2	26.8	7.83	27.3	6.36	10.2	15
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Surface	1	1	27.1	7.75	26.9	6.74	8.97	12.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Surface	1	2	27	7.76	26.8	6.7	9.02	13
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Bottom	3	1	27	7.79	27	6.62	9.22	13.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	IS(Mf)9	20:40	Bottom	3	2	26.9	7.78	27	6.65	9.26	13.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Surface	1	1	27.1	7.81	26.8	6.69	9.09	13.1
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Surface	1	2	27.1	7.8	26.9	6.67	9.13	13.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Middle	2	1	26.9	7.84	27.1	6.43	9.43	13.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Middle	2	2	26.8	7.84	27	6.46	9.47	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Bottom	3	1	26.8	7.82	27.2	6.47	9.71	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Flood	CS(Mf)3	21:10	Bottom	3	2	26.8	7.83	27.2	6.43	9.75	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Surface	1	1	27.1	7.66	26.8	6.69	9.79	14.1
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Surface	1	2	27.1	7.69	26.9	6.66	9.85	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Middle	2	1	27.1	7.65	26.9	6.61	9.24	13.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Middle	2	2	27	7.63	26.9	6.58	9.16	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Bottom	3	1	26.9	7.68	27.1	6.39	10.2	14.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)5	13:56	Bottom	3	2	26.9	7.7	27.2	6.36	11.1	15.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Surface	1	1	27.1	7.68	26.9	6.55	8.94	12.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Surface	1	2	27.2	7.73	26.9	6.52	9.05	12.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Bottom	3	1	27.1	7.7	26.9	6.4	9.89	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4a	13:33	Bottom	3	2	27	7.74	26.9	6.37	9.95	14.2
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Surface	1	1	27.1	7.86	26.8	6.61	9.55	13.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Surface	1	2	27.1	7.82	26.9	6.58	9.62	13.9
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Bottom	3	1	27.1	7.77	26.9	6.5	9.8	14.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	SR4	13:15	Bottom	3	2	27	7.8	26.9	6.47	9.76	14.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Surface	1	1	27	7.83	26.8	6.65	9.68	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Surface	1	2	27.1	7.79	26.8	6.62	9.75	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Bottom	3	1	27	7.76	26.8	6.58	9.92	14.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS8	12:57	Bottom	3	2	27	7.8	26.9	6.54	9.85	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Surface	1	1	27	7.74	26.7	6.54	9.79	13.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Surface	1	2	27	7.7	26.8	6.56	9.86	13.9
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Middle	2	1	27	7.73	26.8	6.59	9.95	14.6
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Middle	2	2	26.9	7.75	26.8	6.61	10.2	14.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Bottom	3	1	26.7	7.66	26.9	6.48	11.1	16
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)16	12:35	Bottom	3	2	26.7	7.7	26.9	6.45	12	17
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Surface	1	1	27	7.67	26.9	6.67	9.68	13.7
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Surface	1	2	27.1	7.7	26.9	6.7	9.77	14
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Middle	2	1						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Middle	2	2						
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Bottom	3	1	27	7.73	26.9	6.58	10.2	14.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	IS(Mf)9	12:16	Bottom	3	2	27	7.7	27	6.6	9.91	14.4
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Surface	1	1	27.1	7.69	26.9	6.74	9.95	14.3
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Surface	1	2	27.2	7.73	26.8	6.71	10.4	14.8
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Middle	2	1	27.1	7.7	27	6.68	8.59	12.6

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Middle	2	2	27.1	7.67	27	6.65	8.7	12.5
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Bottom	3	1	27	7.64	27.2	6.53	11.2	16.2
TMCLKL	HY/2012/07	05-07-2016	Mid-Ebb	CS(Mf)3	11:53	Bottom	3	2	26.9	7.68	27.3	6.5	12.1	17.4
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Surface	1	1	27.2	7.73	26.9	6.84	8.99	13.1
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Surface	1	2	27.3	7.7	26.9	6.81	9.07	13.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Middle	2	1	27.2	7.69	26.9	6.75	8.78	12.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Middle	2	2	27.1	7.72	27	6.72	8.94	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Bottom	3	1	27	7.71	27.3	6.58	9.87	14.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)5	8:00	Bottom	3	2	26.9	7.67	27.2	6.61	9.93	14.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Surface	1	1	27.3	7.74	27	6.76	8.59	12.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Surface	1	2	27.3	7.71	27	6.73	8.64	12.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Bottom	3	1	27.2	7.73	27	6.65	9.09	13.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4a	8:20	Bottom	3	2	27.2	7.7	27.1	6.6	9.16	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Surface	1	1	27.2	7.73	26.9	6.67	8.75	12.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Surface	1	2	27.2	7.78	27	6.71	8.84	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Bottom	3	1	27.2	7.69	27	6.59	9.25	13.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	SR4	8:33	Bottom	3	2	27.1	7.7	27	6.62	9.33	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Surface	1	1	27.2	7.78	27	6.65	8.93	12.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Surface	1	2	27.1	7.81	27	6.63	9.04	13
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Bottom	3	1	27.1	7.73	27	6.54	9.56	13.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS8	8:44	Bottom	3	2	27.1	7.75	27.1	6.52	9.46	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Surface	1	1	27.2	7.68	27	6.76	9.13	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Surface	1	2	27.2	7.74	27	6.73	9.2	13.4
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Middle	2	1	27.2	7.7	27.1	6.69	9.43	13.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Middle	2	2	27.1	7.73	27	6.64	9.35	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Bottom	3	1	27.1	7.66	27.2	6.47	10	14.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)16	8:56	Bottom	3	2	27.1	7.7	27.3	6.43	9.92	14.1

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Surface	1	1	27.2	7.78	27	6.7	9.04	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Surface	1	2	27.2	7.75	27	6.67	8.89	12.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Bottom	3	1	27.1	7.69	27	6.56	9.57	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	IS(Mf)9	9:13	Bottom	3	2	27.1	7.73	27.1	6.53	9.66	13.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Surface	1	1	27.2	7.84	27	6.75	9.44	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Surface	1	2	27.2	7.79	27.1	6.71	9.36	13.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Middle	2	1	27.2	7.77	27.1	6.64	8.87	12.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Middle	2	2	27.1	7.8	27.1	6.6	8.95	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Bottom	3	1	27.1	7.77	27.3	6.52	9.93	14.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Flood	CS(Mf)3	9:38	Bottom	3	2	27	7.75	27.3	6.48	9.85	14.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Surface	1	1	27.3	7.79	26.9	6.75	9.05	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Surface	1	2	27.4	7.76	27	6.72	9.13	13
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Middle	2	1	27.3	7.75	27	6.66	8.84	12.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Middle	2	2	27.2	7.78	27.1	6.63	9	12.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Bottom	3	1	27.1	7.77	27.3	6.49	9.93	14.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)5	15:33	Bottom	3	2	27	7.73	27.4	6.52	9.99	14.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Surface	1	1	27.4	7.8	27	6.67	8.65	12.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Surface	1	2	27.3	7.77	27.1	6.64	8.7	12.5
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Bottom	3	1	27.3	7.79	27.2	6.56	9.15	13.2
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4a	15:09	Bottom	3	2	27.2	7.76	27.1	6.51	9.22	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Surface	1	1	27.3	7.79	27	6.58	8.81	12.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Surface	1	2	27.2	7.84	27.1	6.62	8.9	12.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Bottom	3	1	27.2	7.75	27.1	6.5	9.31	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	SR4	14:47	Bottom	3	2	27.3	7.76	27.2	6.53	9.39	13.4
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Surface	1	1	27.3	7.84	27	6.56	8.99	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Surface	1	2	27.3	7.87	27.1	6.54	9.1	13
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Bottom	3	1	27.1	7.79	27.2	6.45	9.62	13.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS8	14:25	Bottom	3	2	27.2	7.81	27.1	6.43	9.52	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Surface	1	1	27.2	7.75	27.1	6.67	9.19	13.3
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Surface	1	2	27.3	7.8	27	6.64	9.26	13.4
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Middle	2	1	27.3	7.76	27.1	6.6	9.49	13.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Middle	2	2	27.2	7.79	27.2	6.55	9.41	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Bottom	3	1	27.2	7.72	27.3	6.38	10.6	15.4
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)16	14:03	Bottom	3	2	27.1	7.76	27.4	6.34	9.98	14.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Surface	1	1	27.2	7.84	27	6.61	9.1	13
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Surface	1	2	27.3	7.81	27.1	6.58	8.95	12.8
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Middle	2	1						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Middle	2	2						
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Bottom	3	1	27.2	7.75	27.1	6.47	9.63	13.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	IS(Mf)9	13:41	Bottom	3	2	27.2	7.79	27.2	6.44	9.72	14
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Surface	1	1	27.3	7.9	27.1	6.66	9.5	13.7
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Surface	1	2	27.2	7.85	27.2	6.62	9.42	13.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Middle	2	1	27.1	7.83	27.3	6.55	8.93	12.9
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Middle	2	2	27.2	7.86	27.2	6.51	9.01	13
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Bottom	3	1	27.2	7.83	27.3	6.43	9.99	14.6
TMCLKL	HY/2012/07	07-07-2016	Mid-Ebb	CS(Mf)3	13:19	Bottom	3	2	27.1	7.81	27.4	6.39	9.91	14.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Surface	1	1	27.1	7.78	26.8	6.72	9.27	13.3
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Surface	1	2	27	7.78	26.7	6.75	9.2	13.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Middle	2	1	27.1	7.74	26.8	6.64	9.34	13.4
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Middle	2	2	27	7.75	26.9	6.68	9.3	13.3
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Bottom	3	1	27	7.72	27.1	6.6	10.1	14.7
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)5	8:48	Bottom	3	2	26.9	7.73	27.2	6.64	10.2	14.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Surface	1	1	27.1	7.77	26.9	6.83	9.15	13.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Surface	1	2	27.1	7.78	26.9	6.8	9.11	13.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Bottom	3	1	27	7.74	27.1	6.49	9.44	13.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4a	9:15	Bottom	3	2	27	7.75	27.2	6.45	9.4	13.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Surface	1	1	27.2	7.75	27	6.76	9.12	13.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Surface	1	2	27.1	7.76	27.1	6.79	9.16	13.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Bottom	3	1	27.1	7.78	27.2	6.39	9.94	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	SR4	9:32	Bottom	3	2	27	7.78	27.1	6.35	9.9	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Surface	1	1	27.2	7.79	27.1	6.72	9.07	13.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Surface	1	2	27.2	7.78	27	6.75	9.06	13.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Bottom	3	1	27.1	7.77	27.2	6.44	9.68	14.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS8	9:49	Bottom	3	2	27.1	7.76	27.3	6.47	9.64	14
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Surface	1	1	27.3	7.8	27.1	6.84	9.33	13.6
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Surface	1	2	27.2	7.81	27.1	6.88	9.39	13.7
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Middle	2	1	27	7.76	27.3	6.57	9.57	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Middle	2	2	27	7.78	27.3	6.59	9.51	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Bottom	3	1	26.9	7.79	27.2	6.61	9.71	14.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)16	10:16	Bottom	3	2	26.8	7.79	27.3	6.65	9.74	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Surface	1	1	27.2	7.83	27.1	6.68	8.94	13
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Surface	1	2	27.3	7.84	27.2	6.65	8.9	12.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Bottom	3	1	27.1	7.82	27.3	6.46	9.79	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	IS(Mf)9	10:40	Bottom	3	2	27.1	7.83	27.3	6.42	9.75	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Surface	1	1	27.3	7.85	27.2	6.9	8.87	12.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Surface	1	2	27.3	7.85	27.2	6.94	8.84	12.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Middle	2	1	27.1	7.81	27.3	6.67	9.55	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Middle	2	2	27	7.82	27.4	6.64	9.5	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Bottom	3	1	27	7.79	27.4	6.53	9.64	14
TMCLKL	HY/2012/07	09-07-2016	Mid-Flood	CS(Mf)3	11:00	Bottom	3	2	26.9	7.78	27.4	6.57	9.6	14
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Surface	1	1	27.2	7.83	26.5	6.69	9.48	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Surface	1	2	27.3	7.8	26.6	6.66	9.54	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Middle	2	1	27.2	7.74	26.7	6.61	9.36	13.6

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Middle	2	2	27.1	7.78	26.6	6.63	9.31	13.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Bottom	3	1	27	7.74	26.9	6.54	9.87	14.4
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)5	16:45	Bottom	3	2	27	7.71	26.8	6.53	9.96	14.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Surface	1	1	27.1	7.78	26.7	6.74	9.21	13.3
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Surface	1	2	27.2	7.75	26.6	6.71	9.28	13.4
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Bottom	3	1	27.2	7.76	26.8	6.53	9.39	13.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4a	16:18	Bottom	3	2	27.2	7.71	26.8	6.55	9.47	13.6
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Surface	1	1	27.3	7.8	26.8	6.63	9.34	13.4
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Surface	1	2	27.2	7.74	26.7	6.66	9.26	13.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Bottom	3	1	27.1	7.69	26.9	6.53	9.98	14.3
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	SR4	15:59	Bottom	3	2	27	7.71	26.8	6.5	9.92	14.2
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Surface	1	1	27.2	7.74	26.9	6.68	9.11	13
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Surface	1	2	27.3	7.71	27	6.69	9.17	13.1
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Bottom	3	1	27.2	7.72	27.1	6.38	9.73	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS8	15:41	Bottom	3	2	27.1	7.76	27	6.34	9.69	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Surface	1	1	27.3	7.72	26.9	6.73	9.45	13.7
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Surface	1	2	27.2	7.77	27	6.76	9.51	13.7
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Middle	2	1	27.1	7.82	27.2	6.63	9.54	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Middle	2	2	27	7.79	27.1	6.66	9.62	13.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Bottom	3	1	26.8	7.78	27.3	6.48	9.94	14.5
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)16	15:21	Bottom	3	2	26.9	7.74	27.2	6.47	9.87	14.7
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Surface	1	1	27.4	7.76	27	6.61	9.02	12.9
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Surface	1	2	27.3	7.79	26.9	6.63	9.09	13
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Middle	2	1						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Middle	2	2						
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Bottom	3	1	27.2	7.69	27.1	6.41	9.61	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	IS(Mf)9	15:03	Bottom	3	2	27.1	7.73	27.2	6.38	9.53	13.7

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Surface	1	1	27.2	7.83	27	6.81	9.56	13.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Surface	1	2	27.3	7.8	26.9	6.77	9.72	14
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Middle	2	1	27.2	7.78	27.2	6.62	9.92	14.3
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Middle	2	2	27.1	7.74	27.1	6.6	9.99	14.4
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Bottom	3	1	27	7.71	27.3	6.48	10.8	15.8
TMCLKL	HY/2012/07	09-07-2016	Mid-Ebb	CS(Mf)3	14:37	Bottom	3	2	26.9	7.69	27.2	6.46	10.3	15.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Surface	1	1	27.2	7.84	26.8	6.78	9.18	13
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Surface	1	2	27.1	7.85	26.9	6.81	9.11	12.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Middle	2	1	27.1	7.8	26.9	6.7	9.25	13.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Middle	2	2	27	7.81	27	6.74	9.21	13.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Bottom	3	1	27	7.78	27.2	6.66	9.92	14.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)5	11:42	Bottom	3	2	26.9	7.79	27.3	6.7	9.93	14.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Surface	1	1	27.3	7.83	26.9	6.89	9.06	13
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Surface	1	2	27.2	7.84	27	6.86	9.02	13
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Bottom	3	1	27.2	7.82	27	6.55	9.35	13.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4a	12:04	Bottom	3	2	27.1	7.81	27.1	6.51	9.31	13.4
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Surface	1	1	27.3	7.81	27.1	6.82	9.03	13
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Surface	1	2	27.2	7.82	27.2	6.85	9.07	13.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Bottom	3	1	27.2	7.84	27.3	6.45	9.85	14.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	SR4	12:26	Bottom	3	2	27.2	7.85	27.2	6.41	9.81	14.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Surface	1	1	27.2	7.85	27	6.78	8.98	12.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Surface	1	2	27.1	7.84	27.1	6.81	8.97	12.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Bottom	3	1	27.2	7.83	27.1	6.5	9.59	13.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS8	12:48	Bottom	3	2	27.1	7.84	27.2	6.53	9.55	13.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Surface	1	1	27.3	7.86	27.1	6.9	9.24	13.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Surface	1	2	27.4	7.87	27.2	6.94	9.3	13.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Middle	2	1	27.1	7.82	27.3	6.63	9.48	13.8

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Middle	2	2	27	7.84	27.4	6.65	9.42	13.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Bottom	3	1	27	7.85	27.4	6.67	9.62	14
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)16	13:10	Bottom	3	2	26.9	7.86	27.5	6.71	9.65	14
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Surface	1	1	27.4	7.89	27.2	6.74	8.85	12.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Surface	1	2	27.3	7.9	27.3	6.71	8.81	12.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Bottom	3	1	27.2	7.88	27.4	6.52	9.7	14.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	IS(Mf)9	13:32	Bottom	3	2	27.1	7.89	27.3	6.48	9.66	14.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Surface	1	1	27.3	7.91	27.1	6.96	8.78	12.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Surface	1	2	27.2	7.92	27.2	7	8.75	12.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Middle	2	1	27.1	7.87	27.3	6.73	9.46	13.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Middle	2	2	27.2	7.88	27.2	6.7	9.41	13.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Bottom	3	1	27.1	7.85	27.3	6.59	9.55	13.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Flood	CS(Mf)3	13:56	Bottom	3	2	27	7.86	27.4	6.63	9.51	13.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Surface	1	1	27	7.94	26.5	6.64	10.2	14.8
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Surface	1	2	26.9	7.96	26.6	6.62	10.4	15.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Middle	2	1	26.8	8.14	26.7	6.4	11	16
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Middle	2	2	26.7	8.16	26.8	6.42	11.2	16.3
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Bottom	3	1	26.5	8.04	26.9	6.35	12.5	18.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)5	18:56	Bottom	3	2	26.6	8.06	27	6.37	12.7	18.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Surface	1	1	27.1	8.14	26.4	6.74	9.35	13.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Surface	1	2	27	8.16	26.5	6.72	9.37	13.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Bottom	3	1	26.8	7.94	26.6	6.5	9.49	13.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4a	18:37	Bottom	3	2	26.7	7.92	26.7	6.52	9.51	13.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Surface	1	1	27.1	7.85	26.8	6.6	10	14.3
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Surface	1	2	27	7.87	26.7	6.58	10.2	14.6
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Bottom	3	1	26.7	8.14	26.8	6.29	10.6	15.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	SR4	18:14	Bottom	3	2	26.8	8.12	26.9	6.31	10.8	15.4

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Surface	1	1	26.9	8.2	26.5	6.7	9.24	13.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Surface	1	2	26.8	8.18	26.6	6.72	9.26	13.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Bottom	3	1	26.6	7.95	26.7	6.56	9.5	13.6
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS8	17:52	Bottom	3	2	26.7	7.93	26.7	6.54	9.52	13.6
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Surface	1	1	27	7.73	26.6	6.59	10.4	15
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Surface	1	2	26.9	7.75	26.7	6.57	10.6	15.3
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Middle	2	1	26.8	7.94	26.8	6.34	11.4	16.4
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Middle	2	2	26.7	7.96	26.9	6.32	11.6	16.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Bottom	3	1	26.6	8.02	27	6.23	12.5	18
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)16	17:29	Bottom	3	2	26.5	8.04	27.1	6.21	12.7	18.3
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Surface	1	1	27.1	7.64	26.6	6.6	9.24	13.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Surface	1	2	27	7.66	26.7	6.58	9.26	13.2
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Middle	2	1						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Middle	2	2						
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Bottom	3	1	26.8	7.94	26.8	6.27	9.37	13.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	IS(Mf)9	17:07	Bottom	3	2	26.7	7.96	26.9	6.29	9.39	13.5
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Surface	1	1	26.9	8	26.4	6.76	10.9	15.7
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Surface	1	2	26.8	8.02	26.5	6.78	11.1	16
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Middle	2	1	26.7	7.85	26.6	6.56	12.4	17.9
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Middle	2	2	26.7	7.87	26.7	6.58	12.6	18.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Bottom	3	1	26.5	7.95	26.8	6.4	13	19.1
TMCLKL	HY/2012/07	12-07-2016	Mid-Ebb	CS(Mf)3	16:45	Bottom	3	2	26.6	7.93	26.9	6.42	13.2	19.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Surface	1	1	27.3	7.9	26.9	6.69	9.24	12.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Surface	1	2	27.2	7.91	27	6.72	9.17	12.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Middle	2	1	27.1	7.86	27	6.61	9.31	13
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Middle	2	2	27.2	7.87	27.1	6.65	9.27	13
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Bottom	3	1	27.1	7.84	27.3	6.57	9.98	14.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)5	14:11	Bottom	3	2	27	7.85	27.4	6.61	9.99	14.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Surface	1	1	27.4	7.89	27	6.8	9.12	12.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Surface	1	2	27.3	7.9	27.1	6.77	9.08	12.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Bottom	3	1	27.2	7.86	27.1	6.46	9.41	13.3
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4a	14:33	Bottom	3	2	27.3	7.87	27.2	6.42	9.37	13.2
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Surface	1	1	29.4	7.87	27.2	6.73	9.08	12.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Surface	1	2	29.3	7.88	27.3	6.76	9.13	12.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Bottom	3	1	29.3	7.9	27.3	6.36	9.91	14.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	SR4	14:55	Bottom	3	2	29.2	7.91	27.4	6.32	9.87	14
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Surface	1	1	27.2	7.91	27.1	6.69	9.04	12.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Surface	1	2	27.3	7.9	27.2	6.72	9.03	12.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Bottom	3	1	27.2	7.89	27.2	6.41	9.65	13.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS8	15:17	Bottom	3	2	27.1	7.9	27.3	6.44	9.61	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Surface	1	1	27.5	7.92	27.2	6.81	9.3	13
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Surface	1	2	27.4	7.93	27.3	6.85	9.36	13.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Middle	2	1	27.2	7.88	27.4	6.54	9.54	13.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Middle	2	2	27.3	7.9	27.5	6.56	9.48	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Bottom	3	1	27.1	7.91	27.5	6.58	9.68	13.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)16	15:39	Bottom	3	2	27	7.92	27.6	6.62	9.71	13.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Surface	1	1	27.5	7.95	27.3	6.65	8.91	12.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Surface	1	2	27.4	7.96	27.4	6.62	8.87	12.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Bottom	3	1	27.3	7.94	27.4	6.43	9.76	13.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	IS(Mf)9	16:01	Bottom	3	2	27.2	7.95	27.5	6.39	9.72	13.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Surface	1	1	27.4	7.97	27.2	6.87	8.84	12.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Surface	1	2	27.3	7.98	27.3	6.91	8.81	12.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Middle	2	1	27.3	7.93	27.4	6.64	9.52	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Middle	2	2	27.2	7.94	27.3	6.61	9.47	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Bottom	3	1	27.1	7.91	27.4	6.5	9.61	13.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Flood	CS(Mf)3	16:25	Bottom	3	2	27	7.92	27.5	6.54	9.57	13.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Surface	1	1	27.2	7.86	26.7	6.81	9.55	13.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Surface	1	2	27.2	7.8	26.8	6.77	9.5	13.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Middle	2	1	27.2	7.75	26.9	6.7	9.43	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Middle	2	2	27.1	7.79	26.9	6.67	9.38	13.3
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Bottom	3	1	27.1	7.83	27.1	6.46	9.84	14
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)5	10:40	Bottom	3	2	27	7.78	27.1	6.49	9.96	14.2
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Surface	1	1	27.1	7.74	26.9	6.73	9.44	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Surface	1	2	27.2	7.77	26.9	6.7	9.38	13.3
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Bottom	3	1	27.1	7.76	26.9	6.55	9.59	13.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4a	10:16	Bottom	3	2	27.1	7.7	27	6.51	9.64	13.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Surface	1	1	27.2	7.77	26.9	6.8	9.34	13.2
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Surface	1	2	27.2	7.82	26.9	6.77	9.42	13.3
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Bottom	3	1	27.2	7.86	27	6.52	9.66	13.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	SR4	9:58	Bottom	3	2	27.1	7.8	27	6.48	9.7	13.7
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Surface	1	1	27.1	7.86	26.8	6.85	9.44	13.4
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Surface	1	2	27.2	7.8	26.9	6.82	9.56	13.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Middle	2	1						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Bottom	3	1	27.1	7.77	27.1	6.58	9.8	13.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS8	9:40	Bottom	3	2	27.1	7.8	27	6.54	9.72	13.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Surface	1	1	27.2	7.85	27	6.74	9.69	13.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Surface	1	2	27.2	7.89	26.9	6.71	9.74	13.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Middle	2	1	27.3	7.79	27.1	6.6	9.86	14
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Middle	2	2	27.3	7.84	27.1	6.57	9.82	14
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Bottom	3	1	27.2	7.88	27.2	6.38	9.95	14.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)16	9:18	Bottom	3	2	27.1	7.9	27.3	6.42	9.89	14.1
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Surface	1	1	27	7.84	27	6.76	8.75	12.3
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Surface	1	2	27.1	7.9	26.9	6.72	8.67	12.2
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Middle	2	2						
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Bottom	3	1	27.1	7.82	27	6.58	9.44	13.5
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	IS(Mf)9	8:59	Bottom	3	2	27.1	7.83	27.1	6.54	9.52	13.6
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Surface	1	1	27.2	7.88	26.8	6.97	9.06	13
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Surface	1	2	27.2	7.85	26.9	6.94	8.98	12.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Middle	2	1	27	7.89	26.9	6.85	9.66	13.8
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Middle	2	2	27.1	7.84	27	6.8	9.73	13.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Bottom	3	1	27	7.89	27.2	6.66	10.4	14.9
TMCLKL	HY/2012/07	14-07-2016	Mid-Ebb	CS(Mf)3	8:36	Bottom	3	2	26.9	7.87	27.2	6.62	9.96	14.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Surface	1	1	27.5	7.85	27	6.92	9.21	12.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Surface	1	2	27.5	7.86	27.1	6.95	9.16	12.7
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Middle	2	1	27.3	7.87	27.1	6.84	9.58	13.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Middle	2	2	27.4	7.89	27.2	6.8	9.55	13.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Bottom	3	1	27.3	7.89	27.3	6.6	9.43	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)5	16:07	Bottom	3	2	27.2	7.89	27.4	6.63	9.46	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Surface	1	1	27.5	7.79	27	6.98	9.39	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Surface	1	2	27.6	7.8	27	6.95	9.36	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Bottom	3	1	27.3	7.83	27.1	6.67	9.66	13.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4a	16:30	Bottom	3	2	27.3	7.83	27	6.69	9.72	13.6
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Surface	1	1	27.5	7.76	27	6.74	9.07	12.6
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Surface	1	2	27.5	7.78	27	6.77	9.04	12.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Bottom	3	1	27.3	7.79	27.2	6.5	9.54	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	SR4	16:47	Bottom	3	2	27.3	7.79	27.1	6.54	9.5	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Surface	1	1	27.5	7.8	27.1	6.82	9.29	12.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Surface	1	2	27.4	7.79	27.1	6.86	9.33	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Bottom	3	1	27.4	7.75	27.3	6.43	9.7	13.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS8	17:10	Bottom	3	2	27.4	7.76	27.2	6.48	9.76	13.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Surface	1	1	27.4	7.84	27.2	6.77	9.11	12.6
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Surface	1	2	27.5	7.83	27.1	6.79	9.07	12.6
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Middle	2	1	27.3	7.8	27.3	6.52	9.34	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Middle	2	2	27.3	7.81	27.3	6.56	9.3	12.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Bottom	3	1	27.2	7.79	27.4	6.56	9.29	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)16	17:33	Bottom	3	2	27.3	7.8	27.3	6.59	9.35	13.1
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Surface	1	1	27.4	7.79	27	6.74	9.44	13.1
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Surface	1	2	27.4	7.78	26.9	6.7	9.39	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Bottom	3	1	27.3	7.82	27.2	6.42	9.86	13.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	IS(Mf)9	18:00	Bottom	3	2	27.2	7.81	27.1	6.45	9.83	13.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Surface	1	1	27.4	7.81	27.1	6.93	9.34	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Surface	1	2	27.4	7.82	27	6.89	9.3	12.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Middle	2	1	27.3	7.84	27.2	6.68	9.52	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Middle	2	2	27.3	7.83	27.3	6.65	9.56	13.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Bottom	3	1	27.2	7.84	27.4	6.59	9.67	13.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Flood	CS(Mf)3	18:20	Bottom	3	2	27.1	7.84	27.5	6.55	9.61	13.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Surface	1	1	27.6	8.14	26.9	6.74	9.3	12.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Surface	1	2	27.5	8.16	27	6.72	9.32	12.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Middle	2	1	27.4	7.93	27.2	6.5	9.55	13.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Middle	2	2	27.3	7.91	27.3	6.48	9.57	13.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Bottom	3	1	27.2	7.85	27.4	6.35	10.2	14.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)5	12:16	Bottom	3	2	27.1	7.87	27.5	6.37	10	14
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Surface	1	1	27.6	7.92	27.1	6.6	9.12	12.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Surface	1	2	27.6	7.9	27.2	6.62	9.14	12.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Bottom	3	1	27.4	8.04	27.3	6.32	9.27	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4a	11:54	Bottom	3	2	27.3	8.06	27.3	6.34	9.29	13
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Surface	1	1	27.5	8.16	26.9	6.42	10.5	14.7
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Surface	1	2	27.4	8.14	27	6.44	10.7	15
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Bottom	3	1	27.2	7.92	27.1	6.25	11.8	16.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	SR4	11:32	Bottom	3	2	27.2	7.9	27.2	6.27	12	16.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Surface	1	1	27.6	7.96	26.9	6.3	9.89	13.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Surface	1	2	27.5	7.94	27	6.28	9.91	13.9
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Bottom	3	1	27.3	8	27.2	6.12	10.4	14.7
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS8	11:11	Bottom	3	2	27.2	8.02	27.3	6.1	10.6	15
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Surface	1	1	26.8	7.92	27.2	6.52	10.2	14.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Surface	1	2	26.9	7.9	27.1	6.5	10.4	14.6
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Middle	2	1	26.7	8.14	27.3	6.38	11.5	16.1
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Middle	2	2	26.6	8.16	27.3	6.4	11.7	16.4
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Bottom	3	1	26.5	8.03	27.4	6.2	12	16.8
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)16	10:49	Bottom	3	2	26.4	8.05	27.5	6.22	12.2	17.1
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Surface	1	1	27.4	7.95	27.1	6.61	10	14
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Surface	1	2	27.4	7.93	27.2	6.63	10.2	14.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Middle	2	1						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Middle	2	2						
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Bottom	3	1	27.2	7.86	27.3	6.43	12.5	17.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	IS(Mf)9	10:28	Bottom	3	2	27.1	7.82	27.3	6.45	12.7	17.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Surface	1	1	27.5	8.16	26.9	6.48	9.56	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Surface	1	2	27.5	8.18	26.9	6.5	9.58	13.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Middle	2	1	27.4	7.91	27	6.25	10.3	14.2
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Middle	2	2	27.3	7.93	27.1	6.27	10.5	14.5
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Bottom	3	1	27.2	7.85	27.3	6.09	10.9	15.3
TMCLKL	HY/2012/07	16-07-2016	Mid-Ebb	CS(Mf)3	10:06	Bottom	3	2	27.1	7.87	27.3	6.11	11.1	15.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Surface	1	1	29.7	7.87	27.3	6.94	9.54	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Surface	1	2	29.6	7.85	27.2	6.9	9.63	13.1
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Middle	2	1	29.6	7.89	27.3	6.88	9.87	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Middle	2	2	29.5	7.9	27.3	6.85	9.79	13.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Bottom	3	1	29.4	7.87	27.5	6.66	9.49	13.4
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)5	18:05	Bottom	3	2	29.4	7.9	27.6	6.61	9.53	13.4

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Surface	1	1	29.7	7.84	27.2	6.77	9.8	13.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Surface	1	2	29.8	7.81	27.2	6.8	9.74	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Bottom	3	1	29.7	7.78	27.2	6.49	9.95	13.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4a	18:32	Bottom	3	2	29.7	7.8	27.3	6.53	10.1	14.1
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Surface	1	1	29.8	7.73	27.2	6.7	9.48	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Surface	1	2	29.7	7.75	27.3	6.67	9.56	13.3
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Bottom	3	1	29.6	7.8	27.4	6.5	9.8	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	SR4	18:50	Bottom	3	2	29.6	7.77	27.4	6.53	9.76	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Surface	1	1	29.7	7.79	27.2	6.63	9.66	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Surface	1	2	29.7	7.81	27.3	6.61	9.6	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Bottom	3	1	29.6	7.73	27.4	6.44	9.94	13.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS8	19:10	Bottom	3	2	29.5	7.7	27.4	6.4	9.85	13.8
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Surface	1	1	29.7	7.88	27.3	6.78	9.4	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Surface	1	2	29.6	7.84	27.3	6.75	9.35	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Middle	2	1	29.6	7.73	27.4	6.64	9.7	13.4
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Middle	2	2	29.6	7.75	27.5	6.61	9.63	13.3
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Bottom	3	1	29.5	7.81	27.6	6.36	9.85	13.8
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)16	19:30	Bottom	3	2	29.4	7.83	27.7	6.39	9.93	13.8
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Surface	1	1	29.7	7.83	27.2	6.74	9.7	13.3
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Surface	1	2	29.8	7.8	27.1	6.7	9.77	13.3
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Bottom	3	1	29.7	7.83	27.4	6.48	10.6	14.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	IS(Mf)9	19:52	Bottom	3	2	29.6	7.85	27.3	6.44	9.96	14
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Surface	1	1	29.7	7.76	27.2	6.76	9.84	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Surface	1	2	29.7	7.7	27.3	6.79	9.76	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Middle	2	1	29.7	7.77	27.4	6.6	9.93	13.8

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Middle	2	2	29.6	7.79	27.5	6.57	9.99	13.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Bottom	3	1	29.5	7.78	27.7	6.43	9.68	13.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Flood	CS(Mf)3	20:10	Bottom	3	2	29.4	7.8	27.8	6.38	9.74	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Surface	1	1	29.6	7.91	27.1	6.83	9.27	12.8
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Surface	1	2	29.5	7.92	27.2	6.86	9.22	12.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Middle	2	1	29.4	7.93	27.3	6.75	9.64	13.3
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Middle	2	2	29.5	7.94	27.2	6.71	9.61	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Bottom	3	1	29.4	7.96	27.4	6.51	9.49	13.1
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)5	14:13	Bottom	3	2	29.3	7.97	27.5	6.54	9.52	13.1
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Surface	1	1	29.7	7.85	27.1	6.89	9.45	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Surface	1	2	29.6	7.86	27	6.86	9.42	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Bottom	3	1	29.3	7.89	27.1	6.58	9.72	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4a	13:49	Bottom	3	2	29.4	7.9	27.2	6.6	9.78	13.7
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Surface	1	1	29.6	7.82	27.1	6.65	9.13	12.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Surface	1	2	29.5	7.84	27	6.68	9.1	12.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Bottom	3	1	29.4	7.85	27.2	6.41	9.6	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	SR4	13:27	Bottom	3	2	29.3	7.86	27.3	6.45	9.56	13.2
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Surface	1	1	29.5	7.86	27.1	6.73	9.35	12.8
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Surface	1	2	29.4	7.85	27.2	6.77	9.39	12.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Bottom	3	1	29.3	7.81	27.4	6.34	9.76	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS8	13:05	Bottom	3	2	29.4	7.82	27.3	6.39	9.82	13.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Surface	1	1	29.5	7.9	27.2	6.68	9.17	12.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Surface	1	2	29.6	7.89	27.3	6.7	9.13	12.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Middle	2	1	29.4	7.86	27.4	6.43	9.4	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Middle	2	2	29.3	7.87	27.3	6.47	9.36	12.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Bottom	3	1	29.3	7.85	27.4	6.47	9.35	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)16	12:43	Bottom	3	2	29.2	7.86	27.5	6.5	9.41	13.1

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Surface	1	1	29.4	7.85	27	6.65	9.5	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Surface	1	2	29.5	7.84	27.1	6.61	9.45	12.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Middle	2	1						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Middle	2	2						
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Bottom	3	1	29.4	7.88	27.2	6.33	9.92	13.6
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	IS(Mf)9	12:21	Bottom	3	2	29.3	7.87	27.3	6.36	9.89	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Surface	1	1	29.5	7.87	27.1	6.84	9.4	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Surface	1	2	29.4	7.88	27.2	6.8	9.36	13
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Middle	2	1	29.4	7.9	27.3	6.59	9.58	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Middle	2	2	29.3	7.89	27.4	6.56	9.62	13.5
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Bottom	3	1	29.3	7.9	27.5	6.5	9.73	13.9
TMCLKL	HY/2012/07	19-07-2016	Mid-Ebb	CS(Mf)3	11:59	Bottom	3	2	29.2	7.91	27.6	6.46	9.67	13.9
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Surface	1	1	29.4	7.82	27.2	6.89	9.18	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Surface	1	2	29.3	7.83	27.3	6.92	9.13	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Middle	2	1	29.3	7.84	27.3	6.81	9.55	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Middle	2	2	29.2	7.85	27.4	6.77	9.52	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Bottom	3	1	29.2	7.87	27.6	6.57	9.4	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)5	7:45	Bottom	3	2	29.1	7.88	27.5	6.6	9.43	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Surface	1	1	29.5	7.76	27.1	6.95	9.36	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Surface	1	2	29.4	7.77	27.2	6.92	9.33	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Bottom	3	1	29.2	7.8	27.2	6.64	9.63	13.3
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4a	7:58	Bottom	3	2	29.3	7.81	27.3	6.66	9.69	13.3
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Surface	1	1	29.4	7.73	27.1	6.71	9.04	12.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Surface	1	2	29.4	7.75	27.2	6.74	9.01	12.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Bottom	3	1	29.1	7.76	27.3	6.47	9.51	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	SR4	8:06	Bottom	3	2	29.2	7.77	27.4	6.51	9.47	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Surface	1	1	29.3	7.77	27.2	6.79	9.26	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Surface	1	2	29.2	7.76	27.3	6.83	9.3	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Bottom	3	1	29.2	7.72	27.4	6.4	9.67	13.3
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS8	8:14	Bottom	3	2	29.1	7.73	27.5	6.45	9.73	13.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Surface	1	1	29.4	7.81	27.3	6.74	9.08	12.5
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Surface	1	2	29.3	7.8	27.4	6.76	9.04	12.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Middle	2	1	29.2	7.77	27.5	6.49	9.31	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Middle	2	2	29.1	7.78	27.4	6.53	9.27	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Bottom	3	1	29.1	7.76	27.5	6.53	9.26	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)16	8:23	Bottom	3	2	29	7.77	27.6	6.56	9.32	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Surface	1	1	29.4	7.76	27.1	6.71	9.41	12.9
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Surface	1	2	29.3	7.75	27.2	6.67	9.36	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Bottom	3	1	29.3	7.79	27.3	6.39	9.83	13.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	IS(Mf)9	8:34	Bottom	3	2	29.2	7.78	27.4	6.42	9.8	13.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Surface	1	1	29.3	7.78	27.2	6.9	9.31	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Surface	1	2	29.2	7.79	27.3	6.86	9.27	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Middle	2	1	29.2	7.81	27.4	6.65	9.49	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Middle	2	2	29.1	7.8	27.5	6.62	9.53	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Bottom	3	1	29.1	7.81	27.7	6.56	9.64	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Flood	CS(Mf)3	8:45	Bottom	3	2	29	7.82	27.6	6.52	9.58	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Surface	1	1	29.6	7.88	27.1	6.72	9.23	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Surface	1	2	29.5	7.86	27	6.74	9.31	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Middle	2	1	29.4	7.76	27.2	6.65	9.56	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Middle	2	2	29.3	7.75	27.2	6.68	9.5	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Bottom	3	1	29.2	7.82	27.4	6.54	9.67	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)5	14:23	Bottom	3	2	29.2	7.85	27.3	6.51	9.74	13.3
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Surface	1	1	29.5	7.71	27	6.82	9.52	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Surface	1	2	29.4	7.74	27	6.85	9.58	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Bottom	3	1	29.4	7.78	27.1	6.67	9.74	13.4
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4a	13:57	Bottom	3	2	29.3	7.79	27.2	6.65	9.81	13.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Surface	1	1	29.5	7.78	27	6.62	9.21	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Surface	1	2	29.4	7.74	27.1	6.64	9.16	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Bottom	3	1	29.3	7.7	27.2	6.41	9.63	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	SR4	13:38	Bottom	3	2	29.2	7.72	27.3	6.4	9.52	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Surface	1	1	29.5	7.81	27.1	6.59	9.41	12.9
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Surface	1	2	29.6	7.84	27	6.56	9.49	13
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Bottom	3	1	29.2	7.77	27.2	6.37	9.82	13.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS8	13:19	Bottom	3	2	29.3	7.79	27.1	6.34	9.87	13.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Surface	1	1	29.4	7.85	27.2	6.69	9.34	12.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Surface	1	2	29.3	7.81	27.1	6.66	9.29	12.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Middle	2	1	29.3	7.76	27.3	6.47	9.17	12.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Middle	2	2	29.2	7.79	27.2	6.45	9.12	12.5
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Bottom	3	1	29.2	7.72	27.5	6.39	9.75	13.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)16	12:58	Bottom	3	2	29.1	7.74	27.4	6.37	9.68	13.5
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Surface	1	1	29.4	7.83	27.1	6.65	9.64	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Surface	1	2	29.5	7.87	27	6.68	9.58	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Middle	2	1						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Middle	2	2						
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Bottom	3	1	29.3	7.76	27.1	6.41	9.96	13.7
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	IS(Mf)9	12:40	Bottom	3	2	29.2	7.73	27.2	6.43	9.92	13.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Surface	1	1	29.5	7.86	27.1	6.7	9.48	13.2
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Surface	1	2	29.6	7.81	27.2	6.74	9.41	13.1
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Middle	2	1	29.4	7.79	27.3	6.58	9.78	13.5
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Middle	2	2	29.3	7.74	27.2	6.62	9.85	13.6
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Bottom	3	1	29.2	7.72	27.4	6.54	9.95	13.8
TMCLKL	HY/2012/07	21-07-2016	Mid-Ebb	CS(Mf)3	12:14	Bottom	3	2	29.1	7.73	27.3	6.51	10.3	14.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Surface	1	1	29.2	7.68	27.3	6.89	8.43	11.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Surface	1	2	29.3	7.72	27.4	6.84	8.55	11.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Middle	2	1	29.2	7.7	27.4	6.67	8.96	12.2

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Middle	2	2	29.2	7.74	27.5	6.63	9.03	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Bottom	3	1	29	7.66	27.6	6.5	8.82	12
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)5	8:30	Bottom	3	2	29	7.7	27.6	6.46	8.94	12.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Surface	1	1	29.3	7.73	27.2	6.76	8.96	12.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Surface	1	2	29.3	7.7	27.3	6.72	9.05	12.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Bottom	3	1	29.1	7.75	27.4	6.48	9.33	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4a	8:56	Bottom	3	2	29.1	7.71	27.4	6.53	9.25	12.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Surface	1	1	29.3	7.73	27.2	6.8	8.84	12.1
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Surface	1	2	29.3	7.7	27.3	6.75	8.7	11.9
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Bottom	3	1	29.2	7.72	27.4	6.64	9.24	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	SR4	9:14	Bottom	3	2	29.2	7.75	27.5	6.61	9.31	12.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Surface	1	1	29.3	7.67	27.3	6.66	8.69	11.9
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Surface	1	2	29.4	7.72	27.3	6.69	8.74	11.9
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Bottom	3	1	29.3	7.7	27.3	6.52	9.38	12.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS8	9:30	Bottom	3	2	29.2	7.67	27.4	6.5	9.29	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Surface	1	1	29.3	7.75	27.4	6.73	8.58	11.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Surface	1	2	29.4	7.78	27.3	6.7	8.65	11.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Middle	2	1	29.3	7.84	27.4	6.65	8.84	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Middle	2	2	29.3	7.81	27.5	6.63	8.9	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Bottom	3	1	29.2	7.77	27.6	6.48	8.99	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)16	9:45	Bottom	3	2	29.2	7.8	27.7	6.44	9.05	12.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Surface	1	1	29.3	7.78	27.2	6.73	8.46	11.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Surface	1	2	29.4	7.75	27.3	6.7	8.55	11.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Bottom	3	1	29.4	7.73	27.3	6.46	8.84	12.1
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	IS(Mf)9	10:00	Bottom	3	2	29.3	7.7	27.3	6.43	8.92	12.2

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Surface	1	1	29.4	7.65	27.3	6.78	8.33	11.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Surface	1	2	29.4	7.68	27.3	6.82	8.41	11.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Middle	2	1	29.3	7.63	27.5	6.56	8.6	11.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Middle	2	2	29.3	7.66	27.4	6.52	8.69	11.9
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Bottom	3	1	29.1	7.73	27.7	6.43	8.99	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Flood	CS(Mf)3	10:11	Bottom	3	2	29.1	7.7	27.6	6.41	9.07	12.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Surface	1	1	29.6	7.78	27.5	6.78	8.88	12.1
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Surface	1	2	29.6	7.79	27.4	6.74	8.81	12
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Middle	2	1	29.4	7.82	27.5	6.36	9.25	12.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Middle	2	2	29.4	7.84	27.6	6.33	9.2	12.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Bottom	3	1	29.3	7.86	27.6	6.4	9.17	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)5	15:45	Bottom	3	2	29.2	7.86	27.6	6.38	9.21	12.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Surface	1	1	29.5	7.81	27.4	6.6	9.34	12.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Surface	1	2	29.6	7.81	27.5	6.64	9.29	12.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Bottom	3	1	29.3	7.84	27.6	6.21	9.4	12.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4a	15:15	Bottom	3	2	29.2	7.85	27.5	6.25	9.36	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Surface	1	1	29.5	7.76	27.3	6.64	9.07	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Surface	1	2	29.5	7.73	27.3	6.6	9.01	12.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Bottom	3	1	29.3	7.72	27.5	6.5	9.43	12.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	SR4	14:50	Bottom	3	2	29.2	7.72	27.5	6.54	9.4	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Surface	1	1	29.4	7.79	27.4	6.72	9.11	12.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Surface	1	2	29.5	7.79	27.4	6.75	9.15	12.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Bottom	3	1	29.3	7.77	27.5	6.39	9.36	12.7
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS8	14:28	Bottom	3	2	29.2	7.79	27.5	6.35	9.42	12.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Surface	1	1	29.5	7.81	27.4	6.81	8.86	12.1
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Surface	1	2	29.6	7.82	27.3	6.77	8.82	12
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Middle	2	1	29.2	7.84	27.6	6.52	9.07	12.3

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Middle	2	2	29.2	7.84	27.6	6.47	9.01	12.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Bottom	3	1	29.1	7.86	27.6	6.44	9.22	12.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)16	14:10	Bottom	3	2	29	7.85	27.7	6.39	9.26	12.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Surface	1	1	29.6	7.81	27.2	6.64	8.78	11.9
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Surface	1	2	29.5	7.81	27.2	6.6	8.74	11.8
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Middle	2	1						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Middle	2	2						
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Bottom	3	1	29.3	7.82	27.3	6.29	9.24	12.6
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	IS(Mf)9	13:52	Bottom	3	2	29.2	7.82	27.3	6.26	9.2	12.5
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Surface	1	1	29.6	7.74	27.4	6.79	8.44	11.4
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Surface	1	2	29.6	7.75	27.3	6.75	8.4	11.3
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Middle	2	1	29.2	7.79	27.4	6.37	8.97	12
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Middle	2	2	29.1	7.8	27.5	6.34	8.94	12.2
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Bottom	3	1	29.1	7.8	27.5	6.3	9.5	13
TMCLKL	HY/2012/07	23-07-2016	Mid-Ebb	CS(Mf)3	13:31	Bottom	3	2	29	7.81	27.5	6.34	9.56	13
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Surface	1	1	29.5	7.84	27.6	6.84	8.79	12
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Surface	1	2	29.4	7.85	27.5	6.8	8.72	11.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Middle	2	1	29.2	7.88	27.6	6.42	9.16	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Middle	2	2	29.3	7.9	27.7	6.39	9.11	12.4
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Bottom	3	1	29.2	7.92	27.7	6.46	9.08	12.4
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)5	10:42	Bottom	3	2	29.1	7.93	27.8	6.44	9.12	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Surface	1	1	29.6	7.87	27.5	6.66	9.25	12.8
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Surface	1	2	29.5	7.88	27.6	6.7	9.2	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Bottom	3	1	29.4	7.9	27.6	6.27	9.31	12.8
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4a	11:04	Bottom	3	2	29.3	7.91	27.7	6.31	9.27	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Surface	1	1	29.4	7.82	27.3	6.7	8.98	12.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Surface	1	2	29.4	7.79	27.4	6.66	8.92	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Bottom	3	1	29.2	7.78	27.5	6.56	9.34	12.8
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	SR4	11:26	Bottom	3	2	29.1	7.79	27.6	6.6	9.31	12.7

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Surface	1	1	29.4	7.85	27.5	6.78	9.02	12.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Surface	1	2	29.3	7.86	27.4	6.81	9.06	12.4
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Bottom	3	1	29.1	7.83	27.5	6.45	9.27	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS8	11:48	Bottom	3	2	29.2	7.84	27.6	6.41	9.33	12.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Surface	1	1	29.4	7.87	27.4	6.87	8.92	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Surface	1	2	29.4	7.88	27.5	6.83	8.88	12
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Middle	2	1	29.3	7.9	27.6	6.58	9.13	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Middle	2	2	29.2	7.91	27.7	6.53	9.07	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Bottom	3	1	29.2	7.92	27.8	6.5	9.28	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)16	12:10	Bottom	3	2	29.1	7.93	27.7	6.45	9.32	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Surface	1	1	29.4	7.87	27.2	6.7	8.69	11.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Surface	1	2	29.5	7.88	27.3	6.66	8.65	11.8
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Bottom	3	1	29.4	7.88	27.4	6.35	9.15	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	IS(Mf)9	12:32	Bottom	3	2	29.3	7.89	27.3	6.32	9.11	12.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Surface	1	1	29.5	7.8	27.4	6.85	8.35	11.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Surface	1	2	29.4	7.81	27.5	6.81	8.31	11.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Middle	2	1	29.3	7.85	27.6	6.43	8.88	12.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Middle	2	2	29.2	7.86	27.5	6.4	8.85	12.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Bottom	3	1	29.2	7.86	27.6	6.36	9.41	12.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Flood	CS(Mf)3	12:56	Bottom	3	2	29.1	7.87	27.7	6.4	9.47	13.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Surface	1	1	29.5	7.71	27.3	6.76	8.85	12.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Surface	1	2	29.4	7.73	27.4	6.72	8.94	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Middle	2	1	29.4	7.78	27.6	6.52	9.17	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Middle	2	2	29.3	7.74	27.5	6.54	9.12	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Bottom	3	1	29.2	7.83	27.7	6.34	9.37	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)5	17:57	Bottom	3	2	29.1	7.8	27.6	6.37	9.29	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Surface	1	1	29.4	7.76	27.3	6.58	8.97	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Surface	1	2	29.5	7.79	27.2	6.54	8.92	12.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Bottom	3	1	29.3	7.82	27.3	6.41	9.46	12.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4a	17:32	Bottom	3	2	29.2	7.84	27.4	6.38	9.37	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Surface	1	1	29.6	7.82	27.2	6.54	9.03	12.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Surface	1	2	29.5	7.84	27.1	6.56	9.14	12.4
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Bottom	3	1	29.3	7.76	27.3	6.31	9.56	13
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	SR4	17:13	Bottom	3	2	29.4	7.79	27.2	6.32	9.59	13
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Surface	1	1	29.5	7.88	27.2	6.69	9.23	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Surface	1	2	29.6	7.83	27.3	6.68	9.16	12.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Bottom	3	1	29.3	7.78	27.3	6.38	9.47	12.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS8	16:55	Bottom	3	2	29.2	7.81	27.4	6.42	9.38	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Surface	1	1	29.4	7.78	27.2	6.64	8.94	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Surface	1	2	29.5	7.83	27.3	6.61	8.99	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Middle	2	1	29.4	7.86	27.4	6.48	9.26	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Middle	2	2	29.3	7.88	27.4	6.45	9.31	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Bottom	3	1	29.3	7.84	27.6	6.28	9.67	13.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)16	16:35	Bottom	3	2	29.2	7.89	27.5	6.29	9.61	13.3
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Surface	1	1	29.5	7.83	27.1	6.65	8.89	12.1
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Surface	1	2	29.6	7.86	27	6.61	8.93	12.2
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Middle	2	1						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Middle	2	2						
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Bottom	3	1	29.4	7.81	27.2	6.29	9.26	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	IS(Mf)9	16:16	Bottom	3	2	29.3	7.76	27.3	6.27	9.32	12.9
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Surface	1	1	29.6	7.84	27.2	6.71	9.13	12.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Surface	1	2	29.7	7.87	27.1	6.73	9.23	12.7
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Middle	2	1	29.4	7.79	27.4	6.54	9.78	13.6
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Middle	2	2	29.3	7.83	27.3	6.51	9.72	13.5
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Bottom	3	1	29.2	7.85	27.5	6.3	9.54	13.4
TMCLKL	HY/2012/07	26-07-2016	Mid-Ebb	CS(Mf)3	15:49	Bottom	3	2	29.1	7.8	27.5	6.33	9.61	13.5

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Surface	1	1	29.7	7.78	27.6	6.86	8.64	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Surface	1	2	29.6	7.85	27.6	6.88	8.57	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Middle	2	1	29.6	7.86	27.7	6.69	9.05	12.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Middle	2	2	29.5	7.83	27.6	6.67	9.11	12.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Bottom	3	1	29.3	7.76	27.8	6.52	9.13	12.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)5	12:37	Bottom	3	2	29.4	7.79	27.9	6.51	9.2	12.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Surface	1	1	29.6	7.83	27.4	6.79	8.32	11.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Surface	1	2	29.6	7.8	27.5	6.77	9.38	11.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Bottom	3	1	29.4	7.74	27.6	6.64	8.86	12.3
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4a	13:03	Bottom	3	2	29.5	7.78	27.5	6.66	8.74	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Surface	1	1	29.6	7.76	27.5	6.74	8.36	11.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Surface	1	2	29.5	7.75	27.4	6.78	8.44	11.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Bottom	3	1	29.4	7.79	27.6	6.52	8.74	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	SR4	13:22	Bottom	3	2	29.5	7.74	27.5	6.53	8.81	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Surface	1	1	29.7	7.85	27.4	6.91	8.52	11.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Surface	1	2	29.6	7.83	27.5	6.94	8.59	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Bottom	3	1	29.5	7.88	27.6	6.67	8.84	12
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS8	13:40	Bottom	3	2	29.4	7.84	27.5	6.65	8.79	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Surface	1	1	29.6	7.88	27.6	6.82	8.48	11.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Surface	1	2	29.5	7.84	27.5	6.85	8.41	11.4
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Middle	2	1	29.5	7.79	27.6	6.67	9.02	12.3
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Middle	2	2	29.4	7.74	27.7	6.64	8.95	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Bottom	3	1	29.3	7.84	27.8	6.54	8.91	12.2
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)16	13:59	Bottom	3	2	29.2	7.8	27.7	6.57	8.84	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Surface	1	1	29.7	7.74	27.5	6.73	8.22	11.2
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Surface	1	2	29.6	7.75	27.6	6.75	8.31	11.4
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Bottom	3	1	29.6	7.72	27.6	6.55	8.56	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	IS(Mf)9	14:34	Bottom	3	2	29.6	7.7	27.6	6.58	8.63	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Surface	1	1	29.7	7.83	27.4	6.85	8.37	11.3
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Surface	1	2	29.6	7.8	27.5	6.88	8.45	11.4
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Middle	2	1	29.4	7.71	27.6	6.74	8.71	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Middle	2	2	29.5	7.76	27.5	6.72	8.64	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Bottom	3	1	29.3	7.79	27.8	6.59	8.81	12
TMCLKL	HY/2012/07	28-07-2016	Mid-Flood	CS(Mf)3	14:43	Bottom	3	2	29.2	7.73	27.9	6.54	8.79	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Surface	1	1	29.5	7.7	27.4	6.7	8.63	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Surface	1	2	29.5	7.71	27.4	6.74	8.71	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Middle	2	1	29.4	7.75	27.5	6.66	8.93	12.2
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Middle	2	2	29.4	7.77	27.5	6.64	8.97	12.3
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Bottom	3	1	29.1	7.82	27.7	6.5	9.25	12.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)5	8:04	Bottom	3	2	29.1	7.8	27.7	6.46	9.32	13
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Surface	1	1	29.5	7.74	27.2	6.67	8.58	11.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Surface	1	2	29.5	7.76	27.2	6.65	8.54	11.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Bottom	3	1	29.5	7.8	27.3	6.6	8.96	12.4
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4a	8:20	Bottom	3	2	29.5	7.82	27.3	6.58	9.02	12.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Surface	1	1	29.5	7.8	27.3	6.58	8.47	11.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Surface	1	2	29.5	7.82	27.3	6.6	8.53	11.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Bottom	3	1	29.4	7.72	27.3	6.42	8.88	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	SR4	8:31	Bottom	3	2	29.4	7.74	27.3	6.4	8.82	12
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Surface	1	1	29.6	7.84	27.4	6.67	8.65	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Surface	1	2	29.6	7.86	27.4	6.7	8.6	11.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Bottom	3	1	29.6	7.8	27.5	6.49	8.92	12.1
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS8	8:42	Bottom	3	2	29.6	7.78	27.5	6.47	8.86	12

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Surface	1	1	29.6	7.81	27.4	6.6	8.73	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Surface	1	2	29.6	7.79	27.4	6.58	8.69	11.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Middle	2	1	29.5	7.86	27.4	6.49	8.94	12.2
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Middle	2	2	29.5	7.84	27.4	6.51	8.99	12.2
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Bottom	3	1	29.2	7.94	27.6	6.31	9.14	12.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)16	8:54	Bottom	3	2	29.2	7.9	27.6	6.33	9.2	12.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Surface	1	1	29.6	7.79	27.3	6.54	8.47	11.5
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Surface	1	2	29.6	7.81	27.3	6.56	8.53	11.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Middle	2	1						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Middle	2	2						
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Bottom	3	1	29.5	7.84	27.4	6.41	8.79	12
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	IS(Mf)9	9:08	Bottom	3	2	29.5	7.87	27.4	6.43	8.83	12.3
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Surface	1	1	29.6	7.8	27.3	6.78	8.69	11.9
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Surface	1	2	29.6	7.78	27.3	6.82	8.73	12
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Middle	2	1	29.4	7.82	27.4	6.65	9.02	12.6
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Middle	2	2	29.4	7.84	27.4	6.63	9.08	12.7
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Bottom	3	1	29.1	7.88	27.7	6.54	9.24	12.8
TMCLKL	HY/2012/07	28-07-2016	Mid-Ebb	CS(Mf)3	9:23	Bottom	3	2	29.1	7.86	27.7	6.52	9.2	13
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Surface	1	1	29.7	7.78	27.8	6.56	8.96	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Surface	1	2	29.8	7.81	27.8	6.58	8.87	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Middle	2	1	29.6	7.7	27.8	6.5	9.27	12.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Middle	2	2	29.6	7.68	27.9	6.47	9.34	12.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Bottom	3	1	29.3	7.72	28	6.29	9.06	12.4
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)5	15:33	Bottom	3	2	29.1	7.67	28.1	6.31	9.11	12.4
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Surface	1	1	29.9	7.77	27.6	6.64	8.6	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Surface	1	2	29.9	7.8	27.7	6.6	8.51	11.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Bottom	3	1	29.6	7.72	27.7	6.47	8.93	12.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4a	15:57	Bottom	3	2	29.6	7.75	27.8	6.51	8.86	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Surface	1	1	29.9	7.79	27.7	6.78	8.68	11.8
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Surface	1	2	29.8	7.81	27.6	6.75	8.74	11.9
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Middle	2	1						

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Bottom	3	1	29.6	7.73	27.7	6.66	9.05	12.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	SR4	16:15	Bottom	3	2	29.5	7.75	27.8	6.61	9.11	12.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Surface	1	1	29.9	7.76	27.7	6.73	8.45	11.4
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Surface	1	2	29.7	7.79	27.8	6.7	8.52	11.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Bottom	3	1	29.6	7.77	27.8	6.64	8.93	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS8	16:33	Bottom	3	2	29.6	7.8	27.9	6.6	9.01	12.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Surface	1	1	29.6	7.79	27.7	6.64	8.6	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Surface	1	2	29.7	7.83	27.7	6.69	8.69	11.8
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Middle	2	1	29.7	7.76	27.8	6.53	8.91	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Middle	2	2	29.7	7.79	27.7	6.5	8.85	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Bottom	3	1	29.6	7.72	27.9	6.44	9.85	13.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)16	16:52	Bottom	3	2	29.5	7.75	28	6.41	9.96	13.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Surface	1	1	29.6	7.76	27.7	6.75	8.64	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Surface	1	2	29.7	7.78	27.8	6.71	8.72	11.9
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Bottom	3	1	29.5	7.73	27.8	6.68	8.93	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	IS(Mf)9	17:15	Bottom	3	2	29.5	7.75	27.8	6.65	8.85	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Surface	1	1	29.7	7.8	27.7	6.84	8.53	11.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Surface	1	2	29.7	7.76	27.7	6.81	8.6	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Middle	2	1	29.7	7.73	27.7	6.73	8.75	11.9
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Middle	2	2	29.6	7.75	27.8	6.7	8.83	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Bottom	3	1	29.3	7.81	28	6.64	8.99	12.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Flood	CS(Mf)3	17:36	Bottom	3	2	29.4	7.78	28	6.61	9.07	12.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Surface	1	1	29.6	7.84	27.6	6.77	8.7	11.8
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Surface	1	2	29.5	7.91	27.7	6.79	8.63	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Middle	2	1	29.5	7.92	27.8	6.6	9.11	12.4
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Middle	2	2	29.4	7.89	27.7	6.58	9.17	12.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Bottom	3	1	29.2	7.82	27.9	6.43	9.19	12.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)5	11:45	Bottom	3	2	29.3	7.86	28	6.42	9.26	12.8

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Surface	1	1	29.5	7.89	27.5	6.7	8.23	11.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Surface	1	2	29.4	7.86	27.6	6.68	8.29	11.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Bottom	3	1	29.4	7.8	27.6	6.55	8.77	11.9
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4a	11:21	Bottom	3	2	29.3	7.84	27.7	6.57	8.8	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Surface	1	1	29.5	7.82	27.5	6.65	8.42	11.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Surface	1	2	29.4	7.81	27.6	6.69	8.5	11.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Bottom	3	1	29.3	7.85	27.6	6.43	8.8	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	SR4	10:59	Bottom	3	2	29.4	7.8	27.7	6.44	8.87	12.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Surface	1	1	29.6	7.91	27.6	6.82	8.58	11.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Surface	1	2	29.5	7.89	27.5	6.85	8.63	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Bottom	3	1	29.4	7.94	27.6	6.58	8.9	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS8	10:37	Bottom	3	2	29.4	7.9	27.7	6.56	8.85	11.9
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Surface	1	1	29.5	7.94	27.6	6.73	8.54	11.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Surface	1	2	29.4	7.9	27.7	6.76	8.47	11.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Middle	2	1	29.4	7.85	27.7	6.58	9.08	12.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Middle	2	2	29.3	7.8	27.8	6.55	9.01	12.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Bottom	3	1	29.2	7.9	27.9	6.45	8.97	12.1
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)16	10:15	Bottom	3	2	29.1	7.86	27.8	6.48	8.9	12
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Surface	1	1	29.6	7.8	27.6	6.64	8.28	11.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Surface	1	2	29.6	7.81	27.7	6.66	8.37	11.3
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Middle	2	1						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Middle	2	2						
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Bottom	3	1	29.5	7.78	27.7	6.46	8.62	11.7
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	IS(Mf)9	9:53	Bottom	3	2	29.4	7.76	27.8	6.49	8.69	11.8
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Surface	1	1	29.6	7.89	27.5	6.76	8.43	11.5
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Surface	1	2	29.5	7.86	27.6	6.79	8.51	11.6
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Middle	2	1	29.4	7.77	27.6	6.65	8.77	11.9

Project	Works	Date (yyyy-mm-dd)	Tide	Stat	Start Time	Level	Lev_Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Middle	2	2	29.3	7.82	27.7	6.63	8.7	11.8
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Bottom	3	1	29.2	7.85	27.9	6.5	8.87	12.2
TMCLKL	HY/2012/07	30-07-2016	Mid-Ebb	CS(Mf)3	9:31	Bottom	3	2	29.1	7.79	28	6.45	8.85	12.1

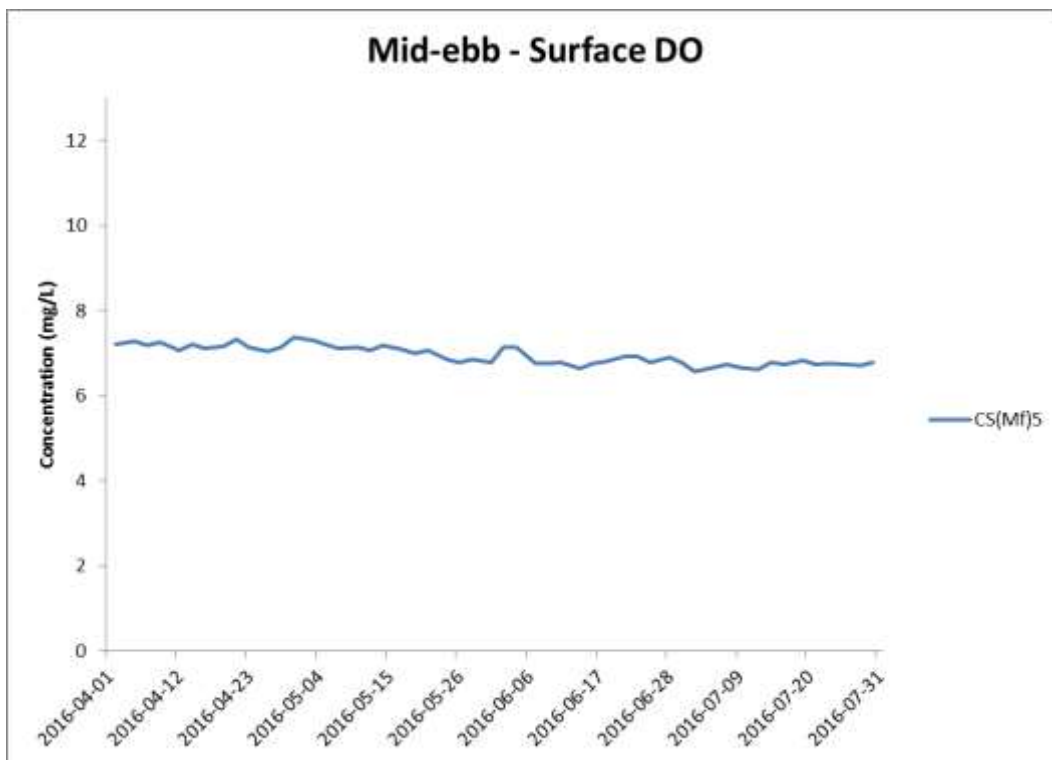
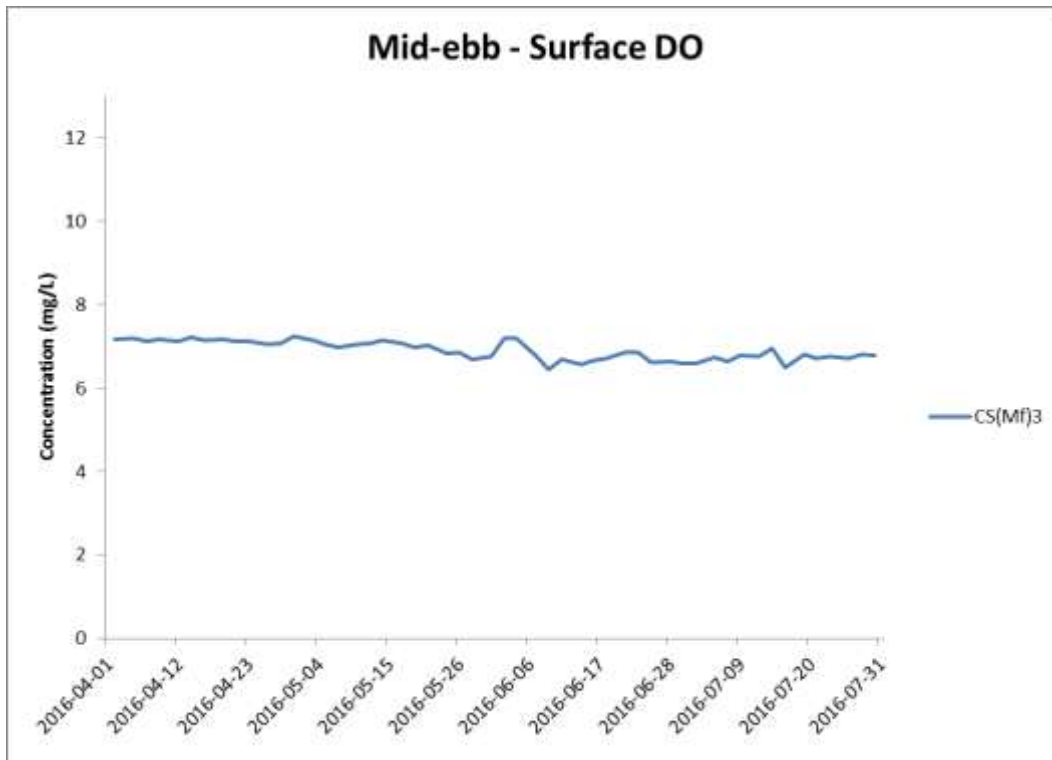


Figure J1 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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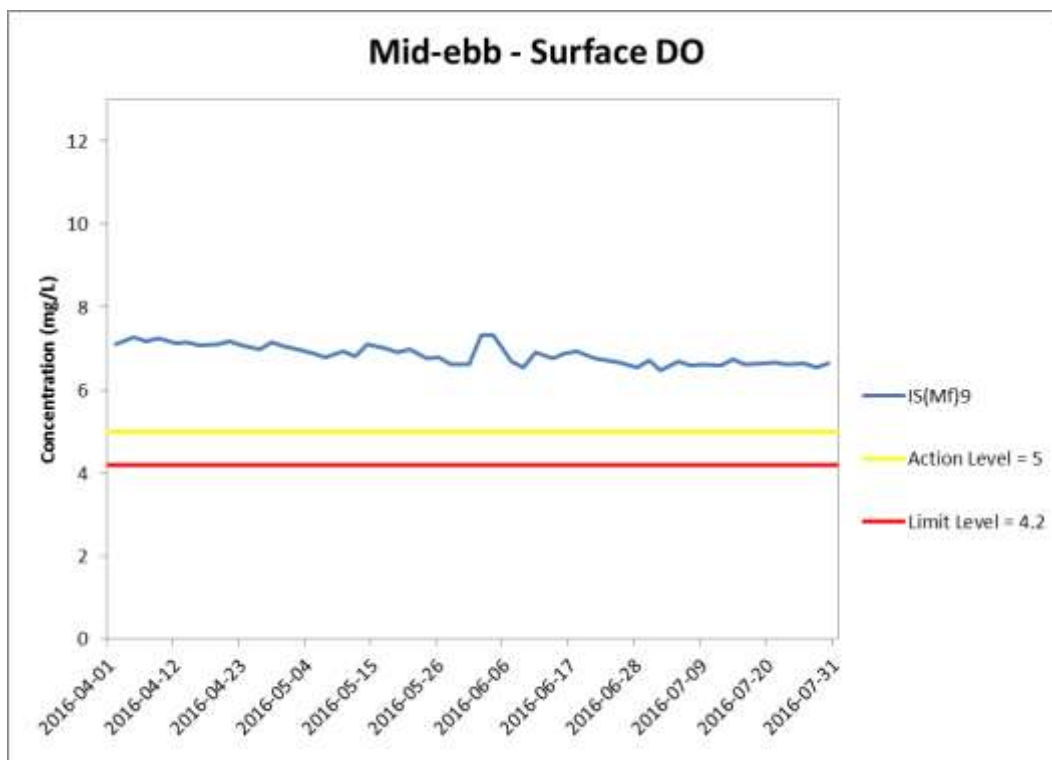
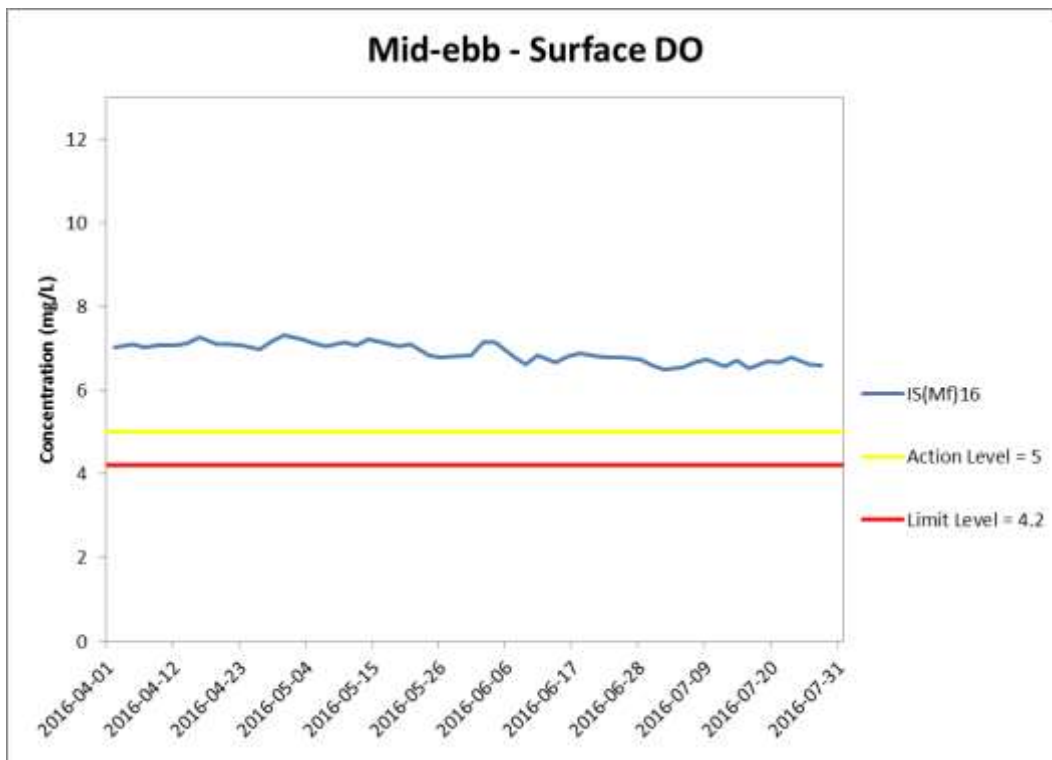


Figure J2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
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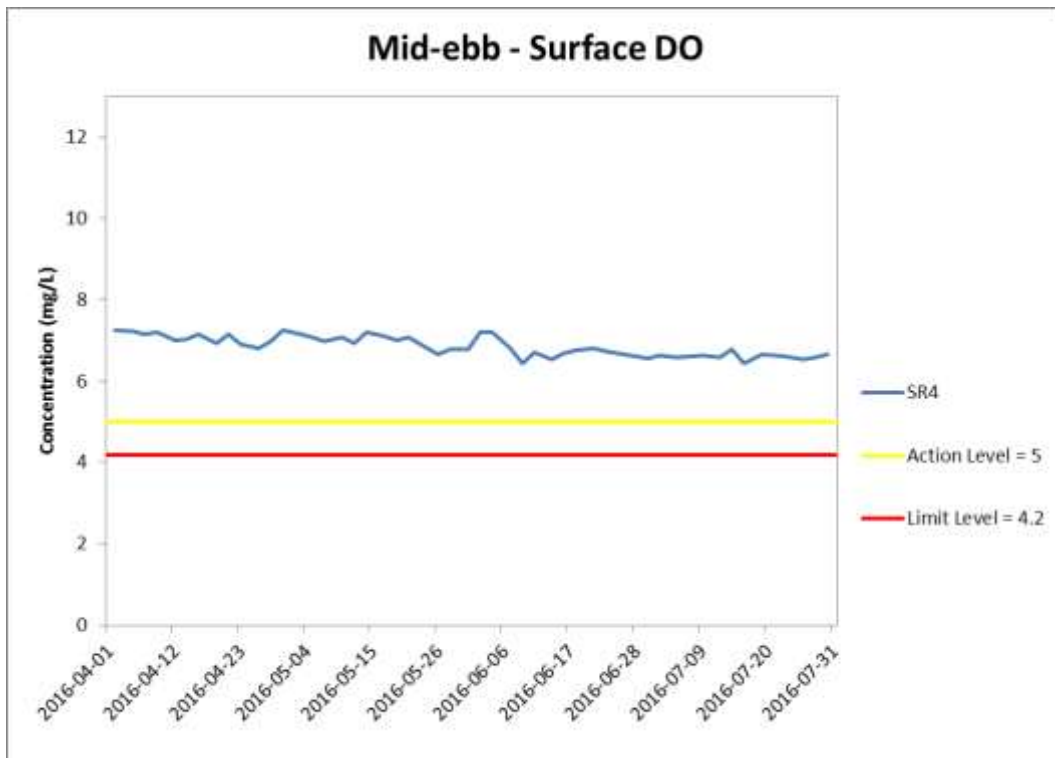
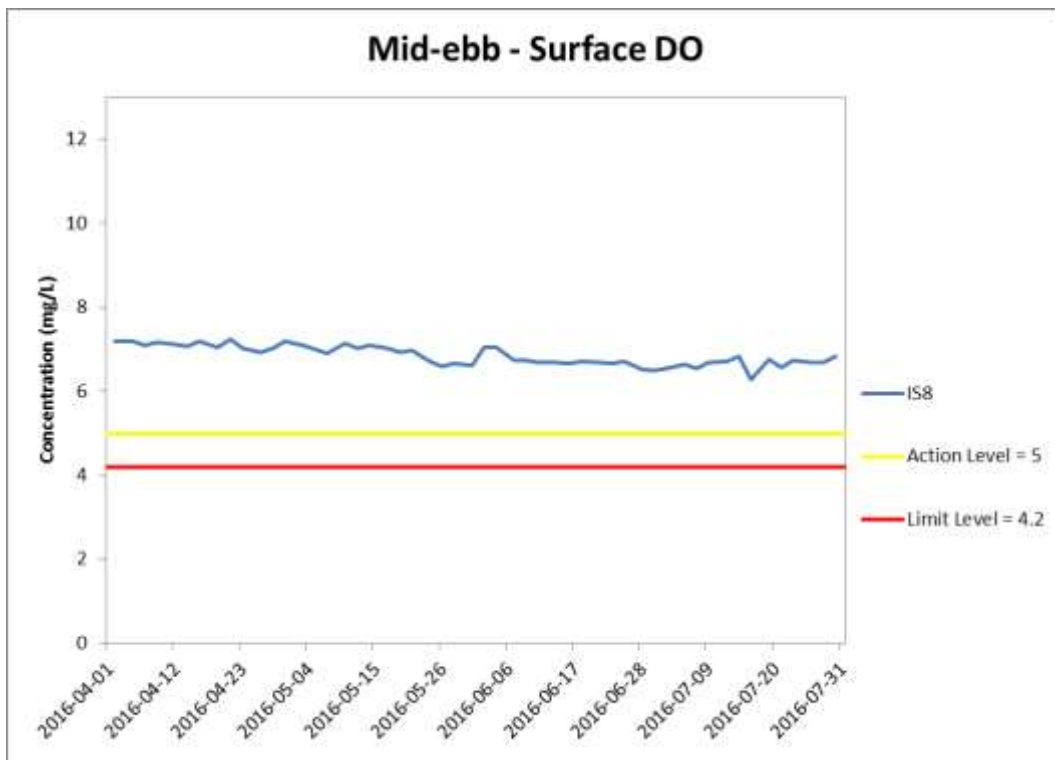


Figure J3 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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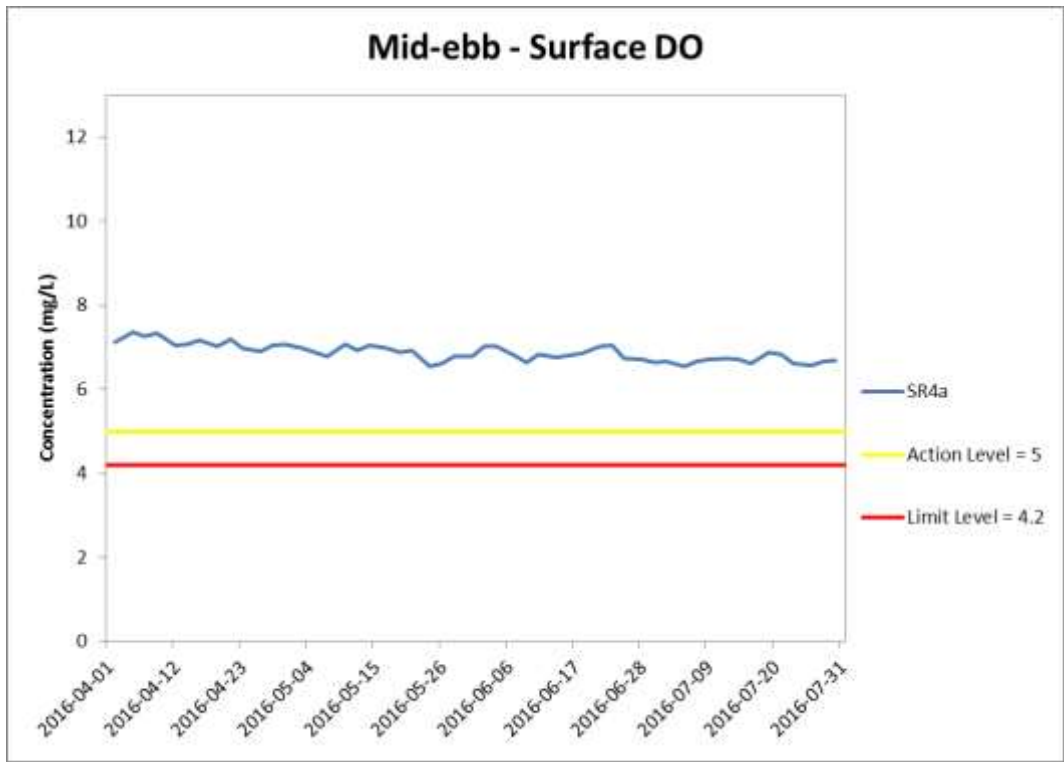


Figure J4 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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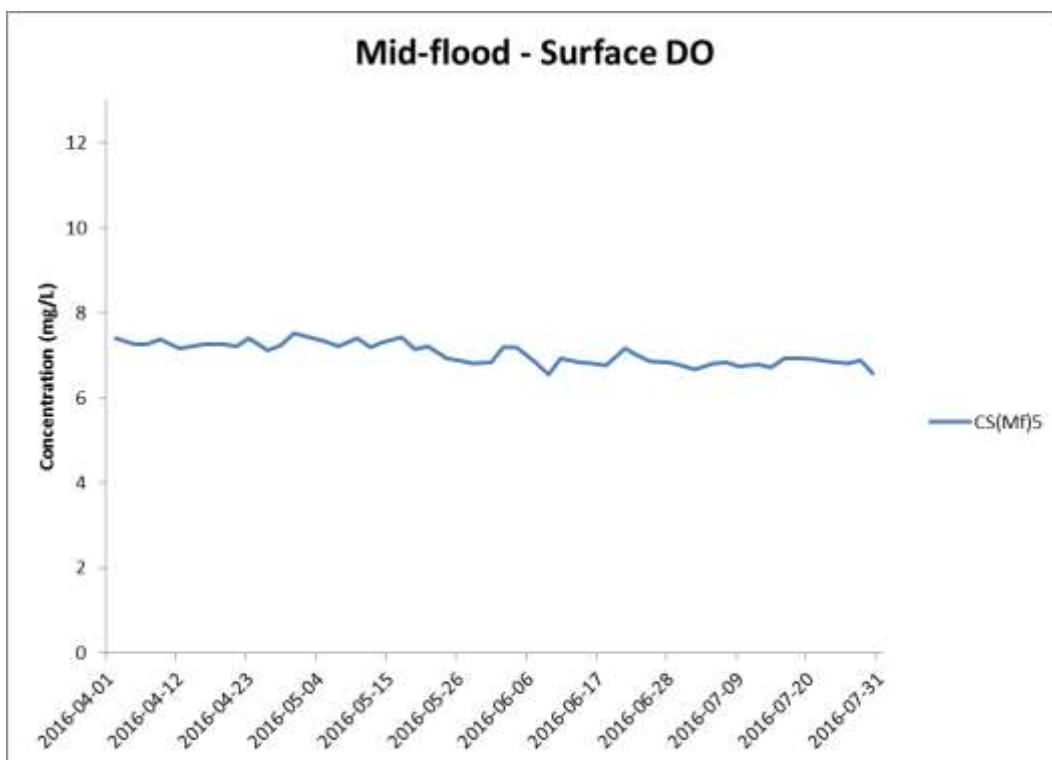
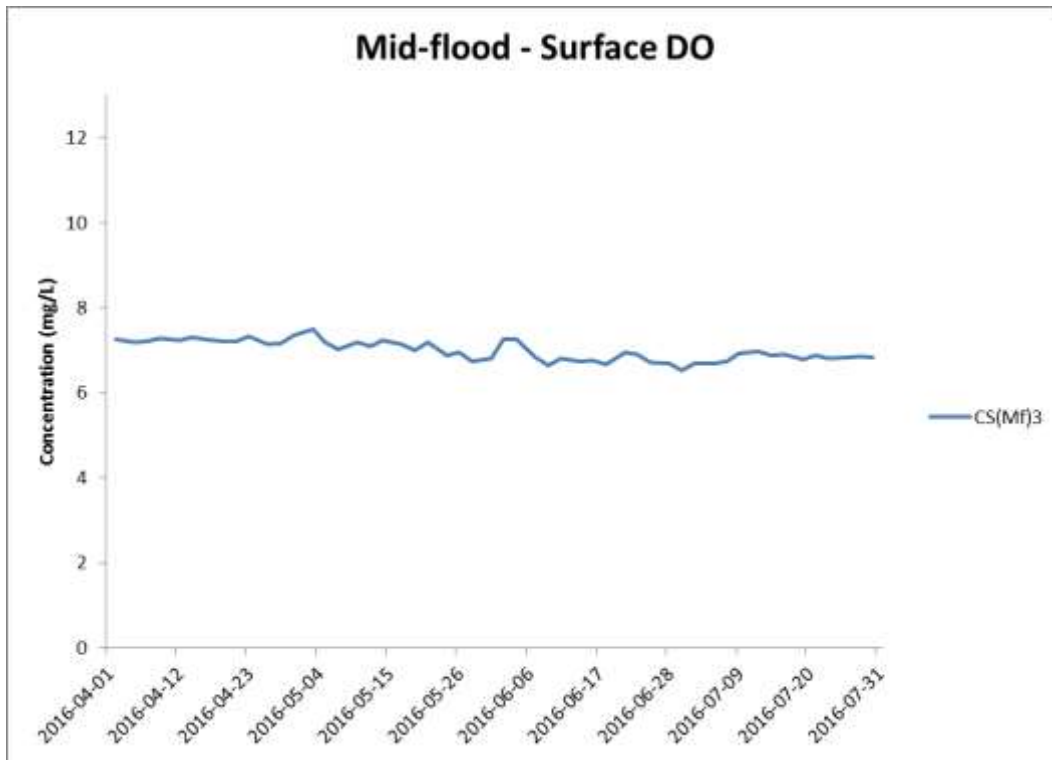


Figure J5 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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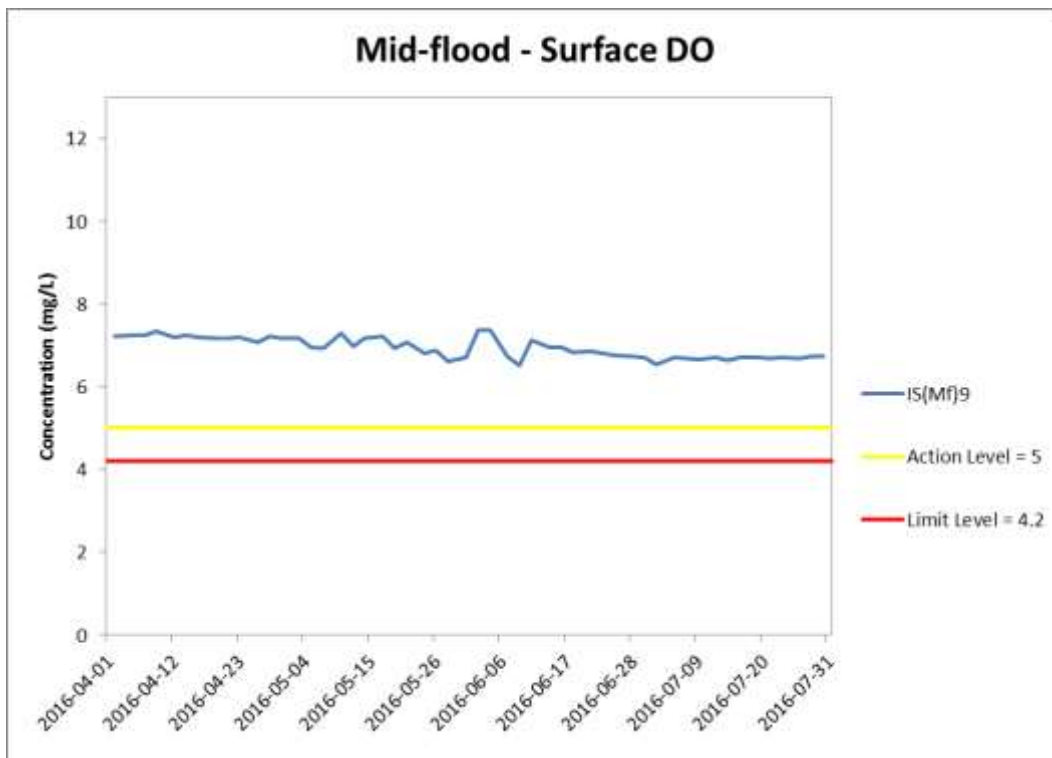
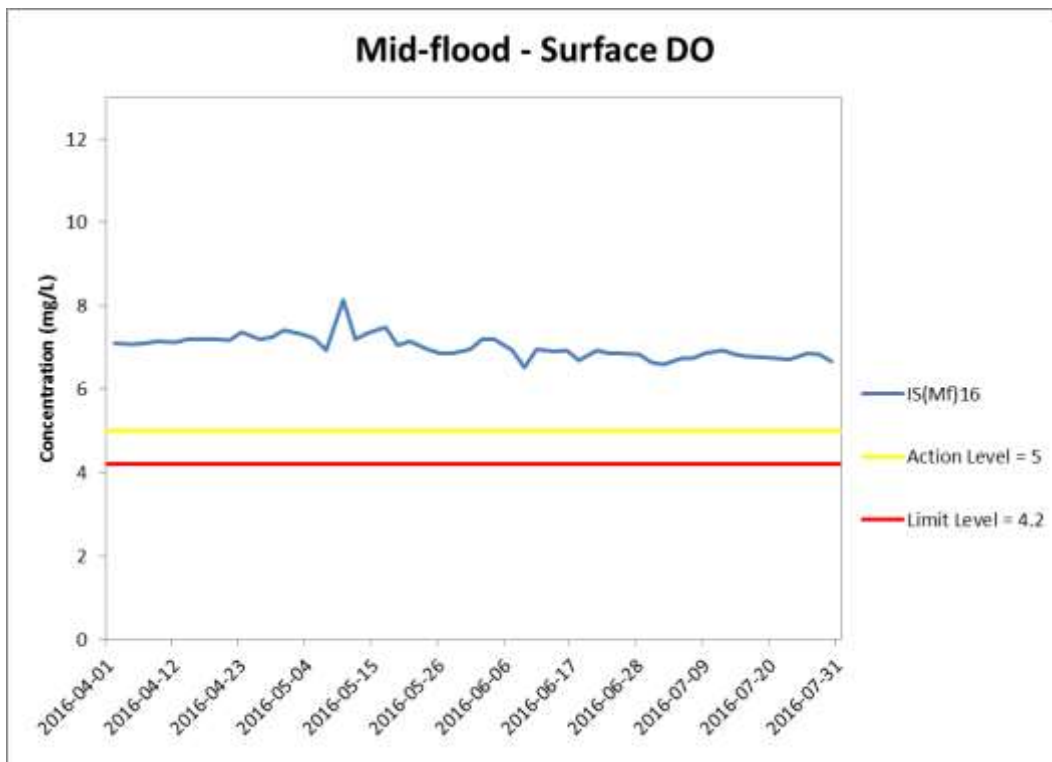


Figure J6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

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

Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.

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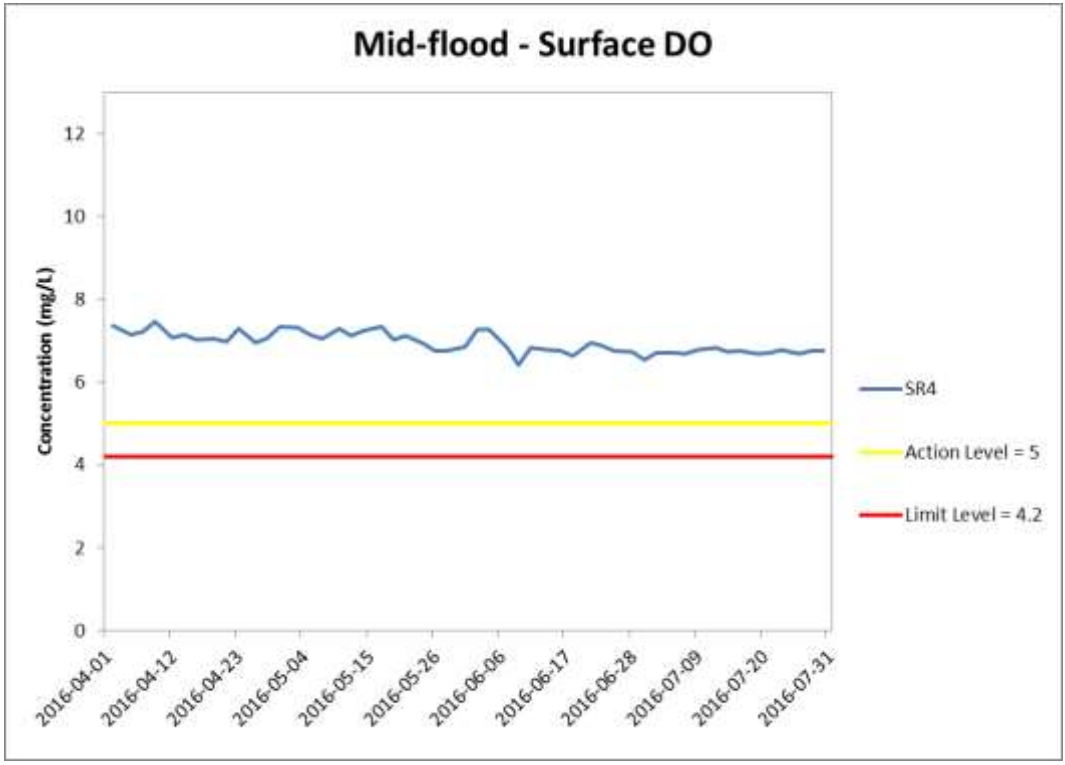
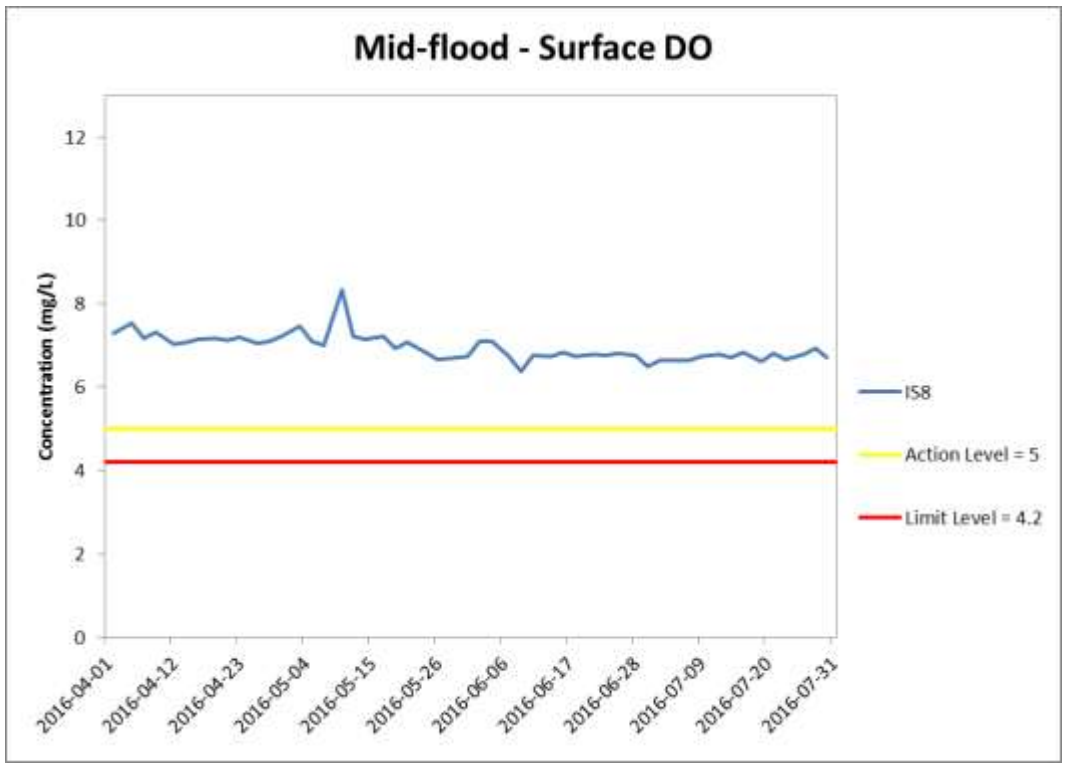


Figure J7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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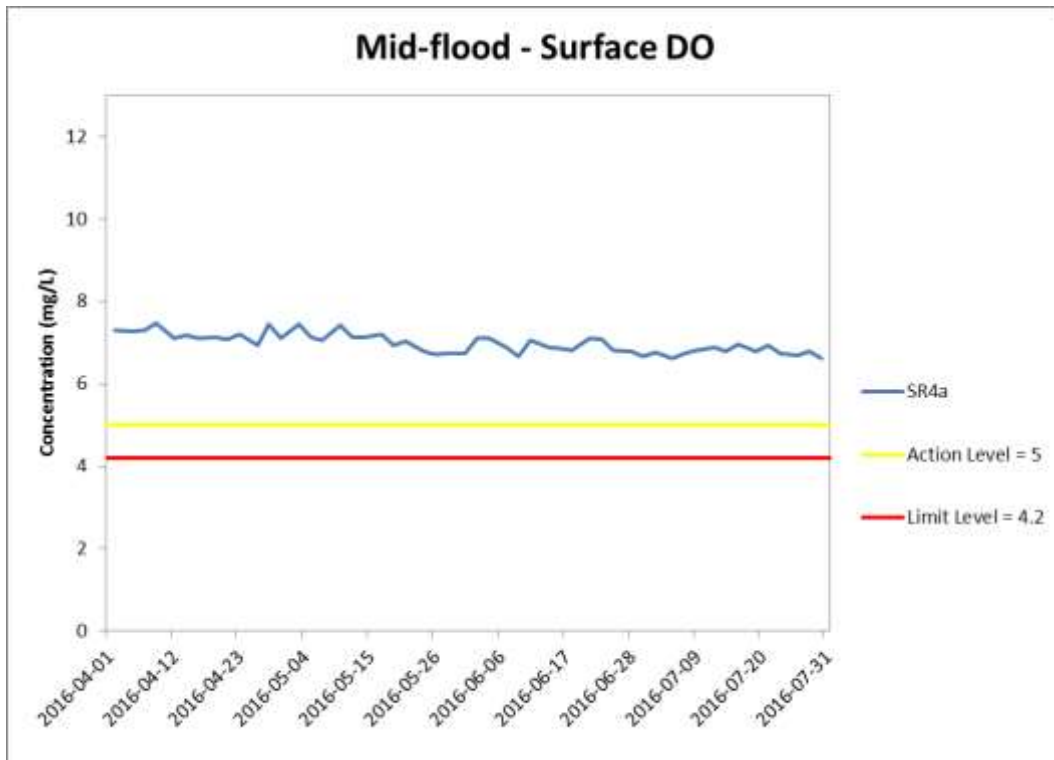


Figure J8 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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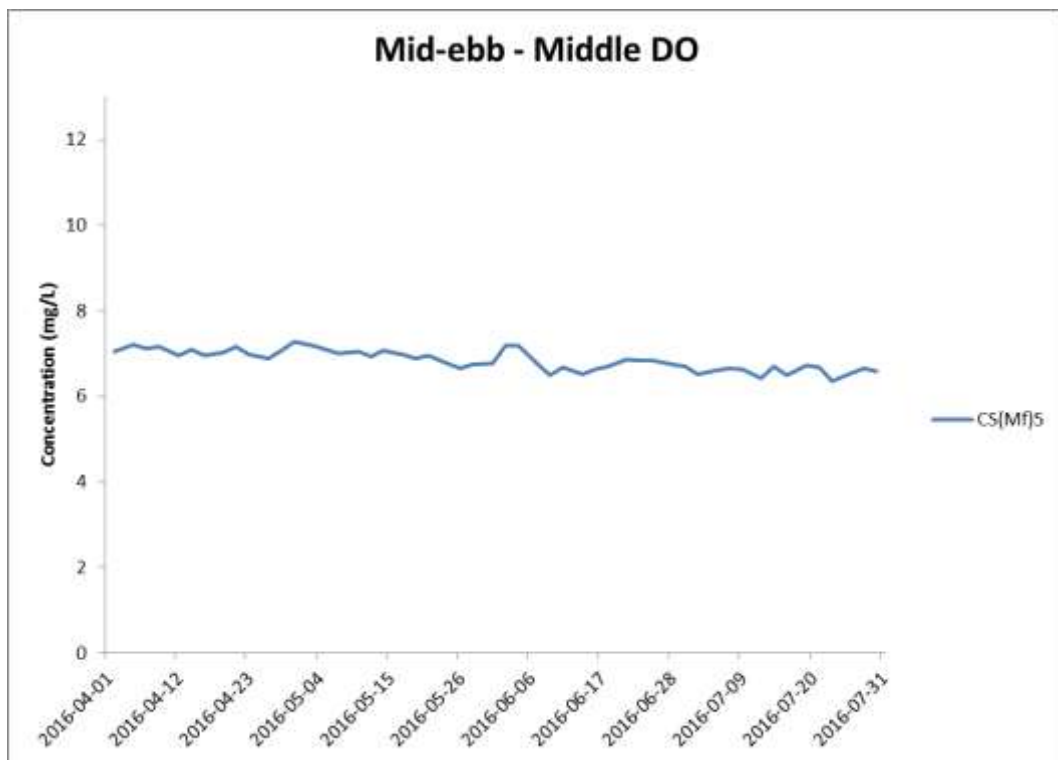
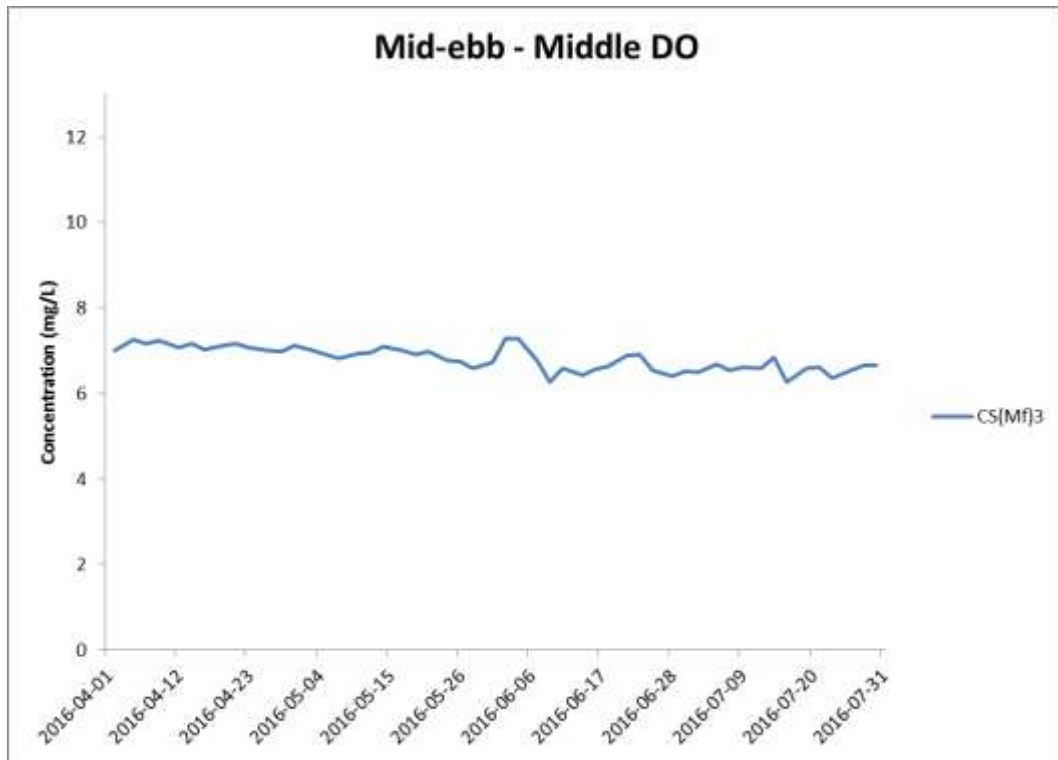


Figure J9 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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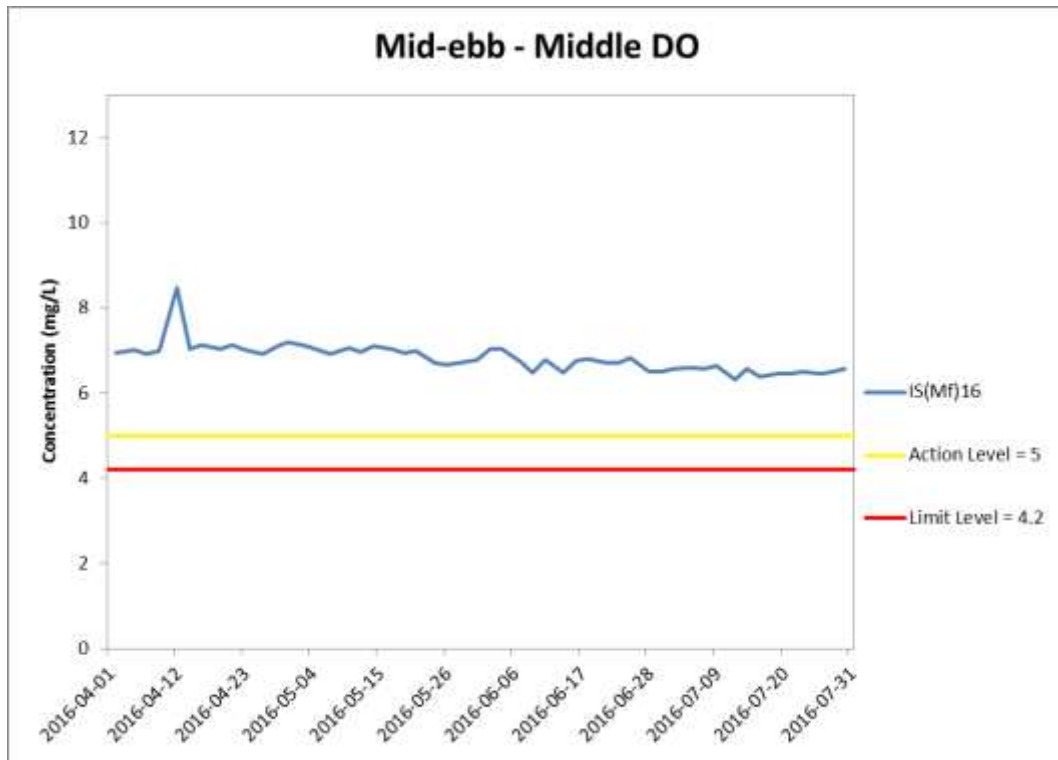


Figure J10 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 April and 31 July 2016 at IS(Mf)16.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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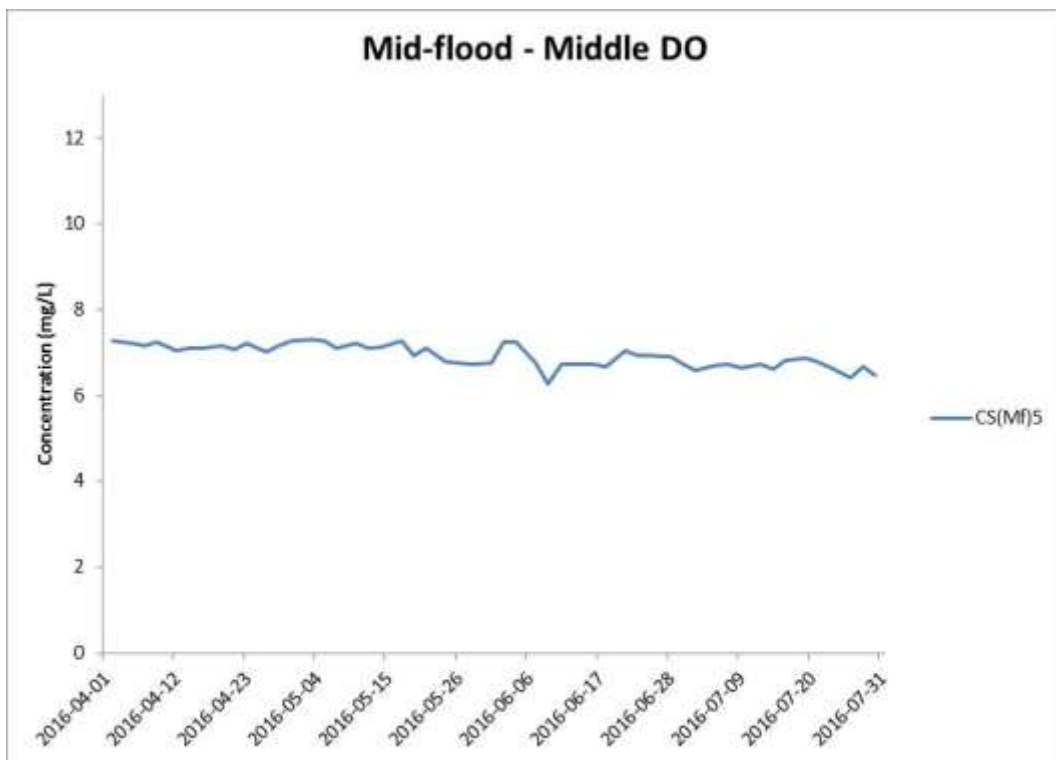
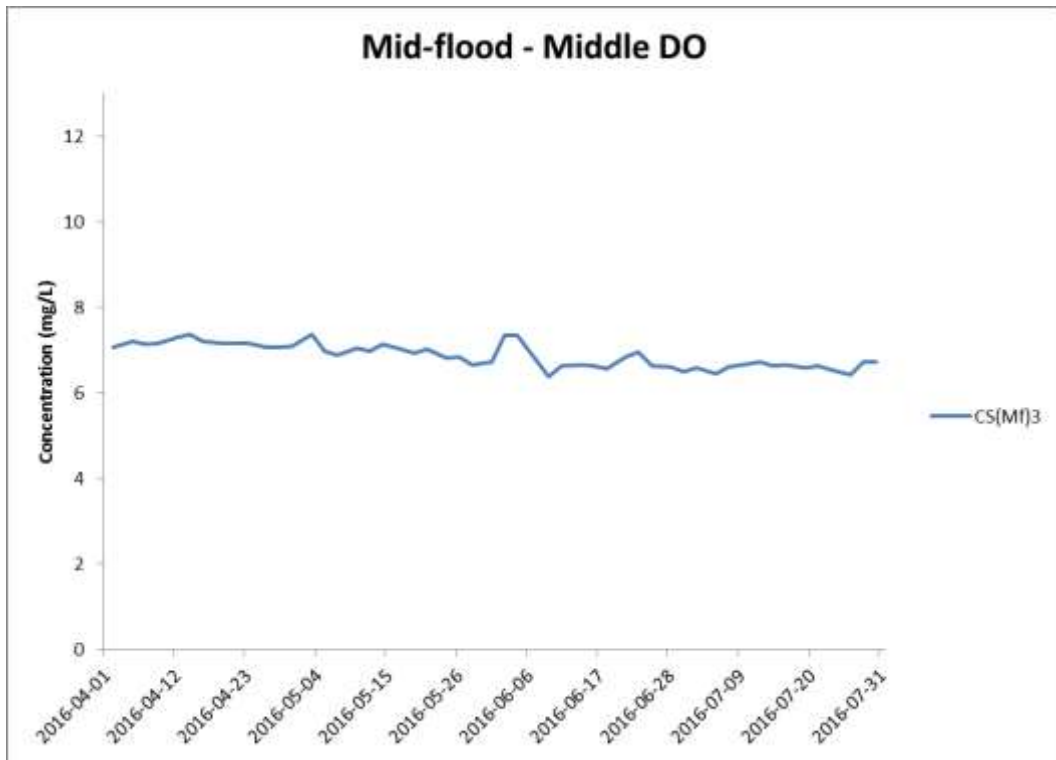


Figure J11 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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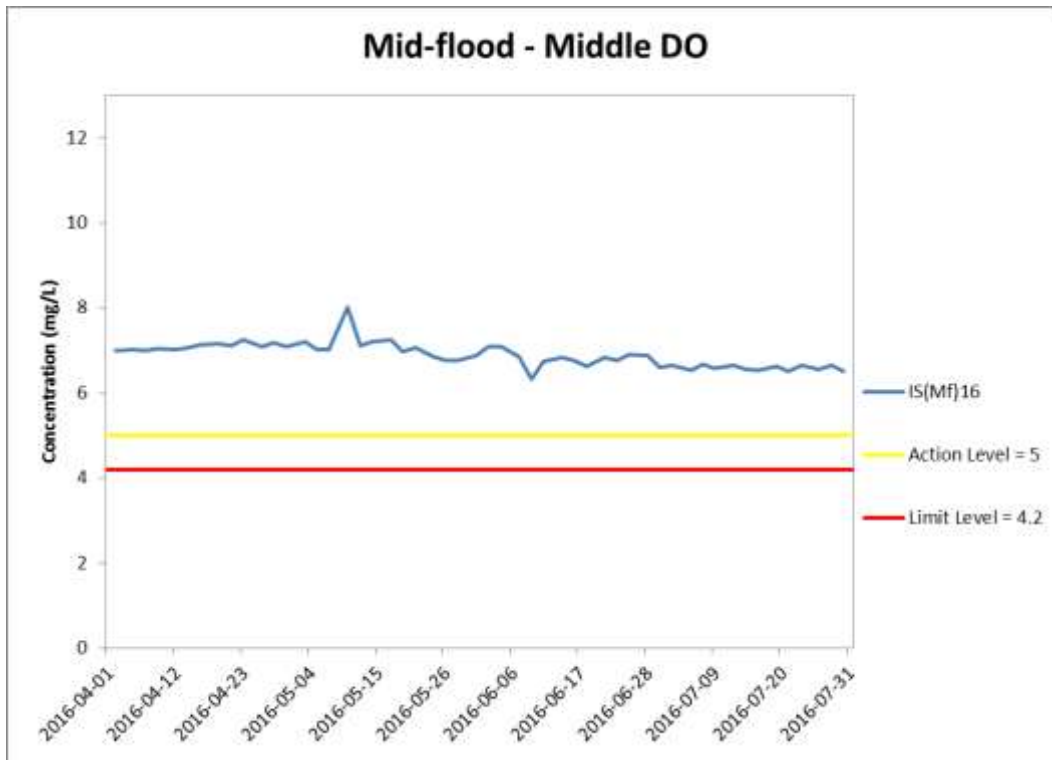


Figure J12 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 April and 31 July 2016 at IS(Mf)16.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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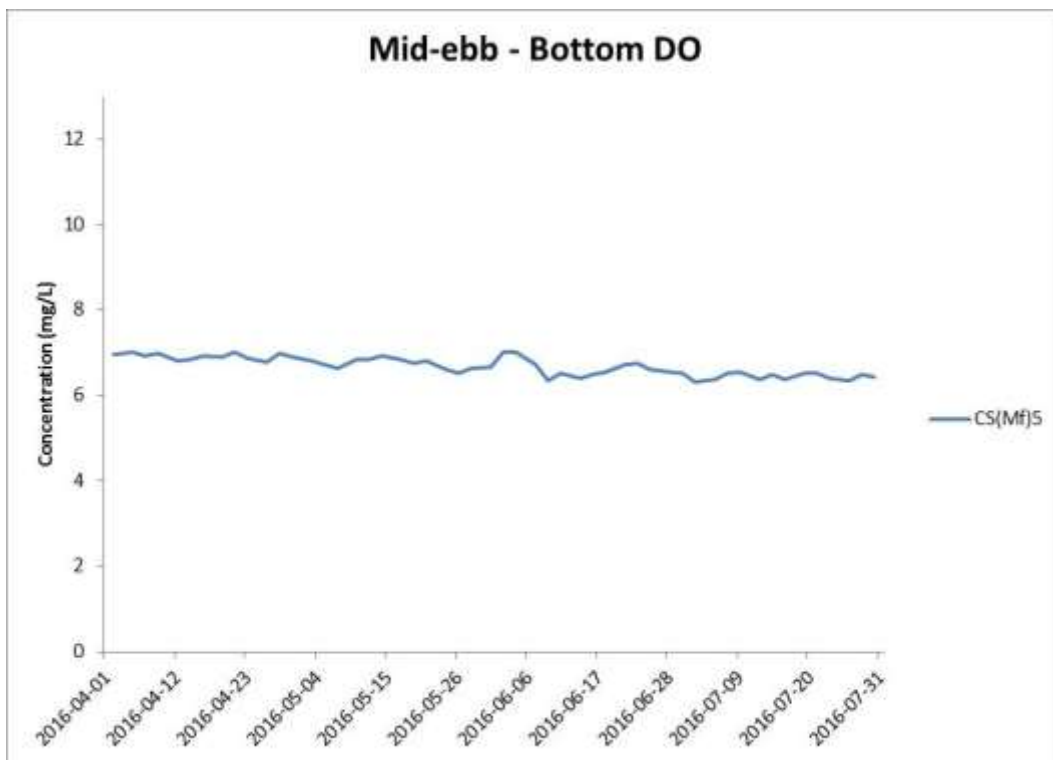
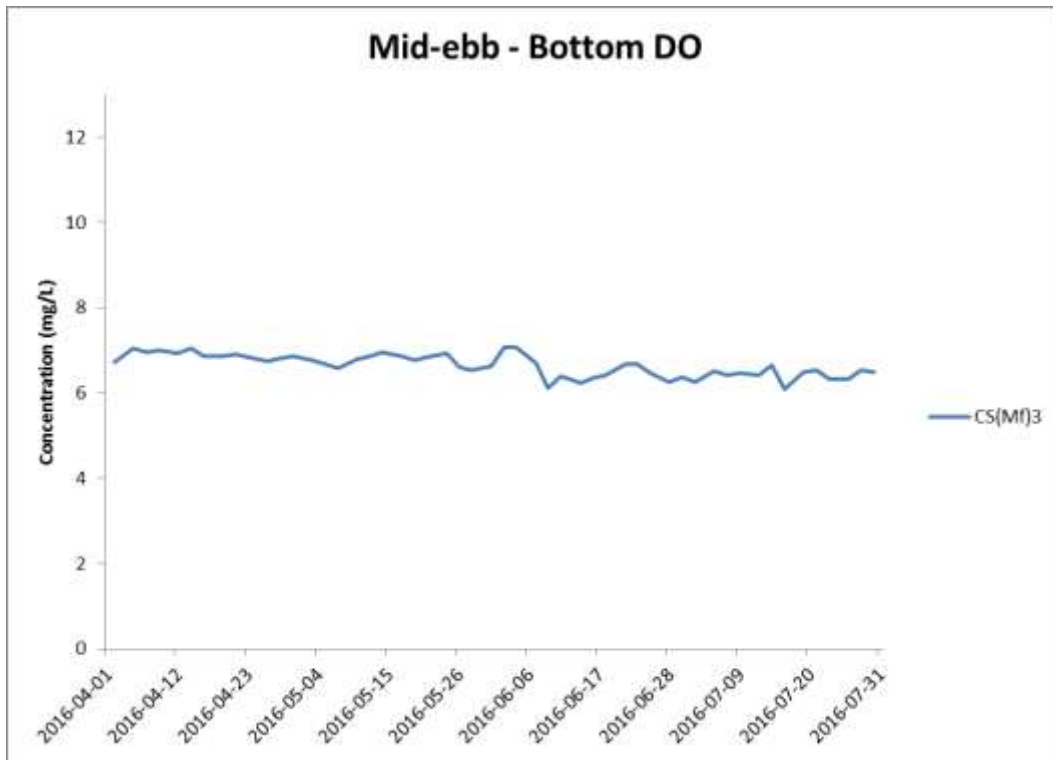


Figure J13 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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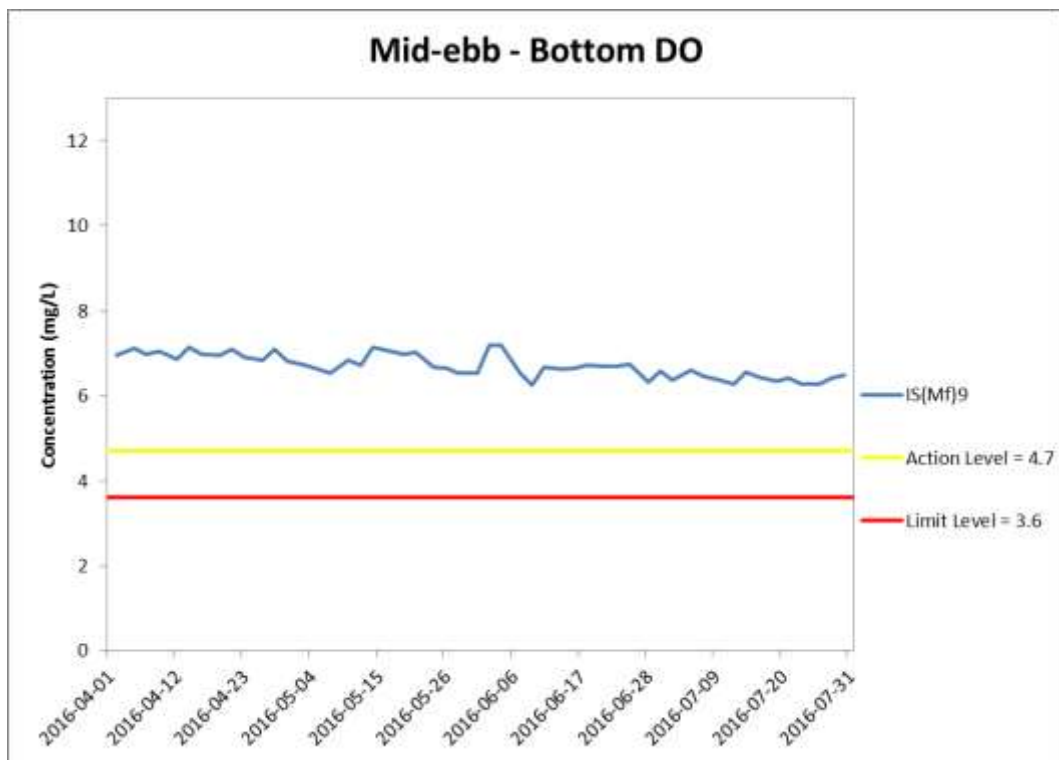
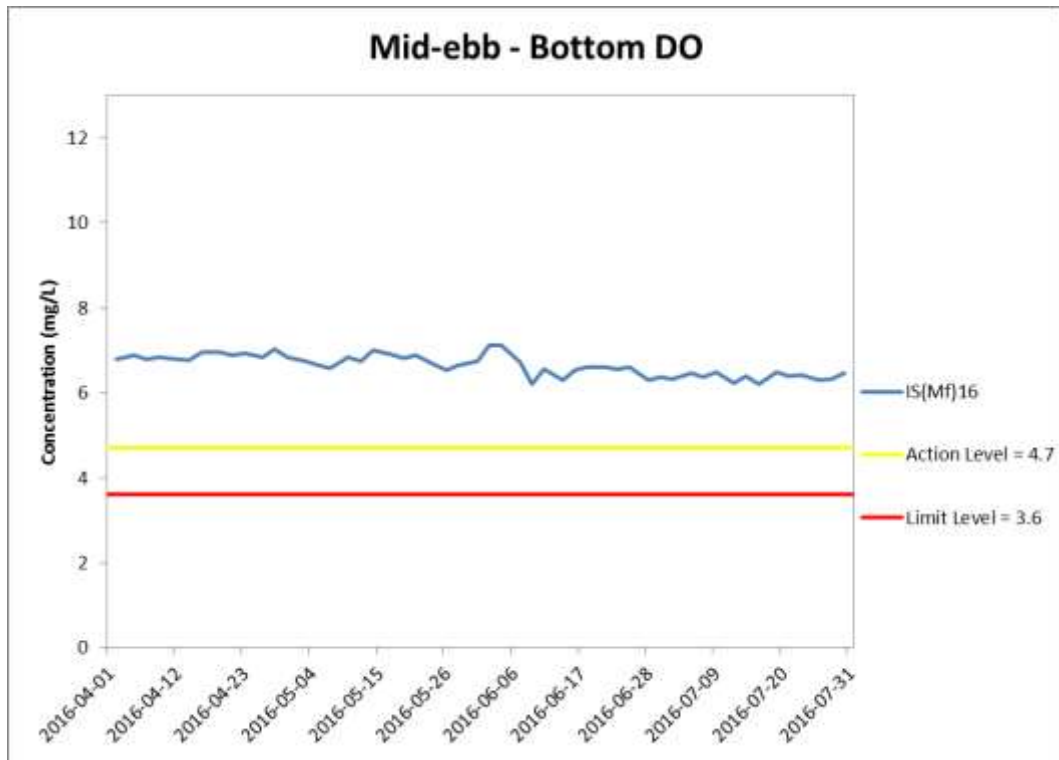


Figure J14 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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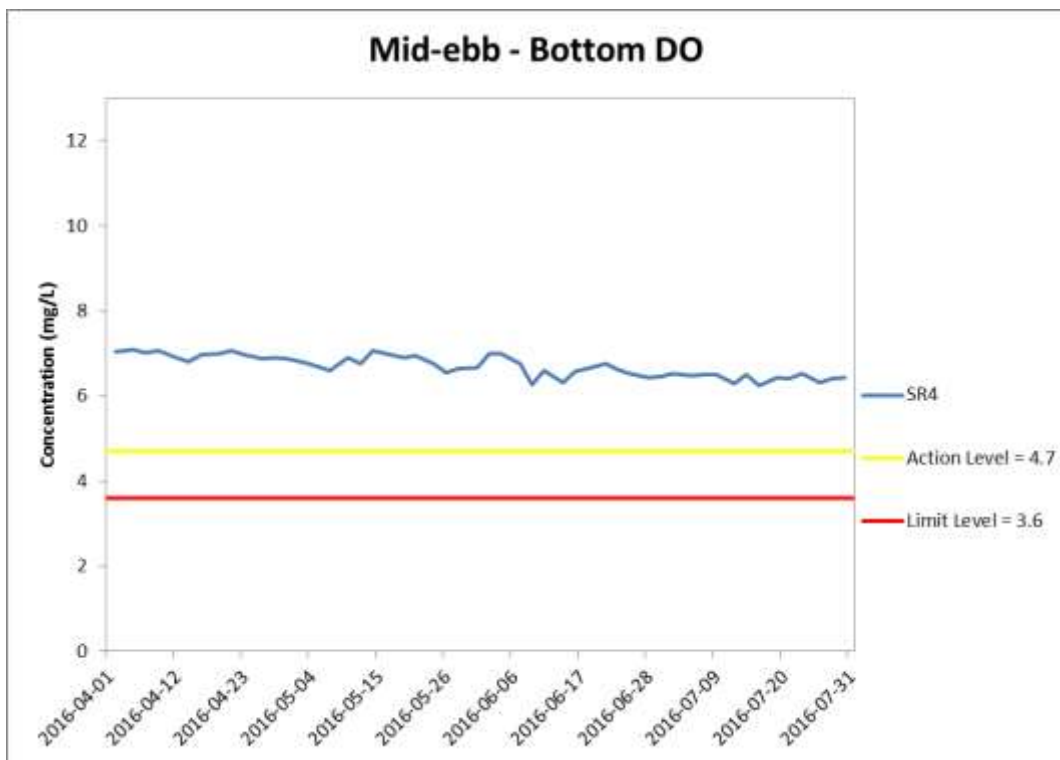
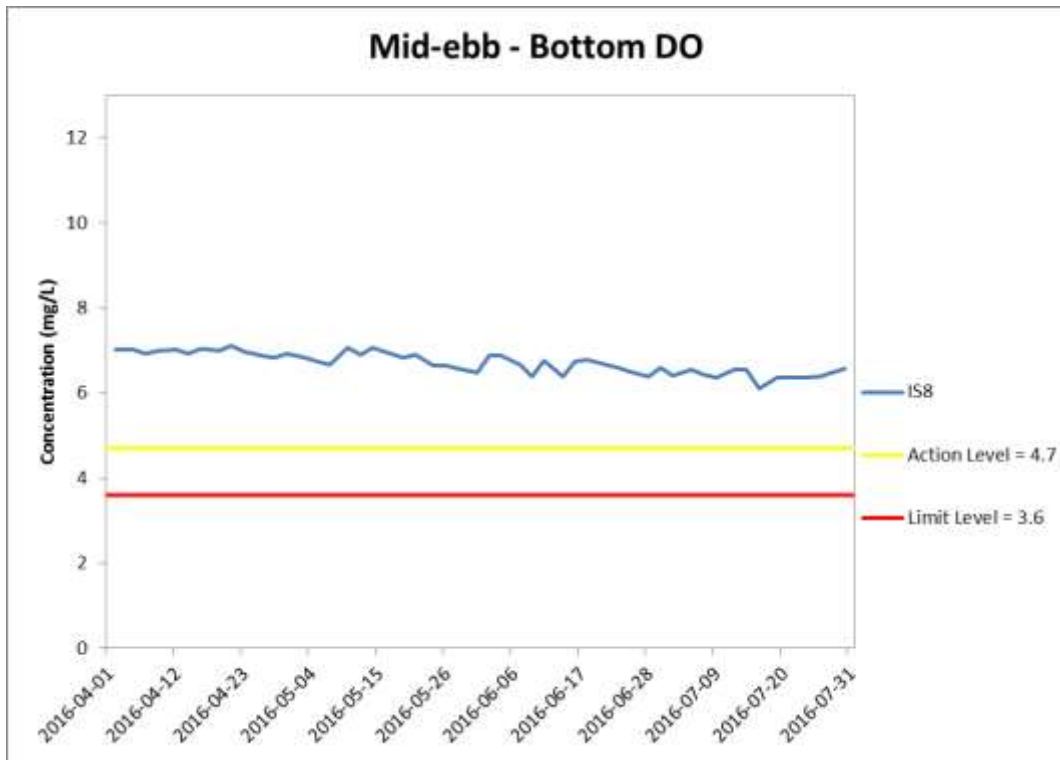


Figure J15 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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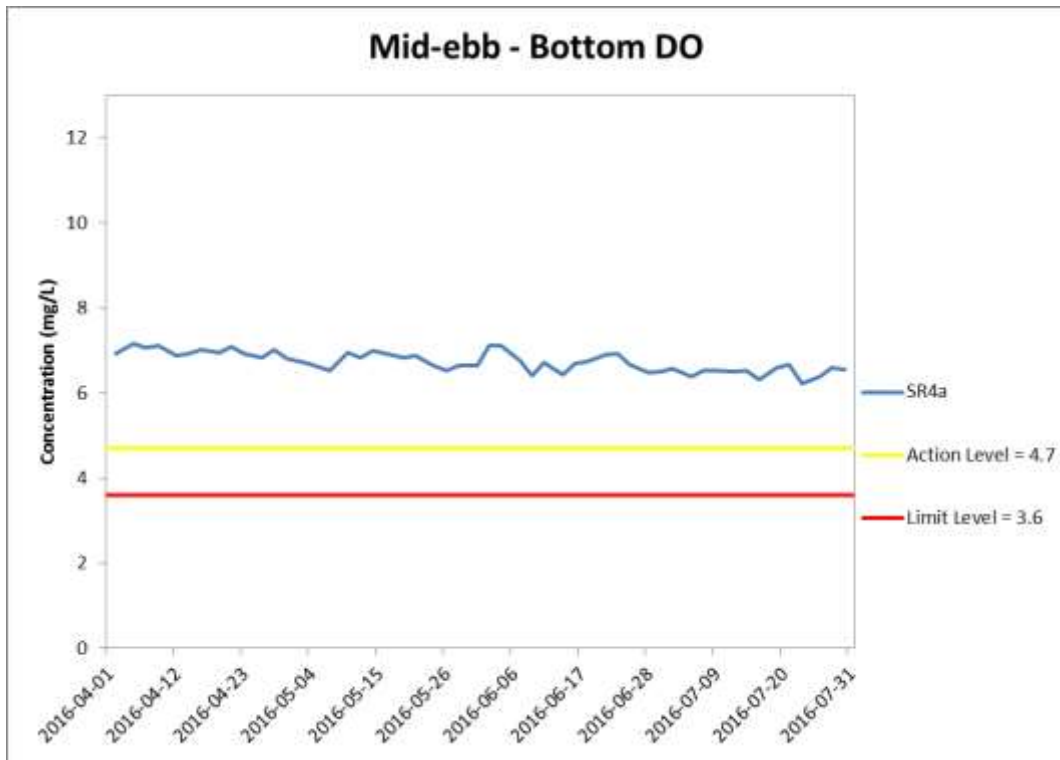


Figure J16 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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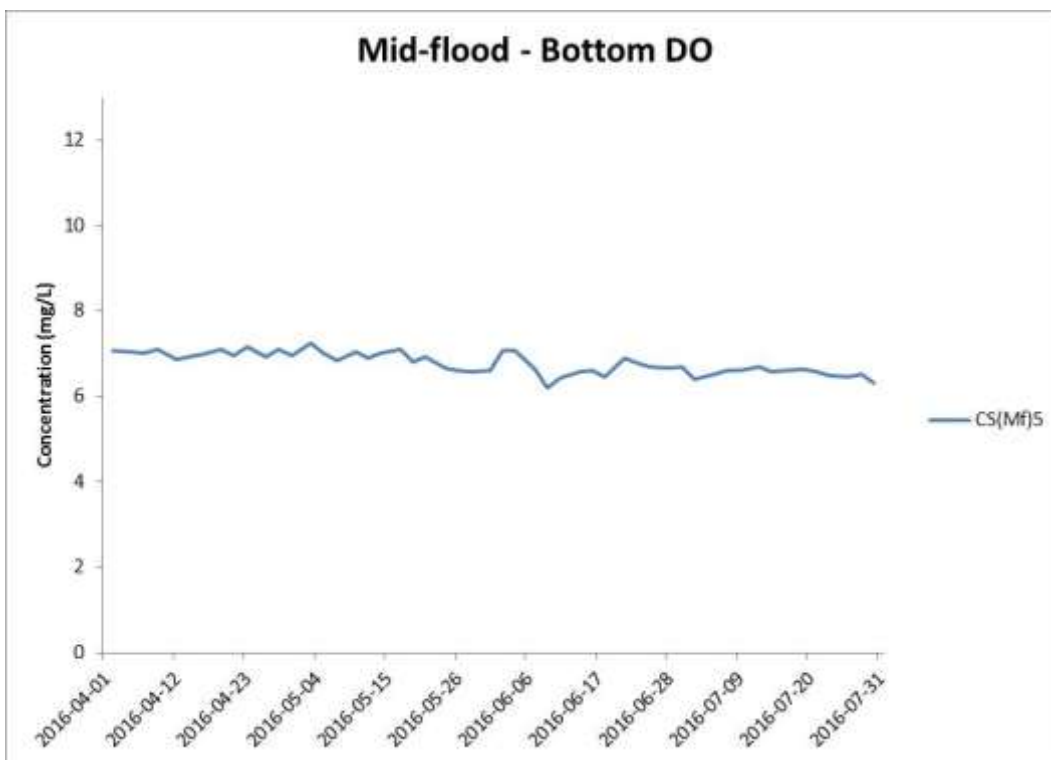
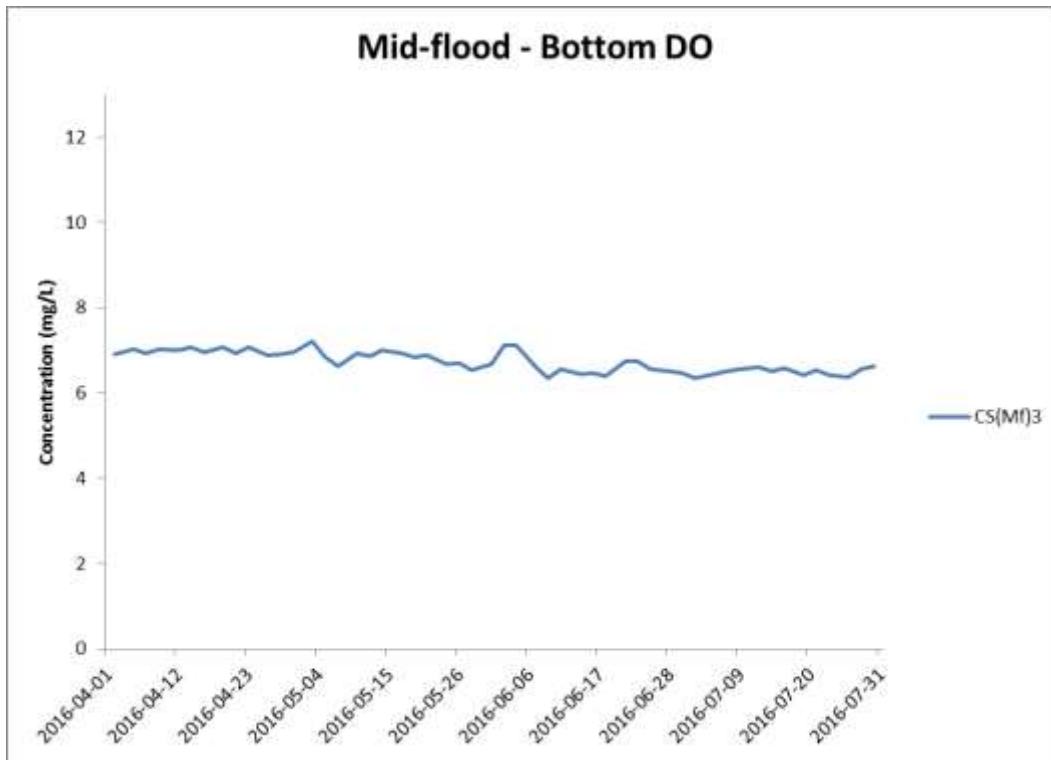


Figure J17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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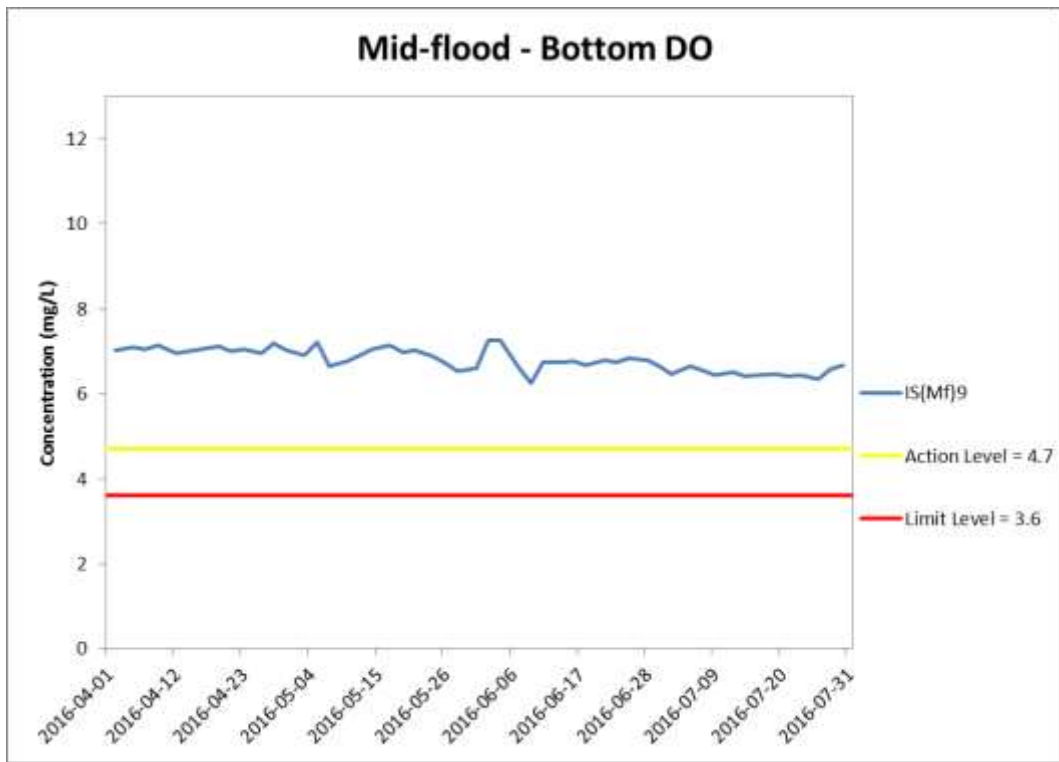
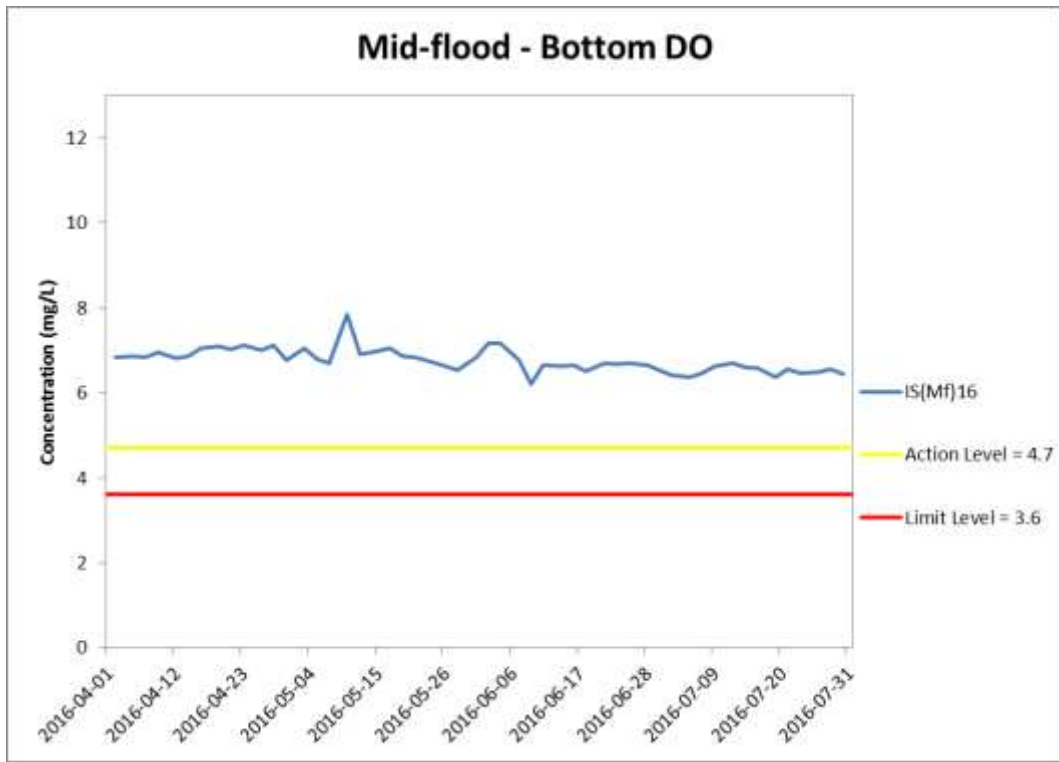


Figure J18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

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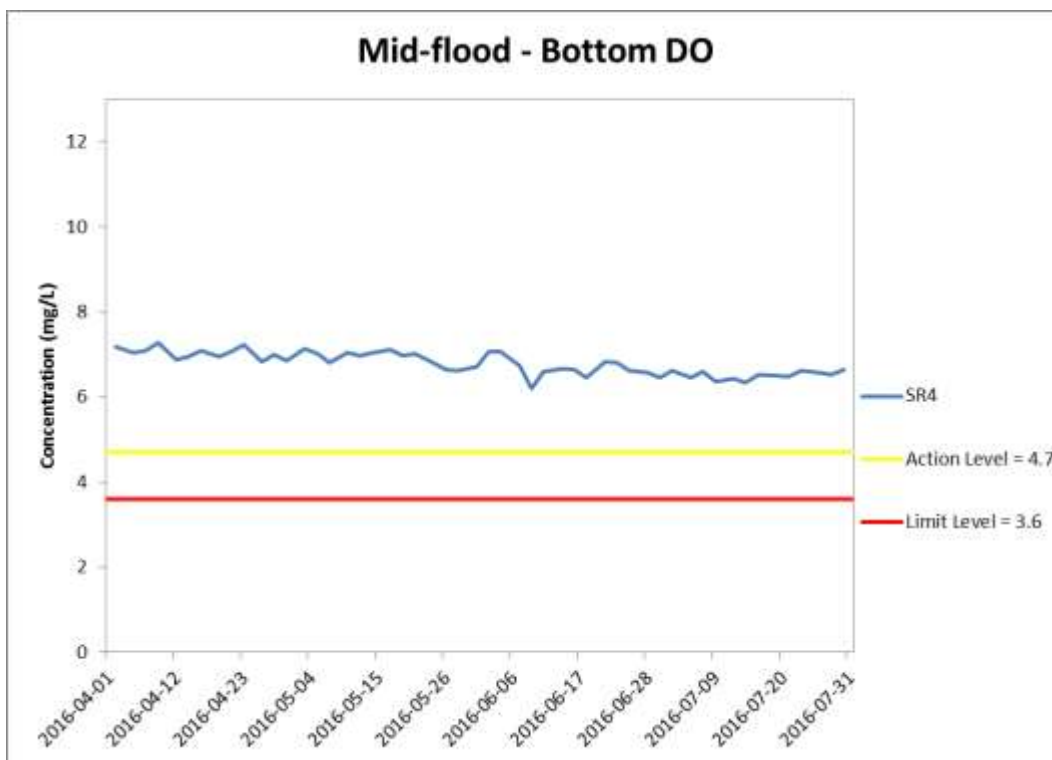
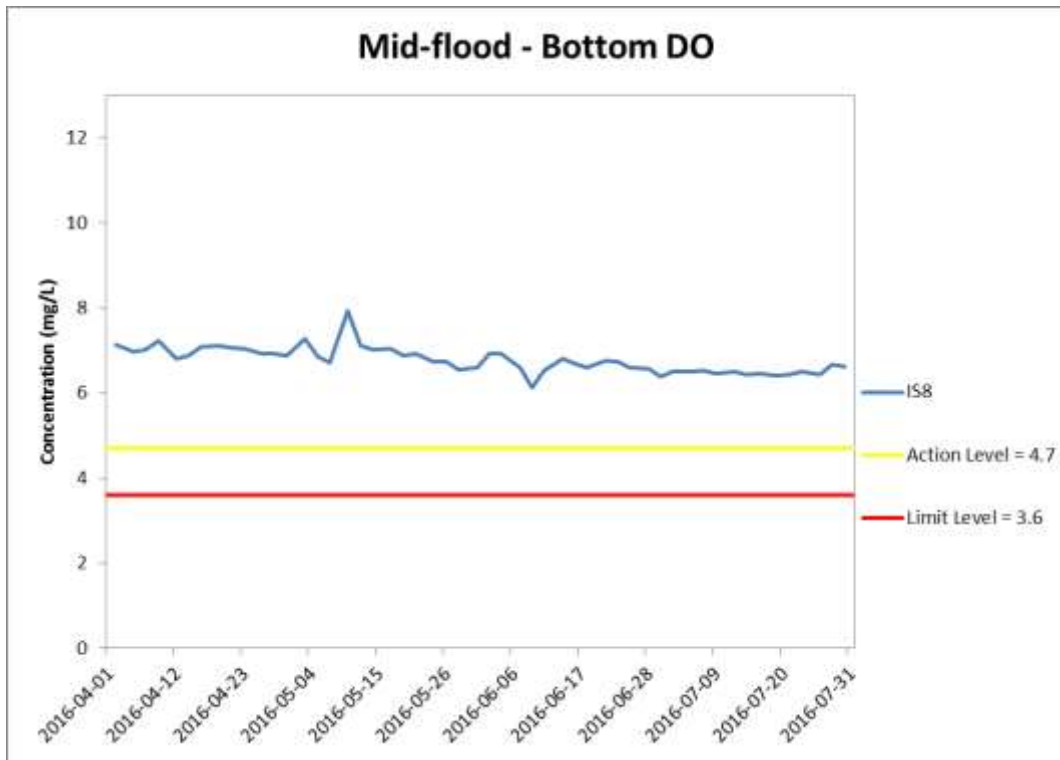


Figure J19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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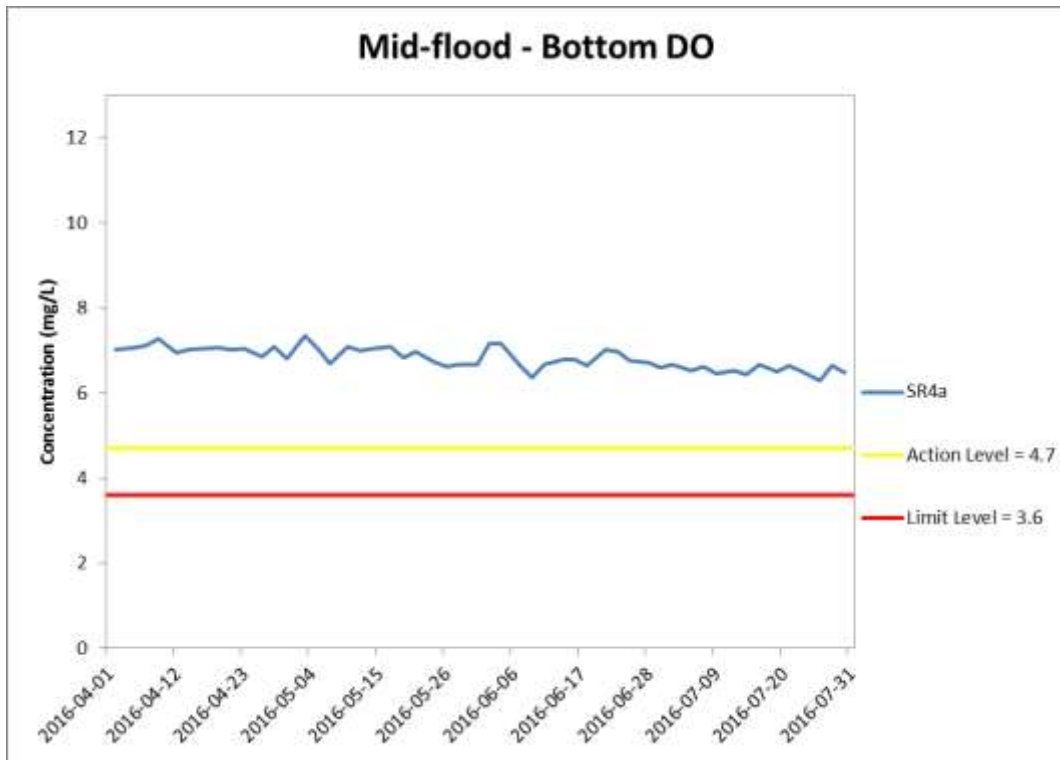


Figure J20 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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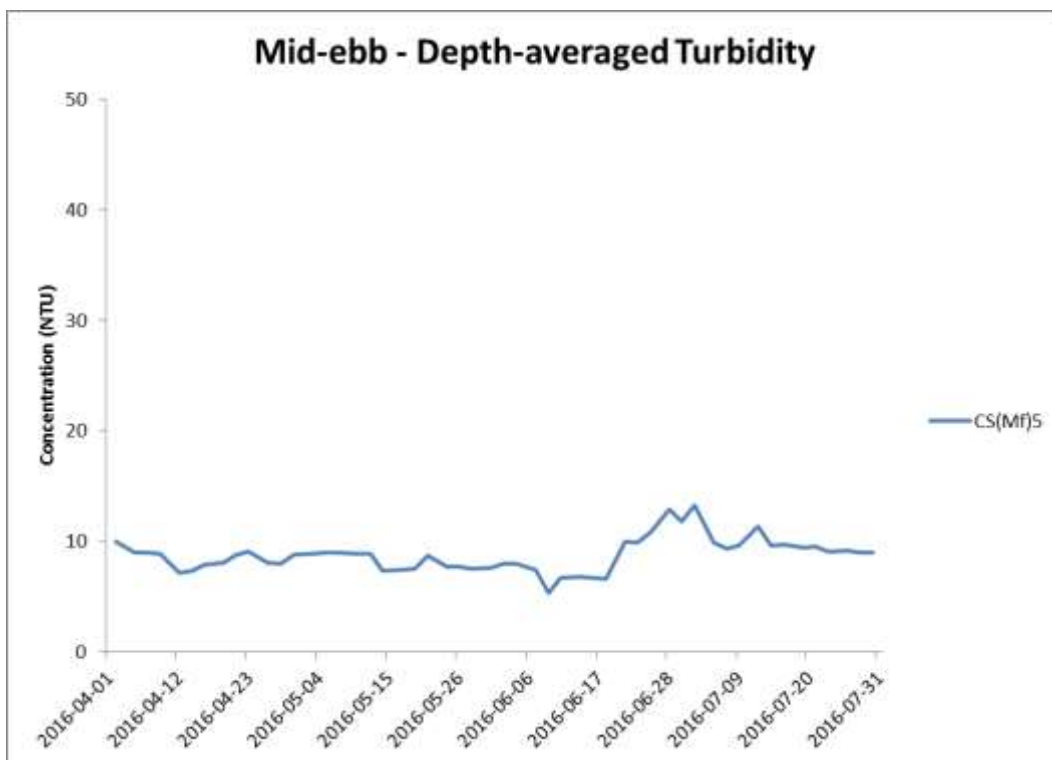
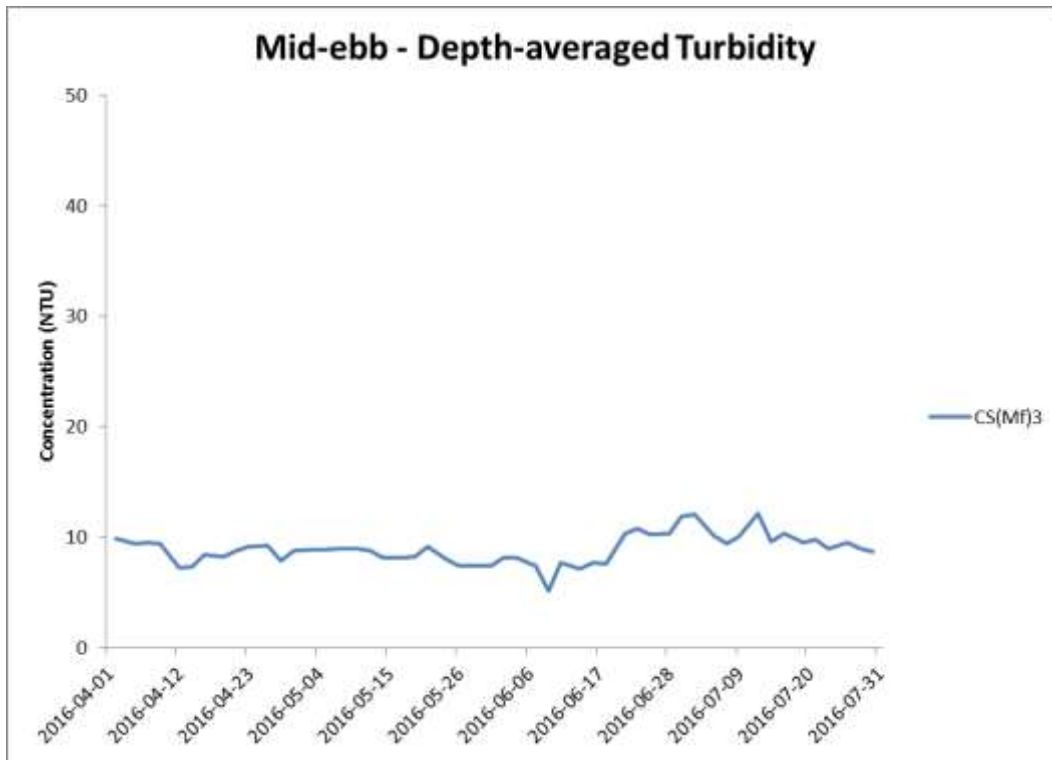


Figure J21 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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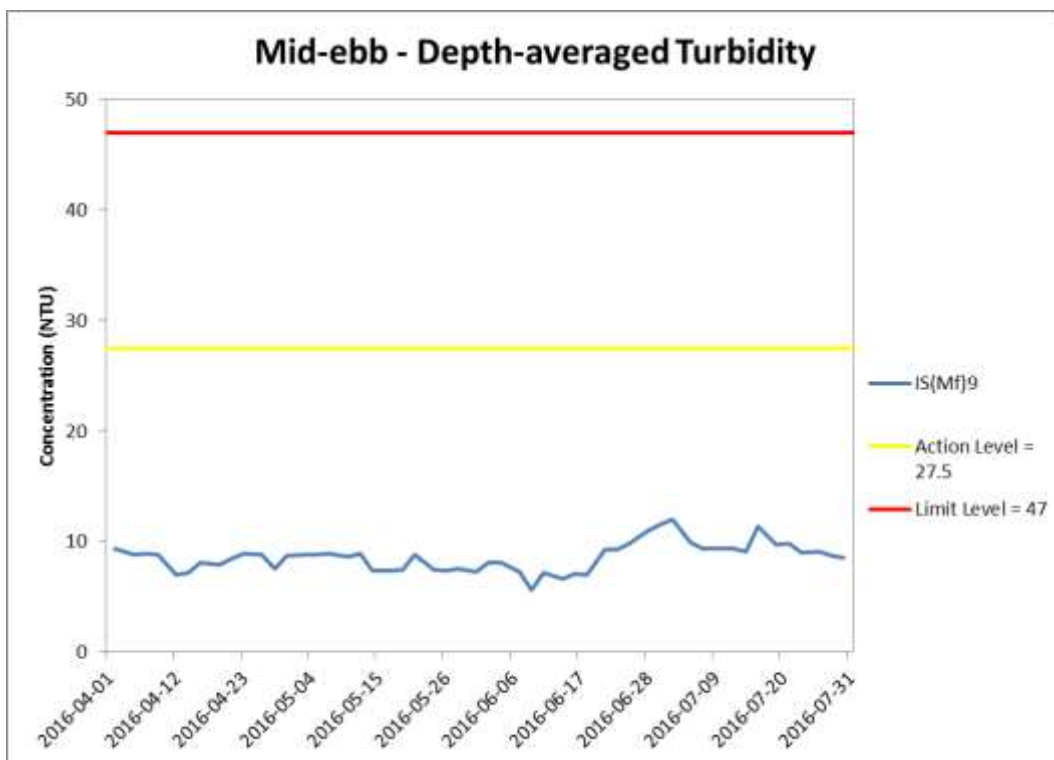
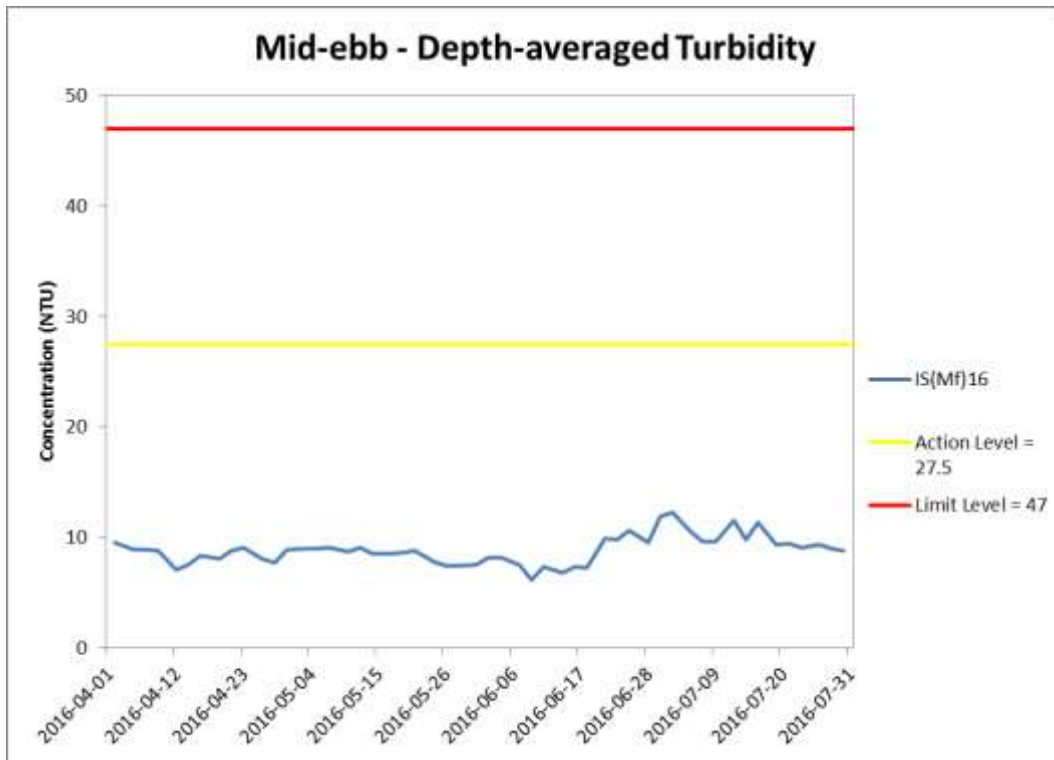


Figure J22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
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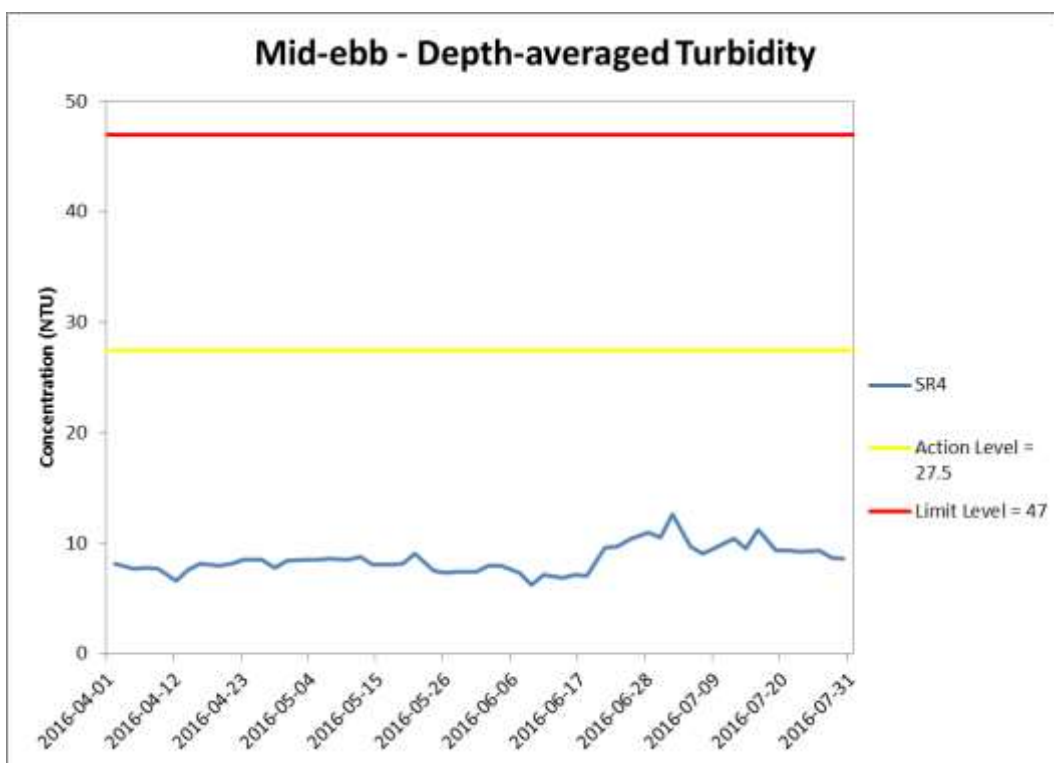
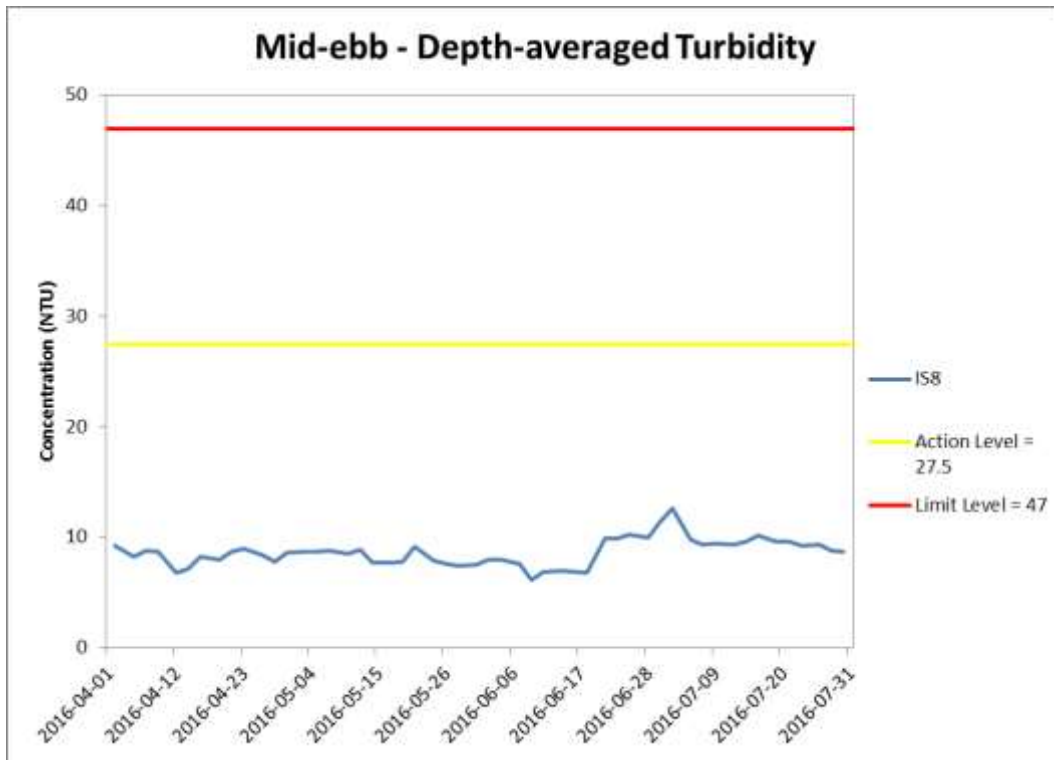


Figure J23 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



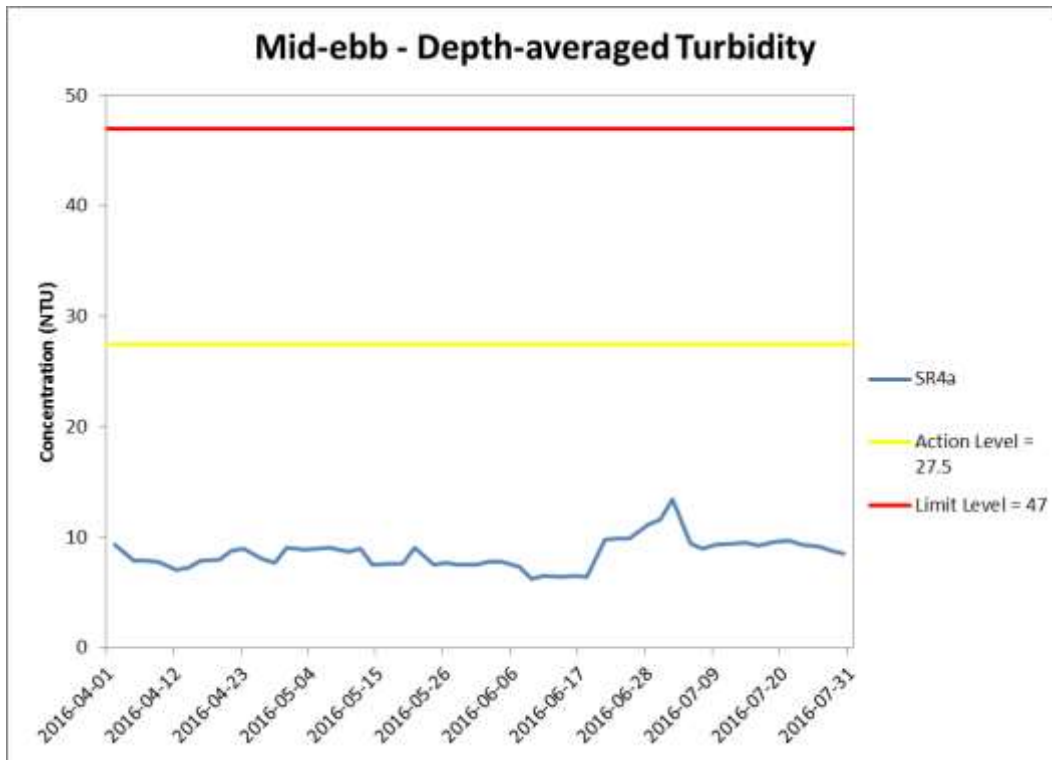


Figure J24 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



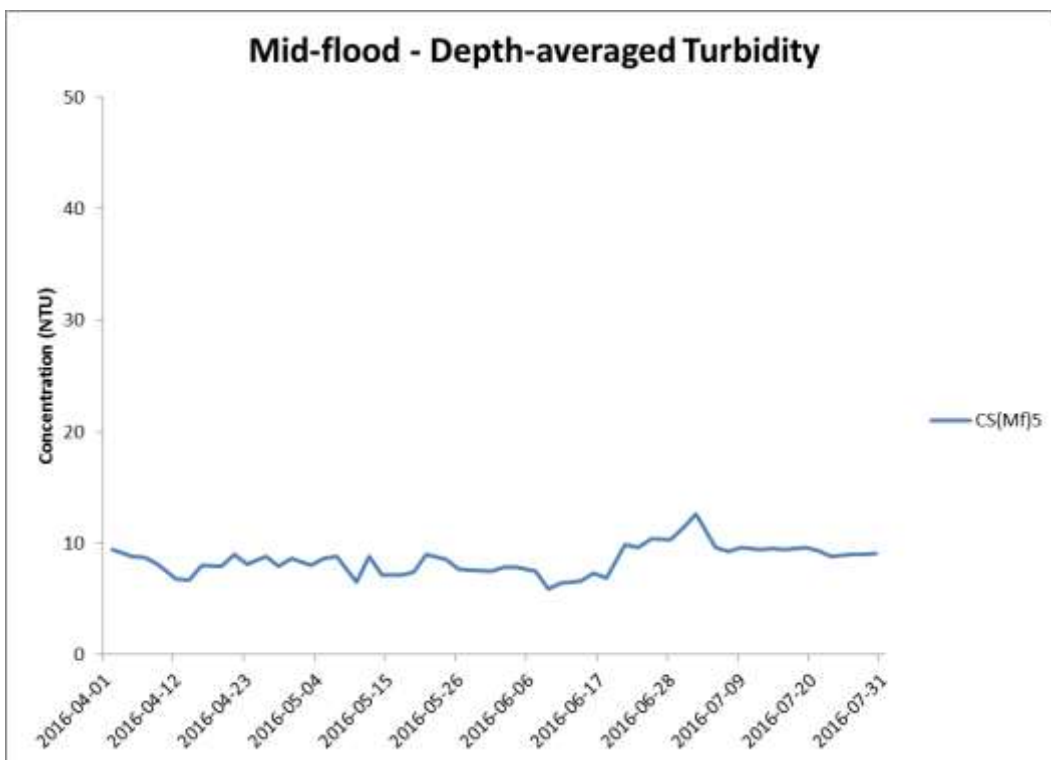
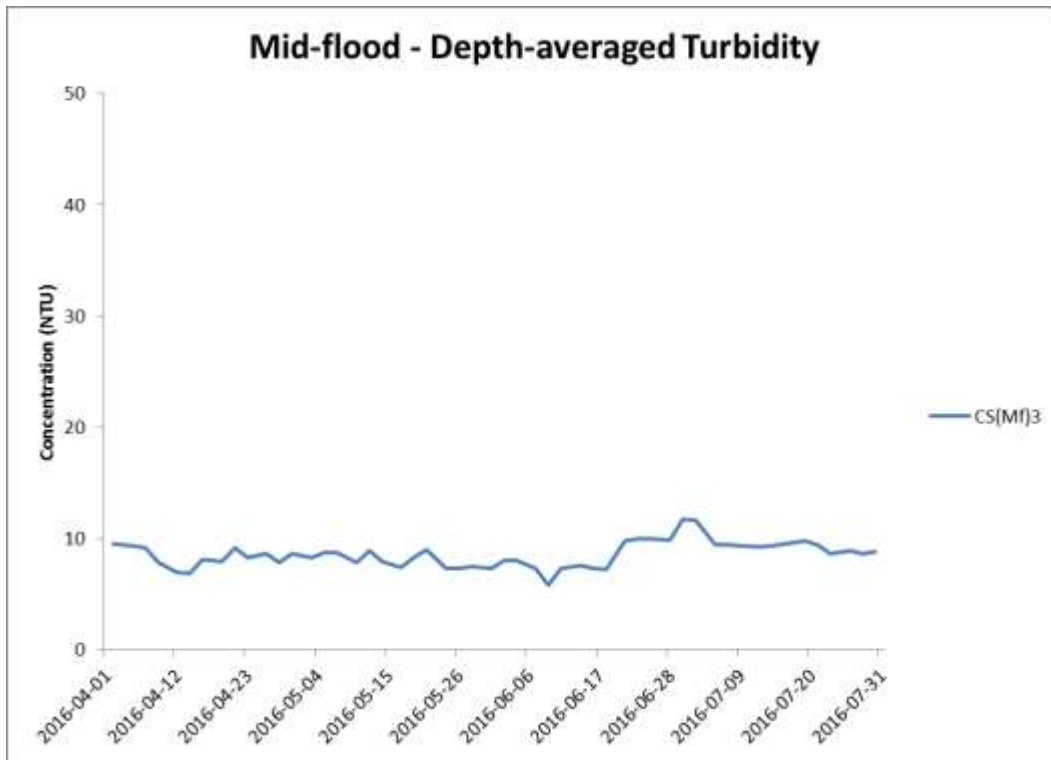


Figure J25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(MF)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



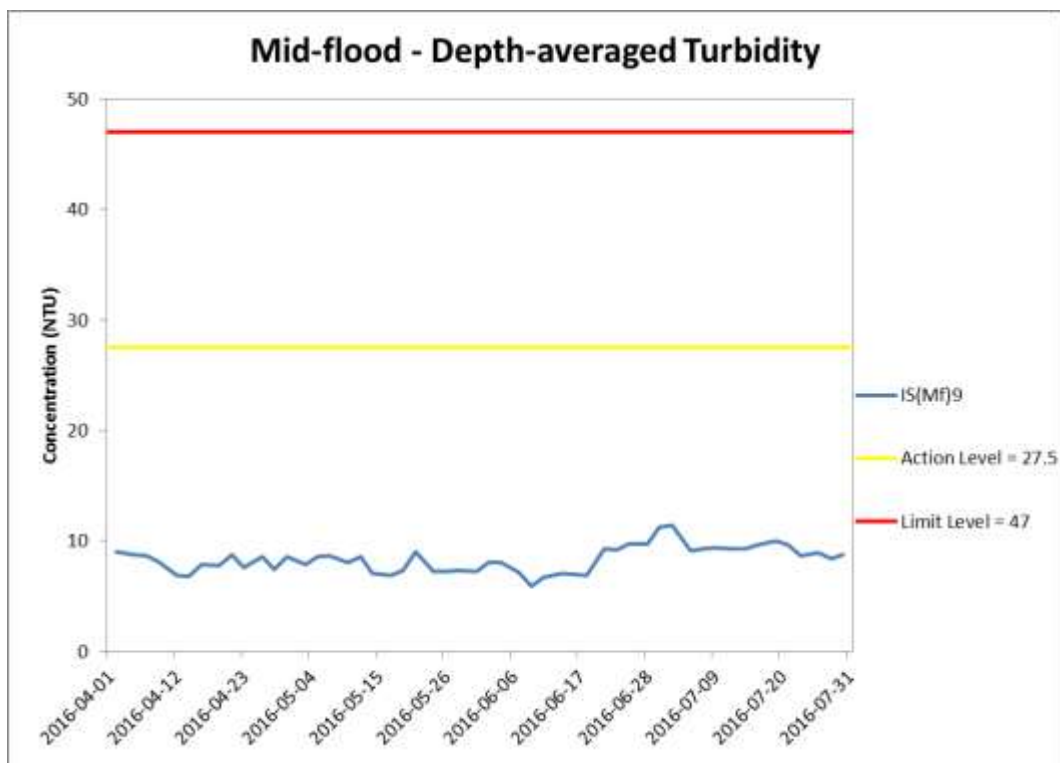
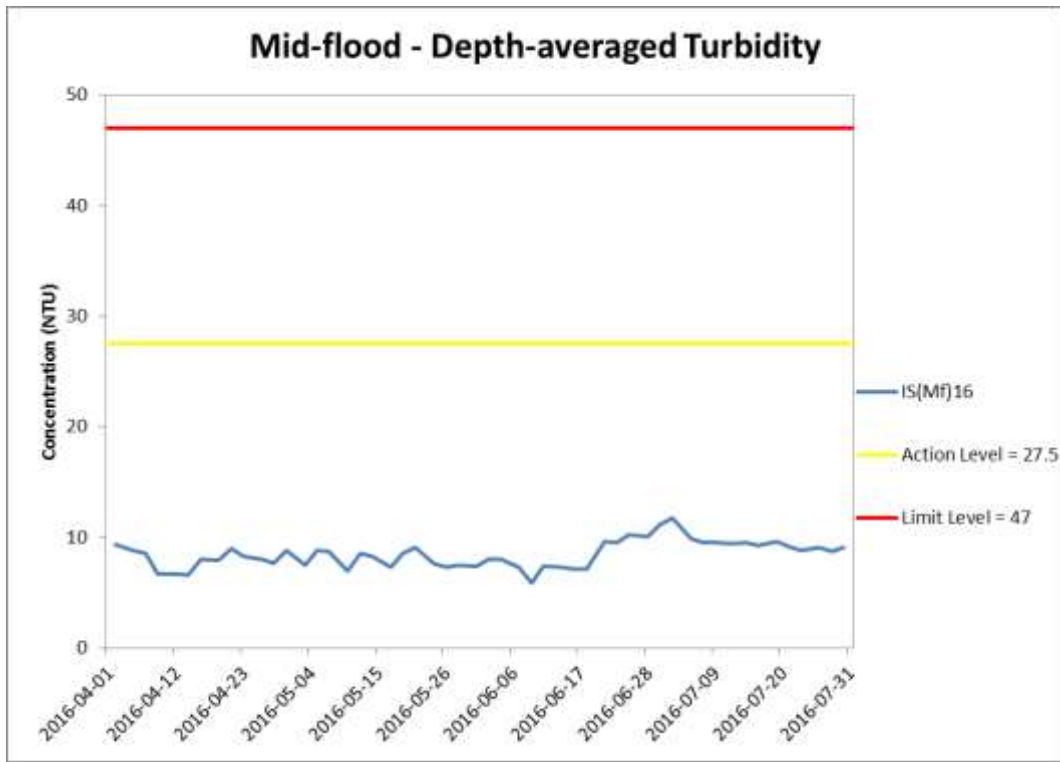


Figure J26 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



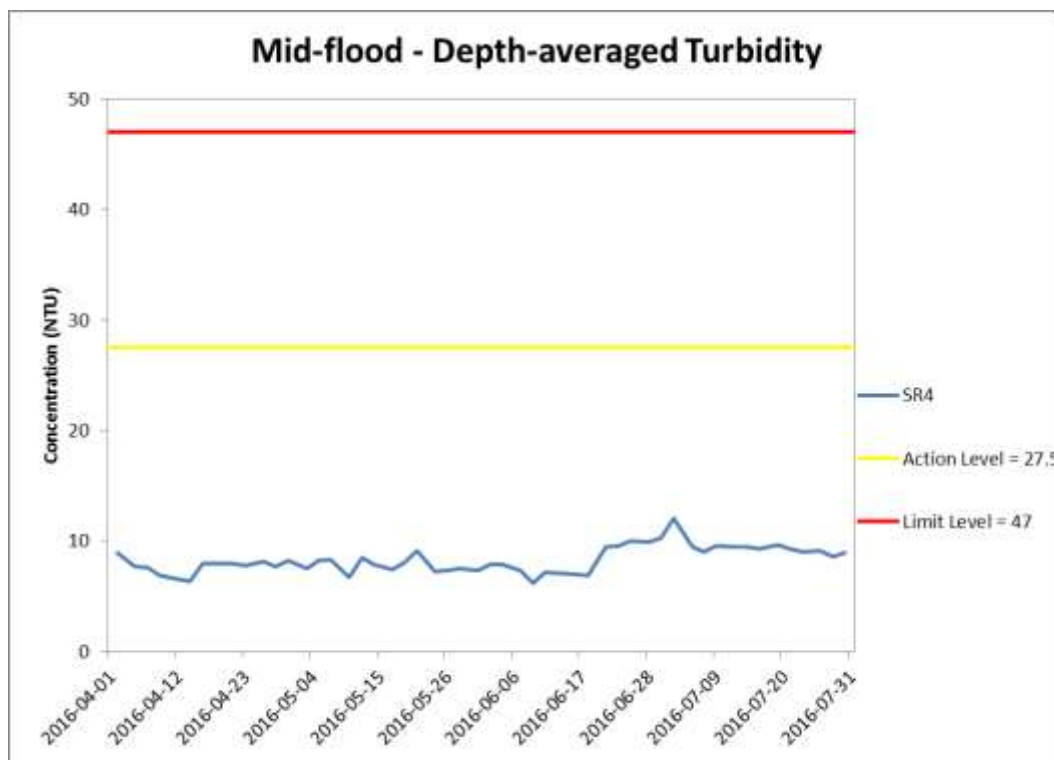
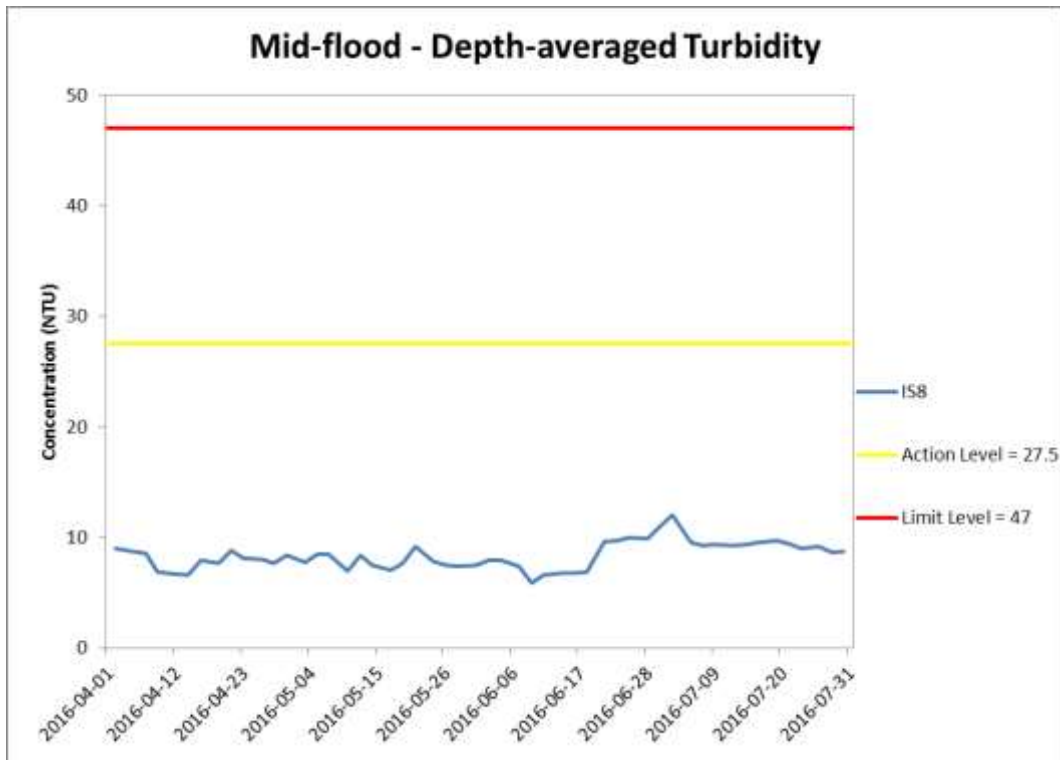


Figure J27 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



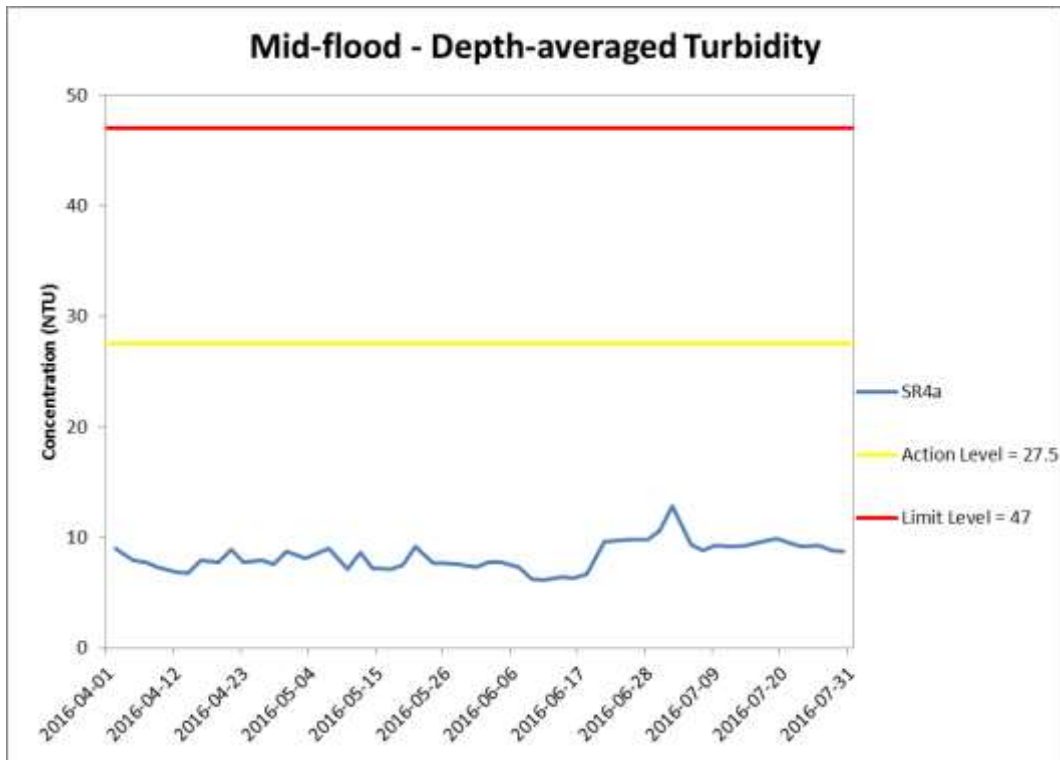


Figure J28 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



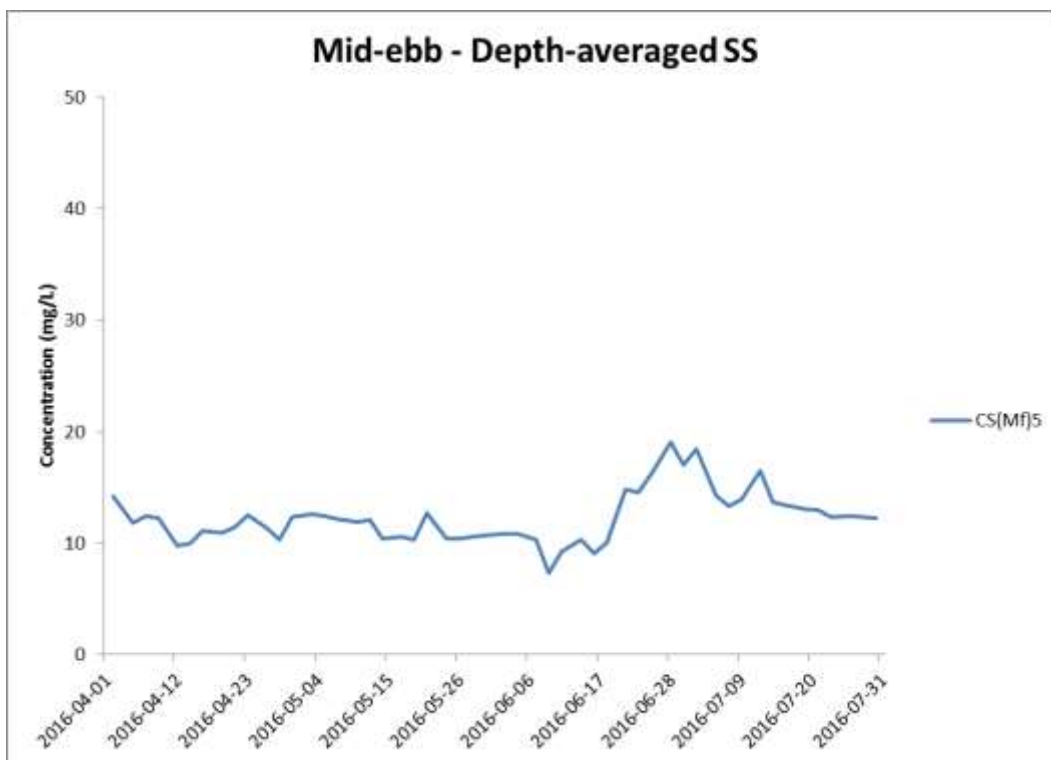
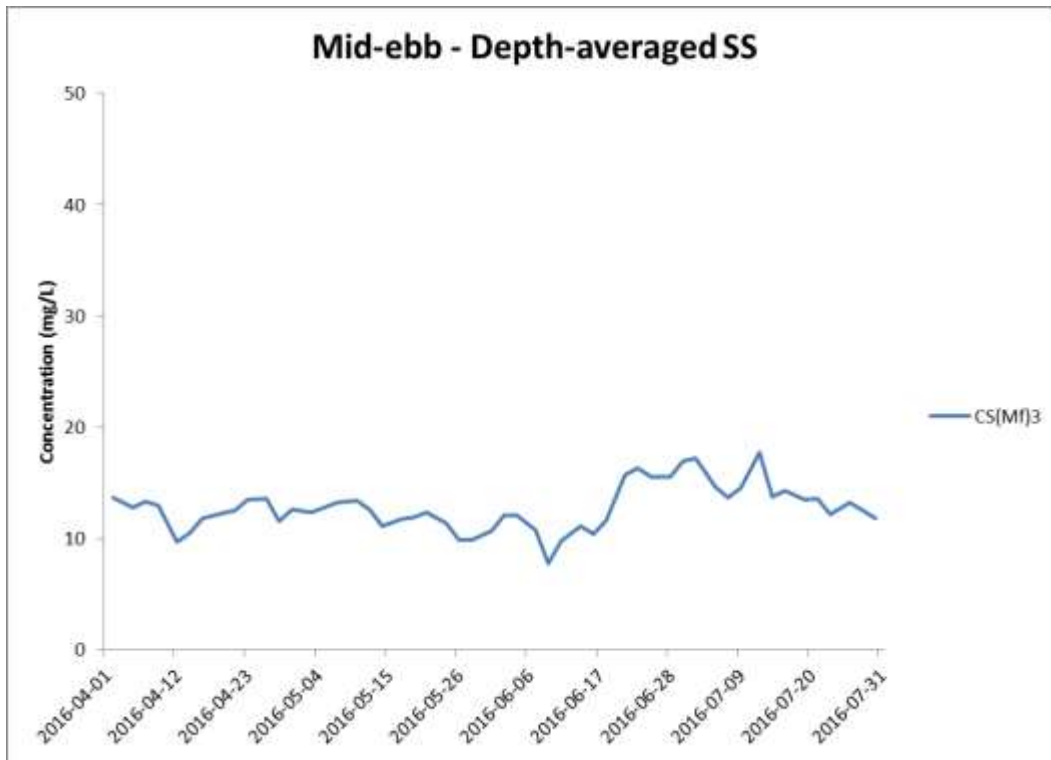


Figure J29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



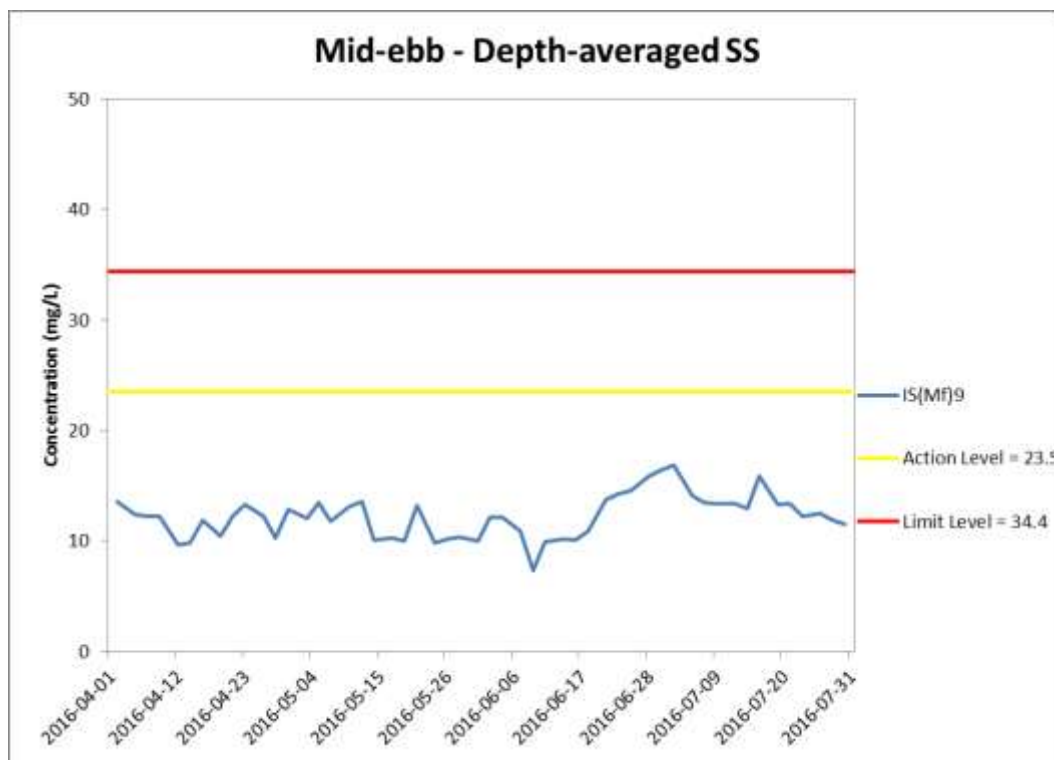
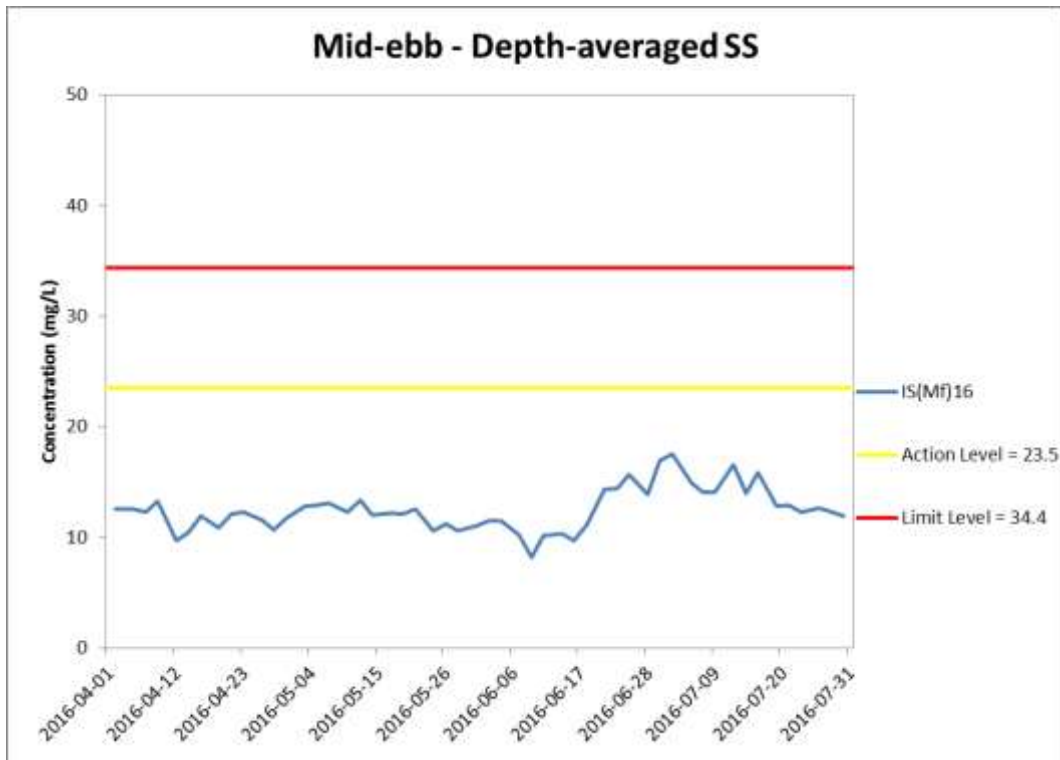


Figure J30 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



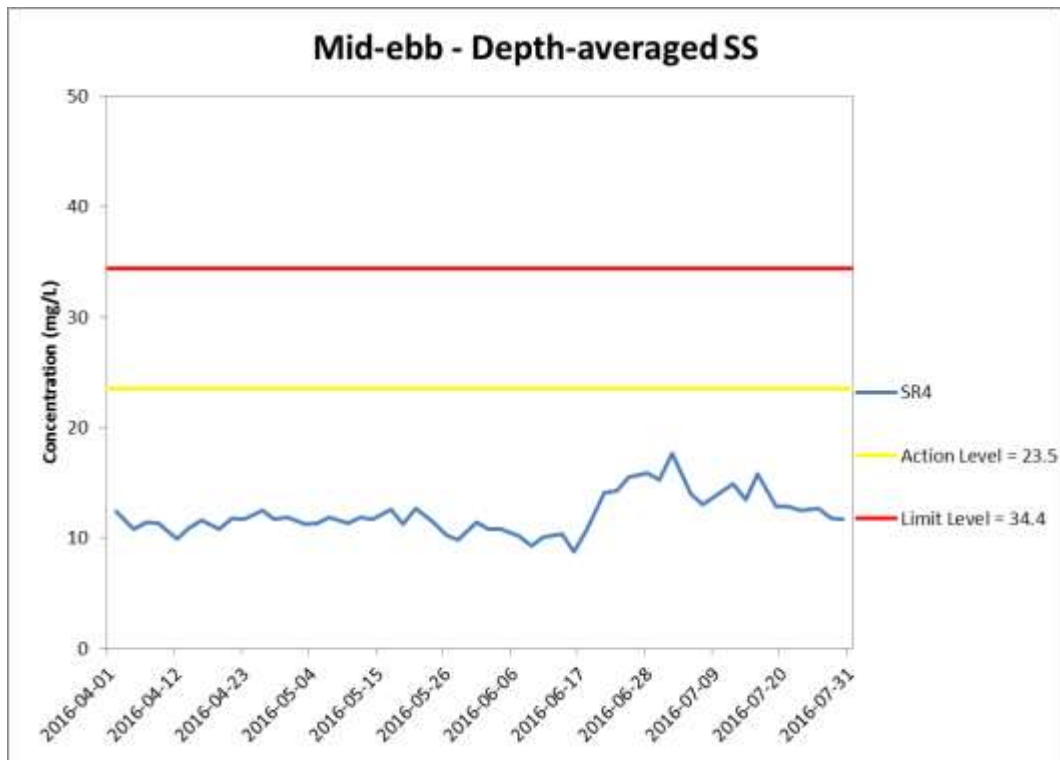
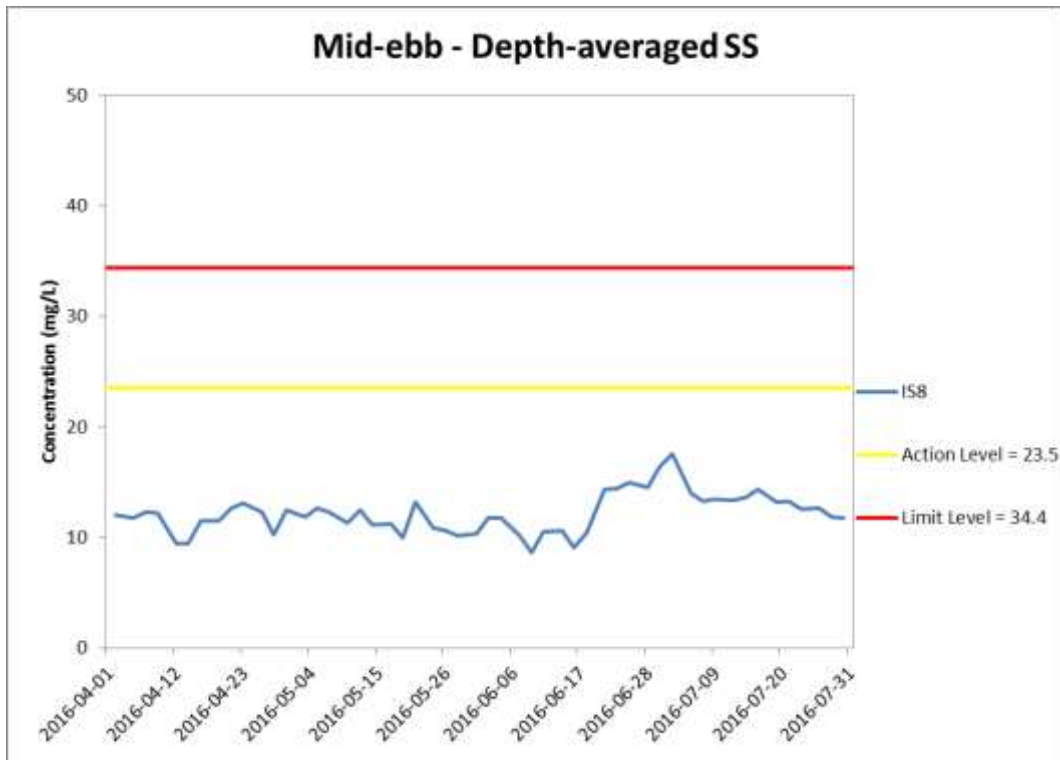


Figure J31 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



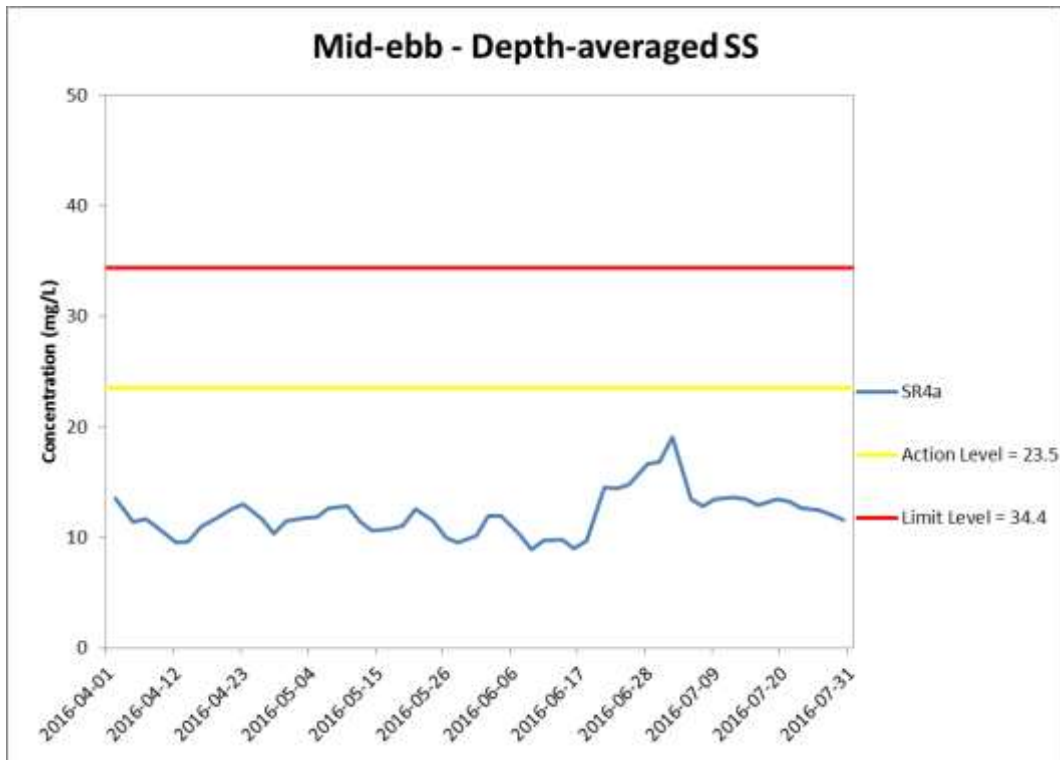


Figure J32 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



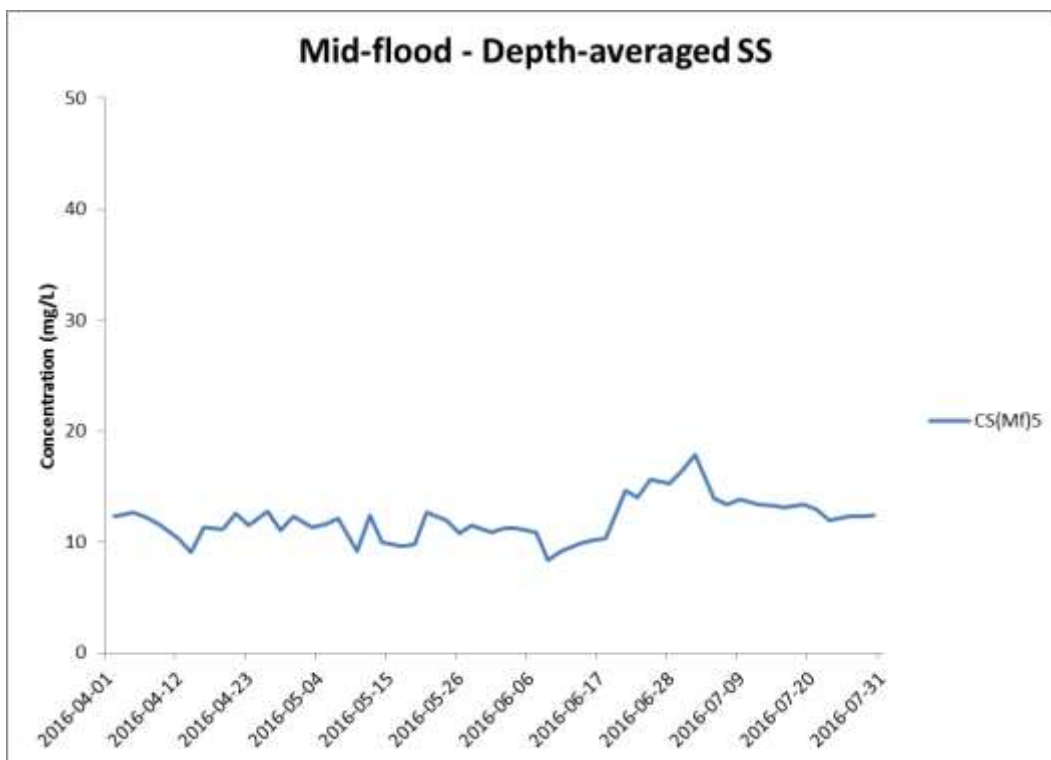
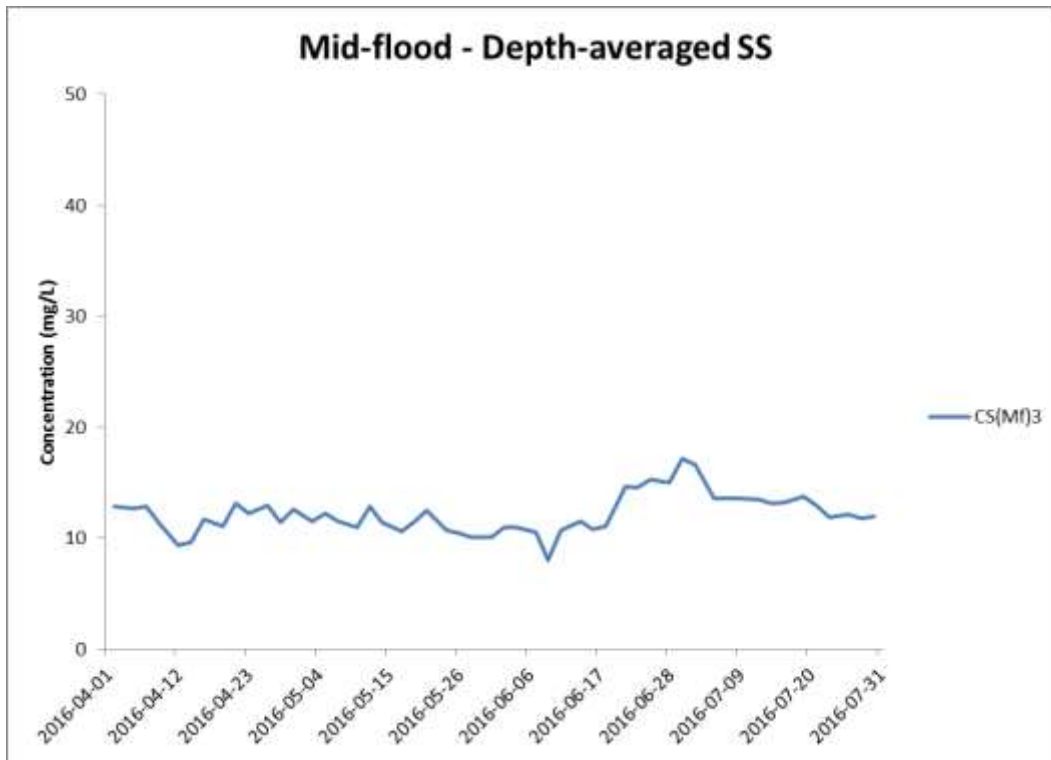


Figure J33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 April and 31 July 2016 at CS(Mf)3 and CS(Mf)5.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



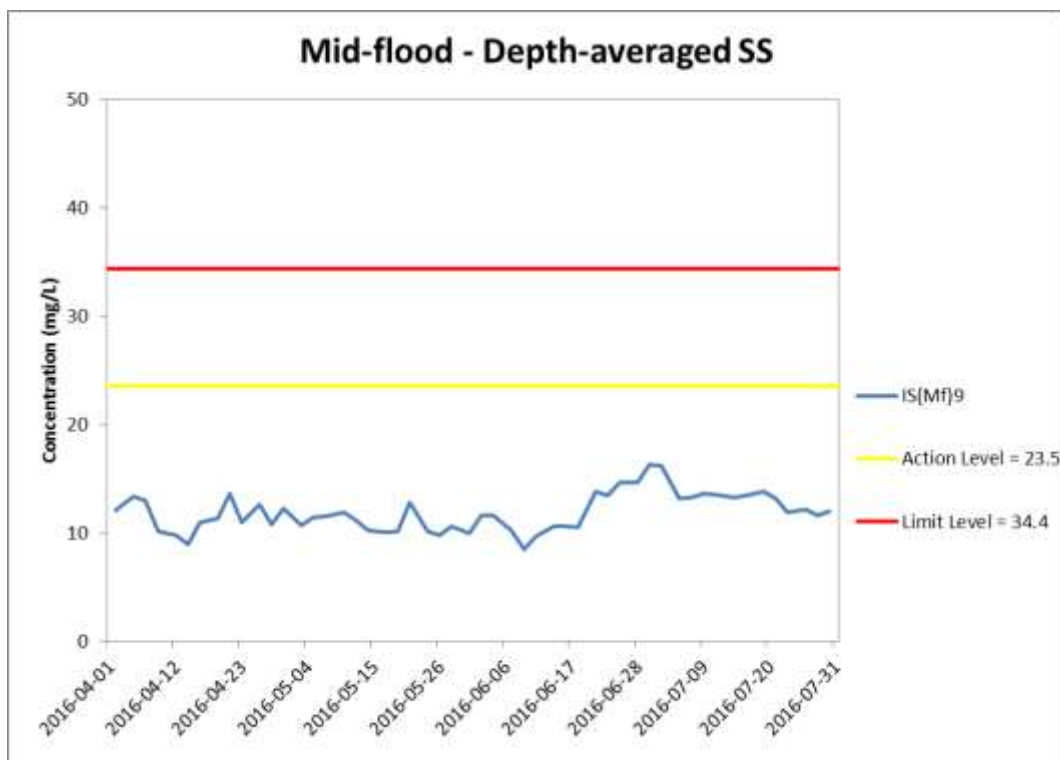
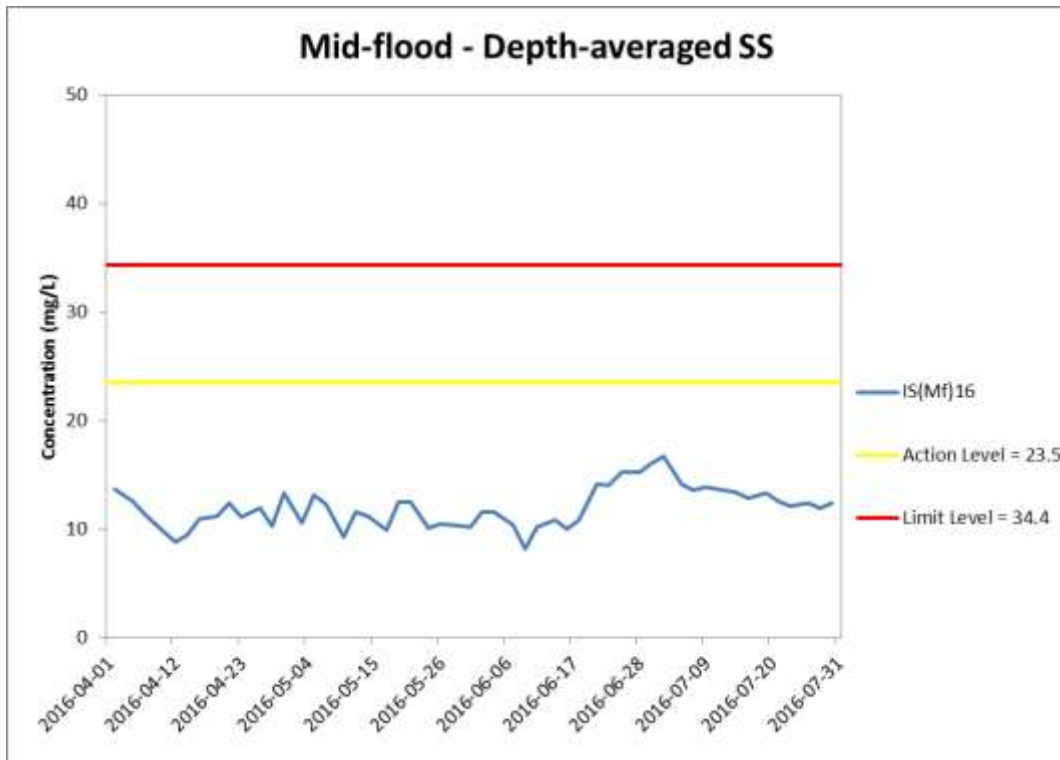


Figure J34 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 April and 31 July 2016 at IS(Mf)16 and IS(Mf)9.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



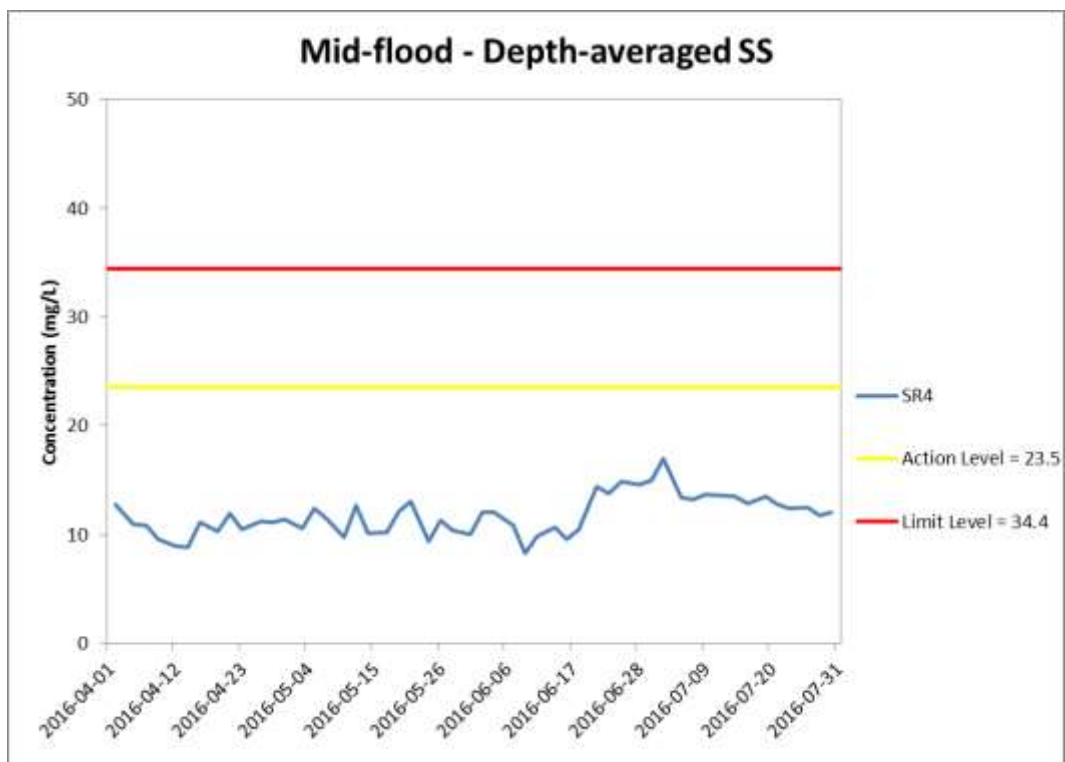
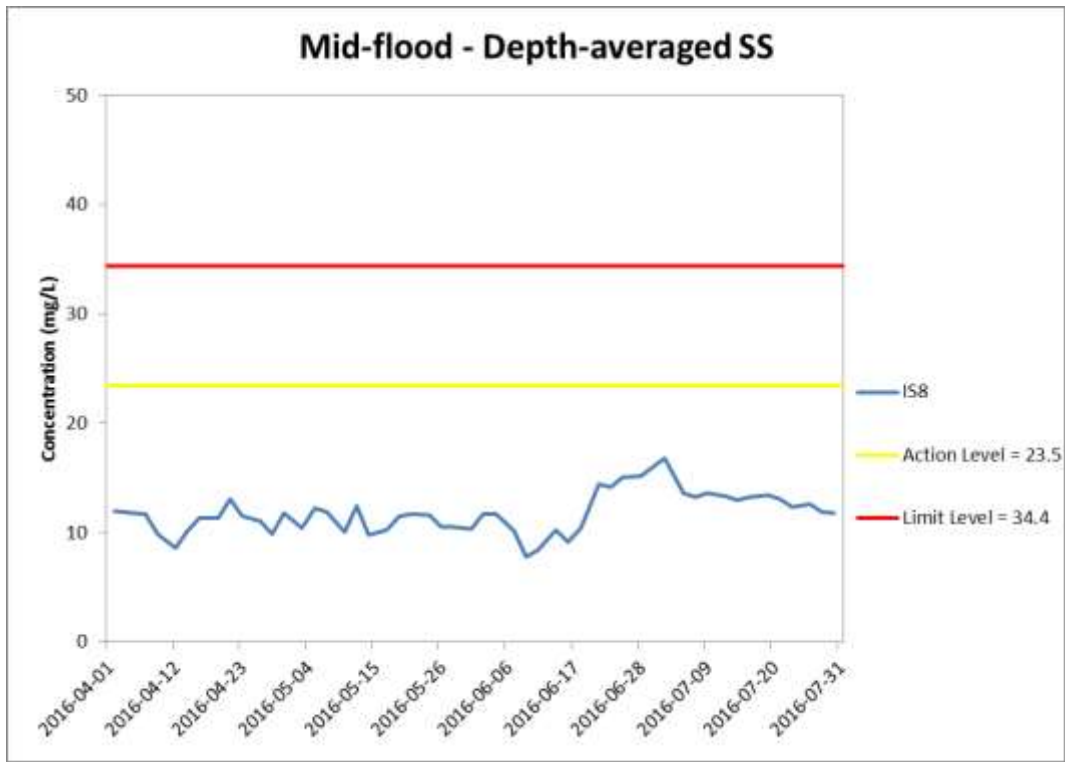


Figure J35 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 April and 31 July 2016 at IS8 and SR4.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



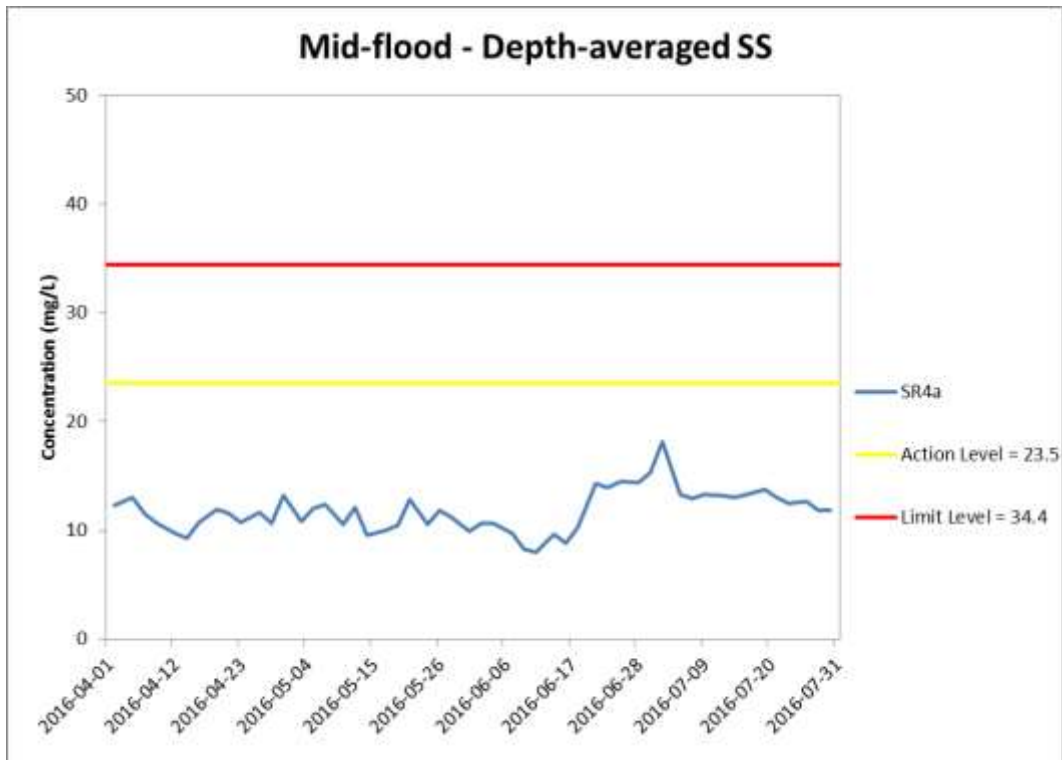


Figure J36 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 April and 31 July 2016 at SR4a.

*(Weather condition varied between sunny to rainy within the reporting period.)
 Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry operation; and Installation of deck segment and pier head segment.*

**Environmental
 Resources
 Management**



Appendix K

Impact Dolphin Monitoring Survey Results

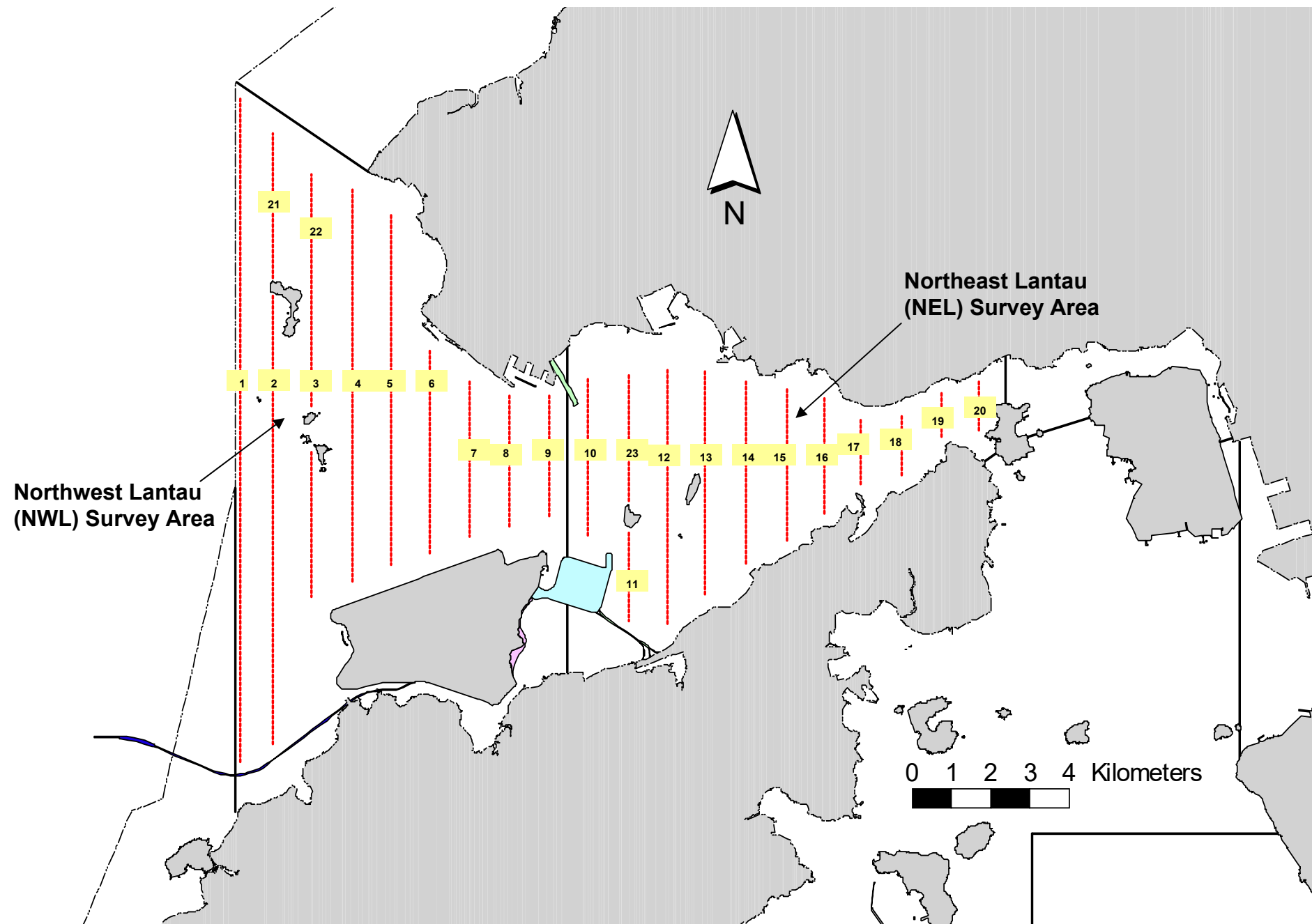


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

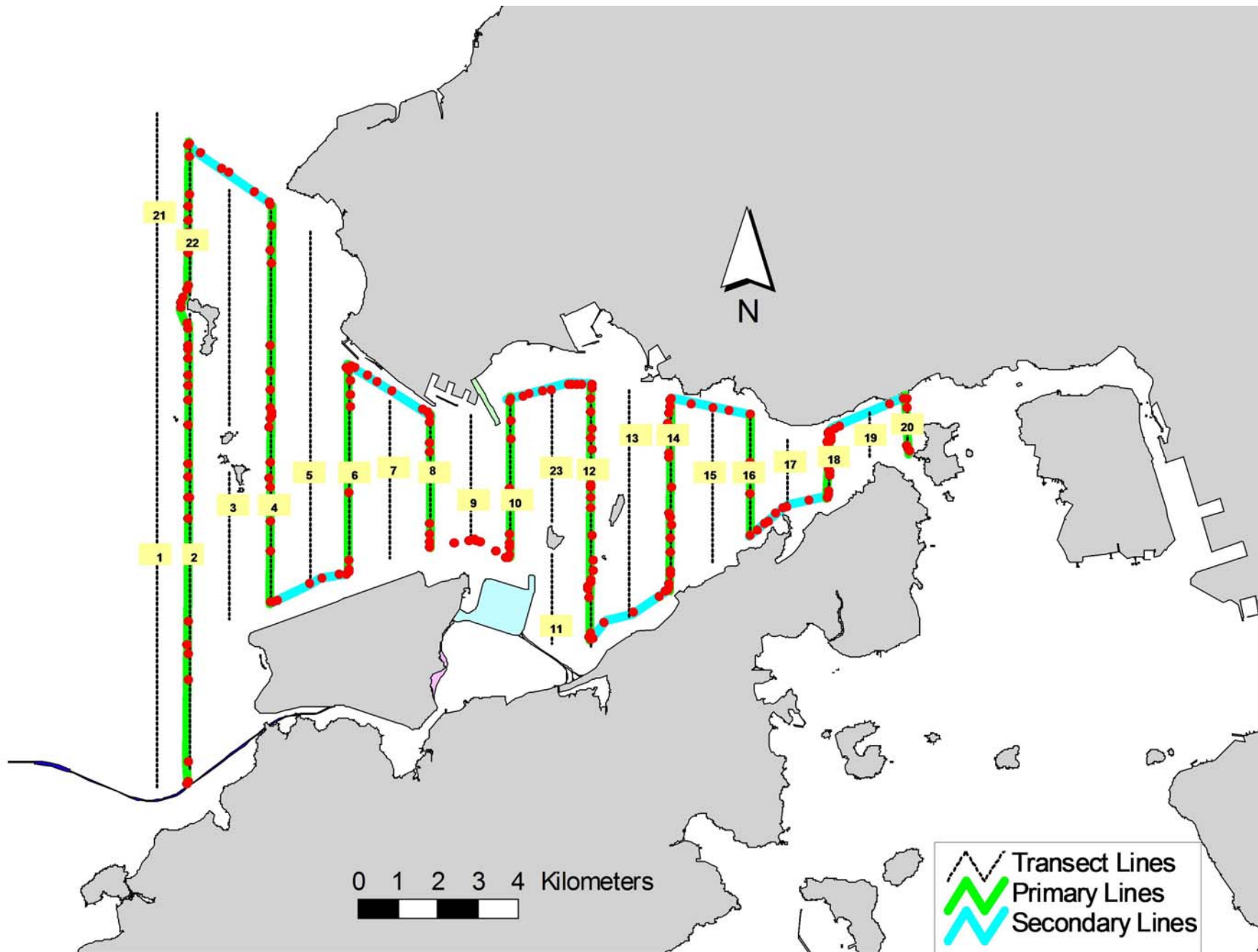


Figure 3. Survey Route on July 12th, 2016 (from HKLR03 project)

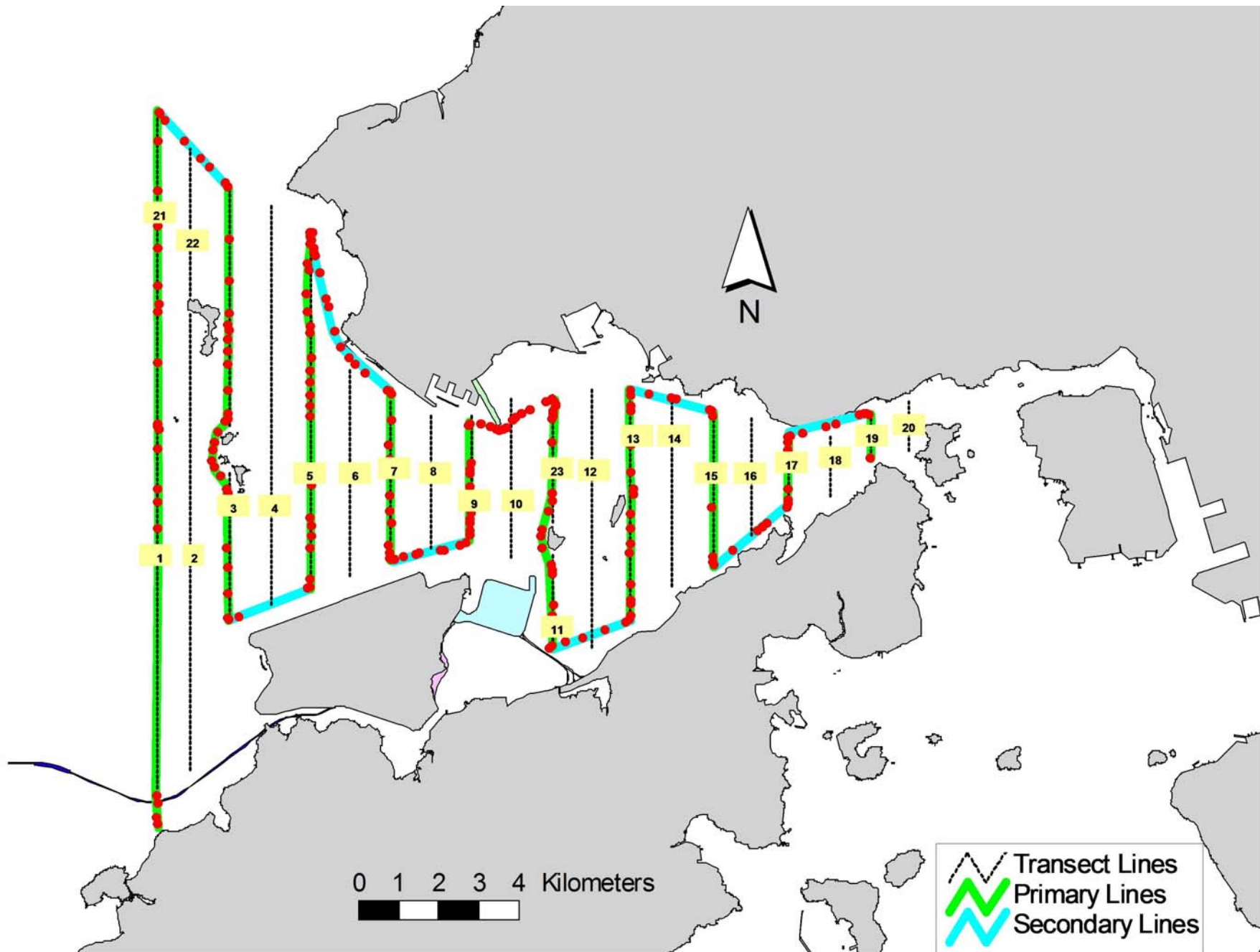


Figure 4. Survey Route on July 18th, 2016 (from HKLR03 project)

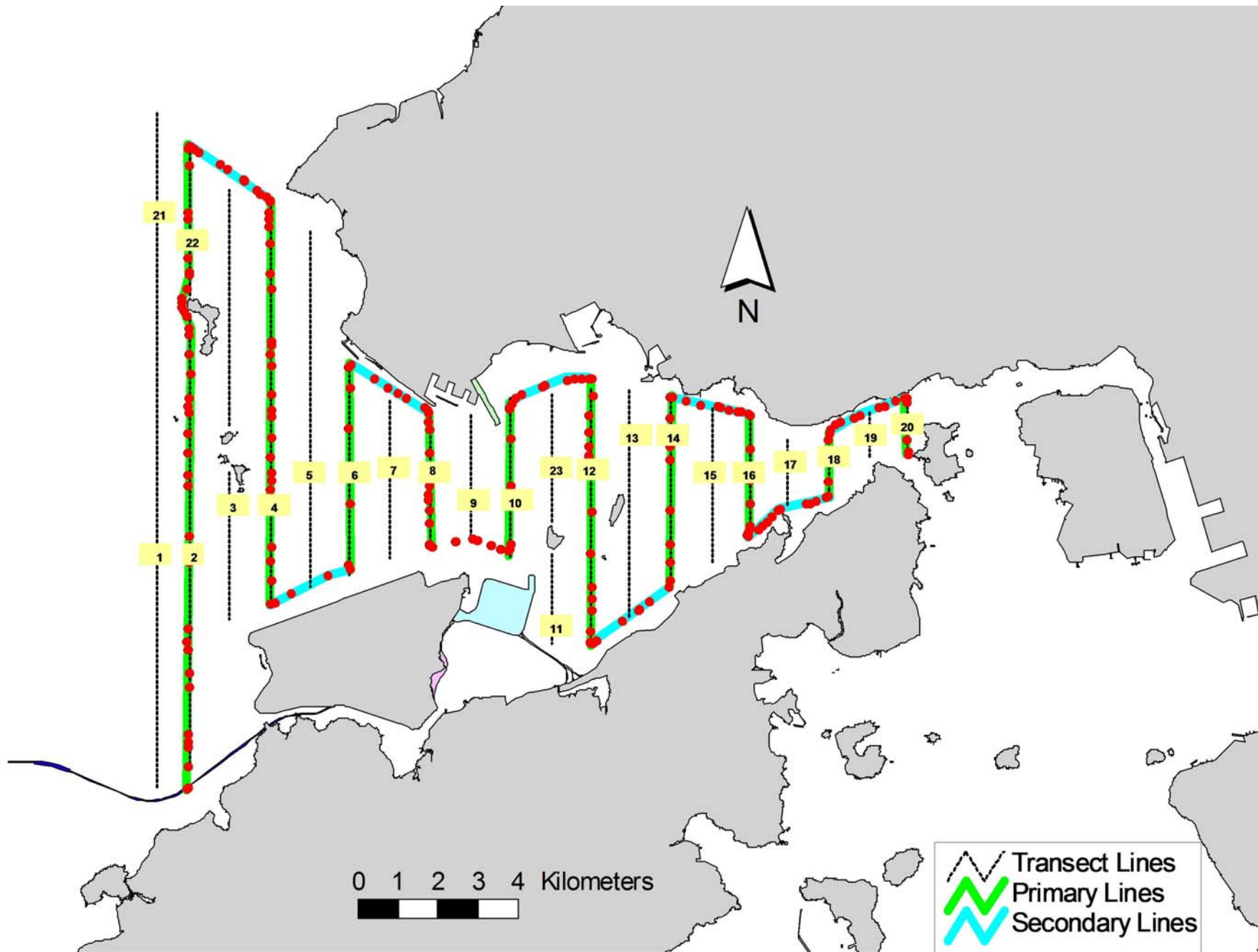


Figure 5. Survey Route on July 27th, 2016 (from HKLR03 project)

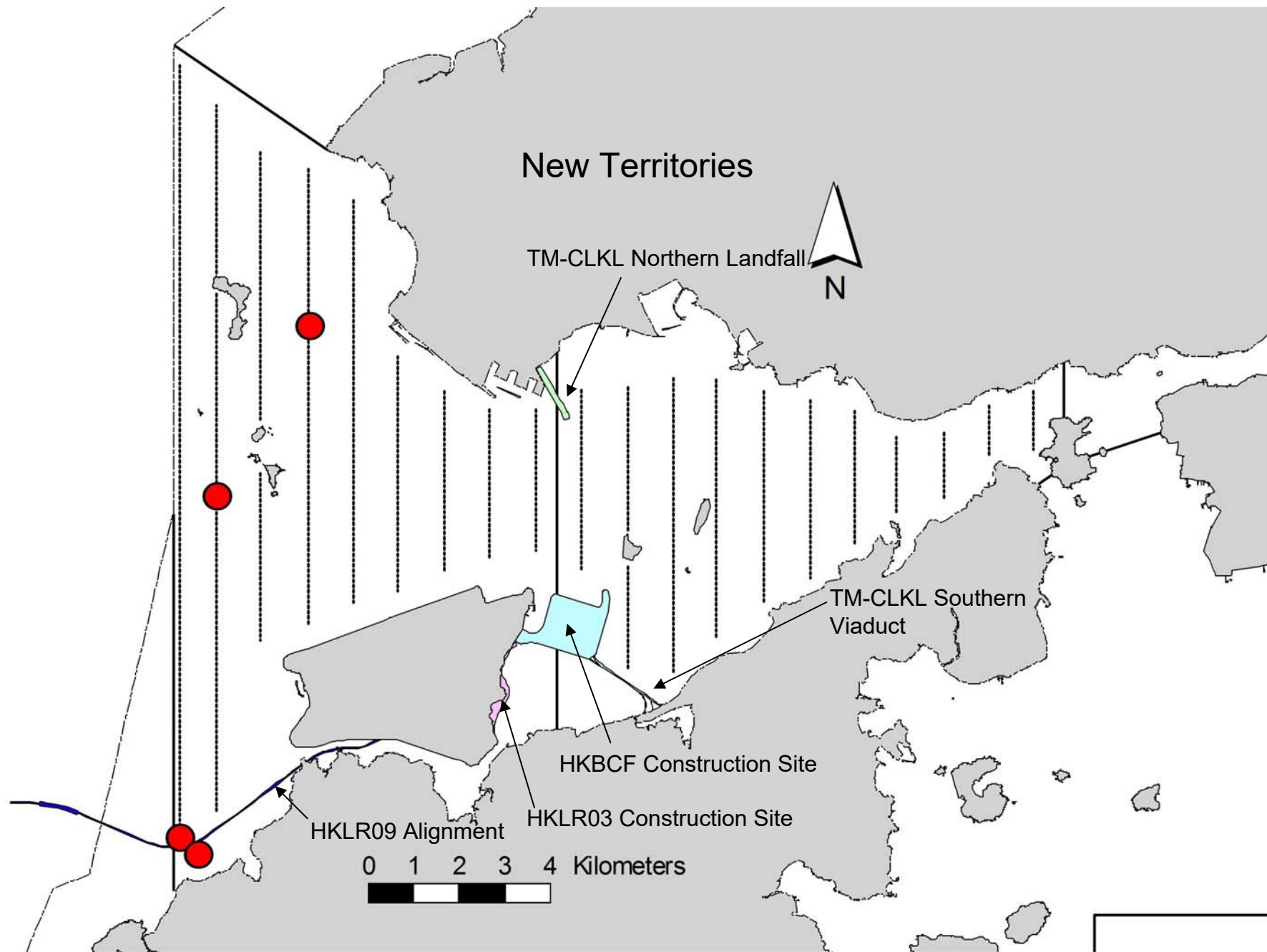


Figure 6. Distribution of Chinese White Dolphin Sightings during July 2016 HKLR03 Monitoring Surveys

Appendix I. HKLR03 Survey Effort Database (July 2016)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
5-Jul-16	NW LANTAU	2	4.50	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NW LANTAU	3	29.29	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NW LANTAU	4	6.90	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NW LANTAU	2	2.10	SUMMER	STANDARD31516	HKLR	S
5-Jul-16	NW LANTAU	3	7.30	SUMMER	STANDARD31516	HKLR	S
5-Jul-16	NW LANTAU	4	3.70	SUMMER	STANDARD31516	HKLR	S
5-Jul-16	NE LANTAU	2	2.30	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NE LANTAU	3	13.62	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NE LANTAU	4	0.81	SUMMER	STANDARD31516	HKLR	P
5-Jul-16	NE LANTAU	2	4.30	SUMMER	STANDARD31516	HKLR	S
5-Jul-16	NE LANTAU	3	5.77	SUMMER	STANDARD31516	HKLR	S
12-Jul-16	NW LANTAU	1	4.04	SUMMER	STANDARD31516	HKLR	P
12-Jul-16	NW LANTAU	2	27.40	SUMMER	STANDARD31516	HKLR	P
12-Jul-16	NW LANTAU	1	2.10	SUMMER	STANDARD31516	HKLR	S
12-Jul-16	NW LANTAU	2	6.27	SUMMER	STANDARD31516	HKLR	S
12-Jul-16	NE LANTAU	2	19.99	SUMMER	STANDARD31516	HKLR	P
12-Jul-16	NE LANTAU	2	11.81	SUMMER	STANDARD31516	HKLR	S
18-Jul-16	NW LANTAU	2	4.34	SUMMER	STANDARD31516	HKLR	P
18-Jul-16	NW LANTAU	3	29.06	SUMMER	STANDARD31516	HKLR	P
18-Jul-16	NW LANTAU	4	7.70	SUMMER	STANDARD31516	HKLR	P
18-Jul-16	NW LANTAU	2	2.00	SUMMER	STANDARD31516	HKLR	S
18-Jul-16	NW LANTAU	3	7.60	SUMMER	STANDARD31516	HKLR	S
18-Jul-16	NW LANTAU	4	3.00	SUMMER	STANDARD31516	HKLR	S
18-Jul-16	NE LANTAU	2	15.66	SUMMER	STANDARD31516	HKLR	P
18-Jul-16	NE LANTAU	3	1.06	SUMMER	STANDARD31516	HKLR	P
18-Jul-16	NE LANTAU	2	9.89	SUMMER	STANDARD31516	HKLR	S
27-Jul-16	NE LANTAU	2	18.79	SUMMER	STANDARD31516	HKLR	P
27-Jul-16	NE LANTAU	3	0.70	SUMMER	STANDARD31516	HKLR	P
27-Jul-16	NE LANTAU	2	10.91	SUMMER	STANDARD31516	HKLR	S
27-Jul-16	NW LANTAU	2	19.61	SUMMER	STANDARD31516	HKLR	P
27-Jul-16	NW LANTAU	3	11.30	SUMMER	STANDARD31516	HKLR	P
27-Jul-16	NW LANTAU	4	0.60	SUMMER	STANDARD31516	HKLR	P
27-Jul-16	NW LANTAU	2	6.89	SUMMER	STANDARD31516	HKLR	S
27-Jul-16	NW LANTAU	3	1.20	SUMMER	STANDARD31516	HKLR	S

Appendix II. HKLR03 Chinese White Dolphin Sighting Database (July 2016)

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

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
5-Jul-16	1	1016	2	NW LANTAU	2	434	ON	HKLR	815337	804661	SUMMER	NONE	P
12-Jul-16	1	1335	1	NW LANTAU	2	531	ON	HKLR	825962	807516	SUMMER	NONE	P
12-Jul-16	2	1446	3	NW LANTAU	2	165	ON	HKLR	822433	805459	SUMMER	NONE	P
18-Jul-16	1	1014	1	NW LANTAU	3	ND	OFF	HKLR	815004	805073	SUMMER	NONE	

Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in July 2016

ID#	DATE	STG#	AREA
CH34	12/07/16	2	NW LANTAU
NL48	12/07/16	1	NW LANTAU
NL136	12/07/16	2	NW LANTAU
NL182	12/07/16	2	NW LANTAU
NL293	18/07/16	1	NW LANTAU
NL302	05/07/16	1	NW LANTAU
NL307	05/07/16	1	NW LANTAU



Appendix IV. Photographs of Identified Individual Dolphins in July 2016 (HKLR03)

Appendix L

Event Action Plan

Appendix L1 Event/ Action Plan for Air Quality

EVENT	ET ⁽¹⁾	ACTION		
		IEC ⁽¹⁾	SOR ⁽¹⁾	Contractor
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify the source. 2. Inform the IEC and the SOR. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate

EVENT	ET ⁽¹⁾	ACTION		
		IEC ⁽¹⁾	SOR ⁽¹⁾	Contractor
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC 2. Implement noise mitigation proposals 	
Limit Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> Repeat in situ measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform IEC, contractor and SOR; Check monitoring data, all plant, equipment and Contractor's working methods. 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working methods. 	<ol style="list-style-type: none"> Confirm receipt of notification of non-compliance in writing; Notify Contractor. 	<ol style="list-style-type: none"> Inform the SOR and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> Repeat measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform IEC, contractor, SOR and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, SOR and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Action level; 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working method; Discuss with ET and Contractor on possible remedial actions; Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly; Supervise the implementation of mitigation measures. 	<ol style="list-style-type: none"> Discuss with IEC on the proposed mitigation measures; Ensure mitigation measures are properly implemented; Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Inform the Supervising Officer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Submit proposal of additional mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR; Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> Repeat measurement on next day of exceedance to confirm findings; 	<ol style="list-style-type: none"> Check monitoring data submitted by ET and Contractor's working method; 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing; 	<ol style="list-style-type: none"> Inform the SOR and confirm notification of the non-compliance in writing;

Event	ET Leader	IEC	SOR	Contractor
	2. Identify source(s) of impact;		2. Discuss with IEC, ET and Contractor on the proposed mitigation measures;	2. Rectify unacceptable practice;
	3. Inform IEC, contractor, SOR and EPD;	2. Discuss with ET and Contractor on possible remedial actions;		3. Check all plant and equipment and consider changes of working methods;
	4. Check monitoring data, all plant, equipment and Contractor's working methods;	3. Review the proposed mitigation measures submitted by Contractor and advise the SOR accordingly.	3. Request Contractor to review the working methods.	4. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR.
	5. Discuss mitigation measures with IEC, SOR and Contractor;			
Limit level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings;	1. Check monitoring data submitted by ET and Contractor's working method;	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures;	1. Take immediate action to avoid further exceedance;
	2. Identify source(s) of impact;	2. Discuss with ET and Contractor on possible remedial actions;	2. Request Contractor to critically review the working methods;	2. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR;
	3. Inform IEC, contractor, SOR and EPD;	3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the SOR accordingly;	3. Make agreement on the mitigation measures to be implemented;	3. Implement the agreed mitigation measures;
	4. Check monitoring data, all plant, equipment and Contractor's working methods;	4. Supervise the implementation of mitigation measures.	4.	4. Resubmit proposals of mitigation measures if problem still not under control;
	5. Discuss mitigation measures with IEC, SOR and Contractor;		5. Ensure mitigation measures are properly implemented;	
	6. Ensure mitigation measures are implemented;		6.	
	7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;		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.	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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring results and findings with the ET and the Contractor. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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
<p><u>Action Level</u></p> <p>With the numerical values presented in <i>Table 5.7 of Baseline Monitoring Report</i>, 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 <i>Table 5.8 of Baseline Monitoring Report</i>), 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</p>	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring with the ET and the Contractor; 	<ol style="list-style-type: none"> 1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET; 2. Make agreement on measures to be implemented. 	<ol style="list-style-type: none"> 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
<p><u>Limit Level</u></p> <p>With the numerical values presented in Table 5.7 of <i>Baseline Monitoring Report</i>, 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 <i>Baseline Monitoring Report</i>), 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</p>	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET; 2. Make agreement on measures to be implemented. 	<ol style="list-style-type: none"> 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 2016 (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	1.941	0.263	0.606	-	1.334	-	-	-	-	-	69.400	-	-	0.105	-	-
Feb	0.783	0.185	0.092	-	0.692	-	-	-	-	-	85.890	-	-	0.112	-	-
Mar	1.502	0.429	0.537	-	0.965	-	-	-	-	2.000	88.360	-	-	-	-	-
Apr	1.354	0.402	0.789	-	0.565	-	-	-	-	3.000	79.580	-	8.640	0.084	-	-
May	1.057	0.192	0.617	-	0.440	-	-	-	-	3.000	75.620	-	-	-	-	-
Jun	0.499	0.277	0.116	-	0.383	-	-	-	-	-	103.270	-	-	0.105	-	-
SUB-TOTAL	7.136	1.747	2.757	-	4.379	0.000	-	-	-	8.000	502.120	-	8.640	0.406	-	-
Jul	0.507	0.211	0.230	-	0.277	-	-	-	-	2.200	94.760	-	1.540	0.350	-	-
Aug																
Sep																
Oct																
Nov																
Dec																
TOTAL	7.643	1.958	2.987	-	4.656	-	-	-	-	10.200	596.880	-	10.180	0.784	-	-

Notes :

- 1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- 3 - Broken concrete for recycling into aggregates.
- 4 - Assumed 5 kg per damaged water-filled barrier.
- 5 - Disposed as Public Fills includes Hard Rock and Large Broken Concrete.

Appendix N

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

Appendix N1 Cumulative Statistics on Exceedances

		Total No. recorded in this reporting month	Total No. recorded since project commencement
1-Hr TSP	Action	0	0
	Limit	0	0
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	0	2
	Limit	0	0
Impact Dolphin Monitoring	Action	0	9
	Limit	0	5

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 (July 2016)	0	0	0
Total No. received since project commencement	4	0	0