

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

*Twenty-third Monthly EM&A Report*

13 October 2015

**Environmental Resources Management**  
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# Contract No. HY/2012/07





## Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

**Environmental Resources Management**

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*Twenty-third Monthly EM&A Report*

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Client:  Gammon		Project No:  0215660			
Summary:  This document presents the Twenty-third Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section.		Date: 13 October 2015			
		Approved by:  			
		Mr Craig Reid Partner			
		Certified by:  			
		Mr Jovy Tam ET Leader			
	Twenty-third Monthly EM&A Report	VAR	JT	CAR	13/10/15
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.: HYDZHMBEEM00\_0\_3464L.15

14 October 2015

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**

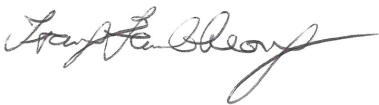
**Contract No. HY/2012/07 TM-CLKL Southern Connection Viaduct  
Section  
Monthly EM&A Report for September 2015 (EP-354/2009/D)**

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (Sep. 2015) (ET's ref.: "0215660\_23rd Monthly EM&A\_20151013.doc" dated 13 Oct. 2015) certified by the ET Leader and provided to us via e-mail on 13 Oct. 2015.

We are pleased to inform you 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. Matthew Fung (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, LP, CL, 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.

Part of the Southern Landfall of TM-CLK Link lies alongside the Hong Kong - Zhuhai - Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) where is a reclamation area constructed by *Contract HY/2010/02* under *Environmental Permit No. EP/353/2009/I*. Upon the agreement and confirmation between the Supervising Officer Representatives and Contractors of *HY/2010/02* and *HY/2012/07* in September 2015, the reclamation area for southern landfall was subsequently handed-over to *Contract No. HY/2012/07*.

The construction phase of the Contract commenced on 31 October 2013 and will tentatively be 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 Twenty-third Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 30 September 2015 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***

- Construction and installation of pile caps;
- Uninstallation of marine piling platform;
- Pile cap installation;
- Pier construction;
- Launching gantry assembly;
- Marine piling; and,
- Installation of pier head segment.

### ***Land-based Works***

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Pile cap installation;
- Re-alignment of Cheung Tung Road;
- Land piling;
- Installation of pier head segment;
- Additional land GI, trial pits & lab testing;
- Relocation of MTRC fence; and,
- Slope work of Viaduct A.

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	5 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 September 2015 during the exclusion zone monitoring. No Passive Acoustic Monitoring (PAM) was implemented as the marine works were not carried out outside the daylight hours in this reporting month.

### **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 October 2015 include the following:

### *Marine Works*

- Construction and installation of pile caps;
- Uninstallation of marine piling platform;
- Pile cap installation;
- Pier construction;
- Launching gantry assembly; and
- Installation of pier head segment.

### *Land-based Works*

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Pile cap installation;
- Re-alignment of Cheung Tung Road;
- Installation of pier head segment;
- Relocation of MTRC fence; and
- Slope work of Viaduct A.

## **Future Key Issues**

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2015 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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area for southern landfall was subsequently handed-over to *Contract No. HY/2012/07*.

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 Twenty-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 September 2015.

## 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.

**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

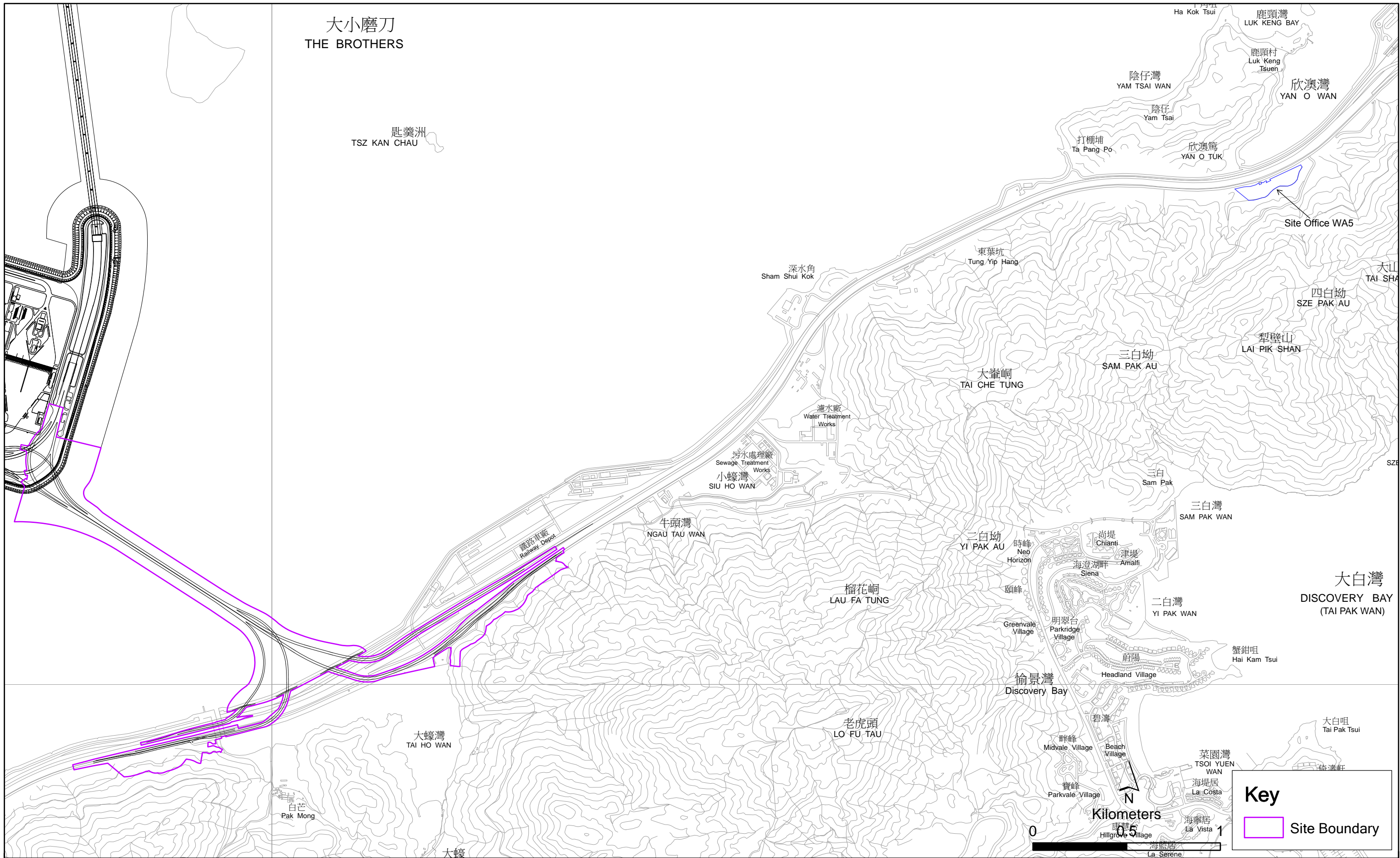


Figure 1.1

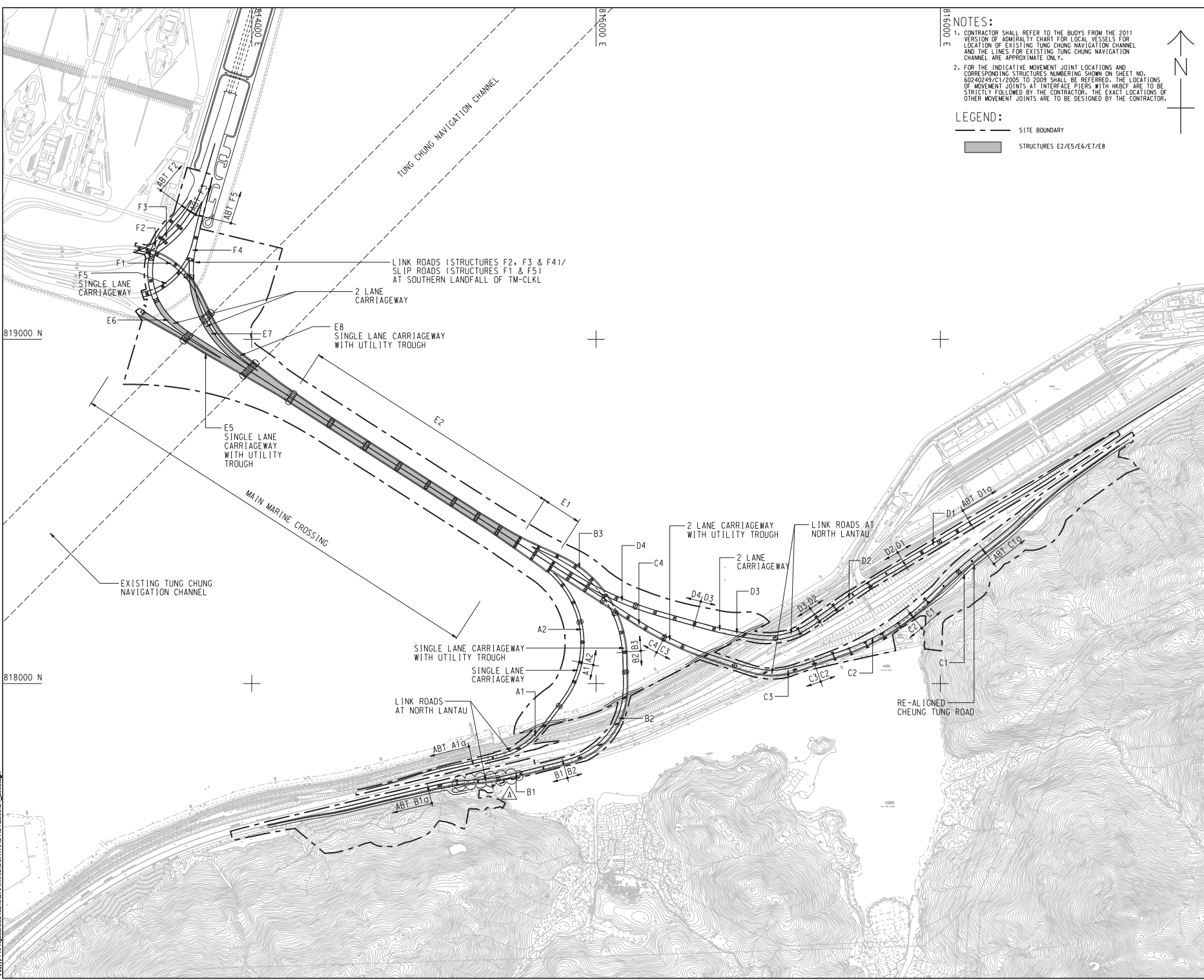
General Layout Plan of the Project

Environmental  
Resources  
Management





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 Project Management: Hinkley  
 Designer: LHM/BB  
 Checker: SLYT  
 Approver: CWN  
 ISO AT 50mm x 61mm  
 Only



**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  
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**

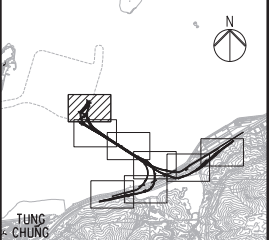
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**KEY PLAN**

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

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**KEY PLAN**

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

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

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



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

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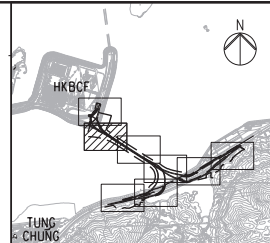
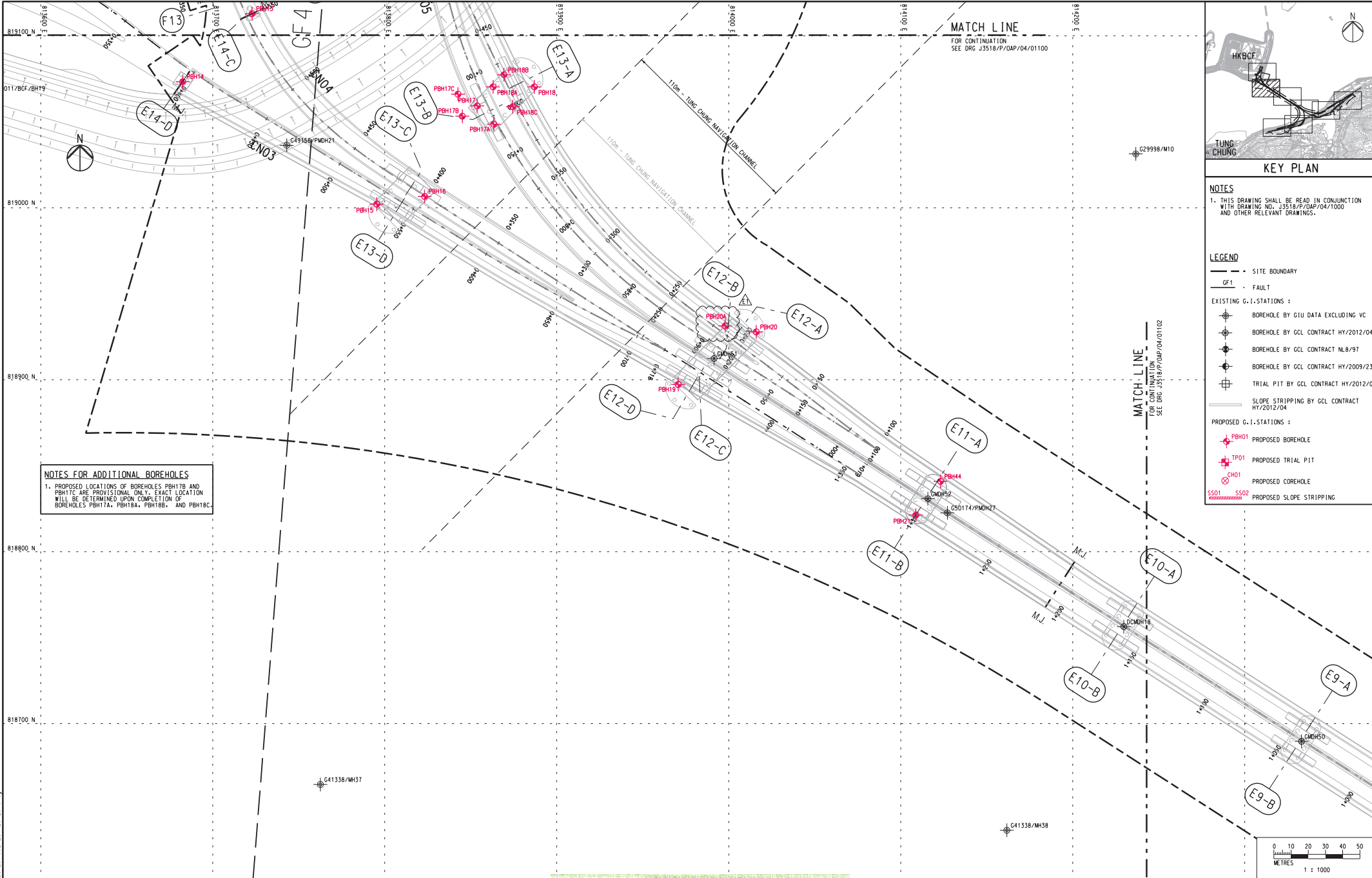
HONG KONG HIGHWAYS DEPARTMENT  
 香港路政署  
 AECOM  
 Gammon

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

Drawing title  
**Figure 1.2b**  
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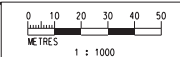


**KEY PLAN**

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- LEGEND**
- - - SITE BOUNDARY
  - GF1 FAULT
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    - ⊕ 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

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



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B	SUBMISSION	RC	07/13				
C	SUBMISSION	RC	09/13				
D	SUBMISSION	RC	10/13				
E1	FOR INTERNAL REVIEW	RC	11/13				

Drawn	Date	Client
RL	07/13	HIGHWAYS DEPARTMENT

Checked	Approved
DS	DOP

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Client: **HIGHWAYS DEPARTMENT**  
 香港運輸及房屋局  
 Hong Kong - Zhuhai - Macao Bridge  
 Hong Kong Project Management Office

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

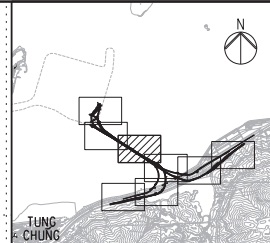
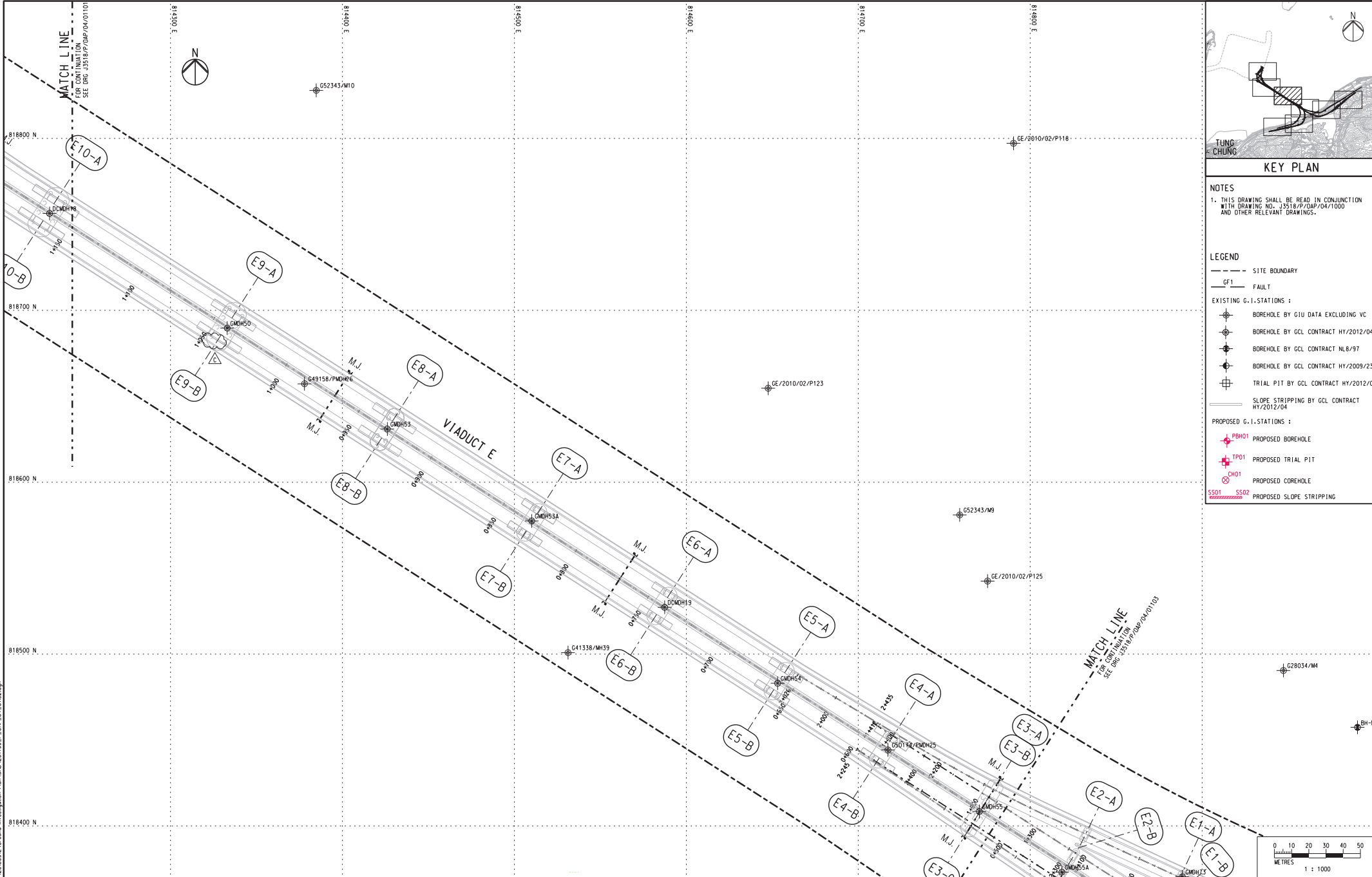
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 Contract No. HY/2012/07  
 Tuen Mun - Chek Lap Kok Link  
 Southern Connection Viaduct Section

Originator: **ARUP**

Drawing title  
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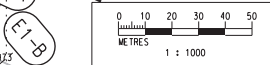
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    - ⊕ BOREHOLE BY GCL CONTRACT NL8/97
    - ⊕ BOREHOLE BY GCL CONTRACT HY/2009/23
    - ⊕ TRIAL PIT BY GCL CONTRACT HY/2012/04
    - SLOPE STRIPPING BY GCL CONTRACT HY/2012/04
  - PROPOSED G.I.-STATIONS :
    - ⊕ PBH01 PROPOSED BOREHOLE
    - ⊕ TP01 PROPOSED TRIAL PIT
    - ⊕ CH01 PROPOSED COREHOLE
    - SS01 SS02 PROPOSED SLOPE STRIPPING



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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**  
 港珠澳大桥香港工程指挥部  
 \* Hong Kong Southern Connection Viaduct Bridge  
 Hong Kong Project Management Office

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

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

Originator: **ARUP**

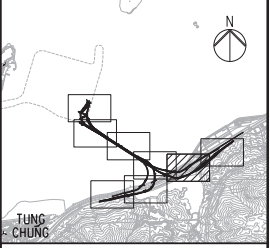
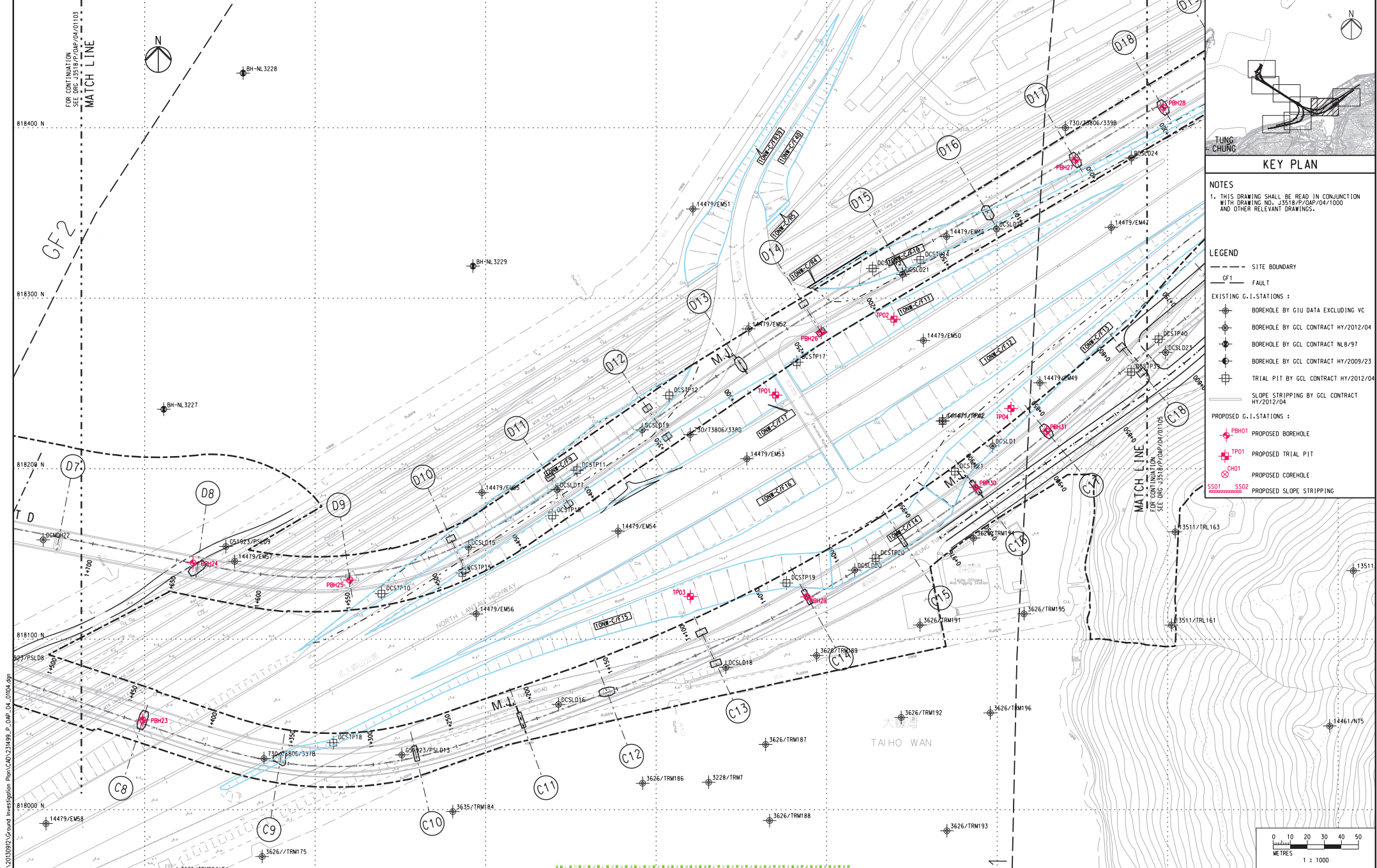
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Drawing no. **J3518/P/OAP/04/01102** Rev. **C**





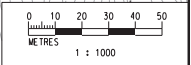
DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



**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**

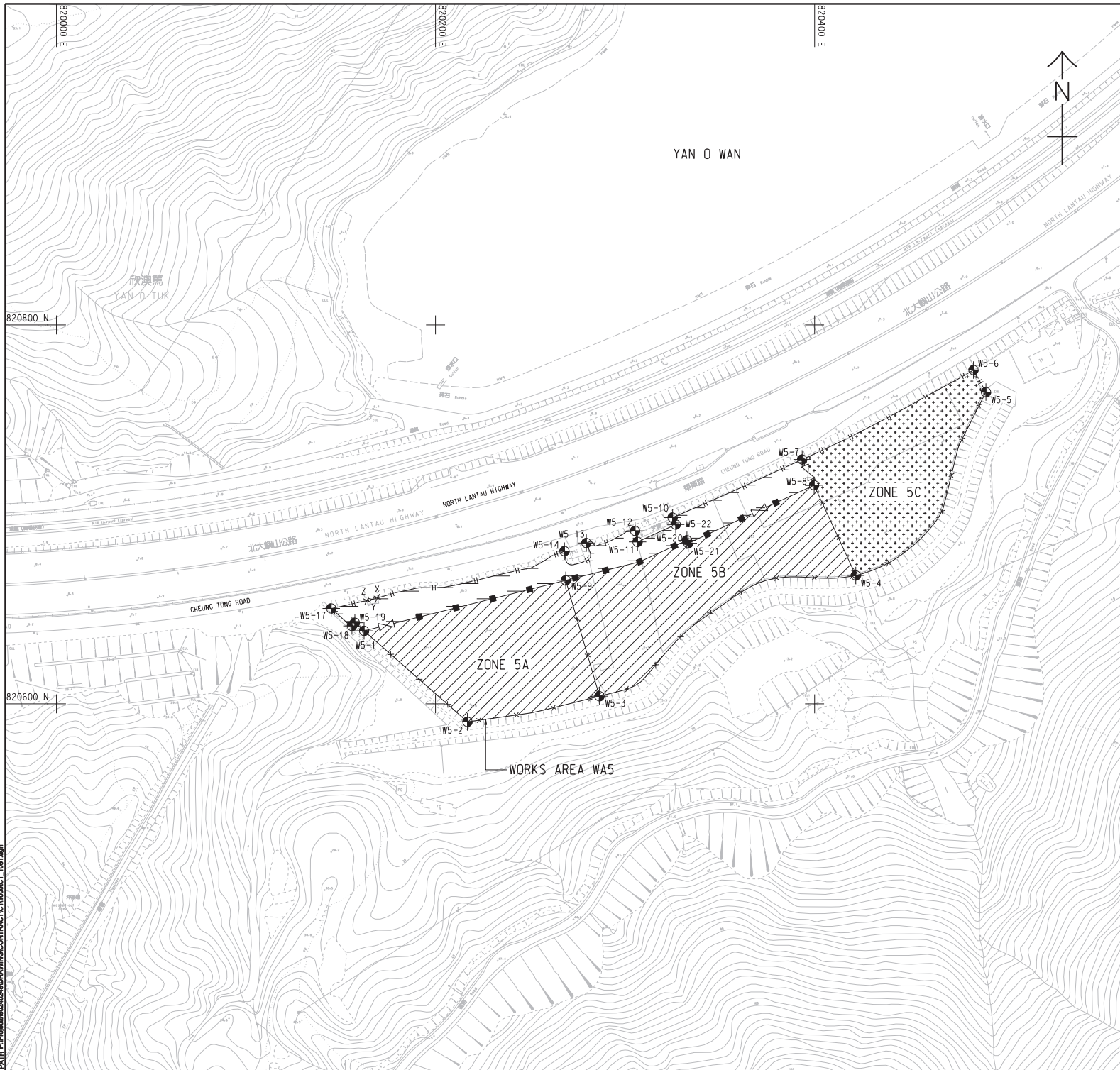
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Drawing no. **J3518/P/OAP/04/01104** Rev. **C**


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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  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

**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	CHK.

**STATUS**

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<b>SCALE</b> 1:1000	<b>DIMENSION UNIT</b> METRES
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**KEY PLAN**

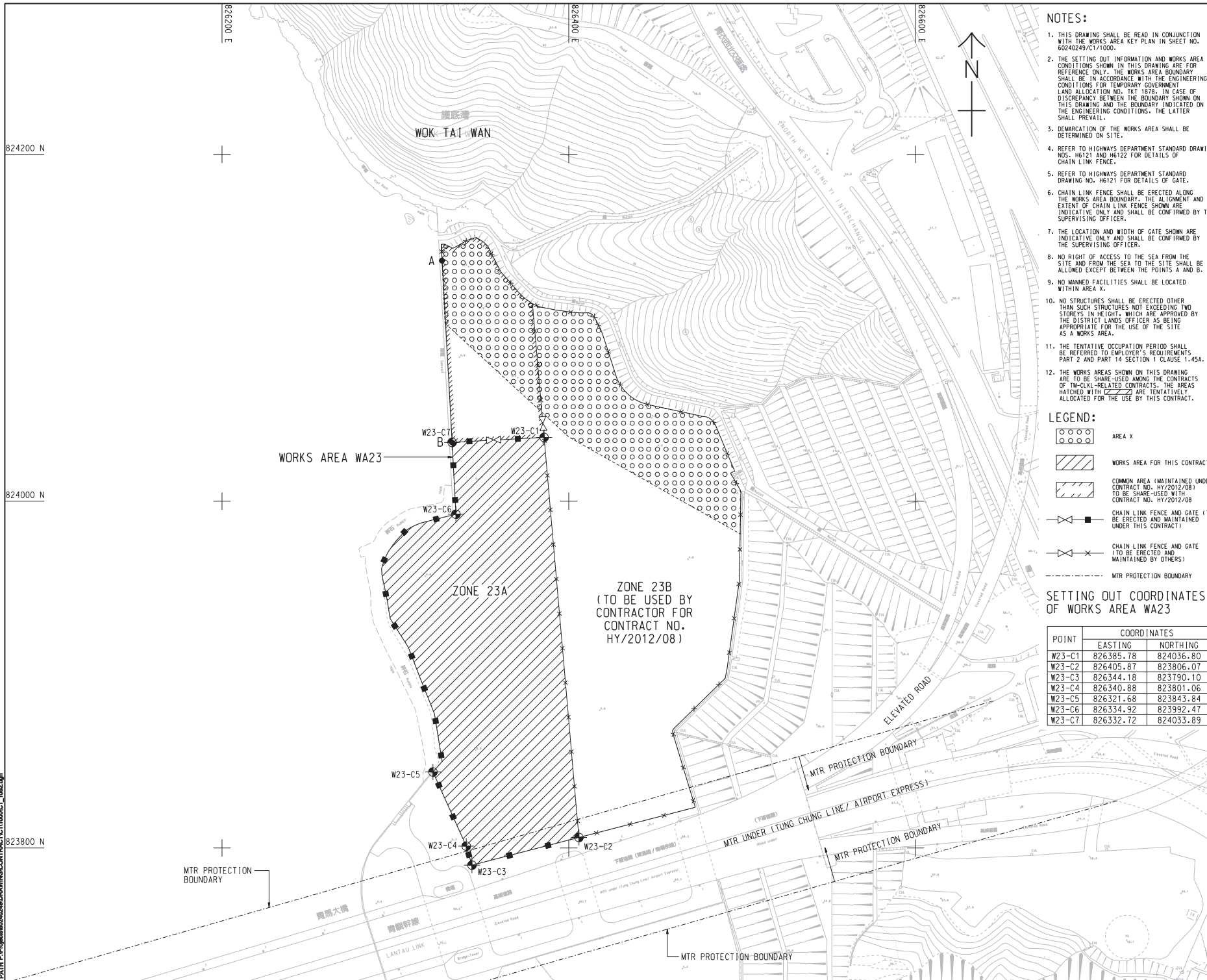
**Figure 1.2h**

<b>PROJECT NO.</b> 60240249	<b>CONTRACT NO.</b> HY/2012/07
--------------------------------	-----------------------------------

<b>SHEET TITLE</b> WORKS AREA AND HOARDING PLAN
--

<b>SHEET NUMBER</b> 60240249/C1/1051
---

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**NOTES:**

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE WORKS AREA KEY PLAN IN SHEET NO. 60240249/CT1/000.
2. THE SETTING OUT INFORMATION AND WORKS AREA CONDITIONS SHOWN IN THIS DRAWING ARE FOR REFERENCE ONLY. THE WORKS AREA BOUNDARY SHALL BE IN ACCORDANCE WITH THE ENGINEERING CONDITIONS FOR TEMPORARY GOVERNMENT LAND ALLOCATION NO. TKT 1879. IN CASE OF DISCREPANCY BETWEEN THE BOUNDARY SHOWN ON THIS DRAWING AND THE BOUNDARY INDICATED ON THE ENGINEERING CONDITIONS, THE LATTER SHALL PREVAIL.
3. DEMARCATION OF THE WORKS AREA SHALL BE DETERMINED ON SITE.
4. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NOS. H6121 AND H6122 FOR DETAILS OF CHAIN LINK FENCE.
5. REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H6121 FOR DETAILS OF GATE.
6. CHAIN LINK FENCE SHALL BE ERECTED ALONG THE WORKS AREA BOUNDARY. THE ALIGNMENT AND EXTENT OF CHAIN LINK FENCE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
7. THE LOCATION AND WIDTH OF GATE SHOWN ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE SUPERVISING OFFICER.
8. NO RIGHT OF ACCESS TO THE SEA FROM THE SITE AND FROM THE SEA TO THE SITE SHALL BE ALLOWED EXCEPT BETWEEN THE POINTS A AND B.
9. NO MANNED FACILITIES SHALL BE LOCATED WITHIN AREA X.
10. NO STRUCTURES SHALL BE ERECTED OTHER THAN SUCH STRUCTURES NOT EXCEEDING TWO STOREYS IN HEIGHT, WHICH ARE APPROVED BY THE DISTRICT LANDS OFFICER AS BEING APPROPRIATE FOR THE USE OF THE SITE AS A WORKS AREA.
11. THE TENTATIVE OCCUPATION PERIOD SHALL BE REFERRED TO EMPLOYER'S REQUIREMENTS PART 2 AND PART 14 SECTION 1 CLAUSE 1.45A.
12. THE WORKS AREAS SHOWN ON THIS DRAWING ARE TO BE SHARED AMONG THE CONTRACTS OF TM-CLKL-RELATED CONTRACTS. THE AREAS HATCHED WITH [diagonal lines] ARE TENTATIVELY ALLOCATED FOR THE USE BY THIS CONTRACT.

**LEGEND:**

- [Circle with dot symbol] AREA X
- [Diagonal line hatch symbol] WORKS AREA FOR THIS CONTRACT
- [Cross-hatch symbol] COMMON AREA (MAINTAINED UNDER CONTRACT NO. HY/2012/08) TO BE SHARED WITH CONTRACT NO. HY/2012/08
- [Chain link symbol] CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED UNDER THIS CONTRACT)
- [Chain link with gate symbol] CHAIN LINK FENCE AND GATE (TO BE ERECTED AND MAINTAINED BY OTHERS)
- [Dashed line symbol] MTR PROTECTION BOUNDARY

**SETTING OUT COORDINATES OF WORKS AREA WA23**

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

**AECOM**

**PROJECT NO.**  
60240249

**CONTRACT NO.**  
HY/2012/07

**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 港務工程管理有限公司  
Hong Kong - Zhuhai - Hainan Bridge  
Hong Kong Project Management Office

**CONSULTANT**  
AECOM Asia Company Ltd.  
www.aecom.com

**SUB-CONSULTANTS**  
[Symbol]

**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	CHK.
1	OCT. 12	TENDER DRAWING	CWN

**STATUS**

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**DIMENSION UNIT**  
METRES

**KEY PLAN**

**PROJECT NO.**  
60240249

**CONTRACT NO.**  
HY/2012/07

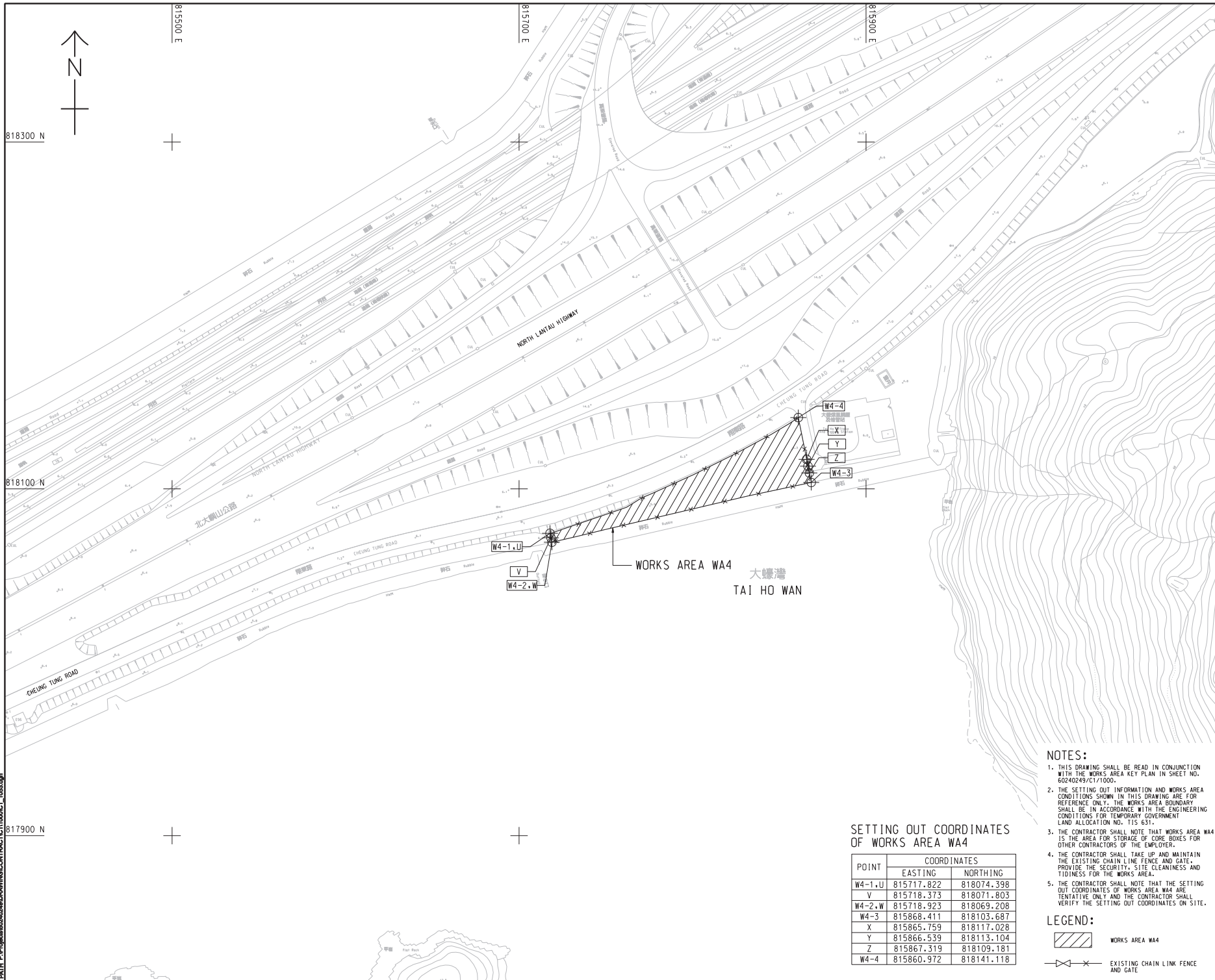
**SHEET TITLE**  
WORKS AREA AND HOARDING PLAN

**SHEET NUMBER**  
60240249/CT1/052

SHEET 2 OF 2

**Figure 1.2i**





WORKS AREA WA4  
 大螺灣  
 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 HIGHWAYS DEPARTMENT  
 港務大樓管理工程處  
 Hong Kong + Zhuhai + Hainan Bridge  
 Hong Kong Project Management Office

**CONSULTANT**  
 AECOM Asia Company Ltd.  
 www.aecom.com

**SUB-CONSULTANTS**  
 2012110814

**Figure 1.2j**

**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	CHK.
1	NOV. 12	TENDER ADDENDUM NO. 1	C/W/H

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 大呎  
 METRES

**KEY PLAN**

**PROJECT NO.**  
 60240249

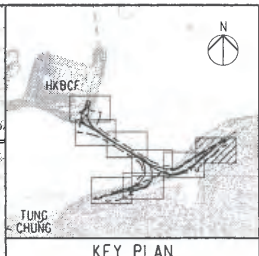
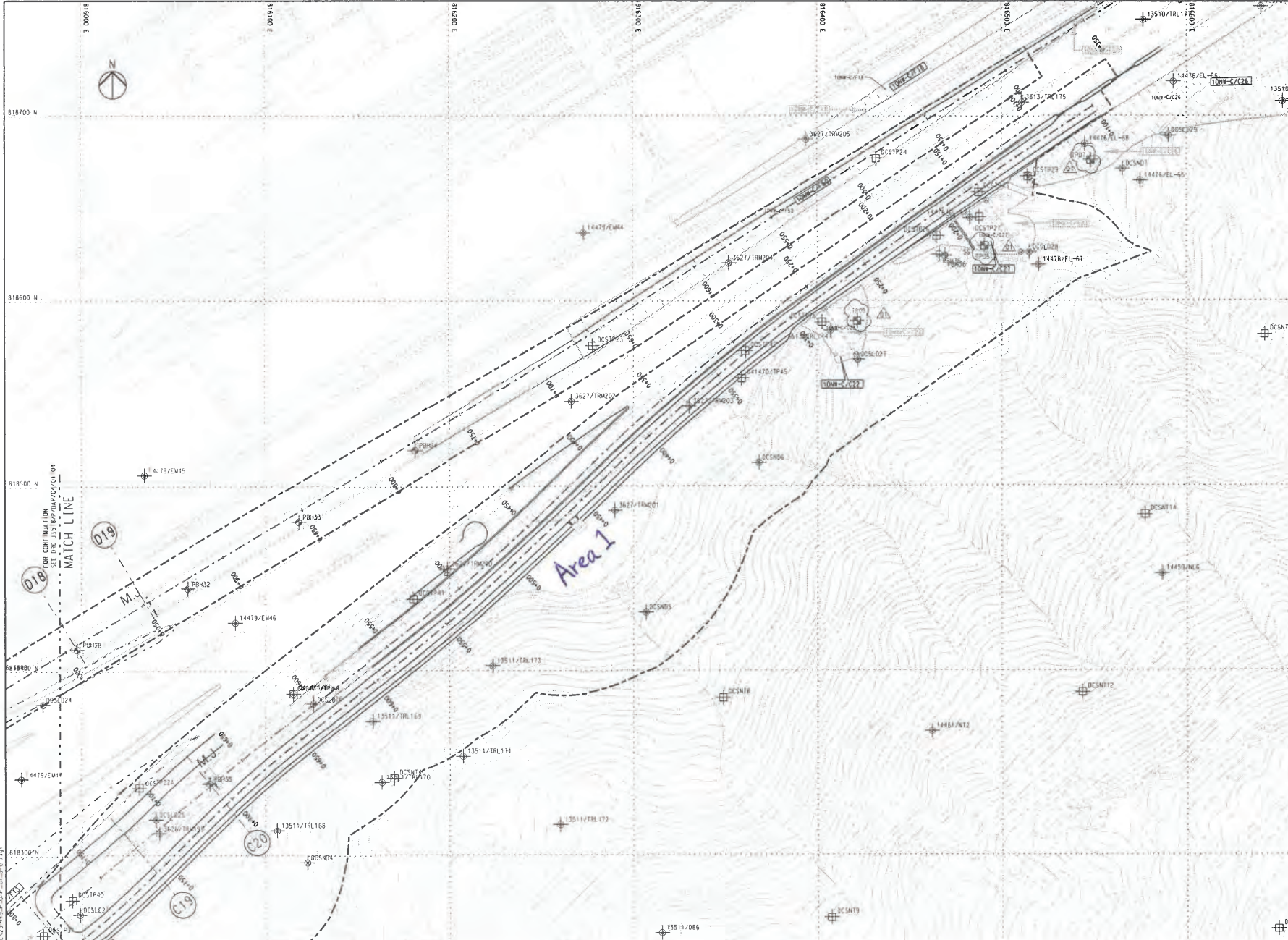
**CONTRACT NO.**  
 HY/2012/07

**SHEET TITLE**  
 WORKS AREA WA4

**SHEET NUMBER**  
 60240249/C1/1053

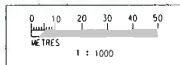
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**NOTES**  
 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. J3518/P/OAP/04/1000 AND OTHER RELEVANT DRAWINGS.

- 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 N6.8/97
  - ⊕ 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 :**
- ⊕ BOREHOLE
  - ⊕ TRIAL PIT
  - ⊕ COREHOLE
  - ⊕ SLOPE STRIPPING



Rev	Description	By	Date	Rev	Description	By	Date
01	ISSUED FOR CONSTRUCTION	RL	31/7/13				
02	ISSUED FOR CONSTRUCTION	RL	27/7/13				
03	ISSUED FOR CONSTRUCTION	RL	29/7/13				
04	ISSUED FOR CONSTRUCTION	RL	19/7/12				

Drawn	Date	Client
RL	07/13	路政署 HIGHWAYS DEPARTMENT
Checked <td>Approved</td> <td>港珠澳大桥香港工程指挥部 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office</td>	Approved	港珠澳大桥香港工程指挥部 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office
DS	DOP	Supervising Officer

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: Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Contract No. HY/2012/07

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

Supervising Officer: **AECOM**

Contractor: **Gammon**

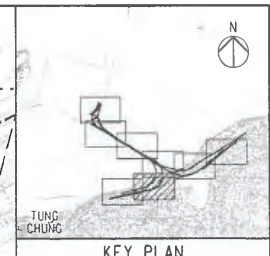
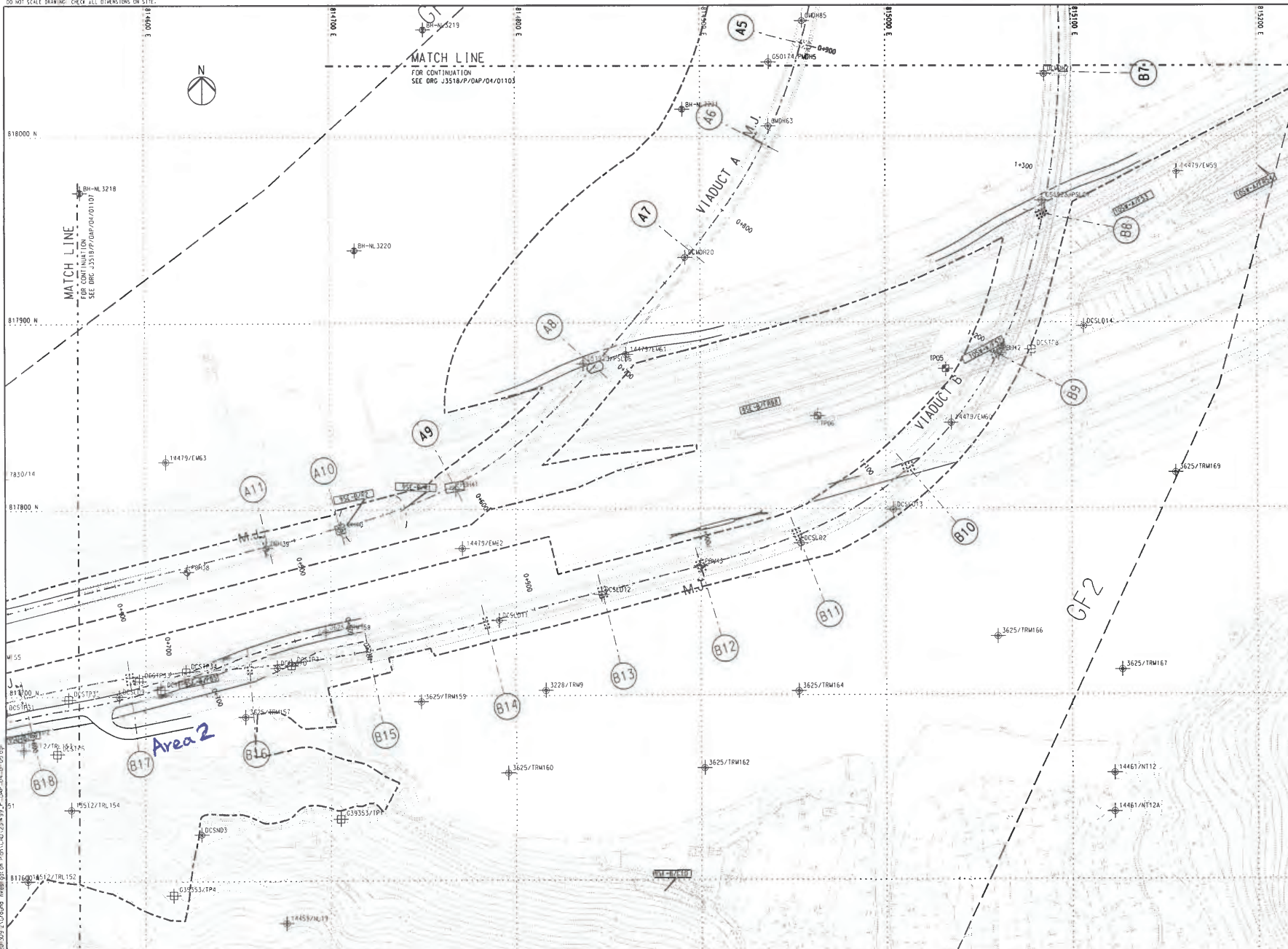
Originator: **ARUP**

Drawing title: **Figure 1.2k**

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



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

**LEGEND**

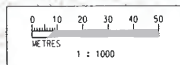
- SITE BOUNDARY
- GF1- FAULT

EXISTING G.I. STATIONS :

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

PROPOSED G.I. STATIONS :

- ⊕ PROPOSED BOREHOLE
- ⊕ PROPOSED TRIAL PIT
- ⊕ E-01 PROPOSED COREHOLE
- PROPOSED SLOPE STRIPPING



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 Plot Date: 07/13  
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Rev	Description	By	Date	Rev	Description	By	Date
1	SUBMISSION	RL	07/13				
2	SUBMISSION	RL	07/13				
3	SUBMISSION	RL	07/13				

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

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

Drawing Title  
**Figure 1.2I**

Drawing no. J3518/P/OAP/04/1106 Rev c



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

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

#### *Marine Works*

- Construction and installation of pile caps;
- Uninstallation of marine piling platform;
- Pile cap installation;
- Pier construction;
- Launching gantry assembly;
- Marine piling; and,
- Installation of pier head segment.

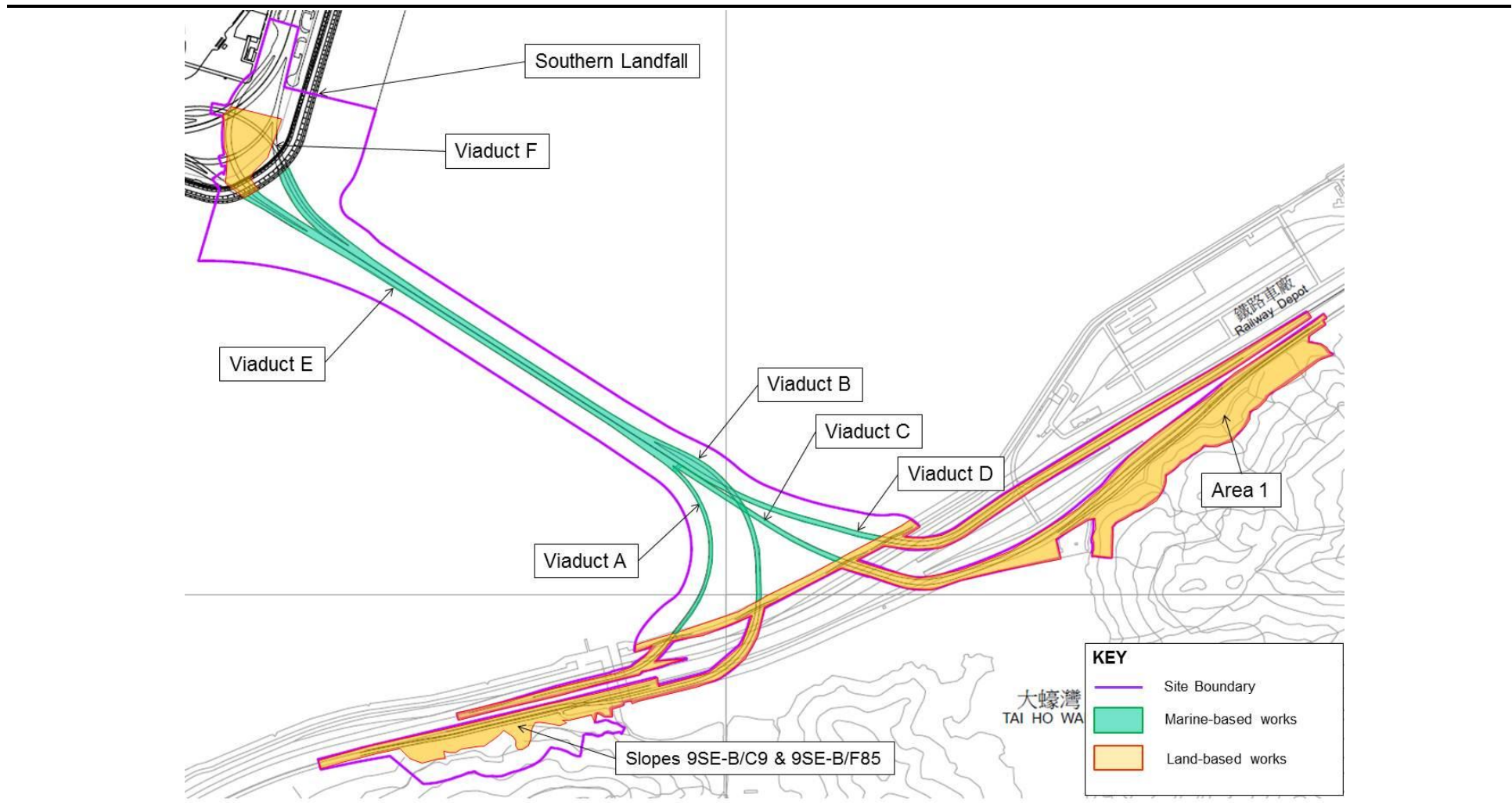
#### *Land-based Works*

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Pile cap installation;
- Re-alignment of Cheung Tung Road;
- Land piling;
- Installation of pier head segment;
- Additional land GI, trial pits & lab testing;
- Relocation of MTRC fence; and,
- Slope work of Viaduct A.

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



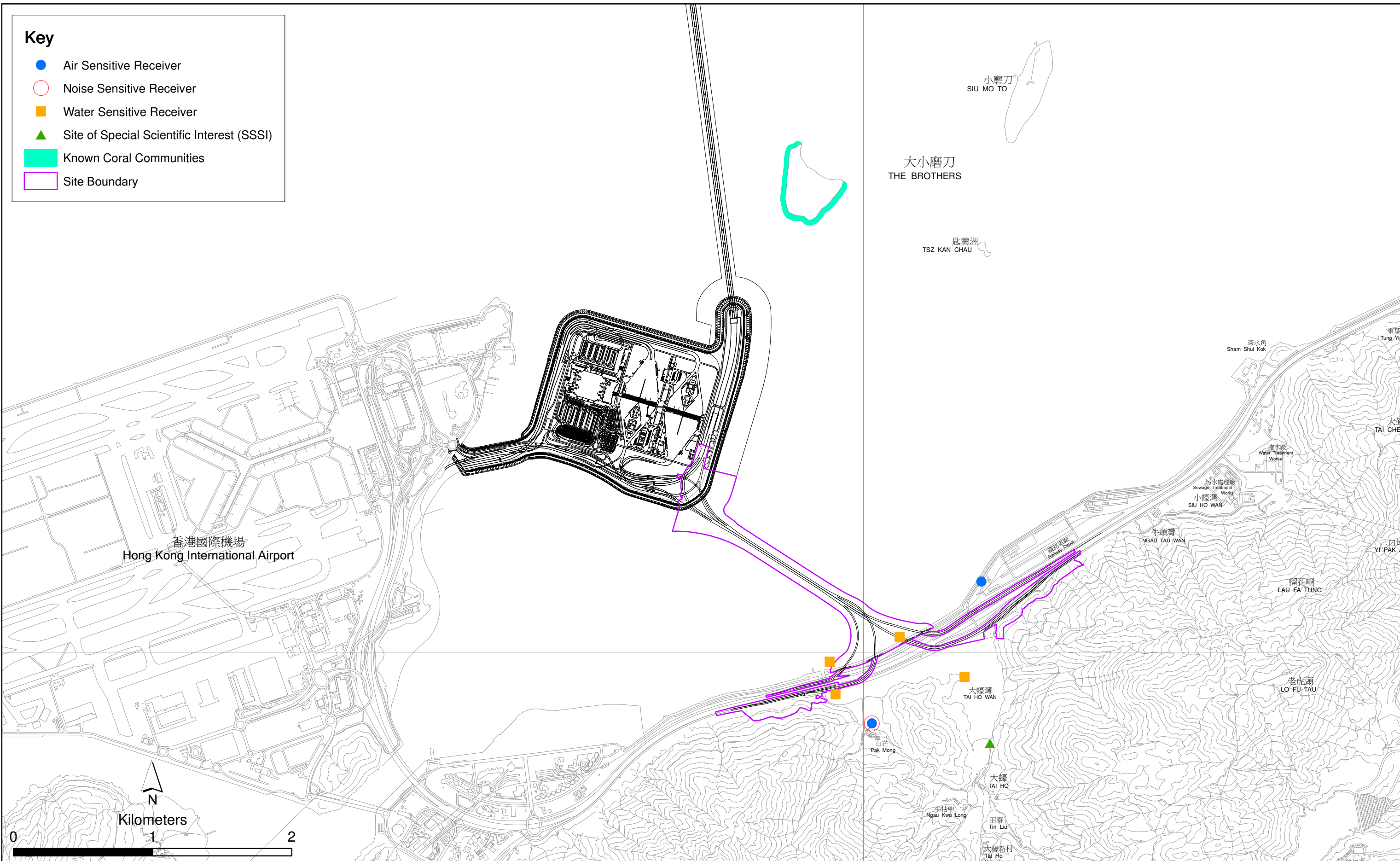


Figure 1.4

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	2, 8, 14, 17, 23 and 29 September 2015
ASR 8A	Area 4	On ground at the works area, Area 4	2, 8, 14, 17, 23 and 29 September 2015

High Volume Samplers (HVSs) were used for carried out 1-hour and 24-hour TSP monitoring on 2, 8, 14, 17, 23 and 29 September 2015 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*.



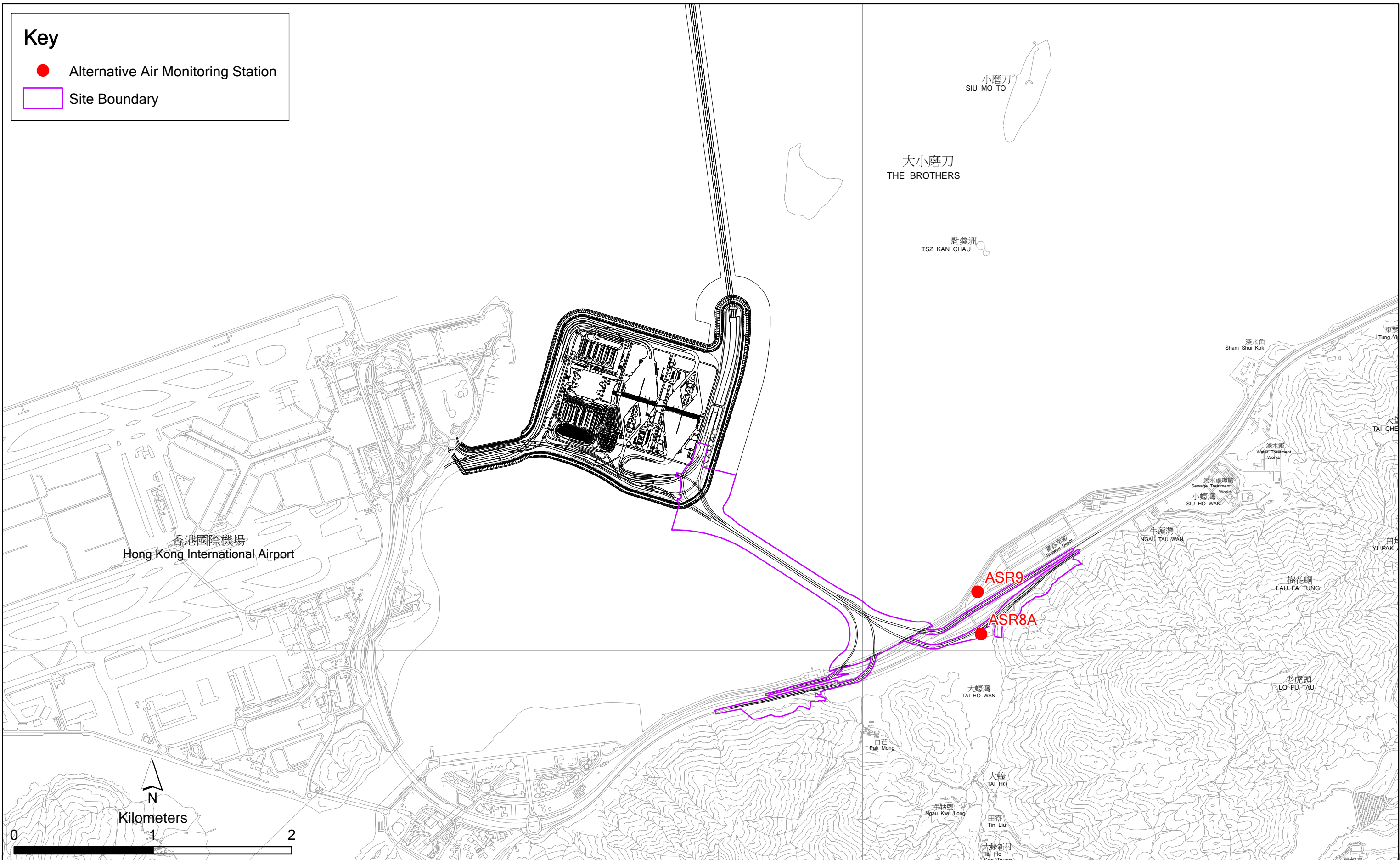


Figure 2.1

Locations of Air Quality Monitoring Stations

**Table 2.2** *Air Quality Monitoring Equipment*

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

**2.1.2** *Monitoring Schedule for the Reporting Month*

The schedule for air quality monitoring in September 2015 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*

<b>Monitoring Station</b>	<b>Average (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Range (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Action Level (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Limit Level (<math>\mu\text{g}/\text{m}^3</math>)</b>
ASR 8A	86	43 - 188	394	500
ASR 9	86	58 - 173	393	500

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

<b>Monitoring Station</b>	<b>Average (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Range (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Action Level (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Limit Level (<math>\mu\text{g}/\text{m}^3</math>)</b>
ASR 8A	59	46 - 91	178	260
ASR 9	60	50 - 73	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 2, 8, 14, 17, 23 and 29 September 2015 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	2, 8, 14, 17, 23 and 29 September 2015

**Table 2.6** *Noise Monitoring Equipment*

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



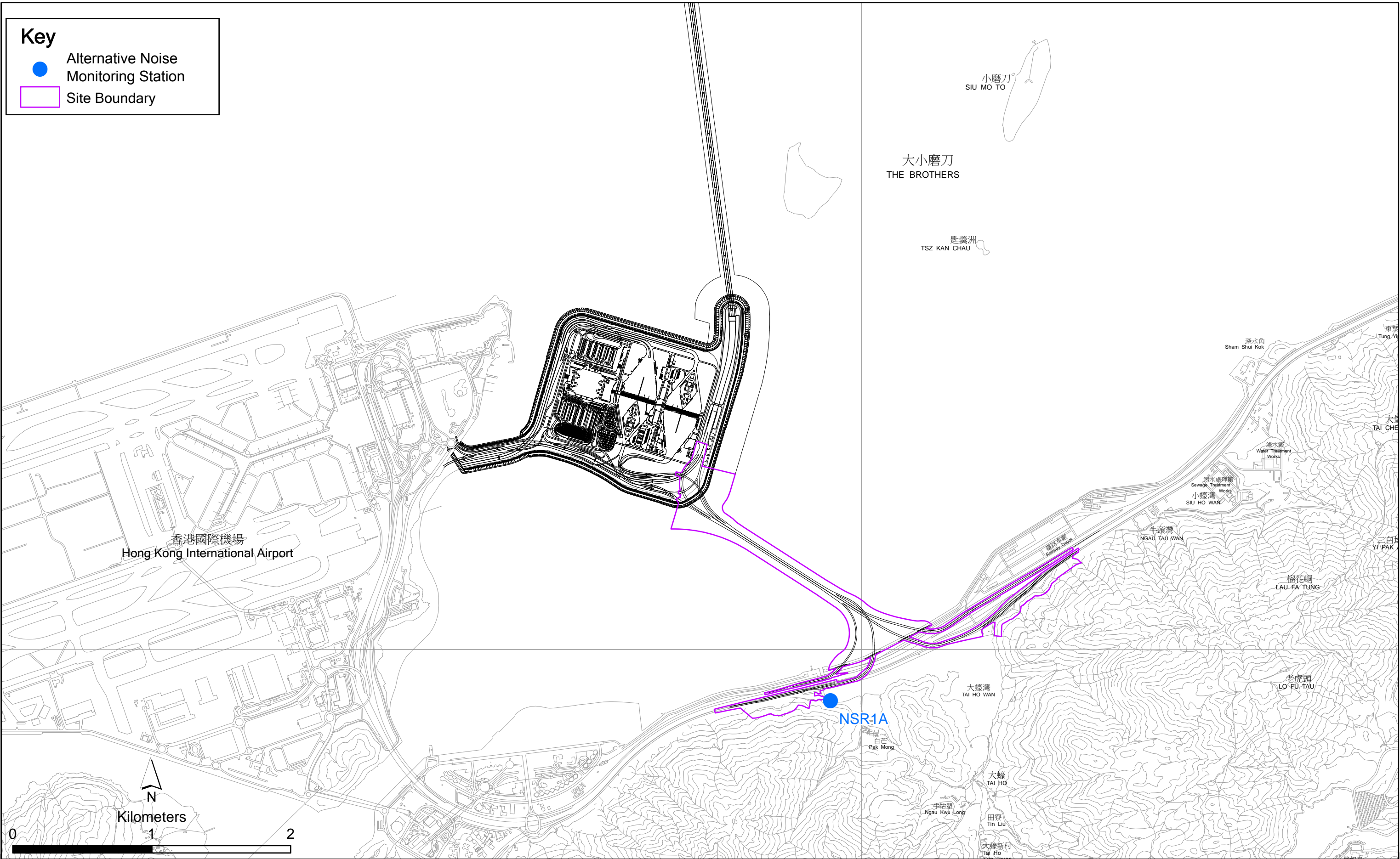


Figure 2.2

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	58 - 59	75

No noise Action Level and 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*

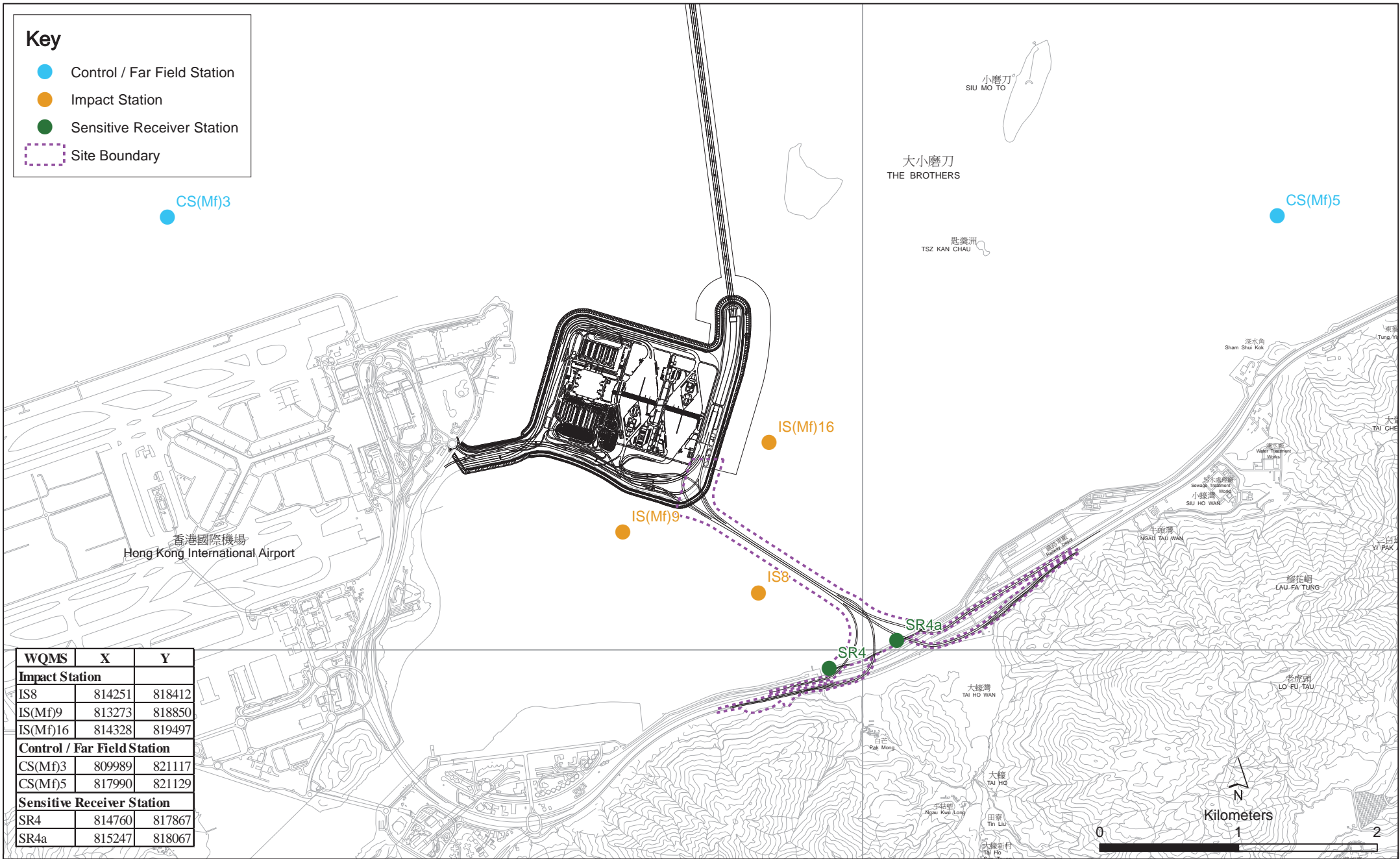
### 2.3.1 *Monitoring Requirements and Equipment*

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
<b>Impact Station</b>		
IS8	814251	818412
IS(Mf)9	813273	818850
IS(Mf)16	814328	819497
<b>Control / Far Field Station</b>		
CS(Mf)3	809989	821117
CS(Mf)5	817990	821129
<b>Sensitive Receiver Station</b>		
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	<ul style="list-style-type: none"> <li>• Temperature(°C)</li> <li>• pH (pH unit)</li> <li>• Turbidity (NTU)</li> <li>• Water depth (m)</li> <li>• Salinity (ppt)</li> <li>• DO (mg/L and % of saturation)</li> <li>• SS (mg/L)</li> </ul>	Impact monitoring: 3 days per week, at mid-flood and mid-ebb tides during the construction period of the Contract	3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted
IS(Mf)16	Impact Station (Close to HKBCF construction site)	814328	819497			
IS8	Impact Station (Close to HKBCF construction site)	814251	818412			
SR4	Sensitive receiver (Tai Ho Inlet)	814760	817867			
SR4a	Sensitive receiver	815247	818067			
CS(Mf)3	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 September 2015 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*.

No Action and 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* summarises the equipment used for the impact dolphin monitoring.

**Table 2.10** *Dolphin Monitoring Equipment*

<b>Equipment</b>	<b>Model</b>
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.

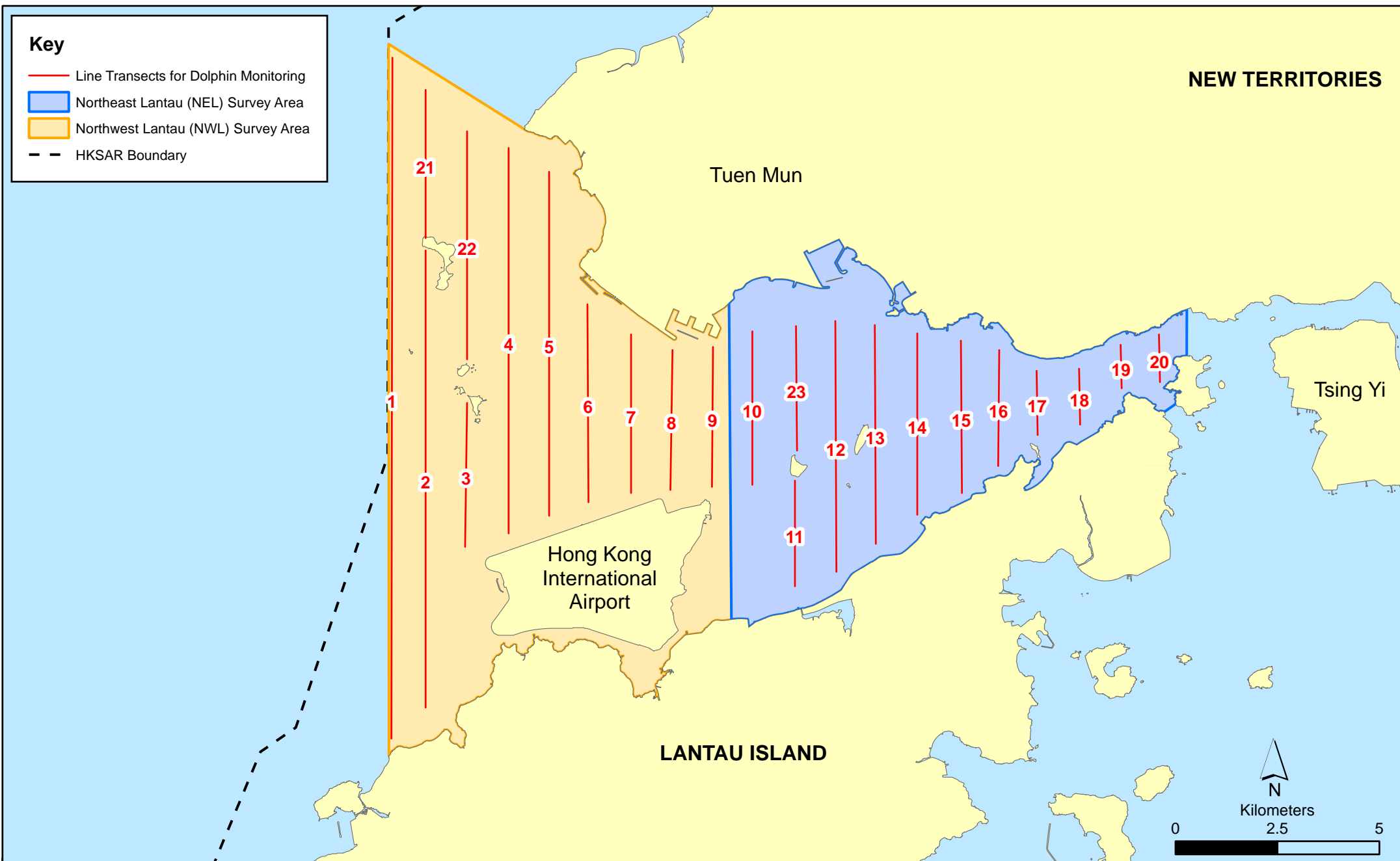


Figure 2.4

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 2, 11, 17 and 29 September 2015 (*Appendix F*).

## 2.4.7 *Results and Observations*

A total of 303.46 km of survey effort was collected, with 99.0% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) during the surveys in September 2015. Among the two areas, 115.34 km and 188.12 km of survey effort were collected from NEL and NWL survey areas respectively. The total survey effort conducted on primary and secondary lines were 221.51 km and 81.95 km respectively. The survey efforts are summarized in *Appendix K*.

Seven (7) groups of fifty-four (54) Chinese White Dolphins were sighted during the two sets of monitoring surveys in September 2015. All seven (7) dolphin sightings were made in NWL, while none was sighted in NEL. During the surveys in September 2015, all seven (7) dolphin sightings were made on primary lines during on-effort search. No sighting was made in the proximity of the Project's alignment. The distribution of dolphin sighting during the reporting month is shown in *Figure 2.5*.

Encounter rates of Chinese White Dolphins are deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in September 2015 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: Sept 2 <sup>nd</sup> / 11 <sup>th</sup>	0.0	0.0
	Set 2: Sept 17 <sup>th</sup> / 29 <sup>th</sup>	0.0	0.0
NWL	Set 1: Sept 2 <sup>nd</sup> / 11 <sup>th</sup>	5.5	52.0
	Set 2: Sept 17 <sup>th</sup> / 29 <sup>th</sup>	4.0	21.4

Note: Dolphin Encounter Rates are deduced from the two sets of surveys (two surveys in each set) in September 2015 in Northeast (NEL) and Northwest Lantau (NWL)



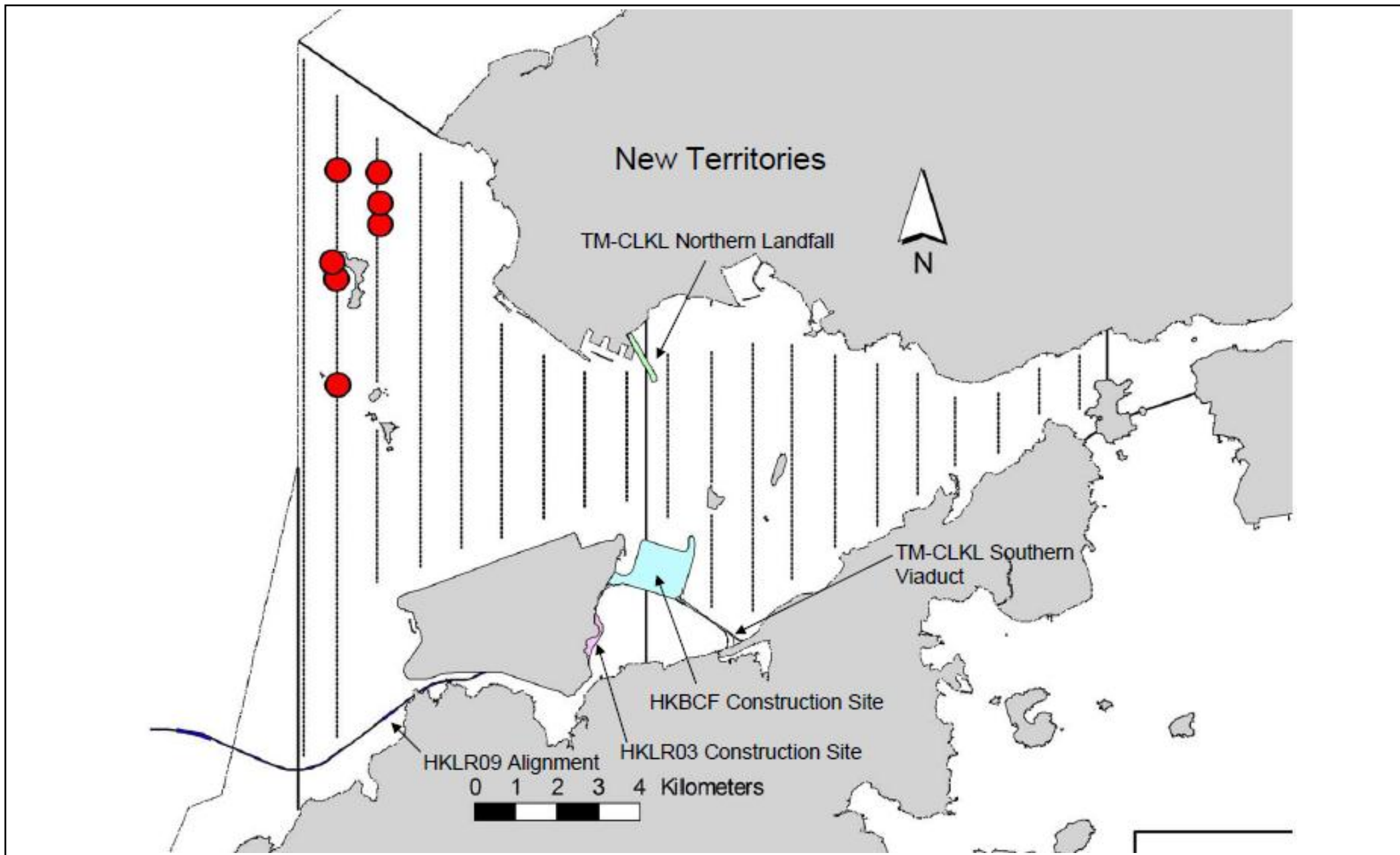


Figure 2.5

HY/2012/07 TM-CLKL Southern Connection Viaduct Section  
 The distribution of dolphin sightings during the reporting period  
 (Source: Adopted from HKLR03 Monitoring Survey in September 2015)

Date 5/10/2015

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
<b>Northeast Lantau</b>	0.0	0.0	0.0	0.0
<b>Northwest Lantau</b>	4.7	3.7	36.5	28.7

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in September 2015 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau

No unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Chinese White Dolphins was noticeable from general observations during the dolphin monitoring in this reporting month.

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 marine works activities being undertaken. No sighting of Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) were recorded in September 2015 during the exclusion zone monitoring.

Passive Acoustic Monitoring (PAM) was decommissioned as no marine works was carried out outside the daylight hours in this reporting month. Daytime marine mammal exclusion zone was still in effect to cater for temporary staging installation and uninstallation works.

#### 2.5 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, five (5) site inspections were carried out on 2, 9, 16, 24 and 29 September 2015.

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**

<b>Inspection Date</b>	<b>Environmental Observations</b>	<b>Recommendations/ Remarks</b>
2 September 2015	<p>Area 1</p> <ul style="list-style-type: none"> <li>Stagnant water was accumulated in a drip tray for generator.</li> </ul> <p>Pier C13</p> <ul style="list-style-type: none"> <li>A skip for waste was full.</li> </ul>	<p>Area 1</p> <ul style="list-style-type: none"> <li>Stagnant water in drip tray should be removed.</li> </ul> <p>Pier C13</p> <ul style="list-style-type: none"> <li>Waste should be cleaned up regularly.</li> </ul>
9 September 2015	<p>Pier A2</p> <ul style="list-style-type: none"> <li>A drip tray for generator was not plugged.</li> <li>Stagnant water was accumulated in gutter.</li> <li>Some chemical containers were not placed in drip tray.</li> </ul> <p>Pier E9</p> <ul style="list-style-type: none"> <li>Stagnant water was accumulated in a drip tray for generator.</li> </ul>	<p>Pier A2</p> <ul style="list-style-type: none"> <li>Drip tray for generator should be plugged.</li> <li>Stagnant water in gutter should be cleaned up regularly.</li> <li>Chemical containers should be placed in drip tray.</li> </ul> <p>Pier E9</p> <ul style="list-style-type: none"> <li>Stagnant water in drip tray should be removed.</li> </ul>
16 September 2015	<p>Abutment D</p> <ul style="list-style-type: none"> <li>An old EP was displayed.</li> <li>The exposed area was partially dry.</li> </ul>	<p>Abutment D</p> <ul style="list-style-type: none"> <li>The old EP was removed immediately. Only the latest EP should be displayed.</li> <li>Watering should be applied to the exposed area regularly.</li> </ul>
24 September 2015	<p>Abutment D</p> <ul style="list-style-type: none"> <li>Stockpile was not well covered.</li> </ul> <p>Pier E9</p> <ul style="list-style-type: none"> <li>Excess soil was found in gutter.</li> <li>Gutter was not properly installed.</li> </ul> <p>Barge Sai Hoi</p> <ul style="list-style-type: none"> <li>A drip tray was not plugged.</li> <li>A generator was not properly placed on decoupling pad.</li> </ul>	<p>Abutment D</p> <ul style="list-style-type: none"> <li>Stockpile should be well covered.</li> </ul> <p>Pier E9</p> <ul style="list-style-type: none"> <li>Excess soil in gutter should be removed regularly.</li> <li>Gutter should be properly installed.</li> </ul> <p>Barge Sai Hoi</p> <ul style="list-style-type: none"> <li>Drip tray should be plugged.</li> <li>Generator should be properly placed on decoupling pad.</li> </ul>
29 September 2015	<p>Pier E4</p> <ul style="list-style-type: none"> <li>A drip tray for generator was not plugged.</li> <li>A generator was not well placed on decoupling pad.</li> <li>No bund or gutter was found at the edge of platform.</li> </ul> <p>Pier E13AB</p> <ul style="list-style-type: none"> <li>Surface water on platform was not well retained or collected.</li> </ul>	<p>Pier E4</p> <ul style="list-style-type: none"> <li>Drip tray for generator should be plugged.</li> <li>Generator should be well placed on decoupling pad.</li> <li>Surface runoff control measures should be provided on the platform.</li> </ul> <p>Pier E13AB</p> <ul style="list-style-type: none"> <li>Surface runoff control measures should be provided on the platform.</li> </ul>

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), recyclable materials and chemical wastes. 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 <sup>3</sup> )	Imported Fill (m <sup>3</sup> )	Inert Construction Waste Re-used (m <sup>3</sup> )	Non-inert Construction Waste (b) (kg)	Recyclable Materials (c) (kg)	Chemical Wastes (kg)	Marine Sediment (m <sup>3</sup> )	
							Category L	Category M (M <sub>p</sub> & M <sub>f</sub> )
September 2015	3,525	0	623	66,680	105	600	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
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 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 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 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	Nil	N/A	N/A	GCL	For Piling Works
Construction Noise Permit for night works and works in general holidays	GW-RW0422-15	21 Aug 2015	25 Jan 2016	GCL	General works at WA5
Construction Noise Permit for night works and works in general holidays	GW-RS1054-15	30 Sep 2015	29 Mar 2016	GCL	For Load unload at NLH near Viaduct D
Construction Noise Permit for night works and works in general holidays	GW-RS0691-15	23 Jun 2015	22 Dec 2015	GCL	For Broad Permit
Construction Noise Permit for night works and works in general holidays	GW-RS0809-15	29 Jul 2015	29 Jan 2016	GCL	For Plant mobilization using tractor with trailer
Construction Noise Permit for night works and works in general holidays	GW-RS0911-15	27 Aug 2015	26 Feb 2016	GCL	Broad Permit for Seg. Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS0854-15	12 Aug 2014	15 Feb 2016	GCL	Pre-casted pile cap shell installation at E10-E13
Construction Noise Permit for night works and works in general holidays	GW-RS0769-15	15 Jul 2015	30 Sep 2015	GCL	TTA Case 009 Ch.2.1E-4.2E



License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
works in general holidays Construction Noise Permit for night works and works in general holidays	GW-RS0855-15	12 Aug 2015	11 Feb 2016	GCL	Pier construction at C7, D8, D9
works in general holidays Construction Noise Permit for night works and works in general holidays	GW-RW0861-15	13 Aug 2015	30 Sep 2015	GCL	Portal beam installation at Pier D14
Marine Dumping Permit	EP/MD/16-089	22 Sep 2015	26 Oct 2015	GCL	For dumping Type I (Dedicated Site) and Type II sediment
Marine Dumping Permit	EP/MD/15-257	2 Apr 2015	7 Oct 2015	GCL	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*.

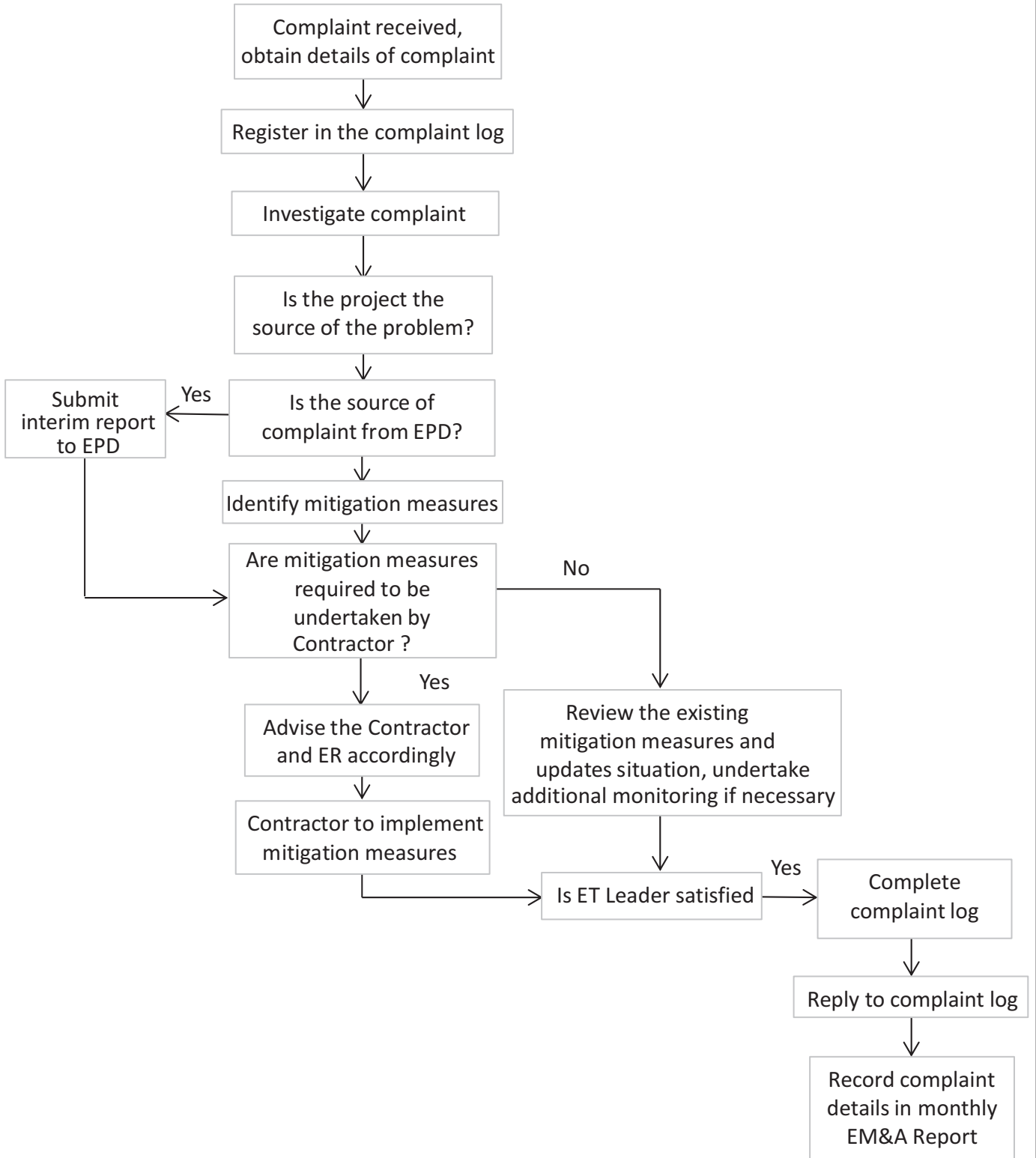


Figure 2.6

Environmental Complaint Handling Procedure

### 3 *FUTURE KEY ISSUES*

#### 3.1 *CONSTRUCTION PROGRAMME FOR THE COMING MONTHS*

As informed by the Contractor, the major works for this Contract in October 2015 will be:

##### *Marine Works*

- Construction and installation of pile caps;
- Uninstallation of marine piling platform;
- Pile cap installation;
- Pier construction;
- Launching gantry assembly; and
- Installation of pier head segment.

##### *Land-based Works*

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Pile cap installation;
- Re-alignment of Cheung Tung Road;
- Installation of pier head segment;
- Relocation of MTRC fence; and
- Slope work of Viaduct A.

#### 3.2 *KEY ISSUES FOR THE COMING MONTH*

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of October 2015 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

#### 3.3 *MONITORING SCHEDULE FOR THE COMING MONTH*

The tentative schedules for environmental monitoring in October 2015 are provided in *Appendix F*.

#### 4.1 CONCLUSIONS

This Twenty-third Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 September 2015, in accordance with the Updated EM&A Manual and the requirements of the Environmental Permits (EP-354/2009/D and EP-353/2009/I).

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

Seven (7) groups of fifty-four (54) Chinese White Dolphins were sighted during the two sets of monitoring surveys in September 2015. Seven (7) dolphin sightings were made in NWL, while none was sighted in NEL. And all these sightings were made on primary lines during on-effort search. No sighting was made in the proximity of the Project's alignment. No unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Chinese White Dolphins was noticeable from general observations during the dolphin monitoring in this reporting month.

Environmental site inspection was carried out five (5) times in September 2015. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.

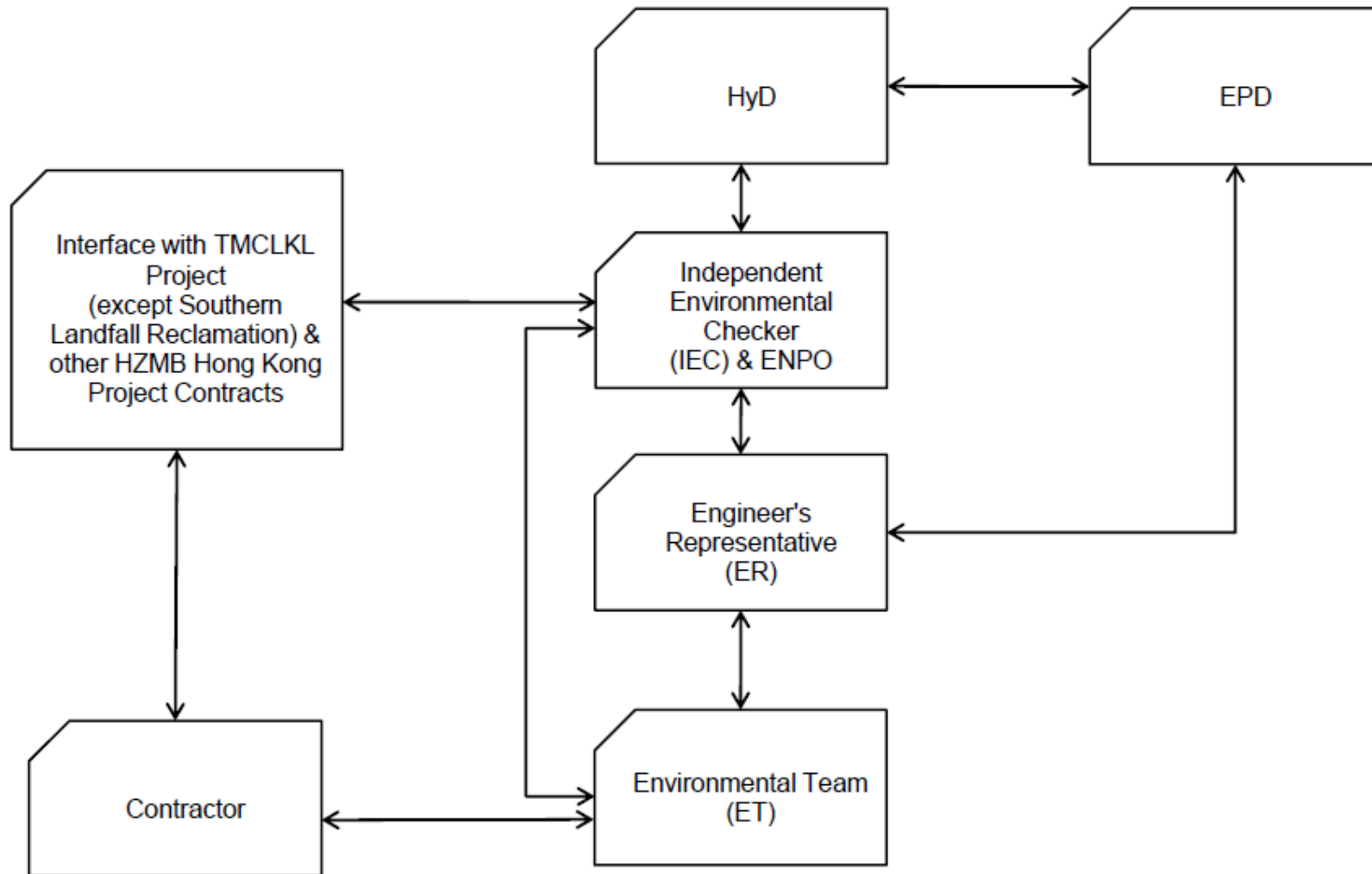
There was no environmental complaint, notification of summons or successful prosecution recorded in the reporting period.

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	2015																							
												August						September						October						November					
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					

## HY/2012/07 - TM-CLK Link-SC [DWP rE1] - Status Update 21-08-2015

### Contract Key Dates

#### Possession Dates / Access Period

POS02	Portion A (Commencement of Works+499 days)	0	21-Aug-15*	0%	0		03-Jun-15		-79	0	0%
POS03	Portion B (Commencement of Works+619 days)	0	21-Aug-15*	0%	0		03-Jun-15		-79	0	0%

#### Section Completion Dates

##### Vacate Works Area

VAC05	Vacate Works Area WA5 (Zone 5C) (Commencement of Works+758 days)	0		0%	0	21-Aug-15*		19-Jul-15	-32	1225	0%
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### General Submissions

#### General Requirements

##### Temporary Works Design

PR00130	Unloading Jetty at HKBCF - Working Platform design and approval	90	02-Jun-14 A	60%	36	03-Oct-15	25-Jul-15	04-Sep-15	-23	959	10%
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##### Land Works

PR00160	Propose/submit a performance review for piled fnds in accordance w/ ETW	101	26-May-14 A	80.2%	20	12-Sep-15	08-Mar-16	02-Apr-16	162	363	80%
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##### Land GI Works

PR02204	SQR Sampling & Testing and Approval	110	14-Aug-14 A	68.18%	35	02-Oct-15	27-Nov-14	09-Jan-15	-215	0	68%
PR03110	Trial Pits along Cheung Tung Road	20	21-Oct-13 A	90%	2	22-Aug-15	08-Jan-15	09-Jan-15	-182	33	85%

### 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	20	21-Aug-15	0%	20	17-Sep-15	24-Nov-15	21-Dec-15	67	0	0%
ARDD0037-2	IC/SO Approval of Seismic Performance Report Viaduct A,B,C,D - AP12.01	75	18-Sep-15	0%	75	31-Dec-15	22-Dec-15	04-Apr-16	67	241	0%
ARDD0037-4	Preparation of Seismic Performance Report Viaduct E - AP12.02	20	21-Aug-15	0%	20	17-Sep-15	24-Nov-15	21-Dec-15	67	0	0%
ARDD0037-5	IC/SO Approval of Seismic Performance Report Viaduct E - AP12.02	75	18-Sep-15	0%	75	31-Dec-15	22-Dec-15	04-Apr-16	67	0	0%
ARDD0037-7	Preparation of Seismic Performance Report Viaduct F - AP12.03	20	21-Aug-15	0%	20	17-Sep-15	24-Nov-15	21-Dec-15	67	0	0%
ARDD0037-8	IC/SO Approval of Seismic Performance Report Viaduct F - AP12.03	75	18-Sep-15	0%	75	31-Dec-15	22-Dec-15	04-Apr-16	67	0	0%
ARDD0042-2	IC/SO Approval of O&M Facility Provisions DDA - BP11.01	75	14-Jan-15 A	50%	38	13-Oct-15	29-Oct-15	21-Dec-15	50	0	50%
ARDD0042-4	IC/SO Approval of O&M Facility Provisions DDA - BP11.01	0		0%	0	13-Oct-15		21-Dec-15	50	73	0%

##### Viaduct E5 and E6

#### Viaduct Design

##### Viaduct E5 E6 Superstructure Optimisation

TGP0550	Viaduct E5 & E6 - Preparation of Optimised Movement Joint Schedule	15	03-Feb-15 A	80%	3	25-Aug-15	25-Jan-16	27-Jan-16	111	80	80%
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##### Viaduct E7 & E8

#### Viaduct Design

##### Viaduct E7 E8 Superstructure Optimisation

TGP0750	Viaduct E7 & E8 - Preparation of Optimised Movement Joint Schedule	15	03-Feb-15 A	80%	3	25-Aug-15	25-Jan-16	27-Jan-16	111	80	80%
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##### Viaduct D

#### Viaduct Design

ARDD0333-8	Viaduct D - IC/SO Consent of Supplemental Working Drawings Viaduct D	10	28-Apr-15 A	100%	0	29-Jul-15 A					100%
ARDD0333-9	Viaduct D - IC/SO Consent of Supplemental Working Drawings Viaduct D	0		100%	0	29-Jul-15 A					100%

##### Viaduct C

#### Viaduct Design

ARDD0384-3	Viaduct C - Coordination and Further Issue of Construction Method and Te	60	02-Mar-15 A	40%	36	09-Oct-15	08-Nov-18	27-Dec-18	839	0	40%
ARDD0384-5	Viaduct C - GCL/FRE Final Coordinated Construction Method/Temporary \	0		0%	0	09-Oct-15		27-Dec-18	839	839	0%
ARDD0384-6	Viaduct C - Preparation and Coordination of Working Drawing Set	10	22-Apr-15 A	80%	2	24-Aug-15	22-Apr-15	24-Apr-15	-87	0	100%
ARDD0384-7	Viaduct C - Submission of Working DDA Drawings for Viaduct C DP13.03	0		0%	0	24-Aug-15		24-Apr-15	-87	0	0%
ARDD0384-8	Viaduct C - IC/SO Consent of Supplemental Working Drawings Viaduct C	10	25-Aug-15	0%	10	07-Sep-15	24-Apr-15	08-May-15	-87	0	0%
ARDD0384-9	Viaduct C - IC/SO Consent of Supplemental Working Drawings Viaduct C	0		0%	0	07-Sep-15		08-May-15	-87	0	0%





#### Associated Construction Milestones

ARDD0413	Viaduct C - DDA approval ready for Commencement of Pilecaps C1-C17	0	21-Aug-15	0%	0		27-Dec-18		1225	1225	0%
ARDD0414	Viaduct C - DDA approval ready for Initial Segment Casting	0	25-Aug-15	0%	0		07-May-15		-110	13	0%

##### Viaduct A

#### Viaduct Design

ARDD0435	Viaduct A - IC/SO Approval of DDA DP11.03	75	23-Feb-15 A	80%	15	10-Sep-15	23-Feb-16	14-Mar-16	132	0	80%
ARDD0435-1	Viaduct A - IC/SO Approval of DDA DP11.03	0		0%	0	10-Sep-15		14-Mar-16	132	0	0%
ARDD0435-2	Viaduct A - GCL/FRE Issue of Construction Method/Temporary Work Data	0		0%	0	21-Aug-15		27-Dec-18	875	875	0%
ARDD0435-3	Viaduct A - Coordination and Further Issue of Construction Method and Ter	60	01-Jun-15 A	50%	30	01-Oct-15	31-Dec-15	10-Feb-16	94	18	50%

	Actual Work
	Planned Bar
	Critical Bar
	Milestone

Project ID: J3518DWPRe1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

DWG. No.:  
**J3518/GCL/PGM/3MRP-M27**



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	2015																							
												August					September					October					November								
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
ARDD0435-4	Viaduct A - Preparation of Draft DDA Working Drawing Set	60	01-Jun-15 A	20%	48	27-Oct-15	07-Dec-15	10-Feb-16	76	0	20%	[Gantt bar: 01-Jun-15 to 27-Oct-15]																							
ARDD0435-5	Viaduct A - GCL/FRE Final Coordinated Construction Method/Temporary V	0		0%	0	27-Oct-15		10-Feb-16	76	0	0%	[Gantt bar: 27-Oct-15 to 10-Feb-16]																							
ARDD0435-6	Viaduct A - Preparation and Coordination of Working Drawing Set	10	28-Oct-15	0%	10	10-Nov-15	11-Feb-16	24-Feb-16	76	0	0%	[Gantt bar: 28-Oct-15 to 24-Feb-16]																							
ARDD0435-7	Viaduct A - Submission of Working Drawings for Viaduct A DP11.03	0		0%	0	10-Nov-15		13-Apr-16	111	0	0%	[Gantt bar: 10-Nov-15 to 13-Apr-16]																							
ARDD0435-8	Viaduct A - IC/SO Consent of Supplemental Working Drawings Viaduct A	10	11-Nov-15	0%	10	24-Nov-15	14-Apr-16	27-Apr-16	111	0	0%	[Gantt bar: 11-Nov-15 to 27-Apr-16]																							
<b>Viaduct F1 &amp; F3</b>																																			
<b>Viaduct Design</b>																																			
ARDD0486-2	Viaduct F1 & F3 - Coordination and Further Issue of Construction Method :	60	02-Mar-15 A	10%	54	04-Nov-15	29-Jan-15	14-Apr-15	-146	0	10%	[Gantt bar: 02-Mar-15 to 14-Apr-15]																							
ARDD0486-3	Viaduct F1 & F3 - Preparation of Draft Working Drawing Set	60	02-Mar-15 A	10%	54	04-Nov-15	29-Jan-15	14-Apr-15	-146	0	10%	[Gantt bar: 02-Mar-15 to 14-Apr-15]																							
ARDD0486-4	Viaduct F1 & F3 - GCL/FRE Final Coordinated Construction Method/Temp	0		0%	0	04-Nov-15		14-Apr-15	-146	0	0%	[Gantt bar: 04-Nov-15 to 14-Apr-15]																							
ARDD0486-5	Viaduct F1 & F3 - Preparation and Coordination of DDA/Working Drawing	10	05-Nov-15	0%	10	18-Nov-15	15-Apr-15	28-Apr-15	-146	0	0%	[Gantt bar: 05-Nov-15 to 28-Apr-15]																							
ARDD0486-6	Viaduct F1 & F3 - Submission of Working DDA Drawings Viaduct F1,F3 DF	0		0%	0	18-Nov-15		17-Sep-15	-44	0	0%	[Gantt bar: 18-Nov-15 to 17-Sep-15]																							
ARDD0486-7	Viaduct F1 & F3 - IC/SO Consent of Supplemental Working Drawings Viad	10	19-Nov-15	0%	10	02-Dec-15	18-Sep-15	01-Oct-15	-44	0	0%	[Gantt bar: 19-Nov-15 to 01-Oct-15]																							
<b>Viaduct F2, F4 and F5</b>																																			
<b>Viaduct Design</b>																																			
ARDD0530-2	Viaduct F2, F4 & F5 - GCL/FRE Issue of Construction Method/Temporary	0		0%	0	21-Aug-15		20-Jan-15	-152	0	0%	[Gantt bar: 21-Aug-15 to 20-Jan-15]																							
ARDD0530-3	Viaduct F2, F4 & F5 - Coordination and Further Issue of Construction Mett	60	21-Aug-15	0%	60	12-Nov-15	21-Jan-15	14-Apr-15	-152	0	0%	[Gantt bar: 21-Aug-15 to 14-Apr-15]																							
ARDD0530-4	Viaduct F2, F4 & F5 - Preparation of Draft Working Drawing Set	60	21-Aug-15	0%	60	12-Nov-15	21-Jan-15	14-Apr-15	-152	0	0%	[Gantt bar: 21-Aug-15 to 14-Apr-15]																							
ARDD0530-5	Viaduct F2, F4 & F5 - GCL/FRE Final Coordination Construction Method/T	0		0%	0	12-Nov-15		14-Apr-15	-152	0	0%	[Gantt bar: 12-Nov-15 to 14-Apr-15]																							
ARDD0530-6	Viaduct F2, F4 & F5 - Preparation and Coordination of DDA/Working Draw	10	13-Nov-15	0%	10	26-Nov-15	15-Apr-15	28-Apr-15	-152	0	0%	[Gantt bar: 13-Nov-15 to 28-Apr-15]																							
<b>Parapet and Utility Trough</b>																																			
ARDD0562-4	IC/SO Approval of DDA -DP30.01	75	31-Jul-14 A	90%	8	01-Sep-15	20-Apr-15	29-Apr-15	-89	0	90%	[Gantt bar: 31-Jul-14 to 29-Apr-15]																							
ARDD0562-5	IC/SO Approval of DDA -DP30.01	0		0%	0	01-Sep-15		29-Apr-15	-89	0	0%	[Gantt bar: 01-Sep-15 to 29-Apr-15]																							
ARDD0566	IC/SO Approval of DDA -DP31.01	75	24-Oct-14 A	80%	15	10-Sep-15	18-Nov-15	08-Dec-15	63	0	80%	[Gantt bar: 24-Oct-14 to 08-Dec-15]																							
ARDD0566-1	IC/SO Approval of DDA -DP31.01	0		0%	0	10-Sep-15		08-Dec-15	63	126	0%	[Gantt bar: 10-Sep-15 to 08-Dec-15]																							
<b>Slopeworks for Viaduct B: 9SE- B/C8, B/C9, B/F9, B/F85+ 10SW-A/F52, A/F53</b>																																			
ARDD0580-5	Preparation of Slope A/F52 Submission - CP12.03	20	10-Feb-15 A	50%	10	03-Sep-15	10-Apr-15	23-Apr-15	-95	0	50%	[Gantt bar: 10-Feb-15 to 23-Apr-15]																							
ARDD0580-6	IC/SO Approval of Slope - CP12.03	75	04-Sep-15	0%	75	17-Dec-15	24-Apr-15	06-Aug-15	-95	0	0%	[Gantt bar: 04-Sep-15 to 06-Aug-15]																							
<b>Slopeworks for Viaduct C: 10NW -C/C22, C/C26, C/C27, C/F13, C/F14, C/F15</b>																																			
ARDD0588-2	IC/SO Approval of Combined AIP/DDA -CP13.02	75	25-Feb-15 A	90%	8	01-Sep-15	08-Jul-16	19-Jul-16	231	0	90%	[Gantt bar: 25-Feb-15 to 19-Jul-16]																							
ARDD0588-3	IC/SO Approval of Combined AIP/DDA -CP13.02	0		0%	0	01-Sep-15		19-Jul-16	231	74	0%	[Gantt bar: 01-Sep-15 to 19-Jul-16]																							
<b>Slopeworks for Viaduct D: 10NW -C/R4, C/F9, C/F10, C/F11, C/F17, C/F50</b>																																			
ARDD0603	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	75	16-Dec-14 A	90%	8	01-Sep-15	26-May-15	04-Jun-15	-63	0	90%	[Gantt bar: 16-Dec-14 to 04-Jun-15]																							
ARDD0603-1	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	0		0%	0	01-Sep-15		04-Jun-15	-63	0	0%	[Gantt bar: 01-Sep-15 to 04-Jun-15]																							
ARDD0604-2	IC/SO Approval of Slope Combined AIP/DDA -CP14.02	75	18-May-15 A	50%	38	13-Oct-15	18-Aug-15	08-Oct-15	-3	0	50%	[Gantt bar: 18-May-15 to 08-Oct-15]																							
ARDD0604-3	IC/SO Approval of Revised Slope Combined AIP/DDA -CP14.02	0		0%	0	13-Oct-15		08-Oct-15	-3	60	0%	[Gantt bar: 13-Oct-15 to 08-Oct-15]																							
<b>Waterworks, Drainage &amp; Utility Diversions</b>																																			
ARDD0629	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	75	22-Jul-14 A	90%	8	01-Sep-15	12-Aug-15	21-Aug-15	-7	0	90%	[Gantt bar: 22-Jul-14 to 21-Aug-15]																							
ARDD0629-1	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	0		0%	0	01-Sep-15		21-Aug-15	-7	0	0%	[Gantt bar: 01-Sep-15 to 21-Aug-15]																							
ARDD0629-2	Gov't Approval of Submissions for Waterworks, Drainage & Utility Diversior	75	02-Jan-14 A	90%	8	01-Sep-15	12-Aug-15	21-Aug-15	-7	0	90%	[Gantt bar: 02-Jan-14 to 21-Aug-15]																							
<b>Viaduct Approach Ramp Retaining Walls</b>																																			
<b>Approach Ramp D</b>																																			
ARDD0652	Approach D - IC/SO Approval of Approach Ramp D DDA - DP23.01	75	25-Sep-14 A	100%	0	05-Aug-15 A					100%	[Gantt bar: 25-Sep-14 to 05-Aug-15]																							
ARDD0652-1	Approach D - IC/SO Approval of Approach Ramp D DDA - DP23.01	0		0%	0	21-Aug-15		24-Apr-15	-84	0	0%	[Gantt bar: 21-Aug-15 to 24-Apr-15]																							
<b>Approach Ramp C</b>																																			
ARDD0658	Approach C - IC/SO Approval of Approach Ramp C DDA -DP20.01	75	03-Oct-14 A	90%	8	01-Sep-15	28-Apr-15	08-May-15	-82	0	90%	[Gantt bar: 03-Oct-14 to 08-May-15]																							
ARDD0658-1	Approach C - IC/SO Approval of Approach Ramp C DDA -DP20.01	0		0%	0	01-Sep-15		08-May-15	-82	5	0%	[Gantt bar: 01-Sep-15 to 08-May-15]																							
<b>Approach Ramp B</b>																																			
ARDD0664	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	75	14-Oct-14 A	70%	23	22-Sep-15	09-Dec-15	08-Jan-16	79	0	70%	[Gantt bar: 14-Oct-14 to 08-Jan-16]																							
ARDD0664-1	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	0		0%	0	22-Sep-15		08-Jan-16	79	196	0%	[Gantt bar: 22-Sep-15 to 08-Jan-16]																							
<b>Approach A</b>																																			
ARDD0670	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	75	03-Oct-14 A	84%	12	07-Sep-15	31-Aug-15	15-Sep-15	6	0	90%	[Gantt bar: 03-Oct-14 to 15-Sep-15]																							
ARDD0670-1	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	0		0%	0	07-Sep-15		15-Sep-15	6	0	0%	[Gantt bar: 07-Sep-15 to 15-Sep-15]																							
<b>Approach F</b>																																			
ARDD0676	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	75	23-Dec-14 A	70%	23	22-Sep-15	21-Apr-15	21-May-15	-88	0	70%	[Gantt bar: 23-Dec-14 to 21-May-15]																							
ARDD0676-1	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	0		0%	0	22-Sep-15		12-Jan-16	81	211	0%	[Gantt bar: 22-Sep-15 to 12-Jan-16]																							
<b>Landscape</b>																																			
ARDD0701	Water Supply Application to WSD	0		0%	0	21-Aug-15		01-Jan-16	96	0	0%	[Gantt bar: 21-Aug-15 to 01-Jan-16]																							
ARDD0702	Gov't Approval of LVIA	40	21-Aug-15	0%	40	15-Oct-15	04-Jan-16	26-Feb-16	96	188	0%	[Gantt bar: 21-Aug-15 to 26-Feb-16]																							

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWPRe1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**

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	2015																							
												August				September				October				November											
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
<b>Segment Target Geometry And Erection Engineering</b>																																			
<b>Viaduct A</b>																																			
ARDD0716	Viaduct A - Confirmation of Erection Sequence from Freyssinet	0		0%	0	21-Aug-15		16-Dec-15	84	0	0%																								
ARDD0717	Viaduct A - Erection Sequence Analysis	20	21-Aug-15	0%	20	17-Sep-15	17-Dec-15	13-Jan-16	84	0	0%																								
ARDD0718	Viaduct A - Target Geometry Analysis	20	18-Sep-15	0%	20	15-Oct-15	14-Jan-16	10-Feb-16	84	0	0%																								
ARDD0719	Viaduct A - Segment Geometry Schedules	10	16-Oct-15	0%	10	29-Oct-15	11-Feb-16	24-Feb-16	84	8	0%																								
ARDD0719-1	Viaduct A - Issue of Pierhead Segments Bridge A1, A2	0		0%	0	10-Nov-15		27-Apr-16	121	10	0%																								
ARDD0719-3	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A2 (Final	0		0%	0	10-Nov-15		27-Apr-16	121	10	0%																								
ARDD0719-4	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A1 (Final	0		0%	0	10-Nov-15		24-Feb-16	76	0	0%																								
ARDD0719-5	Viaduct A - Issue Erection Manual	40	11-Nov-15	0%	40	05-Jan-16	25-Feb-16	20-Apr-16	76	0	0%																								
<b>Viaduct C</b>																																			
ARDD0724-5	Viaduct C - Issue Erection Manual	30	21-Aug-15	0%	30	01-Oct-15	13-Apr-15	22-May-15	-94	0	0%																								
<b>Viaduct E5 and E6</b>																																			
ARDD0734	Viaduct E5 & E6 - Segment Geometry Schedules	10	05-May-14 A	90%	1	21-Aug-15	17-Jul-15	17-Jul-15	-25	12	90%																								
TGP0560	Viaduct E5 & E6 - Issue of Optimised Casting Data and Segment Catalogue	20	30-Apr-15 A	68%	6	31-Aug-15	24-Jul-15	03-Aug-15	-19	69	68%																								
TGP0570	Viaduct E5 & E6 - Issue of Optimised Casting Data and Segment Catalogue	40	30-Apr-15 A	68%	13	08-Sep-15	01-Jul-15	17-Jul-15	-37	0	68%																								
TGP0590	Viaduct E5 & E6 - Issue Erection Manual	10	08-Sep-15	0%	10	22-Sep-15	20-Jul-15	31-Jul-15	-37	123	0%																								
<b>Viaduct E7 &amp; E8</b>																																			
ARDD0739	Viaduct E7 & E8 - Segment Geometry Schedules	10	05-May-14 A	90%	1	21-Aug-15	17-Jul-15	17-Jul-15	-25	9	90%																								
TGP0760	Viaduct E7 & E8 - Issue of Optimised Casting Data and Segment Catalogue	40	31-Jul-15 A	50%	20	17-Sep-15	22-Sep-16	19-Oct-16	284	373	50%																								
TGP0770	Viaduct E7 & E8 - Issue of Optimised Casting Data and Segment Catalogue	20	31-Jul-15 A	50%	10	03-Sep-15	06-Jul-15	17-Jul-15	-34	0	50%																								
TGP0790	Viaduct E7 & E8 - Issue Erection Manual	10	04-Sep-15	0%	10	17-Sep-15	20-Jul-15	31-Jul-15	-34	126	0%																								
<b>Viaduct E2</b>																																			
TGP0260	Viaduct E2 - Issue of Optimised Casting Data and Segment Catalogue Brid	20	04-May-15 A	68%	6	31-Aug-15	08-Dec-14	16-Dec-14	-183	0	68%																								
TGP0290	Viaduct E2 - Issue of Erection Manual	10	31-Aug-15	0%	10	14-Sep-15	19-Jan-15	30-Jan-15	-160	1	0%																								
<b>Viaduct F</b>																																			
ARDD0751	Viaduct F - Confirmation of Erection Sequence from Freyssinet	0		0%	0	21-Aug-15		20-Jan-15	-152	0	0%																								
ARDD0752	Viaduct F - Erection Sequence Analysis	30	21-Aug-15	0%	30	01-Oct-15	21-Jan-15	03-Mar-15	-152	0	0%																								
ARDD0753	Viaduct F - Target Geometry Analysis	30	02-Oct-15	0%	30	12-Nov-15	04-Mar-15	14-Apr-15	-152	0	0%																								
ARDD0754	Viaduct F - Segment Geometry Schedules	10	13-Nov-15	0%	10	26-Nov-15	15-Apr-15	28-Apr-15	-152	0	0%																								
<b>Major Procurement</b>																																			
<b>Marine Permanent Navigaion Aids</b>																																			
PR65011	Design & Approvals for Marine Navigation Aids	150	23-Oct-13 A	70%	45	14-Oct-15	15-Aug-15	08-Oct-15	-5	0	55%																								
PR65012	Procure & Deliver Marine Navigation Aids	240	15-Oct-15	0%	240	06-Aug-16	09-Oct-15	01-Aug-16	-5	0	0%																								
<b>Tower Cranes</b>																																			
PR66011	Procure & Deliver Tower Cranes	236	03-Oct-14 A	21.61%	185	07-Apr-16	28-Apr-15	07-Dec-15	-95	810	0%																								
PR66013	Erect & Commission Tower Crane @ E4	12	21-Sep-15	0%	12	06-Oct-15	12-Dec-18	27-Dec-18	900	900	0%																								
PR66014	Erect & Commission Tower Crane @ E5	12	09-Oct-15	0%	12	26-Oct-15	28-Aug-15	11-Sep-15	-32	8	0%																								
PR66015	Erect & Commission Tower Crane @ E6	12	19-Oct-15	0%	12	04-Nov-15	17-Nov-15	30-Nov-15	22	5	0%																								
PR66016	Erect & Commission Tower Crane @ E7	12	11-Nov-15	0%	12	25-Nov-15	06-Nov-15	19-Nov-15	-5	5	0%																								
PR66018	Erect & Commission Tower Crane @ E9	12	21-Aug-15	0%	12	03-Sep-15	08-Jun-15	27-Jun-15	-53	0	0%																								
PR66019	Erect & Commission Tower Crane @ E10	12	01-Sep-15	0%	12	16-Sep-15	25-Jul-15	08-Aug-15	-29	0	0%																								
PR66021	Erect & Commission Tower Crane @ E12A	12	21-Aug-15	0%	12	03-Sep-15	24-Oct-15	07-Nov-15	49	180	0%																								
PR66022	Erect & Commission Tower Crane @ E12B	12	21-Aug-15	0%	12	03-Sep-15	05-Feb-16	22-Feb-16	134	180	0%																								
PR66023	Erect & Commission Tower Crane @ E13-Sth	12	11-Sep-15	0%	12	26-Sep-15	18-Jul-15	01-Aug-15	-44	147	0%																								
PR66024	Erect & Commission Tower Crane @ E13-Nth	12	21-Aug-15	0%	12	03-Sep-15	04-Feb-16	20-Feb-16	133	204	0%																								
<b>Equipment Platforms for Tower Cranes</b>																																			
PR66026	Inst.Temp.Eqpt.Platform (piles & deck) @ E4	24	21-Aug-15	0%	24	19-Sep-15	14-Nov-18	11-Dec-18	900	0	0%																								
<b>Deck Segment Installation Equipment</b>																																			
<b>Launching Gantry 2</b>																																			
PR67043	Launching Gantry 2 Fabrication	142	16-Jun-14 A	98.59%	2	22-Aug-15	15-Oct-14	16-Oct-14	-252	0	100%																								
PR67044	Launching Gantry 2 Delivery	12	24-Aug-15	0%	12	05-Sep-15	17-Oct-14	30-Oct-14	-252	0	0%																								
<b>Lifting Frames</b>																																			
<b>Lifting Frames 1 &amp; 2</b>																																			
PR68013	Lifting Frame 1&2 Fabrication	85	24-Jan-15 A	52.94%	40	08-Oct-15	29-Apr-15	16-Jun-15	-94	0	0%																								
PR68014	Lifting Frame 1&2 Delivery	14	09-Oct-15	0%	14	26-Oct-15	17-Jun-15	04-Jul-15	-94	0	0%																								
<b>Lifting Frames 3 &amp; 4</b>																																			
PR68017	Lifting Frame 3&4 Fabrication	85	29-Sep-14 A	67.06%	28	22-Sep-15	24-Apr-15	28-May-15	-98	0	10%																								
PR68018	Lifting Frame 3&4 Delivery	30	23-Sep-15	0%	30	30-Oct-15	29-May-15	04-Jul-15	-98	45	0%																								
<b>Lifting Frames 5 &amp; 6</b>																																			

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWPrE1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 3 of 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**











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	2015																							
												August					September					October					November								
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
GFXX130	A4 (A2b) - Sonic & Interface Coring	12	13-Jul-15 A	100%	0	19-Aug-15 A					100%	[Gantt Bar: 13-Jul-15 to 19-Aug-15]																							
GFXX131	A4 (A2b) - Dismantle removable panels of temp. platform	5	15-Aug-15 A	100%	0	21-Aug-15 A					100%	[Gantt Bar: 15-Aug-15 to 21-Aug-15]																							
<b>Pile Cap Works</b>																																			
SA2B0070	A4 (A2b) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	21-Aug-15	0%	7	28-Aug-15	29-Mar-16	07-Apr-16	174	0	0%	[Gantt Bar: 21-Aug-15 to 28-Aug-15]																							
SA2B0080	A4 (A2b) - Marine Pile Cap M2b - Install precast shell in position	1	29-Aug-15	0%	1	29-Aug-15	07-Apr-16	08-Apr-16	174	0	0%	[Gantt Bar: 29-Aug-15]																							
SA2B0090	A4 (A2b) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	31-Aug-15	0%	3	02-Sep-15	08-Apr-16	12-Apr-16	174	0	0%	[Gantt Bar: 31-Aug-15 to 02-Sep-15]																							
SA2B0100	A4 (A2b) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	03-Sep-15	0%	9	14-Sep-15	12-Apr-16	25-Apr-16	174	0	0%	[Gantt Bar: 03-Sep-15 to 14-Sep-15]																							
SA2B0120	A4 (A2b) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	15-Sep-15	0%	2	16-Sep-15	25-Apr-16	27-Apr-16	174	0	0%	[Gantt Bar: 15-Sep-15 to 16-Sep-15]																							
SA2B0130	A4 (A2b) - Marine Pile Cap M2b - Pile cut down	8	18-Sep-15	0%	8	26-Sep-15	27-Apr-16	07-May-16	174	0	0%	[Gantt Bar: 18-Sep-15 to 26-Sep-15]																							
SA2B0140	A4 (A2b) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	29-Sep-15	0%	12	13-Oct-15	07-May-16	24-May-16	174	0	0%	[Gantt Bar: 29-Sep-15 to 13-Oct-15]																							
SA2B0150	A4 (A2b) - Marine Pile Cap M2b - Concreting	1	15-Oct-15	0%	1	15-Oct-15	24-May-16	25-May-16	174	0	0%	[Gantt Bar: 15-Oct-15]																							
SA2B0160	A4 (A2b) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	16-Oct-15	0%	6	23-Oct-15	25-May-16	03-Jun-16	174	0	0%	[Gantt Bar: 16-Oct-15 to 23-Oct-15]																							
<b>Pier Works</b>																																			
SA2B0170	A4 (A2b) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	16-Oct-15	0%	6	23-Oct-15	25-May-16	03-Jun-16	174	0	0%	[Gantt Bar: 16-Oct-15 to 23-Oct-15]																							
SA2B0180	A4 (A2b) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	24-Oct-15	0%	5	30-Oct-15	03-Jun-16	11-Jun-16	174	0	0%	[Gantt Bar: 24-Oct-15 to 30-Oct-15]																							
SA2B0200	A4 (A2b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	31-Oct-15	0%	3	03-Nov-15	11-Jun-16	16-Jun-16	174	0	0%	[Gantt Bar: 31-Oct-15 to 03-Nov-15]																							
SA2B0210	A4 (A2b) - Type 4B Pier Scaffolding (2nd Lift)	2	04-Nov-15	0%	2	05-Nov-15	16-Jun-16	20-Jun-16	174	0	0%	[Gantt Bar: 04-Nov-15 to 05-Nov-15]																							
SA2B0220	A4 (A2b) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	06-Nov-15	0%	6	12-Nov-15	20-Jun-16	28-Jun-16	174	0	0%	[Gantt Bar: 06-Nov-15 to 12-Nov-15]																							
SA2B0240	A4 (A2b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	13-Nov-15	0%	3	16-Nov-15	28-Jun-16	04-Jul-16	174	0	0%	[Gantt Bar: 13-Nov-15 to 16-Nov-15]																							
SA2B0300	A4 (A2b) - Type 4B Pier Head Scaffolding	4	17-Nov-15	0%	4	20-Nov-15	04-Jul-16	08-Jul-16	174	0	0%	[Gantt Bar: 17-Nov-15 to 20-Nov-15]																							
<b>Pier A5 (A2a)</b>																																			
<b>Foundation Works</b>																																			
GFXX124	A5 (A2a) - Bored Piles (2.20m dia. x 3 nos)	100	13-May-15 A	100%	0	04-Aug-15 A					100%	[Gantt Bar: 13-May-15 to 04-Aug-15]																							
GFXX125	A5 (A2a) - Sonic & Interface Coring	12	11-Aug-15 A	60%	5	26-Aug-15	16-Mar-16	21-Mar-16	169	0	60%	[Gantt Bar: 11-Aug-15 to 26-Aug-15]																							
GFXX126	A5 (A2a) - Dismantle removable panels of temp. platform	5	26-Aug-15	0%	5	01-Sep-15	21-Mar-16	30-Mar-16	169	0	0%	[Gantt Bar: 26-Aug-15 to 01-Sep-15]																							
<b>Pile Cap Works</b>																																			
SA2A0070	A5 (A2a) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	01-Sep-15	0%	7	10-Sep-15	30-Mar-16	08-Apr-16	165	0	0%	[Gantt Bar: 01-Sep-15 to 10-Sep-15]																							
SA2A0080	A5 (A2a) - Marine Pile Cap M2b - Install precast shell in position	1	11-Sep-15	0%	1	11-Sep-15	08-Apr-16	09-Apr-16	165	0	0%	[Gantt Bar: 11-Sep-15]																							
SA2A0090	A5 (A2a) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	11-Sep-15	0%	3	15-Sep-15	09-Apr-16	13-Apr-16	165	0	0%	[Gantt Bar: 11-Sep-15 to 15-Sep-15]																							
SA2A0100	A5 (A2a) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	15-Sep-15	0%	9	26-Sep-15	13-Apr-16	26-Apr-16	165	0	0%	[Gantt Bar: 15-Sep-15 to 26-Sep-15]																							
SA2A0120	A5 (A2a) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	26-Sep-15	0%	2	30-Sep-15	26-Apr-16	28-Apr-16	165	0	0%	[Gantt Bar: 26-Sep-15 to 30-Sep-15]																							
SA2A0130	A5 (A2a) - Marine Pile Cap M2b - Pile cut down	8	30-Sep-15	0%	8	10-Oct-15	28-Apr-16	09-May-16	165	0	0%	[Gantt Bar: 30-Sep-15 to 10-Oct-15]																							
SA2A0140	A5 (A2a) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	10-Oct-15	0%	12	27-Oct-15	09-May-16	25-May-16	165	0	0%	[Gantt Bar: 10-Oct-15 to 27-Oct-15]																							
SA2A0150	A5 (A2a) - Marine Pile Cap M2b - Concreting	1	27-Oct-15	0%	1	28-Oct-15	25-May-16	27-May-16	165	0	0%	[Gantt Bar: 27-Oct-15]																							
SA2A0160	A5 (A2a) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	28-Oct-15	0%	6	05-Nov-15	27-May-16	04-Jun-16	165	0	0%	[Gantt Bar: 28-Oct-15 to 05-Nov-15]																							
<b>Pier Works</b>																																			
SA2A0170	A5 (A2a) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	28-Oct-15	0%	6	05-Nov-15	27-May-16	04-Jun-16	165	0	0%	[Gantt Bar: 28-Oct-15 to 05-Nov-15]																							
SA2A0180	A5 (A2a) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	05-Nov-15	0%	5	11-Nov-15	04-Jun-16	13-Jun-16	165	0	0%	[Gantt Bar: 05-Nov-15 to 11-Nov-15]																							
SA2A0200	A5 (A2a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	11-Nov-15	0%	3	14-Nov-15	13-Jun-16	18-Jun-16	165	0	0%	[Gantt Bar: 11-Nov-15 to 14-Nov-15]																							
SA2A0210	A5 (A2a) - Type 4B Pier Scaffolding (2nd Lift)	2	14-Nov-15	0%	2	17-Nov-15	18-Jun-16	22-Jun-16	165	0	0%	[Gantt Bar: 14-Nov-15 to 17-Nov-15]																							
SA2A0220	A5 (A2a) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	17-Nov-15	0%	6	24-Nov-15	22-Jun-16	30-Jun-16	165	0	0%	[Gantt Bar: 17-Nov-15 to 24-Nov-15]																							
<b>Pier A6 (A1f)</b>																																			
<b>Pile Cap Works</b>																																			
SA1F0090	A6 (A1f) - Marine Pile Cap M2 - Inst.Access & make Watertight	3	07-Jul-15 A	100%	0	10-Aug-15 A					100%	[Gantt Bar: 07-Jul-15 to 10-Aug-15]																							
SA1F0100	A6 (A1f) - Marine Pile Cap M2 - Weld Fin plates/Plug Rebar & Concrete	9	11-Aug-15 A	100%	0	20-Aug-15 A					100%	[Gantt Bar: 11-Aug-15 to 20-Aug-15]																							
SA1F0110	A6 (A1f) - Marine Pile Cap M2 - Dewater precast shell / Remove Lifting Fr	2	21-Aug-15 A	50%	1	21-Aug-15	29-Feb-16	29-Feb-16	151	0	50%	[Gantt Bar: 21-Aug-15 to 29-Feb-16]																							
SA1F0120	A6 (A1f) - Marine Pile Cap M2 - Pile cut down	12	22-Aug-15	0%	12	04-Sep-15	01-Mar-16	14-Mar-16	151	4	0%	[Gantt Bar: 22-Aug-15 to 04-Sep-15]																							
SA1F0130	A6 (A1f) - Marine Pile Cap M2 - Rebar fixing, inst.inserts etc	12	11-Sep-15	0%	12	25-Sep-15	15-Mar-16	31-Mar-16	147	0	0%	[Gantt Bar: 11-Sep-15 to 25-Sep-15]																							
SA1F0140	A6 (A1f) - Marine Pile Cap M2 - Concreting	1	26-Sep-15	0%	1	26-Sep-15	01-Apr-16	01-Apr-16	147	0	0%	[Gantt Bar: 26-Sep-15]																							
SA1F0164	A6 (A1f) - Marine Pile Cap M2 - Curing incl. CJ preparation	6	29-Sep-15	0%	6	06-Oct-15	02-Apr-16	09-Apr-16	147	0	0%	[Gantt Bar: 29-Sep-15 to 06-Oct-15]																							
<b>Pier Works</b>																																			
SA1F0170	A6 (A1f) - Type 4B-MJ Pier Temp. Support Platform & Scaffold (1st Lift)	6	29-Sep-15	0%	6	06-Oct-15	02-Apr-16	09-Apr-16	147	0	0%	[Gantt Bar: 29-Sep-15 to 06-Oct-15]																							
SA1F0180	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (1st Lift)	5	07-Oct-15	0%	5	12-Oct-15	11-Apr-16	16-Apr-16	147	0	0%	[Gantt Bar: 07-Oct-15 to 12-Oct-15]																							
SA1F0200	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	13-Oct-15	0%	3	16-Oct-15	18-Apr-16	21-Apr-16	147	0	0%	[Gantt Bar: 13-Oct-15 to 16-Oct-15]																							
SA1F0210	A6 (A1f) - Type 4B-MJ Pier Scaffolding (2nd Lift)	2	17-Oct-15	0%	2	19-Oct-15	22-Apr-16	23-Apr-16	147	0	0%	[Gantt Bar: 17-Oct-15 to 19-Oct-15]																							
SA1F0220	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	5	20-Oct-15	0%	5	26-Oct-15	25-Apr-16	29-Apr-16	147	0	0%	[Gantt Bar: 20-Oct-15 to 26-Oct-15]																							
SA1F0240	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	27-Oct-15	0%	3	30-Oct-15	30-Apr-16	04-May-16	147	0	0%	[Gantt Bar: 27-Oct-15 to 30-Oct-15]																							
SA1F0250	A6 (A1f) - Type 4B-MJ Pier Scaffolding (3rd Lift)	2	31-Oct-15	0%	2	02-Nov-15	05-May-16	06-May-16	147	0	0%	[Gantt Bar: 31-Oct-15 to 02-Nov-15]																							
SA1F0260	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (3rd Lift)	5	03-Nov-15	0%	5	07-Nov-15	07-May-16	12-May-16	147	0	0%	[Gantt Bar: 03-Nov-15 to 07-Nov-15]																							
SA1F0280	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	09-Nov-15	0%	3	11-Nov-15	13-May-16	18-May-16	147	0	0%	[Gantt Bar: 09-Nov-15 to 11-Nov-15]																							
SA1F0300	A6 (A1f) - Type 4B-MJ Pier Head Scaffolding	4	12-Nov-15	0%	4	16-Nov-15	19-May-16	23-May-16	147	0	0%	[Gantt Bar: 12-Nov-15 to 16-Nov-15]																							
SA1F0310	A6 (A1f) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	9	17-Nov-15	0%	9	26-Nov-15	24-May-16	04-Jun-16	147	0	0%	[Gantt Bar: 17-Nov-15 to 26-Nov-15]																							
<b>Bridge A1</b>																																			

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWPRe1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

**Tuen Mun - Chek Lap Kok Link - Southern Connection**  
**3-Month Rolling Programme (Page 7 of 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**



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	2015																							
												August						September						October						November					
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
<b>Pier A7 (A1e)</b>																																			
<b>Pile Cap Works</b>																																			
SA1E0090	A7 (A1e) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	18-Jul-15 A	100%	0	10-Aug-15 A					100%	[Actual Work Bar]																							
SA1E0100	A7 (A1e) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	11-Aug-15 A	100%	0	20-Aug-15 A					100%	[Actual Work Bar]																							
SA1E0120	A7 (A1e) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	21-Aug-15 A	50%	1	21-Aug-15	13-Jan-16	13-Jan-16	114	0	50%	[Planned Bar]																							
SA1E0130	A7 (A1e) - Marine Pile Cap M2b - Pile cut down	8	22-Aug-15	0%	8	31-Aug-15	14-Jan-16	22-Jan-16	114	0	0%	[Planned Bar]																							
SA1E0140	A7 (A1e) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	01-Sep-15	0%	12	15-Sep-15	23-Jan-16	05-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0150	A7 (A1e) - Marine Pile Cap M2b - Concreting	1	16-Sep-15	0%	1	16-Sep-15	06-Feb-16	06-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0160	A7 (A1e) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	18-Sep-15	0%	6	24-Sep-15	11-Feb-16	17-Feb-16	114	0	0%	[Planned Bar]																							
<b>Pier Works</b>																																			
SA1E0170	A7 (A1e) - Type 5B Pier Temp. Support Platform & Scaffold (1st Lift)	6	18-Sep-15	0%	6	24-Sep-15	11-Feb-16	17-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0180	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (1st Lift)	5	25-Sep-15	0%	5	02-Oct-15	18-Feb-16	23-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0200	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	03-Oct-15	0%	3	06-Oct-15	24-Feb-16	26-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0210	A7 (A1e) - Type 5B Pier Scaffolding (2nd Lift)	2	07-Oct-15	0%	2	08-Oct-15	27-Feb-16	29-Feb-16	114	0	0%	[Planned Bar]																							
SA1E0220	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	09-Oct-15	0%	5	15-Oct-15	01-Mar-16	05-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0240	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	16-Oct-15	0%	3	19-Oct-15	07-Mar-16	09-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0250	A7 (A1e) - Type 5B Pier Scaffolding (3rd Lift)	2	20-Oct-15	0%	2	22-Oct-15	10-Mar-16	11-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0260	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	23-Oct-15	0%	5	28-Oct-15	12-Mar-16	17-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0280	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	30-Oct-15	0%	3	02-Nov-15	18-Mar-16	21-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0300	A7 (A1e) - Type 5B Pier Head Scaffolding	4	03-Nov-15	0%	4	06-Nov-15	22-Mar-16	29-Mar-16	114	0	0%	[Planned Bar]																							
SA1E0310	A7 (A1e) - Type 5B Pier Head Rebarwork, Formwork & Prep	9	07-Nov-15	0%	9	17-Nov-15	30-Mar-16	09-Apr-16	114	0	0%	[Planned Bar]																							
SA1E0330	A7 (A1e) - Type 5B Pier Head Concreting	1	18-Nov-15	0%	1	18-Nov-15	11-Apr-16	11-Apr-16	114	0	0%	[Planned Bar]																							
SA1E0340	A7 (A1e) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffolding	6	19-Nov-15	0%	6	25-Nov-15	12-Apr-16	19-Apr-16	114	0	0%	[Planned Bar]																							
<b>Pier A8 (A1d)</b>																																			
<b>Socketted H-Pile installation</b>																																			
GFXX298	A8 (A1d) - Install SH Pile (21 no.)	120	15-Apr-15 A	100%	0	29-Jul-15 A					100%	[Actual Work Bar]																							
<b>Pile Cap Works</b>																																			
SA1D0090	A8 (A1d) - Pile cap Excavation / ELS	20	17-Aug-15 A	30%	14	05-Sep-15	20-Feb-16	07-Mar-16	144	0	30%	[Planned Bar]																							
SA1D0092	A8 (A1d) - Pile Breakdown to cut-off etc.	4	07-Sep-15	0%	4	11-Sep-15	08-Mar-16	11-Mar-16	144	0	0%	[Planned Bar]																							
SA1D0100	A8 (A1d) - Pile cap Blinding	1	12-Sep-15	0%	1	12-Sep-15	12-Mar-16	12-Mar-16	144	0	0%	[Planned Bar]																							
SA1D0110	A8 (A1d) - Pile cap Formwork	3	19-Sep-15	0%	3	22-Sep-15	18-Mar-16	21-Mar-16	144	0	0%	[Planned Bar]																							
SA1D0120	A8 (A1d) - Pile cap Rebarwork	4	14-Sep-15	0%	4	18-Sep-15	14-Mar-16	17-Mar-16	144	0	0%	[Planned Bar]																							
SA1D0122	A8 (A1d) - Pile cap Kicker Formwork	2	24-Sep-15	0%	2	25-Sep-15	31-Mar-16	01-Apr-16	148	4	0%	[Planned Bar]																							
SA1D0130	A8 (A1d) - Pile cap Concreting	1	23-Sep-15	0%	1	23-Sep-15	22-Mar-16	22-Mar-16	144	0	0%	[Planned Bar]																							
SA1D0140	A8 (A1d) - Pile cap Curing & Striking of Forms incl. CJ prep	6	24-Sep-15	0%	6	02-Oct-15	23-Mar-16	01-Apr-16	144	0	0%	[Planned Bar]																							
<b>Pier Works</b>																																			
SA1D0150	A8 (A1d) - Type 5B Pier Scaffolding (1st Lift)	2	30-Sep-15	0%	2	02-Oct-15	31-Mar-16	01-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0160	A8 (A1d) - Type 5B Pier Rebarwork (1st Lift)	3	03-Oct-15	0%	3	06-Oct-15	02-Apr-16	06-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0170	A8 (A1d) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	2	07-Oct-15	0%	2	08-Oct-15	07-Apr-16	08-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0180	A8 (A1d) - Type 5B Pier Concreting (1st Lift)	1	09-Oct-15	0%	1	09-Oct-15	09-Apr-16	09-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0182	A8 (A1d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	10-Oct-15	0%	2	12-Oct-15	11-Apr-16	12-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0190	A8 (A1d) - Type 5B Pier Scaffolding (2nd Lift)	2	13-Oct-15	0%	2	15-Oct-15	13-Apr-16	15-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0200	A8 (A1d) - Type 5B Pier Rebarwork (2nd Lift)	3	16-Oct-15	0%	3	19-Oct-15	16-Apr-16	19-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0210	A8 (A1d) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	2	20-Oct-15	0%	2	22-Oct-15	21-Apr-16	22-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0220	A8 (A1d) - Type 5B Pier Concreting (2nd Lift)	1	23-Oct-15	0%	1	23-Oct-15	23-Apr-16	23-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0222	A8 (A1d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	24-Oct-15	0%	2	26-Oct-15	25-Apr-16	26-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0230	A8 (A1d) - Type 5B Pier Head Scaffolding	3	27-Oct-15	0%	3	30-Oct-15	27-Apr-16	29-Apr-16	144	0	0%	[Planned Bar]																							
SA1D0240	A8 (A1d) - Type 5B Pier Head Rebarwork	4	31-Oct-15	0%	4	04-Nov-15	30-Apr-16	05-May-16	144	0	0%	[Planned Bar]																							
SA1D0250	A8 (A1d) - Type 5B Pier Head Formwork & Prep for Concreting	4	05-Nov-15	0%	4	09-Nov-15	06-May-16	10-May-16	144	0	0%	[Planned Bar]																							
SA1D0260	A8 (A1d) - Type 5B Pier Head Concreting	1	10-Nov-15	0%	1	10-Nov-15	11-May-16	11-May-16	144	0	0%	[Planned Bar]																							
SA1D0270	A8 (A1d) - Type 5B Pier Head Curing & Striking of Forms & Remove Scaffolding	6	11-Nov-15	0%	6	17-Nov-15	12-May-16	20-May-16	144	0	0%	[Planned Bar]																							
SA1D0280	A8 (A1d) - Type 5B Pier Backfilling Works	4	18-Nov-15	0%	4	21-Nov-15	21-May-16	25-May-16	144	35	0%	[Planned Bar]																							
<b>Pier A9 (A1c)</b>																																			
<b>Preliminary Works for Land Piling</b>																																			
PA090060	A9 (A1c) - Complete civil preparation works for piling to commence	0		0%	0	21-Aug-15		27-Dec-18	936	936	0%	[Milestone]																							
<b>Socketted H-Pile installation</b>																																			
GFXX293	A9 (A1c) - Install SH Pile (21 no.)	90	08-May-15 A	100%	0	25-Jul-15 A					100%	[Actual Work Bar]																							
<b>Pile Cap Works</b>																																			
SA1C0090	A9 (A1c) - Pile cap Excavation / ELS	18	21-Aug-15	0%	18	11-Sep-15	14-Jan-16	03-Feb-16	115	0	0%	[Planned Bar]																							
SA1C0092	A9 (A1c) - Pile Breakdown to cut-off etc.	4	12-Sep-15	0%	4	16-Sep-15	04-Feb-16	11-Feb-16	115	0	0%	[Planned Bar]																							
SA1C0100	A9 (A1c) - Pile cap Blinding	1	18-Sep-15	0%	1	18-Sep-15	12-Feb-16	12-Feb-16	115	0	0%	[Planned Bar]																							
SA1C0110	A9 (A1c) - Pile cap Formwork	3	24-Sep-15	0%	3	26-Sep-15	18-Feb-16	20-Feb-16	115	0	0%	[Planned Bar]																							
SA1C0120	A9 (A1c) - Pile cap Rebarwork	4	19-Sep-15	0%	4	23-Sep-15	13-Feb-16	17-Feb-16	115	0	0%	[Planned Bar]																							

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWP-3MRP-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**





























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	2015																							
												August						September						October						November					
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
SD4A0130	D6 (D4a) - Marine Pile Cap M2 - Rebar fixing, inst.inserts etc	12	14-Jul-15 A	100%	0	26-Jul-15 A					100%	[Gantt bar: 14-Jul-15 to 26-Jul-15]																							
SD4A0140	D6 (D4a) - Marine Pile Cap M2 - Concreting	1	27-Jul-15 A	100%	0	27-Jul-15 A					100%	[Gantt bar: 27-Jul-15 to 27-Jul-15]																							
SD4A0164	D6 (D4a) - Marine Pile Cap M2 - Curing incl. CJ preparation	6	28-Jul-15 A	100%	0	02-Aug-15 A					100%	[Gantt bar: 28-Jul-15 to 02-Aug-15]																							
<b>Pier Works</b>																																			
SD4A0170	D6 (D4a) - Type 4B-MJ Pier Temp. Support Platform & Scaffold (1st Lift)	7	03-Aug-15 A	100%	0	07-Aug-15 A					100%	[Gantt bar: 03-Aug-15 to 07-Aug-15]																							
SD4A0180	D6 (D4a) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (1st Lift)	5	08-Aug-15 A	100%	0	13-Aug-15 A					100%	[Gantt bar: 08-Aug-15 to 13-Aug-15]																							
SD4A0200	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	14-Aug-15 A	80%	1	21-Aug-15	13-May-15	13-May-15	-72	0	80%	[Gantt bar: 14-Aug-15 to 21-Aug-15]																							
SD4A0210	D6 (D4a) - Type 4B-MJ Pier Scaffolding (2nd Lift)	1	21-Aug-15	0%	1	22-Aug-15	14-May-15	14-May-15	-72	0	0%	[Gantt bar: 21-Aug-15 to 22-Aug-15]																							
SD4A0220	D6 (D4a) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	5	22-Aug-15	0%	5	28-Aug-15	15-May-15	20-May-15	-72	0	0%	[Gantt bar: 22-Aug-15 to 28-Aug-15]																							
SD4A0240	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (2nd Li	3	28-Aug-15	0%	3	01-Sep-15	22-May-15	26-May-15	-72	0	0%	[Gantt bar: 28-Aug-15 to 01-Sep-15]																							
SD4A0250	D6 (D4a) - Type 4B-MJ Pier Scaffolding (3rd Lift)	2	01-Sep-15	0%	2	04-Sep-15	27-May-15	28-May-15	-72	0	0%	[Gantt bar: 01-Sep-15 to 04-Sep-15]																							
SD4A0260	D6 (D4a) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (3rd Lift)	5	04-Sep-15	0%	5	11-Sep-15	29-May-15	04-Jun-15	-72	0	0%	[Gantt bar: 04-Sep-15 to 11-Sep-15]																							
SD4A0280	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (3rd Lif	3	11-Sep-15	0%	3	15-Sep-15	05-Jun-15	08-Jun-15	-72	0	0%	[Gantt bar: 11-Sep-15 to 15-Sep-15]																							
SD4A0300	D6 (D4a) - Type 4B-MJ Pier Head Scaffolding	4	15-Sep-15	0%	4	21-Sep-15	10-Jun-15	15-Jun-15	-72	0	0%	[Gantt bar: 15-Sep-15 to 21-Sep-15]																							
SD4A0310	D6 (D4a) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	9	21-Sep-15	0%	9	03-Oct-15	16-Jun-15	30-Jun-15	-72	0	0%	[Gantt bar: 21-Sep-15 to 03-Oct-15]																							
SD4A0330	D6 (D4a) - Type 4B-MJ Pier Head Concreting	1	03-Oct-15	0%	1	05-Oct-15	02-Jul-15	02-Jul-15	-72	0	0%	[Gantt bar: 03-Oct-15 to 05-Oct-15]																							
SD4A0340	D6 (D4a) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaffi	6	05-Oct-15	0%	6	12-Oct-15	03-Jul-15	09-Jul-15	-72	0	0%	[Gantt bar: 05-Oct-15 to 12-Oct-15]																							
SD4A372	D6 (D4a) - Type 4B-Bearing Plinth	6	05-Oct-15	0%	6	12-Oct-15	03-Jul-15	09-Jul-15	-72	0	0%	[Gantt bar: 05-Oct-15 to 12-Oct-15]																							
<b>Pier Head Segments</b>																																			
SD4A0370	D6 (D4a) - Pier Head Segment - Temporary Platform	6	12-Oct-15	0%	6	20-Oct-15	10-Jul-15	17-Jul-15	-72	94	0%	[Gantt bar: 12-Oct-15 to 20-Oct-15]																							
<b>Bridge D2</b>																																			
<b>Pier D7 (D3e)</b>																																			
<b>Pile Cap Works</b>																																			
SD3E0140	D7 (D3e) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	20-Jul-15 A	100%	0	31-Jul-15 A					100%	[Gantt bar: 20-Jul-15 to 31-Jul-15]																							
SD3E0150	D7 (D3e) - Marine Pile Cap M2b - Concreting	1	01-Aug-15 A	100%	0	01-Aug-15 A					100%	[Gantt bar: 01-Aug-15 to 01-Aug-15]																							
SD3E0160	D7 (D3e) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	02-Aug-15 A	100%	0	07-Aug-15 A					100%	[Gantt bar: 02-Aug-15 to 07-Aug-15]																							
<b>Pier Works</b>																																			
SD3E0170	D7 (D3e) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	10-Aug-15 A	100%	0	14-Aug-15 A					100%	[Gantt bar: 10-Aug-15 to 14-Aug-15]																							
SD3E0180	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	17-Aug-15 A	50%	3	24-Aug-15	26-Mar-15	28-Mar-15	-105	0	50%	[Gantt bar: 17-Aug-15 to 24-Aug-15]																							
SD3E0200	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	24-Aug-15	0%	3	27-Aug-15	30-Mar-15	01-Apr-15	-105	0	0%	[Gantt bar: 24-Aug-15 to 27-Aug-15]																							
SD3E0210	D7 (D3e) - Type 4B Pier Scaffolding (2nd Lift)	1	27-Aug-15	0%	1	28-Aug-15	02-Apr-15	02-Apr-15	-105	0	0%	[Gantt bar: 27-Aug-15 to 28-Aug-15]																							
SD3E0220	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	28-Aug-15	0%	5	04-Sep-15	08-Apr-15	13-Apr-15	-105	0	0%	[Gantt bar: 28-Aug-15 to 04-Sep-15]																							
SD3E0240	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	04-Sep-15	0%	3	08-Sep-15	14-Apr-15	17-Apr-15	-105	0	0%	[Gantt bar: 04-Sep-15 to 08-Sep-15]																							
SD3E0250	D7 (D3e) - Type 4B Pier Scaffolding (3rd Lift)	2	08-Sep-15	0%	2	11-Sep-15	18-Apr-15	20-Apr-15	-105	0	0%	[Gantt bar: 08-Sep-15 to 11-Sep-15]																							
SD3E0260	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	11-Sep-15	0%	5	18-Sep-15	21-Apr-15	27-Apr-15	-105	0	0%	[Gantt bar: 11-Sep-15 to 18-Sep-15]																							
SD3E0280	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	18-Sep-15	0%	3	22-Sep-15	28-Apr-15	30-Apr-15	-105	0	0%	[Gantt bar: 18-Sep-15 to 22-Sep-15]																							
SD3E0300	D7 (D3e) - Type 4B Pier Head Scaffolding	4	22-Sep-15	0%	4	26-Sep-15	02-May-15	06-May-15	-105	0	0%	[Gantt bar: 22-Sep-15 to 26-Sep-15]																							
SD3E0310	D7 (D3e) - Type 4B Pier Head Rebarwork, Formwork & Prep	9	26-Sep-15	0%	9	09-Oct-15	07-May-15	18-May-15	-105	0	0%	[Gantt bar: 26-Sep-15 to 09-Oct-15]																							
SD3E0330	D7 (D3e) - Type 4B Pier Head Concreting	1	09-Oct-15	0%	1	10-Oct-15	19-May-15	19-May-15	-105	0	0%	[Gantt bar: 09-Oct-15 to 10-Oct-15]																							
SD3E0340	D7 (D3e) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	10-Oct-15	0%	6	19-Oct-15	20-May-15	28-May-15	-105	0	0%	[Gantt bar: 10-Oct-15 to 19-Oct-15]																							
<b>Pier Head Segments</b>																																			
SD3E0370	D7 (D3e) - Pier Head Segment - Temporary Platform	6	19-Oct-15	0%	6	27-Oct-15	29-May-15	05-Jun-15	-105	0	0%	[Gantt bar: 19-Oct-15 to 27-Oct-15]																							
SD3E0372	D7 (D3e) - Pier Head Segment Lift & Fix (1 seg)	2	27-Oct-15	0%	2	30-Oct-15	06-Jun-15	08-Jun-15	-105	0	0%	[Gantt bar: 27-Oct-15 to 30-Oct-15]																							
SD3E0374	D7 (D3e) - Pier Head Segment Diaphragm - Rebar	12	30-Oct-15	0%	12	13-Nov-15	10-Jun-15	29-Jun-15	-105	0	0%	[Gantt bar: 30-Oct-15 to 13-Nov-15]																							
SD3E0376	D7 (D3e) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	13-Nov-15	0%	8	23-Nov-15	30-Jun-15	09-Jul-15	-105	0	0%	[Gantt bar: 13-Nov-15 to 23-Nov-15]																							
<b>Pier D8 (D3d)</b>																																			
<b>Pier Works</b>																																			
SD3D0230	D8 (D3d) - Type 5B Pier Scaffolding (3rd Lift)	2	13-Aug-15 A	100%	0	19-Aug-15 A					100%	[Gantt bar: 13-Aug-15 to 19-Aug-15]																							
SD3D0240	D8 (D3d) - Type 5B Pier Rebarwork (3rd Lift)	3	20-Aug-15 A	100%	0	21-Aug-15	11-May-15	11-May-15	-72	0	100%	[Gantt bar: 20-Aug-15 to 21-Aug-15]																							
SD3D0250	D8 (D3d) - Type 5B Pier Formwork & Prep for Concreting (3rd Lift)	3	21-Aug-15	0%	3	24-Aug-15	13-May-15	15-May-15	-72	0	0%	[Gantt bar: 21-Aug-15 to 24-Aug-15]																							
SD3D0260	D8 (D3d) - Type 5B Pier Concreting (3rd Lift)	1	25-Aug-15	0%	1	25-Aug-15	16-May-15	16-May-15	-72	0	0%	[Gantt bar: 25-Aug-15 to 25-Aug-15]																							
SD3D0262	D8 (D3d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	26-Aug-15	0%	2	27-Aug-15	18-May-15	19-May-15	-72	0	0%	[Gantt bar: 26-Aug-15 to 27-Aug-15]																							
SD3D0270	D8 (D3d) - Type 5B Pier Head Scaffolding	3	28-Aug-15	0%	3	31-Aug-15	20-May-15	23-May-15	-72	0	0%	[Gantt bar: 28-Aug-15 to 31-Aug-15]																							
SD3D0280	D8 (D3d) - Type 5B Pier Head Rebarwork	4	01-Sep-15	0%	4	05-Sep-15	26-May-15	29-May-15	-72	0	0%	[Gantt bar: 01-Sep-15 to 05-Sep-15]																							
SD3D0290	D8 (D3d) - Type 5B Pier Head Formwork & Prep for Concreting	4	07-Sep-15	0%	4	11-Sep-15	30-May-15	04-Jun-15	-72	0	0%	[Gantt bar: 07-Sep-15 to 11-Sep-15]																							
SD3D0300	D8 (D3d) - Type 5B Pier Head Concreting	1	12-Sep-15	0%	1	12-Sep-15	05-Jun-15	05-Jun-15	-72	0	0%	[Gantt bar: 12-Sep-15 to 12-Sep-15]																							
SD3D0310	D8 (D3d) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	14-Sep-15	0%	6	21-Sep-15	06-Jun-15	15-Jun-15	-72	0	0%	[Gantt bar: 14-Sep-15 to 21-Sep-15]																							
SD3D0320	D8 (D3d) - Type 5B Pier Backfilling Works	4	16-Jun-15 A	60%	2	22-Aug-15	13-Jun-15	15-Jun-15	-50	22	0%	[Gantt bar: 16-Jun-15 to 22-Aug-15]																							
<b>Pier Head Segments</b>																																			
SD3D0370	D8 (D3d) - Pier Head Segment - Temporary Platform	6	22-Sep-15	0%	6	29-Sep-15	16-Jun-15	26-Jun-15	-72	14	0%	[Gantt bar: 22-Sep-15 to 29-Sep-15]																							
SD3D0372	D8 (D3d) - Pier Head Segment Lift & Fix (1 seg)	2	19-Oct-15	0%	2	20-Oct-15	27-Jun-15	29-Jun-15	-86	0	0%	[Gantt bar: 19-Oct-15 to 20-Oct-15]																							
SD3D0374	D8 (D3d) - Pier Head Segment Diaphragm - Rebar	13	22-Oct-15	0%	13	06-Nov-15	30-Jun-15	15-Jul-15	-86	0	0%	[Gantt bar: 22-Oct-15 to 06-Nov-15]																							
SD3D0376	D8 (D3d) - Pier Head Segment Diaphragm - Formwork	8	07-Nov-15	0%	8	16-Nov-15	17-Jul-15	25-Jul-15	-86	0	0%	[Gantt bar: 07-Nov-15 to 16-Nov-15]																							

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWP-1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 18 of 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**

































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	2015																								
												August						September						October						November						
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23						
<b>Foundation Works - E14C (E6d)</b>																																				
GFXX544	E14C (E6d) - Confirm Rockhead levels	8	21-Aug-15	0%	8	29-Aug-15	04-Feb-15	12-Feb-15	-145	0	0%																									
GFXX547	E14C (E6d) - Bored Piles (2.20m dia. x 3 nos)	93	31-Aug-15	0%	93	28-Dec-15	13-Feb-15	22-Jun-15	-145	0	0%																									
<b>Foundation Works - E14D (E5d)</b>																																				
GFXX544	E14D (E5d) - Confirm Rockhead levels	8	21-Aug-15	0%	8	29-Aug-15	22-Nov-14	01-Dec-14	-205	0	0%																									
GFXX546	E14D (E5d) - Bored Piles (2.20m dia. x 4 nos)	106	31-Aug-15	0%	106	13-Jan-16	02-Dec-14	16-Apr-15	-205	0	0%																									
<b>Viaduct F</b>																																				
<b>Viaduct F1</b>																																				
<b>General F1</b>																																				
<b>Milestones</b>																																				
GFXX553-8	F2 (F1c) - Start date for piling	0	03-Oct-15	0%	0		15-Apr-15		-141	74	0%																									
GFXX553-9	F3 (F1d) - Start date for piling	0	03-Oct-15	0%	0		22-Aug-15		-34	84	0%																									
<b>F1 (F1b)</b>																																				
<b>Foundation Works</b>																																				
GFXX553-1	F1 (F1b) - Pre-drilling for Piles (3 nos)	24	29-Apr-15 A	66.7%	8	29-Aug-15	29-Jun-15	08-Jul-15	-45	0	66.7%																									
GFXX553-4	F1 (F1b) - Confirm Rockhead Levels	8	29-Aug-15	0%	8	08-Sep-15	09-Jul-15	17-Jul-15	-45	103	0%																									
<b>F2 (F1c)</b>																																				
<b>Foundation Works</b>																																				
GFXX553-5	F2 (F1c) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	31-Dec-14	09-Jan-15	-188	27	0%																									
GFXX556	F2 (F1c) - Bored Piles (1.80m dia. x 3 nos)	74	03-Oct-15	0%	74	31-Dec-15	10-Jan-15	14-Apr-15	-215	0	0%																									
<b>F3 (F1d)</b>																																				
<b>Foundation Works</b>																																				
GFXX553-6	F3 (F1d) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	24-Mar-15	01-Apr-15	-121	27	0%																									
GFXX557	F3 (F1d) - Bored Piles (1.80m dia. x 3 nos)	84	03-Oct-15	0%	84	13-Jan-16	02-Apr-15	17-Jul-15	-148	0	0%																									
<b>Viaduct F2</b>																																				
<b>General F2</b>																																				
<b>Milestones</b>																																				
GFXX561-	F6 (F2d) - Start date for piling	0	03-Oct-15	0%	0		30-Jun-15		-79	72	0%																									
GFXX561-9	F5 (F2c) - Start date for piling	0	03-Oct-15	0%	0		10-Sep-15		-18	72	0%																									
<b>F4 (F2b)</b>																																				
<b>Foundation Works</b>																																				
GFXX561-6	F4 (F2b) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	12-Jun-15	22-Jun-15	-58	99	0%																									
<b>F5 (F2c)</b>																																				
<b>Foundation Works</b>																																				
GFXX561-8	F5 (F2c) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	13-Mar-15	21-Mar-15	-130	27	0%																									
GFXX564	F5 (F2c) - Bored Piles (1.80m dia. x 3 nos)	72	03-Oct-15	0%	72	29-Dec-15	23-Mar-15	22-Jun-15	-157	0	0%																									
<b>F6 (F2d)</b>																																				
<b>Foundation Works</b>																																				
GFXX561-	F6 (F2d) - Confirm Rockhead Levels	8	15-Apr-15 A	62.5%	3	24-Aug-15	26-Mar-15	30-Mar-15	-119	32	0%																									
GFXX565	F6 (F2d) - Bored Piles (1.80m dia. x 3 nos)	72	03-Oct-15	0%	72	29-Dec-15	30-Mar-15	30-Jun-15	-151	0	0%																									
<b>F7 (F2e)</b>																																				
<b>Foundation Works</b>																																				
GFXX561-	F7 (F2e) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	21-Aug-15	29-Aug-15	0	201	0%																									
GFXX561-4	F7 (F2e) - Pre-drilling for Piles (3 nos)	24	21-May-15 A	100%	0	21-Aug-15	20-Aug-15	20-Aug-15	0	0	100%																									
<b>F8 (F2f) &amp; Abutment</b>																																				
<b>Foundation Works</b>																																				
GFXX561-	F8 (F2f) - Confirm Rockhead Levels	8	22-Sep-15	0%	8	02-Oct-15	26-Feb-16	05-Mar-16	126	166	0%																									
GFXX561-5	F8 (F2f) - Pre-drilling for Piles (2 nos)	24	25-Aug-15	0%	24	21-Sep-15	26-Jan-16	25-Feb-16	126	0	0%																									
<b>Viaduct F3</b>																																				
<b>General F3</b>																																				
<b>Milestones</b>																																				
GFXX571-6	F9 (F3d) - Start date for piling	0	03-Oct-15	0%	0		21-Aug-15		-35	84	0%																									
GFXX571-8	F10 (F3c) - Start date for piling	0	03-Oct-15	0%	0		26-Oct-15		18	72	0%																									
<b>F9 (F3d-1/F3d-2)</b>																																				
<b>Foundation Works - F9 (F3d-1/F3d-2)</b>																																				
<b>Foundation Works</b>																																				
GFXX571	F9 (F3d) - Confirm Rockhead Levels	8	21-Aug-15	0%	8	29-Aug-15	17-Jan-15	26-Jan-15	-174	27	0%																									
GFXX575	F9 (F3d) - Bored Piles (1.80m dia. x 4 nos)	84	03-Oct-15	0%	84	13-Jan-16	27-Jan-15	13-May-15	-201	0	0%																									
<b>F10 (F3c-1/F3c-2)</b>																																				
<b>Foundation Works - Pier F10</b>																																				
<b>Foundation Works</b>																																				

█ Actual Work  
█ Planned Bar  
█ Critical Bar  
◆ Milestone

Project ID: J3518DWPRe1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 30 of 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**











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	2015																							
												August					September					October					November								
												20	27	03	10	17	24	31	07	14	21	28	05	12	19	26	02	09	16	23					
<b>Bridge D1 Superstructure</b>																																			
<b>Milestones</b>																																			
<b>Milestones Ready for PH Segment Erection</b>																																			
D100010-1	Pier D19 (D1b) ready for Viaduct D1 PH segment erection	0		0%	0	21-Aug-15		27-Oct-15	52	0	0%																								
D100020-1	Pier D18 (D1c) ready for Viaduct D1 PH segment erection	0		0%	0	27-Aug-15		25-Nov-15	70	4	0%																								
D100030-1	Pier D17 (D1d) ready for Viaduct D1 PH segment erection	0		0%	0	24-Aug-15		14-Aug-15	-7	0	0%																								
D100040-1	Pier D16 (D2a) ready for Viaduct D1 PH segment erection	0		0%	0	05-Oct-15		14-Aug-15	-39	0	0%																								
D100050-1	Pier D15 (D2b) ready for Viaduct D1 PH segment erection	0		0%	0	09-Oct-15		03-Oct-15	-5	0	0%																								
D100070-1	Pier D13 (D2d) ready for Viaduct D1 PH segment erection	0		0%	0	25-Sep-15		11-Nov-15	35	0	0%																								
<b>Viaduct E</b>																																			
<b>Bridge E1 Superstructure</b>																																			
<b>Milestones</b>																																			
<b>Milestones Ready for PH Segment Erection</b>																																			
E100010-1	Pier A1 (A2e) ready for Viaduct E1 PH segment erection	0		0%	0	07-Oct-15		12-May-16	171	0	0%																								
E100020-1	Pier C1 (C4e) ready for Viaduct E1 PH segment erection	0		0%	0	29-Aug-15		27-Dec-18	929	929	0%																								
E100030-1	Pier D1 (D4f) ready for Viaduct E1 PH segment erection	0		0%	0	27-Aug-15		19-May-15	-72	0	0%																								
E100050-1	Pier E1D (E1a1) ready for Viaduct E1 PH segment erection	0		0%	0	01-Sep-15		11-Mar-16	151	0	0%																								
E100060-1	Pier E1C (E1a2) ready for Viaduct E1 PH segment erection	0		0%	0	30-Sep-15		25-Mar-15	-138	0	0%																								
E100070-1	Pier E1B (E1a3) ready for Viaduct E1 PH segment erection	0		0%	0	21-Aug-15		27-Dec-18	936	936	0%																								
E100080-1	Pier E1A (E1a4) ready for Viaduct E1 PH segment erection	0		0%	0	21-Aug-15		27-Dec-18	936	936	0%																								
E100090-1	Pier E2D (E1b1) ready for Viaduct E1 PH segment erection	0		0%	0	11-Sep-15		16-Mar-16	148	0	0%																								
E100100-1	Pier E2C (E1b2) ready for Viaduct E1 PH segment erection	0		0%	0	11-Sep-15		13-Apr-15	-111	141	0%																								
E100110-1	Pier E2B (E1b3) ready for Viaduct E1 PH segment erection	0		0%	0	25-Sep-15		31-Jan-15	-177	0	0%																								
E100120-1	Pier E2A (E1b4) ready for Viaduct E1 PH segment erection	0		0%	0	21-Aug-15		27-Dec-18	936	936	0%																								
E100130-1	Pier E3D (E2a1) ready for Viaduct E1 PH segment erection	0		0%	0	16-Sep-15		23-Mar-16	150	117	0%																								
E100140-1	Pier E3C (E2a2) ready for Viaduct E1 PH segment erection	0		0%	0	11-Sep-15		19-Mar-15	-128	110	0%																								
E100150-1	Pier E3B (E2a3) ready for Viaduct E1 PH segment erection	0		0%	0	16-Sep-15		26-Feb-15	-150	95	0%																								
E100160-1	Pier E3A (E2a4) ready for Viaduct E1 PH segment erection	0		0%	0	14-Sep-15		30-Jan-15	-168	0	0%																								
<b>Milestones Ready for Deck Segment Erection</b>																																			
E100010	Pier A1 (A2e) ready for Viaduct E1 deck segment erection	0		0%	0	27-Oct-15		03-Jun-16	171	407	0%																								
E100050	Pier E1D (E1a1) ready for Viaduct E1 deck segment erection	0		0%	0	14-Nov-15		25-May-16	150	397	0%																								
E100060	Pier E1C (E1a2) ready for Viaduct E1 deck segment erection	0		0%	0	11-Nov-15		09-May-15	-137	115	0%																								
E100070	Pier E1B (E1a3) ready for Viaduct E1 deck segment erection	0		0%	0	05-Sep-15		30-May-15	-72	180	0%																								
E100080	Pier E1A (E1a4) ready for Viaduct E1 deck segment erection	0		0%	0	24-Aug-15		26-Jan-15	-155	81	0%																								
E100090	Pier E2D (E1b1) ready for Viaduct E1 deck segment erection	0		0%	0	24-Oct-15		30-Apr-16	149	396	0%																								
E100100	Pier E2C (E1b2) ready for Viaduct E1 deck segment erection	0		0%	0	09-Nov-15		13-Apr-15	-155	97	0%																								
E100110	Pier E2B (E1b3) ready for Viaduct E1 deck segment erection	0		0%	0	09-Nov-15		16-Mar-15	-175	77	0%																								
E100120	Pier E2A (E1b4) ready for Viaduct E1 deck segment erection	0		0%	0	28-Aug-15		16-Feb-15	-141	95	0%																								
<b>Bridge E2 Superstructure</b>																																			
<b>Milestones</b>																																			
<b>Milestones Ready for PH Segment Erection</b>																																			
E200010-1	Pier E3D (E2a1) ready for Viaduct E2 PH segment erection	0		0%	0	16-Sep-15		23-Mar-16	150	117	0%																								
E200020-1	Pier E3C (E2a2) ready for Viaduct E2 PH segment erection	0		0%	0	11-Sep-15		19-Mar-15	-128	110	0%																								
E200030-1	Pier E3B (E2a3) ready for Viaduct E2 PH segment erection	0		0%	0	16-Sep-15		26-Feb-15	-150	95	0%																								
E200040-1	Pier E3A (E2a4) ready for Viaduct E2 PH segment erection	0		0%	0	14-Sep-15		30-Jan-15	-168	0	0%																								
E200050-1	Pier E4B (E2b1) ready for Viaduct E2 PH segment erection	0		0%	0	17-Oct-15		29-May-15	-103	2	0%																								
E200060-1	Pier E4A (E2b2) ready for Viaduct E2 PH segment erection	0		0%	0	07-Oct-15		08-Apr-15	-134	2	0%																								
E200150-1	Pier E9B (E2g1) ready for Viaduct E2 PH segment erection	0		0%	0	19-Nov-15		26-Jun-15	-113	0	0%																								
<b>At-Grade Roadworks &amp; Other Works along NLH</b>																																			
<b>Viaduct A Slope Works</b>																																			
<b>Slope 9SE-B/FR8</b>																																			
GFXX485	9SE-B/FR8 - Protective Fencing	46	21-Aug-15	0%	46	20-Oct-15	10-Sep-15	09-Nov-15	15	0	0%																								
GFXX490	9SE-B/FR8 - Mobilization for Mini Pile	3	22-Oct-15	0%	3	24-Oct-15	10-Nov-15	12-Nov-15	15	0	0%																								
GFXX491	9SE-B/FR8 - Installation of Mini Pile (118 No.)	148	26-Oct-15	0%	148	29-Apr-16	13-Nov-15	20-May-16	15	0	0%																								
<b>At-Grade Roadworks along NLH Westbound</b>																																			
RW10003	NLH W/B (Viaduct C) - Gantry Footing (GT326, GT327, GT328) - Verge (	54	05-May-15 A	60%	22	18-Sep-15	13-Jul-15	08-Aug-15	-30	0	60%																								
RW10005	NLH W/B (Viaduct C) - Implement TTM - Verge for Gantry Footings (GT3	2	18-Sep-15*	0%	2	21-Sep-15	10-Aug-15	12-Aug-15	-30	0	0%																								
RW10007	NLH W/B (Viaduct C) - Gantry Footing (GT324, GT325) - Verge (KD3)	35	21-Sep-15	0%	35	06-Nov-15	13-Aug-15	26-Sep-15	-30	0	0%																								
RW10009	NLH W/B (Viaduct C) - Implement TTM - Median for Gantry Footings (GT:	2	06-Nov-15	0%	2	09-Nov-15	29-Sep-15	30-Sep-15	-30	0	0%																								
RW10009A	NLH W/B (Viaduct C) - Gantry Footing (GT326, GT327, GT328) - Median	72	09-Nov-15	0%	72	04-Feb-16	02-Oct-15	30-Dec-15	-30	0	0%																								
<b>At-Grade Roadworks along NLH Eastbound</b>																																			

■ Actual Work  
■ Planned Bar  
■ Critical Bar  
◆ Milestone

Project ID: J3518DWP-E1-M27  
 Layout: J3518-DWP-3MRP Submission - M27  
 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 34 of 35 Pages)**  
**(Progress as of 21-Aug-15)**

Date	Revision	Checked	Approved
02-Jul-15		HF	KWY
28-Jul-15		PKN	KWY
01-Sep-15		PKN	KWY

**DWG. No.:**  
**J3518/GCL/PGM/3MRP-M27**



## 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	
<b>AIR QUALITY</b>									
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		✓
<b>NOISE</b>									
5.11	Section 4	Noise monitoring	All existing representative sensitive receivers / during North Lantau Viaduct construction	Contractor	EM&A Manual		Y		✓
<b>WATER QUALITY</b>									
<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	✓
<b>ECOLOGY</b>									
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 <sup>2</sup> 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		<b>Completed in October 2014</b>
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		✓
<b>LANDSCAPE AND VISUAL</b>									
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/vegetation 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		✓ No tree removal
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 (OM4)	All areas/ detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD

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	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
<b>WASTE</b>									
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 where possible. Earth retaining structures and bored	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	
		pile walls should be proposed to minimise the extent of cutting.							
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 materials should avoid over-ordering and wastage.	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	
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"> <li>- suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed;</li> <li>- Having a capacity of &lt;450L unless the specifications have been approved by the EPD; and</li> <li>- 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;</li> <li>- Enclosed with at least 3 sides;</li> <li>- 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;</li> <li>- Adequate ventilation;</li> </ul>	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"> <li>- Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and</li> <li>- Incompatible materials are adequately separated.</li> </ul>							
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 hardstanding;	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 paper if such volume is sufficiently large to	Site Offices/ 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	
		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.	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		✓
<b>CULTURAL HERITAGE</b>									
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*

<b>Parameters</b>	<b>Action</b>	<b>Limit</b>
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)*

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

**Table D3** *Action and Limit Levels for Water Quality*

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

**Notes:**

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

- (a) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- (b) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths
- (c) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
- (d) All figures given in the table are used for reference only, and EPD may amend the figures whenever it is considered as necessary

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

**Table D4** *Action and Limit Levels for Impact Dolphin Monitoring*

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

**Notes:**

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

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

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

Appendix E

## Calibration Certificates of Monitoring Equipments

High-Volume TSP Sampler  
5-Point Calibration Record

Location : ASR8(A)  
 Calibrated by : P.F. Yeung  
 Date : 28/07/2015

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 24 Mar 2015  
 Slope (m) : 2.09532  
 Intercept (b) : -0.03812  
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
 Ta(K) : 304

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.8	3.399	1.641	56	55.42
2	13 holes	9.8	3.098	1.497	51	50.47
3	10 holes	7.2	2.655	1.285	45	44.53
4	7 holes	4.8	2.168	1.053	37	36.61
5	5 holes	2.8	1.656	0.808	28	27.71

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): 32.928 Intercept(b): 1.564 Correlation Coefficient(r): 0.9990

Checked by: Magnum Fan

Date: 03/08/2015



High-Volume TSP Sampler  
5-Point Calibration Record

Location : ASR9  
 Calibrated by : P.F. Yeung  
 Date : 28/07/2015

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 24 Mar 2015  
 Slope (m) : 2.09532  
 Intercept (b) : -0.03812  
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
 Ta(K) : 304

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.6	3.370	1.627	56	55.42
2	13 holes	9.2	3.002	1.451	50	49.48
3	10 holes	7.0	2.618	1.268	44	43.54
4	7 holes	4.5	2.099	1.020	36	35.63
5	5 holes	2.7	1.626	0.794	27	26.72

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): 34.093 Intercept(b): 0.224 Correlation Coefficient(r): 0.9992

Checked by: Magnum Fan

Date: 03/08/2015

High-Volume TSP Sampler  
5-Point Calibration Record

Location : ASR8(A)  
 Calibrated by : P.F. Yeung  
 Date : 28/09/2015

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 24 Mar 2015  
 Slope (m) : 2.09532  
 Intercept (b) : -0.03812  
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition

Pa (hpa) : 1000  
 Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.4	3.178	1.535	55	54.19
2	13 holes	8.5	2.873	1.389	50	49.27
3	10 holes	6.6	2.531	1.226	44	43.35
4	7 holes	4.0	1.971	0.959	36	35.47
5	5 holes	2.5	1.558	0.762	28	27.59

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): 33.831 Intercept(b): 2.253 Correlation Coefficient(r): 0.9989

Checked by: Magnum Fan

Date: 04/10/2015

High-Volume TSP Sampler  
5-Point Calibration Record

Location : ASR9  
 Calibrated by : P.F. Yeung  
 Date : 28/09/2015

Sampler

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

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 24 Mar 2015  
 Slope (m) : 2.09532  
 Intercept (b) : -0.03812  
 Correlation Coefficient(r) : 0.99994

Standard Condition

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

Calibration Condition

Pa (hpa) : 1000  
 Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.4	3.178	1.535	50	49.27
2	13 holes	8.5	2.873	1.389	46	45.33
3	10 holes	6.0	2.414	1.170	41	40.40
4	7 holes	4.0	1.971	0.959	35	34.49
5	5 holes	2.5	1.558	0.762	30	29.56

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): 25.418 Intercept(b): 10.249 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 04/10/2015



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 24, 2015 Rootmeter S/N 0438320 Ta (K) - 292  
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 756.92

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	1.4460	3.2	2.00
2	NA	NA	1.00	1.0300	6.4	4.00
3	NA	NA	1.00	0.9180	7.9	5.00
4	NA	NA	1.00	0.8780	8.7	5.50
5	NA	NA	1.00	0.7240	12.6	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0121	0.6999	1.4258	0.9958	0.6886	0.8784
1.0078	0.9785	2.0163	0.9916	0.9627	1.2422
1.0057	1.0955	2.2543	0.9895	1.0779	1.3888
1.0047	1.1443	2.3644	0.9885	1.1258	1.4566
0.9994	1.3805	2.8515	0.9833	1.3582	1.7568
Qstd slope (m) = 2.09532			Qa slope (m) = 1.31205		
intercept (b) = -0.03812			intercept (b) = -0.02349		
coefficient (r) = 0.99994			coefficient (r) = 0.99994		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

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





輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

## 校正證書

Certificate No. : C153241

證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC15-1330 )

Date of Receipt / 收件日期 : 10 June 2015

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.

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 : 14 June 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

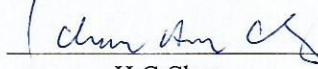
Tested By

測試

  
K C Lee  
Project Engineer

Certified By

核證

  
H C Chan  
Engineer

Date of Issue

簽發日期

16 June 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.

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

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Page 1 of 2





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. : C153241  
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	C143868
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

- 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	0.986	1 kHz ± 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.

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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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.

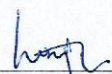
The results are detailed in the subsequent page(s).

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。

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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 <sub>A</sub>	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 <sub>A</sub>	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 <sub>A</sub>	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.

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. : 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 <sub>A</sub>	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 <sub>C</sub>	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。



## Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/011                      Manufacturer : HACH  
Model No. : 2100Q                                      Serial No. : 12060 C 018534  
Date of Calibration : 02/07/2015                      Due Date : 01/10/2015

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

005/6.1/001/7

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	19.7	-1.50
100	98.4	-1.60
800	790	-1.25

(\*) 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. : ET/EW007/004      Manufacturer : Thermo Scientific  
 Model No. : Orion 2 Star      Serial No. : B29792  
 Date of Calibration : 05/08/2015      Calibration Due Date : 04/09/2015

### Liquid Junction Error

003/5.2/001/24 (20°C)

Primary Standard Solution Used : Phosphate      Vol. of Primary Solution: 003/5.2/001/25 (25°C)  
 Temperature of Solution : 25.0 / 20.0       $\Delta\text{pH}_{1/2} = \underline{+0.01 / +0.01}$   
 pH value of diluted buffer : 6.89 / 6.92      pH (S) = 6.86 / 6.88  
 $\Delta\text{pH} = \text{pH(S)} - \text{pH of diluted buffer} = \underline{0.03 / 0.04}$  (Observed Deviation)  
 Liquid Junction Error ( $\Delta\text{pH}_j$ ) =  $\Delta\text{pH} - \Delta\text{pH}_{1/2} = \underline{0.02 / 0.03}$

### Shift on Stirring

pH of buffer solution (with stirring),  $\text{pH}_s = \underline{6.90 / 6.92}$   
 Shift on stirring,  $\Delta\text{pH}_s = \text{pH}_s - \text{pH(S)} - \Delta\text{pH}_j = \underline{0.02 / 0.01}$

### Noise

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

### Verification of ATC

Ref. No. of reference thermometer used: ET/0521/019  
 Temperature record from the reference thermometer ( $T_R$ ): 25.2 / 20.0 °C  
 Temperature record from the ATC ( $T_{ATC}$ ): 25.0 / 19.8 °C  
 Temperature Difference,  $|T_R - T_{ATC}|$  : 0.2 / 0.2 °C  
 Correction : +0.2 / +0.2 °C

### Acceptance Criteria

Performance Characteristic	Acceptable Range
Liquid Junction Error $\Delta\text{pH}_j$	$\leq 0.05$
Shift on Stirring $\Delta\text{pH}_s$	$\leq 0.02$
Noise $\Delta\text{pH}_n$	$\leq 0.02$
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: hy

Checked by : [Signature]



## Internal Calibration & Performance Check of pH Meter

Equipment Ref. No. :	<u>ET/EW007/004</u>	Manufacturer :	<u>Thermo Scientific</u>
Model No. :	<u>Orion 2 Star</u>	Serial No. :	<u>B29792</u>
Date of Calibration :	<u>05/09/2015</u>	Calibration Due Da :	<u>04/10/2015</u>

### Liquid Junction Error

Primary Standard Solution Used :	<u>Phosphate</u>	I.o. of Primary Solution:	<u>003/5.2/001/24 (20°C)</u>
Temperature of Solution :	<u>25.0 / 20.0</u>	$\Delta\text{pH}_{1/2} =$	<u>+0.01 / +0.01</u>
pH value of diluted buffer :	<u>6.88 / 6.93</u>	pH (S) =	<u>6.86 / 6.88</u>
$\Delta\text{pH} = \text{pH(S)} - \text{pH of diluted buffer} =$	<u>0.02 / 0.05</u>	(Observed Deviation)	
Liquid Junction Error ( $\Delta\text{pH}_j$ ) = $\Delta\text{pH} - \Delta\text{pH}_{1/2} =$	<u>0.01 / 0.04</u>		

### Shift on Stirring

pH of buffer solution (with stirring), $\text{pH}_s =$	<u>6.89 / 6.94</u>
Shift on stirring, $\Delta\text{pH}_s = \text{pH}_s - \text{pH(S)} - \Delta\text{pH}_j =$	<u>0.02 / 0.02</u>

### 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>
Temperature record from the reference thermometer ( $T_R$ ):	<u>25 / 20.0 °C</u>
Temperature record from the ATC ( $T_{ATC}$ ):	<u>24.8 / 19.8 °C</u>
Temperature Difference, $ T_R - T_{ATC} $	<u>0.2 / 0.2 °C</u>
Correction	<u>+0.2 / +0.2 °C</u>

### Acceptance Criteria

Performance Characteristic	Acceptable Range
Liquid Junction Error $\Delta\text{pH}_j$	$\leq 0.05$
Shift on Stirring $\Delta\text{pH}_s$	$\leq 0.02$
Noise $\Delta\text{pH}_n$	$\leq 0.02$
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/008/006</u>	Manufacturer : <u>YSI</u>
Model No. : <u>Pro 2030</u>	Serial No. : <u>12A 100554</u>
Date of Calibration : <u>15/06/2015</u>	Calibration Due Date : <u>14/09/2015</u>

#### *Temperature Verification*

Ref. No. of Reference Thermometer : ET/0521/008

Ref. No. of Water Bath : ---

	Temperature (°C)			
	Measured	20.5	Corrected	19.9
Reference Thermometer reading	Measured	20.5	Corrected	19.9
DO Meter reading	Measured	19.7	Difference	0.2

#### *Standardization of sodium thiosulphate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) solution*

Reagent No. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> titrant	CPE/012/4.5/001/12	Reagent No. of 0.025N K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	CPE/012/4.4/001/37
		Trial 1	Trial 2
Initial Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)		0.00	10.20
Final Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)		10.20	20.50
Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> used (ml)		10.20	10.30
Normality of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> solution (N)		0.02451	0.02427
Average Normality (N) of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> solution (N)		0.02439	
Acceptance criteria, Deviation		Less than ± 0.001N	

Calculation: Normality of Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, N = 0.25 / ml Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> used

#### *Linearity Checking*

##### *Determination of dissolved oxygen content by Winkler Titration \**

Purging Time (min)	2		5		10	
	1	2	1	2	1	2
Trial						
Initial Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)	0.00	11.30	22.70	0.00	6.50	10.40
Final Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)	11.30	22.70	29.30	6.50	10.40	14.20
Vol. (V) of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> used (ml)	11.30	11.40	6.60	6.50	3.90	3.80
Dissolved Oxygen (DO), mg/L	7.40	7.46	4.32	4.26	2.55	2.49
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	7.23	7.33	7.28	7.40	7.46	7.43	2.04
5	4.50	4.48	4.49	4.32	4.26	4.29	4.56
10	2.51	2.38	2.45	2.55	2.49	2.52	2.82
Linear regression coefficient				0.9951			



## 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/012/4.7/003/3	Reagent No. of NaCl (30ppt)	CPE/012/4.8/003/3
-----------------------------	-------------------	-----------------------------	-------------------

### Determination of dissolved oxygen content by Winkler Titration \*\*

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)	0.00	11.40	22.60	32.10
Final Vol. of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (ml)	11.40	22.60	32.10	41.70
Vol. (V) of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> used (ml)	11.40	11.20	9.50	9.60
Dissolved Oxygen (DO), mg/L	7.46	7.33	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	7.38	7.20	7.29	7.46	7.33	7.40	1.50
30	6.33	6.46	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 :

\_\_\_\_\_



# ENVIROTECH SERVICES CO.

## Calibration Report of Wind Meter

Date of Calibration : 24 June 2015

Brand of Test Meter: Global Water

Model: Speed Sensor: WE550 (S/N:EC0000 )

Direction Sensor: WE570 (S/N:ED0000)

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)
0.88	0.8
2.19	2.4
3.32	3.5

#### Wind Direction Test

Global Wate (o)	Marine Compass (o)
270.85	270
0.05	0
89.45	90
180.67	180

Calibrated by:

*Fai*  
Yeung Ping Fai  
(Technical Officer)

Checked by :

*Fat*  
Ho Kam Fat  
(Senior Technical Officer)





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. : C153422

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC15-1330)

Date of Receipt / 收件日期 : 10 June 2015

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.

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 : 23 June 2015

TEST RESULTS / 測試結果

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

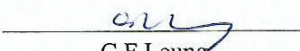
The results are detailed in the subsequent page(s).

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

- Testo Industrial Services GmbH, Germany

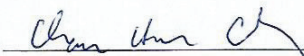
Tested By

測試

  
C F Leung  
Project Engineer

Certified By

核證

  
H C Chan  
Engineer

Date of Issue

簽發日期

23 June 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洲灣機樓四樓

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Page 1 of 2

# Certificate of Calibration

## 校正證書

Certificate No. : C153422  
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
1.9	1.8	+0.1	0.2	2.0
4.0	3.9	+0.1	0.2	2.0
6.0	6.0	0.0	0.3	2.0
8.0	8.1	-0.1	0.3	2.0
10.0	10.3	-0.3	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.

Appendix F

## EM&A Monitoring Schedules



**HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Marine Water Quality Monitoring (WQM) Schedule (September 15)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Sep	02-Sep	03-Sep	04-Sep	05-Sep
		<b>WQM</b> Mid-Flood 8:23 (06:38 - 10:08) 2 14:42 (12:57 - 16:27)		<b>WQM</b> Mid-Flood 10:16 (08:31 - 12:01) Mid-Ebb 16:12 (14:27 - 17:57)		<b>WQM</b> Mid-Flood 12:42 (10:57 - 14:27) Mid-Ebb 18:07 (1622 - 19:52)
06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	12-Sep
		<b>WQM</b> Mid-Ebb 9:45 (08:00 - 11:30) Mid-Flood 17:10 (15:25 - 18:55)		<b>WQM</b> Mid-Ebb 11:23 (09:38 - 13:08) Mid-Flood 18:17 (16:32 - 20:02)		<b>WQM</b> Mid-Ebb 12:38 (10:53 - 14:23) Mid-Flood 19:05 (17:20 - 20:50)
13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
		<b>WQM</b> Mid-Flood 7:55 (06:10 - 09:40) Mid-Ebb 14:11 (12:26 - 15:56)		<b>WQM</b> Mid-Flood 9:08 (07:23 - 10:53) Mid-Ebb 15:11 (13:26 - 16:56)		<b>WQM</b> Mid-Flood 10:41 (08:56 - 12:26) Mid-Ebb 16:25 (14:40 - 18:10)
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
		<b>WQM</b> Mid-Ebb 6:59 (05:14 - 08:44) Mid-Flood 15:12 (13:27 - 16:57)		<b>WQM</b> Mid-Ebb 9:33 (07:48 - 11:18) Mid-Flood 16:57 (15:12 - 18:42)		<b>WQM</b> Mid-Ebb 11:21 (09:36 - 13:06) Mid-Flood 18:08 (16:23 - 19:53)
27-Sep	28-Sep	29-Sep	30-Sep	01-Oct	02-Oct	03-Oct
		<b>WQM</b> Mid-Flood 7:28 (05:43 - 09:13) Mid-Ebb 13:37 (11:52 - 15:22)		<b>WQM</b> Mid-Flood 9:18 (07:33 - 11:03) Mid-Ebb 15:09 (13:24 - 16:54)		<b>WQM</b> Mid-Flood 11:22 (09:37 - 13:07) Mid-Ebb 16:48 (15:03 - 18:33)



**HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Marine Water Quality Monitoring (WQM) Schedule (October 15)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27-Sep	28-Sep	29-Sep	30-Sep	01-Oct	02-Oct	03-Oct
				WQM Mid-Flood 9:18 (07:33 - 11:03) Mid-Ebb 15:09 (13:24 - 16:54)		WQM Mid-Flood 11:22 (09:37 - 13:07) Mid-Ebb 16:48 (15:03 - 18:33)
04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct
		WQM Mid-Ebb 7:46 (06:01 - 09:31) Mid-Flood 15:49 (14:04 - 17:34)		WQM Mid-Ebb 10:07 (08:22 - 11:52) Mid-Flood 17:10 (15:25 - 18:22)		WQM Mid-Ebb 11:34 (09:49 - 13:19) Mid-Flood 17:57 (16:12 - 19:42)
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
		WQM Mid-Ebb 13:14 (11:29 - 14:59) Mid-Flood 19:06 (17:21 - 20:51)		WQM Mid-Flood 8:23 (06:38 - 10:08) Mid-Ebb 14:16 (12:31 - 16:01)		WQM Mid-Flood 9:47 (08:02 - 11:32) Mid-Ebb 15:29 (13:44 - 17:14)
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
		WQM Mid-Flood 13:21 (11:36 - 15:06) Mid-Ebb 18:33 (17:30 - 19:30)		WQM Mid-Ebb 7:28 (05:43 - 09:13) Mid-Flood 15:31 (13:46 - 17:16)		WQM Mid-Ebb 9:59 (08:14 - 11:44) Mid-Flood 16:52 (15:07 - 18:37)
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
		WQM Mid-Ebb 12:31 (10:46 - 14:16) Mid-Flood 18:31 (16:46 - 20:16)		WQM Mid-Flood 8:24 (06:39 - 10:09) Mid-Ebb 14:08 (12:23 - 15:53)		WQM Mid-Flood 10:15 (08:30 - 12:00) Mid-Ebb 15:41 (13:56 - 17:26)

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Noise Monitoring Schedule (1 to 30 September 2015)**

Alternative Noise Monitoring at Pak Mong Village Entrance

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Air Quality Monitoring Schedule (1 to 30 September 2015)**

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

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

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Tentative Impact Noise Monitoring Schedule (1 to 31 October 2015)**

Alternative Noise Monitoring at Pak Mong Village Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				P. Holiday 01-Oct	02-Oct	03-Oct
04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct
	Noise Impact Monitoring			Noise Impact Monitoring		
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
			Noise Impact Monitoring			
18-Oct	19-Oct	20-Oct	P. Holiday 21-Oct	22-Oct	23-Oct	24-Oct
		Noise Impact Monitoring				
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
	Noise Impact Monitoring			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 dueto adverse (safety, weather etc) conditions.

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Tentative Impact Air Quality Monitoring Schedule (1 to 31 October 2015)**

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				P. Holiday 01-Oct	02-Oct	03-Oct
04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct
	1-hr TSP Monitoring 24-hr TSP Monitoring			1-hr TSP Monitoring 24-hr TSP Monitoring		
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
			1-hr TSP Monitoring 24-hr TSP Monitoring			
18-Oct	19-Oct	20-Oct	P. Holiday 21-Oct	22-Oct	23-Oct	24-Oct
		1-hr TSP Monitoring 24-hr TSP Monitoring				
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
	1-hr TSP Monitoring 24-hr TSP Monitoring			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 dueto adverse (safety, weather etc) conditions.

**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Dolphin Monitoring Survey Schedule (1 to 30 September 2015)**

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



**HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section  
Impact Dolphin Monitoring Survey Schedule (1 to 31 October 2015)**

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

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

Appendix G

Impact Air Quality  
Monitoring Results and  
Graphical Presentation

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

Project	Works	Date(yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)		
TMCLKL	HY/2012/07	2015-09-02	ASR8A	8:33	1-hr TSP	47	394	500		
TMCLKL	HY/2012/07	2015-09-02	ASR8A	9:35	1-hr TSP	47				
TMCLKL	HY/2012/07	2015-09-02	ASR8A	10:37	1-hr TSP	57				
TMCLKL	HY/2012/07	2015-09-08	ASR8A	8:32	1-hr TSP	188				
TMCLKL	HY/2012/07	2015-09-08	ASR8A	9:34	1-hr TSP	146				
TMCLKL	HY/2012/07	2015-09-08	ASR8A	10:36	1-hr TSP	125				
TMCLKL	HY/2012/07	2015-09-14	ASR8A	8:20	1-hr TSP	76				
TMCLKL	HY/2012/07	2015-09-14	ASR8A	9:22	1-hr TSP	75				
TMCLKL	HY/2012/07	2015-09-14	ASR8A	10:24	1-hr TSP	57				
TMCLKL	HY/2012/07	2015-09-17	ASR8A	8:40	1-hr TSP	72				
TMCLKL	HY/2012/07	2015-09-17	ASR8A	9:42	1-hr TSP	66				
TMCLKL	HY/2012/07	2015-09-17	ASR8A	10:44	1-hr TSP	83				
TMCLKL	HY/2012/07	2015-09-23	ASR8A	8:53	1-hr TSP	43				
TMCLKL	HY/2012/07	2015-09-23	ASR8A	9:55	1-hr TSP	56				
TMCLKL	HY/2012/07	2015-09-23	ASR8A	10:57	1-hr TSP	49				
TMCLKL	HY/2012/07	2015-09-29	ASR8A	9:20	1-hr TSP	106				
TMCLKL	HY/2012/07	2015-09-29	ASR8A	10:22	1-hr TSP	164				
TMCLKL	HY/2012/07	2015-09-29	ASR8A	11:24	1-hr TSP	99				
					Average	86				
					Min.	43				
					Max.	188				

## 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	2015-09-02	ASR9	8:44	1-hr TSP	78	393	500		
TMCLKL	HY/2012/07	2015-09-02	ASR9	9:46	1-hr TSP	90				
TMCLKL	HY/2012/07	2015-09-02	ASR9	10:48	1-hr TSP	58				
TMCLKL	HY/2012/07	2015-09-08	ASR9	8:43	1-hr TSP	81				
TMCLKL	HY/2012/07	2015-09-08	ASR9	9:45	1-hr TSP	71				
TMCLKL	HY/2012/07	2015-09-08	ASR9	10:47	1-hr TSP	59				
TMCLKL	HY/2012/07	2015-09-14	ASR9	8:31	1-hr TSP	121				
TMCLKL	HY/2012/07	2015-09-14	ASR9	9:33	1-hr TSP	173				
TMCLKL	HY/2012/07	2015-09-14	ASR9	10:35	1-hr TSP	105				
TMCLKL	HY/2012/07	2015-09-17	ASR9	8:50	1-hr TSP	102				
TMCLKL	HY/2012/07	2015-09-17	ASR9	9:52	1-hr TSP	87				
TMCLKL	HY/2012/07	2015-09-17	ASR9	10:54	1-hr TSP	86				
TMCLKL	HY/2012/07	2015-09-23	ASR9	9:04	1-hr TSP	58				
TMCLKL	HY/2012/07	2015-09-23	ASR9	10:06	1-hr TSP	60				
TMCLKL	HY/2012/07	2015-09-23	ASR9	11:08	1-hr TSP	59				
TMCLKL	HY/2012/07	2015-09-29	ASR9	9:30	1-hr TSP	79				
TMCLKL	HY/2012/07	2015-09-29	ASR9	10:32	1-hr TSP	73				
TMCLKL	HY/2012/07	2015-09-29	ASR9	11:34	1-hr TSP	109				
					Average	86				
					Min.	58				
					Max.	173				

**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	2015-09-02	ASR8A	11:39	24-hr TSP	50	178	260
TMCLKL	HY/2012/07	2015-09-08	ASR8A	11:38	24-hr TSP	91		
TMCLKL	HY/2012/07	2015-09-14	ASR8A	11:26	24-hr TSP	50		
TMCLKL	HY/2012/07	2015-09-17	ASR8A	11:46	24-hr TSP	53		
TMCLKL	HY/2012/07	2015-09-23	ASR8A	11:59	24-hr TSP	46		
TMCLKL	HY/2012/07	2015-09-29	ASR8A	12:26	24-hr TSP	62		
						Average	59	
						Min.	46	
						Max.	91	

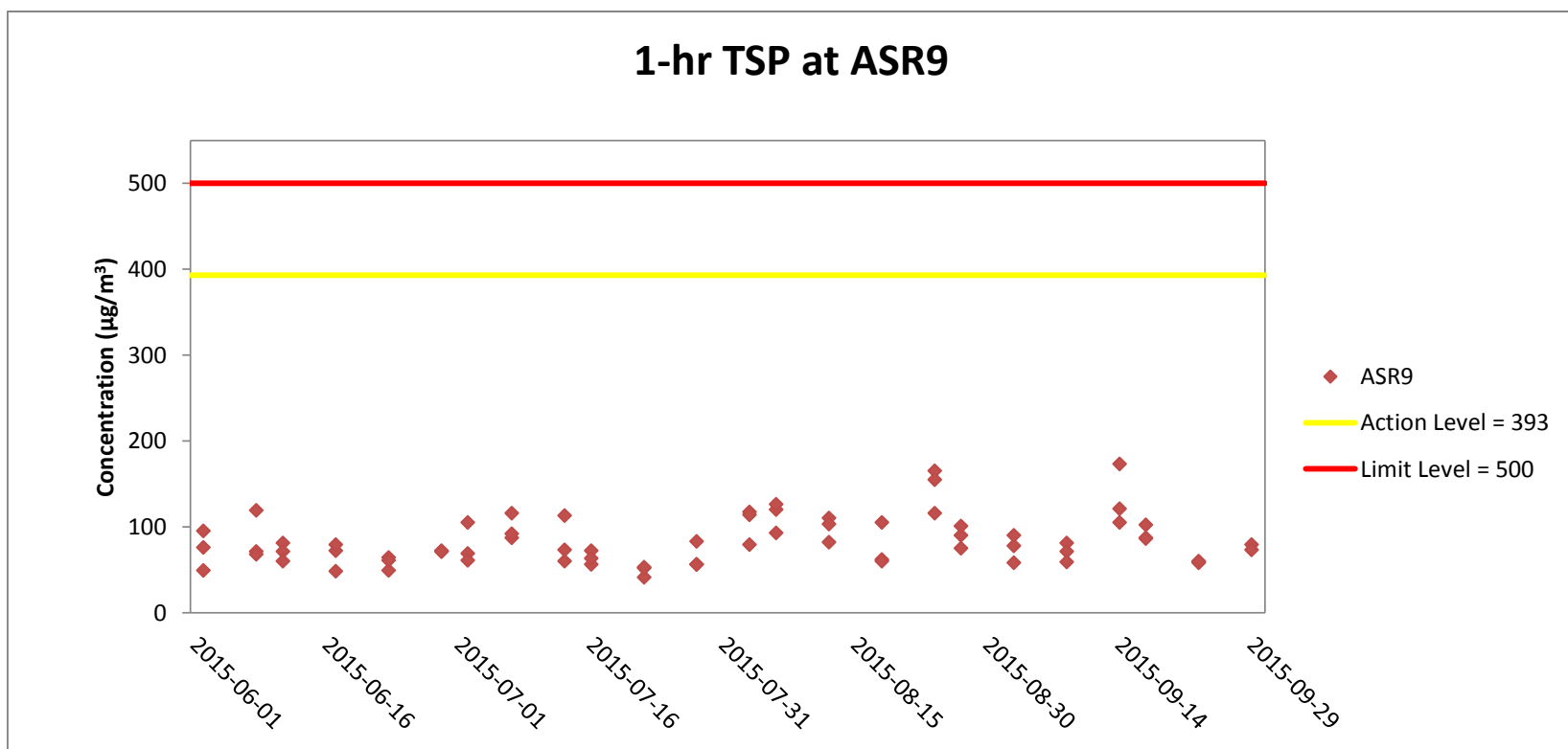
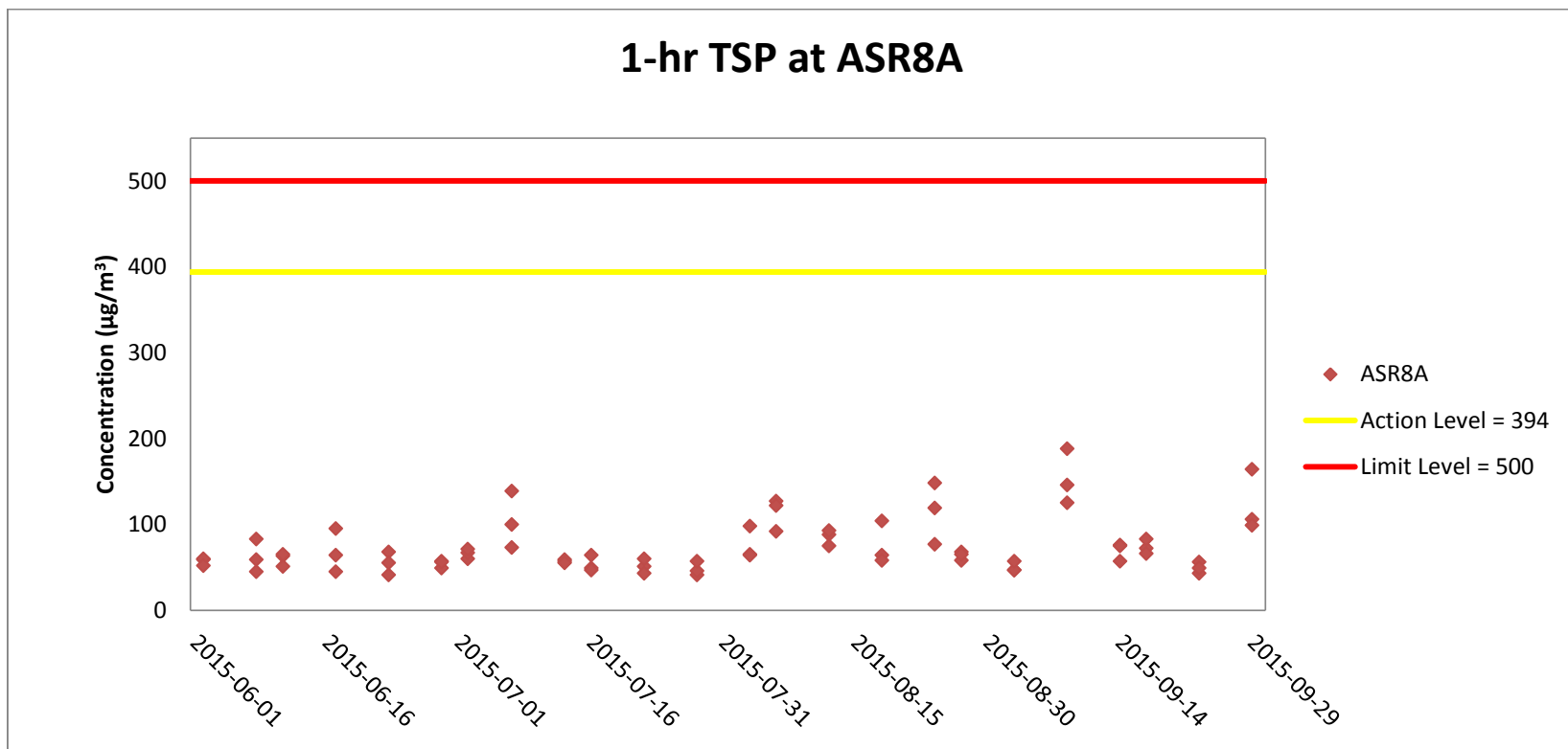
**24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR9**

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	2015-09-02	ASR9	11:50	24-hr TSP	58	178	260
TMCLKL	HY/2012/07	2015-09-08	ASR9	11:49	24-hr TSP	66		
TMCLKL	HY/2012/07	2015-09-14	ASR9	11:37	24-hr TSP	59		
TMCLKL	HY/2012/07	2015-09-17	ASR9	11:56	24-hr TSP	56		
TMCLKL	HY/2012/07	2015-09-23	ASR9	12:10	24-hr TSP	50		
TMCLKL	HY/2012/07	2015-09-29	ASR9	12:36	24-hr TSP	73		
						Average	60	
						Min.	50	
						Max.	73	

Action Level Exceedance

Limit Level Exceedance

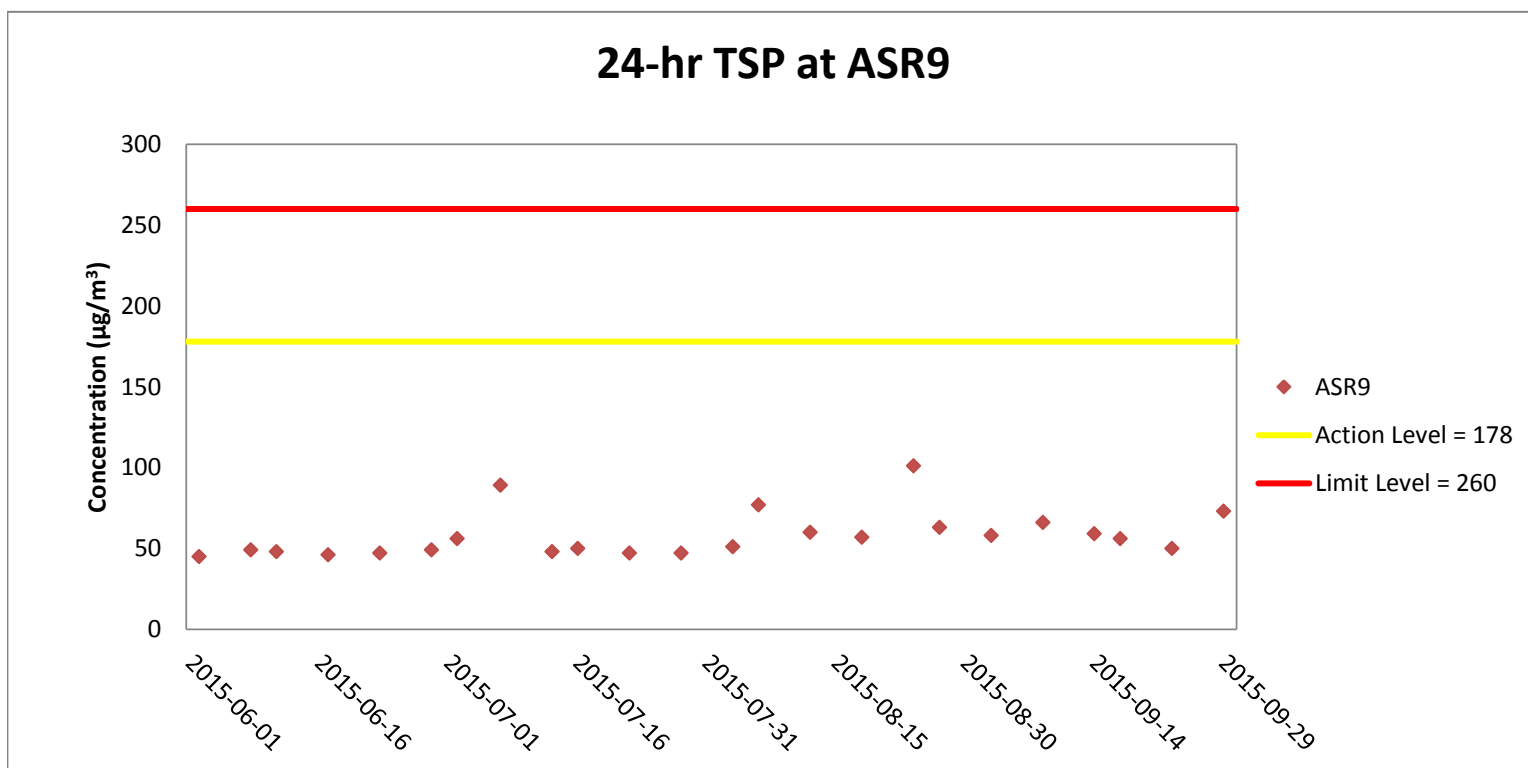
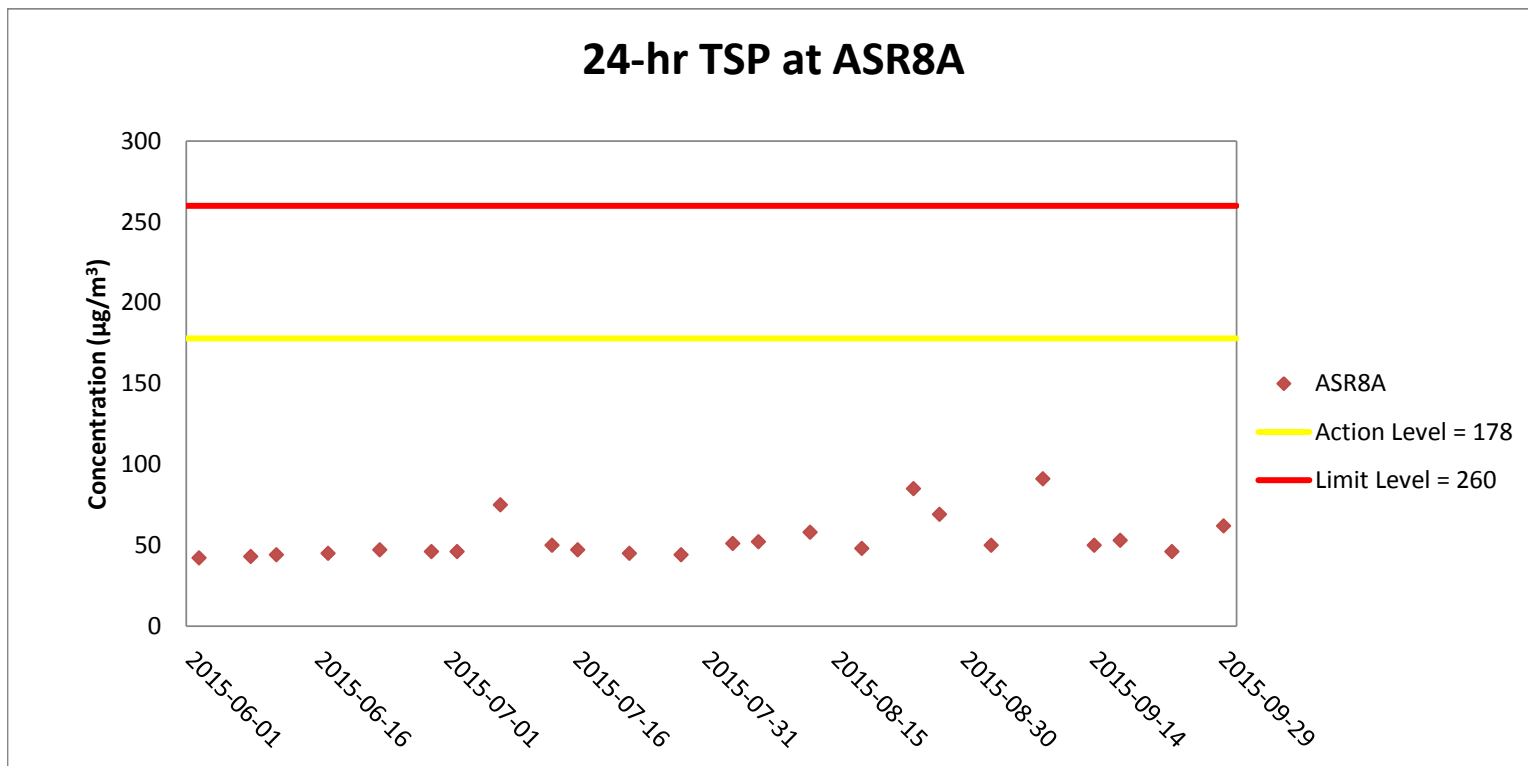




Weather condition within the reporting period varied between sunny to rainy.

Major construction works undertaken within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry assembly; Marine piling; and, Installation of pier head segment.

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



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

Major construction works undertaken within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry assembly; Marine piling; and, Installation of pier head segment.

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

Appendix H

## Meteorological Data for the Reporting Month

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
02-09-2015	7	1.6	177
02-09-2015	8	3.2	154
02-09-2015	9	2.6	180
02-09-2015	10	1.6	177
02-09-2015	11	1.9	160
02-09-2015	12	3.1	161
02-09-2015	13	2.1	167
02-09-2015	14	0.4	130
02-09-2015	15	0.2	175
02-09-2015	16	1.2	178
02-09-2015	17	1.6	189
02-09-2015	18	1.5	179
02-09-2015	19	1.9	184
02-09-2015	20	1.9	185
02-09-2015	21	1.1	176
02-09-2015	22	0.7	169
02-09-2015	23	0.1	148
03-09-2015	0	0.0	68
03-09-2015	1	0.0	81
03-09-2015	2	0.0	108
03-09-2015	3	0.4	123
03-09-2015	4	0.0	112
03-09-2015	5	0.3	114
03-09-2015	6	0.2	77
03-09-2015	7	1.4	169
03-09-2015	8	0.2	98
03-09-2015	9	1.0	153
03-09-2015	10	0.7	130
03-09-2015	11	1.1	125
03-09-2015	12	0.8	127
08-09-2015	7	0.1	84
08-09-2015	8	0.5	87
08-09-2015	9	1.4	134
08-09-2015	10	1.5	112
08-09-2015	11	1.6	109
08-09-2015	12	4.2	139
08-09-2015	13	3.3	142
08-09-2015	14	2.8	128
08-09-2015	15	4.2	120
08-09-2015	16	3.4	129
08-09-2015	17	2.1	116
08-09-2015	18	2.1	141
08-09-2015	19	3.5	156
08-09-2015	20	2.8	153
08-09-2015	21	0.0	96
08-09-2015	22	0.0	89
08-09-2015	23	0.1	131
09-09-2015	0	0.0	108
09-09-2015	1	0.7	151
09-09-2015	2	0.1	133



Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
09-09-2015	3	0.5	131
09-09-2015	4	0.1	86
09-09-2015	5	0.7	125
09-09-2015	6	0.2	43
09-09-2015	7	1.5	134
09-09-2015	8	1.7	124
09-09-2015	9	0.9	123
09-09-2015	10	1.8	98
09-09-2015	11	1.5	94
09-09-2015	12	1.7	101
14-09-2015	7	0.1	46
14-09-2015	8	0.2	47
14-09-2015	9	0.3	45
14-09-2015	10	0.1	88
14-09-2015	11	0.7	67
14-09-2015	12	1.2	77
14-09-2015	13	2.4	80
14-09-2015	14	1.3	74
14-09-2015	15	2.3	75
14-09-2015	16	1.1	67
14-09-2015	17	2.4	89
14-09-2015	18	2.2	80
14-09-2015	19	0.8	118
14-09-2015	20	0.1	82
14-09-2015	21	0.3	73
14-09-2015	22	0.1	80
14-09-2015	23	0.1	57
15-09-2015	0	0.1	58
15-09-2015	1	0.4	60
15-09-2015	2	0.3	50
15-09-2015	3	0.4	38
15-09-2015	4	0.3	23
15-09-2015	5	0.4	23
15-09-2015	6	0.3	40
15-09-2015	7	0.3	29
15-09-2015	8	0.3	39
15-09-2015	9	0.2	71
15-09-2015	10	0.2	49
15-09-2015	11	1.4	75
15-09-2015	12	1.0	95
17-09-2015	7	0.2	39
17-09-2015	8	0.9	56
17-09-2015	9	2.0	56
17-09-2015	10	0.6	83
17-09-2015	11	2.6	62
17-09-2015	12	1.3	60
17-09-2015	13	1.5	74
17-09-2015	14	2.6	65
17-09-2015	15	2.0	64
17-09-2015	16	1.6	73

Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
17-09-2015	17	1.4	64
17-09-2015	18	2.1	62
17-09-2015	19	1.7	72
17-09-2015	20	2.3	53
17-09-2015	21	1.2	69
17-09-2015	22	1.2	67
17-09-2015	23	0.9	62
18-09-2015	0	1.2	60
18-09-2015	1	0.4	49
18-09-2015	2	0.0	40
18-09-2015	3	0.1	81
18-09-2015	4	0.1	53
18-09-2015	5	0.0	78
18-09-2015	6	0.0	63
18-09-2015	7	0.0	53
18-09-2015	8	0.1	43
18-09-2015	9	0.4	43
18-09-2015	10	0.1	48
18-09-2015	11	0.2	128
18-09-2015	12	1.2	85
23-09-2015	7	0.3	132
23-09-2015	8	0.3	98
23-09-2015	9	1.0	90
23-09-2015	10	0.9	133
23-09-2015	11	0.0	120
23-09-2015	12	0.1	83
23-09-2015	13	1.4	70
23-09-2015	14	2.1	61
23-09-2015	15	3.5	67
23-09-2015	16	3.7	66
23-09-2015	17	2.6	54
23-09-2015	18	2.1	45
23-09-2015	19	1.9	50
23-09-2015	20	1.4	63
23-09-2015	21	0.7	68
23-09-2015	22	1.5	70
23-09-2015	23	1.1	58
24-09-2015	0	0.9	54
24-09-2015	1	0.6	50
24-09-2015	2	0.5	69
24-09-2015	3	0.5	77
24-09-2015	4	0.6	80
24-09-2015	5	0.7	72
24-09-2015	6	0.2	70
24-09-2015	7	0.1	61
24-09-2015	8	0.0	246
24-09-2015	9	0.1	150
24-09-2015	10	0.0	157
24-09-2015	11	0.2	170
24-09-2015	12	0.2	210

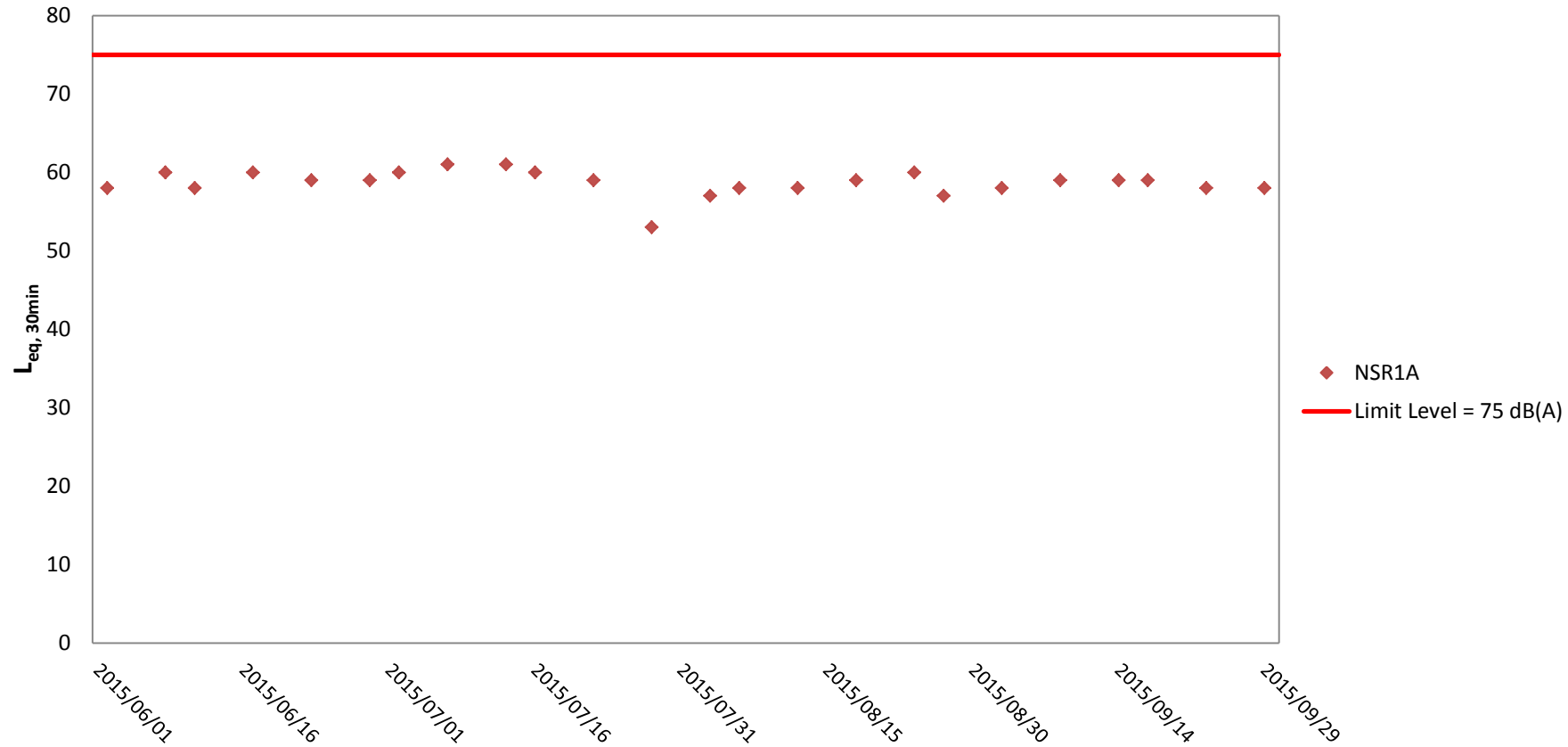
Date	Time (HH)	Wind speed (m/s)	Wind direction (deg)
29-09-2015	7	0.2	95
29-09-2015	8	0.1	66
29-09-2015	9	0.1	89
29-09-2015	10	0.1	100
29-09-2015	11	0.0	169
29-09-2015	12	0.0	145
29-09-2015	13	0.1	124
29-09-2015	14	0.0	175
29-09-2015	15	0.0	145
29-09-2015	16	0.1	153
29-09-2015	17	0.0	134
29-09-2015	18	0.6	175
29-09-2015	19	0.4	180
29-09-2015	20	0.7	182
29-09-2015	21	0.6	182
29-09-2015	22	0.4	172
29-09-2015	23	0.5	167
30-09-2015	0	0.5	133
30-09-2015	1	0.4	141
30-09-2015	2	0.7	142
30-09-2015	3	0.4	145
30-09-2015	4	0.2	131
30-09-2015	5	0.4	129
30-09-2015	6	1.0	97
30-09-2015	7	1.5	59
30-09-2015	8	1.6	61
30-09-2015	9	1.0	79
30-09-2015	10	1.1	90
30-09-2015	11	2.3	87
30-09-2015	12	2.7	80

Appendix I

# Impact Noise Monitoring Results and Graphical Presentation



### 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 Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry assembly; Marine piling; and, Installation of pier head segment.*

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

Appendix II 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				
TMCLKL	HY/2012/07	2015/09/02	NSR1A	Cloudy	11:00	58	60	54	75	0.3	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2015/09/08	NSR1A	Sunny	9:55	59	61	54	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2015/09/14	NSR1A	Sunny	9:44	59	62	54	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2015/09/17	NSR1A	Sunny	10:05	59	61	54	75	0.2	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2015/09/23	NSR1A	Sunny	10:17	58	60	53	75	0.3	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2015/09/29	NSR1A	Sunny	10:44	58	60	53	75	0.3	RION NL31 (S/N 00603867)	RION NC73 (S/N 10997142)
						Min.	58					
						Max.	59					
						Average	59					

Appendix J

## Impact Water Quality Monitoring Results and Graphical Presentation

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Surface	1	1	29	7.65	24.1	6.63	9.73	15.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Surface	1	2	29	7.67	24.1	6.65	9.75	14.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Middle	2	1	28.9	8.13	24.2	6.51	9.82	12.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Middle	2	2	28.8	8.11	24.3	6.49	9.8	11.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Bottom	3	1	28.6	8.04	24.4	6.37	10.3	13.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)5	7:38	Bottom	3	2	28.7	8.02	24.5	6.39	10.5	12.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Surface	1	1	28.9	7.94	24	6.55	10.5	14.7
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Surface	1	2	28.8	7.96	23.9	6.57	10.3	15.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Bottom	3	1	28.6	8.06	24.1	6.41	11.8	16.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4a	8:00	Bottom	3	2	28.7	8.08	24.2	6.39	12	15.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Surface	1	1	28.9	7.73	23.9	6.56	9.92	15.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Surface	1	2	28.8	7.75	24	6.58	9.94	13.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Bottom	3	1	28.7	7.96	24.2	6.43	10.7	15
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	SR4	8:22	Bottom	3	2	28.6	7.98	24.3	6.41	10.9	14.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Surface	1	1	29	7.81	24.1	6.62	9.73	12.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Surface	1	2	29.1	7.83	24.2	6.6	9.75	12
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Bottom	3	1	28.8	7.94	24.3	6.37	9.85	14.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS8	8:44	Bottom	3	2	28.7	7.95	24.4	6.39	9.87	13.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Surface	1	1	28.9	7.74	24.1	6.5	10.7	13.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Surface	1	2	28.9	7.72	24.1	6.52	10.5	13.7
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Middle	2	1	28.8	7.93	24.2	6.43	11.2	15.7
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Middle	2	2	28.7	7.95	24.2	6.41	11	17.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Bottom	3	1	28.6	8.16	24.3	6.33	12.4	19.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)16	9:07	Bottom	3	2	28.5	8.14	24.3	6.35	12.6	17.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Surface	1	1	29	7.74	24	6.62	10.7	15
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Surface	1	2	28.9	7.76	24.1	6.6	10.6	12.7
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Bottom	3	1	28.7	7.83	24.2	6.43	11.2	17.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	IS(Mf)9	9:30	Bottom	3	2	28.6	7.85	24.3	6.45	11.4	17.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Surface	1	1	29	7.62	24.1	6.54	9.89	12.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Surface	1	2	28.9	7.64	24.2	6.56	9.91	14.9
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Middle	2	1	28.7	7.71	24.3	6.37	10.1	12.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Middle	2	2	28.7	7.73	24.3	6.35	10.3	13.4
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Bottom	3	1	28.6	7.85	24.4	6.24	11.5	17.3
TMCLKL	HY/2012/07	01-09-2015	Mid-Flood	CS(Mf)3	9:45	Bottom	3	2	28.5	7.87	24.4	6.26	11.7	17.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Surface	1	1	28.9	7.89	24.2	6.49	11.7	16.4
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Surface	1	2	28.8	7.93	24.3	6.51	12.1	17.4
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Middle	2	1	28.6	7.95	24.4	6.43	12.5	17.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Middle	2	2	28.7	7.97	24.3	6.41	12.7	16.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Bottom	3	1	28.4	7.99	24.4	6.31	13.3	16
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)3	12:57	Bottom	3	2	28.3	7.97	24.5	6.29	13.9	15.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Surface	1	1	28.9	7.89	24.3	6.43	11	16.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Surface	1	2	28.8	7.87	24.4	6.41	11.4	18.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Bottom	3	1	28.7	7.85	24.5	6.37	12.7	16.3
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4a	14:07	Bottom	3	2	28.6	7.81	24.4	6.35	12.3	16
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Surface	1	1	29	7.8	24.1	6.43	10	14
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Surface	1	2	28.9	7.81	24.2	6.1	10.4	15.6
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Bottom	3	1	28.8	7.83	24.3	6.39	12	16.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	SR4	14:25	Bottom	3	2	28.7	7.85	24.4	6.35	11.6	16.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Surface	1	1	28.9	7.78	24.1	6.4	10.1	14.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Surface	1	2	28.8	7.8	24.2	6.42	10.5	15.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Bottom	3	1	28.7	7.77	24.2	6.33	11.4	14.8
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS8	14:03	Bottom	3	2	28.6	7.75	24.3	6.35	11	13.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Surface	1	1	29	7.71	24.2	6.43	11	14.3
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Surface	1	2	28.9	7.73	24.3	6.45	11.2	13.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Middle	2	1	28.7	7.76	24.5	6.39	11.7	15.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Middle	2	2	28.8	7.78	24.6	6.37	12.1	15.4
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Bottom	3	1	28.5	7.83	24.6	6.29	12.7	19.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)16	13:41	Bottom	3	2	28.4	7.85	24.7	6.27	12.3	17.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Surface	1	1	28.7	7.86	24	6.41	11	14.3
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Surface	1	2	28.8	7.88	24.3	6.43	11.4	17.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Middle	2	1						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Middle	2	2						
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Bottom	3	1	28.6	7.92	24.4	6.37	11.8	15.3



Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	IS(Mf)9	13:19	Bottom	3	2	28.5	7.94	24.5	6.35	12.2	17.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Surface	1	1	29	7.83	24.2	6.52	9.99	12
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Surface	1	2	28.9	7.84	24.3	6.5	10.3	13.5
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Middle	2	1	28.7	7.71	24.3	6.44	11.4	16.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Middle	2	2	28.6	7.73	24.4	6.42	11.6	15.1
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Bottom	3	1	28.4	7.66	24.5	6.39	12.1	18.2
TMCLKL	HY/2012/07	01-09-2015	Mid-Ebb	CS(Mf)5	15:11	Bottom	3	2	28.5	7.64	24.6	6.35	12.5	16.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Surface	1	1	28.7	7.86	23.7	6.65	9.97	13
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Surface	1	2	28.6	7.87	23.8	6.63	10.1	15.2
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Middle	2	1	28.4	7.74	23.9	6.57	11.2	16.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Middle	2	2	28.3	7.76	23.8	6.55	11.4	16
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Bottom	3	1	28	7.69	23.9	6.52	11.9	15.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)5	9:31	Bottom	3	2	28.1	7.67	24	6.48	12.3	14.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Surface	1	1	28.6	7.92	23.6	6.56	10.8	16.2
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Surface	1	2	28.5	7.9	23.7	6.54	11.2	15.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Bottom	3	1	28.4	7.86	23.8	6.5	12.5	14.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4a	9:53	Bottom	3	2	28.3	7.84	23.7	6.48	12.1	14.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Surface	1	1	28.7	7.83	23.8	6.56	9.98	12
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Surface	1	2	28.6	7.84	23.9	6.54	10.2	14.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Bottom	3	1	28.5	7.85	23.9	6.52	11.8	15.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	SR4	10:15	Bottom	3	2	28.4	7.86	24	6.48	11.4	14.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Surface	1	1	28.6	7.81	23.9	6.53	9.99	12
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Surface	1	2	28.5	7.83	23.8	6.55	10.3	12.4
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Bottom	3	1	28.4	7.8	23.9	6.46	11.2	16.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS8	10:37	Bottom	3	2	28.3	7.78	24	6.48	10.8	14
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Surface	1	1	28.7	7.74	23.8	6.56	10.8	16.2
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Surface	1	2	28.6	7.76	23.7	6.58	11	16.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Middle	2	1	28.4	7.79	23.9	6.52	11.5	15
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Middle	2	2	28.4	7.81	24	6.5	11.9	16.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Bottom	3	1	28.2	7.86	24	6.42	12.5	14.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)16	10:59	Bottom	3	2	28.1	7.88	24.1	6.4	12.1	14.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Surface	1	1	28.4	7.88	23.7	6.54	10.8	17.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Surface	1	2	28.3	7.9	23.6	6.56	11.2	17.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Bottom	3	1	28.2	8.01	23.8	6.5	11.6	13.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	IS(Mf)9	11:21	Bottom	3	2	28.1	8.03	23.8	6.48	12	14.4
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Surface	1	1	28.5	7.96	23.7	6.62	11.5	16.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Surface	1	2	28.6	7.95	23.8	6.64	11.9	16.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Middle	2	1	28.4	7.98	23.9	6.56	12.3	18.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Middle	2	2	28.3	8	23.8	6.54	12.5	17.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Bottom	3	1	28.1	8.02	23.9	6.44	13.1	15.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Flood	CS(Mf)3	11:45	Bottom	3	2	28	8	23.8	6.42	12.7	17.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	14:27	Surface	1	1	28.6	7.95	23.7	6.44	10.7	13.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	16:43	Surface	1	2	28.5	7.94	23.6	6.48	10.9	13.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	16:43	Middle	2	1	28.2	8.01	23.9	6.27	12.1	16.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	16:43	Middle	2	2	28.1	7.99	23.9	6.3	12.3	16
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	16:43	Bottom	3	1	28.1	8.02	23.9	6.21	12.5	16.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)3	16:43	Bottom	3	2	28.1	8.02	24	6.25	12.4	17.4
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Surface	1	1	28.5	7.95	23.7	6.51	10.9	15.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Surface	1	2	28.5	7.93	23.8	6.55	10.8	14
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Bottom	3	1	28.3	7.98	23.9	6.46	12.1	19.4
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4a	16:28	Bottom	3	2	28.2	7.98	23.9	6.48	12.2	17.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Surface	1	1	28.6	7.97	23.7	6.56	11.7	14
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Surface	1	2	28.5	7.96	23.8	6.59	11.8	14.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Bottom	3	1	28.3	8.01	23.9	6.36	12.6	18.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	SR4	16:10	Bottom	3	2	28.2	8.02	23.9	6.33	12.5	18.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Surface	1	1	28.5	7.89	23.7	6.44	11.5	16.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Surface	1	2	28.5	7.9	23.7	6.47	11.7	16.4
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Bottom	3	1	28.3	7.98	23.9	6.21	11.8	15.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS8	15:50	Bottom	3	2	28.3	8.01	24	6.17	11.8	17.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Surface	1	1	28.5	7.93	23.8	6.47	11.2	16.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Surface	1	2	28.4	7.94	23.7	6.49	11.4	17.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Middle	2	1	28.2	8.05	24	6.18	11.7	18.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Middle	2	2	28.1	8.04	24.1	6.15	11.7	16.4

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Bottom	3	1	28.1	8.04	24.1	6.24	12.4	16.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)16	15:30	Bottom	3	2	28	8.03	24.1	6.27	12.2	18.3
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Surface	1	1	28.6	7.94	23.6	6.64	11.2	14.8
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Surface	1	2	28.6	7.96	23.5	6.6	11.4	13.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Middle	2	1						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Middle	2	2						
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Bottom	3	1	28.3	7.98	23.8	6.32	12.2	17.1
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	IS(Mf)9	14:55	Bottom	3	2	28.2	7.99	23.9	6.27	12.1	16.5
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Surface	1	1	28.5	7.9	23.8	6.7	10.8	13
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Surface	1	2	28.4	7.91	23.9	6.74	10.7	15
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Middle	2	1	28.3	8.02	24	6.53	11.9	16.7
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Middle	2	2	28.3	8.01	23.9	6.57	11.8	18.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Bottom	3	1	28.2	8.02	24	6.39	12.4	14.9
TMCLKL	HY/2012/07	03-09-2015	Mid-Ebb	CS(Mf)5	16:43	Bottom	3	2	28.2	8.02	24	6.35	12.2	14.6
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Surface	1	1	28.6	7.77	23.6	6.56	9.88	15.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Surface	1	2	28.5	7.78	23.5	6.54	9.92	14.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Middle	2	1	28.2	7.65	23.7	6.48	10.3	16.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Middle	2	2	28.3	7.67	23.8	6.46	10.5	14.7
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Bottom	3	1	28	7.6	23.8	6.43	11	16.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)5	11:57	Bottom	3	2	27.9	7.58	23.8	6.39	11.4	16
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Surface	1	1	28.5	7.83	23.5	6.47	9.99	13
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Surface	1	2	28.4	7.81	23.6	6.45	10.3	13.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Bottom	3	1	28.3	7.77	23.6	6.41	11.6	16.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4a	12:19	Bottom	3	2	28.2	7.75	23.7	6.39	11.2	16.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Surface	1	1	28.6	7.74	23.7	6.47	9.89	14.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Surface	1	2	28.5	7.75	23.8	6.45	9.93	13.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Bottom	3	1	28.4	7.76	23.8	6.43	10.9	16.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	SR4	12:41	Bottom	3	2	28.3	7.77	23.9	6.39	10.5	15.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Surface	1	1	28.5	7.72	23.6	6.44	9.9	13.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Surface	1	2	28.4	7.74	23.7	6.46	9.94	14.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Bottom	3	1	28.2	7.71	23.7	6.37	10.3	12.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS8	13:03	Bottom	3	2	28.3	7.69	23.8	6.39	9.9	13.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Surface	1	1	28.6	7.65	23.7	6.47	9.9	14.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Surface	1	2	28.5	7.67	23.6	6.49	10.1	15.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Middle	2	1	28.3	7.7	23.7	6.43	10.6	15.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Middle	2	2	28.2	7.72	23.8	6.41	11	16.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Bottom	3	1	28.1	7.77	23.8	6.33	11.6	16.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)16	13:25	Bottom	3	2	28	7.79	23.9	6.31	11.2	17.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Surface	1	1	28.3	7.79	23.5	6.45	9.99	13
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Surface	1	2	28.2	7.81	23.6	6.47	10.3	13.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Bottom	3	1	28.1	7.92	23.6	6.41	10.7	13.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	IS(Mf)9	13:47	Bottom	3	2	28	7.93	23.7	6.39	11.1	14.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Surface	1	1	28.5	7.87	23.6	6.53	10.6	15.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Surface	1	2	28.4	7.86	23.7	6.55	11	14.3
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Middle	2	1	28.3	7.89	23.8	6.47	11.4	17.1
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Middle	2	2	28.2	7.91	23.7	6.45	11.6	16.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Bottom	3	1	28	7.93	23.8	6.35	12.2	15.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Flood	CS(Mf)3	14:11	Bottom	3	2	27.9	7.91	23.8	6.33	11.8	16.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Surface	1	1	28.5	7.84	23.7	6.43	11.4	14.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Surface	1	2	28.5	7.86	23.8	6.46	12.1	14.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Middle	2	1	28.4	7.85	23.9	6.32	12.7	19.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Middle	2	2	28.4	7.86	23.9	6.35	13.6	20.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Bottom	3	1	28.2	7.89	23.9	6.17	14.5	19.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)3	16:22	Bottom	3	2	28.1	7.91	24	6.2	13.9	18.1
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Surface	1	1	28.4	7.76	23.6	6.23	10.6	13.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Surface	1	2	28.5	7.79	23.7	6.26	11.3	14
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Bottom	3	1	28.4	7.8	23.8	6.13	12	18.6
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4a	18:09	Bottom	3	2	28.4	7.77	23.8	6.09	12.8	19.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Surface	1	1	28.6	7.7	23.6	6.32	9.91	12.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Surface	1	2	28.6	7.73	23.7	6.29	10.02	14.3
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Bottom	3	1	28.5	7.78	23.9	6.15	11.4	17.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	SR4	17:51	Bottom	3	2	28.5	7.75	23.9	6.11	12.1	18.2
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Surface	1	1	28.6	7.73	23.7	6.37	10.5	14.7
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Surface	1	2	28.5	7.75	23.8	6.34	9.96	12
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Middle	2	1						

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Bottom	3	1	28.5	7.7	23.9	6.17	10.9	17.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS8	17:30	Bottom	3	2	28.4	7.73	23.8	6.14	11.5	16
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Surface	1	1	28.5	7.68	23.7	6.25	10.4	12.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Surface	1	2	28.5	7.71	23.7	6.28	11.2	13.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Middle	2	1	28.5	7.74	23.8	6.21	11.7	18.7
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Middle	2	2	28.4	7.72	23.9	6.19	12.3	17
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Bottom	3	1	28.3	7.79	24	6.07	12	17.6
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)16	17:07	Bottom	3	2	28.3	7.81	24.1	6.04	12.9	18.1
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Surface	1	1	28.5	7.81	23.6	6.4	10.6	14.8
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Surface	1	2	28.4	7.83	23.7	6.37	11.1	14.4
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Middle	2	1						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Middle	2	2						
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Bottom	3	1	28.3	7.89	23.8	6.3	11.7	17.6
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	IS(Mf)9	16:45	Bottom	3	2	28.4	7.91	23.9	6.26	12.5	17.5
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Surface	1	1	28.6	7.74	23.7	6.43	9.96	12.9
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Surface	1	2	28.6	7.77	23.7	6.4	10.2	14.3
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Middle	2	1	28.3	7.69	23.8	6.35	11.4	17.1
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Middle	2	2	28.4	7.72	23.9	6.32	10.7	17.1
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Bottom	3	1	28.1	7.63	24	6.19	13.3	18
TMCLKL	HY/2012/07	05-09-2015	Mid-Ebb	CS(Mf)5	18:34	Bottom	3	2	28	7.66	24.1	6.22	12.5	17.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Surface	1	1	27.9	7.43	24.1	6.63	6.33	8.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Surface	1	2	27.9	7.45	24.2	6.61	6.31	9.1
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Middle	2	1	27.8	7.63	24.3	6.5	6.44	8.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Middle	2	2	27.7	7.65	24.4	6.52	6.45	10.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Bottom	3	1	27.6	7.71	24.5	6.47	6.59	9.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)5	15:25	Bottom	3	2	27.5	7.69	24.6	6.45	6.61	8.3
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Surface	1	1	28.1	7.63	24	6.55	6.56	10.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Surface	1	2	28	7.65	24	6.57	6.58	9.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Bottom	3	1	27.7	7.72	24.1	6.39	6.69	11.1
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4a	15:47	Bottom	3	2	27.8	7.7	24.2	6.41	6.71	9.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Surface	1	1	27.9	7.63	24	6.59	6.03	7.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Surface	1	2	27.8	7.65	24	6.61	6.05	8.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Bottom	3	1	27.7	7.82	24.1	6.5	6.12	8.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	SR4	16:09	Bottom	3	2	27.6	7.8	24.2	6.52	6.14	9
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Surface	1	1	28	7.74	24.1	6.47	5.56	7.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Surface	1	2	27.9	7.76	24.2	6.49	5.54	7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Bottom	3	1	27.7	7.8	24.3	6.4	5.73	8.3
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS8	16:30	Bottom	3	2	27.8	7.82	24.4	6.42	5.75	8.9
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Surface	1	1	28	7.82	23.9	6.65	5.73	7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Surface	1	2	28	7.8	24	6.67	5.75	7.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Middle	2	1	27.9	7.69	24.1	6.55	6.02	7.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Middle	2	2	27.8	7.71	24.2	6.57	6	9.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Bottom	3	1	27.7	7.64	24.3	6.5	6.13	8.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)16	16:52	Bottom	3	2	27.6	7.62	24.4	6.49	6.15	9.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Surface	1	1	27.9	7.73	24.1	6.67	6.93	11.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Surface	1	2	27.9	7.75	24.2	6.69	6.95	11.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Bottom	3	1	27.7	7.66	24.3	6.57	7.01	10
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	IS(Mf)9	17:14	Bottom	3	2	27.8	7.68	24.4	6.55	7.03	11.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Surface	1	1	28	7.68	24	6.57	7.03	9.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Surface	1	2	28	7.7	23.9	6.59	7.05	9.9
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Middle	2	1	27.9	7.75	24.1	6.43	8.13	11
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Middle	2	2	27.8	7.77	24.2	6.45	8.15	12.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Bottom	3	1	27.7	7.84	24.3	6.39	8.23	10
TMCLKL	HY/2012/07	08-09-2015	Mid-Flood	CS(Mf)3	17:40	Bottom	3	2	27.6	7.86	24.4	6.41	8.25	10.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Surface	1	1	27.6	7.31	24.2	6.44	7.54	8.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Surface	1	2	27.6	7.35	24.3	6.48	7.61	10.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Middle	2	1	27.4	7.39	24.5	6.4	7.89	9.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Middle	2	2	27.5	7.43	24.4	6.37	7.94	10.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Bottom	3	1	27.3	7.44	24.7	6.35	8.11	10.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)3	9:00	Bottom	3	2	27.2	7.45	24.6	6.33	8.07	9.9
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Surface	1	1	27.5	7.42	24.3	6.45	7.11	9.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Surface	1	2	27.6	7.47	24.2	6.41	7.04	10.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Bottom	3	1	27.5	7.48	24.4	6.36	7.38	10.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4a	10:41	Bottom	3	2	27.4	7.52	24.3	6.33	7.3	9.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Surface	1	1	27.6	7.44	24.2	6.48	6.21	7.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Surface	1	2	27.5	7.48	24.3	6.51	6.25	7.9

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Bottom	3	1	27.5	7.47	24.4	6.43	6.34	9.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	SR4	10:23	Bottom	3	2	27.4	7.43	24.4	6.42	6.42	8.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Surface	1	1	27.5	7.36	24.3	6.37	5.73	6.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Surface	1	2	27.5	7.39	24.4	6.41	5.81	7.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Bottom	3	1	27.4	7.41	24.5	6.35	5.92	8.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS8	10:04	Bottom	3	2	27.3	7.47	24.4	6.33	5.96	8.6
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Surface	1	1	27.6	7.39	24.4	6.54	5.82	8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Surface	1	2	27.5	7.43	24.5	6.58	5.87	6.9
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Middle	2	1	27.4	7.44	24.6	6.51	5.89	8.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Middle	2	2	27.3	7.49	24.5	6.47	5.96	9
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Bottom	3	1	27.3	7.48	24.8	6.42	6.07	9.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)16	9:44	Bottom	3	2	27.3	7.52	24.7	6.4	6.14	9.8
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Surface	1	1	27.7	7.35	24.3	6.56	7.61	9.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Surface	1	2	27.8	7.39	24.4	6.52	7.68	9.7
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Middle	2	1						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Middle	2	2						
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Bottom	3	1	27.6	7.42	24.5	6.47	7.73	8.4
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	IS(Mf)9	9:24	Bottom	3	2	27.5	7.4	24.4	6.44	7.78	10.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Surface	1	1	27.7	7.38	24.4	6.52	6.57	9.5
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Surface	1	2	27.6	7.35	24.3	6.5	6.51	8.2
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Middle	2	1	27.5	7.41	24.6	6.47	6.63	10.3
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Middle	2	2	27.4	7.45	24.5	6.44	6.7	9
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Bottom	3	1	27.2	7.49	24.8	6.41	6.88	9.9
TMCLKL	HY/2012/07	08-09-2015	Mid-Ebb	CS(Mf)5	11:06	Bottom	3	2	27.1	7.53	24.8	6.38	6.94	10.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Surface	1	1	28.2	7.49	24.2	6.48	6.52	9.1
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Surface	1	2	28	7.53	24	6.52	6.6	9.2
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Middle	2	1	28.3	7.56	24.1	6.37	6.71	9.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Middle	2	2	28	7.52	24.2	6.4	6.64	10
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Bottom	3	1	27.8	7.57	24	6.34	6.74	9.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)5	16:32	Bottom	3	2	27.9	7.54	24.2	6.38	6.8	10.2
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Surface	1	1	27.4	7.51	24.2	6.43	7.2	8.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Surface	1	2	27.8	7.49	24	6.46	7.16	10.7
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Bottom	3	1	27.9	7.62	24.3	6.52	7.4	10.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4a	16:56	Bottom	3	2	27.7	7.6	24.2	6.47	7.46	10.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Surface	1	1	27.4	7.54	24.2	6.44	6.17	9.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Surface	1	2	27.7	7.52	24	6.43	6.2	9.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Bottom	3	1	27.5	7.5	24.2	6.37	6.36	9.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	SR4	17:18	Bottom	3	2	27.7	7.48	24.2	6.36	6.39	8.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Surface	1	1	27.9	7.43	24.3	6.32	5.64	7.9
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Surface	1	2	28	7.4	24.2	6.3	5.69	8
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Bottom	3	1	27.9	7.44	24.2	6.3	5.86	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS8	17:40	Bottom	3	2	27.7	7.46	24.3	6.31	5.9	8.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Surface	1	1	27.9	7.46	24.3	6.54	5.82	7.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Surface	1	2	28.1	7.44	24.6	6.57	5.87	7
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Middle	2	1	27.4	7.48	24.3	6.51	5.92	7.7
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Middle	2	2	27.6	7.5	24.4	6.52	5.94	9.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Bottom	3	1	27.4	7.5	24.3	6.38	6.17	8
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)16	18:02	Bottom	3	2	27.3	7.48	24.4	6.34	6.21	9.9
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Surface	1	1	27.6	7.46	24.3	6.52	7.6	9.9
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Surface	1	2	27.8	7.43	24.6	6.56	7.52	12
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Bottom	3	1	27.3	7.4	24.4	6.42	7.82	10.9
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	IS(Mf)9	18:24	Bottom	3	2	27.4	7.46	24.6	6.45	7.84	11
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Surface	1	1	27.6	7.34	24.4	6.46	7.64	11.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Surface	1	2	27.8	7.38	24.7	6.48	7.68	11.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Middle	2	1	27.9	7.4	24.2	6.39	7.87	11
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Middle	2	2	27.7	7.43	24.5	6.41	7.91	11.1
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Bottom	3	1	27.7	7.42	24.3	6.34	8.07	12.1
TMCLKL	HY/2012/07	10-09-2015	Mid-Flood	CS(Mf)3	18:46	Bottom	3	2	27.8	7.36	24.2	6.36	8.11	10.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Surface	1	1	27.7	7.37	24.4	6.35	7.6	12.2
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Surface	1	2	27.6	7.41	24.5	6.39	7.67	10
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Middle	2	1	27.6	7.45	24.6	6.31	7.95	11.1
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Middle	2	2	27.5	7.49	24.5	6.28	8	10.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Bottom	3	1	27.4	7.5	24.7	6.26	8.17	11.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)3	10:38	Bottom	3	2	27.3	7.51	24.8	6.24	8.13	9.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Surface	1	1	27.7	7.48	24.3	6.36	7.17	10



Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Surface	1	2	27.6	7.53	24.4	6.32	7.1	9.2
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Bottom	3	1	27.6	7.54	24.5	6.42	7.44	9.7
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4a	12:28	Bottom	3	2	27.5	7.58	24.4	6.39	7.36	11
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Surface	1	1	27.6	7.5	24.3	6.39	6.27	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Surface	1	2	27.7	7.54	24.4	6.42	6.31	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Bottom	3	1	27.6	7.53	24.4	6.34	6.4	9.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	SR4	12:06	Bottom	3	2	27.5	7.49	24.5	6.33	6.48	8.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Surface	1	1	27.6	7.42	24.4	6.28	5.79	8.1
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Surface	1	2	27.5	7.45	24.5	6.32	5.87	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Bottom	3	1	27.5	7.47	24.6	6.26	5.98	8.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS8	11:44	Bottom	3	2	27.4	7.53	24.5	6.24	6.02	7.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Surface	1	1	27.7	7.45	24.5	6.45	5.88	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Surface	1	2	27.6	7.49	24.6	6.49	5.93	8.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Middle	2	1	27.5	7.5	24.6	6.42	5.95	7.7
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Middle	2	2	27.4	7.55	24.7	6.38	6.02	7.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Bottom	3	1	27.3	7.54	24.8	6.33	6.13	8.8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)16	11:22	Bottom	3	2	27.4	7.58	24.9	6.31	6.2	9.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Surface	1	1	27.9	7.41	24.4	6.47	7.67	12.3
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Surface	1	2	27.8	7.45	24.5	6.43	7.74	11.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Middle	2	1						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Middle	2	2						
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Bottom	3	1	27.6	7.48	24.6	6.38	7.79	10.9
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	IS(Mf)9	11:00	Bottom	3	2	27.7	7.46	24.5	6.35	7.84	9.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Surface	1	1	27.8	7.44	24.4	6.43	6.63	8
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Surface	1	2	27.7	7.41	24.5	6.41	6.57	9.5
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Middle	2	1	27.5	7.47	24.6	6.38	6.69	10
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Middle	2	2	27.6	7.51	24.7	6.35	6.76	11.6
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Bottom	3	1	27.3	7.55	24.8	6.32	6.94	10.4
TMCLKL	HY/2012/07	10-09-2015	Mid-Ebb	CS(Mf)5	12:52	Bottom	3	2	27.2	7.59	24.9	6.29	7	8.4
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Surface	1	1	27.2	7.89	21.8	6.67	7.3	8.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Surface	1	2	27.3	7.93	21.9	6.65	7.38	11.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Middle	2	1	27.1	7.86	22.2	6.37	7.67	10.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Middle	2	2	27	7.86	22.3	6.34	7.72	9.3
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Bottom	3	1	26.8	7.96	22.8	6.14	7.92	9.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)5	17:20	Bottom	3	2	26.8	7.92	22.7	6.13	7.89	11.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Surface	1	1	27.2	7.71	21.7	6.51	7.36	9.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Surface	1	2	27.2	7.74	21.8	6.53	7.41	11.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Bottom	3	1	27.1	7.79	21.9	6.38	7.72	11.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4a	17:48	Bottom	3	2	27.1	7.82	22	6.35	7.75	10.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Surface	1	1	27.1	7.69	21.7	6.72	7.46	9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Surface	1	2	27	7.73	21.6	6.7	7.4	10.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Bottom	3	1	27	7.76	21.9	6.48	7.61	11.4
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	SR4	18:06	Bottom	3	2	27	7.79	21.8	6.45	7.57	12.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Surface	1	1	27.2	7.78	21.6	6.54	7.51	9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Surface	1	2	27.1	7.82	21.7	6.57	7.58	9.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Bottom	3	1	27	7.87	22	6.32	7.64	10.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS8	18:25	Bottom	3	2	26.9	7.85	22.1	6.29	7.6	9.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Surface	1	1	27	7.82	21.8	6.71	7.45	11.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Surface	1	2	27.1	7.85	21.7	6.74	7.4	11.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Middle	2	1	26.8	7.88	22.1	6.44	7.48	9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Middle	2	2	26.9	7.89	22.2	6.46	7.52	10.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Bottom	3	1	26.7	7.93	22.9	6.27	7.86	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)16	18:45	Bottom	3	2	26.6	7.9	22.8	6.24	7.81	9.4
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Surface	1	1	27	7.63	21.6	6.61	7.11	10
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Surface	1	2	27.1	7.66	21.7	6.57	7.08	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Bottom	3	1	26.9	7.72	21.8	6.53	7.28	10.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	IS(Mf)9	19:08	Bottom	3	2	27	7.69	21.9	6.56	7.36	11
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Surface	1	1	27.1	7.76	21.7	6.48	7.01	10.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Surface	1	2	27	7.79	21.8	6.45	6.94	9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Middle	2	1	26.9	7.82	22.3	6.41	7.31	9.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Middle	2	2	26.8	7.85	22.2	6.37	7.36	9.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Bottom	3	1	26.7	7.87	22.6	6.3	7.79	10.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Flood	CS(Mf)3	19:34	Bottom	3	2	26.8	7.9	22.7	6.33	7.88	12.6

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Surface	1	1	26.6	7.82	21.5	6.56	7.54	11.3
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Surface	1	2	26.7	7.8	21.6	6.59	7.5	10.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Middle	2	1	26.3	7.85	22	6.08	7.87	11.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Middle	2	2	26.2	7.84	22.1	6.05	7.81	10.2
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Bottom	3	1	26.2	7.79	22.2	5.89	8.12	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)5	14:07	Bottom	3	2	26.1	7.8	22.3	5.92	8.06	9.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Surface	1	1	26.6	7.68	21.3	6.4	7.68	11.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Surface	1	2	26.5	7.7	21.3	6.37	7.65	10.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Bottom	3	1	26.3	7.8	21.6	5.95	8.38	10.9
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4a	13:48	Bottom	3	2	26.2	7.78	21.7	5.91	8.34	10.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Surface	1	1	26.7	7.6	21.4	6.5	8.14	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Surface	1	2	26.7	7.63	21.3	6.54	8.1	11.3
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Bottom	3	1	26.3	7.67	21.8	6.03	8.7	12.2
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	SR4	13:24	Bottom	3	2	26.2	7.65	21.8	6.06	8.75	12.3
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Surface	1	1	26.6	7.72	21.3	6.44	7.87	10.2
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Surface	1	2	26.7	7.71	21.3	6.47	7.9	11.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Bottom	3	1	26.4	7.75	21.7	6.12	8.44	11.8
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS8	13:03	Bottom	3	2	26.3	7.76	21.8	6.15	8.4	12.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Surface	1	1	26.7	7.77	21.5	6.61	8.09	12.1
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Surface	1	2	26.7	7.78	21.4	6.58	8.14	12.2
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Middle	2	1	26.3	7.84	21.9	6.27	8.34	10
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Middle	2	2	26.3	7.83	22	6.23	8.3	12.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Bottom	3	1	26.2	7.85	22	6.06	8.9	12.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)16	12:45	Bottom	3	2	26.2	7.85	22.1	6.02	8.95	13.4
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Surface	1	1	26.7	7.57	21.3	6.43	7.04	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Surface	1	2	26.7	7.58	21.4	6.39	7.09	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Middle	2	1						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Middle	2	2						
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Bottom	3	1	26.4	7.6	21.8	5.98	8.12	10.6
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	IS(Mf)9	12:21	Bottom	3	2	26.4	7.61	21.9	8.94	8.07	11.3
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Surface	1	1	26.6	7.7	21.4	6.37	6.87	11
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Surface	1	2	26.7	7.72	21.4	6.34	6.93	9.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Middle	2	1	26.4	7.69	22	6.1	7.94	10.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Middle	2	2	26.4	7.7	21.9	6.07	7.9	9.5
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Bottom	3	1	26.3	7.73	22.1	5.77	8.58	12.7
TMCLKL	HY/2012/07	12-09-2015	Mid-Ebb	CS(Mf)3	11:53	Bottom	3	2	26.3	7.72	22.2	5.74	8.55	13.7
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Surface	1	1	26.8	7.88	21.6	6.62	7.45	8.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Surface	1	2	26.7	7.86	21.7	6.65	7.41	9.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Middle	2	1	26.4	7.91	22.1	6.14	7.73	10.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Middle	2	2	26.3	7.9	22.2	6.11	7.72	11.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Bottom	3	1	26.3	7.85	22.3	5.95	8.03	11.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)5	7:40	Bottom	3	2	26.2	7.86	22.4	5.98	7.93	12.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Surface	1	1	26.7	7.74	21.3	6.46	7.59	9.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Surface	1	2	26.6	7.76	21.4	6.43	7.56	10.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Bottom	3	1	26.4	7.86	21.7	6.01	8.29	12.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4a	7:53	Bottom	3	2	26.4	7.84	21.8	5.97	5.25	12.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Surface	1	1	26.8	7.66	21.4	6.56	8.05	12.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Surface	1	2	26.8	7.69	21.5	6.6	8.01	12.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Bottom	3	1	26.6	7.73	21.8	6.09	8.61	12.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	SR4	8:16	Bottom	3	2	26.3	7.71	21.9	6.12	8.66	12.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Surface	1	1	26.7	7.78	21.3	6.5	7.78	12.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Surface	1	2	26.8	7.77	21.4	6.53	7.81	10.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Bottom	3	1	26.5	7.81	21.8	6.18	8.35	13.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS8	8:34	Bottom	3	2	26.4	7.82	21.9	6.21	8.31	12.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Surface	1	1	26.8	7.83	21.5	6.67	8	12.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Surface	1	2	26.7	7.84	21.6	6.64	8.05	10.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Middle	2	1	26.3	7.9	22	6.33	8.25	13.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Middle	2	2	26.4	7.89	22.1	6.29	8.21	12.3
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Bottom	3	1	26.2	7.91	22.1	6.12	8.81	13.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)16	8:52	Bottom	3	2	26.3	7.92	22.2	6.08	8.86	14.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Surface	1	1	26.8	7.63	21.4	6.49	6.95	9.7
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Surface	1	2	26.7	7.64	21.5	6.45	7	9.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Bottom	3	1	26.4	7.66	22	6.04	8.03	12

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	IS(Mf)9	9:10	Bottom	3	2	26.5	7.67	21.9	6	7.93	10.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Surface	1	1	26.8	7.76	21.4	6.43	6.78	8.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Surface	1	2	26.7	7.78	21.5	6.4	6.84	8.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Middle	2	1	26.4	7.75	22	6.16	7.85	10.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Middle	2	2	26.5	7.76	22.1	6.13	7.81	10.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Bottom	3	1	26.4	7.79	22.2	5.83	8.49	11.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Flood	CS(Mf)3	9:28	Bottom	3	2	26.3	7.8	22.3	5.8	8.46	12.7
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Surface	1	1	27	7.92	21.5	6.41	8.06	12.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Surface	1	2	26.9	7.94	21.6	6.39	8.08	10.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Middle	2	1	26.8	8	21.7	6.06	8.02	9.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Middle	2	2	26.7	8.02	21.7	6.08	8.04	9.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Bottom	3	1	26.6	8.13	21.8	5.83	8.26	9.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)5	14:41	Bottom	3	2	26.5	8.15	21.9	5.81	8.28	11.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Surface	1	1	26.9	7.76	21.6	6.37	7.69	12.3
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Surface	1	2	26.8	7.78	21.6	6.35	7.71	10.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Bottom	3	1	26.7	7.85	21.7	6.09	8.33	12.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4a	14:19	Bottom	3	2	26.7	7.87	21.8	6.11	8.35	10.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Surface	1	1	26.9	7.77	21.5	6.44	8.09	10.5
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Surface	1	2	26.8	7.75	21.6	6.42	8.11	12.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Bottom	3	1	26.7	7.82	21.7	6	8.73	13.1
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	SR4	13:52	Bottom	3	2	26.6	7.84	21.8	6.02	8.75	12.3
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Surface	1	1	27	7.89	21.6	6.36	7.92	11.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Surface	1	2	27	7.91	21.7	6.38	7.94	12.7
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Bottom	3	1	26.8	8.05	21.8	6.1	8.11	13
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS8	13:31	Bottom	3	2	26.8	8.07	21.8	6.12	8.13	13.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Surface	1	1	27.1	7.99	21.5	6.59	8.15	10.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Surface	1	2	27	8.01	21.5	6.61	8.13	12.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Middle	2	1	26.9	8.13	21.6	6.28	8.3	10.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Middle	2	2	26.8	8.11	21.7	6.26	8.32	10.8
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Bottom	3	1	26.7	7.85	21.8	6.04	9.02	12.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)16	13:09	Bottom	3	2	26.6	7.87	21.8	6.06	9	11.7
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Surface	1	1	27	7.74	21.5	6.3	7.13	10.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Surface	1	2	27.1	7.76	21.6	6.28	7.11	9.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Middle	2	1						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Middle	2	2						
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Bottom	3	1	26.8	7.88	21.7	5.97	8.14	13
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	IS(Mf)9	12:47	Bottom	3	2	26.7	7.9	21.8	5.98	8.16	11.4
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Surface	1	1	26.9	7.69	21.6	6.42	6.85	8.9
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Surface	1	2	26.8	7.71	21.6	6.4	6.87	9.6
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Middle	2	1	26.7	7.8	21.7	6.07	7.97	12
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Middle	2	2	26.6	7.82	21.7	6.09	8.01	11.2
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Bottom	3	1	26.5	7.95	21.8	5.77	8.55	12
TMCLKL	HY/2012/07	15-09-2015	Mid-Ebb	CS(Mf)3	12:26	Bottom	3	2	26.5	7.97	21.9	8.75	8.57	12
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Surface	1	1	26.9	7.79	21.7	6.68	7.36	11
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Surface	1	2	26.8	7.77	21.8	6.71	7.32	9.5
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Middle	2	1	26.5	7.82	22.2	6.2	7.69	10.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Middle	2	2	26.4	7.81	22.3	6.17	7.63	11.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Bottom	3	1	26.4	7.76	22.5	6.01	7.94	10.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)5	8:23	Bottom	3	2	26.3	7.77	22.4	6.04	7.88	11.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Surface	1	1	26.8	7.65	21.4	6.52	7.5	10.5
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Surface	1	2	26.7	7.67	21.5	6.49	7.47	12
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Bottom	3	1	26.5	7.77	21.9	6.07	8.2	12.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4a	8:45	Bottom	3	2	26.4	7.75	21.8	6.03	8.16	11.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Surface	1	1	26.9	7.57	21.5	6.62	7.96	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Surface	1	2	26.8	7.6	21.6	6.66	7.92	10.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Bottom	3	1	26.5	7.64	21.8	6.15	8.52	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	SR4	9:07	Bottom	3	2	26.4	7.62	21.5	6.18	8.57	11.1
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Surface	1	1	26.9	7.69	21.5	6.56	7.69	10
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Surface	1	2	26.9	7.68	21.4	6.59	7.72	10.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Bottom	3	1	26.6	7.72	21.9	6.24	8.26	12.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS8	9:29	Bottom	3	2	26.5	7.73	22	6.27	8.22	12.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Surface	1	1	26.8	7.74	21.6	6.73	7.91	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Surface	1	2	26.4	7.75	21.7	6.7	7.96	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Middle	2	1	26.5	7.81	22.1	6.39	8.16	10.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Middle	2	2	26.4	7.8	22.2	6.35	8.12	11

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Bottom	3	1	26.4	7.82	22.2	6.18	8.72	12.2
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)16	9:51	Bottom	3	2	26.3	7.83	22.3	6.14	8.77	14
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Surface	1	1	26.9	7.54	21.5	6.55	6.86	9
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Surface	1	2	26.9	7.55	21.6	6.51	6.91	8.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Bottom	3	1	26.6	7.57	22	6.1	7.94	10.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	IS(Mf)9	10:13	Bottom	3	2	26.5	7.53	22.1	6.06	7.89	9.5
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Surface	1	1	26.9	7.67	21.5	6.49	6.69	9.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Surface	1	2	26.8	7.69	21.6	6.46	6.75	8.1
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Middle	2	1	26.5	7.66	22.1	6.22	7.76	11.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Middle	2	2	26.6	7.67	22.2	6.9	7.72	10
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Bottom	3	1	26.5	7.7	22.3	5.89	8.4	12.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Flood	CS(Mf)3	10:37	Bottom	3	2	26.4	7.71	22.4	5.86	8.37	11
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Surface	1	1	27	7.74	21.8	6.59	7.5	12
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Surface	1	2	27	7.77	21.8	6.56	7.57	10.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Middle	2	1	26.7	7.79	22.3	6.34	7.72	10.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Middle	2	2	26.7	7.83	22.2	6.31	7.8	11.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Bottom	3	1	26.5	7.8	22.5	6.03	8.29	11.5
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)5	15:39	Bottom	3	2	26.5	7.75	22.6	5.98	8.2	13.1
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Surface	1	1	27	7.68	21.6	6.4	7.73	10
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Surface	1	2	26.9	7.71	21.7	6.43	7.81	9.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Bottom	3	1	26.7	7.74	21.9	6.12	8.33	10.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4a	15:15	Bottom	3	2	26.7	7.7	22	6.09	8.41	11.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Surface	1	1	27	7.61	21.7	6.58	7.96	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Surface	1	2	26.9	7.64	21.7	6.55	8.04	12.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Bottom	3	1	26.7	7.67	21.9	6.16	8.58	11.2
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	SR4	14:55	Bottom	3	2	26.8	7.7	22	6.13	8.64	12.1
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Surface	1	1	27	7.68	21.6	6.53	7.76	11.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Surface	1	2	27	7.7	21.7	6.5	7.84	11.8
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Bottom	3	1	26.7	7.75	22	6.21	8.4	12.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS8	14:35	Bottom	3	2	26.7	7.77	22	6.18	8.47	11.9
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Surface	1	1	27	7.78	21.8	6.58	8.07	9.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Surface	1	2	26.9	7.8	21.7	6.61	7.99	10
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Middle	2	1	26.6	7.73	22	6.34	8.23	10.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Middle	2	2	26.7	7.76	22.1	6.3	8.27	12.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Bottom	3	1	26.4	7.79	22.4	6.11	8.94	10.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)16	14:13	Bottom	3	2	26.4	7.81	22.4	6.08	8.86	11.5
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Surface	1	1	27	7.58	21.6	6.44	7.04	9.2
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Surface	1	2	27	7.6	21.6	6.41	6.96	10.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Middle	2	1						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Middle	2	2						
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Bottom	3	1	26.7	7.57	22.1	6.17	7.89	11
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	IS(Mf)9	13:52	Bottom	3	2	26.8	7.6	22.1	6.14	7.97	10.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Surface	1	1	26.9	7.68	21.6	6.37	6.84	9.6
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Surface	1	2	27	7.66	21.7	6.34	6.91	10.4
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Middle	2	1	26.7	7.64	22.2	6.16	7.79	11.7
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Middle	2	2	26.6	7.67	22.2	6.14	7.88	11
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Bottom	3	1	26.5	7.69	22.4	5.77	8.56	10.3
TMCLKL	HY/2012/07	17-09-2015	Mid-Ebb	CS(Mf)3	13:26	Bottom	3	2	26.4	7.7	22.5	5.79	8.64	11.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Surface	1	1	27	7.7	21.8	6.74	7.27	10.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Surface	1	2	26.9	7.68	21.9	6.77	7.23	10.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Middle	2	1	26.6	7.73	22.3	6.26	7.6	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Middle	2	2	26.5	7.72	22.4	6.23	7.54	11.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Bottom	3	1	26.3	7.67	22.5	6.07	7.85	11.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)5	9:56	Bottom	3	2	26.4	7.68	22.6	6.1	7.79	10.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Surface	1	1	26.9	7.56	21.5	6.58	7.41	9.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Surface	1	2	26.8	7.58	21.6	6.55	7.38	11.1
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Bottom	3	1	26.6	7.68	21.9	6.13	8.11	9.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4a	10:09	Bottom	3	2	26.5	7.66	22	6.09	8.07	11
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Surface	1	1	27	7.48	21.6	6.68	7.87	11
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Surface	1	2	26.9	7.51	21.7	6.72	7.83	11.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Bottom	3	1	26.5	7.55	21.9	6.21	8.43	11
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	SR4	10:22	Bottom	3	2	26.6	7.53	22	6.24	8.48	11.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Surface	1	1	26.9	7.6	21.5	6.62	7.6	11.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Surface	1	2	27	7.59	21.6	6.65	7.63	12.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Middle	2	1						



Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Bottom	3	1	26.7	7.63	22	6.3	8.17	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS8	10:35	Bottom	3	2	26.6	7.64	22.1	6.33	8.13	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Surface	1	1	26.9	7.65	21.7	6.79	7.82	11.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Surface	1	2	26.8	7.66	21.8	6.76	7.87	10.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Middle	2	1	26.6	7.72	22.2	6.45	8.07	10.5
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Middle	2	2	26.5	7.71	22.3	6.41	8.03	10.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Bottom	3	1	26.5	7.73	22.4	6.24	8.63	12.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)16	10:48	Bottom	3	2	26.4	7.74	22.3	6.2	8.68	12.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Surface	1	1	26.9	7.45	21.6	6.46	6.77	10.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Surface	1	2	26.9	7.46	21.7	6.42	6.82	8.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Bottom	3	1	26.7	7.48	22.1	6.16	7.85	11
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	IS(Mf)9	11:01	Bottom	3	2	26.6	7.49	22.2	6.12	7.8	9.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Surface	1	1	27	7.58	21.6	6.55	6.6	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Surface	1	2	26.9	7.6	21.7	6.52	6.66	10
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Middle	2	1	26.7	7.57	22.3	6.28	6.67	8.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Middle	2	2	26.6	7.58	22.2	6.25	6.63	9.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Bottom	3	1	26.6	7.61	22.4	5.95	8.31	11.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Flood	CS(Mf)3	11:14	Bottom	3	2	26.5	7.62	22.5	5.92	8.28	11.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Surface	1	1	27.1	7.64	21.6	6.68	7.44	11.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Surface	1	2	27	7.67	21.6	6.65	7.39	11.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Middle	2	1	26.8	7.74	22.1	6.31	7.6	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Middle	2	2	26.7	7.7	22.2	6.27	7.67	10
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Bottom	3	1	26.5	7.69	22.6	6.04	8.04	12.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)5	16:45	Bottom	3	2	26.5	7.72	22.6	6	8.12	11.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Surface	1	1	27	7.5	21.3	6.5	7.63	12.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Surface	1	2	27	7.53	21.4	6.47	7.69	10
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Bottom	3	1	26.8	7.57	21.8	6.24	7.93	9.5
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4a	16:20	Bottom	3	2	26.8	7.6	21.9	6.2	8.01	10.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Surface	1	1	27.1	7.53	21.4	6.67	7.8	11.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Surface	1	2	27	7.55	21.4	6.64	7.71	10
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Bottom	3	1	26.8	7.56	21.9	6.33	8.17	12.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	SR4	16:02	Bottom	3	2	26.8	7.51	22	6.29	8.24	12.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Surface	1	1	27	7.63	21.4	6.54	7.74	11.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Surface	1	2	27	7.65	21.5	6.51	7.66	12.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Bottom	3	1	26.8	7.6	22	6.28	8.09	12.1
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS8	15:45	Bottom	3	2	26.7	7.63	22.1	6.25	8.16	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Surface	1	1	27.1	7.61	21.5	6.57	7.67	10.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Surface	1	2	27.1	7.63	21.6	6.6	7.62	11.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Middle	2	1	26.8	7.7	22.1	6.39	7.89	10.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Middle	2	2	26.7	7.67	22.2	6.35	7.94	10.3
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Bottom	3	1	26.6	7.69	22.4	6.2	8.33	10.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)16	15:23	Bottom	3	2	26.5	7.71	22.5	6.17	8.41	10.9
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Surface	1	1	27.1	7.48	21.4	6.37	6.74	9.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Surface	1	2	27.1	7.45	21.4	6.4	6.8	9.5
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Middle	2	1						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Middle	2	2						
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Bottom	3	1	26.8	7.49	22	6.12	7.49	9.7
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	IS(Mf)9	15:05	Bottom	3	2	26.8	7.51	22.1	6.09	7.56	10.6
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Surface	1	1	27	7.53	21.4	6.46	6.81	9.5
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Surface	1	2	27.1	7.55	21.3	6.48	6.89	9
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Middle	2	1	26.8	7.49	22.1	6.2	6.74	10.8
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Middle	2	2	26.9	7.51	22.2	6.17	6.82	8.2
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Bottom	3	1	26.7	7.57	22.5	5.83	8.27	12.4
TMCLKL	HY/2012/07	19-09-2015	Mid-Ebb	CS(Mf)3	14:40	Bottom	3	2	26.6	7.59	22.6	5.8	8.19	10.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Surface	1	1	27	7.7	21.9	6.59	7.42	10.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Surface	1	2	27.1	7.68	22	6.62	7.38	11.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Middle	2	1	26.7	7.73	22.4	6.11	7.75	10.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Middle	2	2	26.6	7.72	22.5	6.08	7.69	10
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Bottom	3	1	26.6	7.67	22.6	5.92	8	10.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)5	13:27	Bottom	3	2	26.5	7.68	22.7	5.95	7.94	11.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Surface	1	1	27	7.56	21.6	6.43	7.56	11.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Surface	1	2	26.9	7.58	21.7	6.4	7.53	9.8
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Bottom	3	1	26.7	7.68	22	5.98	8.26	9.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4a	13:49	Bottom	3	2	26.6	7.66	22.1	5.94	8.22	11.5
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Surface	1	1	27.1	7.48	21.7	6.53	8.02	10.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Surface	1	2	27	7.51	21.8	6.57	7.98	11.2

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Bottom	3	1	26.7	7.55	22.1	6.06	8.58	12
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	SR4	14:11	Bottom	3	2	26.6	7.53	22	6.09	8.63	12.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Surface	1	1	27.1	7.6	21.6	6.47	7.75	9.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Surface	1	2	27.1	7.59	21.7	6.5	7.78	9.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Bottom	3	1	26.8	7.63	22.1	6.15	8.32	11.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS8	14:33	Bottom	3	2	26.7	7.64	22.2	6.18	8.28	10.8
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Surface	1	1	27.1	7.65	21.8	6.64	7.97	9.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Surface	1	2	27	7.66	21.9	6.61	8.02	10.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Middle	2	1	26.7	7.72	22.4	6.3	8.22	11.5
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Middle	2	2	26.6	7.71	22.3	6.26	8.18	12.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Bottom	3	1	26.6	7.73	22.4	6.09	8.78	11.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)16	14:55	Bottom	3	2	26.5	7.74	22.5	6.05	8.83	12.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Surface	1	1	27	7.45	21.6	6.46	6.92	9.7
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Surface	1	2	27.1	7.46	21.7	6.42	6.97	8.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Bottom	3	1	26.8	7.48	22.2	6.01	8	12
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	IS(Mf)9	15:17	Bottom	3	2	26.7	7.49	22.3	5.97	7.95	10.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Surface	1	1	27.2	7.58	21.7	6.4	6.75	8.8
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Surface	1	2	27.1	7.6	21.8	6.37	6.81	8.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Middle	2	1	26.8	7.57	22.4	6.13	7.82	10.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Middle	2	2	26.7	7.58	22.3	6.1	7.78	11.7
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Bottom	3	1	26.6	7.61	22.5	5.8	8.46	10.2
TMCLKL	HY/2012/07	21-09-2015	Mid-Flood	CS(Mf)3	15:41	Bottom	3	2	26.7	7.62	22.6	5.77	8.43	11
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Surface	1	1	26.8	7.72	21.9	6.32	7.27	11.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Surface	1	2	26.8	7.74	21.9	6.28	7.3	11
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Middle	2	1	26.6	7.75	22.3	6.02	7.89	11.8
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Middle	2	2	26.5	7.71	22.3	6.05	7.85	12.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Bottom	3	1	26.5	7.77	22.4	5.95	8.33	13.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)5	8:20	Bottom	3	2	26.5	7.78	22.4	5.98	8.3	12.5
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Surface	1	1	26.9	7.69	21.8	6.21	7.6	9.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Surface	1	2	26.8	7.68	21.8	6.25	7.66	9.2
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Bottom	3	1	26.6	7.7	22.3	5.9	8.5	11.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4a	7:55	Bottom	3	2	26.5	7.72	22.2	5.94	8.47	11
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Surface	1	1	26.9	7.6	21.8	6.34	7.94	11.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Surface	1	2	26.8	7.62	21.7	6.3	7.9	10.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Bottom	3	1	26.7	7.69	22	6.06	8.62	13.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	SR4	7:30	Bottom	3	2	26.8	7.69	22.1	6.02	8.57	13.7
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Surface	1	1	26.9	7.59	21.8	6.29	8.07	11.7
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Surface	1	2	26.9	7.6	21.8	6.25	8.04	12.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Bottom	3	1	26.6	7.72	22.1	6.1	8.44	12.7
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS8	7:10	Bottom	3	2	26.5	7.73	22.1	6.14	8.4	12.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Surface	1	1	26.9	7.61	21.7	6.44	7.78	10.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Surface	1	2	26.8	7.62	21.7	6.48	7.75	12.4
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Middle	2	1	26.5	7.7	21.9	6.17	8.52	11.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Middle	2	2	26.4	7.72	21.9	6.14	8.56	12
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Bottom	3	1	26.4	7.73	22.2	5.98	8.69	13
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)16	6:55	Bottom	3	2	26.4	7.73	22.1	5.94	8.65	13
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Surface	1	1	26.8	7.57	21.4	6.55	7.27	10.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Surface	1	2	26.8	7.54	21.5	6.58	7.3	10.2
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Middle	2	1						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Middle	2	2						
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Bottom	3	1	26.6	7.59	22	6.06	7.95	11.9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	IS(Mf)9	6:33	Bottom	3	2	26.7	7.58	22.1	6.03	7.92	10.5
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Surface	1	1	26.8	7.62	21.7	6.62	6.89	9
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Surface	1	2	26.7	7.65	21.8	6.65	6.85	10.3
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Middle	2	1	26.5	7.67	22	6.26	7.54	12.1
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Middle	2	2	26.5	7.69	22.1	6.22	7.5	10.5
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Bottom	3	1	26.5	7.7	22.1	5.97	8.27	11.6
TMCLKL	HY/2012/07	21-09-2015	Mid-Ebb	CS(Mf)3	6:14	Bottom	3	2	26.4	7.72	22.1	5.94	8.3	10
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Surface	1	1	27	7.94	22.1	6.49	6.91	9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Surface	1	2	27.1	7.96	22.2	6.51	6.93	9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Middle	2	1	26.8	8	22.3	6.33	7	9.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Middle	2	2	26.7	8.02	22.3	6.35	7.02	9.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Bottom	3	1	26.6	8.03	22.4	6.22	7.14	11.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)5	15:12	Bottom	3	2	26.5	8.05	22.5	6.24	7.16	10
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Surface	1	1	26.9	7.83	22	6.34	6.84	8.9

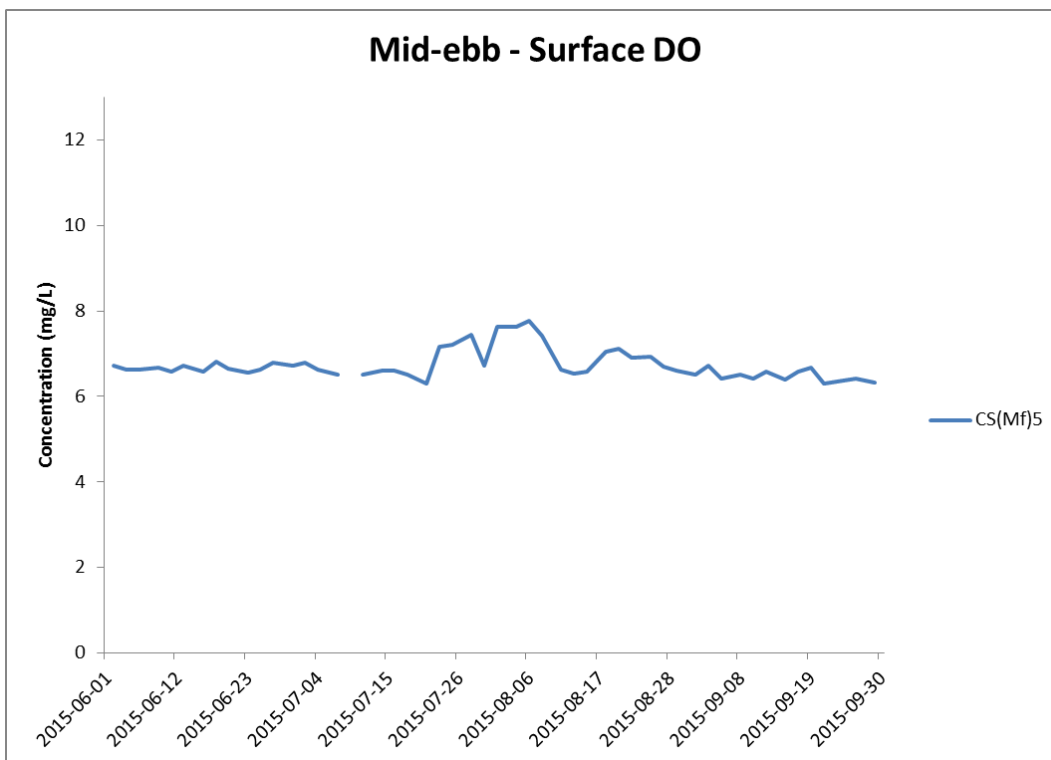
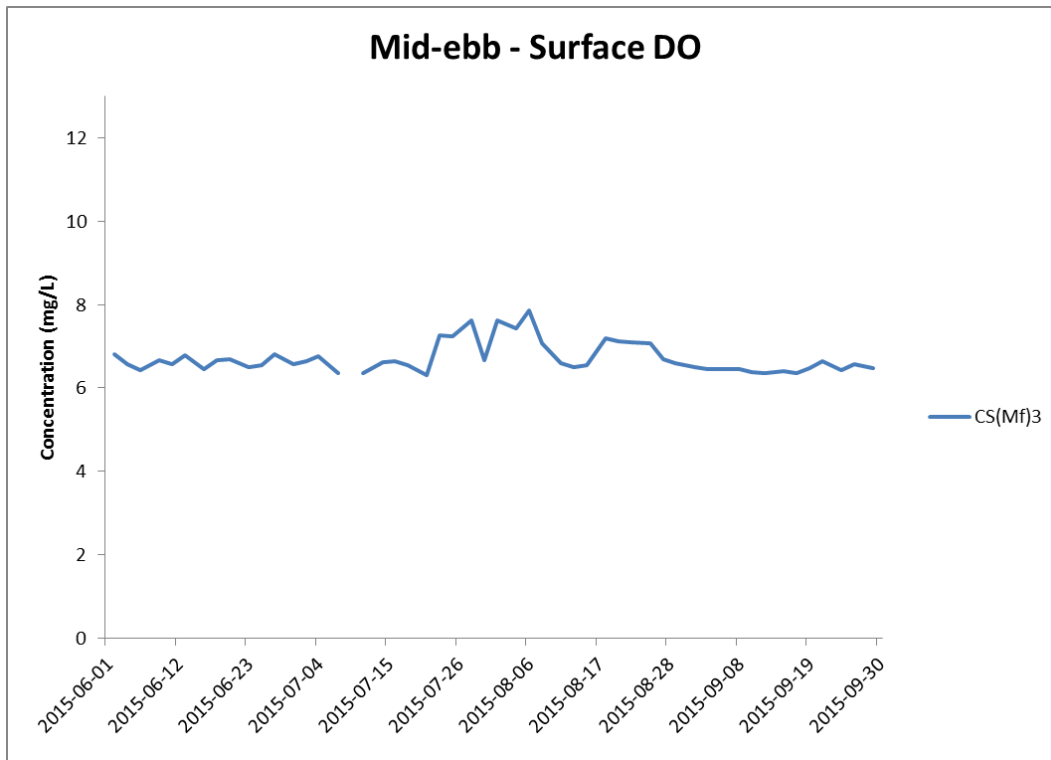
Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Surface	1	2	26.8	7.85	22.1	6.36	6.86	8.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Bottom	3	1	26.7	7.69	22.2	6.21	7	11.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4a	15:34	Bottom	3	2	26.6	7.71	22.3	6.23	7.01	9.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Surface	1	1	27	8.04	22	6.58	6.58	10.5
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Surface	1	2	26.9	8.06	22	6.6	6.6	9.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Bottom	3	1	26.7	7.92	22.1	6.37	6.64	8.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	SR4	15:56	Bottom	3	2	26.7	7.9	22.2	6.35	6.66	8.7
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Surface	1	1	27.1	7.94	22.1	6.44	6.48	10.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Surface	1	2	27	7.96	22.2	6.46	6.5	9.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Bottom	3	1	26.8	8	22.3	6.27	6.57	9.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS8	16:18	Bottom	3	2	26.8	8.03	22.4	6.25	6.53	8.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Surface	1	1	27.1	7.83	21.9	6.67	6.65	9.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Surface	1	2	27.1	7.83	22	6.65	6.67	8.7
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Middle	2	1	27	8	22.1	6.51	6.42	9.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Middle	2	2	26.9	8.02	22.2	6.53	6.44	8.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Bottom	3	1	26.8	7.74	22.3	6.34	6.11	7.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)16	16:40	Bottom	3	2	26.7	7.76	22.4	6.32	6.15	8.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Surface	1	1	27	8.03	22	6.72	5.92	8.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Surface	1	2	26.9	8.05	22.1	6.74	5.9	8.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Bottom	3	1	26.7	8.11	22.2	6.42	6.13	9.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	IS(Mf)9	17:02	Bottom	3	2	26.8	8.13	22.3	6.44	6.15	7.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Surface	1	1	27.1	7.92	22.1	6.65	6	9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Surface	1	2	27	7.94	22.2	6.67	5.98	7.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Middle	2	1	26.8	8	22.3	6.53	6.17	9.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Middle	2	2	26.8	8.02	22.3	6.51	6.19	8
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Bottom	3	1	26.7	7.83	22.4	6.43	6.33	8.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Flood	CS(Mf)3	17:16	Bottom	3	2	26.6	7.87	22.5	6.41	6.35	10.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Surface	1	1	27.4	8.02	21.8	6.35	6.89	9.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Surface	1	2	27.3	8.05	21.8	6.38	6.94	9
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Middle	2	1	27.1	7.97	21.9	6.31	6.99	9.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Middle	2	2	27.2	7.92	22	6.27	7.06	9.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Bottom	3	1	26.9	7.96	22.3	6.11	7.09	9.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)5	10:53	Bottom	3	2	26.8	7.91	22.4	6.14	7.18	11.5
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Surface	1	1	27.2	7.84	22	6.26	6.8	8.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Surface	1	2	27.3	7.89	21.9	6.23	6.72	10.8
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Bottom	3	1	27.3	7.79	22.1	6.18	6.93	10.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4a	10:28	Bottom	3	2	27.3	7.83	22.2	6.21	6.99	9.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Surface	1	1	27.4	8.03	21.8	6.37	6.67	8
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Surface	1	2	27.3	8	21.9	6.34	6.72	8.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Bottom	3	1	27.2	7.96	22.1	6.31	6.81	10.2
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	SR4	10:11	Bottom	3	2	27.1	7.91	22.1	6.28	6.73	10.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Surface	1	1	27.2	7.95	21.9	6.32	6.49	8.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Surface	1	2	27.3	7.9	22	6.33	6.56	9.5
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Bottom	3	1	27.2	7.92	22.1	6.27	6.67	10.7
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS8	9:52	Bottom	3	2	27.1	7.91	22	6.3	6.74	10.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Surface	1	1	27.3	7.88	22.1	6.56	6.57	9.9
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Surface	1	2	27.2	7.82	22.2	6.53	6.62	9.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Middle	2	1	27.2	7.93	22.3	6.5	6.48	9.7
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Middle	2	2	27.1	7.97	22.2	6.47	6.53	8.5
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Bottom	3	1	26.9	7.8	22.4	6.27	6.92	11.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)16	9:32	Bottom	3	2	26.9	7.74	22.4	6.25	6.87	10.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Surface	1	1	27.2	8.08	21.8	6.54	6.14	8
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Surface	1	2	27.3	8.12	21.9	6.57	6.19	8.7
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Middle	2	1						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Middle	2	2						
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Bottom	3	1	27.2	8.16	22.2	6.4	6.23	8.1
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	IS(Mf)9	9:25	Bottom	3	2	27.1	8.18	22.1	6.37	6.29	7.5
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Surface	1	1	27.4	7.96	22.9	6.43	6.65	10
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Surface	1	2	27.3	7.99	22	6.4	6.63	9.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Middle	2	1	27.1	8.04	22.4	6.57	7.28	11.6
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Middle	2	2	27.2	8.09	22.3	6.58	7.34	10.3
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Bottom	3	1	26.8	7.94	22.5	6.39	7.44	10.4
TMCLKL	HY/2012/07	24-09-2015	Mid-Ebb	CS(Mf)3	9:00	Bottom	3	2	26.9	7.9	22.6	6.42	7.4	11.1

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Surface	1	1	27.2	7.9	22.4	6.72	6.34	9.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Surface	1	2	27.1	7.89	22.5	6.75	6.3	10.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Middle	2	1	26.9	7.94	22.5	6.43	7.29	10.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Middle	2	2	26.8	7.93	22.5	6.47	7.26	9.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Bottom	3	1	26.8	7.92	22.6	6.37	7.11	10.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)5	16:23	Bottom	3	2	26.8	7.92	22.5	6.34	7.15	10
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Surface	1	1	27.2	7.8	22.3	6.64	6.43	9.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Surface	1	2	27.2	7.9	22.4	6.67	6.48	9.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Bottom	3	1	26.8	7.75	22.5	6.29	6.82	8.2
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4a	16:51	Bottom	3	2	26.7	7.76	22.6	6.25	6.76	8.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Surface	1	1	27.1	7.88	22.3	6.52	6.94	8.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Surface	1	2	27	7.87	22.4	6.48	6.9	8
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Bottom	3	1	27	7.79	22.5	6.38	7.21	10.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	SR4	17:18	Bottom	3	2	27.1	7.8	22.4	6.35	7.16	9.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Surface	1	1	27.2	7.84	22.3	6.44	7.02	10.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Surface	1	2	27.1	7.82	22.3	6.4	7.06	11.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Bottom	3	1	26.9	7.87	22.6	6.2	7.34	10.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS8	17:41	Bottom	3	2	26.9	7.89	22.5	6.24	7.3	10.2
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Surface	1	1	27.1	7.9	22.4	6.69	6.76	10.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Surface	1	2	27.2	7.91	22.4	6.67	6.7	8
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Middle	2	1	26.9	7.94	22.7	6.33	6.95	10.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Middle	2	2	26.9	7.92	22.8	6.35	6.99	10.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Bottom	3	1	26.8	7.89	22.7	6.15	7.2	11.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)16	18:00	Bottom	3	2	26.8	7.9	22.7	6.11	7.26	10.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Surface	1	1	27.1	7.84	22.5	6.61	6.24	8.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Surface	1	2	27.2	7.85	22.5	6.58	6.2	8.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Bottom	3	1	27	7.87	22.6	6.26	6.39	8.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	IS(Mf)9	18:20	Bottom	3	2	27	7.88	22.7	6.22	6.35	8.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Surface	1	1	27.2	7.87	22.5	6.82	5.97	8.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Surface	1	2	27.1	7.88	22.4	6.79	5.9	7.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Middle	2	1	26.8	7.92	22.8	6.45	6.87	9.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Middle	2	2	26.8	7.91	22.7	6.48	6.81	8.2
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Bottom	3	1	26.7	7.94	22.8	6.39	6.9	9
TMCLKL	HY/2012/07	26-09-2015	Mid-Flood	CS(Mf)3	18:40	Bottom	3	2	26.8	7.94	22.8	6.34	6.96	10.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Surface	1	1	27.2	7.85	22.2	6.4	6.97	9.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Surface	1	2	27.1	7.87	22.3	6.42	6.99	8.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Middle	2	1	26.9	7.91	22.3	6.24	7.06	9.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Middle	2	2	26.8	7.93	22.4	6.26	7.08	10.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Bottom	3	1	26.7	7.94	22.6	6.13	7.2	11.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)5	12:50	Bottom	3	2	26.6	7.96	22.5	6.15	7.22	9.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Surface	1	1	27	7.74	22.1	6.25	6.9	10.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Surface	1	2	26.9	7.76	22.2	6.27	6.92	10.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Bottom	3	1	26.8	7.6	22.3	6.12	7.06	10.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4a	12:26	Bottom	3	2	26.7	7.62	22.4	6.14	7.09	10.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Surface	1	1	27.1	7.95	22	6.49	6.64	10.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Surface	1	2	27	7.97	22.1	6.51	6.66	10
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Bottom	3	1	26.8	7.83	22.2	6.28	6.7	10.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	SR4	12:04	Bottom	3	2	26.7	7.81	22.3	6.26	6.72	9.4
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Surface	1	1	27.2	7.85	22.2	6.35	6.54	9.2
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Surface	1	2	27.2	7.87	22.3	6.37	6.56	9.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Bottom	3	1	26.8	7.91	22.4	6.18	6.63	9.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS8	11:42	Bottom	3	2	26.9	7.94	22.5	6.16	6.59	8.6
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Surface	1	1	27	7.74	22	6.58	6.71	8.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Surface	1	2	27.1	7.76	22.1	6.56	6.73	8.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Middle	2	1	27	7.91	22.3	6.42	6.48	7.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Middle	2	2	27.1	7.93	22.2	6.44	6.5	9.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Bottom	3	1	26.9	7.65	22.5	6.25	6.23	8.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)16	11:20	Bottom	3	2	26.8	7.67	22.4	6.23	6.21	9.3
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Surface	1	1	27.1	7.94	22.2	6.63	5.98	7.8
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Surface	1	2	27	7.96	22.1	6.65	5.96	8.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Middle	2	1						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Middle	2	2						
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Bottom	3	1	26.9	8.02	22.3	6.33	6.04	7.2



Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp_v	pH_v	Sal_v	DO_v	Turb_v	SS_v
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	IS(Mf)9	10:58	Bottom	3	2	26.8	8.04	22.4	6.35	6.06	8.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Surface	1	1	27.2	7.83	22.2	6.56	6.06	8.5
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Surface	1	2	27.1	7.85	22.3	6.58	6.04	7.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Middle	2	1	26.8	7.91	22.4	6.44	6.23	8.7
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Middle	2	2	26.9	7.93	22.3	6.42	6.25	8.1
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Bottom	3	1	26.8	7.76	22.5	6.34	6.39	8.9
TMCLKL	HY/2012/07	26-09-2015	Mid-Ebb	CS(Mf)3	10:36	Bottom	3	2	26.8	7.78	22.6	6.32	6.41	9.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Surface	1	1	27	7.87	22.4	6.65	6.87	9.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Surface	1	2	27	7.88	22.5	6.58	6.8	10.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Middle	2	1	26.8	7.9	22.6	6.39	7.54	10
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Middle	2	2	26.9	7.92	22.5	6.35	7.5	11.3
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Bottom	3	1	26.9	7.94	22.7	6.24	7.62	11.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)5	7:35	Bottom	3	2	26.8	7.95	22.7	6.2	7.57	10.1
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Surface	1	1	27.1	7.82	22.5	6.5	7.27	10.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Surface	1	2	27	7.81	22.5	6.53	7.21	10.1
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Bottom	3	1	26.9	7.87	22.8	6.17	7.44	11.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4a	7:52	Bottom	3	2	26.8	7.88	22.8	6.14	7.4	11.1
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Surface	1	1	27.1	7.78	22.4	6.39	6.72	8.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Surface	1	2	27.1	7.79	22.3	6.36	6.68	8
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Bottom	3	1	27	7.81	22.4	6.1	7.14	10
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	SR4	8:06	Bottom	3	2	27.1	7.83	22.4	6.15	7.1	9.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Surface	1	1	27.1	7.82	22.4	6.44	6.88	10.3
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Surface	1	2	27	7.84	22.4	6.47	6.84	10.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Bottom	3	1	26.9	7.86	22.5	6.04	6.96	8.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS8	8:20	Bottom	3	2	26.8	7.85	22.4	6.07	6.9	9.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Surface	1	1	27	7.84	22.3	6.5	6.43	8.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Surface	1	2	27	7.85	22.2	6.47	6.4	9
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Middle	2	1	26.8	7.87	22.4	6.22	7.09	9.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Middle	2	2	26.8	7.88	22.3	6.17	7.05	8.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Bottom	3	1	26.7	7.89	22.4	6.09	7.25	10.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)16	8:33	Bottom	3	2	26.8	7.9	22.5	6.13	7.2	10.1
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Surface	1	1	27.1	7.86	22.5	6.67	6.66	8.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Surface	1	2	27	7.87	22.4	6.64	6.62	9.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Bottom	3	1	26.9	7.88	22.6	6.29	7.08	10.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	IS(Mf)9	8:47	Bottom	3	2	26.9	7.89	22.6	6.25	7.05	9.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Surface	1	1	27.1	7.84	22.5	6.72	6.68	9.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Surface	1	2	27.1	7.85	22.5	6.75	6.74	8.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Middle	2	1	27	7.92	22.7	6.43	7.04	10.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Middle	2	2	26.9	7.94	22.7	6.47	7.09	11.3
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Bottom	3	1	26.9	7.95	22.7	6.18	7.33	11
TMCLKL	HY/2012/07	29-09-2015	Mid-Flood	CS(Mf)3	9:00	Bottom	3	2	26.8	7.94	22.8	6.14	7.3	10.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Surface	1	1	27.3	7.91	22.3	6.31	7.03	9.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Surface	1	2	27.2	7.93	22.4	6.33	7.05	8.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Middle	2	1	26.9	7.97	22.4	6.15	7.12	10.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Middle	2	2	27	7.99	22.5	6.17	7.14	10
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Bottom	3	1	26.8	8	22.6	6.04	7.26	11.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)5	14:06	Bottom	3	2	26.7	8.02	22.7	6.06	7.28	10.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Surface	1	1	27.1	7.8	22.2	6.16	6.96	9
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Surface	1	2	27	7.82	22.3	6.18	6.98	8.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Bottom	3	1	26.9	7.66	22.4	6.03	7.12	10.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4a	13:42	Bottom	3	2	26.8	7.68	22.5	6.05	7.15	9.3
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Surface	1	1	27.1	8.01	22.1	6.4	6.7	9.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Surface	1	2	27.2	8.03	22.2	6.42	6.72	8.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Bottom	3	1	26.9	7.89	22.3	6.19	6.76	9.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	SR4	13:20	Bottom	3	2	26.8	7.87	22.4	6.17	6.78	10.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Surface	1	1	27.3	7.91	22.3	6.26	6.6	9.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Surface	1	2	27.2	7.93	22.4	6.28	6.62	8.6
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Bottom	3	1	27	7.97	22.5	6.09	6.69	8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS8	12:58	Bottom	3	2	26.9	8	22.6	6.07	6.65	9.3
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Surface	1	1	27.3	7.8	22.1	6.49	6.77	10.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Surface	1	2	27.2	7.82	22.2	6.47	6.79	10.9
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Middle	2	1	27.1	7.97	22.3	6.33	6.54	8.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Middle	2	2	27.2	7.99	22.4	6.35	6.56	8.5

Project	Works	Date	Tide	Stat	Start Time	Level	Lev Cod	Replicate	Temp v	pH v	Sal v	DO v	Turb v	SS v
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Bottom	3	1	27	7.71	22.5	6.16	6.29	8.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)16	12:36	Bottom	3	2	26.9	7.73	22.6	6.14	6.27	7.5
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Surface	1	1	27.2	8	22.2	6.54	6.04	9.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Surface	1	2	27.1	8.02	22.3	6.56	6.02	9
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Middle	2	1						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Middle	2	2						
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Bottom	3	1	26.9	8.08	22.4	6.24	6.1	9.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	IS(Mf)9	12:14	Bottom	3	2	27	8.1	22.5	6.26	6.12	9.8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Surface	1	1	27.3	7.89	22.3	6.47	6.12	8
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Surface	1	2	27.2	7.91	22.4	6.49	6.1	9.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Middle	2	1	27	7.97	22.5	6.35	6.29	9.4
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Middle	2	2	26.9	7.99	22.4	6.33	6.31	8.2
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Bottom	3	1	26.9	7.82	22.6	6.25	6.45	9.7
TMCLKL	HY/2012/07	29-09-2015	Mid-Ebb	CS(Mf)3	11:52	Bottom	3	2	26.8	7.84	22.7	6.23	6.47	10.4

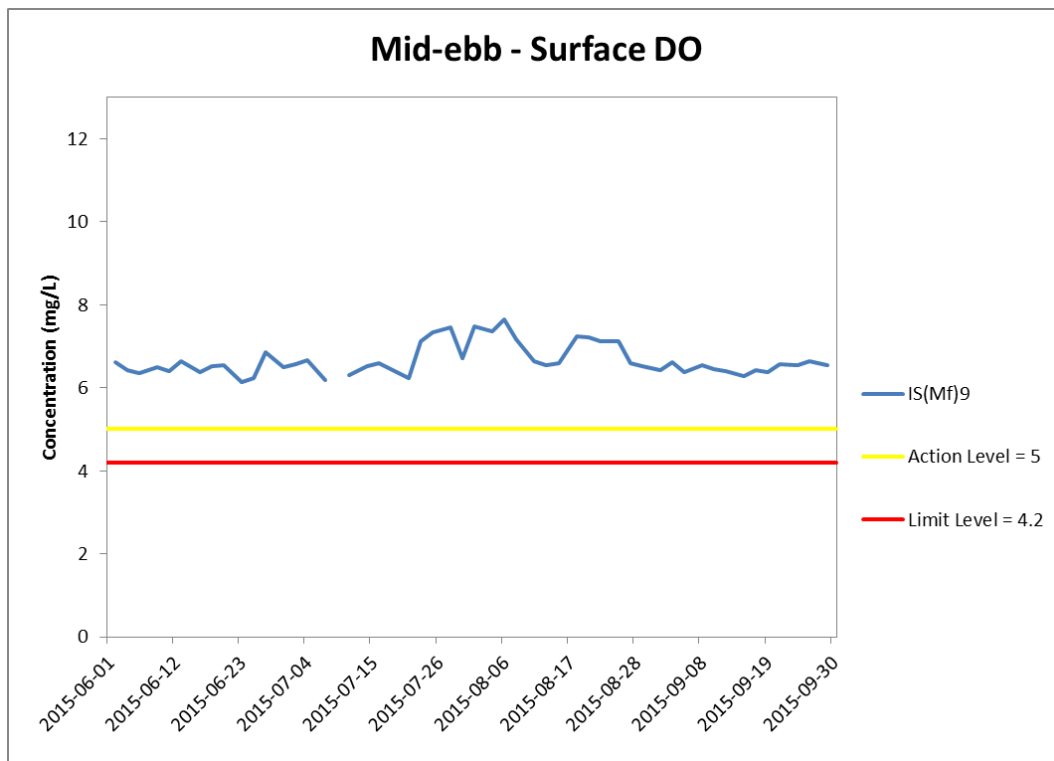
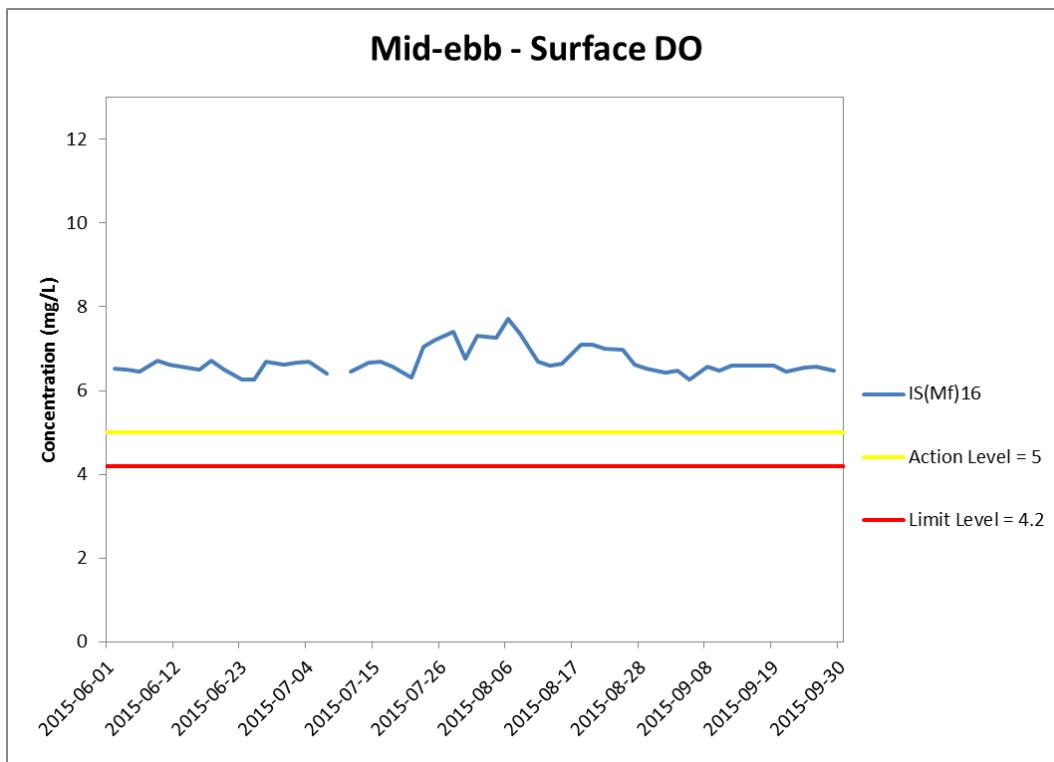


**Figure J1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





**Figure J2 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

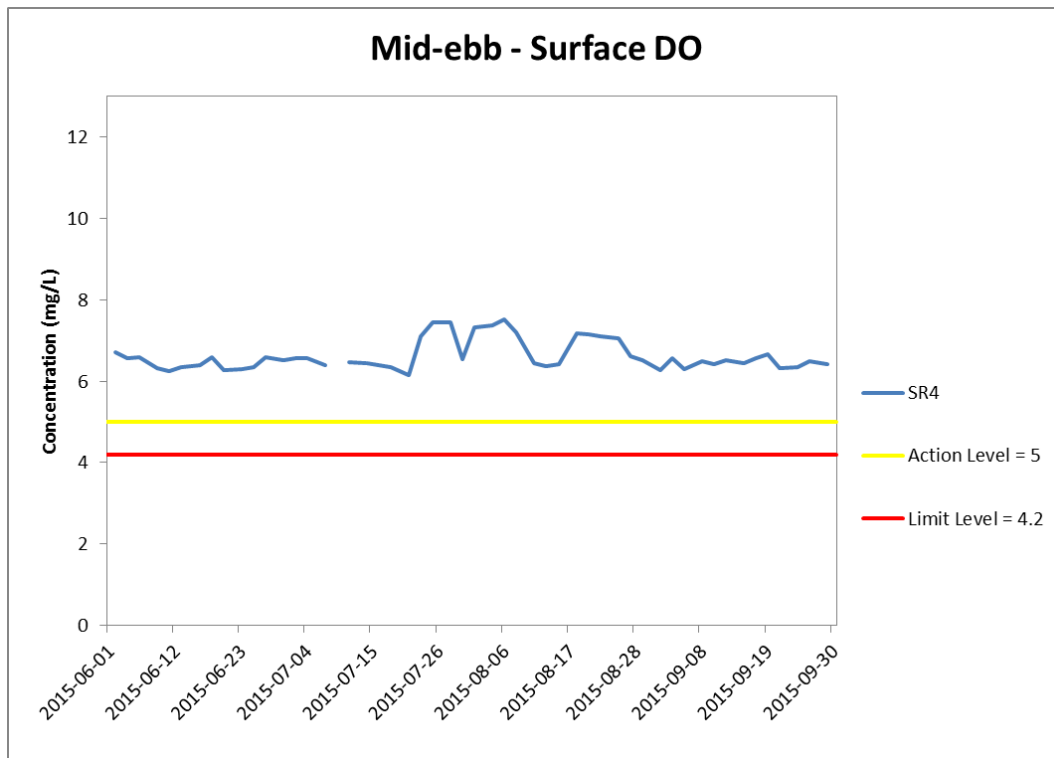
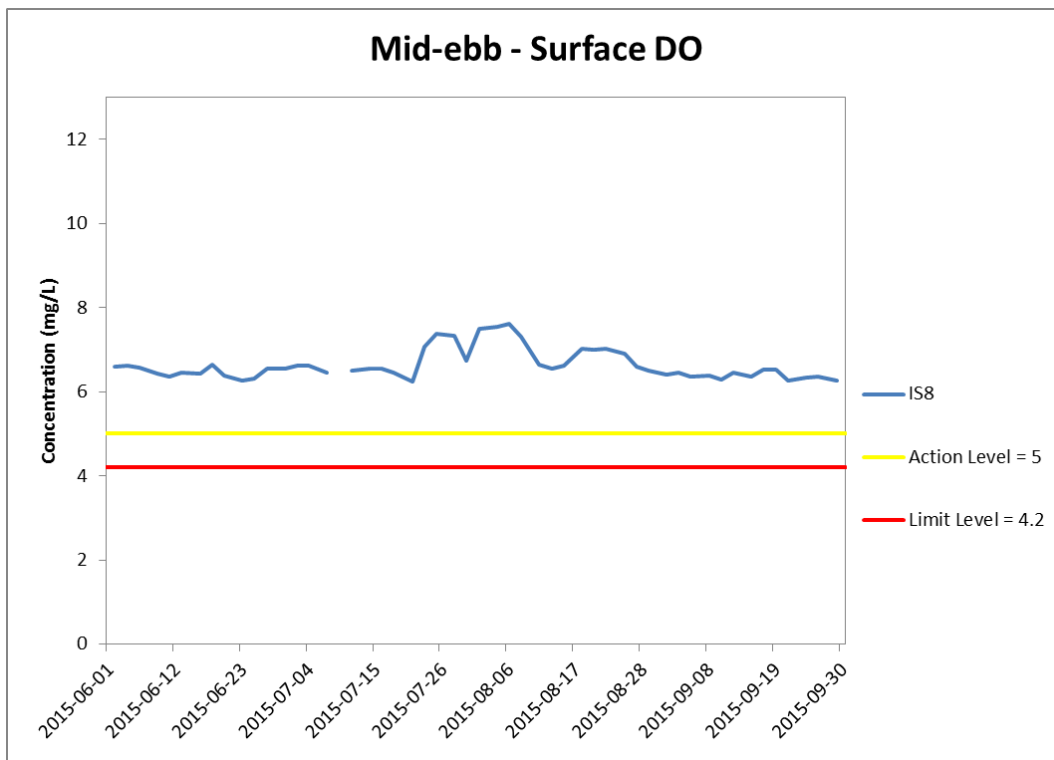
*WQM was cancelled on 9 July 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.)*

*Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

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Management**







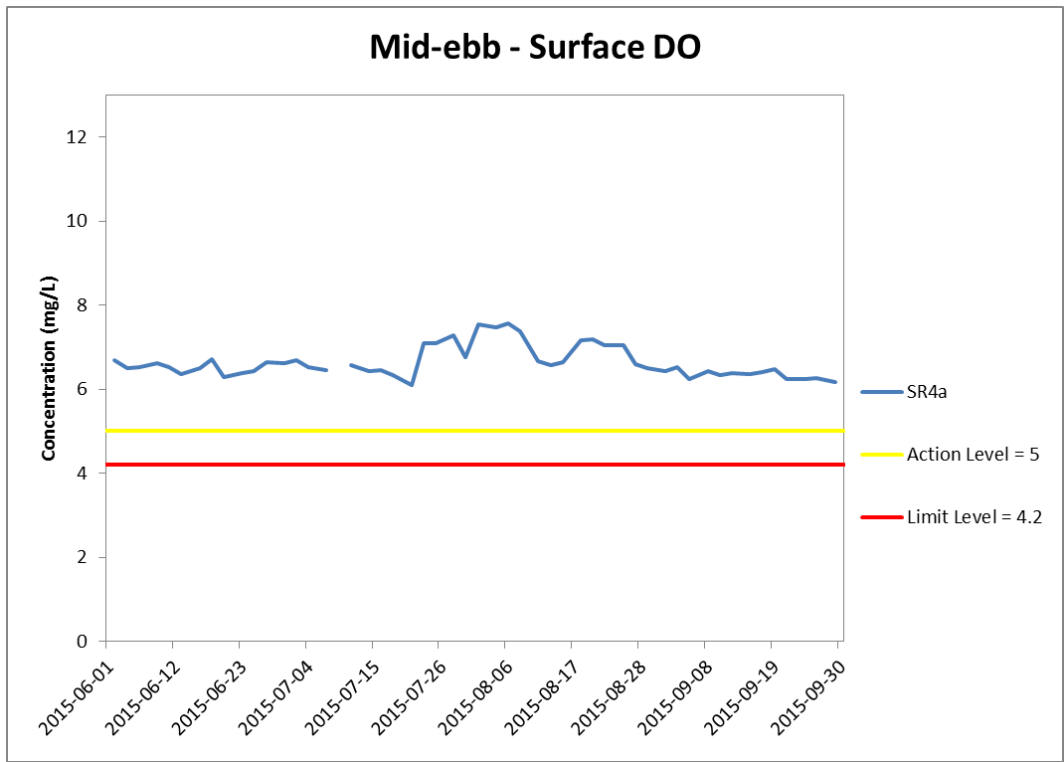
**Figure J3 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June and 30 September 2015 at IS8 and SR4.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine*

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Management**





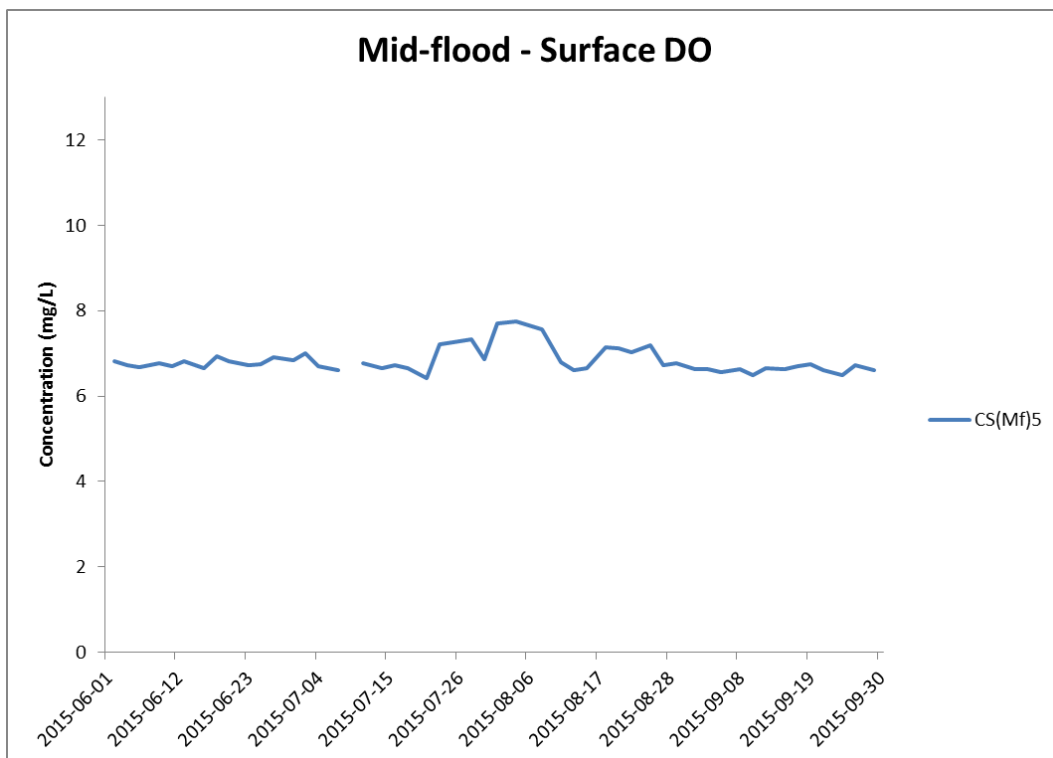
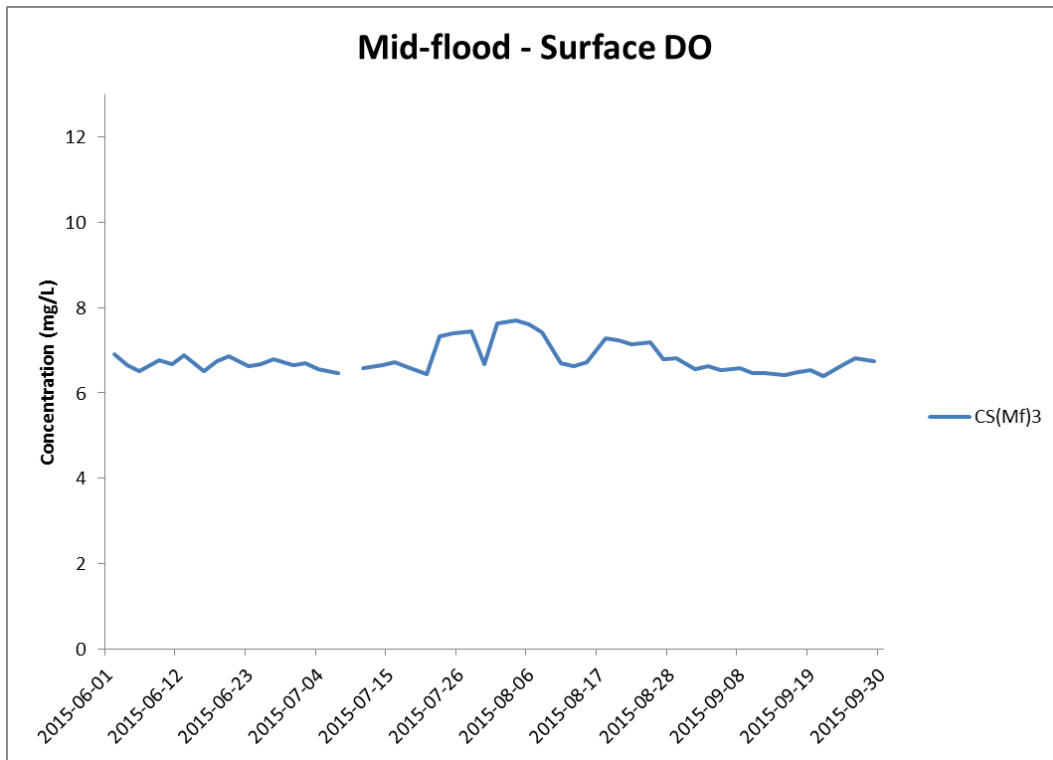
**Figure J4 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

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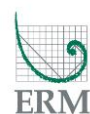


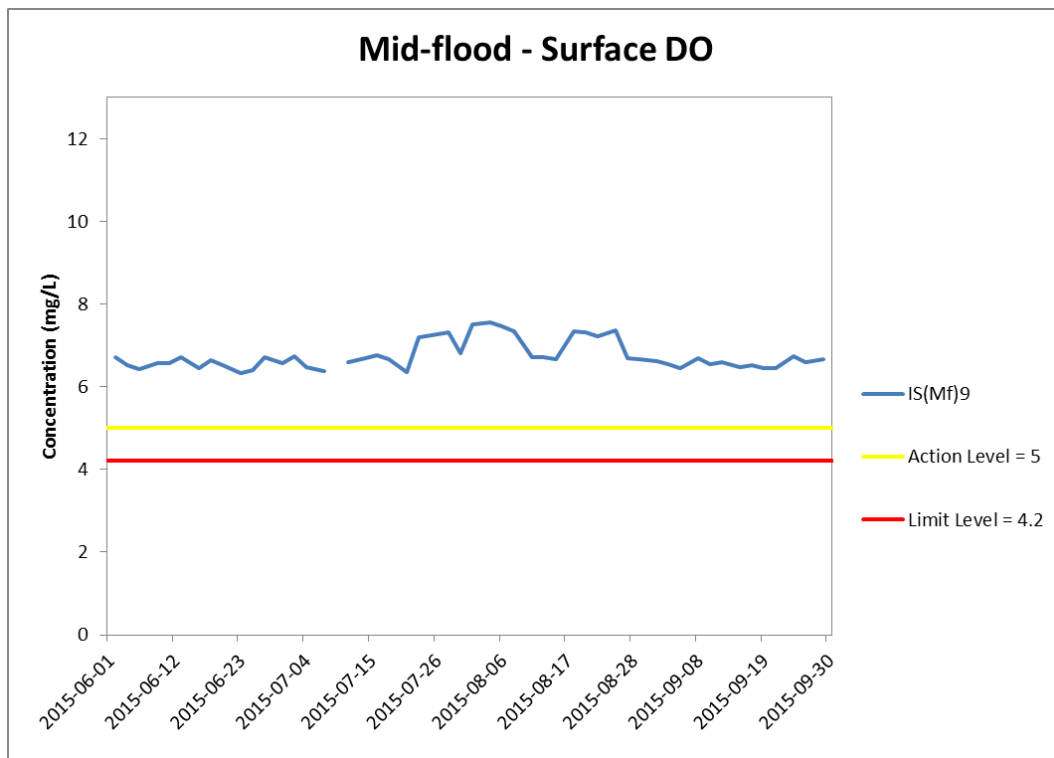
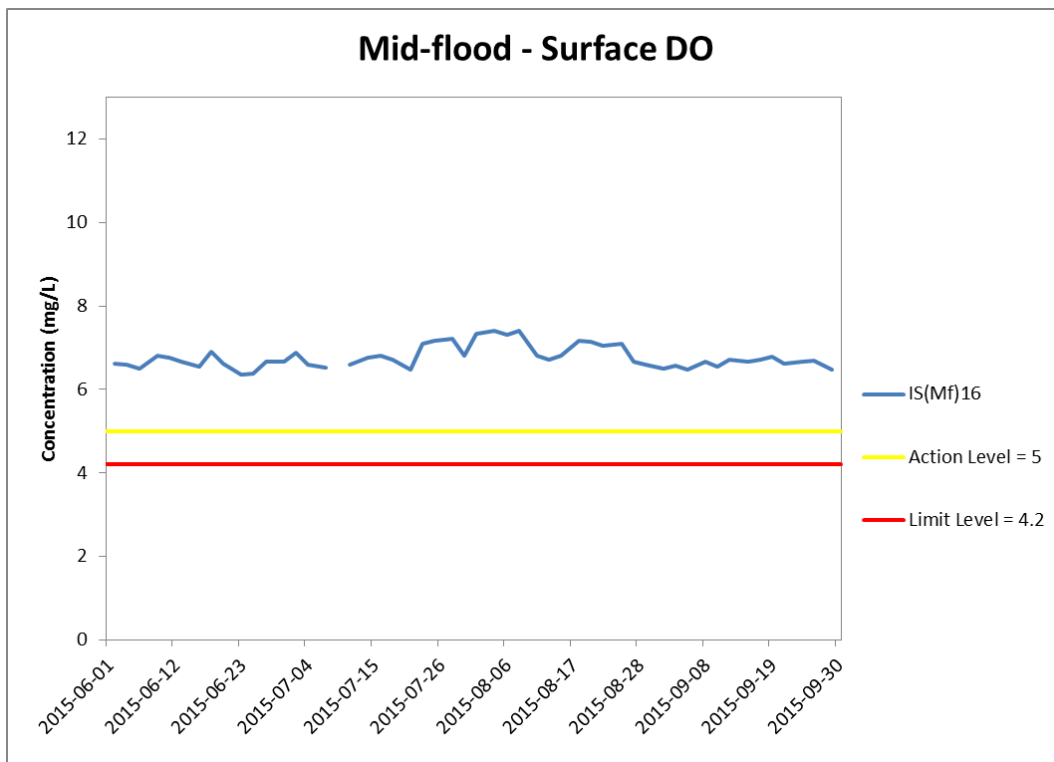
**Figure J5 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

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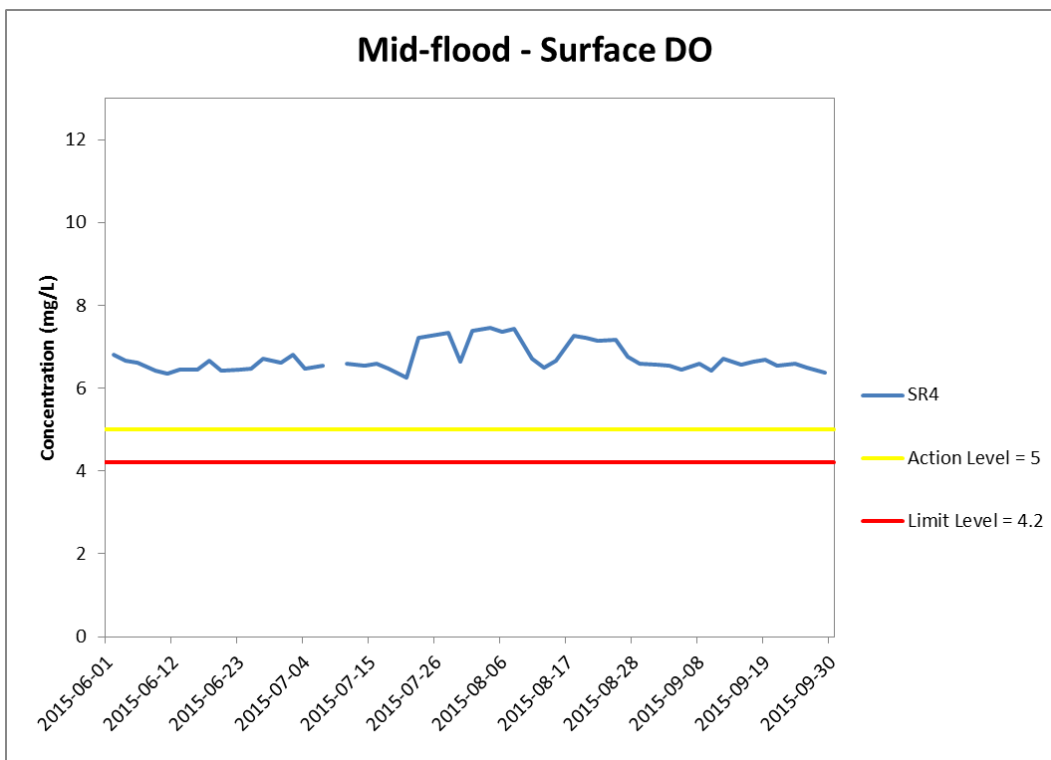
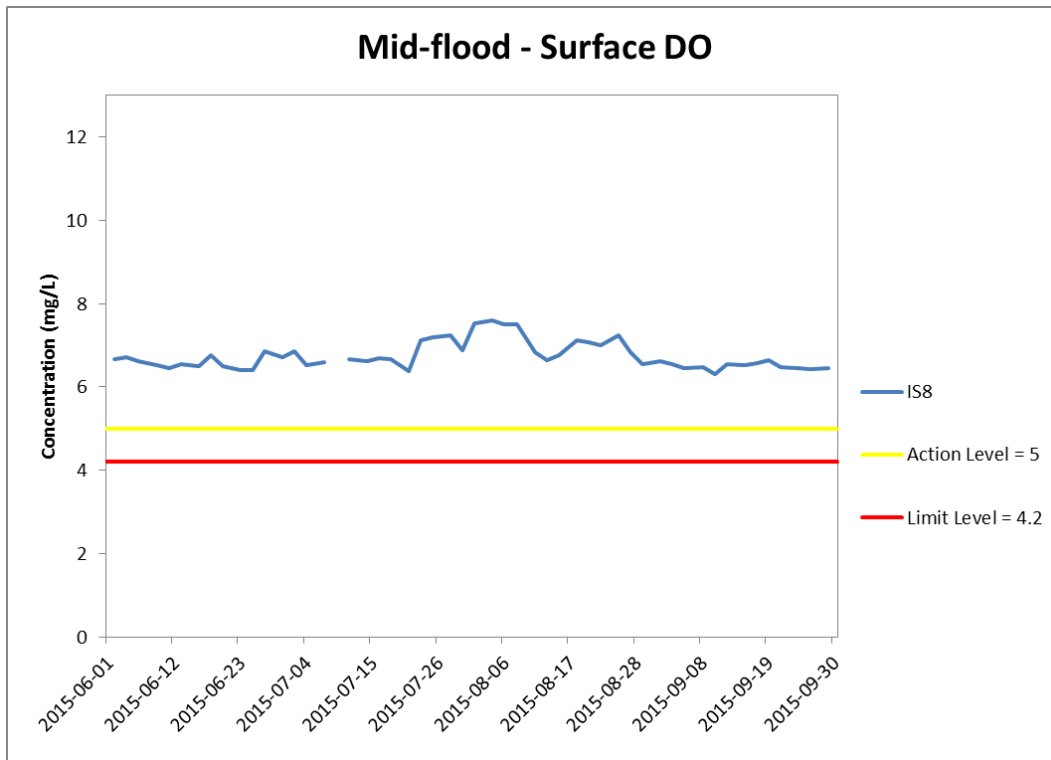


**Figure J6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

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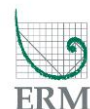




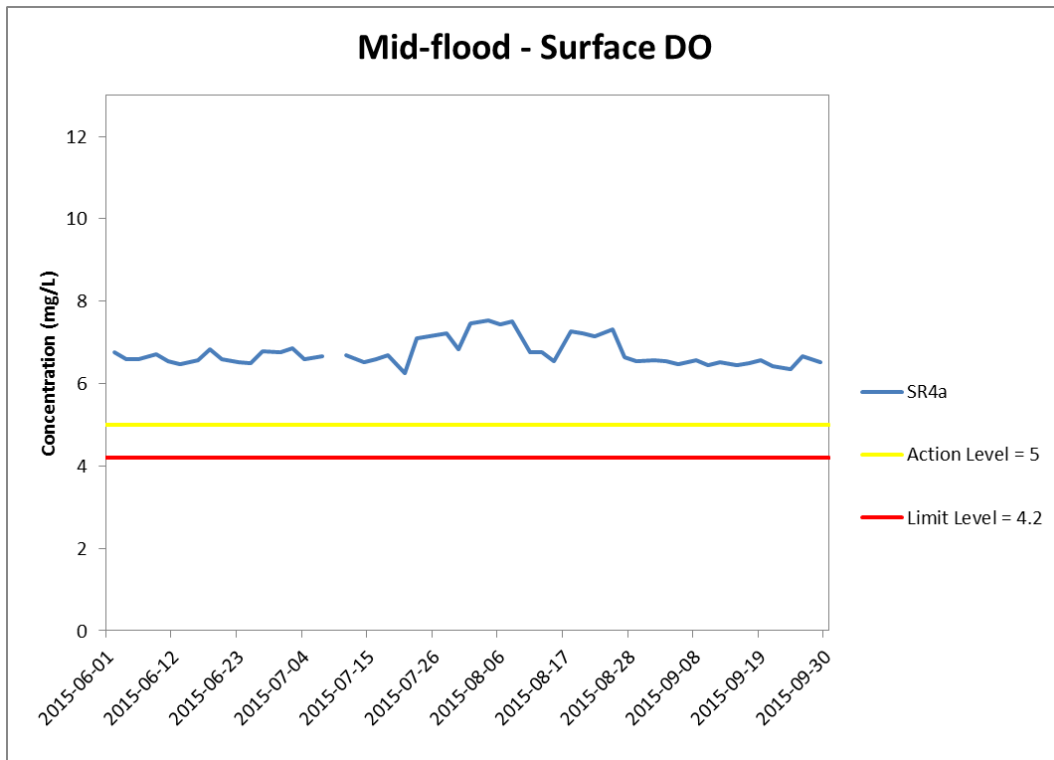
**Figure J7 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June and 30 September 2015 at IS8 and SR4.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





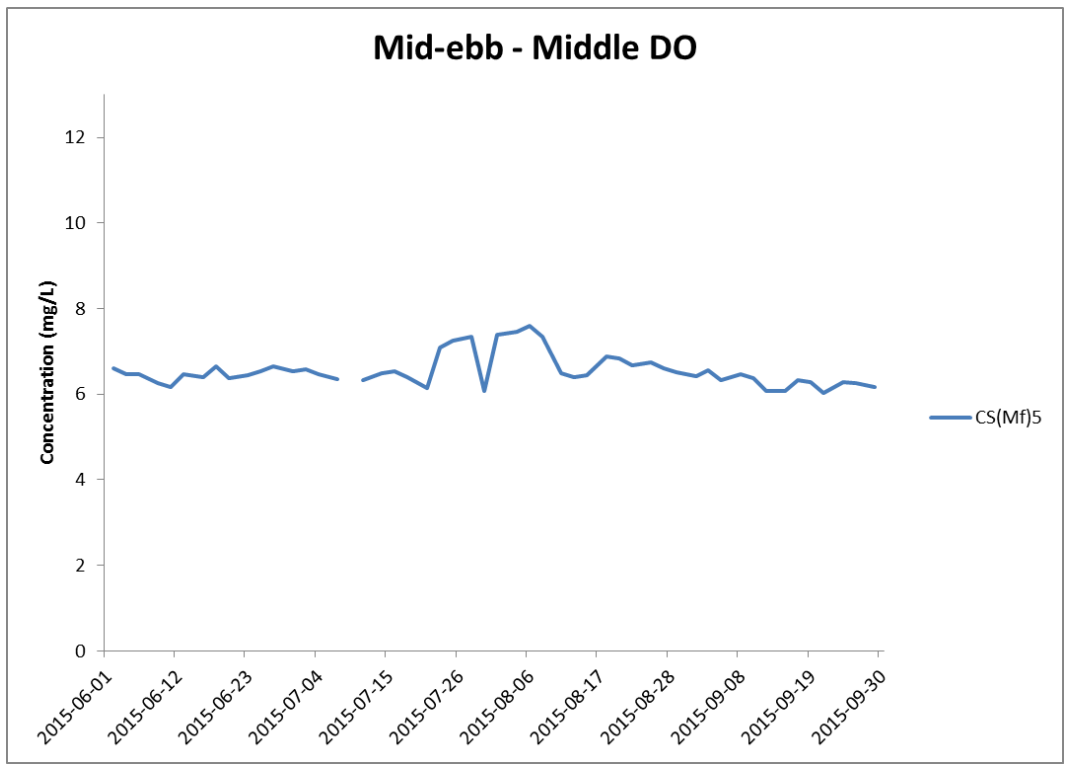
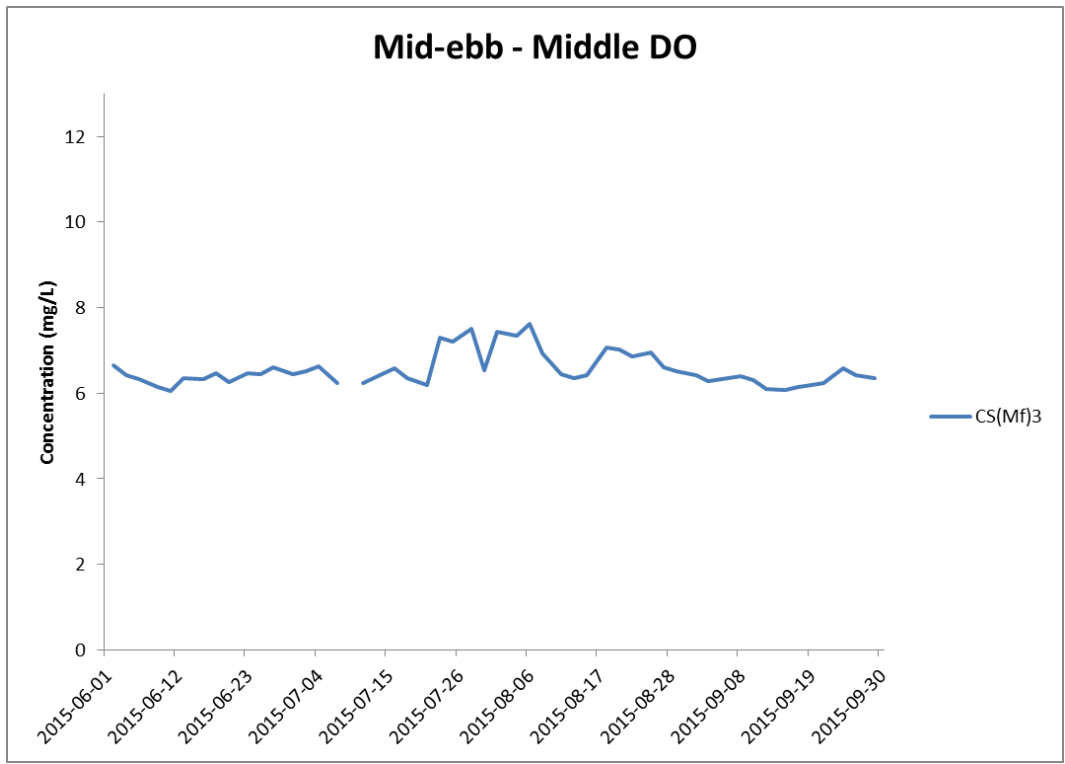


**Figure J8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



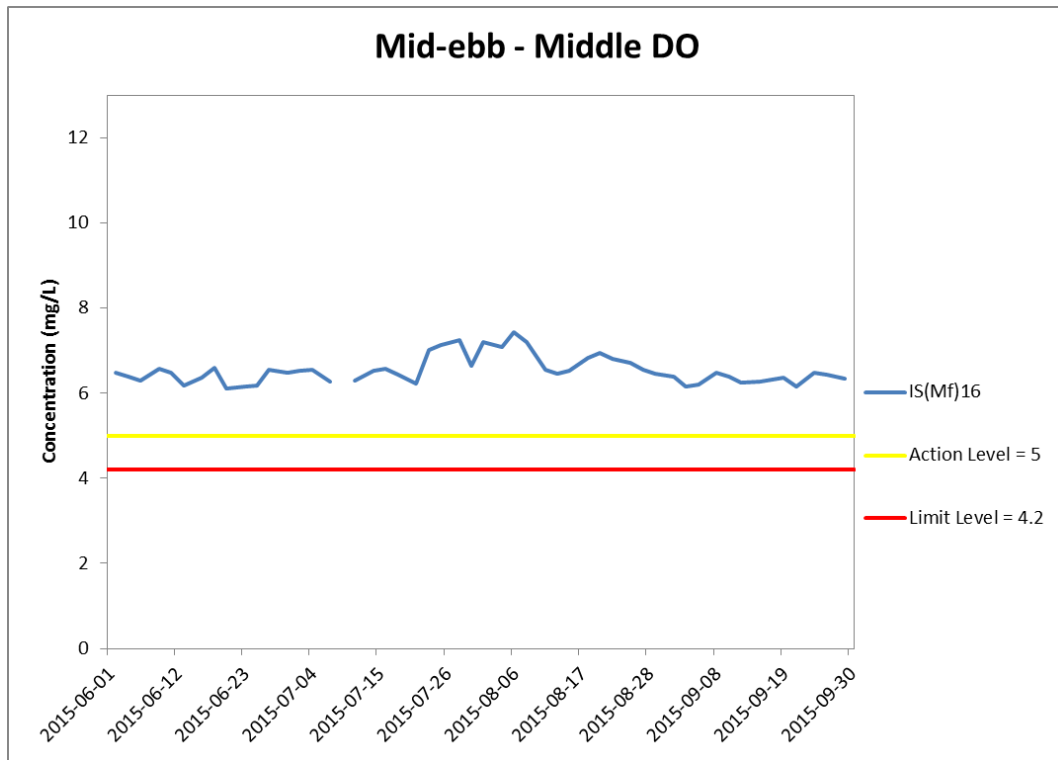


**Figure J9 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental Resources Management**





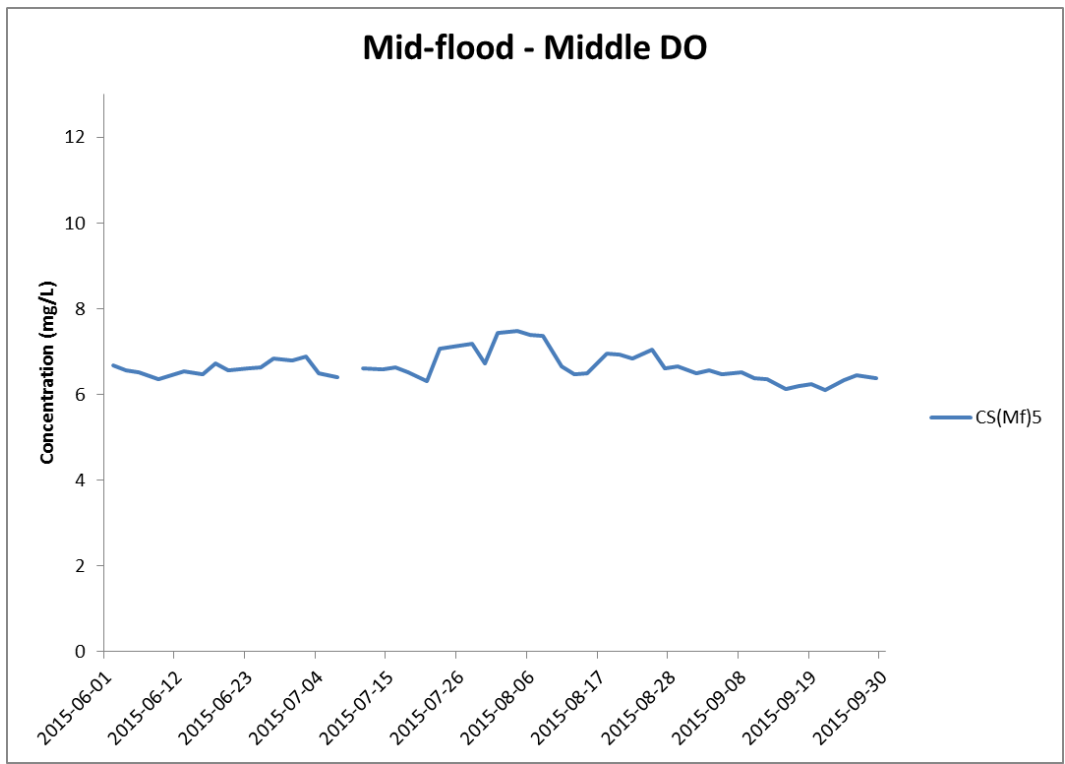
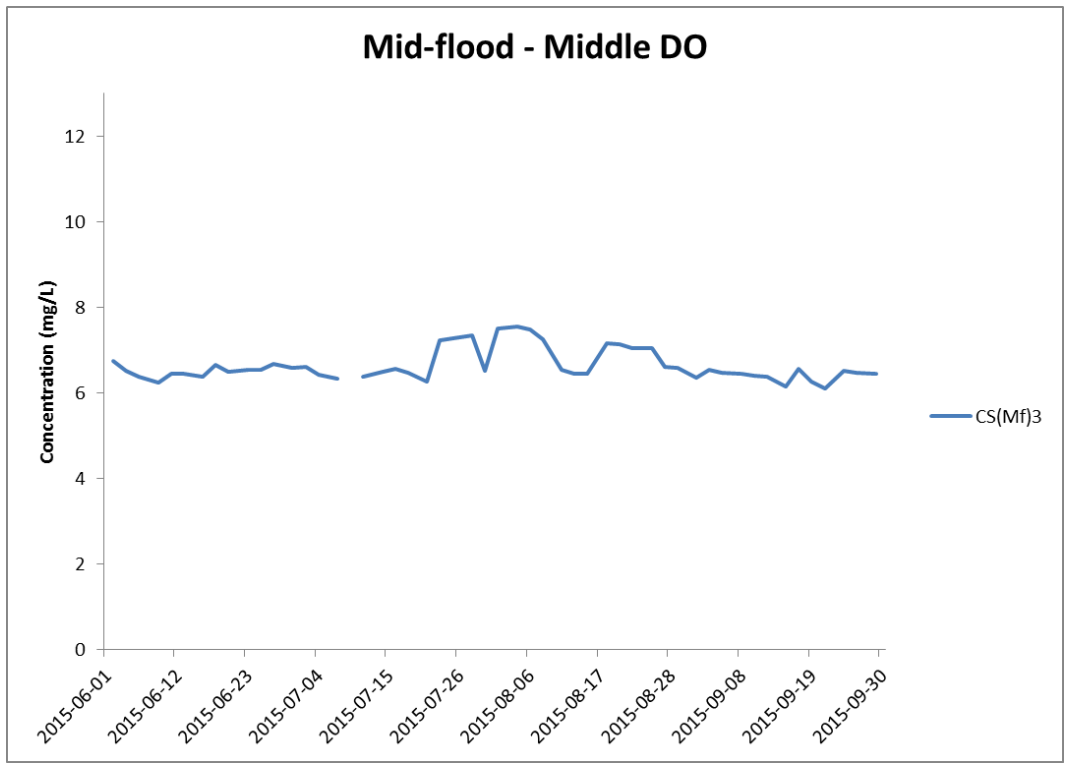
**Figure J10 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 June and 30 September 2015 at IS(Mf)16.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



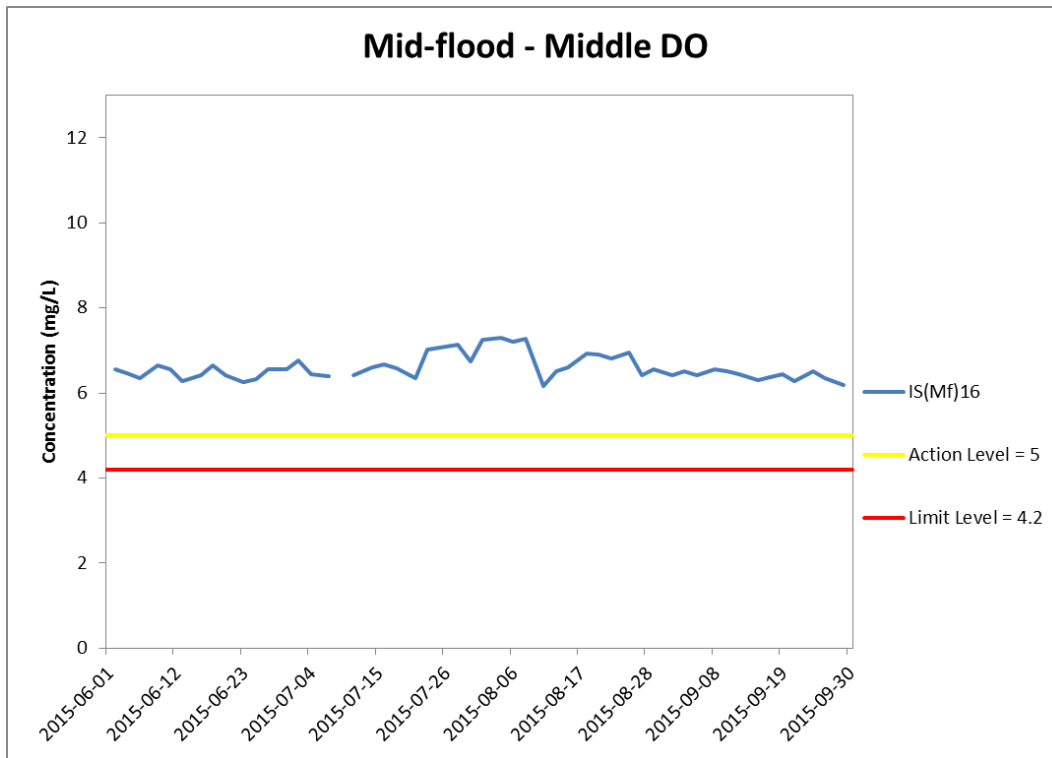


**Figure J11 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





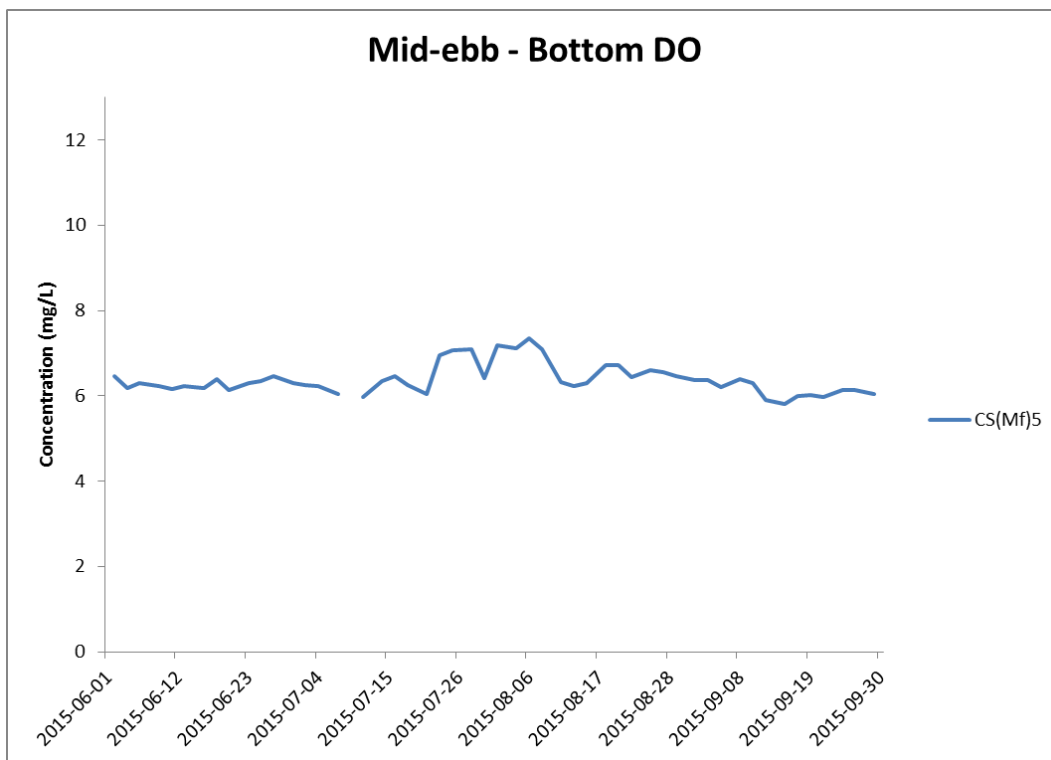
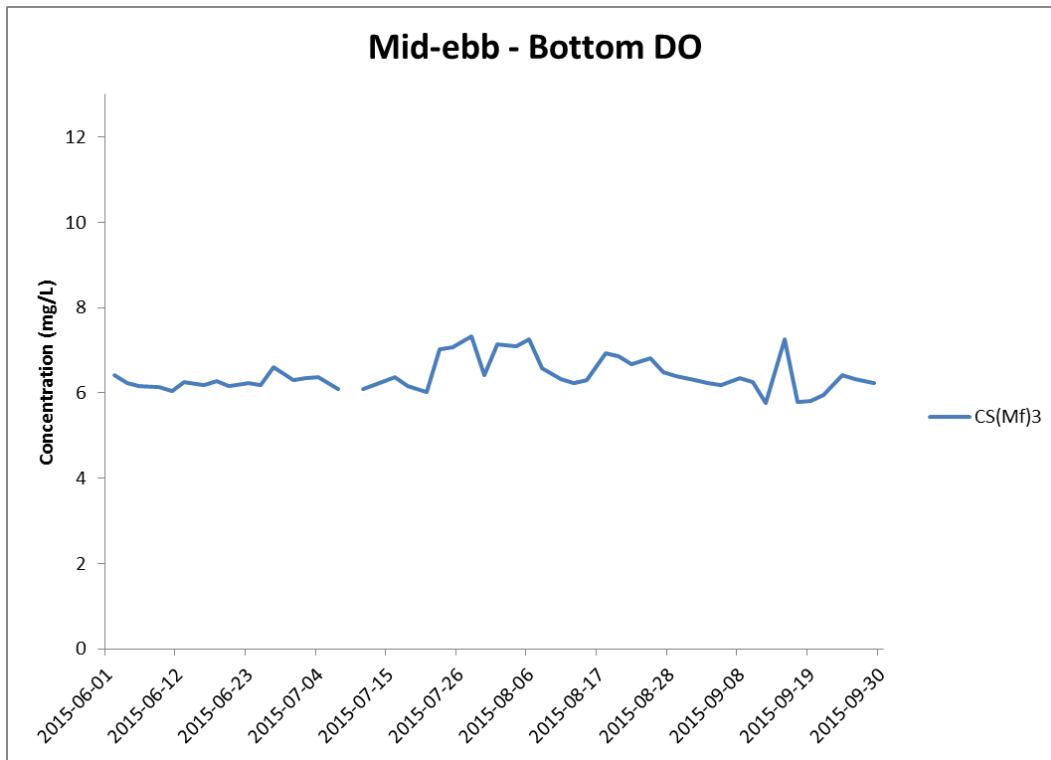
**Figure J12 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 June and 30 September 2015 at IS(Mf)16.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





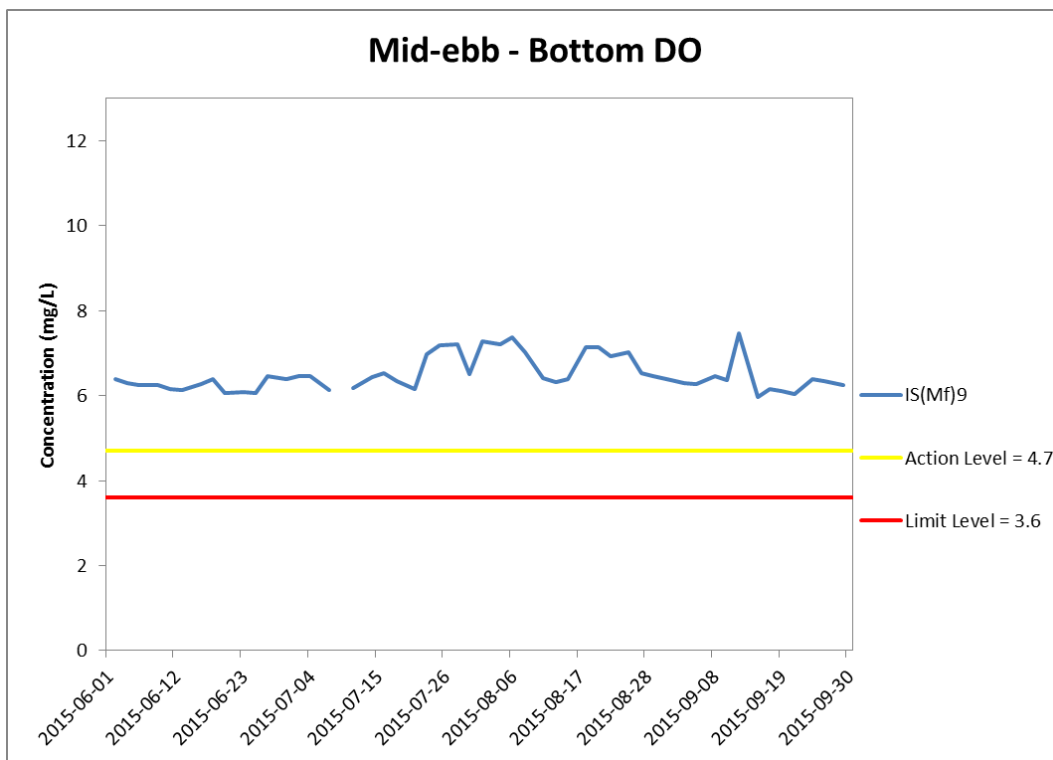
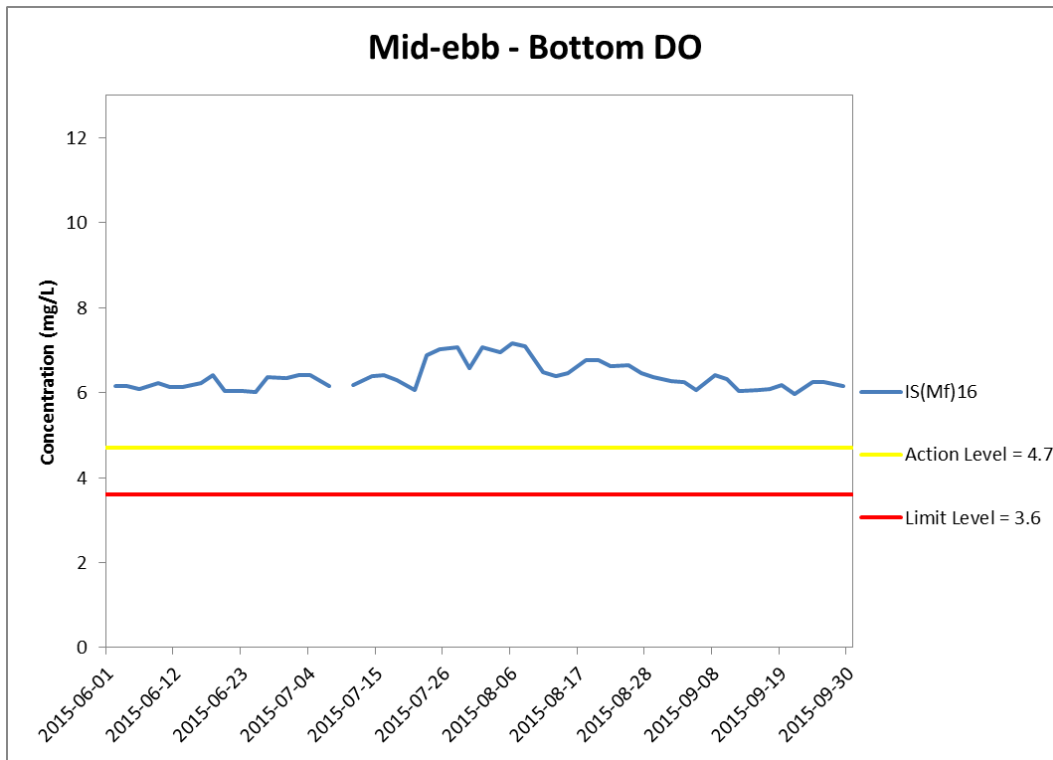


**Figure J13 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





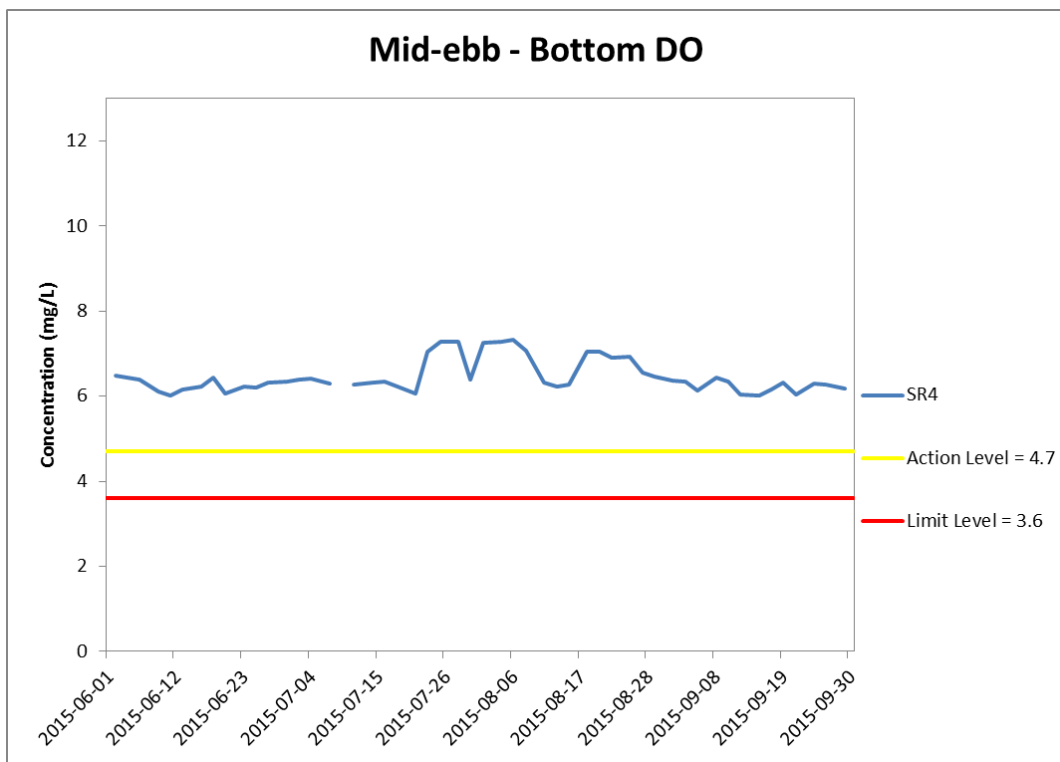
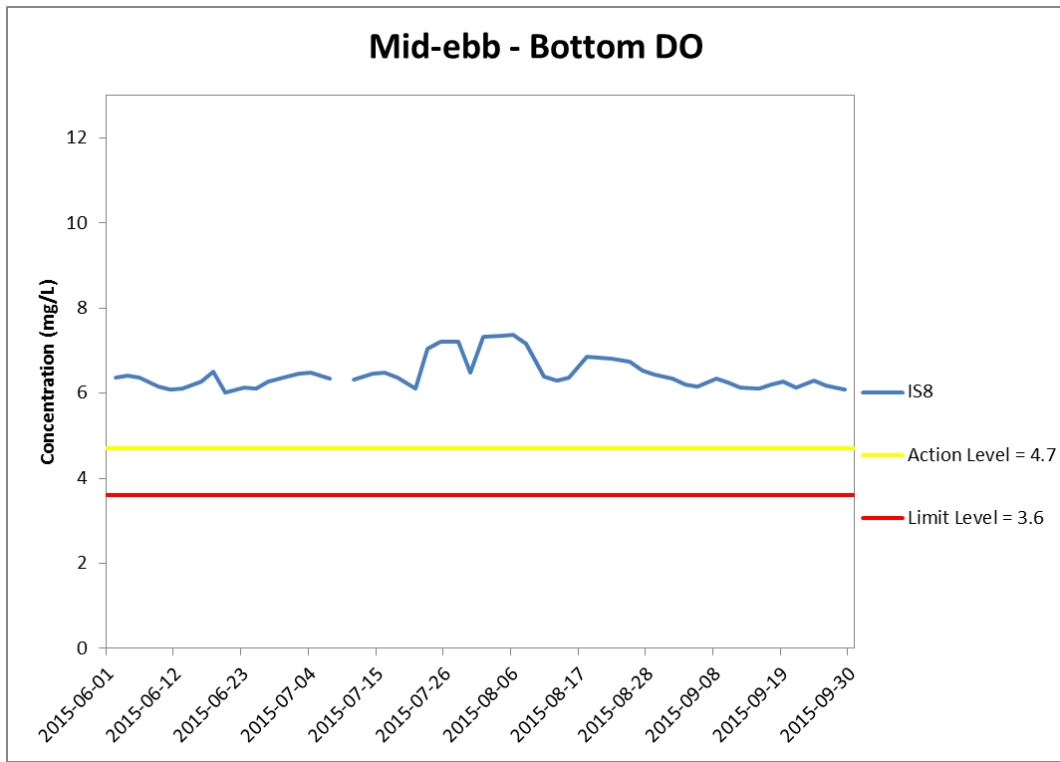
**Figure J14 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



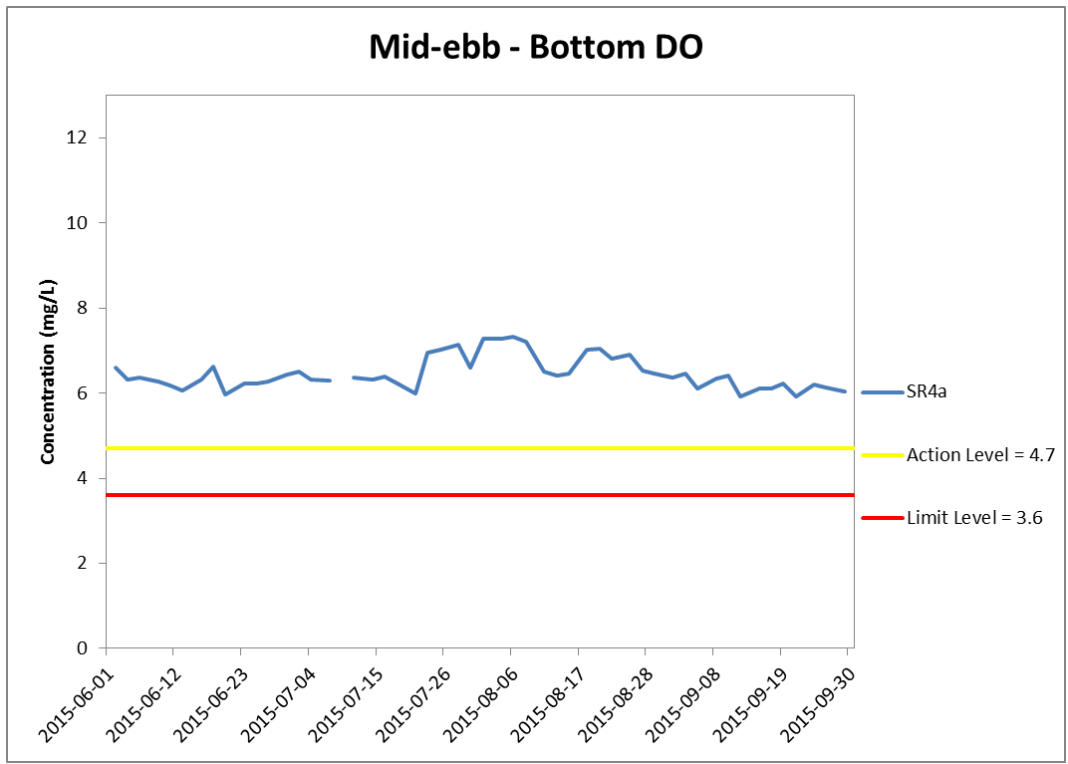


**Figure J15 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June and 30 September 2015 at IS8 and SR4.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



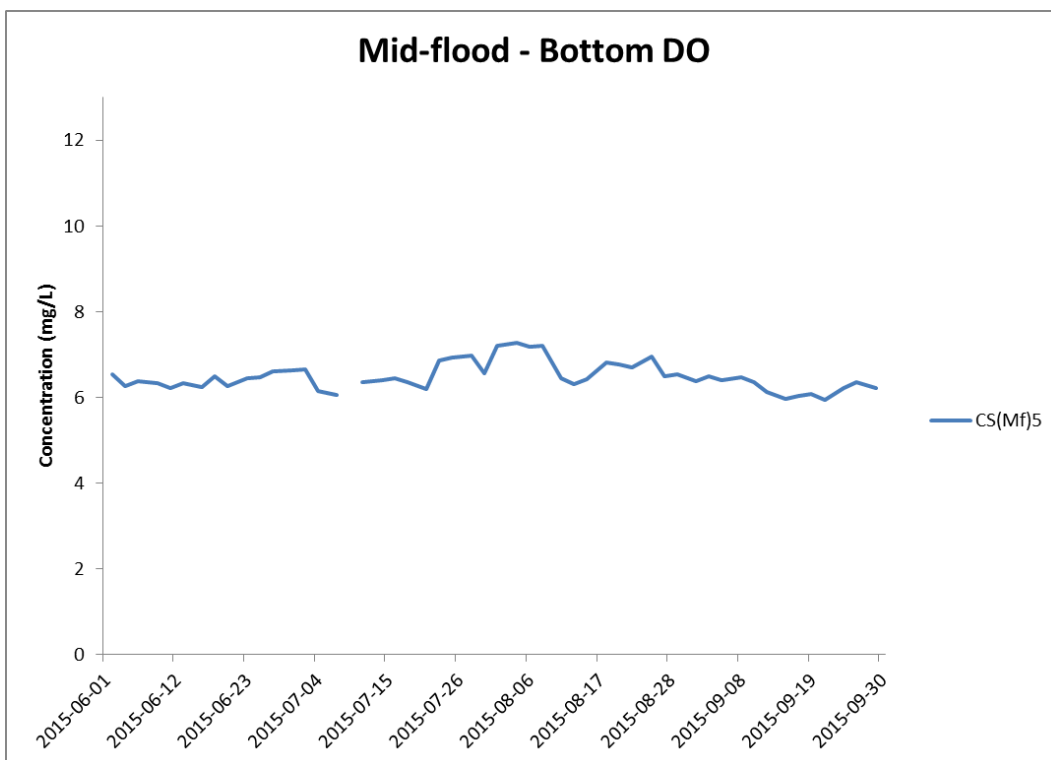
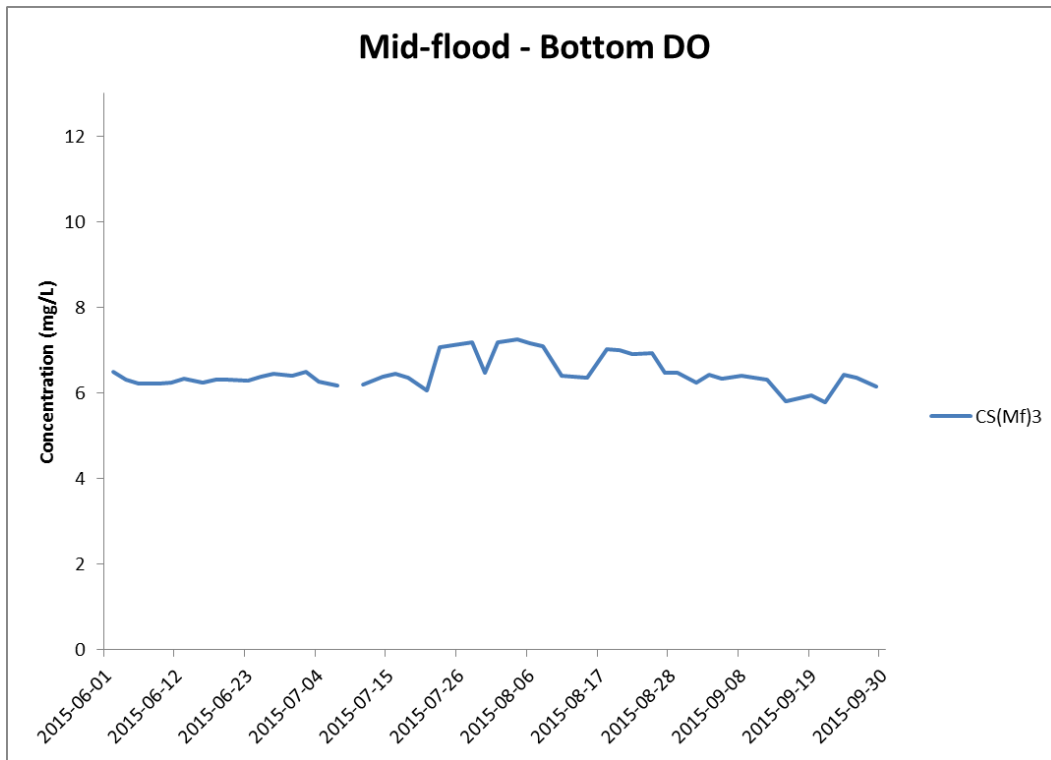


**Figure J16 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





**Figure J17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

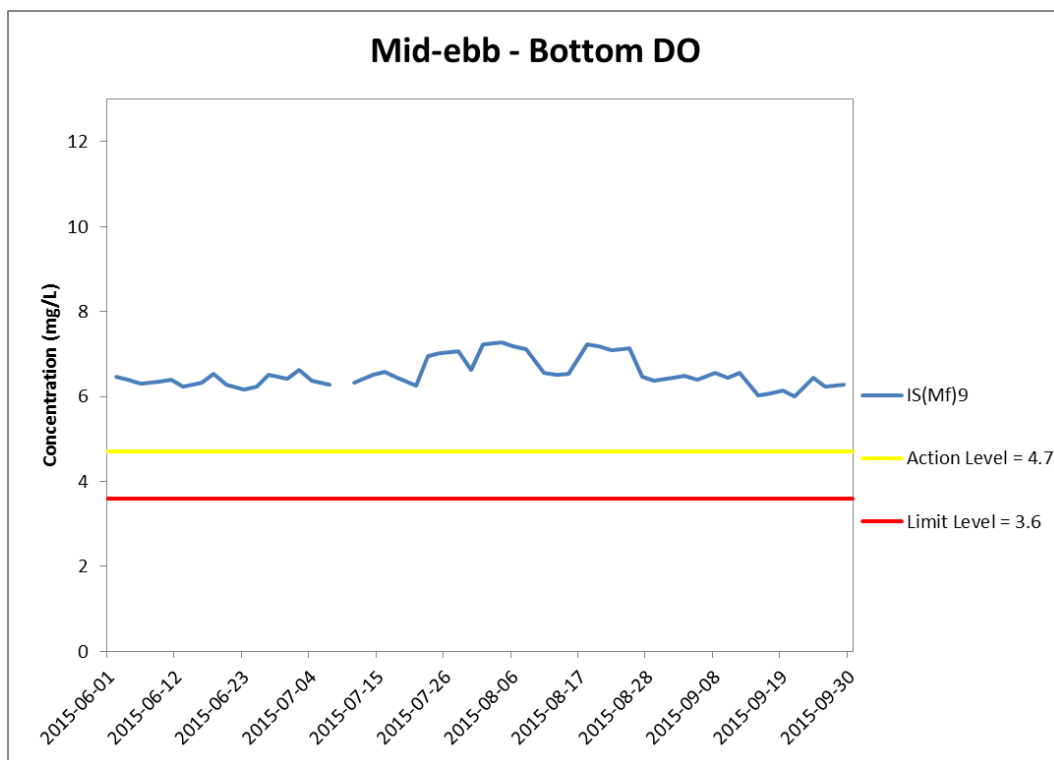
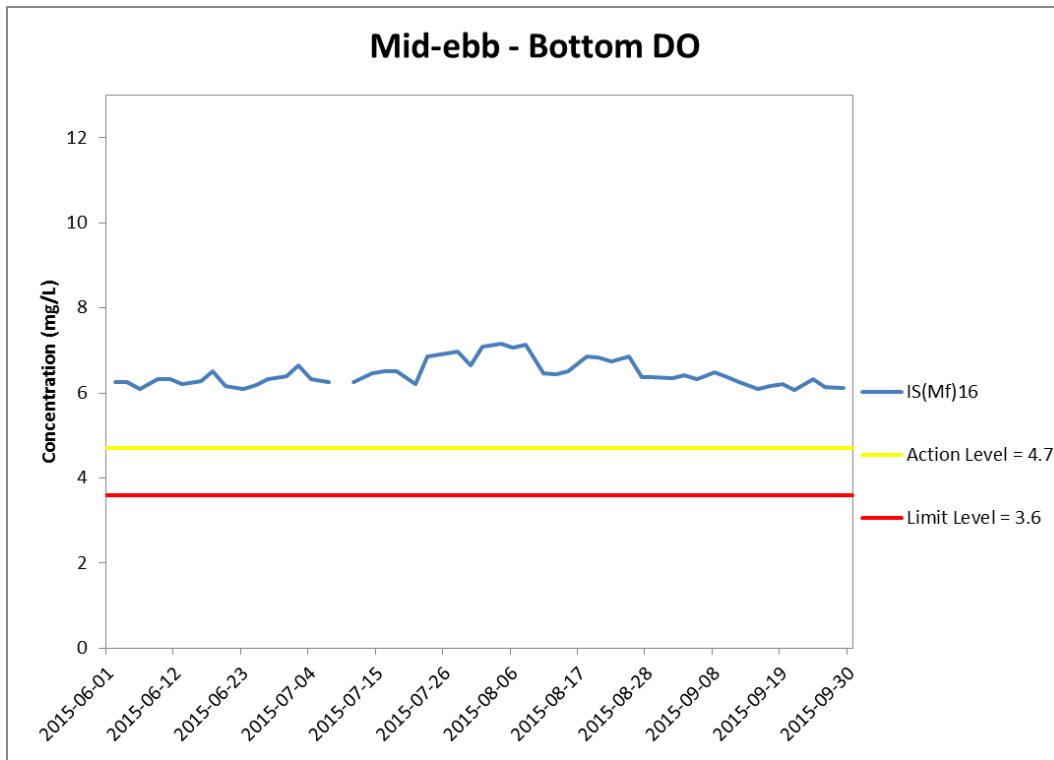
*WQM was cancelled on 9 July 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.)*

*Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





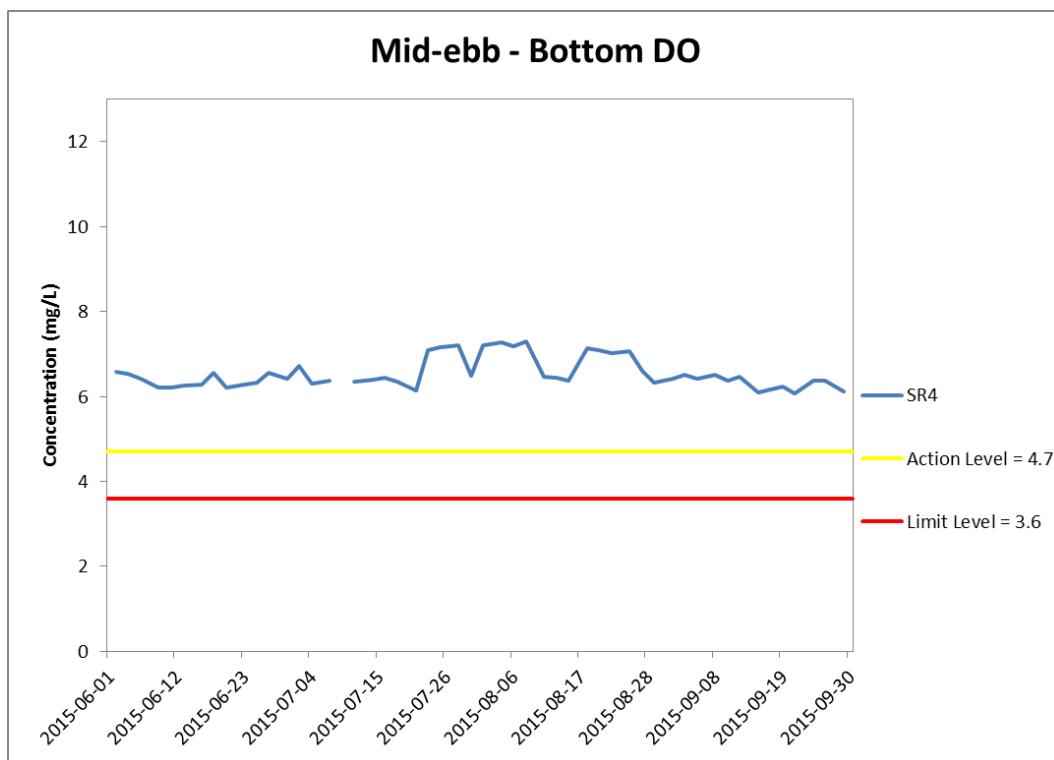
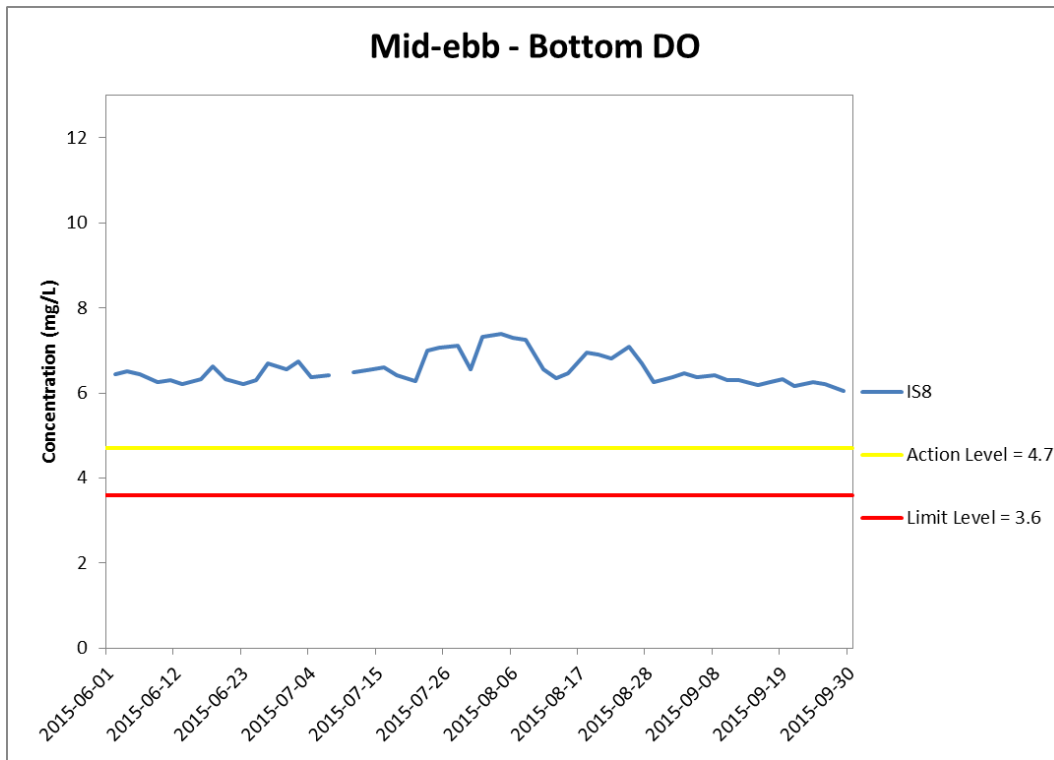


**Figure J18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





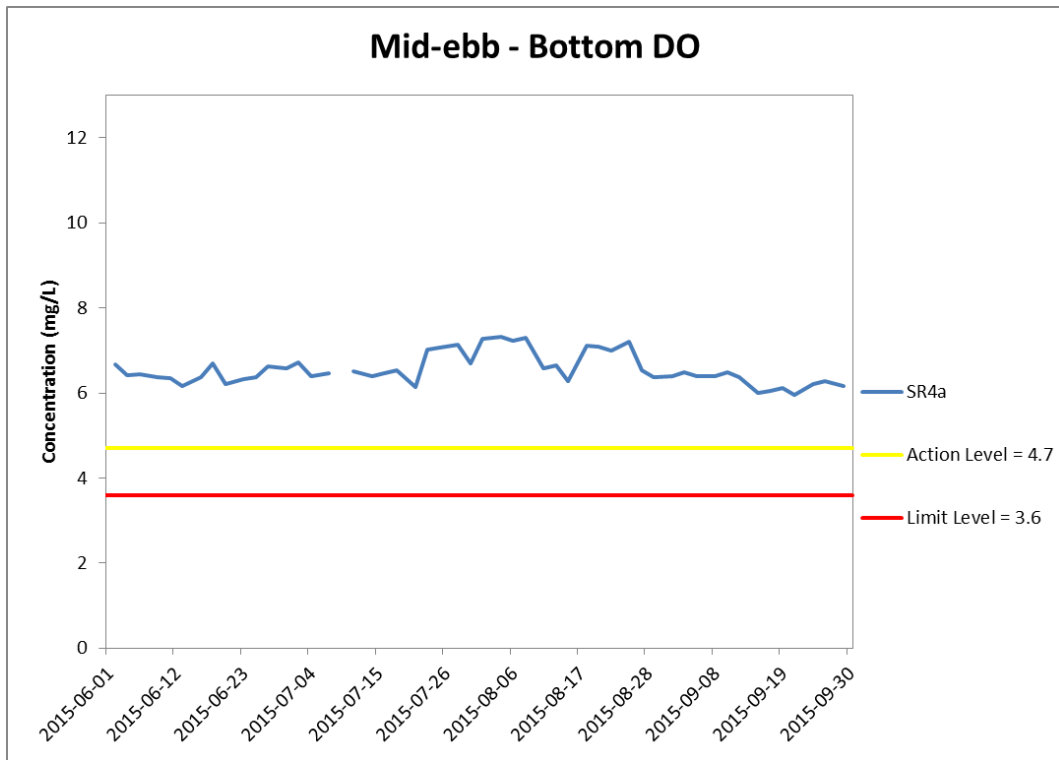
**Figure J19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June and 30 September 2015 at IS8 and SR4.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





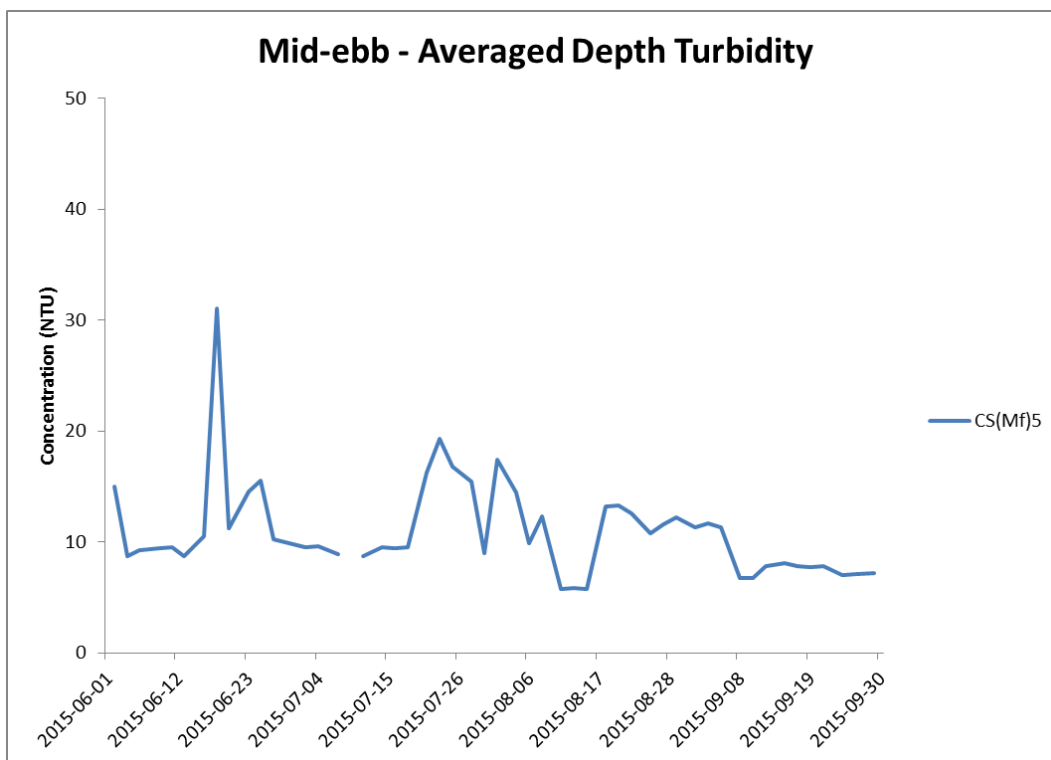
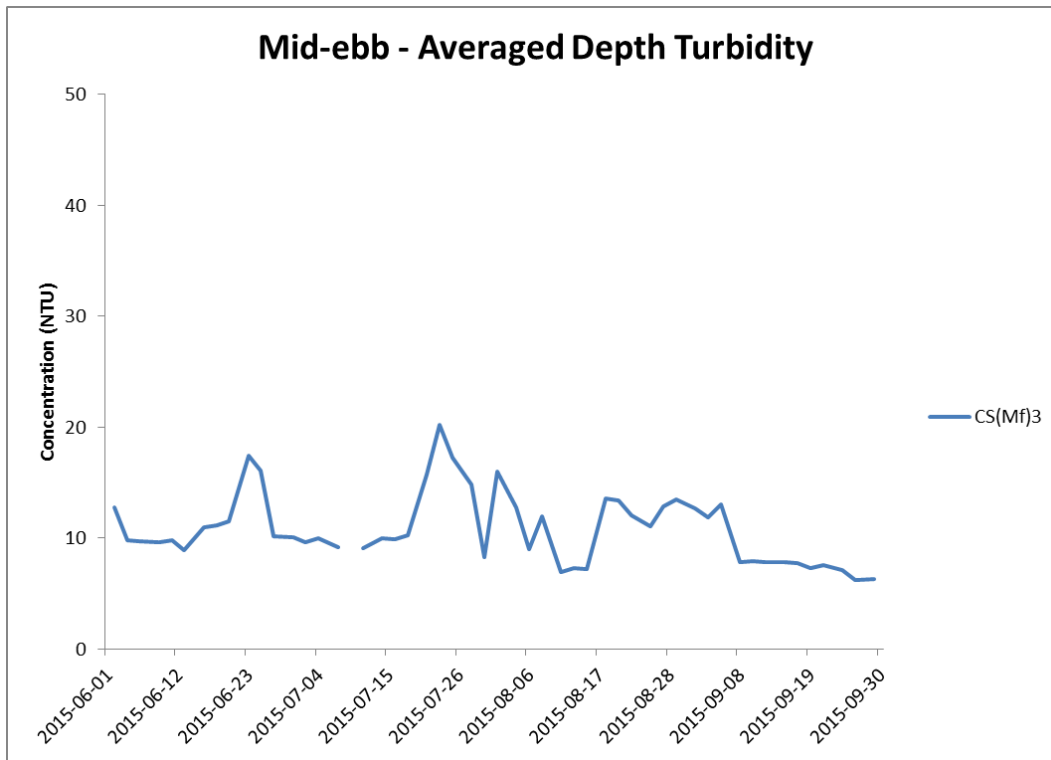
**Figure J20 Impact Monitoring - Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





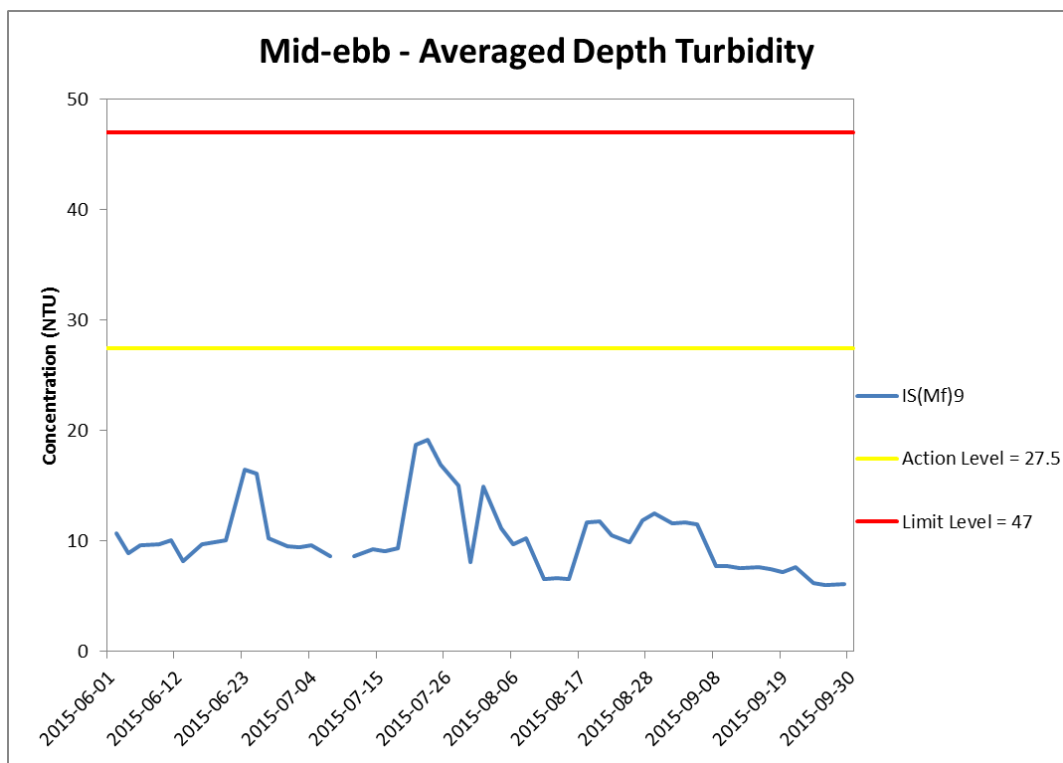
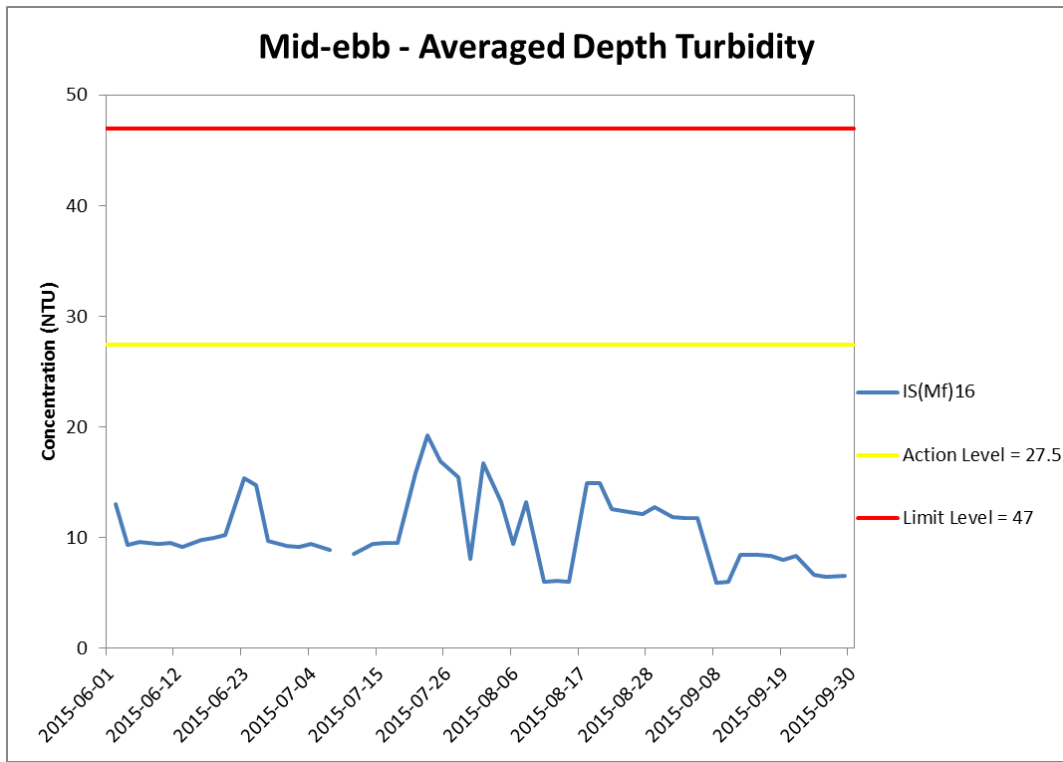
**Figure J21 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





**Figure J22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

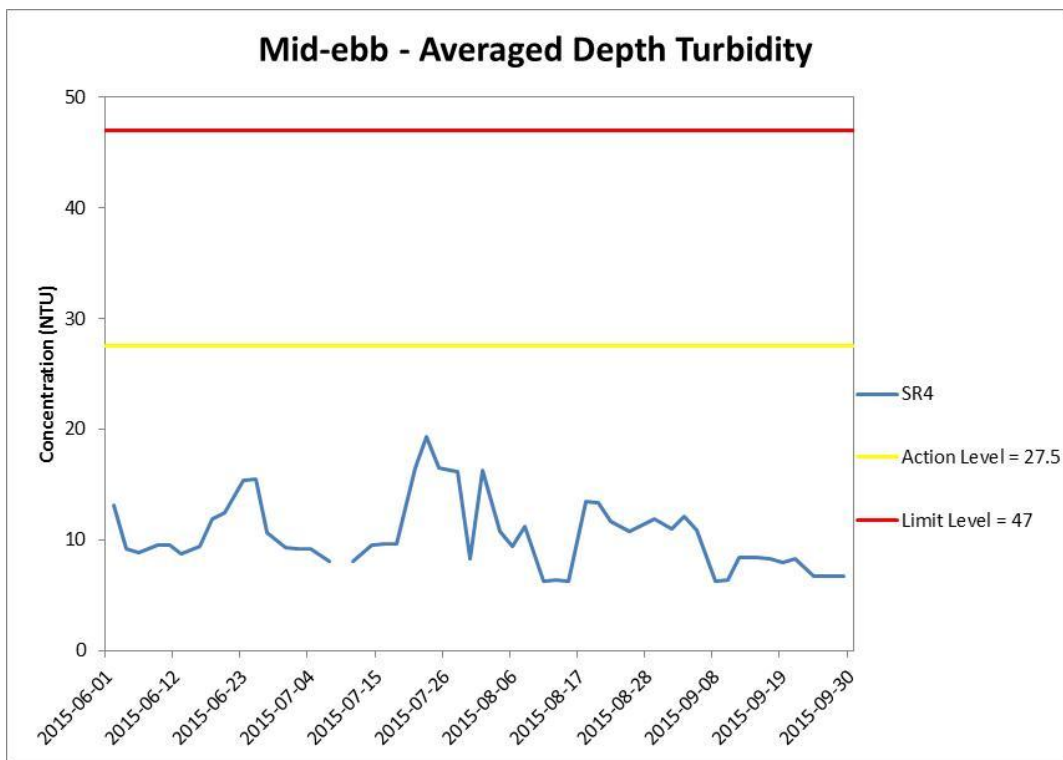
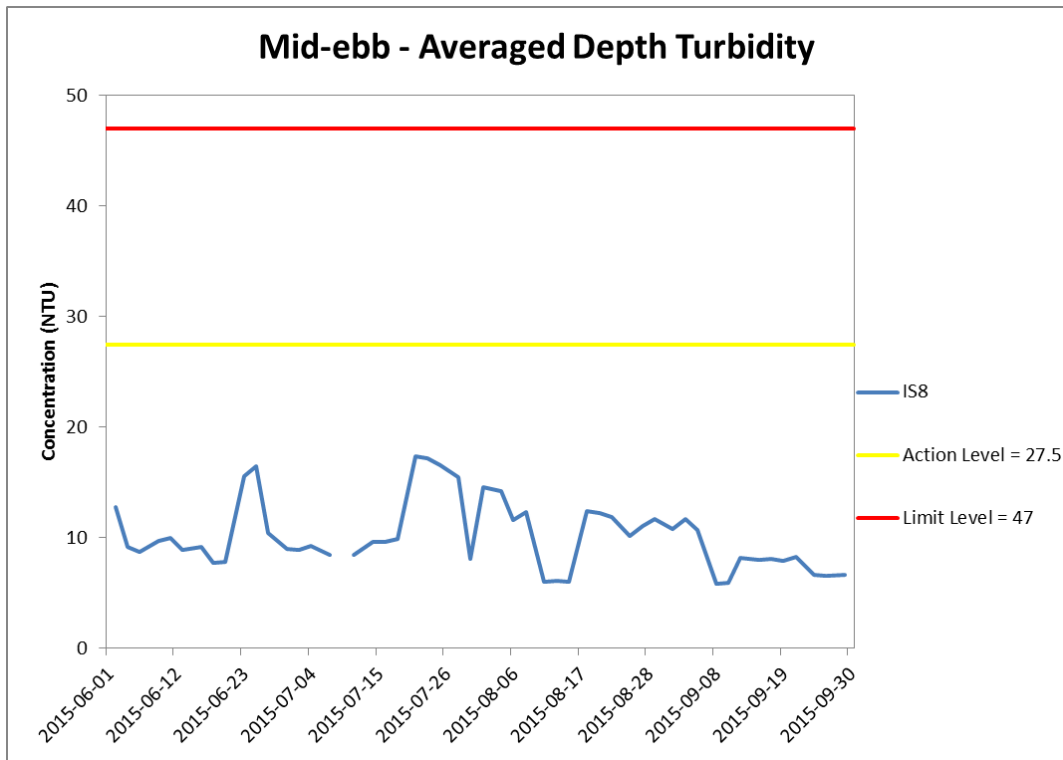
*WQM was cancelled on 9 July 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.)*

*Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**







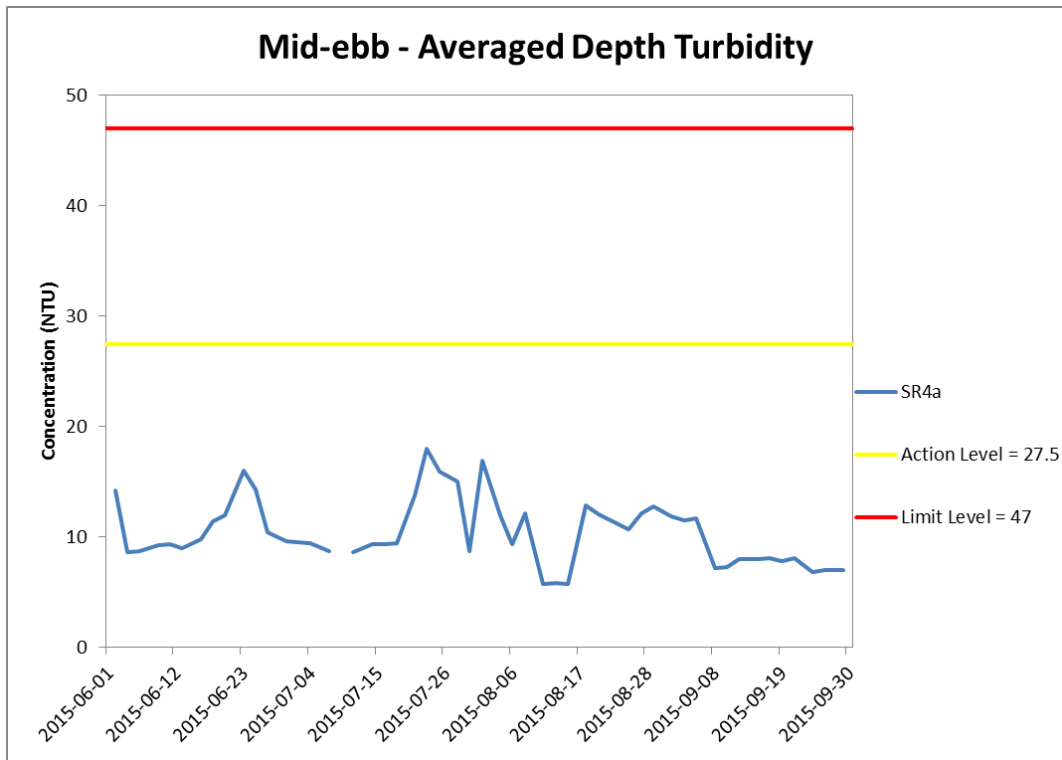
**Figure J23 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June and 30 September 2015 at IS8 and SR4.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



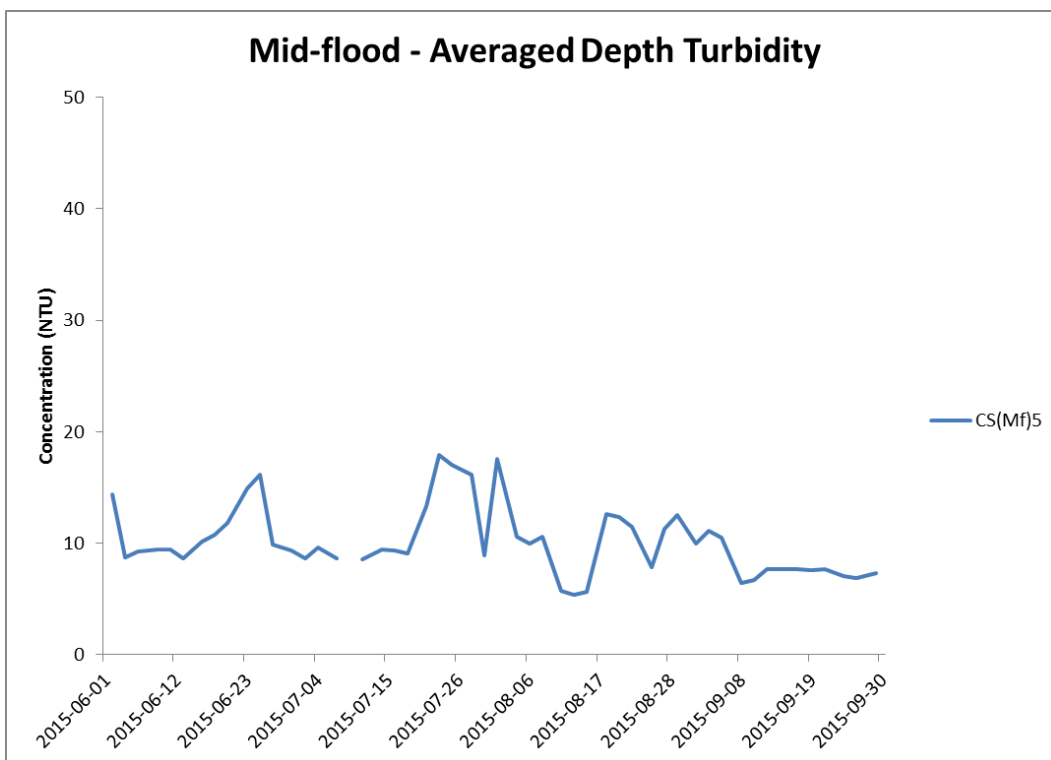
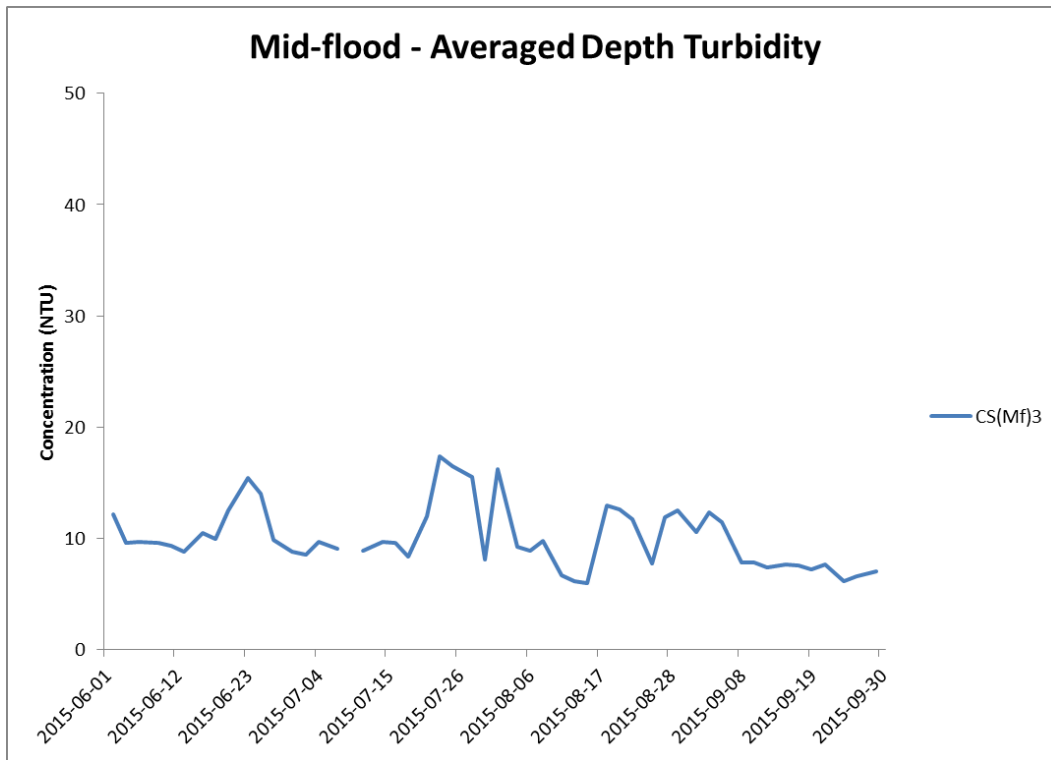


**Figure J24 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 June and 30 September 2015 at SR4a.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





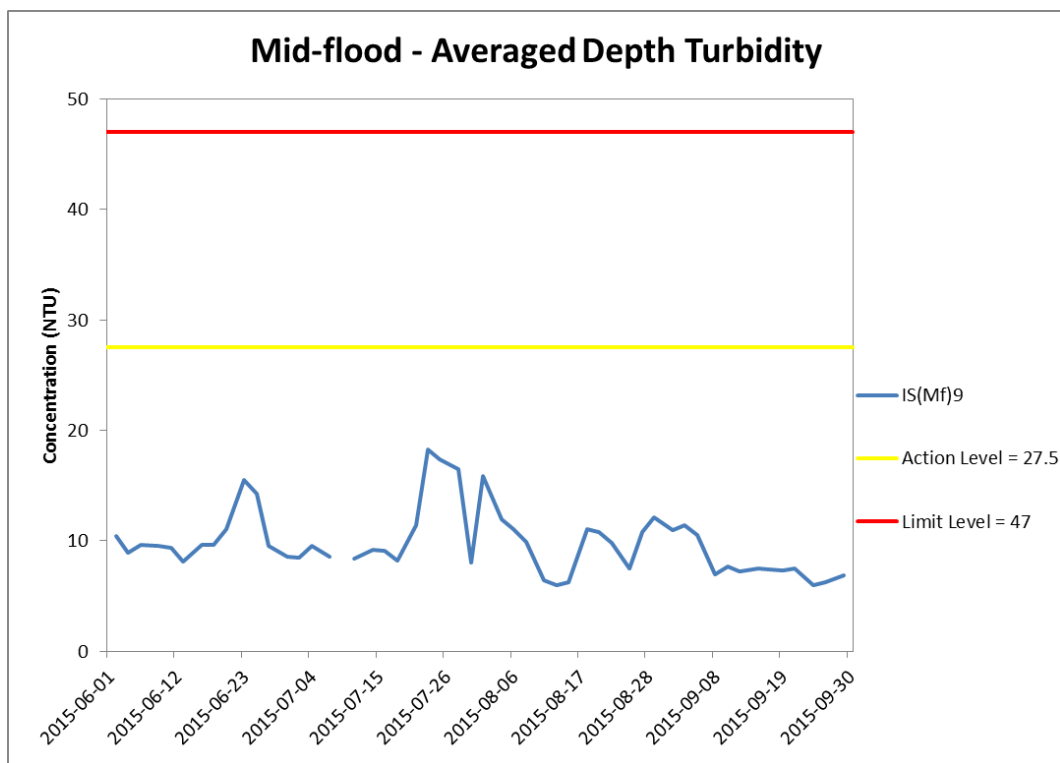
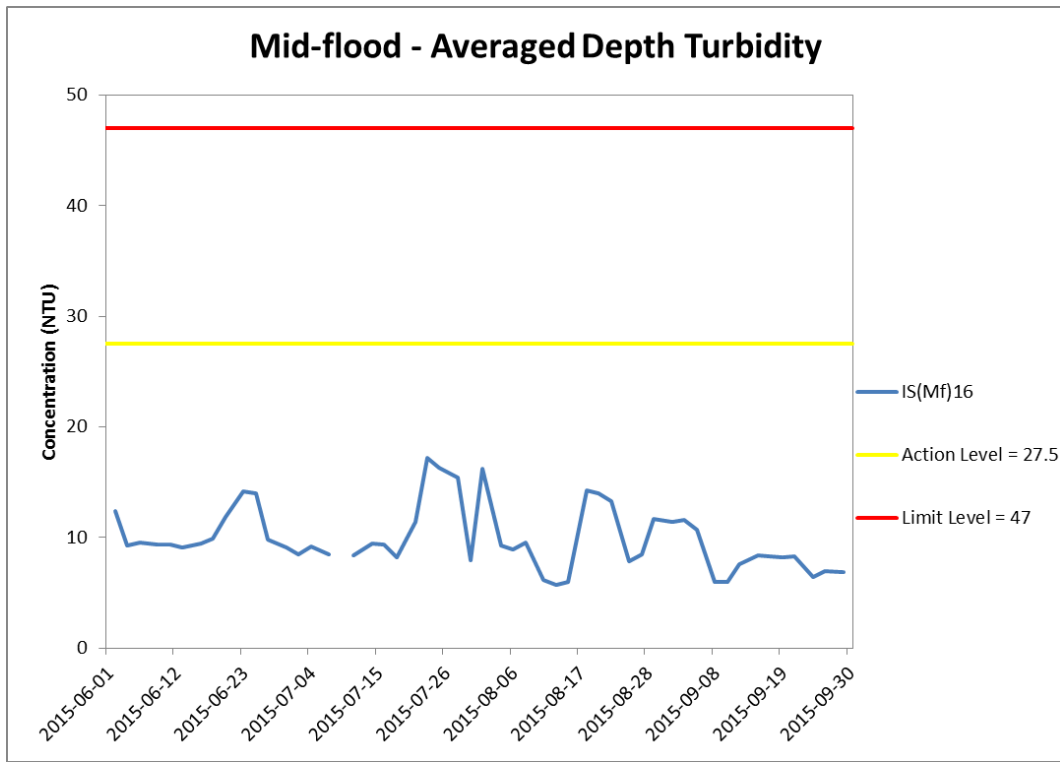
**Figure J25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(MF)5.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





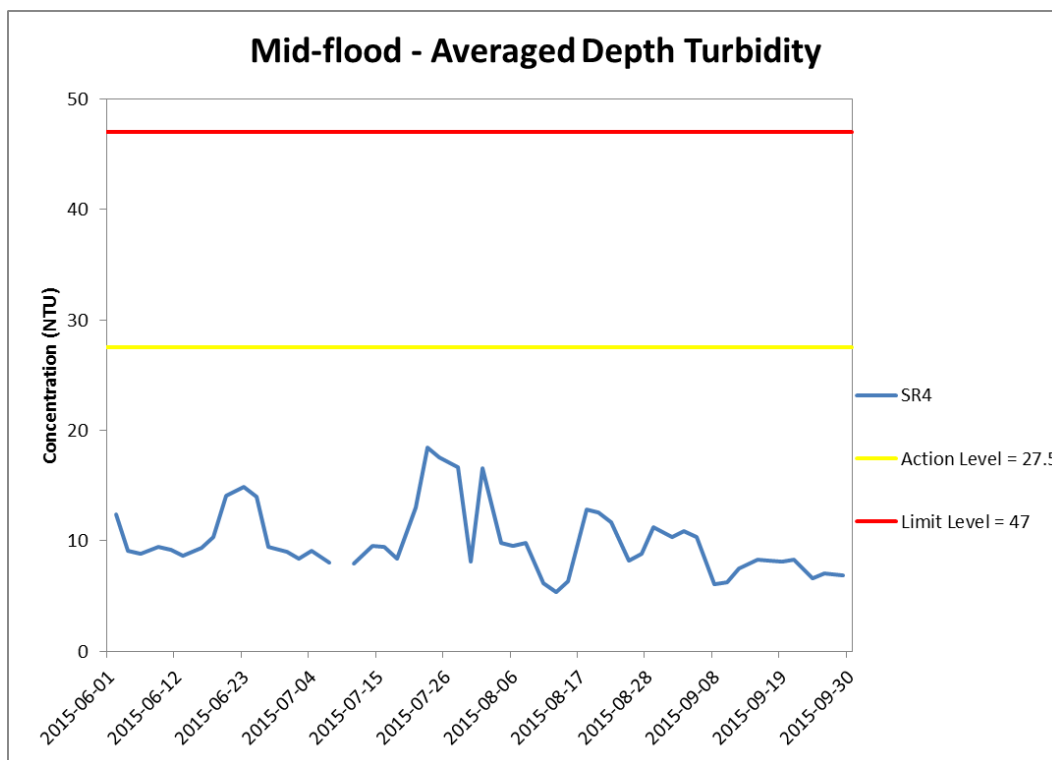
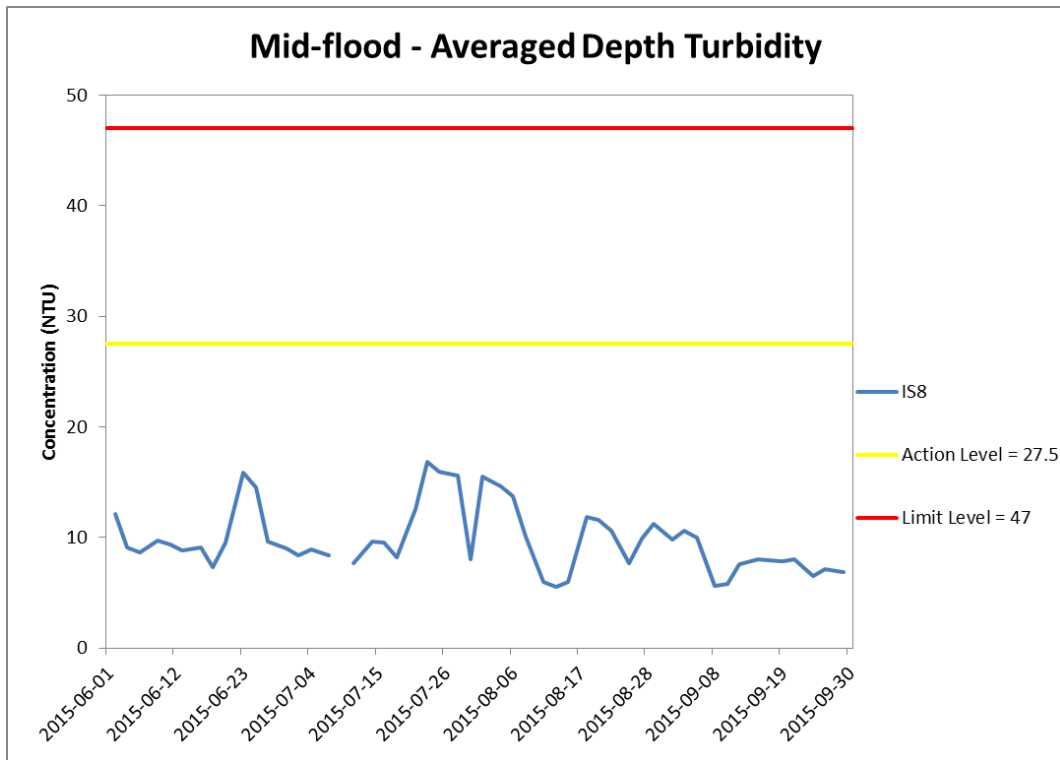
**Figure J26 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





**Figure J27 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June and 30 September 2015 at IS8 and SR4.**

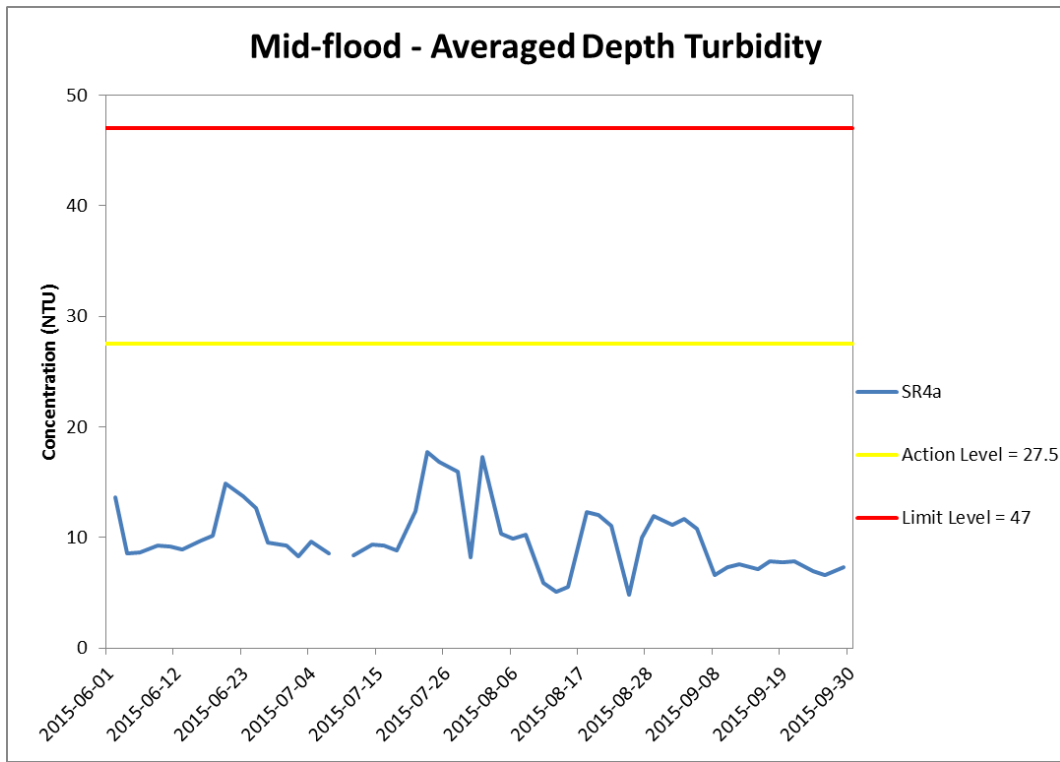
*WQM was cancelled on 9 July 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.*

*Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





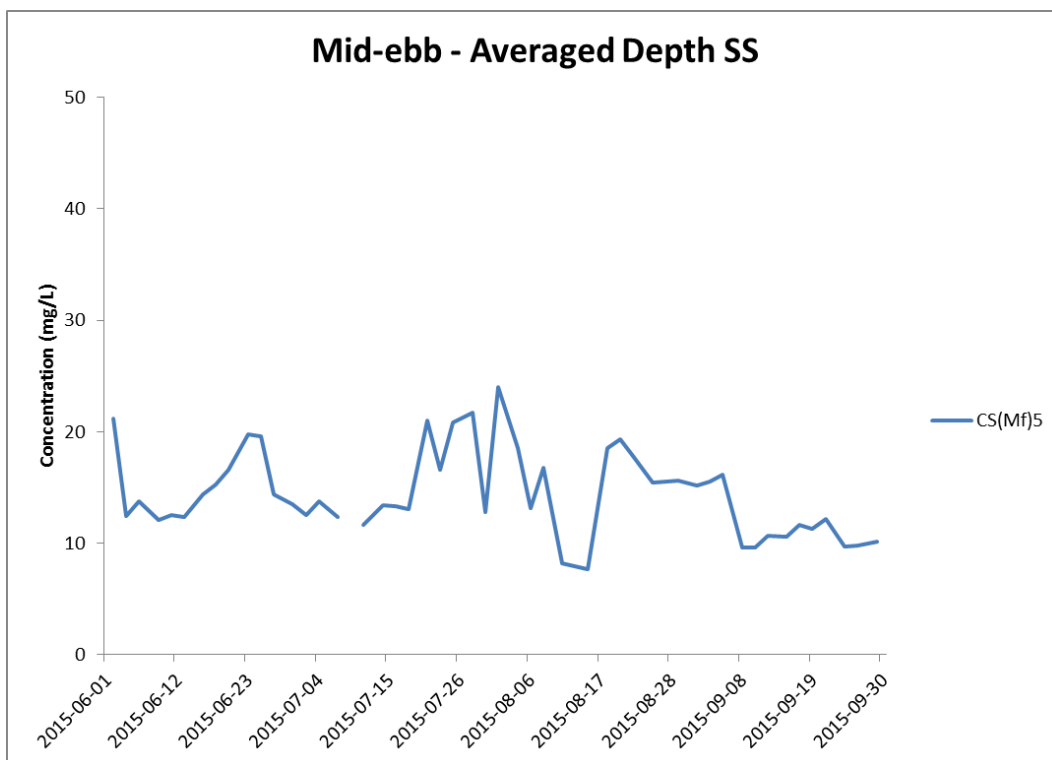
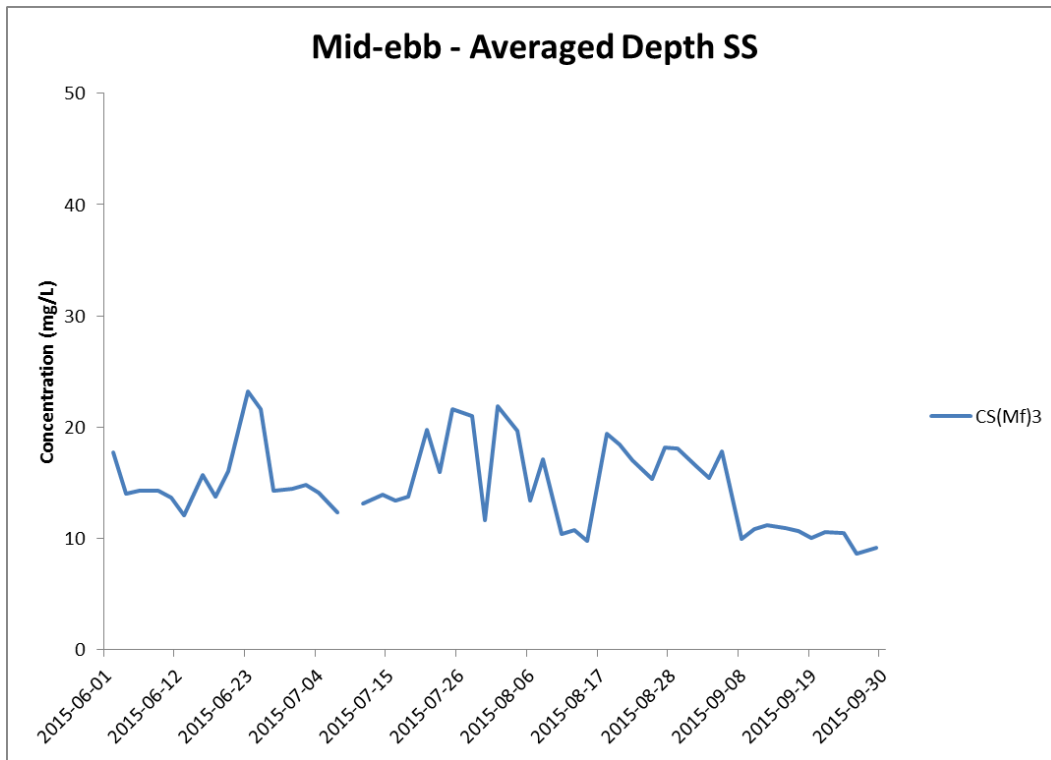


**Figure J28 Impact Monitoring - Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





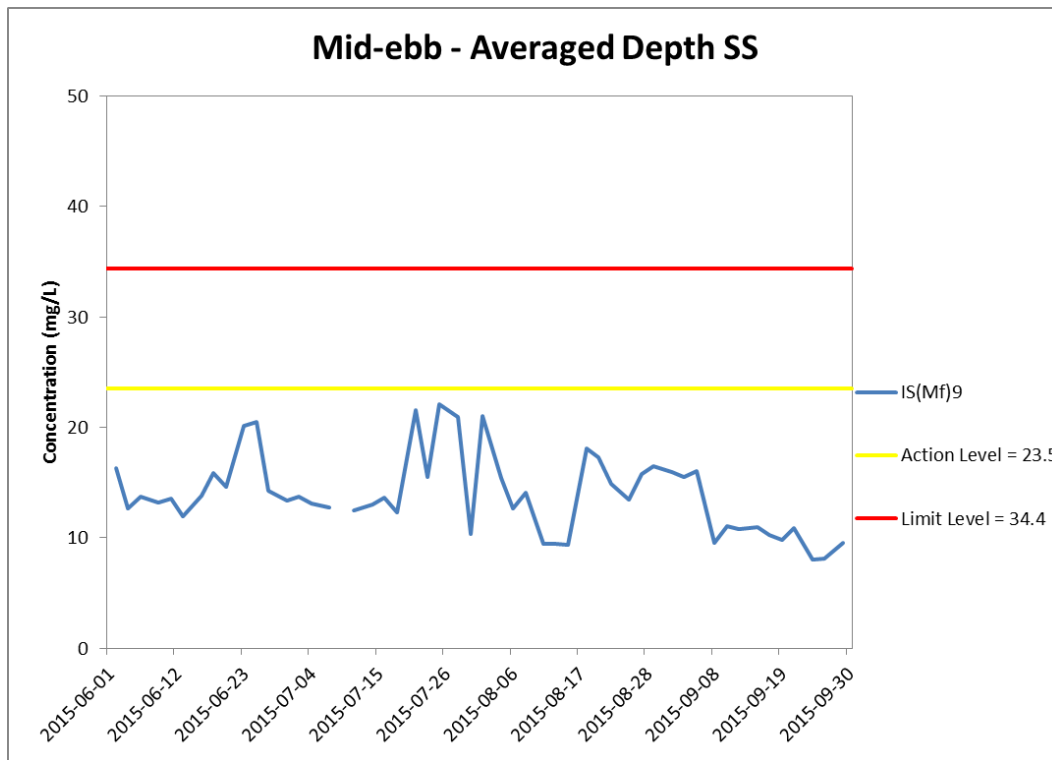
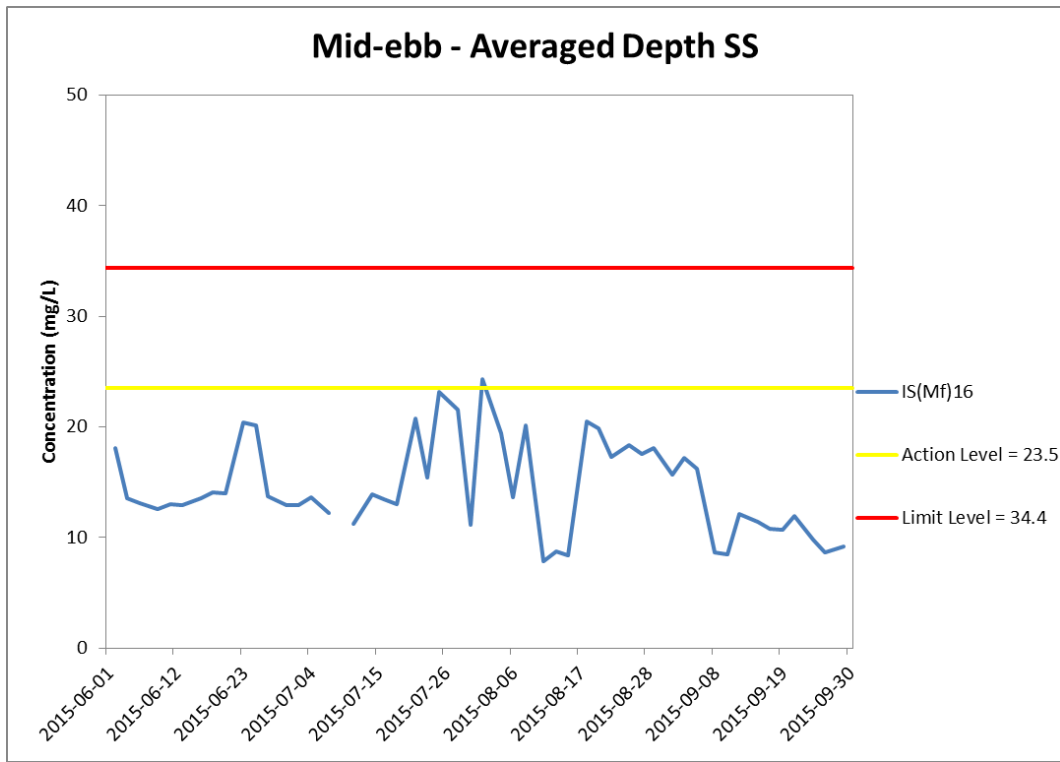
**Figure J29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





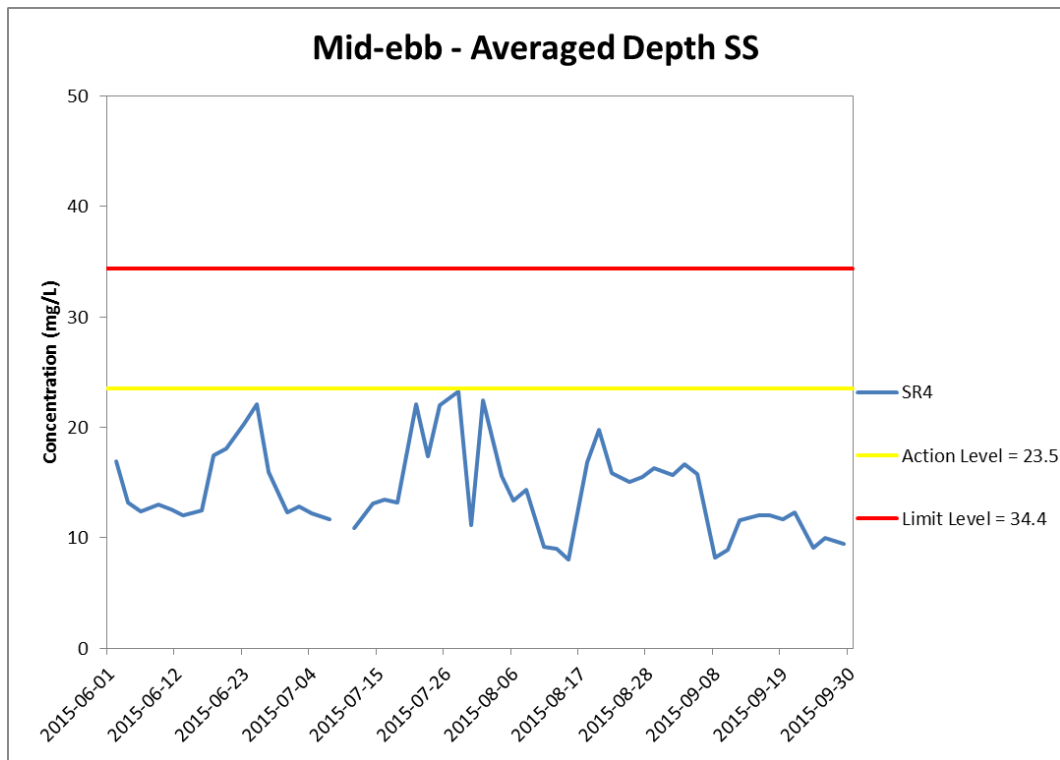
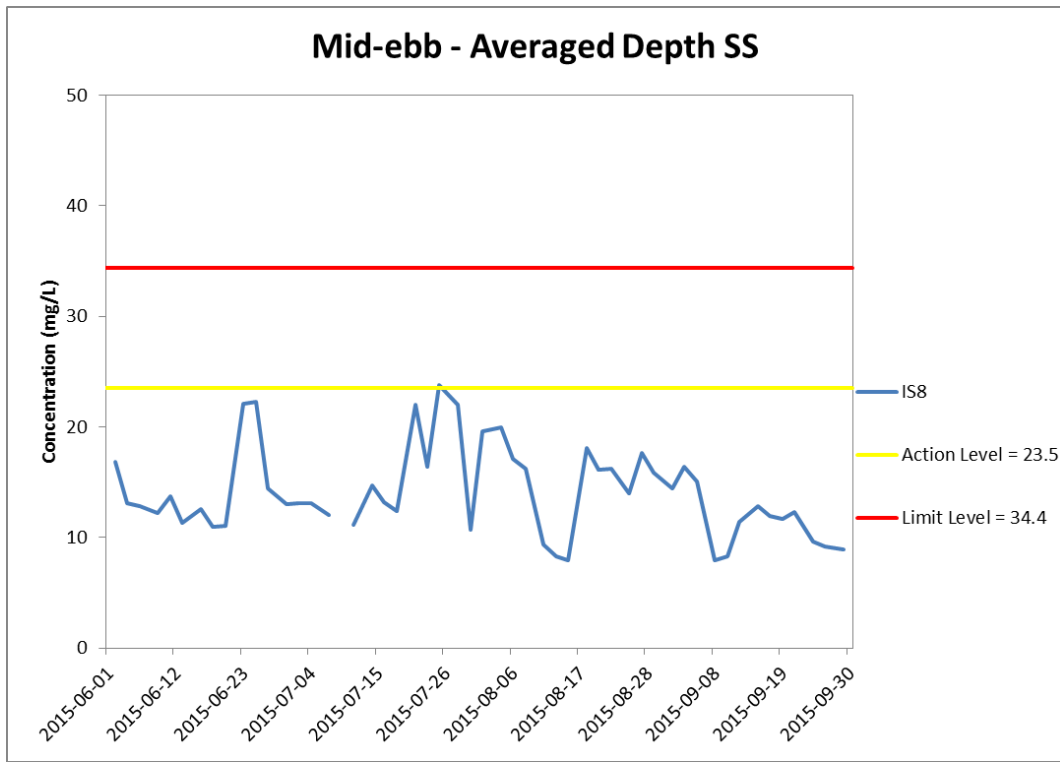
**Figure J30 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



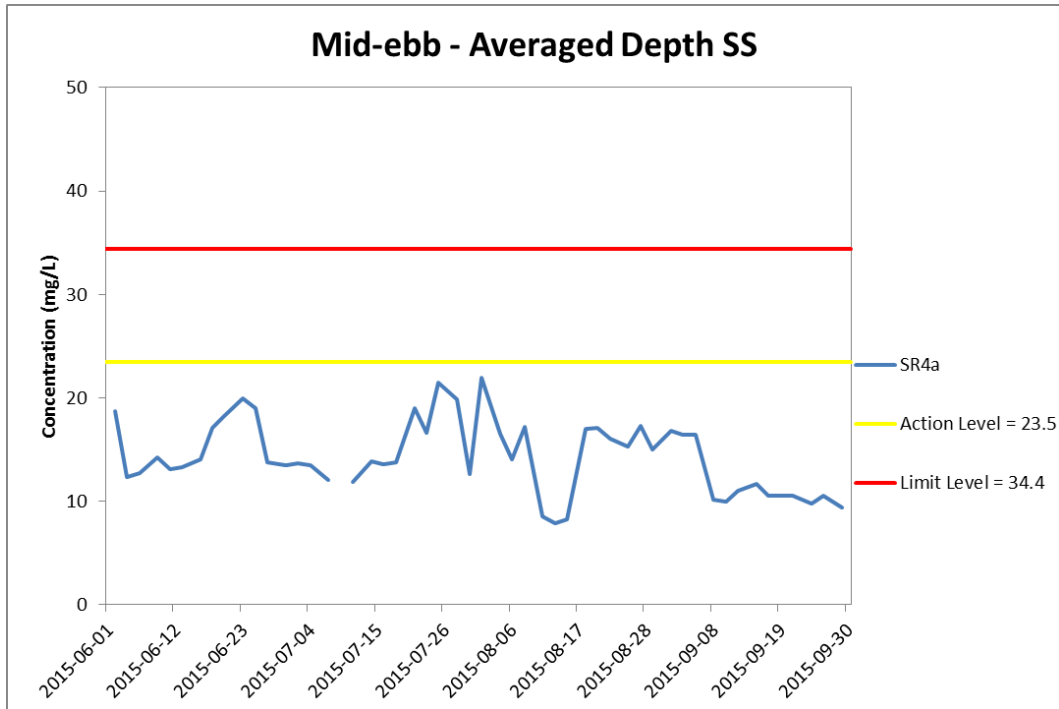


**Figure J31 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June and 30 September 2015 at IS8 and SR4.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling) The SS results higher than Action / Limit Levels were not considered as exceedances as the results were not higher than 120% of upstream control station.

**Environmental Resources Management**





**Figure J32 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 June and 30 September 2015 at SR4a.**

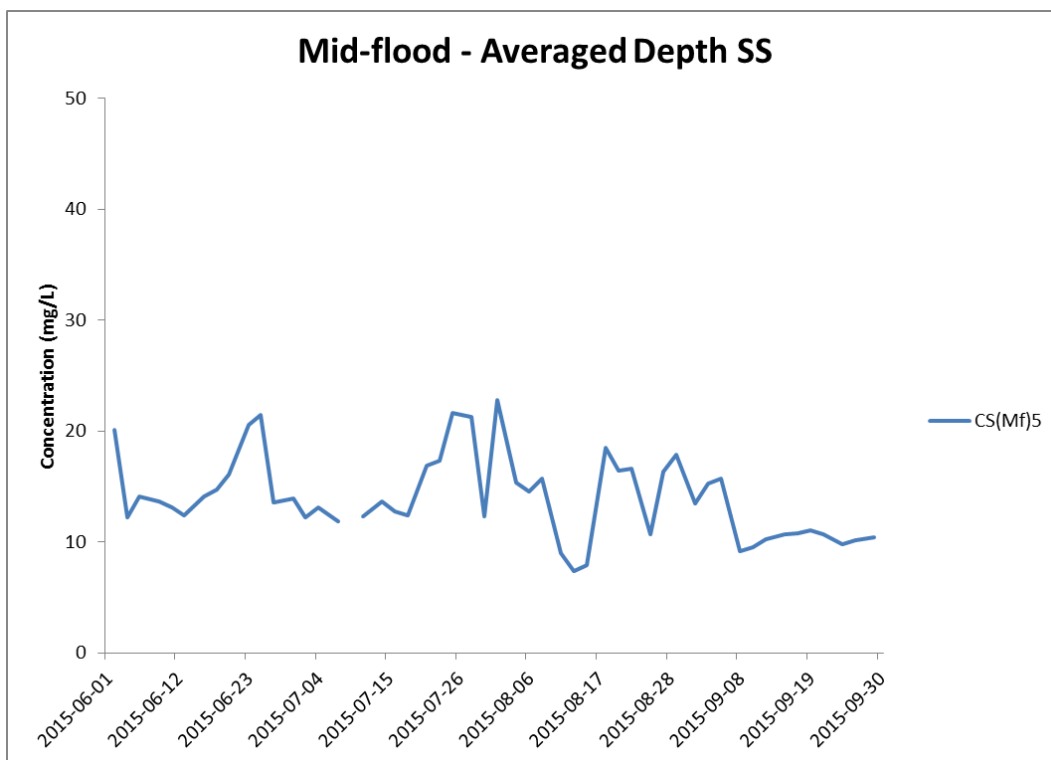
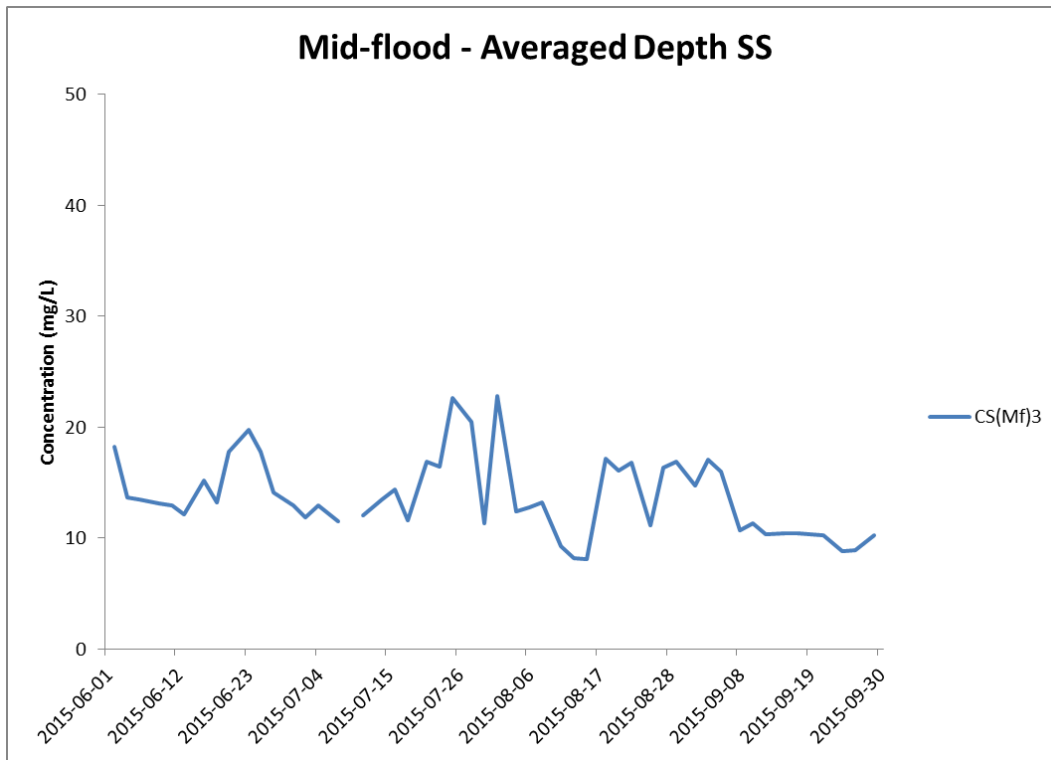
*WQM was cancelled on 9 July 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.*

*Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**







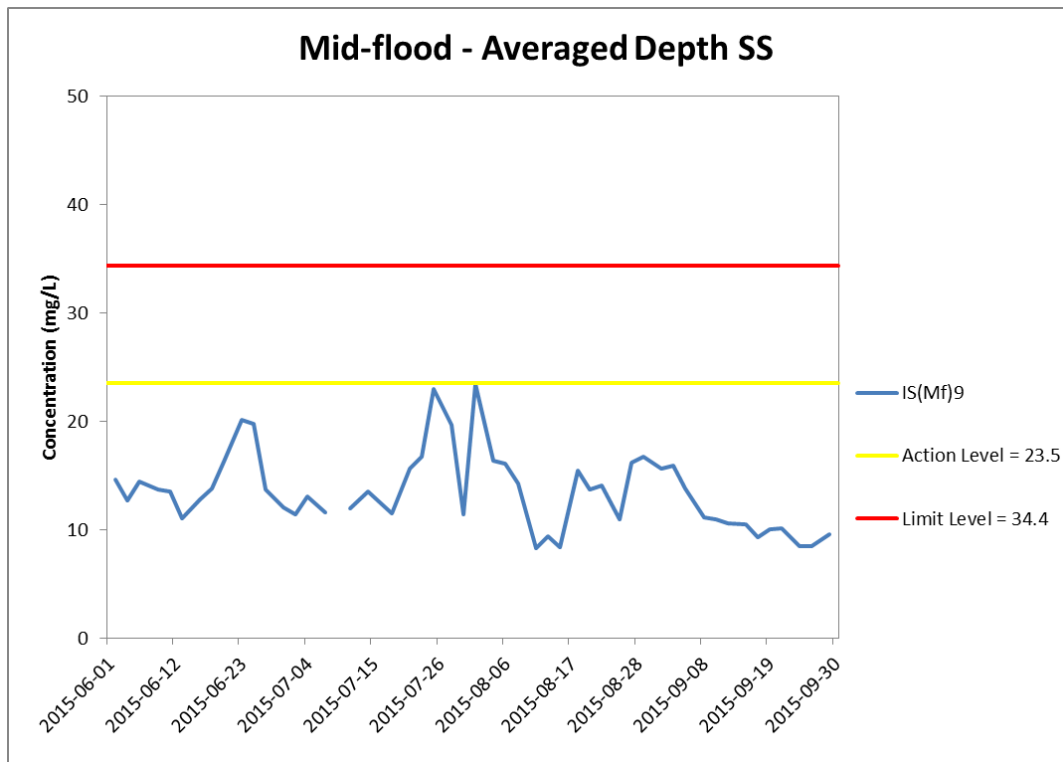
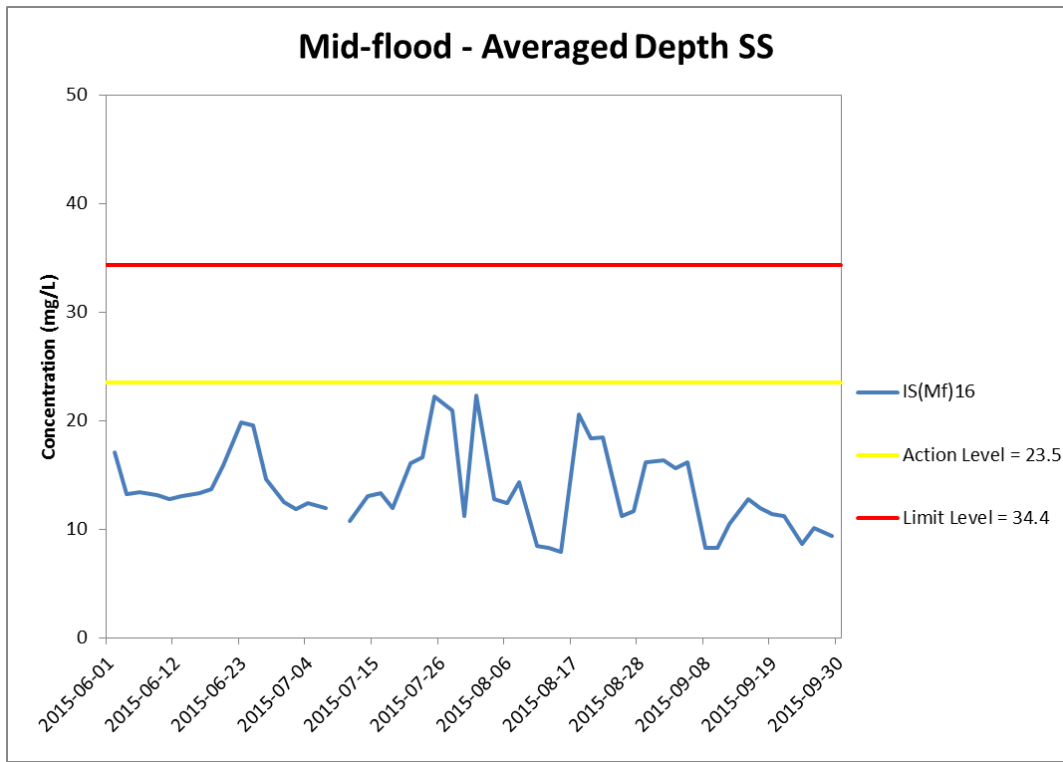
**Figure J33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June and 30 September 2015 at CS(Mf)3 and CS(Mf)5.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





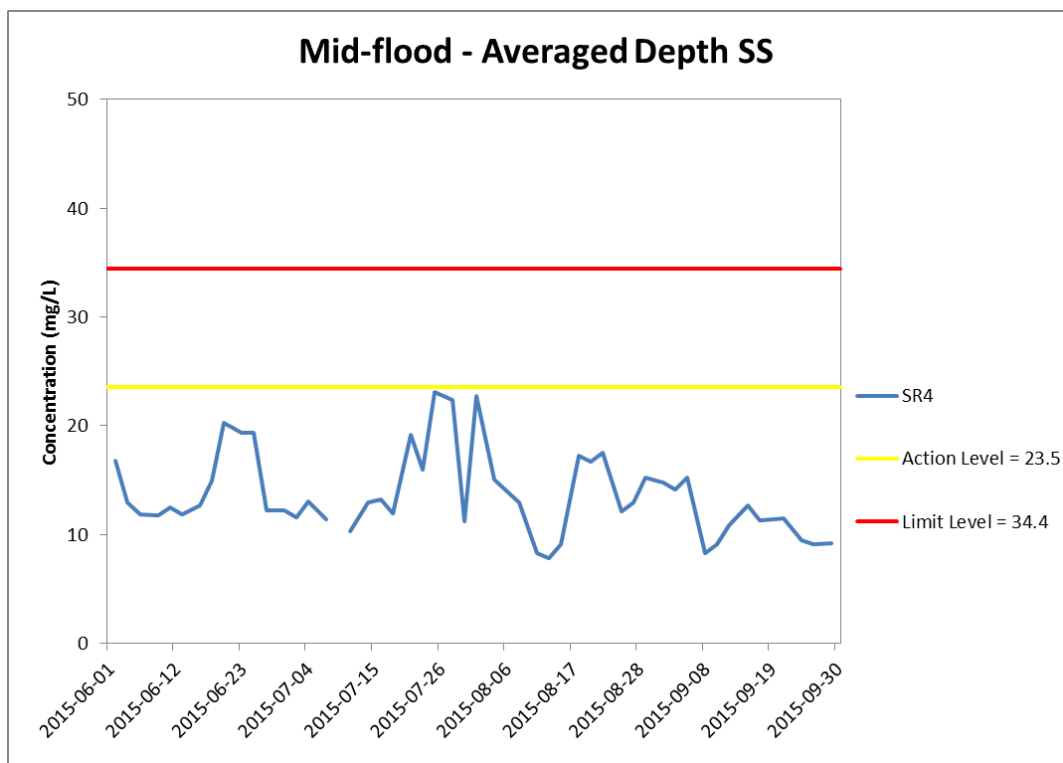
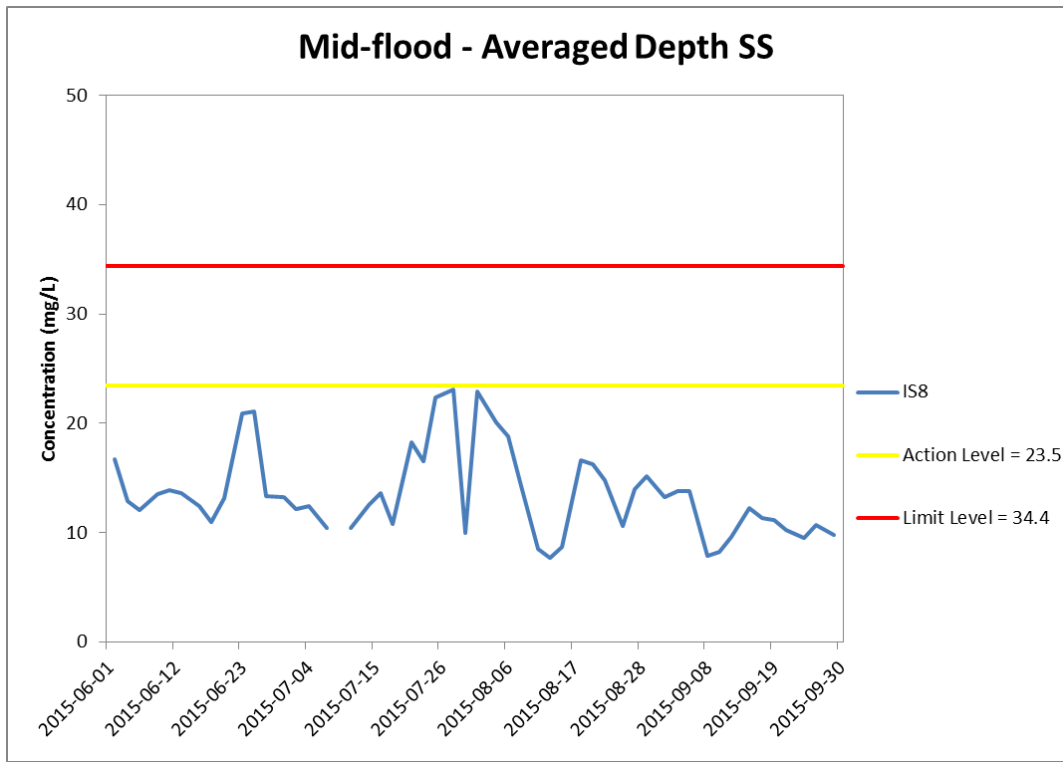
**Figure J34 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June and 30 September 2015 at IS(Mf)16 and IS(Mf)9.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**





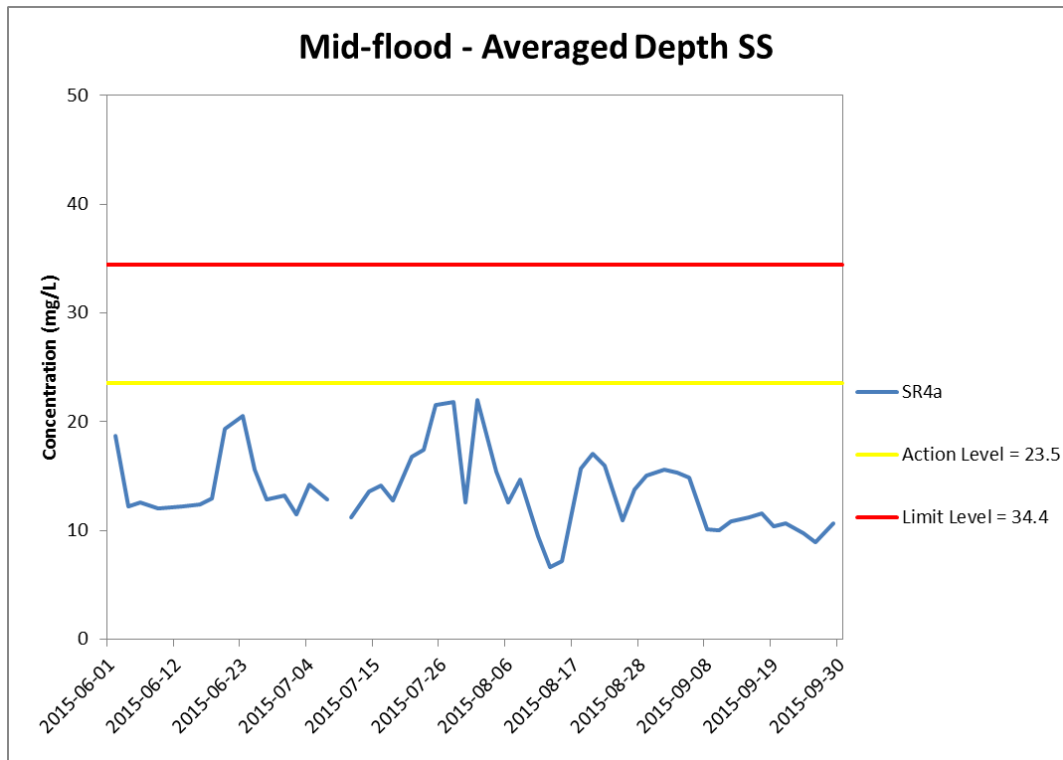
**Figure J35 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June and 30 September 2015 at IS8 and SR4.**

WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)

**Environmental  
Resources  
Management**





**Figure J36 Impact Monitoring - Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 June and 30 September 2015 at SR4a.**

*WQM was cancelled on 9 July 2015 due to adverse weather. (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 head segment installation; Pile cap installation; Pier construction; Launching gantry assembly and marine piling)*

**Environmental  
Resources  
Management**



Appendix K

## Impact Dolphin Monitoring Survey Results



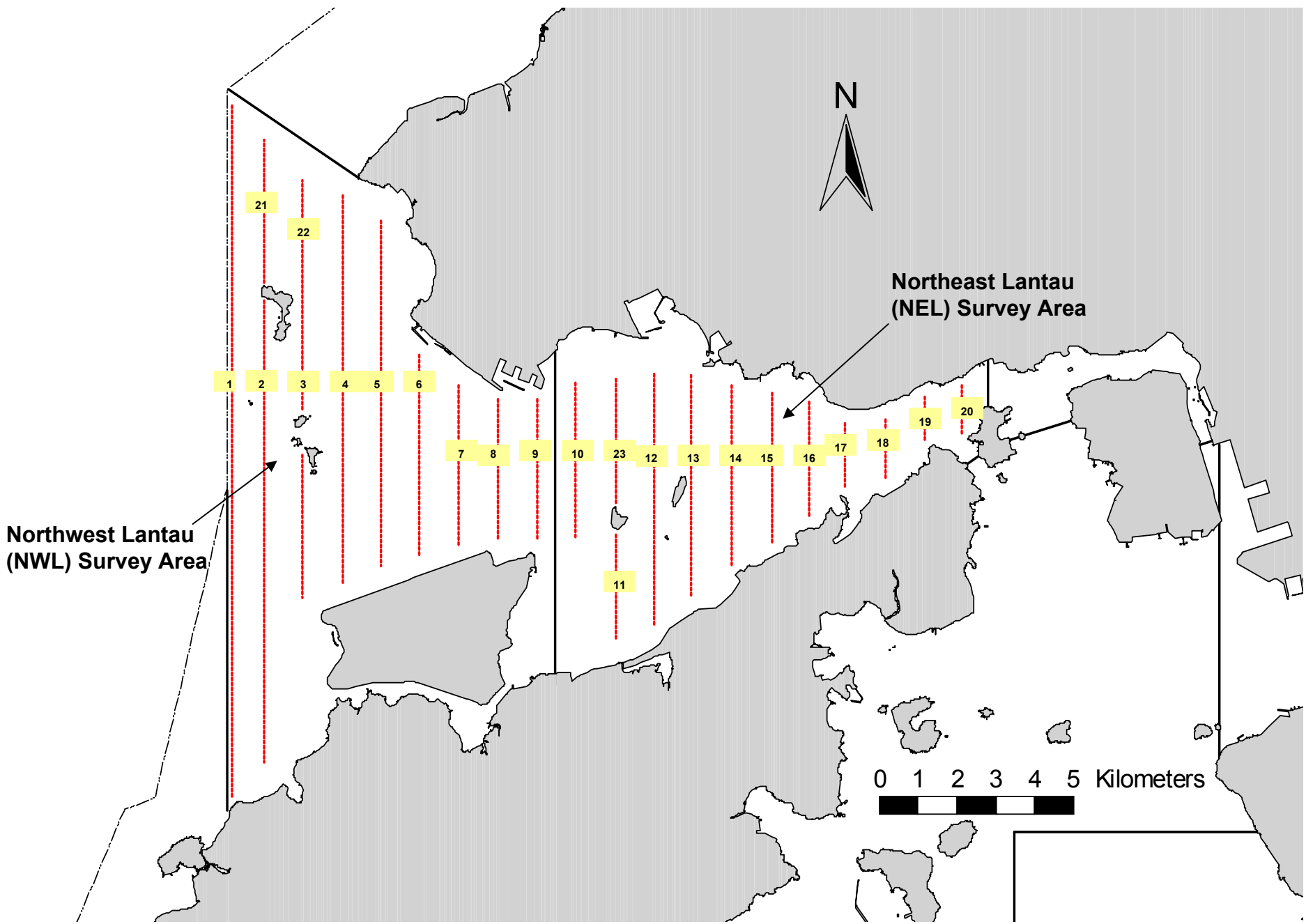


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

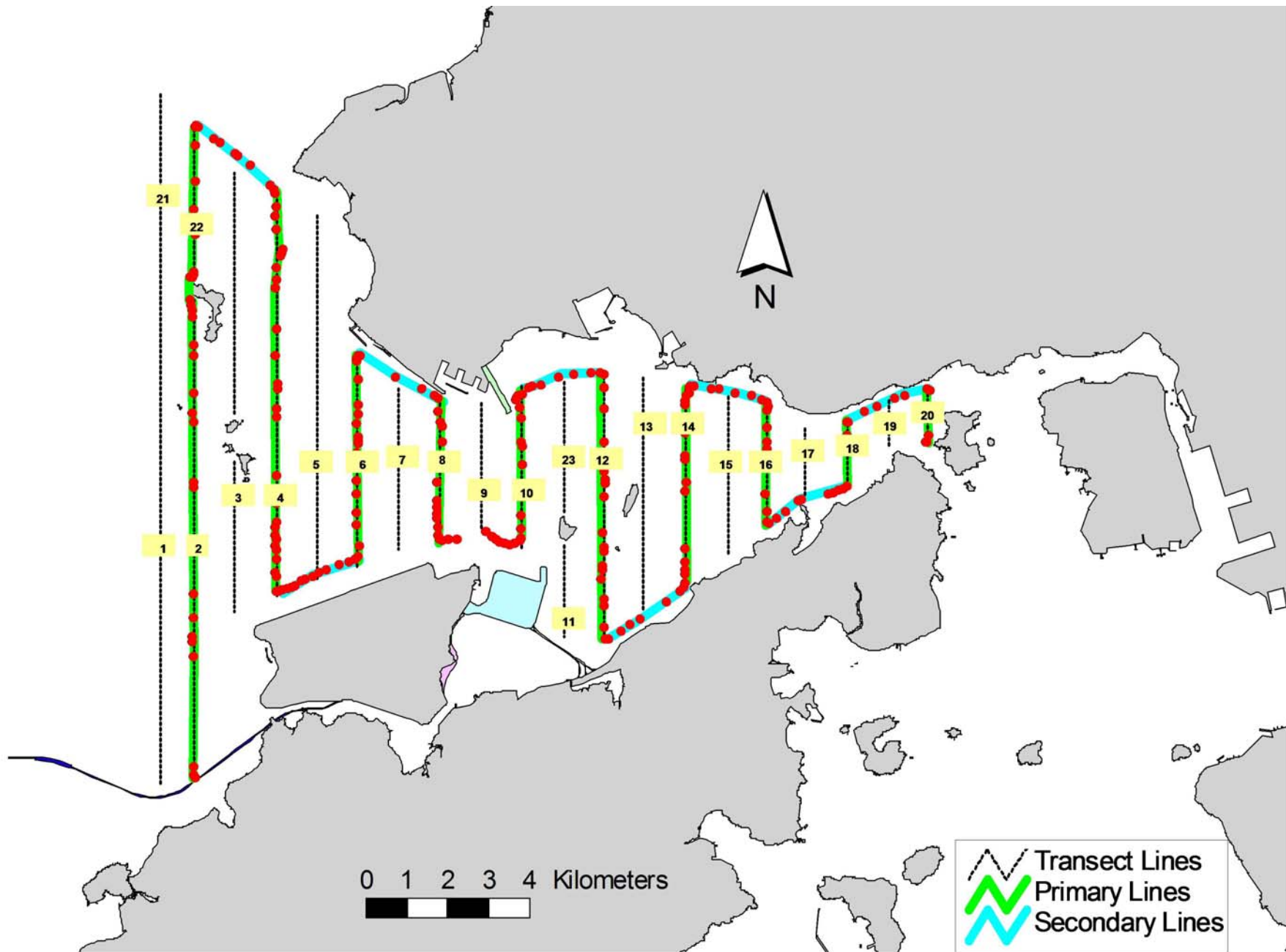


Figure 2. Survey Route on September 2<sup>nd</sup>, 2015 (from HKLR03 project)

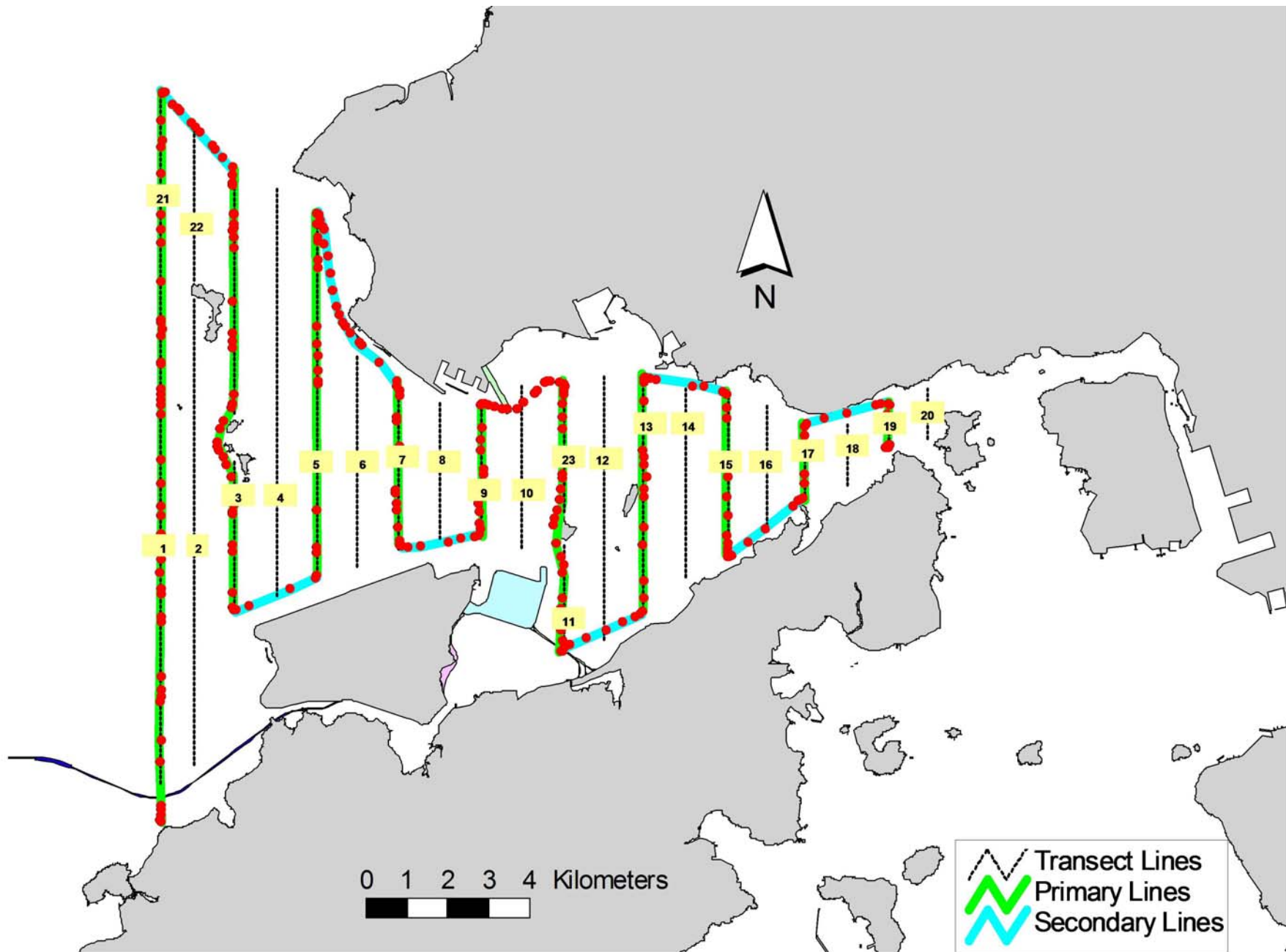


Figure 3. Survey Route on September 11<sup>th</sup>, 2015 (from HKLR03 project)

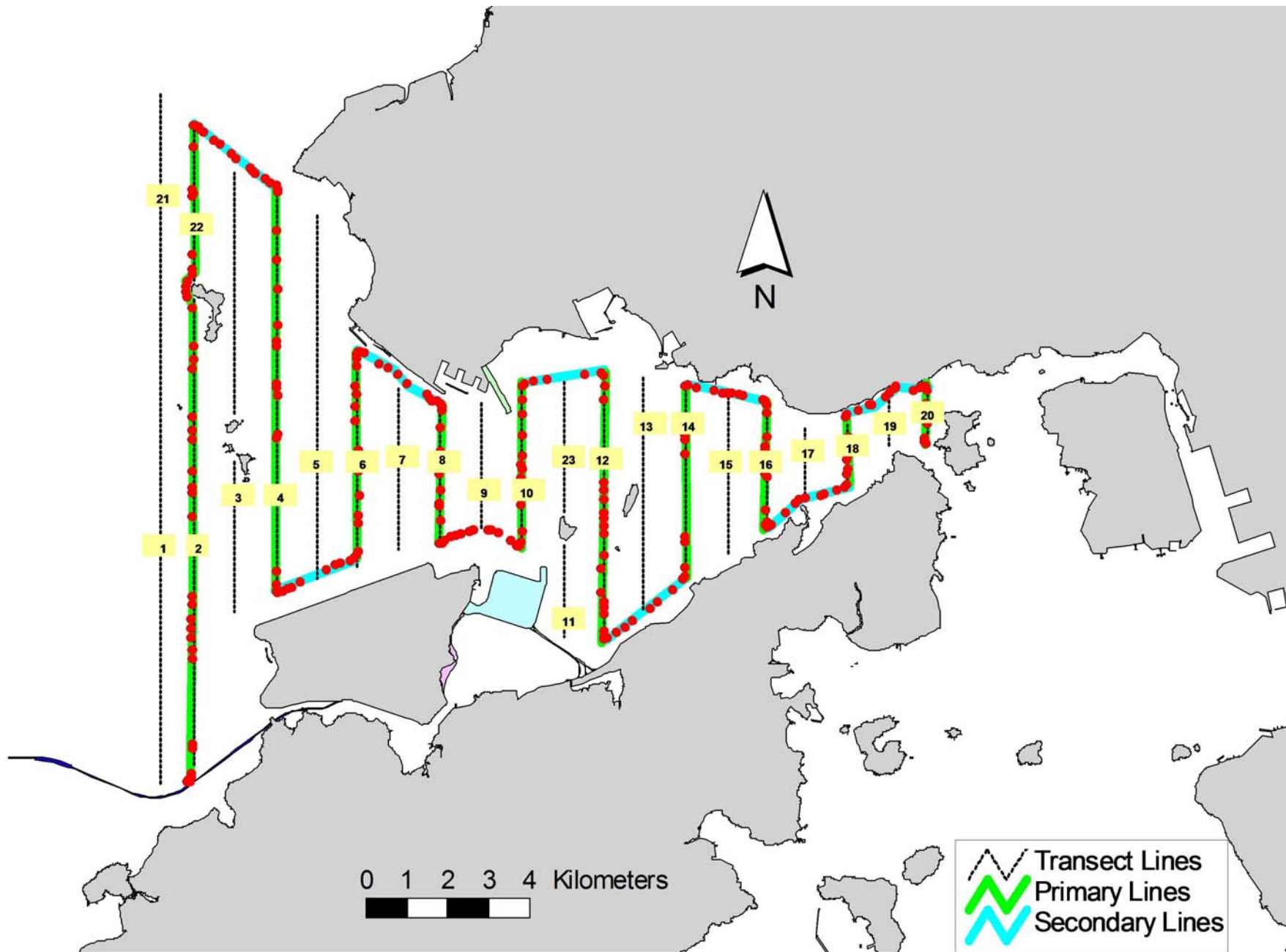


Figure 4. Survey Route on September 17<sup>th</sup>, 2015 (from HKLR03 project)





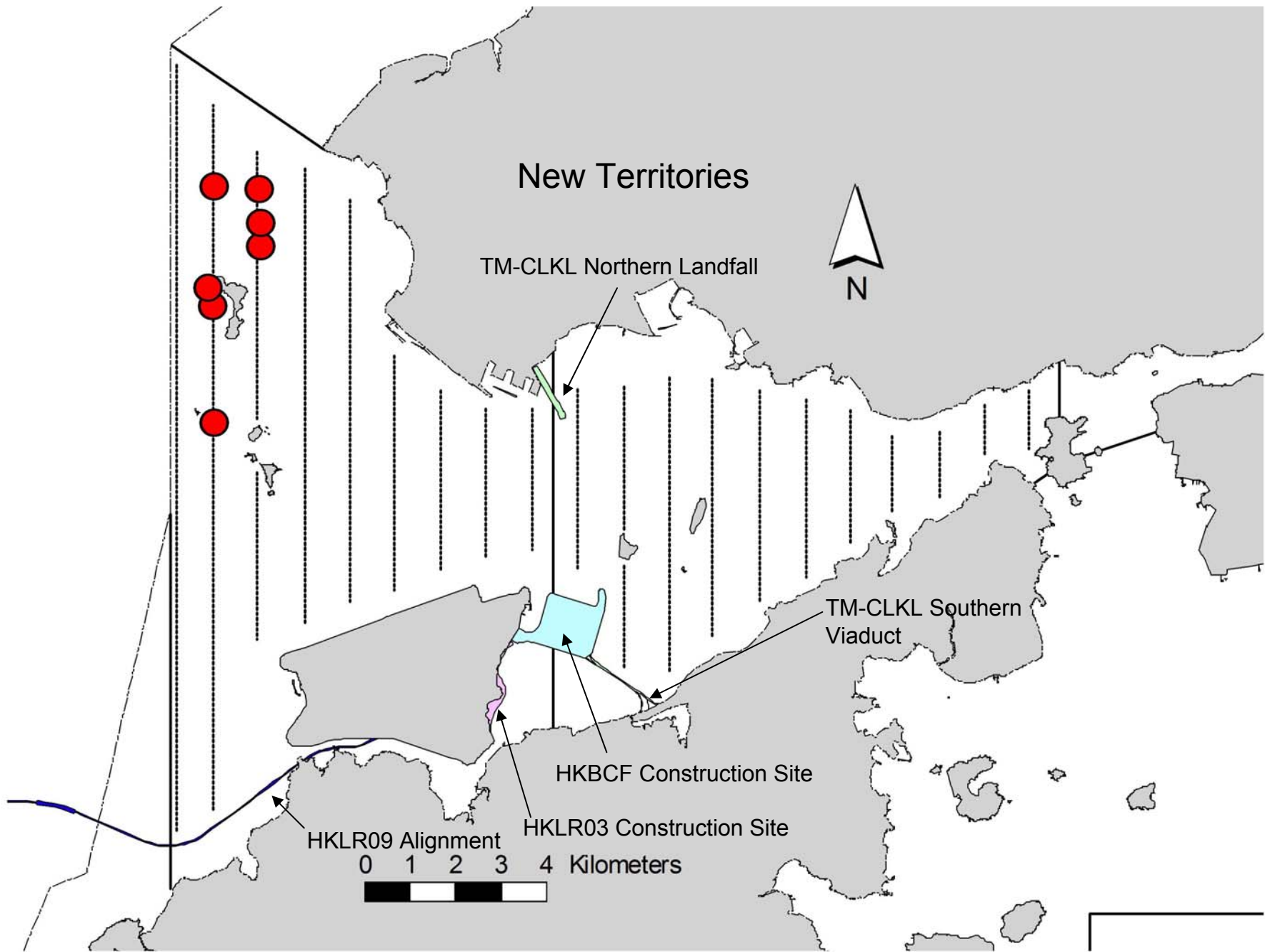


Figure 6. Distribution of Chinese White Dolphin Sightings During September 2015 HKLR03 Monitoring Surveys

## Appendix I. HKLR03 Survey Effort Database (September 2015)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
2-Sep-15	NW LANTAU	2	1.92	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NW LANTAU	3	30.24	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NW LANTAU	3	6.89	AUTUMN	STANDARD31516	HKLR	S
2-Sep-15	NE LANTAU	2	11.59	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NE LANTAU	3	7.98	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NE LANTAU	2	8.83	AUTUMN	STANDARD31516	HKLR	S
2-Sep-15	NE LANTAU	3	2.00	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NW LANTAU	2	30.26	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NW LANTAU	3	10.73	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NW LANTAU	2	4.41	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NW LANTAU	3	8.40	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NE LANTAU	2	7.75	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NE LANTAU	3	8.95	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NE LANTAU	2	7.97	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NE LANTAU	3	2.11	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NE LANTAU	2	9.43	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NE LANTAU	3	10.80	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NE LANTAU	2	5.51	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NE LANTAU	3	5.22	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NW LANTAU	2	4.70	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NW LANTAU	3	28.06	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NW LANTAU	3	7.34	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NE LANTAU	2	3.00	AUTUMN	STANDARD31517	HKLR	P
29-Sep-15	NE LANTAU	3	12.12	AUTUMN	STANDARD31518	HKLR	P
29-Sep-15	NE LANTAU	4	1.90	AUTUMN	STANDARD31519	HKLR	P
29-Sep-15	NE LANTAU	2	3.06	AUTUMN	STANDARD31520	HKLR	S
29-Sep-15	NE LANTAU	3	6.02	AUTUMN	STANDARD31521	HKLR	S
29-Sep-15	NE LANTAU	4	1.10	AUTUMN	STANDARD31522	HKLR	S
29-Sep-15	NW LANTAU	2	25.66	AUTUMN	STANDARD31523	HKLR	P
29-Sep-15	NW LANTAU	3	16.42	AUTUMN	STANDARD31524	HKLR	P
29-Sep-15	NW LANTAU	2	1.60	AUTUMN	STANDARD31525	HKLR	S
29-Sep-15	NW LANTAU	3	11.49	AUTUMN	STANDARD31526	HKLR	S

## Appendix II. HKLR03 Chinese White Dolphin Sighting Database (September 2015)

(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
2-Sep-15	1	1045	8	NW LANTAU	3	629	ON	HKLR	823950	805482	AUTUMN	NONE	P
2-Sep-15	2	1122	12	NW LANTAU	2	240	ON	HKLR	826365	805436	AUTUMN	NONE	P
2-Sep-15	3	1143	12	NW LANTAU	2	75	ON	HKLR	826741	805344	AUTUMN	NONE	P
11-Sep-15	1	1155	6	NW LANTAU	2	349	ON	HKLR	828788	806460	AUTUMN	NONE	P
17-Sep-15	1	1411	7	NW LANTAU	3	134	ON	HKLR	828867	805462	AUTUMN	PURSE-SEINE	P
29-Sep-15	1	1445	5	NW LANTAU	2	430	ON	HKLR	827625	806489	AUTUMN	NONE	P
29-Sep-15	2	1512	4	NW LANTAU	2	281	ON	HKLR	828090	806500	AUTUMN	NONE	P

**Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in September 2015**

<b>ID#</b>	<b>DATE</b>	<b>STG#</b>	<b>AREA</b>
CH34	29/09/15	1	NW LANTAU
CH84	02/09/15	3	NW LANTAU
NL46	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
NL48	02/09/15	1	NW LANTAU
	11/09/15	1	NW LANTAU
	17/09/15	1	NW LANTAU
NL80	02/09/15	2	NW LANTAU
NL123	17/09/15	1	NW LANTAU
NL136	29/09/15	1	NW LANTAU
NL150	02/09/15	2	NW LANTAU
NL165	02/09/15	1	NW LANTAU
NL182	17/09/15	1	NW LANTAU
NL202	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
	29/09/15	2	NW LANTAU
NL203	02/09/15	3	NW LANTAU
NL210	02/09/15	2	NW LANTAU
NL233	02/09/15	2	NW LANTAU
NL261	02/09/15	1	NW LANTAU
NL285	02/09/15	1	NW LANTAU
	11/09/15	1	NW LANTAU
NL286	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
NL297	02/09/15	3	NW LANTAU
NL302	02/09/15	3	NW LANTAU
	11/09/15	1	NW LANTAU
NL308	02/09/15	2	NW LANTAU
NL319	29/09/15	2	NW LANTAU
WL05	02/09/15	1	NW LANTAU
	29/09/15	2	NW LANTAU
WL17	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU

NL48\_20150902\_1



NL165\_20150902\_1



NL261\_20150902\_1



NL285\_20150902\_1



WL05\_20150902\_1



NL46\_20150902\_2



NL80\_20150902\_2



NL150\_20150902\_2



NL202\_20150902\_2





NL210\_20150902\_2



NL233\_20150902\_2



NL286\_20150902\_2



NL308\_20150902\_2



WL17\_20150902\_2



CH84\_20150902\_3



NL203\_20150902\_3



NL297\_20150902\_3



NL302\_20150902\_3



NL48\_20150911\_1



NL285\_20150911\_1



NL302\_20150911\_1



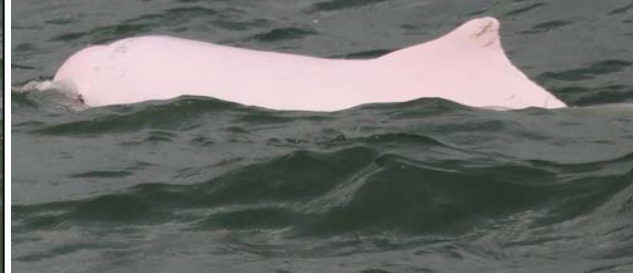
NL46\_20150917\_1



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NL123\_20150917\_1



NL182\_20150917\_1



NL202\_20150917\_1



NL286\_20150917\_1





WL17\_20150917\_1



CH34\_20150929\_1



NL136\_20150929\_1



NL202\_20150929\_2



NL319\_20150929\_2



WL05\_20150929\_2



Appendix IV. (cont'd)

Appendix L

## Event Action Plan

*Appendix L1 Event/ Action Plan for Air Quality*

EVENT	ET <sup>(1)</sup>	ACTION		
		IEC <sup>(1)</sup>	SOR <sup>(1)</sup>	Contractor
<b>Action Level</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify the source.</li> <li>2. Inform the IEC and the SOR.</li> <li>3. Repeat measurement to confirm finding.</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice</li> <li>2. Amend working methods if appropriate</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify the source.</li> <li>2. Inform the IEC and the SOR.</li> <li>3. Repeat measurements to confirm findings.</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Discuss with the IEC and the Contractor on remedial actions required.</li> <li>6. If exceedance continues, arrange meeting with the IEC and the SOR.</li> <li>7. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check the Contractor's working method.</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures.</li> <li>4. Advise the SOR on the effectiveness of the proposed remedial measures.</li> <li>5. Supervisor implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC within 3 working days of notification</li> <li>2. Implement the agreed proposals</li> <li>3. Amend proposal if appropriate</li> </ol>



EVENT	ET <sup>(1)</sup>	ACTION		
		IEC <sup>(1)</sup>	SOR <sup>(1)</sup>	Contractor
<b>Limit Level</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify the source.</li> <li>2. Inform the SOR and the DEP.</li> <li>3. Repeat measurement to confirm finding.</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the SOR informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET.</li> <li>2. Check Contractor's working method.</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures.</li> <li>4. Advise the SOR on the effectiveness of the proposed remedial measures.</li> <li>5. Supervisor implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Amend proposal if appropriate</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify the IEC, the SOR, the DEP and the Contractor.</li> <li>2. Identify the source.</li> <li>3. Repeat measurements to confirm findings.</li> <li>4. Increase monitoring frequency to daily.</li> <li>5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>6. Arrange meeting with the IEC and the SOR to discuss the remedial actions to be taken.</li> <li>7. Assess effectiveness of the Contractor's remedial actions</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst the SOR, ET and the Contractor on the potential remedial actions.</li> <li>2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Resubmit proposals if problem still not under control.</li> <li>5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.</li> </ol>

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and keep the IEC, the DEP and  
the SOR informed of the results.

8. If the exceedance stops, cease  
additional monitoring.

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*Appendix L2 Event/ Action Plan for Construction Noise*

ACTION					
EVENT	ET	IEC	SOR	Contractor	
Action Level	<ol style="list-style-type: none"> <li>1. Notify the IEC and the Contractor.</li> <li>2. Carry out investigation.</li> <li>3. Report the results of investigation to the IEC and the Contractor.</li> <li>4. Discuss with the Contractor and formulate remedial measures.</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET.</li> <li>2. Review the proposed remedial measures by the Contractor and advise the SOR accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC</li> <li>2. Implement noise mitigation proposals</li> </ol>	
Limit Level	<ol style="list-style-type: none"> <li>1. Notify the IEC, the SOR, the DEP and the Contractor.</li> <li>2. Identify the source.</li> <li>3. Repeat measurement to confirm findings.</li> <li>4. Increase monitoring frequency.</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>6. Inform the IEC, the SOR and the DEP the causes &amp; actions taken for the exceedances.</li> <li>7. Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the SOR informed of the results.</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst the SOR, the ET and the Contractor on the potential remedial actions.</li> <li>2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Resubmit proposals if problem still not under control</li> <li>5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.</li> </ol>	

**Appendix L3**      *Event/ Action Plan for Water Quality*

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

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. 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;	2. Discuss with ET and Contractor on possible remedial actions;	2. Request Contractor to critically review the working methods;	3. Implement the agreed mitigation measures;
	4. Check monitoring data, all plant, equipment and Contractor's working methods;	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;	4. Resubmit proposals of mitigation measures if problem still not under control;
	5. Discuss mitigation measures with IEC, SOR and Contractor;		4. Ensure mitigation measures are properly implemented;	
	6. Ensure mitigation measures are implemented;	4. Supervise the implementation of mitigation measures.	6. 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.
	7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;			



**Appendix L4 Implementation of Event-Action Plan for Dolphin Monitoring**

<b>Event</b>	<b>ET Leader</b>	<b>IEC</b>	<b>SOR</b>	<b>Contractor</b>
Action Level	<ol style="list-style-type: none"> <li>1. Repeat statistical data analysis to confirm findings;</li> <li>2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&amp;A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences;</li> <li>3. Identify source(s) of impact;</li> <li>4. Inform the IEC, SOR and Contractor;</li> <li>5. Check monitoring data.</li> <li>6. Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor;</li> <li>2. Discuss monitoring results and findings with the ET and the Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss monitoring with the IEC and any other measures proposed by the ET;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the SOR and confirm notification of the non-compliance in writing;</li> <li>2. Discuss with the ET and the IEC and propose measures to the IEC and the SOR;</li> <li>3. Implement the agreed measures.</li> </ol>

<b>Event</b>	<b>ET Leader</b>	<b>IEC</b>	<b>SOR</b>	<b>Contractor</b>
Limit Level	<ol style="list-style-type: none"> <li>1. Repeat statistical data analysis to confirm findings;</li> <li>2. Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&amp;A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences;</li> <li>3. Identify source(s) of impact;</li> <li>4. Inform the IEC, ER/SOR and Contractor of findings;</li> <li>5. Check monitoring data;</li> <li>6. Repeat review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor;</li> <li>2. Discuss monitoring results and findings with the ET and the Contractor;</li> <li>3. Attend the meeting to discuss with ET, ER/SOR and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures;</li> <li>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;</li> <li>5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise ER/SOR the results and findings accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Attend the meeting to discuss with ET, IEC and Contractor the necessity of additional dolphin monitoring and any other potential mitigation measures;</li> <li>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;</li> <li>3. Supervise the implementation of additional monitoring and/or any other mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER/SOR and confirm notification of the non-compliance in writing;</li> <li>2. Attend the meeting to discuss with ET, IEC and ER/SOR the necessity of additional dolphin monitoring and any other potential mitigation measures;</li> <li>3. Jointly submit with ET to IEC a proposal of additional dolphin monitoring and/or any other mitigation measures when necessary;</li> <li>4. Implement the agreed additional dolphin monitoring and/or any other mitigation measures.</li> </ol>

*Appendix L5 Event and Action Plan on Dolphin Acoustic Behaviour*

EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
<u>Action Level</u>				
With the numerical values presented in <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	<ol style="list-style-type: none"> <li>1. Repeat statistical data analysis to confirm findings;</li> <li>2. Review all available and relevant data to ascertain if differences are as a result of natural variation or seasonal differences;</li> <li>3. Identify source(s) of impact;</li> <li>4. Inform the IEC, SO and Contractor;</li> <li>5. Check monitoring data;</li> <li>6. Carry out audit to ensure all dolphin protective measures are implemented fully and additional measures be proposed if necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor;</li> <li>2. Discuss monitoring with the ET and the Contractor;</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET;</li> <li>2. Make agreement on measures to be implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the SO and confirm notification of the non-compliance in writing;</li> <li>2. Discuss with the ET and the IEC and propose measures to the IEC and the SO;</li> <li>3. Implement the agreed measures.</li> </ol>

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"> <li>1. Repeat statistical data analysis to confirm findings;</li> <li>2. Review all available and relevant data to ascertain if differences are as a result of natural variation or seasonal differences;</li> <li>3. Identify source(s) of impact;</li> <li>4. Inform the IEC, SO and Contractor;</li> <li>5. Check monitoring data;</li> <li>6. Carry out audit to ensure all dolphin protective measures are implemented fully and additional measures be proposed if necessary</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET and Contractor;</li> <li>2. Discuss monitoring with the ET and the Contractor;</li> <li>3. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise ER accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET;</li> <li>2. Make agreement on measures to be implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the SO and confirm notification of the non-compliance in writing;</li> <li>2. Discuss with the ET and the IEC and propose measures to the IEC and the SO;</li> <li>3. Implement the agreed measures.</li> </ol>

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 2015 (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 <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	13.578	0.081	0.990	-	12.474	0.115	0.178	0.229	0.258	-	-	132.170	-	61.380	0.091	-
Feb	6.233	0.148	0.461	-	5.759	0.014	0.801	0.110	0.223	-	0.400	141.020	-	73.690	0.112	-
Mar	10.149	0.220	0.473	-	9.600	0.077	0.618	0.073	0.149	-	-	120.940	-	9.140	0.203	-
Apr	9.986	0.410	2.261	-	7.694	0.032	-	-	-	-	-	133.630	-	2.740	0.105	-
May	8.753	0.177	0.662	-	8.091	-	0.550	-	-	-	-	107.920	-	13.070	0.042	-
Jun	8.517	0.132	1.351	-	7.166	-	0.324	0.118	0.169	-	0.017	89.930	-	2.000	0.119	-
<b>SUB-TOTAL</b>	<b>57.217</b>	<b>1.168</b>	<b>6.197</b>	<b>-</b>	<b>50.782</b>	<b>0.238</b>	<b>2.471</b>	<b>0.530</b>	<b>0.799</b>	<b>-</b>	<b>0.417</b>	<b>725.610</b>	<b>-</b>	<b>162.020</b>	<b>0.672</b>	<b>-</b>
Jul	3.391	0.137	0.992	-	2.322	0.078	-	-	-	-	1.400	111.570	-	-	0.105	-
Aug	1.370	0.203	0.105	-	1.265	-	-	-	-	-	1.200	87.760	-	-	0.133	-
Sep	4.148	0.160	0.623	-	3.525	-	-	-	-	-	0.600	66.680	-	-	0.105	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>66.126</b>	<b>1.670</b>	<b>7.916</b>	<b>-</b>	<b>57.894</b>	<b>0.316</b>	<b>2.471</b>	<b>0.530</b>	<b>0.799</b>	<b>-</b>	<b>3.617</b>	<b>991.620</b>	<b>-</b>	<b>162.020</b>	<b>1.015</b>	<b>-</b>

Notes :

- 1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- 3 - 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	7
	Limit	0	3

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Month (September 2015)	0	0	0
Total No. received since project commencement	3	0	0