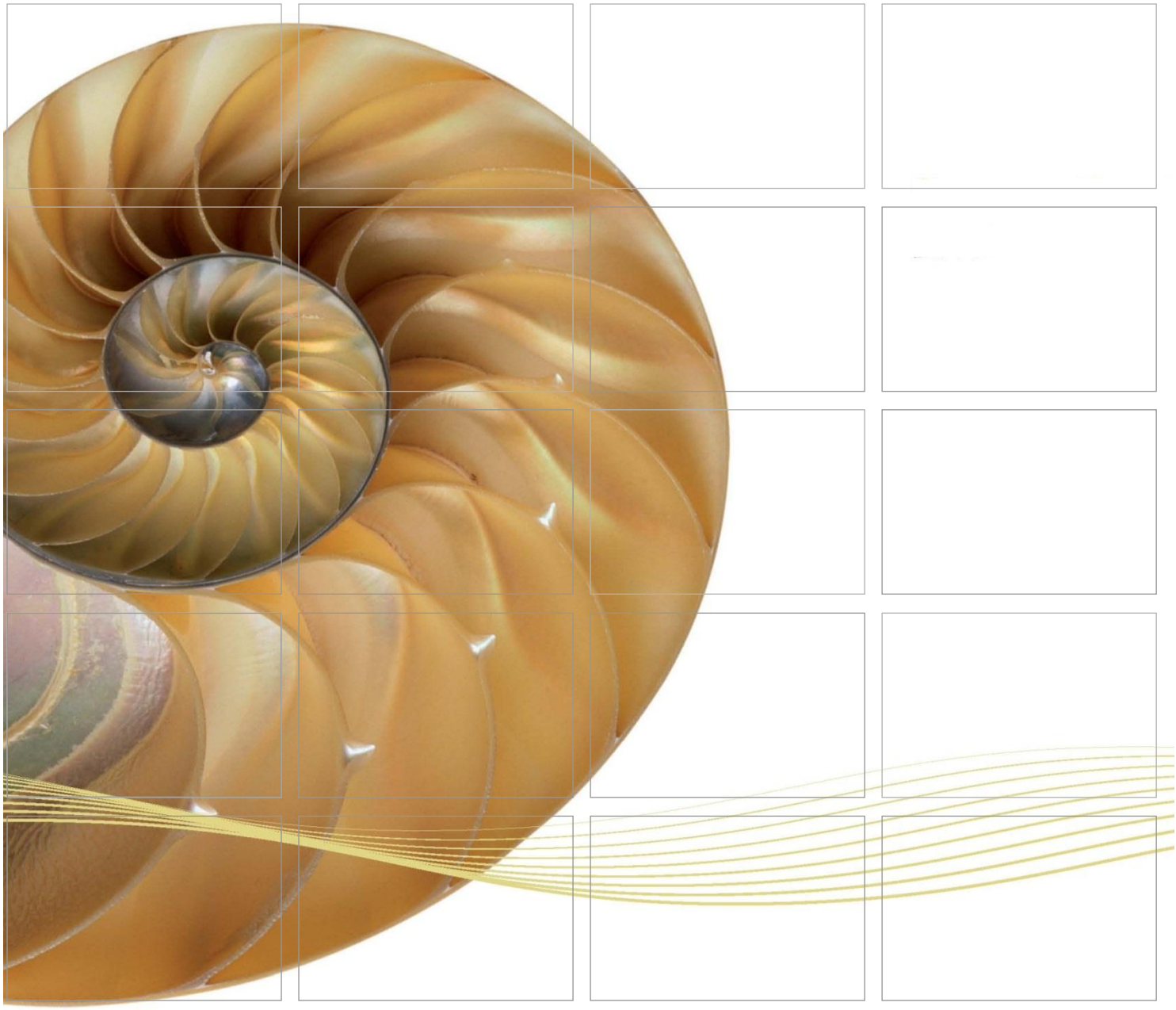
REPORT



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

Sixth Monthly EM&A Report

14 May 2014

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

www.erm.com

ERM

The world's leading sustainability consultancy

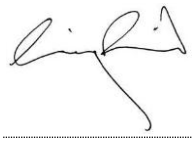
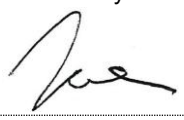
Contract No. HY/2012/07
Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

Six Monthly EM&A Report

Environmental Resources Management

16/F, DCH Commercial Centre
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
http://www.erm.com

Document Code: 0215660_6th Monthly EM&A_20140513.doc

Client: Gammon	Project No: 0215660
Summary: This document presents the Sixth Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section.	Date: 14 May 2014 Approved by:  *Mr Craig Reid* *Partner* Certified by:  *Mr Jovy Tam* *ET Leader*

Revision	Description	By	Checked	Approved	Date
	Sixth Monthly EM&A Report	VAR	JT	CAR	14/05/14

Distribution

☐ Internal

☒ Public

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OHSAS 18001:2007 Certificate No. OHS 515956

ISO 9001 : 2008 Certificate No. FS 32515

Ref.: HYDHZMBEEM00_0_1918L.14 15 May 2014

AECOM By Fax (2492 2057) and By Post
Supervising Officer Representative's Office
6 Hoi Kok Street,
Tsuen Wan, N.T.

Attention: Mr. Daniel Ip

Dear Sir,

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 April 2014 (EP-354/2009/B)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (for April 2014) certified by the ET Leader (ET's ref.: "0215660_6th Monthly EM&A_20140513.doc" dated 14 May 2014) and provided to us via email on 14 May 2014.

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/B.

Thank you for your kind 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: 2750 0922)

Internal: DY, YH, ENPO Site

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ENVIRON Hong Kong Limited 英環香港有限公司
Room 2403 Jubilee Centre, 18 Fenwick Street, Wan Chai, Hong Kong. Tel: 852 3465 2888 Fax: 852 3465 2899
www.environcorp.com

TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices

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). 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*. Another application for variation of environmental permit (VEP) (*EP-354/2009/B*) was granted on 28 January 2014.

The construction phase of the Contract commenced on 31 October 2013 and will be 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 sixth monthly EM&A report presenting the EM&A works carried out during the period from 1 to 30 April 2014 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-based Works

- Marine piling platform installation
- Marine piling at Viaducts B & E
- Construction of rockfill platform at Viaduct D landing
- Additional marine ground investigation (GI) and laboratory testing

Land-based Works

- Satellite container offices erection along seawall (i.e. CEDD Access Road)
- Fence installation and relocation of Works Area 2, Viaducts A, B, C & D
- Land piling at Viaduct B
- Piling platform installation for Viaducts B, D & E
- Additional land GI, trial pits & lab testing
- Utility surveys
- Slope work of 9SE-B/C8 and 9SE-B/C9

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 noise 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 impact water quality monitoring in the reporting month.

Impact Dolphin Monitoring

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

Marine bored piling monitoring programme for dolphins (ie Land-based Theodolite Tracking, Underwater Noise Monitoring and Acoustic Behavioural Monitoring) was commenced on 3 March 2014 and completed on 25 April 2014. Data analysis was being undertaken for the marine bored piling monitoring programme which will be presented in the Final Monitoring Reports for the Land-based Theodolite Tracking and Underwater Noise and Dolphin Acoustic Behavioural Monitoring.

Daily marine mammal exclusion zone monitoring was undertaken. No sighting of the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was recorded in April 2014 during the exclusion zone monitoring.

Coral Monitoring

The Second Quarterly Post-Translocation Coral Monitoring was conducted on 16 April 2014 and the results were detailed in the *Second Quarterly Post-Translocation Coral Monitoring Report*. The findings indicated that the Action or Limit Levels for coral monitoring were not exceeded as increase in percentage of partial mortality was not detected for both the tagged translocated and natural coral colonies when comparing to the pre-translocation dataset.

Environmental Complaints, Non-compliance & Summons

No complaint, notification of summons and successful prosecution was received in the reporting month.

Reporting Change

There was no reporting change required in the reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the next monitoring period of May 2014 include the following:

Marine Works

- Marine piling platform installation
- Marine piling at Viaducts B & E
- Construction of rockfill platform at Viaduct D landing
- Additional marine ground investigation (GI) and laboratory testing

Land-based Works

- Satellite container offices erection along seawall (i.e. CEDD Access Road)
- Fence installation and relocation of Works Area 2, Viaducts A, B, C & D
- Land Piling at Viaduct B
- Piling platform installation for Viaducts B, D & E
- Additional land GI, trial pits & lab testing
- Utility surveys
- Slope work of 9SE-B/C8 and 9SE-B/C9

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of May 2014 are mainly associated with dust, noise, marine water quality, marine ecology and waste management issues.

1 INTRODUCTION

1.1 BACKGROUND

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

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process* (*EIAO-TM*). The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-145/2009), 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-354/2009A) 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). 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*. Another application for variation of environmental permit (VEP) (*EP-354/2009/B*) was granted on 28 January 2014.

The construction phase of the Contract commenced on 31 October 2013 and will be tentatively be 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.

1.2 SCOPE OF REPORT

This is the sixth 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 April 2014.

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 (ENVIRON Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2888	3465 2899
	IEC	Dr. F.C. Tsang	3465 2828	3465 2899
Contractor (Gammon Construction Limited)	Environmental Manager	Brian Kam	3520 0387	3520 0486
	Environmental Officer	Roy Leung	3520 0387	3520 0486
	24-hour Complaint Hotline		9738 4332	
ET (ERM-HK)	ET Leader	Jovy Tam	2271 3113	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

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

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

Marine-based Works

- Marine piling platform installation
- Marine piling at Viaducts B & E
- Construction of rockfill platform at Viaduct D landing

- Additional marine ground investigation (GI) and laboratory testing

Land-based Works

- Satellite container offices erection along seawall (i.e. CEDD Access Road)
- Fence installation and relocation of Works Area 2, Viaducts A, B, C & D
- Land piling at Viaduct B
- Piling platform installation for Viaducts B, D & E
- Additional land GI, trial pits & lab testing
- Utility surveys
- Slope work of 9SE-B/C8 and 9SE-B/C9

The general layout plan of the site showing the detailed works areas is shown in *Figures 1.1* to *1.12*. The Environmental Sensitive Receivers in the vicinity of the Project are shown in *Figure 1.13*.

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

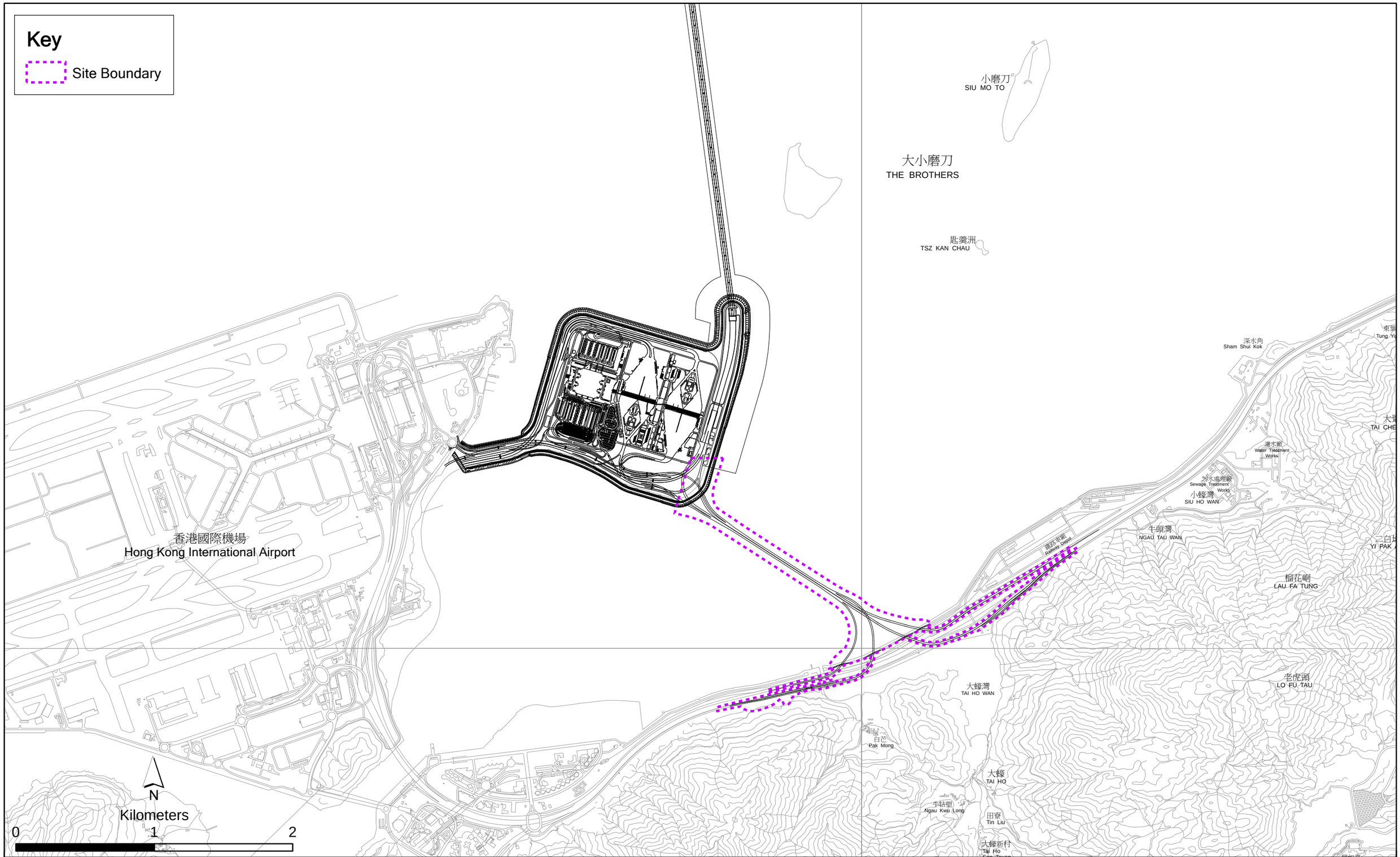

Figure 1.1

General Layout Plan of the Project

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Date: 6/12/2013

Environmental Resources Management

ERM

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

810000 E
815000 E
820000 E
825000 N
820000 N

TUEN MUN
TAP SHEK KOK
BUTTERFLY BEACH
PILLAR POINT (MONG HAU SHEK)
TUNNEL SECTION (BY OTHERS)
THE BROTHERS
大小磨刀
SIU MO TO
TAI MO TO
THE BROTHERS
TSZ KAN CHAU
HKBCF
SOUTHERN LANDFALL
CONTRACT NO. HY/2012/07
HONG KONG INTERNATIONAL AIRPORT (HKIA)
C1/1001
C1/1002
C1/1003
C1/1004
C1/1005
C1/1006
C1/1007
C1/1008
SIU HO WAN
BOUNDARY OF COUNTRY PARK
TA1 HO WAN
TUNG CHUNG
LANTAU ISLAND
AREA 4
AREA 5
AREA 23
NORTH LANTAU HIGHWAY
DISCOVERY BAY (TAI PAK WAN)
PENG CHAU
SIU KAU YI CHAU
MA WAN CHANNEL
CASTLE PEAK BAY (TSING SHAN WAN)

N

LEGEND:

— - — SITE BOUNDARY

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SHEET NOS. 60240249/C1/1001 TO C1/1008, C1/1051 TO C1/1053. A
2. THE HATCHED WORKS AREAS SHOWN ON THIS DRAWING ARE TO BE SHARE-USED AMONG THE CONTRACTS OF TUEN MUN-CHEK LAP KOK LINK PROJECT.
3. THE ALLOWABLE USAGE(S) OF EACH WORKS AREA ARE AS FOLLOWS:

WORKS AREA	ALLOWABLE USAGE(S)
AREA 5	SUPERVISING OFFICER AND CONTRACTOR SITE OFFICES AND STORAGE AREA TO BE SHARE-USED WITH OTHER CONTRACTS.
AREA 23	STORAGE AREA WHICH SHALL BE ACCESSED BY MARINE MEANS ONLY; TO BE SHARE-USED WITH OTHER CONTRACTS.
AREA 4	STORAGE AREA OF CORE BOXES FOR OTHER CONTRACTORS OF THE EMPLOYER

A

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2012/11/15

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

Fig1.2

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例
A1 1:25000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60240249

CONTRACT NO. 合約編號
HY/2012/07

SHEET TITLE 圖紙名稱

LOCATION PLAN AND KEY PLAN

SHEET NUMBER 圖紙編號

60240249/C1/1000A

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

NOTES:

1. FOR NOTES AND LEGEND SEE SHEET NO. 60240249/C1/1001.
2. FOR SECTIONS A - A AND B - B, REFER TO SHEET NO. 60240249/C1/1023.

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814900 E
815100 E
815300 E
818100 N

CUT LINE C-C
SEE SHEET NO. 60240249/C1/1003

CUT LINE D-D
SEE SHEET NO. 60240249/C1/1005

CUT LINE F-F
SEE SHEET NO. 60240249/C1/1007

STRUCTURE E1
STRUCTURE B3
STRUCTURE D4
STRUCTURE A2
STRUCTURE D3
STRUCTURE C4
STRUCTURE B2
MTR PROTECTION BOUNDARY
EXISTING CEDD ACCESS ROAD TO BE REALIGNED
MTRL 2 RP
MTRL 2 RP
NORTH LANTAU HIGHWAY
TAI HO WAN

N

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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Fig1.3

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			CWN
			CWN
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-	OCT. 12	TENDER DRAWING	CWN

STATUS 階段

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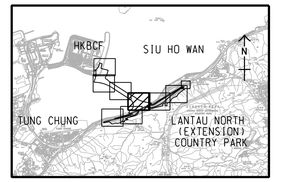
KEY PLAN 索引圖 1 : 100000



PROJECT NO. 項目編號
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CONTRACT NO. 合約編號
HY/2012/07

SHEET TITLE 圖紙名稱
GENERAL LAYOUT

SHEET 4 OF 8

SHEET NUMBER 圖紙編號
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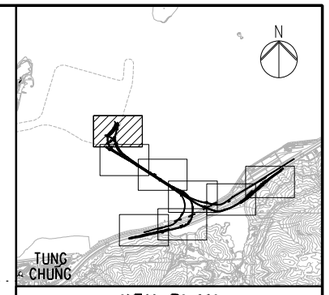

KEY PLAN

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- GF1 FAULT

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

PROPOSED G.I.STATIONS :

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

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

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

Supervising Officer: AECOM
Contractor: Gammon
Originator: ARUP

Drawing title: PROPOSED GROUND INVESTIGATION PLAN (1)

Fig 1.4

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

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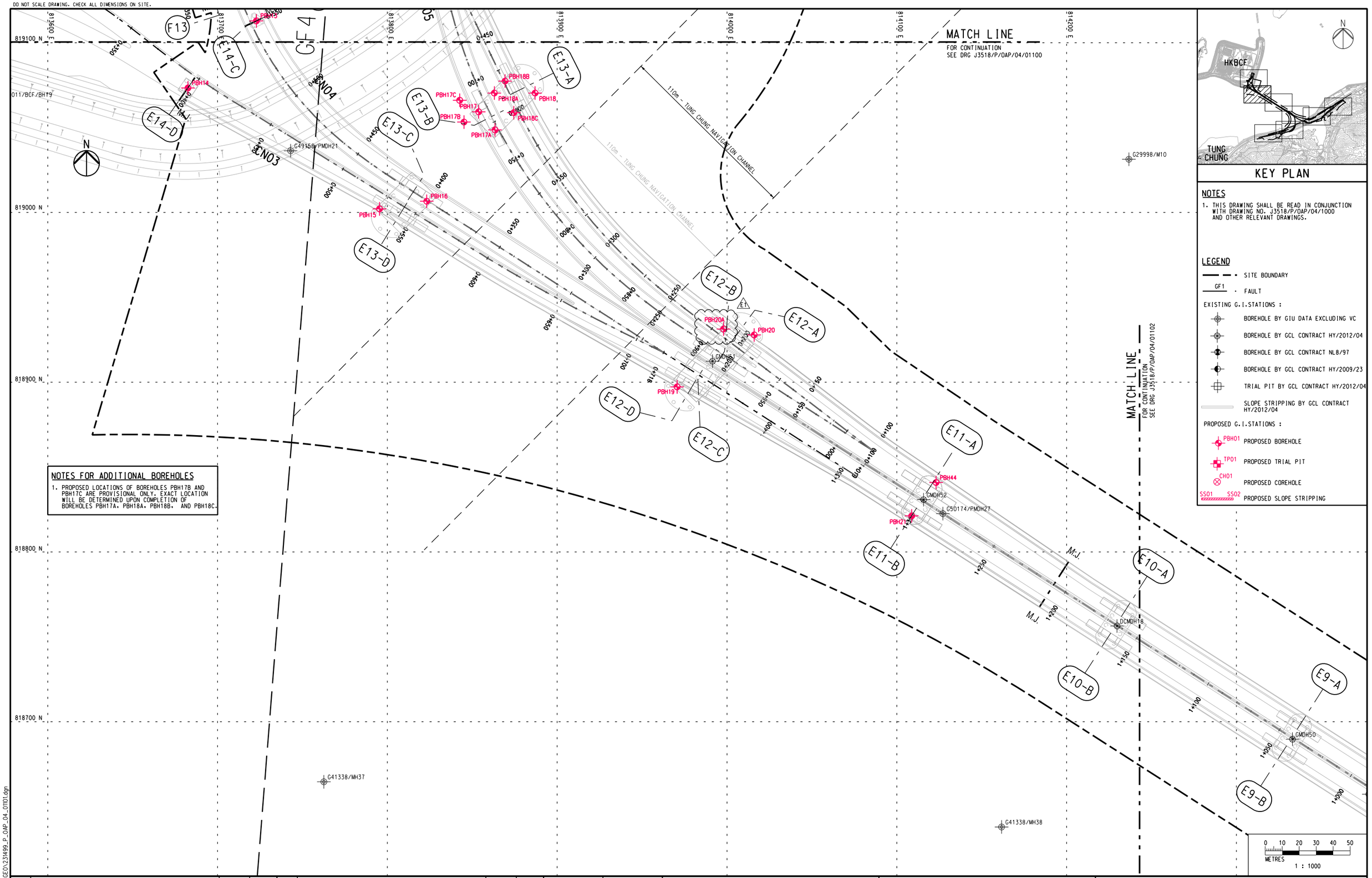

KEY PLAN

NOTES

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LEGEND

- SITE BOUNDARY
- GF1 · FAULT

EXISTING G.I.STATIONS :

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

PROPOSED G.I.STATIONS :

- PBHO1 PROPOSED BOREHOLE
- TPO1 PROPOSED TRIAL PIT
- CHO1 PROPOSED COREHOLE
- SSO1 SSO2 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.

0 10 20 30 40 50
METRES
1 : 1000

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

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

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

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

Drawing title: PROPOSED GROUND INVESTIGATION PLAN (2)

Fig 1.5

Drawing no. J3518/P/OAP/04/01101 Rev. E1

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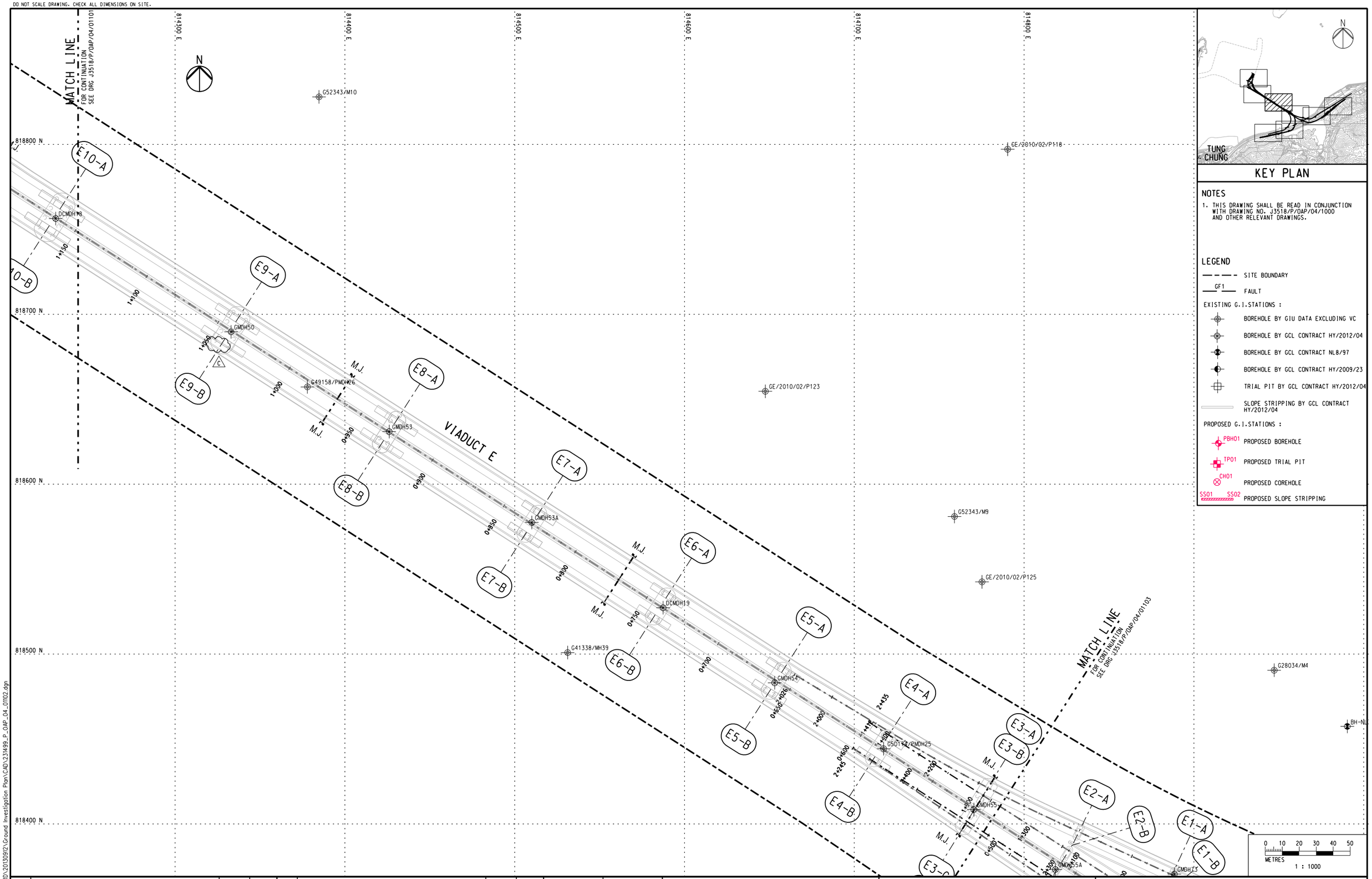

KEY PLAN

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LEGEND

- SITE BOUNDARY
- GF1 FAULT

EXISTING G.I.STATIONS :

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

PROPOSED G.I.STATIONS :

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

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

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

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

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

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

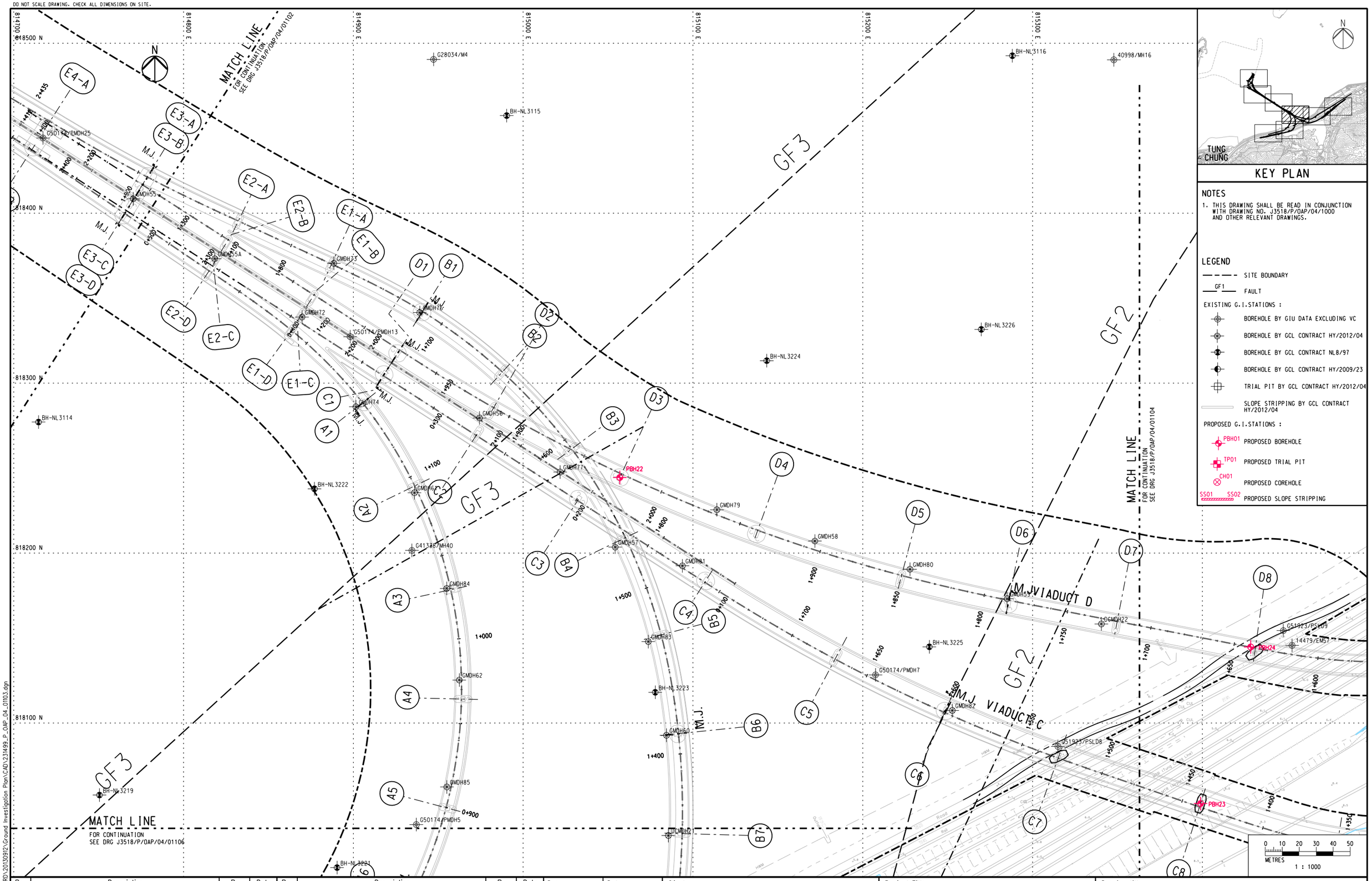
Drawing title: PROPOSED GROUND INVESTIGATION PLAN (3)

Fig 1.6

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

Printed by : 12/9/2013
File name : J:\23149\RECORD\20130912\Ground Investigation Plan\CAD\231499_P_OAP_04_01102.dgn

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



NOTES

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

LEGEND

- SITE BOUNDARY
- GF1 FAULT

EXISTING G.I.STATIONS :

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

PROPOSED G.I.STATIONS :

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

0 10 20 30 40 50 METRES
1 : 1000

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

Printed by : 13/9/2013
Filename : J:\231499\RECORD\20130912\Ground Investigation Plan\CAD\231499_P_OAP_04_01103.dgn

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

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

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

Supervising Officer: AECOM

Contractor: Gammon

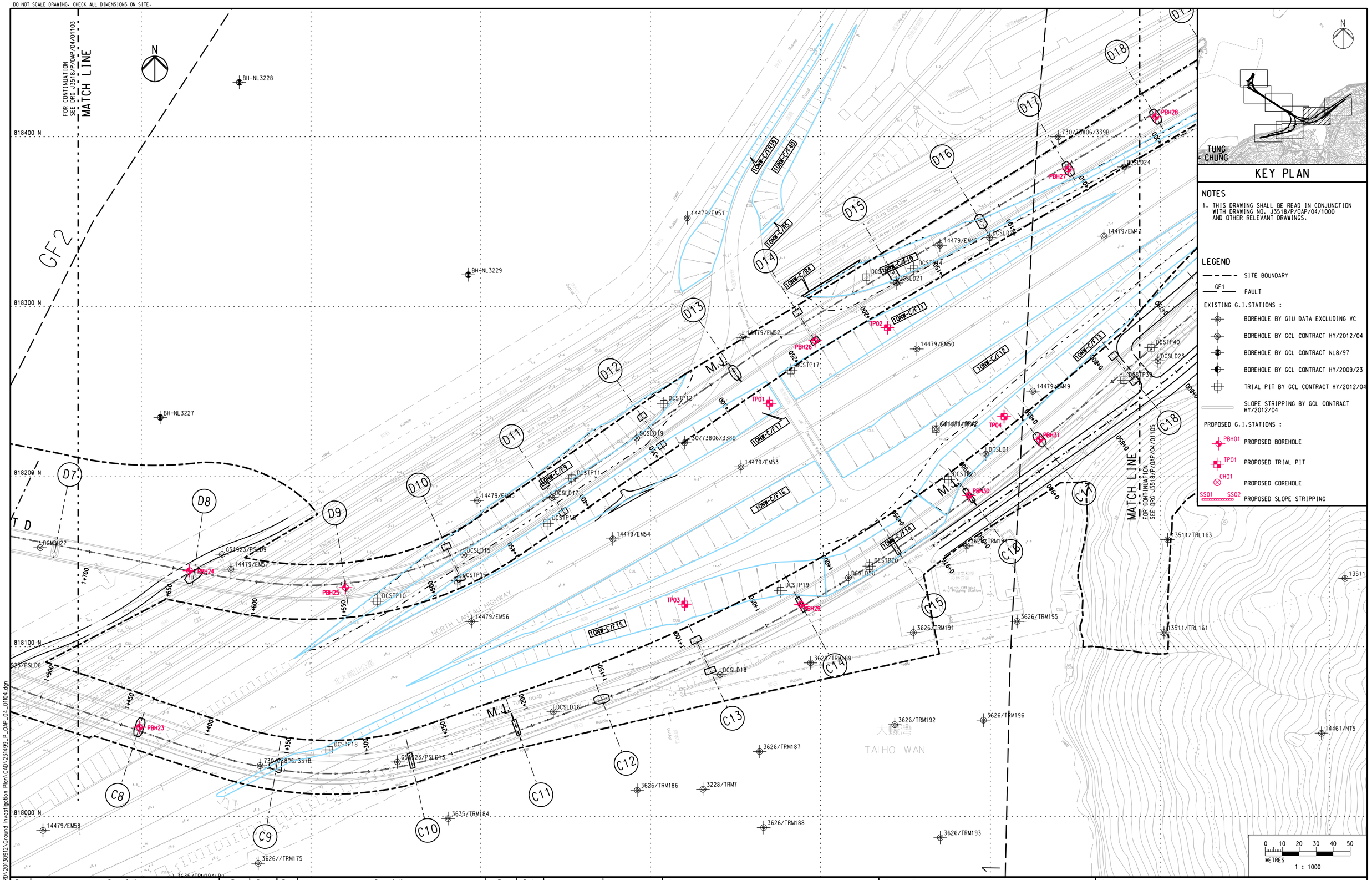
Originator: ARUP

Drawing title: PROPOSED GROUND INVESTIGATION PLAN (4)

Fig 1.7

Drawing no. J3518/P/OAP/04/01103 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 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
- TPO1 PROPOSED TRIAL PIT
- CHO1 PROPOSED COREHOLE
- SSO1 SSO2 PROPOSED SLOPE STRIPPING

0 10 20 30 40 50
METRES
1 : 1000

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

Printed by : 12/9/2013
Filename : J:\231499\RECORD\20130912\Ground Investigation Plan\CAD\231499_P_OAP_04_01104.dgn

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

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

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

Supervising Officer: AECOM

Contractor: Gammon

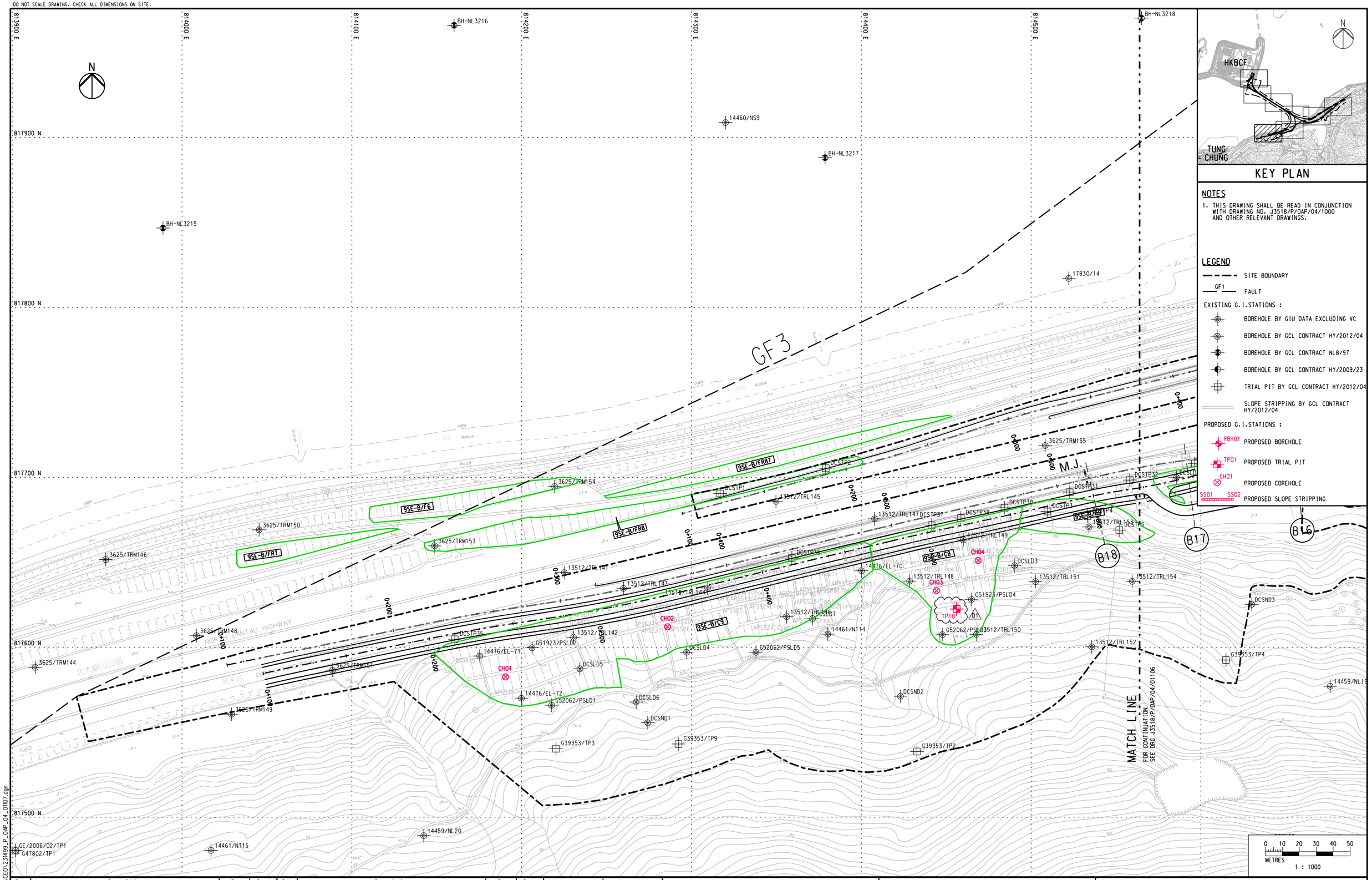
Originator: ARUP

Drawing title: PROPOSED GROUND INVESTIGATION PLAN (5)

Fig 1.8

Drawing no. J3518/P/OAP/04/01104 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 NL8/97
- BOREHOLE BY GCL CONTRACT HY/2009/23
- TRIAL PIT BY GCL CONTRACT HY/2012/04
- SLOPE STRIPPING BY GCL CONTRACT HY/2012/04

PROPOSED G.I.STATIONS :

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

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

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

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

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

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

Supervising Officer: AECOM

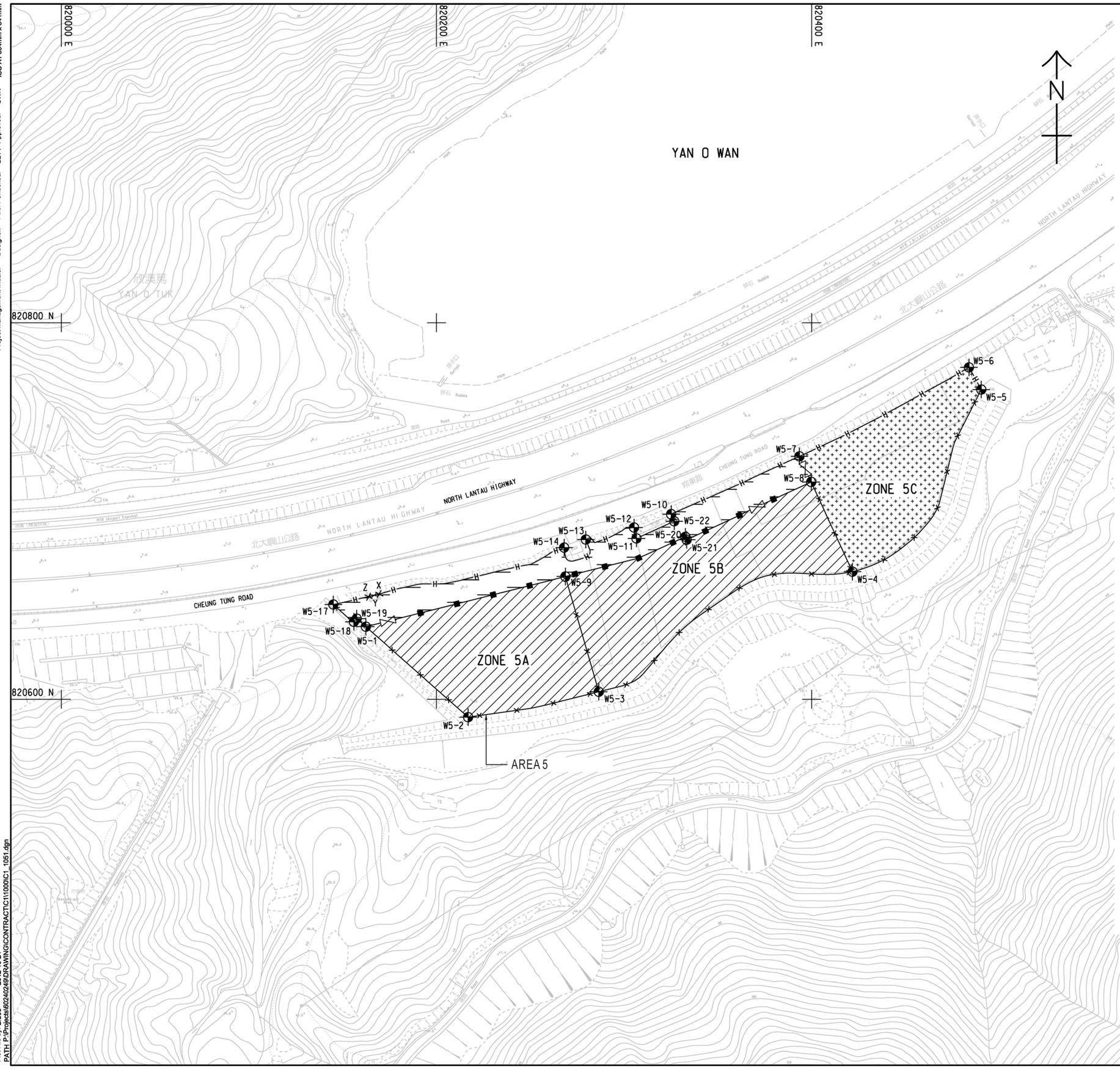
Contractor: Gammon

Originator: ARUP

Drawing title: PROPOSED GROUND INVESTIGATION PLAN (6)

Fig 1.9

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



NOTES:

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

LEGEND:

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

SETTING OUT COORDINATES OF AREA 5

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

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

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

AECOM

PROJECT 項目

TUEN MUN -
CHEK LAP KOK LINK

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

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Fig 1.10

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例
A1 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60240249

CONTRACT NO. 合約編號
HY/2012/07

SHEET TITLE 圖紙名稱
WORKS AREA AND HOARDING PLAN

SHEET 1 OF 2

SHEET NUMBER 圖紙編號
60240249/C1/1051

826200 E

826400 E

826600 E

824200 N

824000 N

823800 N

WOK TAI WAN

A

B

W23-C7

W23-C1

AREA 23

W23-C6

ZONE 23A

ZONE 23B
(TO BE USED BY
CONTRACTOR FOR
CONTRACT NO.
HY/2012/08)

W23-C5

W23-C4

W23-C2

W23-C3

MTR PROTECTION
BOUNDARY

ELEVATED ROAD

MTR PROTECTION BOUNDARY

MTR UNDER (TUNG CHUNG LINE/ AIRPORT EXPRESS)

MTR PROTECTION BOUNDARY

MTR PROTECTION BOUNDARY

NORTH WEST TSING YI INTERCHANGE

N

NOTES:

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

LEGEND:

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

SETTING OUT COORDINATES OF AREA 23

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

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

Plot File by: LWJ3 2012-10-24
PATH: P:\Projects\60240249\DRAWING\CONTRACT\C1\1000\C1_1052.dgn

AECOM

PROJECT 項目

TUEN MUN -
CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

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Fig 1.11

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例
A1 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

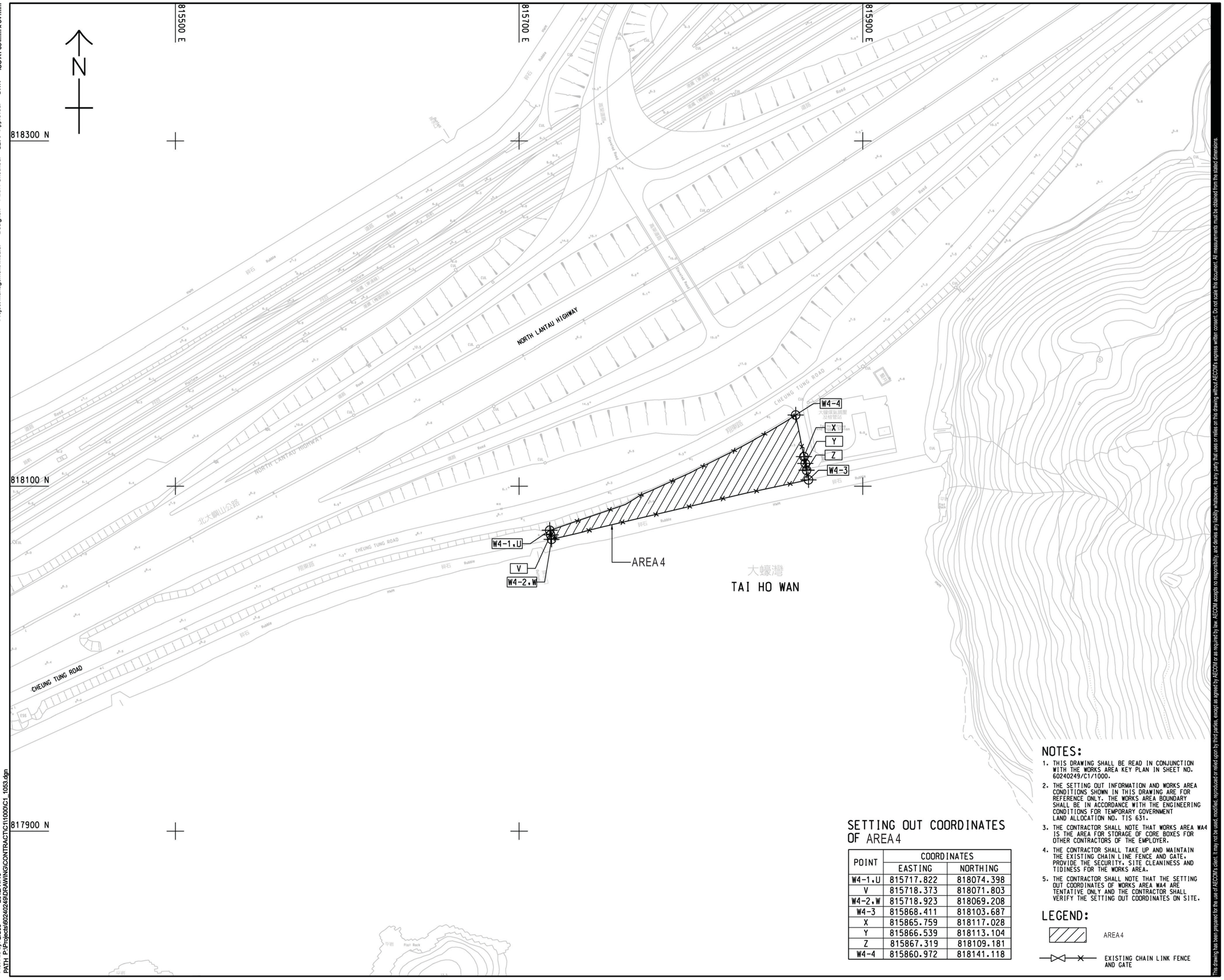
PROJECT NO. 項目編號
60240249

CONTRACT NO. 合約編號
HY/2012/07

SHEET TITLE 圖紙名稱
WORKS AREA AND
HOARDING PLAN

SHEET 2 OF 2

SHEET NUMBER 圖紙編號
60240249/C1/1052



SETTING OUT COORDINATES OF AREA 4

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

NOTES:

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

LEGEND:

AREA 4

EXISTING CHAIN LINK FENCE AND GATE

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

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

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

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Fig 1.12

ISSUE/REVISION 修訂

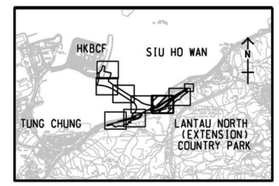
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核准
			CWN
-	NOV. 12	TENDER ADDENDUM NO. 1	CWN

STATUS 階段

SCALE 比例
A1 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖



PROJECT NO. 項目編號
60240249

CONTRACT NO. 合約編號
HY/2012/07

SHEET TITLE 圖紙名稱
LOCATION OF AREA 4

SHEET NUMBER 圖紙編號
60240249/C1/1053

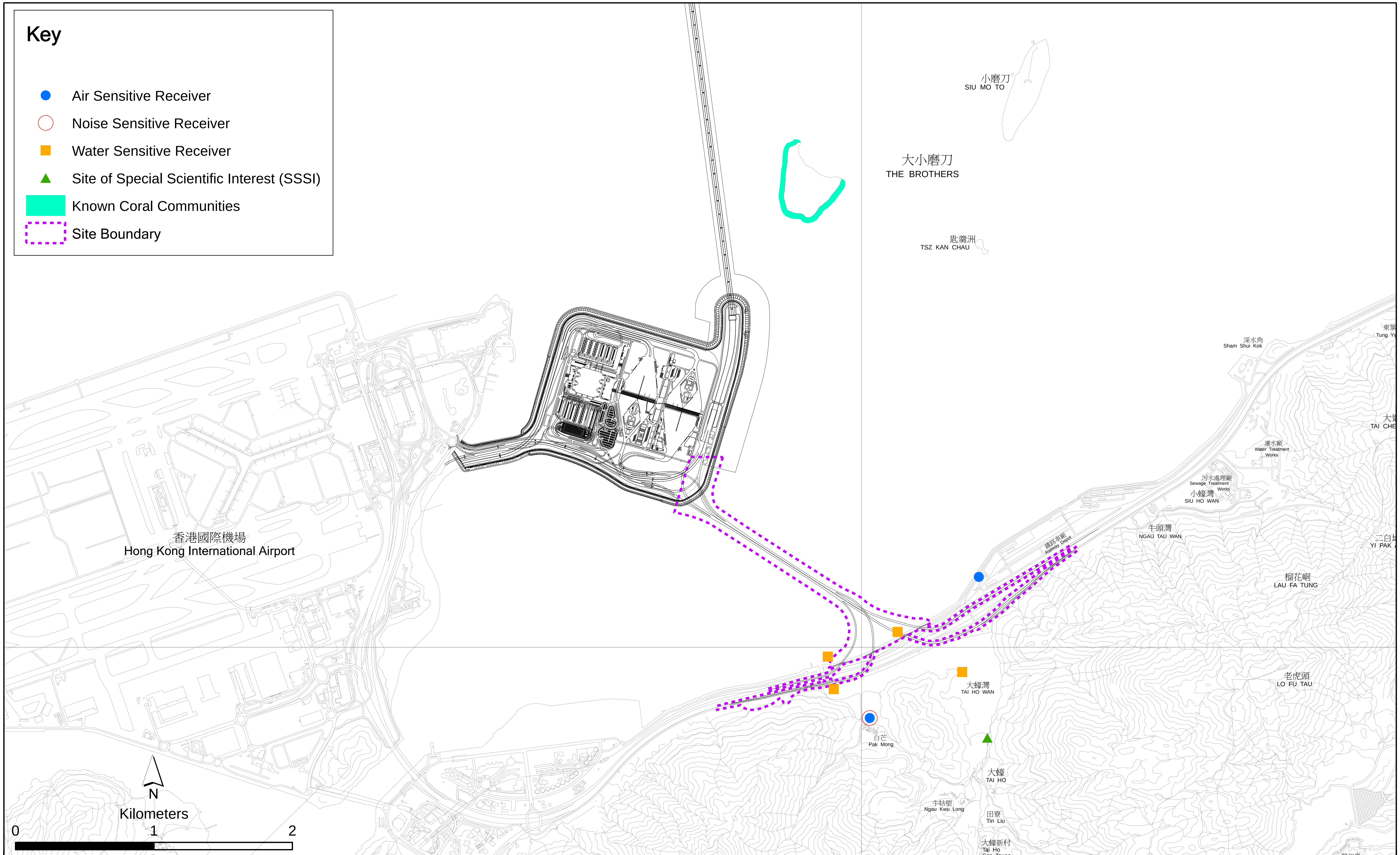

Key
Air Sensitive Receiver
Noise Sensitive Receiver
Water Sensitive Receiver
Site of Special Scientific Interest (SSSI)
Known Coral Communities
Site Boundary
小磨刀
SIU MO TO
大小磨刀
THE BROTHERS
匙羹洲
TSZ KAN CHAU
深水角
Sham Shui Kok
濾水廠
Water Treatment Works
污水處理廠
Sewage Treatment Works
小蠔灣
SIU HO WAN
牛頭灣
NGAU TAU WAN
榴花峒
LAU FA TUNG
香港國際機場
Hong Kong International Airport
大蠔灣
TAI HO WAN
老虎頭
LO FU TAU
白芒
Pak Mong
大蠔
TAI HO
牛牯塱
Ngau Kwu Long
田寮
Tin Liu
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Figure 1.13

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

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_Environmental_Sensitive_Receiver.mxd
Date: 11/4/2014

Environmental Resources Management

ERM

2 EM&A RESULTS

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

2.1 AIR QUALITY

2.1.1 Monitoring Requirements and Equipment

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

Table 2.1 Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location	Description	Monitoring Dates
ASR 8	Pak Mong Village Watch Tower	Rooftop of the premise	3, 9, 15, 18, 24 and 30 April 2014
ASR 8A	Area 4	On ground at the Area 4	

High Volume Samplers (HVSs) were used for carrying out 1-hour and 24-hr TSP monitoring on 3, 9, 15, 18, 24 and 30 April 2014 at ASR8 (Pak Mong Village Watch Tower) and ASR8A (Area 4) (*Figure 2.1; Table 2.1*) in accordance with the requirements stipulated in the Updated EM&A Manual. Wind anemometer was installed at the rooftop of Pak Mong Village Watch Tower for logging wind speed and wind direction. Details of the equipment deployed are given in *Table 2.2*. Copies of the calibration certificates for the equipment are presented in *Appendix E*.

Table 2.2 Air Quality Monitoring Equipment

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

Key

- Original Monitoring Station
- Alternative Monitoring Station
- Site Boundary

AQMS	X	Y
ASR9A	815847.40	818508.64
ASR9C	816399.52	818946.65
ASR8	815059.45	817488.99
ASR8A	815856.14	818118.14

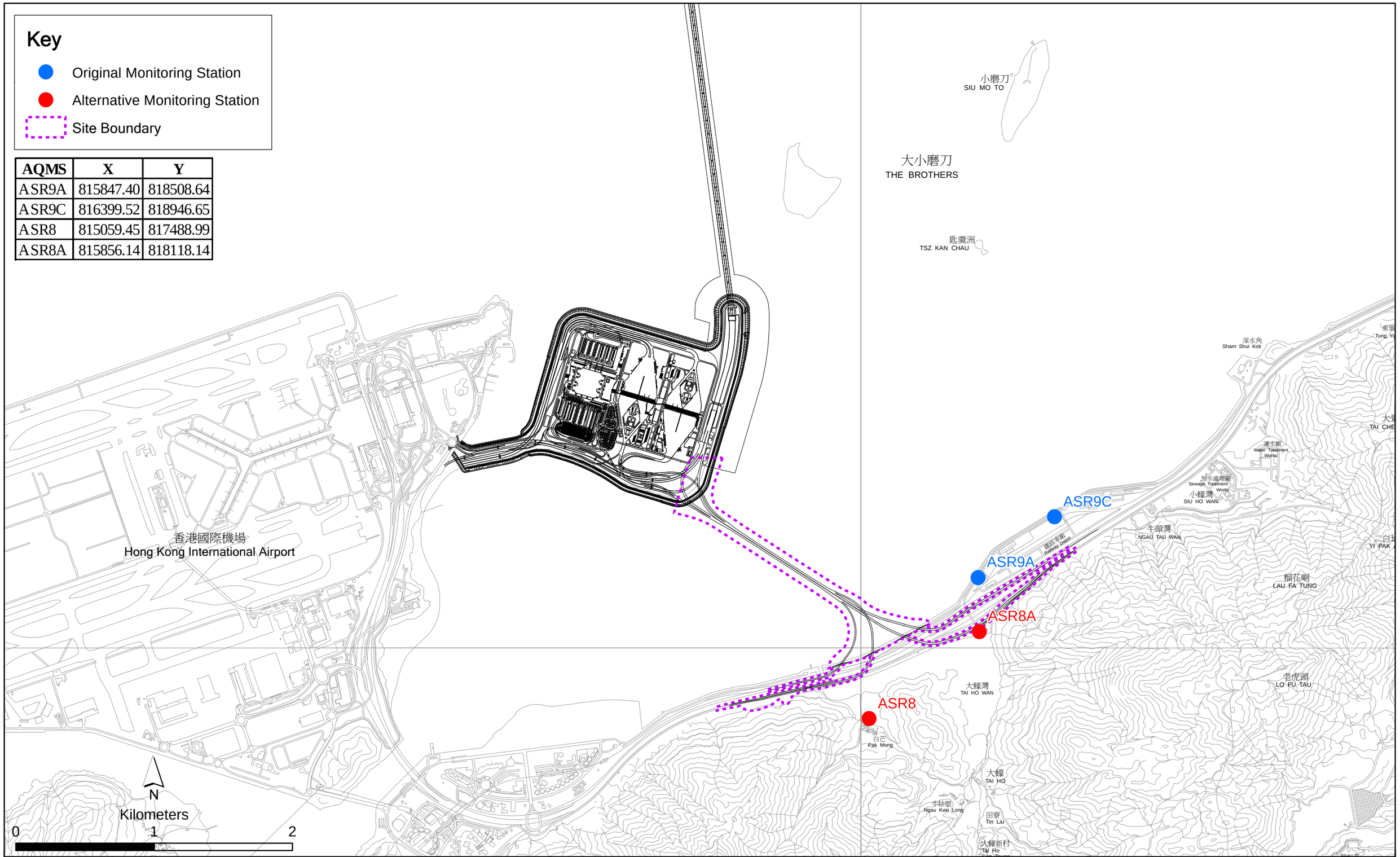

Figure 2.1

Locations of Air Quality Monitoring Stations

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Date: 6/12/2013

Remark: Air Quality Monitoring Stations ASR9A and ASR9C (Siu Ho Wan MTRC Depot) proposed in accordance with the Updated EM&A were temporarily relocated to ASR8A and ASR8, respectively.

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2.1.2 *Monitoring Schedule for the Reporting Month*

The schedule for air quality monitoring in April 2014 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

	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR 8A	101	61 - 165	394	500
ASR 8	106	66 - 173	393	500

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

	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR 8A	67	40 - 109	178	260
ASR 8	63	43 - 89	178	260

The major dust source 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 from the wind station, 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 3, 9, 15, 18, 24 and 30 April 2014 using sound level meter at the designated monitoring station NSR 1 (*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 equipment deployed are provided in *Table 2.6*. Copies of the calibration certificates for the equipment are presented in *Appendix E*.

Key

- Noise Monitoring Station
- Site Boundary

NMS	X	Y
NSR1	815059.45	817488.99

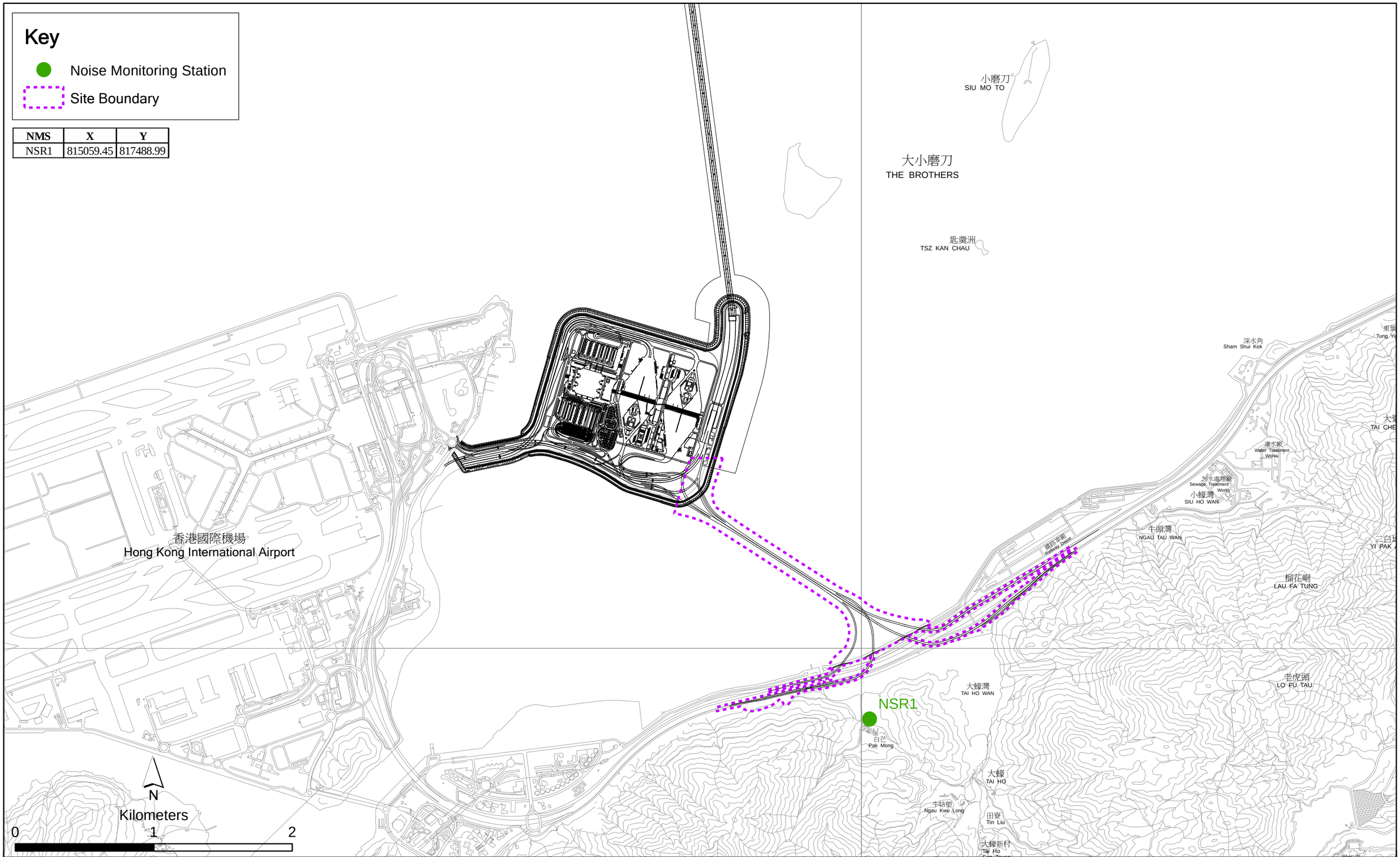

Figure 2.2

Locations of Noise Monitoring Stations

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Date: 10/12/2013

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Table 2.5 Location of Impact Noise Monitoring Station

Monitoring Station	Location	Description	Parameter	Frequency and Duration	Monitoring Dates
NSR 1	Pak Mong Village Watch Tower	Rooftop of the premise	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	3, 9, 15, 18, 24 and 30 April 2014

Table 2.6 Noise Monitoring Equipment

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

2.2.2 Monitoring Schedule for the Reporting Month

The schedule for construction noise monitoring in the reporting period is provide 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), $L_{eq\ (30mins)}$	Range, dB(A), $L_{eq\ (30mins)}$	Limit Level, dB(A), $L_{eq\ (30mins)}$
NSR 1	58	56 – 59	75

No noise Action Level and Limit level exceedance was recorded at all monitoring stations 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 is provided in *Appendix D*.

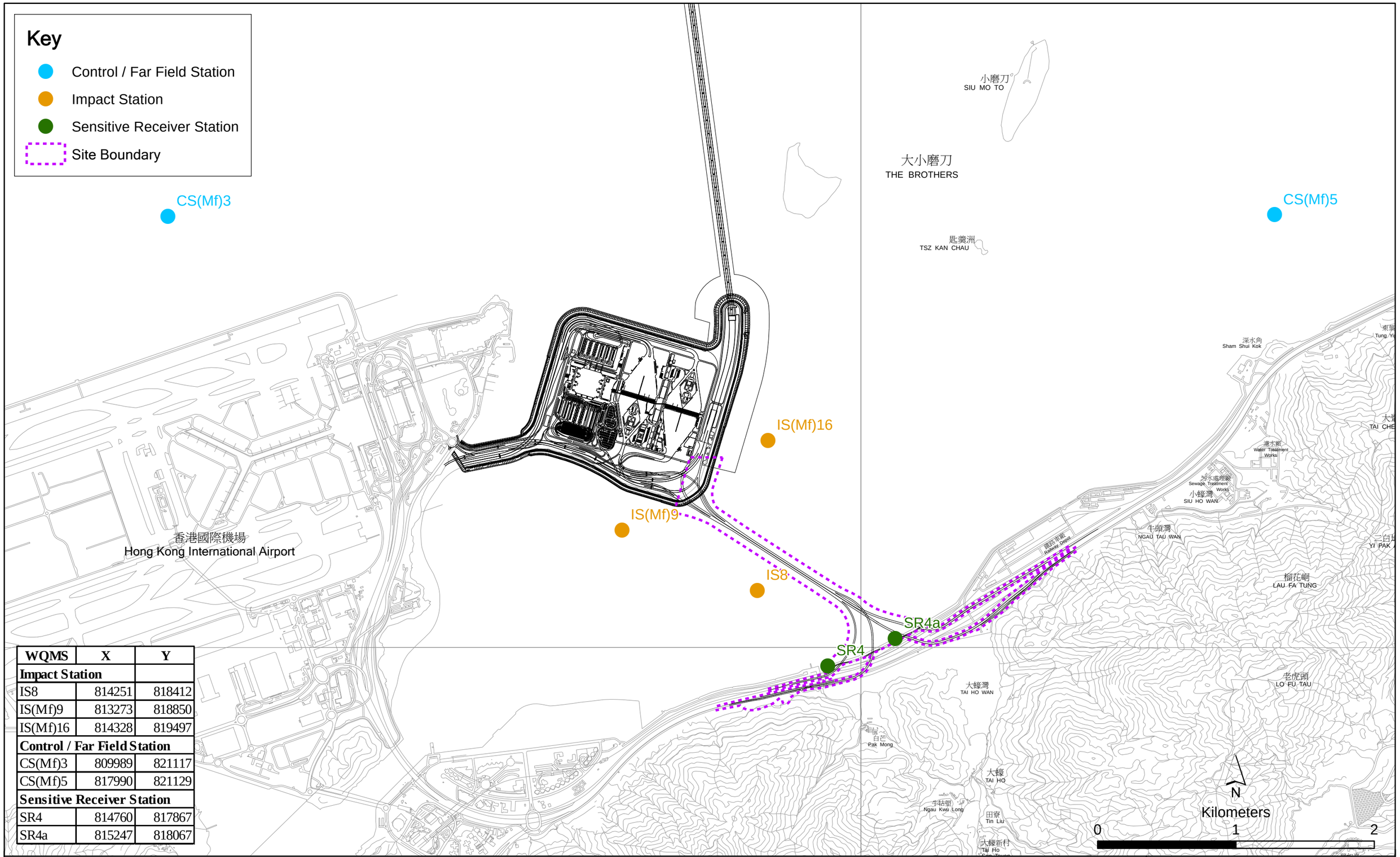
The locations of the monitoring stations under the Contract are shown in *Figure 2.3* and *Table 2.8*.

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

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



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

Figure 2.3

Locations of Water Quality Monitoring Stations

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Date: 6/12/2013

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Table 2.9 Water Quality Monitoring Equipment

Equipment	Brand and Model
DO, Temperature meter and Salinity	YSI Pro2030
Turbidimeter	HACH Model 2100Q
pH meter	HANNA HI8314
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 April 2014 is provided in *Appendix F*.

2.3.3 Results and Observations

A 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

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

2.4.3 Monitoring Parameter, Frequencies and Duration

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

2.4.4 Monitoring Location

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

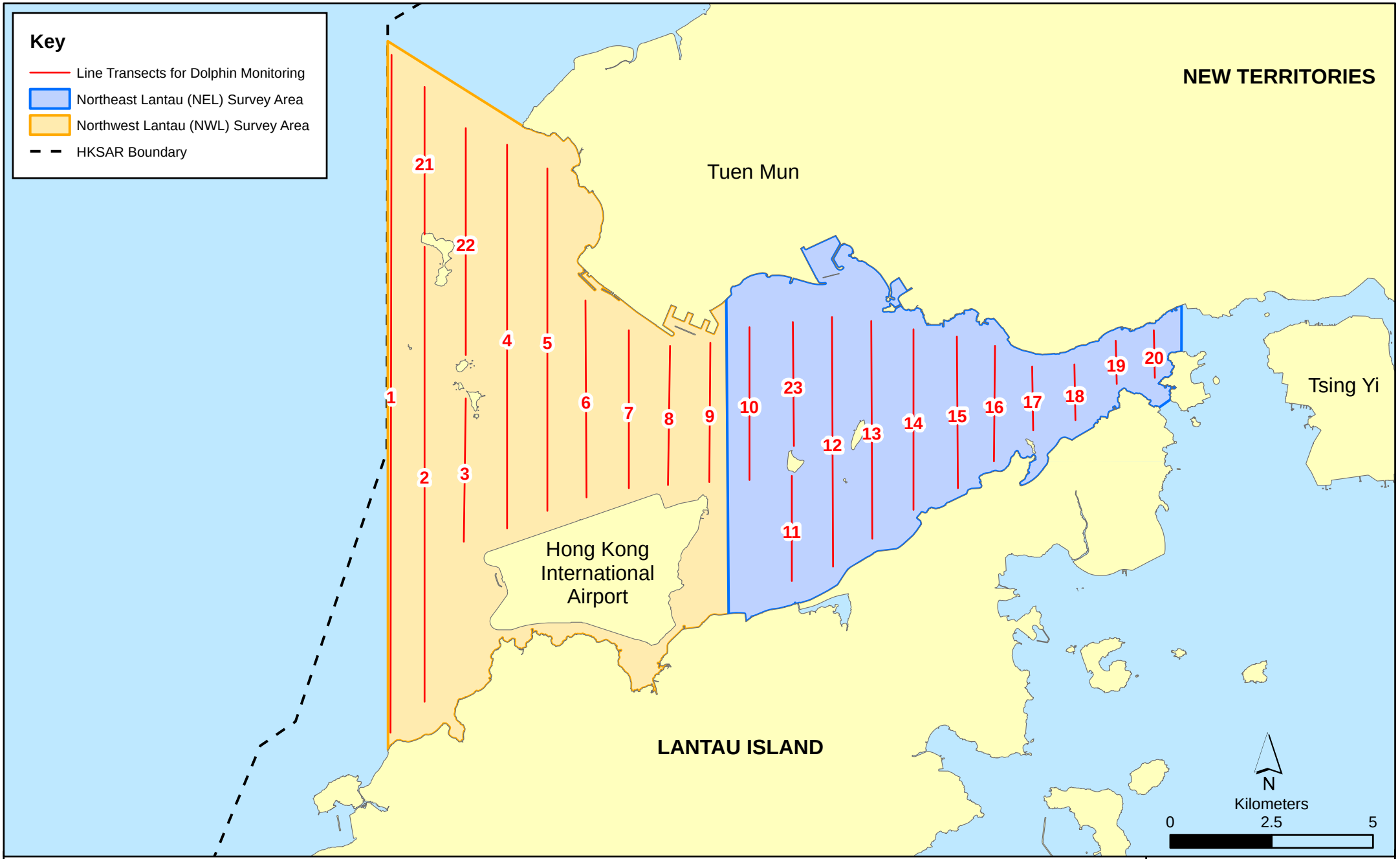

Figure 2.4

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

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Date: 10/12/2013

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Table 2.11 Impact Dolphin Monitoring Line Transect Co-ordinates

Line No.		Easting	Northing		Line No.		Easting	Northing
1	Start Point	804671	814577		13	Start Point	816506	819480
1	End Point	804671	831404		13	End Point	816506	824859
2	Start Point	805475	815457		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	820690		19	Start Point	822513	823268
7	End Point	810499	824613		19	End Point	822513	824321
8	Start Point	811508	820847		20	Start Point	823477	823402
8	End Point	811508	824254		20	End Point	823477	824613
9	Start Point	812516	820892		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	818449		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 4, 14, 16 and 24 April 2014 (*Appendix F*).

2.4.7 *Results and Observations*

A total of 296.94 km of survey effort was collected, with 79.8% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) during the survey in April 2014. Among the two areas, 117.60 km and 179.34 km of survey effort were collected from NEL and NWL survey areas respectively. The total survey effort conducted on primary and secondary lines were 213.95 km and 82.99 km, respectively. The survey efforts are summarized in *Appendix K*.

A total of 8 groups of 30 Chinese White Dolphin sightings were recorded during the two sets of surveys in April 2014. All sightings were made in NWL during the two sets of surveys in April, with no dolphin being sighted at all in NEL. Five of the eight sightings were made on primary lines during on-effort search, and none of the dolphin groups was associated with operating fishing vessel. No sighting was made in the proximity of TM-CLKL Southern Connection Viaduct Section. The distribution of dolphin sightings 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 April 2014 with the results presented in *Tables 2.12* and *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: Apr 4th / 14th	0.0	0.0
	Set 2: Apr 16th / 24th	0.0	0.0
NWL	Set 1: Apr 4th / 14th	4.9	26.9
	Set 2: Apr 16th / 24th	4.9	11.5

Note: Dolphin Encounter Rates are deduced from the two sets of surveys (two surveys in each set) in April 2014 in Northeast (NEL) and Northwest Lantau (NWL)

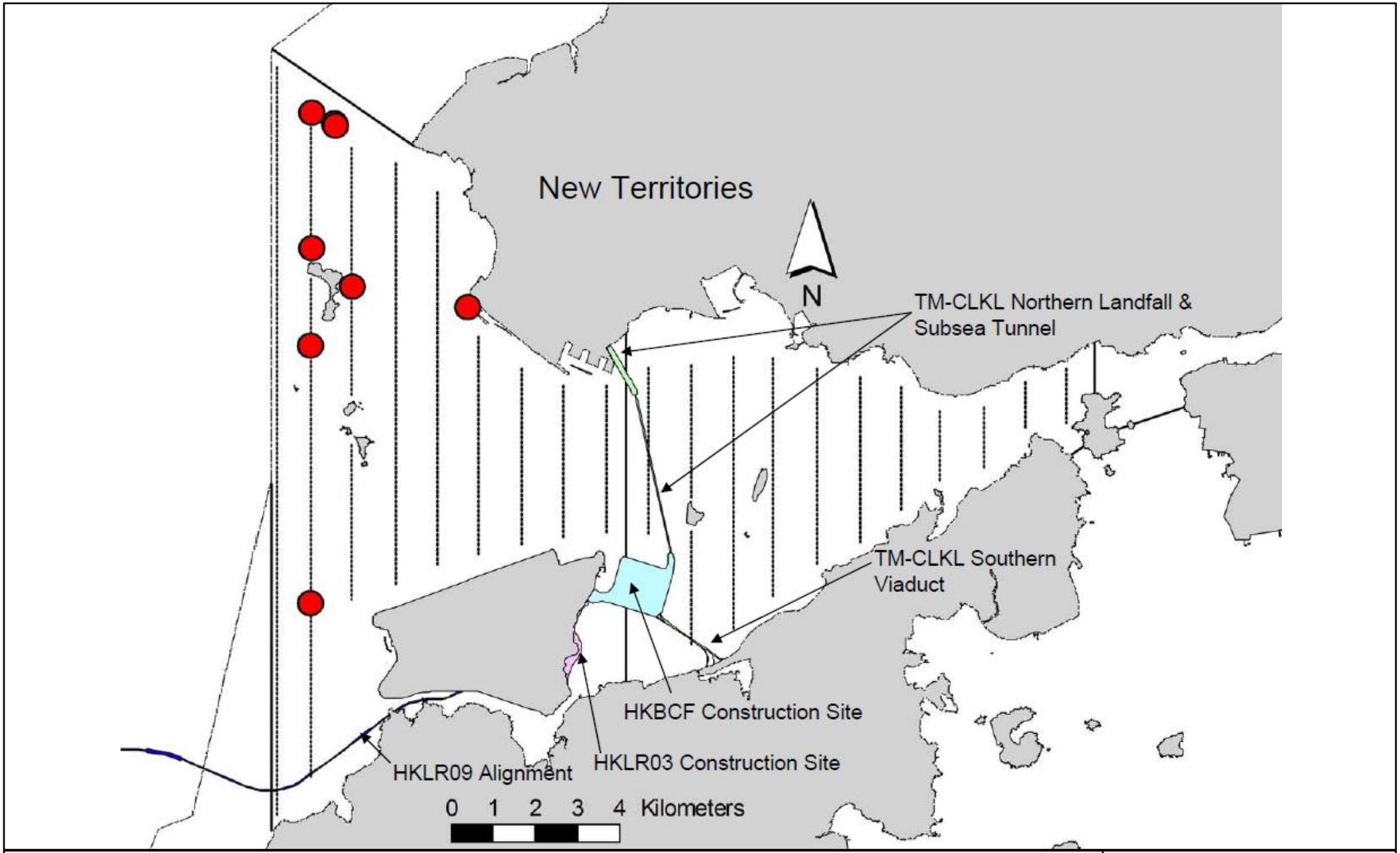

Figure 2.5

Date 07/03/2014

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 April 2014)

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Table 2.13 Monthly Average Encounter Rates

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	**Both Primary and Secondary Lines**	**Primary Lines Only**	**Both Primary and Secondary Lines**
Northeast Lantau	0.0	0.0	0.0	0.0
Northwest Lantau	4.9	5.2	17.7	20.8

Note: Overall dolphin encounter rates (sightings per 100km of survey effort) from all four surveys are conducted in April 2014 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau

The average group size of Chinese White Dolphins in April 2014 was 3.75 individuals per group, which was similar to previous months of dolphin monitoring. Most dolphin groups were composed of 1 – 4 animals, with only two larger groups of 8 – 9 animals sighted near Lung Kwu Chau and at the mouth of Deep Bay. Detailed results of dolphin monitoring in this reporting month are presented in *Appendix K*.

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 unacceptable 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 dredging activities being undertaken. No sighting of Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) were recorded in April 2014 during the exclusion zone monitoring.

2.4.9 Marine Bored Piling Monitoring

Marine bored piling monitoring programme for dolphins (ie Land-based Theodolite Tracking, Underwater Noise Monitoring and Acoustic Behavioural Monitoring) was commenced on 3 March 2014 and completed on 25 April 2014. Data analysis was being undertaken for the marine bored piling monitoring programme which will be presented in the Final Monitoring Reports for the Land-based Theodolite Tracking and Underwater Noise and

Dolphin Acoustic Behavioural Monitoring. The monitoring schedule for bored piling monitoring in April 2014 is presented in *Appendix F*.

2.5 *CORAL MONITORING*

The Second Quarterly Post-Translocation Coral Monitoring was conducted on 16 April 2014 and the results were detailed in the *Second Quarterly Post-Translocation Coral Monitoring Report*. The findings indicated that the Action or Limit Levels for coral monitoring were not exceeded as increase in percentage of partial mortality was not detected for both the tagged translocated and natural coral colonies when comparing to the pre-translocation dataset.

2.6 *EM&A SITE INSPECTION*

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, five (5) site inspections were carried out on 2, 9, 16, 23 and 30 April 2014.

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

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

Inspection Date	Environmental Observations	Recommendations/ Remarks
2 April 2014	Area 1 • Stagnant water was found accumulating and overflowing from drip tray of a generator B15 • Water leakage was observed from a pipe buried underground which transport treated water from sedimentation tank to the discharge point.	Area 1 • The Contractor was reminded to take appropriate action to clean up the stagnant water. B15 • The Contractor was reminded to take appropriate action.
9 April 2014	E12 • Stagnant water was found accumulated in the drip tray of a generator G28 • Two chemical drums were not placed properly in drip tray	E12 • The Contractor was reminded to take appropriate action to clean up the stagnant water. G28 • The Contractor was reminded to put the chemical drums in place. • The Contractor was reminded to implement the acoustic decoupling measures during mechanical device operation.
16 April 2014	Area 1 • Temporary stockpiles were found partially exposed Pak Mong • Existing trees in the project site shall be carefully protected. • General refuse was observed in the project site area.	Area 1 • The Contractor was reminded to cover the temporary stockpiles properly. Pak Mong • The Contractor was reminded to protect/ transplant the existing trees properly before works commencement. • The Contractor was reminded to keep litter free in the Project site.
23 April 2014	E3 • One of the drip trays for holding the generator was found unplugged with stagnant water leaked from the drain hole. B3 • The chemical waste drums were placed unattended without drip tray. • Drip tray of a generator was not plugged properly. B5/G23 • Oily floor was observed on G23. • Some chemical drums were not placed in drip trays.	E3 • The Contractor was advised to plug the drain hole of the drip tray properly. B3 • The Contractor was reminded to place the chemical waste drums properly. • The Contractor was reminded to plug the drip tray properly. B5/G23 • The Contractor took immediate action to clean up oil by chemical absorbance. • The Contractor was reminded to place the chemical drums in drip trays.
30 April 2014	B15 • Trash was observed. B1 • The wielding machine was not placed on isolated pad.	B15 • The Contractor was reminded to clean up the trash in the project area regularly. B1 • The Contractor was advised to implement acoustic decoupling plan properly.

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

2.7 *WASTE MANAGEMENT STATUS*

The Contractor had 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), imported fill and recyclable materials. Reference has been made to the waste flow table prepared by the Contractor (*Appendix M*). The quantities of different types of wastes are summarized in *Table 2.15*.

Table 2.15 Quantities of Different Waste Generated in the Reporting Period

Month/Year	Inert C&D Materials [a] (m^3)	Imported Fill (m^3)	Inert Construction Waste Re-used (m^3)	Non-inert Construction Waste [b] (kg)	Recyclable Materials [c] (kg)	Chemical Wastes (kg)	Marine Sediment (m^3)	
							Category L	Category M (M_P & M_f)
April 2014	118	512	80	87,650	15,760	0	0	0

Notes:

(a) Inert construction wastes include hard rock and large broken concrete, and materials disposed as public fill.

(b) Non-inert construction wastes include general refuse disposed at landfill.

(c) Recyclable materials include metals, paper, cardboard, plastics, timber, felled trees and others.

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

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

2.8 *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/A	8 Dec 2010	NA	HyD	Tuen Mun- Chek Lap Kok Link
Environmental Permit	EP-354/2009/B	28 Jan 2014	NA	HyD	Tuen Mun- Chek Lap Kok Link
Construction Dust Notification	361571	5 Jul 2013	NA	GCL	-
Construction Dust Notification	362093	17 Jul 2013	NA	GCL	For Area 23
Billing Account for Disposal	7017735	10 Jul 2013	End of Project	GCL	-
Chemical Waste Registration	5213-961-G2380-13	10 Oct 2013	NA	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	NA	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	NA	GCL	Chemical waste produced in Contract HY/2012/07 (WA5 adjacent to Cheung Tung Road, Yam O)
Construction Waste Disposal Account	7017735	10 Jul 2013	NA	GCL	Waste disposal in Contract HY/2012/07
Waste Water Discharge License	Nil	Application Ref. 368337	NA	GCL	Discharge for discharge points for Viaducts A & B
Construction Noise Permit	Nil	Application in process	NA	GCL	For Piling Works
Construction Noise Permit	GW-RS0034-14	14 Jan 2014	29 Mar 2014	GCL	For night works and works in general holiday
Construction Noise Permit	GW-RS0226-14	30 Mar 2014	29 Sep 2014	GCL	For loading & unloading on NLH near Viaduct D

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Construction Noise Permit	GW-RS0236-14	27 Mar 2014	14 May 2014	GCL	For loading & unloading on NLH near Viaducts A & B
Construction Noise Permit	GW-RS0280-14	31 Mar 2014	31 May 2014	GCL	For excavation at Pier B9
Construction Noise Permit	GW-RS0299-14	7 Apr 2014	5 Jul 2014	GCL	Pier B8 at CEDD Access Road
Construction Noise Permit	GW-RS0331-14	4 Apr 2014	6 Jul 2014	GCL	Broad permit for works at seafront & marine piers
Construction Noise Permit	GW-RS0338-14	4 Apr 2014	3 Jun 2014	GCL	For bored piling works between Pier E13 and HKBCF
Construction Noise Permit	GW-RS1129-13	31 Oct 2013	30 Apr 2014	GCL	For night works and works in general holidays
Construction Noise Permit	GW-RS1186-13	23 Oct 2013	24 Dec 2013	GCL	For night works and works in general holidays
Construction Noise Permit	GW-RS1187-13	24 Oct 2013	28 Feb 2014	GCL	For night works and works in general holidays
Construction Noise Permit	GW-RS1413-13	17 Dec 2013	26 Mar 2014	GCL	For loading and unloading on NLH near Viaducts A & B
Construction Noise Permit	GW-RS1423-13	11 Dec 2013	30 Apr 2014	GCL	Renewal for marine portion
Construction Noise Permit	GW-RW0123-14	27 Feb 2014	27 Aug 2014	GCL	For night works and works in general holiday at WA5
Construction Noise Permit	GW-RW0660-13	27 Sep 2013	02 Feb 2014	GCL	For night works and works in general holidays
Construction Noise Permit	GW-RW0925-13	19 Dec 2013	17 Apr 2014	GCL	Renewal of WA5 site office erection
Dumping Permit/ Loading Permit (Type 1 – Open Sea Disposal)	(4) in EP/MD/14-075	25 Sep 2013	NA	GCL	-
Marine Dumping Permit	EP/MD/14-075	28 Jan 2014	27 Jul 2014	GCL	For dumping Type I Sediment
Marine Dumping Permit	EP/MD/14-155	1 Apr 2014	30 Apr 2014	GCL	For dumping Type I (Dedicated Site) and Type II Sediment

2.9 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.

2.10 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

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

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

2.11 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

No complaints, notification of summons and prosecution were received in the reporting period.

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

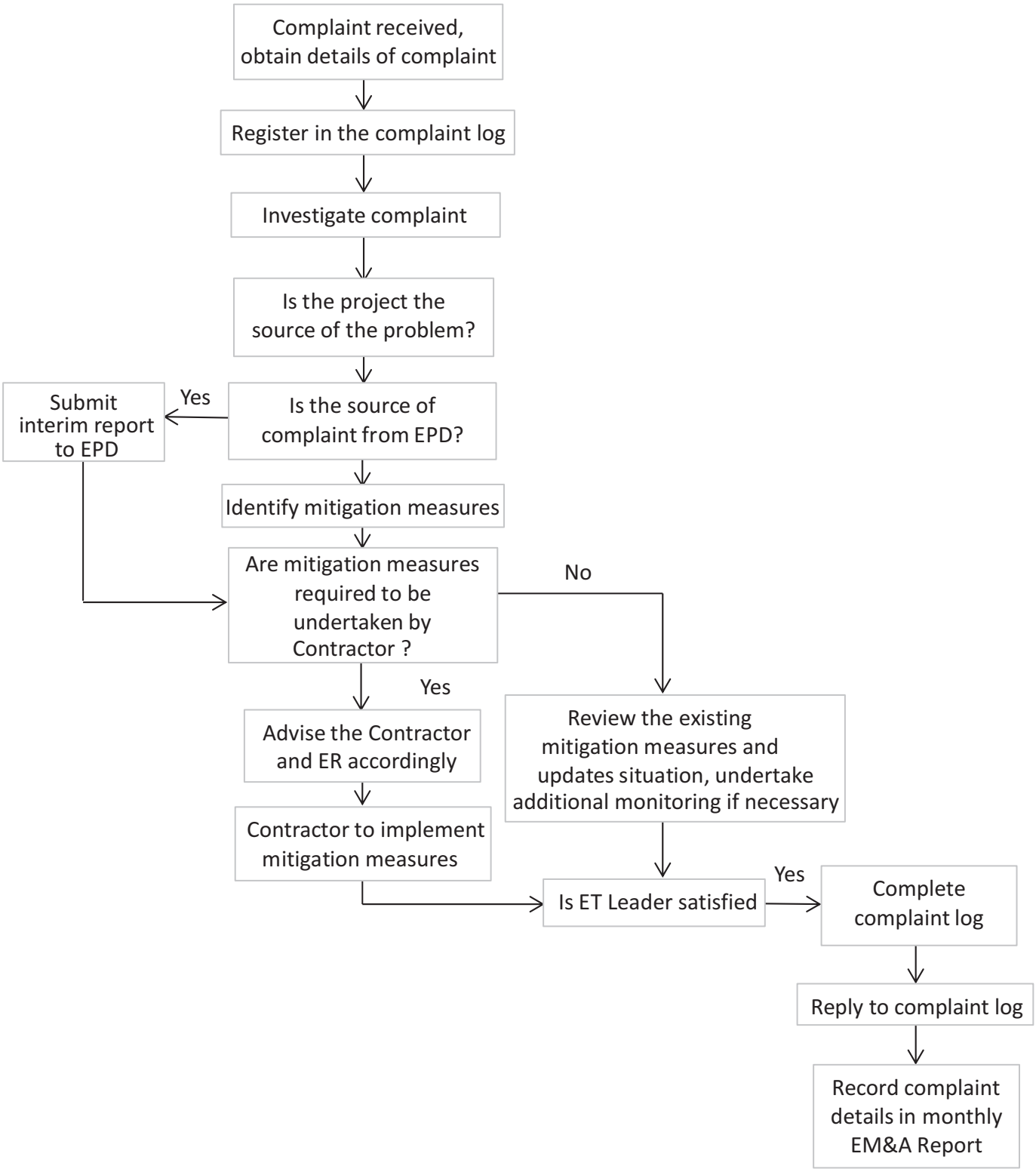

Figure 2.6 Environmental Complaint Handling Procedure

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3 FUTURE KEY ISSUES

3.1 CONSTRUCTION PROGRAMME FOR THE COMING MONTHS

As informed by the Contractor, the major works for the Contract in May 2014 will be:

Marine Works

- Marine piling platform installation
- Marine piling at Viaducts B & E
- Construction of rockfill platform at Viaduct D landing
- Additional marine ground investigation (GI) and laboratory testing

Land-based Works

- Satellite container offices erection along seawall (i.e. CEDD Access Road)
- Fence installation and relocation of Works Area 2, Viaducts A, B, C & D
- Land Piling at Viaduct B
- Piling platform installation for Viaducts B, D & E
- Additional land GI, trial pits & lab testing
- Utility surveys
- Slope work of 9SE-B/C8 and 9SE-B/C9

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting month of May 2014 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 schedule for environmental monitoring in May 2014 is provided in *Appendix F*.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Sixth Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 April 2014, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/B.

Air quality (including 1-hour TSP and 24-hour TSP), noise, water quality, dolphin monitoring and second quarterly post-translocation coral monitoring were carried out in the reporting period. Results for noise, 1-hr, 24-hr TSP monitoring, impact water quality monitoring and coral monitoring complied with the Action and Limit levels in the reporting period.

A total of eight (8) groups of thirty (30) dolphin sightings were recorded during the two sets of surveys. All sightings were made in NWL during the two sets of surveys in April, with no dolphin being sighted at all in NEL. During this reporting period 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.

Marine bored piling monitoring programme for dolphins (ie Land-based Theodolite Tracking, Underwater Noise Monitoring and Acoustic Behavioural Monitoring) was commenced on 3 March 2014 and completed on 25 April 2014. Data analysis was being undertaken for the marine bored piling monitoring programme which will be presented in the Final Monitoring Reports for the Land-based Theodolite Tracking and Underwater Noise and Dolphin Acoustic Behavioural Monitoring.

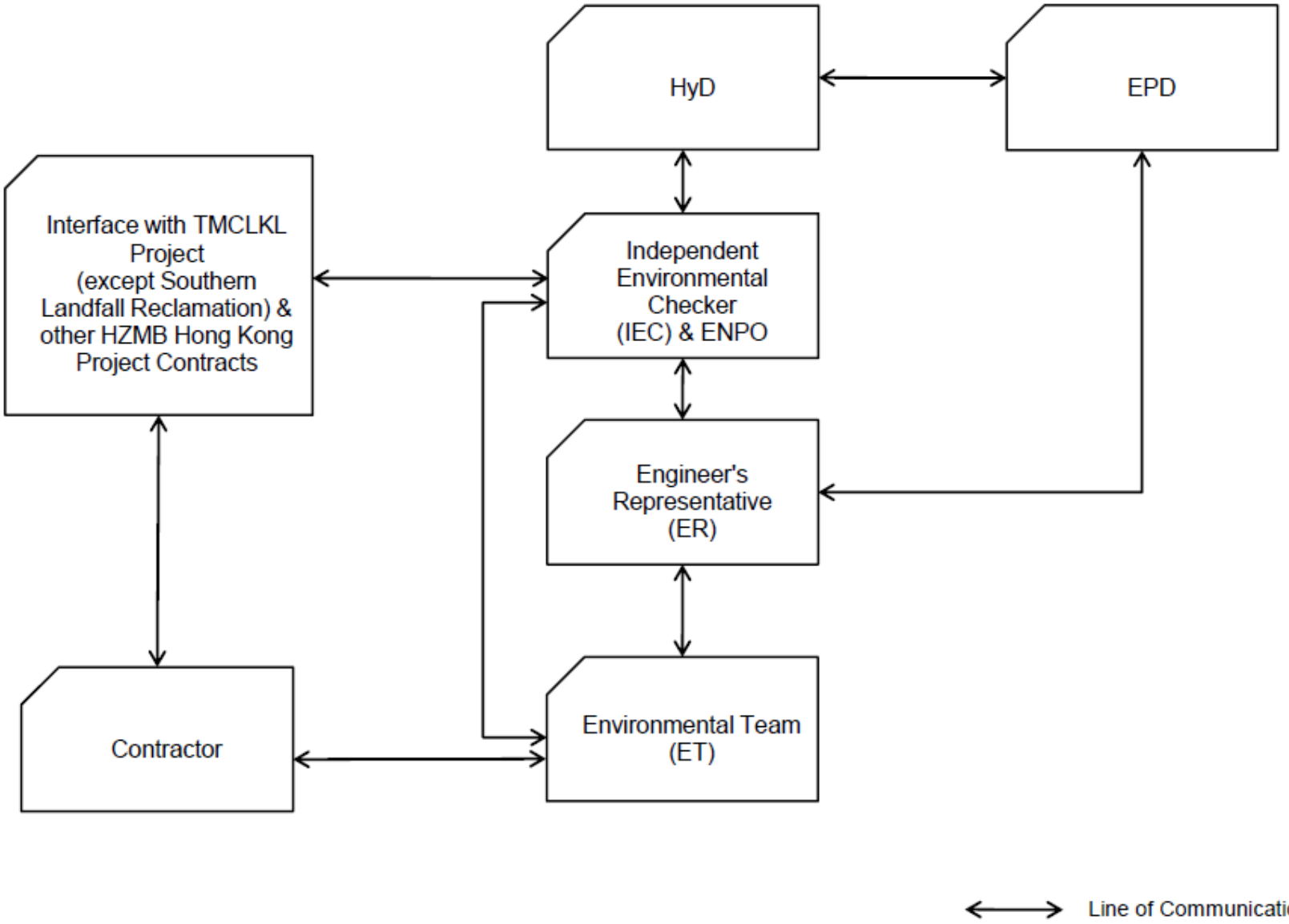
Environmental site inspection was carried out five (5) times in April 2014. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.

No environmental complaint, notification of summons and prosecution were received in the reporting month.

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

Appendix A

Project Organization for Environmental Works



Appendix A1

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

DATE: 06/03/2013

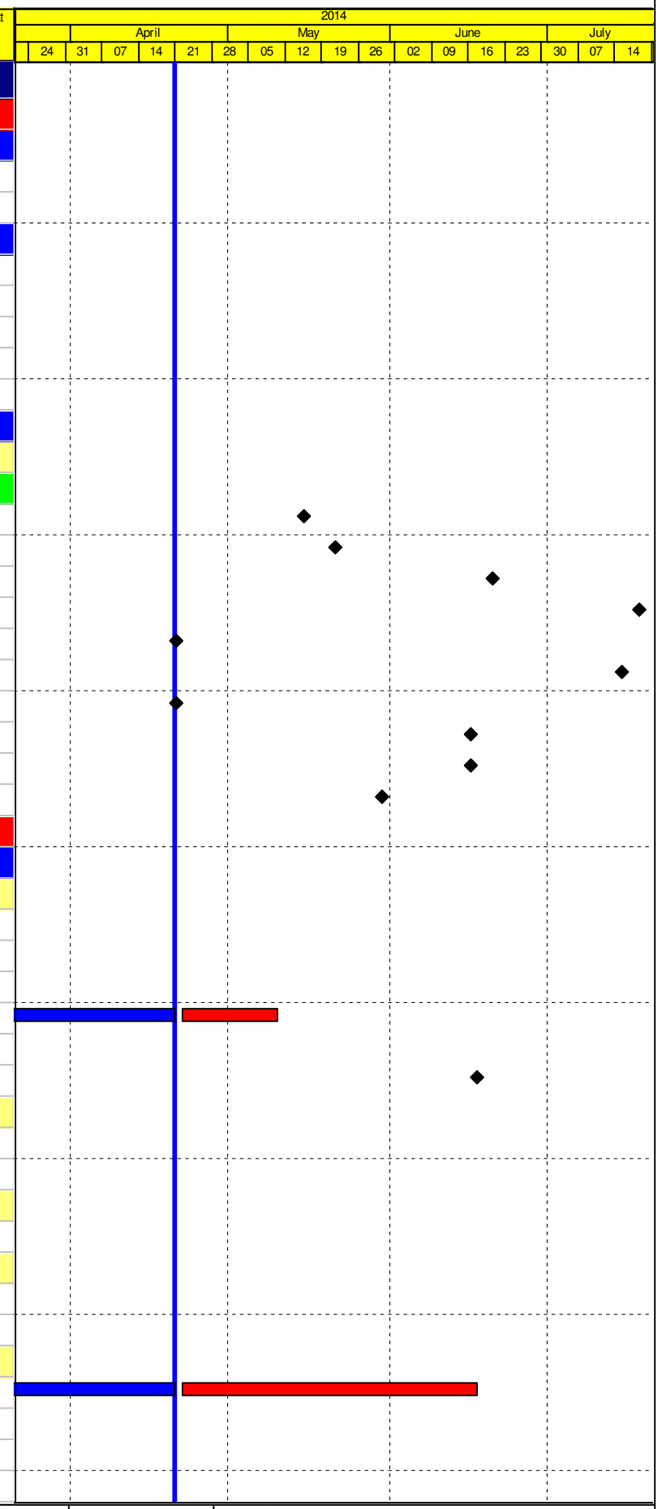
Environmental Resources Management

ERM

Appendix B

Three-Month Rolling Construction Programme

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
HY/2012/07 - TM-CLK Link-SC [DWP rD] TARGET - 3MRP Status Update 21-04-2014										
Contract Key Dates										
Contract Milestones										
CP100	Contract Award	0	13-Jun-13 A	100%	0					
CP200	Commencement of the Works	0	22-Jun-13 A	100%	0					
Possession Dates / Access Period										
POS01	Portion X (The Whole Site excl.Portion A and Portion B) (Commencement of Works)	0	22-Jun-13 A	100%	0					
POS04	Works Area WA5 (Zone 5A & 5B, common area w/in WA5) (Commencement of Works)	0	22-Jun-13 A	100%	0					
POS05	Works Area WA5 (Zone 5C) (Commencement of Works)	0	22-Jun-13 A	100%	0					
POS06	Works Area WA23 (Zone 23A) (Commencement of Works)	0	22-Jun-13 A	100%	0					
POS07	Works Area WA4 (Commencement of Works)	0	22-Jun-13 A	100%	0					
IPS Milestones										
Cost Centre IPS Milestones										
CC 2 - Design and Design Checking of the Works										
MS2.008	Accept ground investigation reports by the Supervising Officer	0		0%	0	15-May-14		02-Apr-17	1053	1269
MS2.012	Accept report for utilities by the Supervising Officer	0		0%	0	21-May-14		08-Jul-14	49	28
MS2.081	Submit AIP for Structure C	0		0%	0	20-Jun-14		02-Apr-17	1017	131
MS2.089	Submit AIP for At grade Roadworks & Other Works along NLH	0		0%	0	18-Jul-14		02-Apr-17	989	24
MS2.093	Submit AIP for At grade Roadworks and Other Works along Cheung Tung Road	0		0%	0	21-Apr-14		02-Apr-17	1078	85
MS2.094	Approve AIP for At grade Roadworks & Other Works along Cheung Tung Road by S.O.	0		0%	0	15-Jul-14		02-Apr-17	993	28
MS2.097	Submit AIP for At grade Roadworks and Other Works at Southern Landfall	0		0%	0	21-Apr-14		02-Apr-17	1078	57
MS2.098	Approve AIP for At grade Roadwrks & Other Wrks at Southern Landfall by S.O.	0		0%	0	16-Jun-14		02-Apr-17	1021	56
MS2.102	Approve AIP for Watermains & All Assoc Wrks frm Tung Chung to South Landfall by S.O.	0		0%	0	16-Jun-14		02-Apr-17	1021	56
MS2.105	Submit AIP for Irrigation System for Soft Landscape Works	0		0%	0	30-May-14		02-Apr-17	1038	110
General Submission										
General Requirements										
General Management										
GR1000	General Mobilization	76	22-Jun-13 A	100%	0	31-Jul-13 A				
PR01080	Appoint a professional web-page design house	12	13-Jun-13 A	100%	0	29-Aug-13 A				
PR01220	Nominate a Labour Officer full time on site for wages payment and MPF contributions	6	22-Jun-13 A	100%	0	17-Jul-13 A				
PR01430	Produce interface management plan	25	23-Aug-13 A	40%	15	10-May-14	26-Feb-14	14-Mar-14	-43	31
PR01540	Freyssinet mobilization and initial meetings	25	19-Jun-13 A	100%	0	19-Jul-13 A				
PR9000	Completion of initial general submissions, mobilisation & setup coordination with external parties	0		0%	0	17-Jun-14		14-Mar-14	-74	0
Programmes										
PR00420	Initial Works Programme	6	13-Jun-13 A	100%	0	24-Jun-13 A				
PR00440	1st Three Month Rolling Programme	12	13-Jun-13 A	100%	0	04-Jul-13 A				
Commercial										
PR01560	Temporary office let - pending completion of temporary office construction	21	22-Jun-13 A	100%	0	19-Jul-13 A				
Temporary Works Design										
PR00340	Confirm MTRC clearance to Bridge soffit	32	22-Jun-13 A	100%	0	20-Sep-13 A				
PR00370	Pile sensitivity review	14	22-Jun-13 A	100%	0	20-Sep-13 A				
Land Works										
PR00460	Obtaining approval from HKCG with regard to diversion or disconnection of gas mains	153	09-Sep-13 A	70%	46	17-Jun-14	18-Jan-14	14-Mar-14	-74	0
PR00750	Request As-built drwgs for existing AEL rail & other fac w/in & adj to MTRC SHW Depot	25	13-Jun-13 A	100%	0	10-Jul-13 A				
PR00770	Notify our intention to use existg CEDD access trck & load/unloading pt at existg vert seawall	25	22-Jun-13 A	100%	0	12-Sep-13 A				
PR00940	Establish a Utilities Liaison Group for co-ordination/interf w/ utility undertakers	25	22-Jun-13 A	100%	0	24-Sep-13 A				



Actual Work
Planned Bar
Critical Bar
Milestone

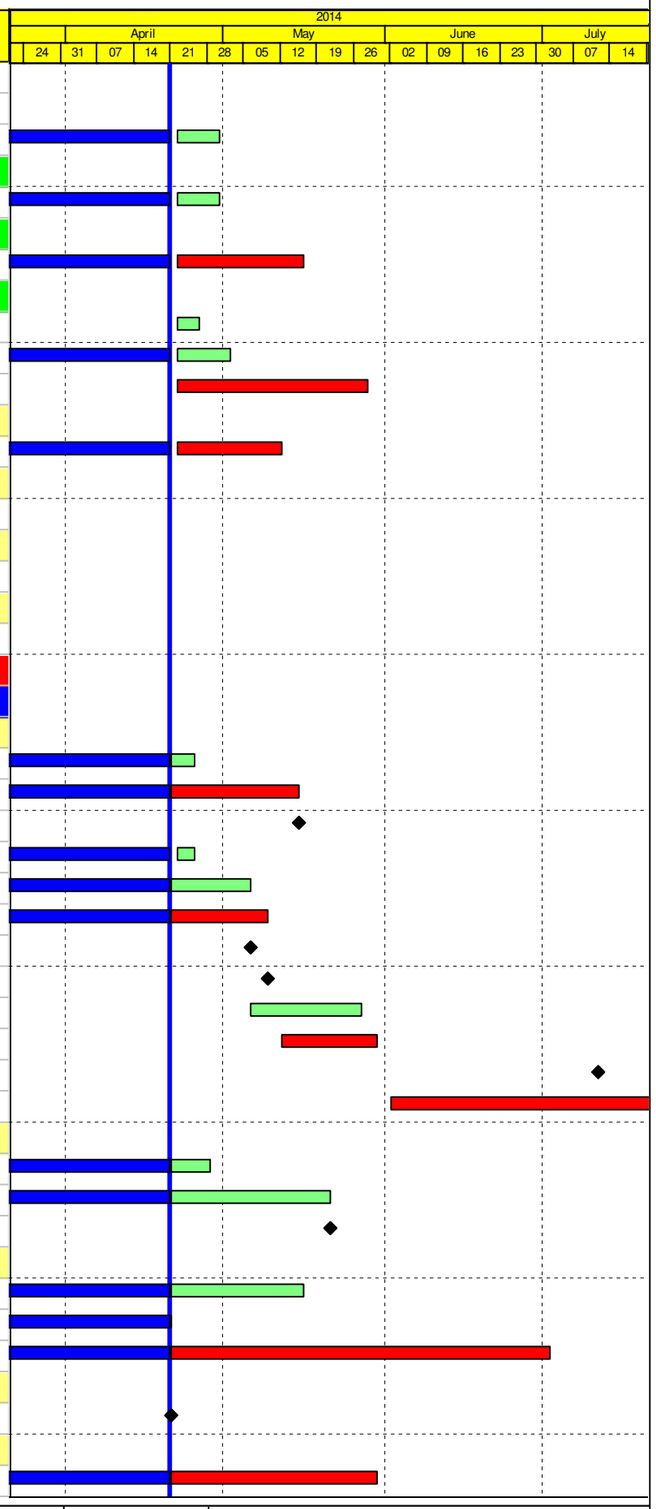
Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 1 of 15 Pages)
(Progress as of 21-Apr-14)

Date	Revision	Checked	Approved
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
PR01250	Design of uniform items	25	22-Jun-13 A	100%	0	24-Jul-13 A				
PR01370	Submit for approval, details of proposed eqpt for investigation of u/g utilities	6	22-Jun-13 A	100%	0	03-Jul-13 A				
PR03130	Apply for land between Viaduct C & D	75	23-Aug-13 A	90%	8	30-Apr-14	26-Jan-19	04-Feb-19	1416	1416
Surveys										
PR01300	Carry out investigation/surveys to locate existing utilities/services	72	08-Jul-13 A	90%	7	30-Apr-14	26-Jan-19	04-Feb-19	1416	1416
Land GI Works										
PR03110	Trial Pits along Cheung Tung Road	20	17-Feb-14 A	0%	20	16-May-14	20-Feb-14	14-Mar-14	-48	26
Additional Land GI										
PR03189-1	PBH23 (Pier C8)	5	22-Apr-14	0%	5	26-Apr-14	24-May-14	30-May-14	27	44
PR03200	PBH25, 29, 30, 31 (Piers D9, C14, C16, C17)	33	16-Oct-13 A	75%	8	02-May-14	25-Jan-19	04-Feb-19	1414	1414
PR03210	PBH38, 39, 40 (Viaduct A - Re.Wall, Pier A11, Pier A10)	30	22-Apr-14	0%	30	28-May-14	28-Jan-14	06-Mar-14	-65	47
Marine Works										
PR01120	Apply for DASO permits for the dumping of sediments in Hong Kong waters	76	25-Sep-13 A	80%	15	12-May-14	25-Feb-14	14-Mar-14	-43	31
Environmental Management										
PR00685	Engage an independent Marine Consultant & Marine Traffic Engineer	19	22-Jun-13 A	100%	0	15-Jul-13 A				
Quality Management										
PR01060	Details of proposed Quality System	23	13-Jun-13 A	100%	0	26-Aug-13 A				
Safety & Risk Management										
PR00830	Draft Safety Plan	12	14-Jun-13 A	100%	0	28-Jun-13 A				
Design Submission										
Detailed Design (v17)										
Ground Investigation										
ARDD0009	Consultation with GEO	20	13-Aug-13 A	75%	5	25-Apr-14	21-Aug-14	27-Aug-14	88	0
ARDD0010	IC/SO Approval of Ground Investigation Interpretative Report - AP03.00	75	13-Aug-13 A	40%	19	15-May-14	17-Dec-13	10-Jan-14	-89	0
ARDD0010-1	IC/SO Approval of Ground Investigation Interpretative Report - AP03.00	0		0%	0	15-May-14		10-Jan-14	-89	0
ARDD0012	IC/SO Approval of Additional GI Requirements	20	02-Aug-13 A	80%	4	25-Apr-14	22-Aug-14	27-Aug-14	88	6
ARDD0013-1	Additional GI Fieldwork, Lab Testing and Permitting E5-E8	45	10-Sep-13 A	75%	11	06-May-14	28-Dec-18	14-Jan-19	1225	0
ARDD0013-2	Additional GI Fieldwork, Lab Testing and Permitting - Other areas	60	20-Aug-13 A	75%	15	09-May-14	02-Dec-13	20-Dec-13	-100	0
ARDD0014-1	Receipt of Additional GI Data E5-E8	0		0%	0	06-May-14		14-Jan-19	1225	0
ARDD0014-2	Receipt of Additional GI Data - Other areas	0		0%	0	09-May-14		20-Dec-13	-100	0
ARDD0015-1	E5-E8 Interpretation	15	06-May-14	0%	15	27-May-14	15-Jan-19	04-Feb-19	1225	1225
ARDD0015-2	Additional GI Interpretative Report - AP03.00	15	12-May-14	0%	15	30-May-14	23-Dec-13	10-Jan-14	-100	0
ARDD0017-1	Earliest IC certificate for DDA-AP03.00	0		0%	0	11-Jul-14		26-Feb-14	-97	3
ARDD0017-2	IC/SO Approval of Additional GI Interpretative Report - AP03.00	75	02-Jun-14	0%	75	12-Sep-14	13-Jan-14	25-Apr-14	-100	0
Surveys and Investigations										
ARDD0022	Fieldwork and Permitting	60	08-Jul-13 A	90%	6	28-Apr-14	28-Jan-19	04-Feb-19	1245	1245
ARDD0025	IC/SO Approval of Utility Report - AP04.00	75	22-Oct-13 A	40%	23	21-May-14	06-Jun-14	08-Jul-14	35	0
ARDD0025-1	IC/SO Approval of Utility Report - AP04.00	0		0%	0	21-May-14		08-Jul-14	35	0
General Submissions										
ARDD0041-1	Preparation of O&M Facility Provisions - BP11.00	50	10-Feb-14 A	80%	20	16-May-14	19-Nov-14	16-Dec-14	152	0
ARDD0461	Prepare CTIA Report submission - AP05.00	20	30-Jan-14 A	100%	0	21-Apr-14	04-Feb-19	04-Feb-19	1251	0
ARDD0462	Govt depts, IC/SO approval of CTIA Report submission - AP05.00	75	24-Feb-14 A	30%	53	02-Jul-14	01-Apr-14	13-Jun-14	-13	0
GCL Erection Sequence and Method										
ARDD0060-4	Receipt of Final Erection Sequence and Loads - Bridge C	0		0%	0	21-Apr-14		12-Aug-14	82	15
Gazette and Alignment (assume no gazette change)										
ARDD0071	IC/SO Approval of Alignment DDA - BP01.01	75	23-Jan-14 A	40%	30	30-May-14	19-Mar-14	29-Apr-14	-23	0



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
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3-Month Rolling Programme (Page 2 of 15 Pages)
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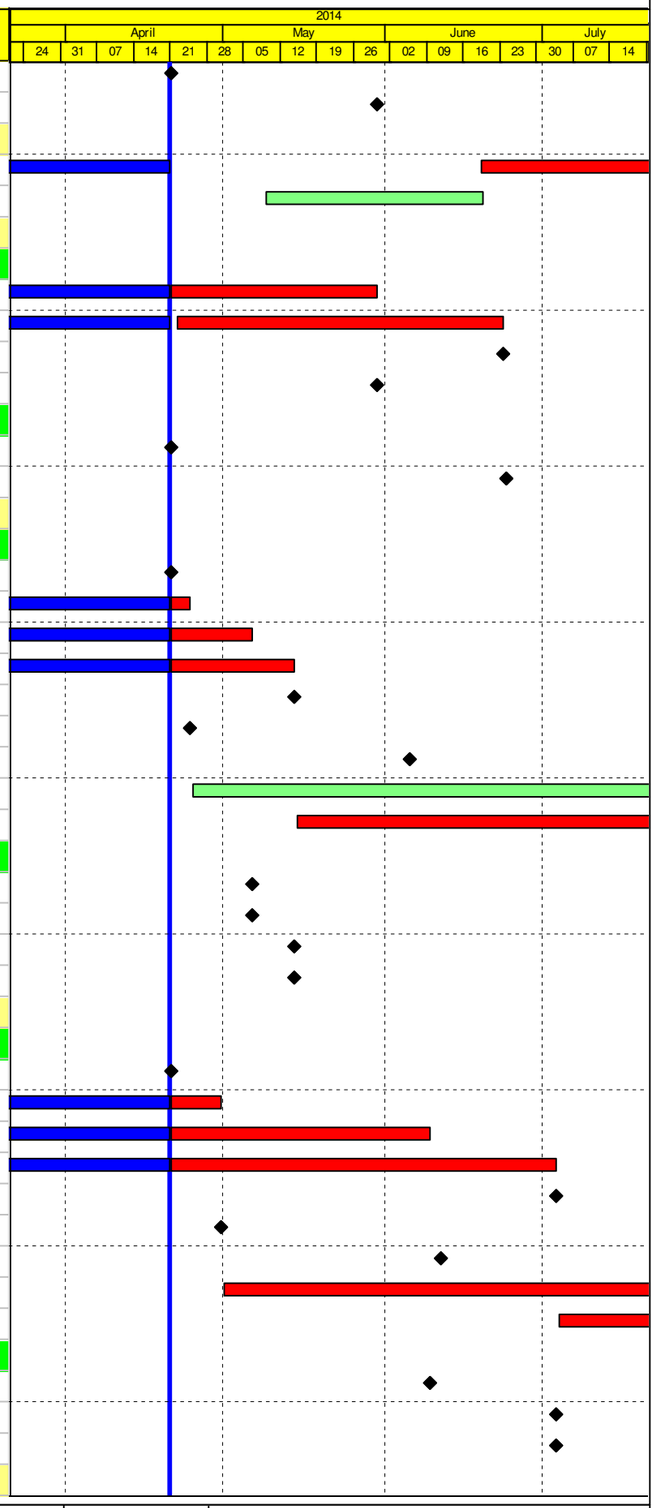
Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
ARDD0071-1	Earliest Approval of Alignment DDA - BP01.01	0		0%	0	21-Apr-14		29-Apr-14	7	30
ARDD0071-2	IC/SO Approval of Alignment DDA - BP01.01	0		0%	0	30-May-14		29-Apr-14	-23	0
General Viaduct Submission										
ARDD0076	IC/SO Approval of AIP - BP21.00	68	14-Mar-14 A	40%	41	14-Aug-14	19-May-14	14-Jul-14	-23	0
ARDD0077	Preparation of Viaduct E&M Works DDA - BP21.01	30	09-May-14	0%	30	19-Jun-14	29-Jul-14	08-Sep-14	57	0
Viaduct B										
Viaduct Design										
ARDD0099-2	Viaduct B - IC/SO Approval Pile Cap Precast Shells of DDA DP12.02	75	30-Nov-13 A	60%	30	30-May-14	17-Mar-14	25-Apr-14	-25	0
ARDD0099-3	Viaduct B - IC/SO Approval of Sub & Superstrucrue DDA - DP12.03	75	04-Mar-14 A	40%	45	23-Jun-14	14-Apr-14	13-Jun-14	-6	0
ARDD0099-5	Viaduct B - IC/SO Approval of Sub & Superstrucrue DDA - DP12.03	0		0%	0	23-Jun-14		13-Jun-14	-6	0
ARDD0099-7	Viaduct B - IC/SO Approval Pile Cap Precast Shells of DDA DP12.02	0		0%	0	30-May-14		25-Apr-14	-25	6
Associated Construction Milestones										
ARDD0127	Viaduct B - Commencement of Piling	0	21-Apr-14	0%	0		14-Feb-14		-45	14
ARDD0128-1	Viaduct B - Commencement of Pilecaps (Land)	0	24-Jun-14	0%	0		05-Sep-14		54	0
Viaduct E5 and E6										
Viaduct Design										
ARDD0145-1	Viaduct E5 & E6 - Earliest IC/SO Certificate for Foundation DDA - DP15.07	0		0%	0	21-Apr-14		25-Apr-14	5	105
ARDD0146	Viaduct E5 & E6 - Preparation of Pilecap Precast Shells DDA - DP15.08	40	04-Nov-13 A	80%	4	24-Apr-14	29-Apr-14	02-May-14	6	0
ARDD0147	Viaduct E5 & E6 - Preparation of Substructure DDA - DP15.09	60	04-Nov-13 A	80%	12	06-May-14	17-Apr-14	02-May-14	-2	0
ARDD0148	Viaduct E5 & E6 - Preparation of Superstructure DDA - DP15.09	90	04-Nov-13 A	80%	18	14-May-14	09-Apr-14	02-May-14	-8	0
ARDD0149	Viaduct E5 & E6 - Submission of DDA for Viaduct Sub & Superstructure E5 & E6 - DP15.09	0		0%	0	14-May-14		02-May-14	-8	0
ARDD0149-1	Viaduct E5 & E6 - Submission of DDA for Viaduct Pile Cap Precast Shells E5 & E6 - DP15.08	0		0%	0	24-Apr-14		07-May-14	9	0
ARDD0150-1	Viaduct E5 & E6 - Earliest IC certificate for DDA for Viaduct E5 & E6 - DP15.09	0		0%	0	05-Jun-14		09-Jul-14	24	29
ARDD0150-3	Viaduct E5 & E6 - IC/SO Approval of Pile Cap Precast Shells DDA DP15.08	75	25-Apr-14	0%	75	07-Aug-14	08-May-14	20-Aug-14	9	0
ARDD0150-4	Viaduct E5 & E6 - IC/SO Approval (late) of Sub & Superstructure DDA DP15.09	75	15-May-14	0%	75	27-Aug-14	08-May-14	20-Aug-14	-5	0
Information to Contractor										
ARDD0160	Viaduct E5 & E6 - Final Pilecap Reinforcement	0		0%	0	06-May-14		24-Jul-14	57	0
ARDD0162	Viaduct E5 & E6 - Final Pier Shapes and Reinforcement	0		0%	0	06-May-14		12-Aug-14	70	0
ARDD0165	Viaduct E5 & E6 - Final Segment Types and Reinforcement	0		0%	0	14-May-14		13-May-14	-1	39
ARDD0167	Viaduct E5 & E6 - Final Anchorage and PT Requirements	0		0%	0	14-May-14		13-May-14	-1	39
Viaduct E7 & E8										
Viaduct Design										
ARDD0190-1	Viaduct E7 & E8 - Earliest IC Certificate for Foundation DDA- DP15.07	0		0%	0	21-Apr-14		25-Apr-14	5	105
ARDD0191	Viaduct E7 & E8 - Preparation of Pilecap Precast Shells DDA - DP15.08	40	04-Nov-13 A	80%	8	30-Apr-14	17-Feb-14	26-Feb-14	-45	0
ARDD0192	Viaduct E7 & E8 - Preparation of Substructure DDA - 15.09	60	04-Nov-13 A	40%	36	09-Jun-14	03-Feb-14	24-Mar-14	-55	0
ARDD0193	Viaduct E7 & E8 - Preparation of Superstructure DDA - DP15.09	90	04-Nov-13 A	40%	54	03-Jul-14	18-Feb-14	02-May-14	-44	0
ARDD0194	Viaduct E7 & E8 - Submission of Sub & Superstructure DDA - DP15.09	0		0%	0	03-Jul-14		02-May-14	-44	0
ARDD0194-2	Viaduct E7 & E8 - Submission of Pilecap Precast Shells DDA - DP15.08	0		0%	0	30-Apr-14		21-Mar-14	-28	0
ARDD0195-1	Viaduct E7 & E8 - Earliest IC certificate for Pilecap Precast Shells DDA - DP15.08	0		0%	0	11-Jun-14		02-May-14	-28	16
ARDD0195-3	Viaduct E7 & E8 - IC/SO Approval of Pilecap Precast Shells DDA - DP15.08	75	01-May-14	0%	75	13-Aug-14	24-Mar-14	04-Jul-14	-28	0
ARDD0195-4	Viaduct E7 & E8 - IC/SO Approval of Sub & Superstructure DDA - DP15.09	75	04-Jul-14	0%	75	16-Oct-14	09-May-14	21-Aug-14	-40	0
Information to Contractor										
ARDD0205	Viaduct E7 & E8 - Final Pilecap Reinforcement	0		0%	0	09-Jun-14		19-Jun-14	8	11
ARDD0210	Viaduct E7 & E8 - Final Segment Types and Reinforcement	0		0%	0	03-Jul-14		13-May-14	-37	3
ARDD0212	Viaduct E7 & E8 - Final Anchorage and PT Requirements	0		0%	0	03-Jul-14		13-May-14	-37	3
Viaduct E2										



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 3 of 15 Pages)
(Progress as of 21-Apr-14)

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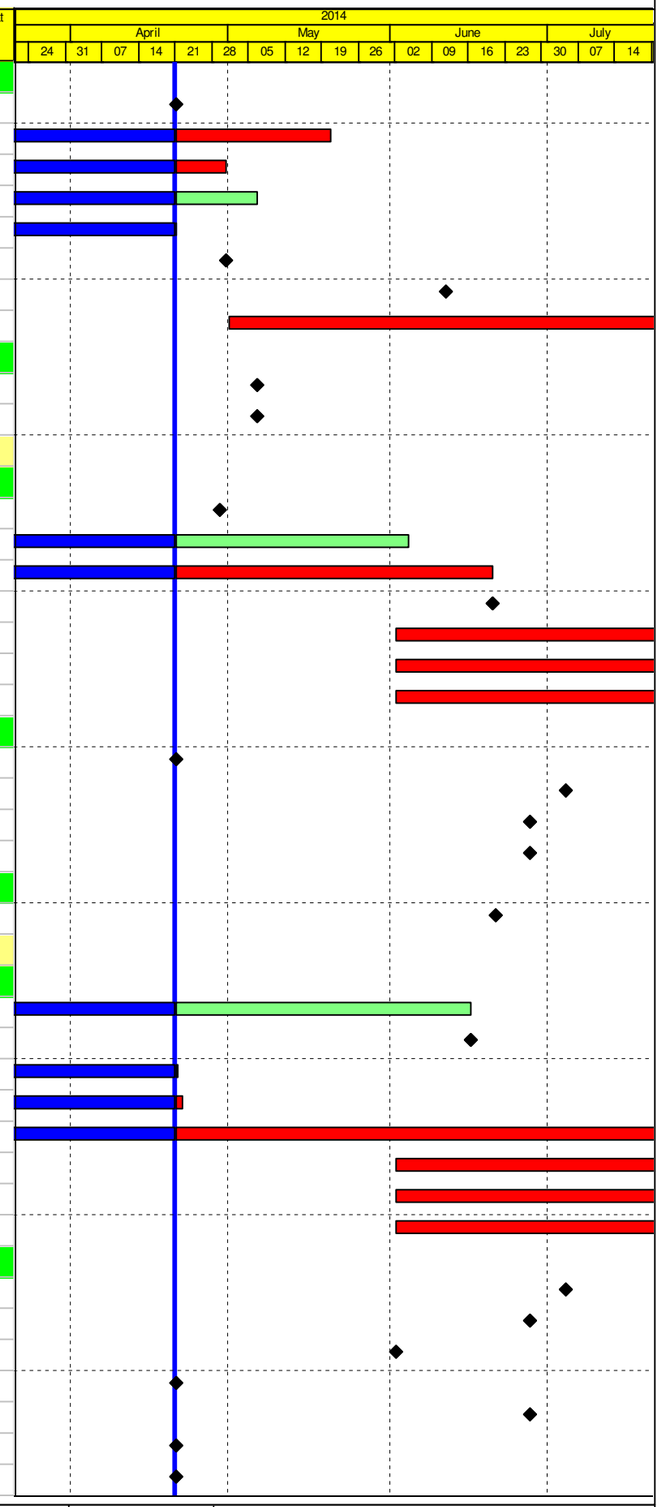
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
Viaduct Design										
ARDD0236-1	Viaduct E2 - Earliest IC Certificate for Foundation DDA - DP15.04	0		0%	0	21-Apr-14		15-Apr-14	-3	30
ARDD0236-2	Viaduct E2 - IC/SO Approval of Foundation (Early) DDA - DP15.04	55	16-Dec-13 A	60%	22	20-May-14	17-Mar-14	15-Apr-14	-25	8
ARDD0237	Viaduct E2 - Preparation of Pilecap Precast Shells DDA - DP15.05	40	04-Nov-13 A	80%	8	30-Apr-14	29-Apr-14	09-May-14	7	0
ARDD0238	Viaduct E2 - Preparation of Substructure DDA - DP15.06	60	04-Nov-13 A	80%	12	06-May-14	28-May-14	13-Jun-14	28	0
ARDD0239	Viaduct E2 - Preparation of Superstructure DDA - DP15.06	90	04-Nov-13 A	80%	0	21-Apr-14	15-Apr-14	15-Apr-14	-3	0
ARDD0240-2	Viaduct E2 - Submission of Pilecap Precast Shell DDA - DP15.05	0		0%	0	30-Apr-14		09-May-14	7	0
ARDD0241-1	Viaduct E2 - Earliest IC certificate for Pilecap Precast Shells DDA - DP15.05	0		0%	0	11-Jun-14		28-Aug-14	56	0
ARDD0241-4	Viaduct E2 - IC/SO Approval Pilecap Precast Shells DDA - DP15.05	75	01-May-14	0%	75	13-Aug-14	09-May-14	22-Aug-14	7	0
Information to Contractor										
ARDD0251	Viaduct E2 - Final Pilecap Reinforcement	0		0%	0	06-May-14		13-Jun-14	28	0
ARDD0253	Viaduct E2 - Final Pier Shapes and Reinforcement	0		0%	0	06-May-14		19-Jun-14	32	0
Viaduct E1										
Viaduct Design										
ARDD0282-1	Viaduct E1 - Earliest IC Certificate for DDA - DP15.01	0		0%	0	29-Apr-14		16-Jun-14	34	38
ARDD0282-2	Viaduct E1 - IC/SO Approval of Foundation (Early) DDA - DP15.01	55	19-Mar-14 A	40%	33	04-Jun-14	01-May-14	16-Jun-14	8	12
ARDD0282-3	Viaduct E1 - IC/SO Approval of Foundation (Late) DDA - DP15.01	75	19-Mar-14 A	40%	45	20-Jun-14	15-Apr-14	16-Jun-14	-4	0
ARDD0282-5	Viaduct E1 - IC/SO Approval of Foundation (Late) DDA - DP15.01	0		0%	0	20-Jun-14		16-Jun-14	-4	0
ARDD0283	Viaduct E1 - Preparation of Pilecap Precast Shells DDA - DP15.02	40	02-Jun-14	0%	40	25-Jul-14	12-Mar-14	07-May-14	-57	0
ARDD0284	Viaduct E1 - Preparation of Substructure DDA -DP15.03	50	02-Jun-14	0%	50	08-Aug-14	26-Feb-14	07-May-14	-67	0
ARDD0285	Viaduct E1 - Preparation of Superstructure DDA -DP15.03	70	02-Jun-14	0%	70	05-Sep-14	25-Mar-14	30-Jun-14	-49	0
Information to Contractor										
ARDD0292	Viaduct E1 - Final Pile Reinforcement and Socket H Pile Details	0		0%	0	21-Apr-14		04-Feb-19	1251	1251
ARDD0295	Viaduct E1 - Typical Pilecap Reinforcement - Stainless Steel Rebar	0		0%	0	04-Jul-14		14-Jul-14	6	15
ARDD0296	Viaduct E1 - Typical Pilecap Reinforcement - Regular Rebar	0		0%	0	27-Jun-14		14-Jul-14	11	20
ARDD0300	Viaduct E1 - Typical Segment Shapes for Moulds	0		0%	0	27-Jun-14		27-Jun-14	0	0
Associated Construction Milestones										
ARDD0310	Viaduct E1 - Commencement of Piling	0	21-Jun-14	0%	0		02-Aug-14		43	6
Viaduct D										
Viaduct Design										
ARDD0323	Viaduct D - IC/SO Approval of AIP - DP14.00	68	30-Dec-13 A	40%	41	16-Jun-14	11-Jul-14	05-Sep-14	59	0
ARDD0323-1	Viaduct D - IC/SO Approval of AIP - DP14.00	0		0%	0	16-Jun-14		05-Sep-14	59	30
ARDD0325	Viaduct D - Update Midas Model	10	20-Dec-13 A	90%	1	21-Apr-14	04-Feb-19	04-Feb-19	1250	1250
ARDD0326	Viaduct D - Final Pile Loads and Global Analysis	15	20-Dec-13 A	90%	2	22-Apr-14	28-Feb-14	03-Mar-14	-36	178
ARDD0327	Viaduct D - Foundation DDA - DP14.01	45	20-Dec-13 A	80%	179	25-Dec-14	26-Jun-13	03-Mar-14	-213	0
ARDD0329	Viaduct D - Preparation of Pilecap Precast Shells DDA DP14.02	40	02-Jun-14	0%	40	25-Jul-14	12-May-14	04-Jul-14	-15	0
ARDD0330	Viaduct D - Preparation of Substructure DDA - DP14.03	50	02-Jun-14	0%	50	08-Aug-14	02-Jun-14	08-Aug-14	0	0
ARDD0331	Viaduct D - Preparation of Superstructure DDA - DP14.03	70	02-Jun-14	0%	70	05-Sep-14	31-Mar-14	04-Jul-14	-45	0
Information to Contractor										
ARDD0341	Viaduct D - Typical Pilecap Reinforcement - Stainless Steel Rebar	0		0%	0	04-Jul-14		04-Jul-14	0	4
ARDD0342	Viaduct D - Typical Pilecap Reinforcement - Regular Rebar	0		0%	0	27-Jun-14		04-Jul-14	5	9
ARDD0343	Viaduct D - Final Pilecap Reinforcement	0		0%	0	02-Jun-14		01-Aug-14	45	1
ARDD0344	Viaduct D - Typical Pier Shapes for Formwork Planning	0		0%	0	21-Apr-14		12-Jun-14	39	9
ARDD0346	Viaduct D - Typical Segment Shapes for Moulds	0		0%	0	27-Jun-14		22-Aug-14	40	0
ARDD0349	Viaduct D - Typical Anchorage and Tendon Types	0		0%	0	21-Apr-14		22-Aug-14	90	199
ARDD0351	Viaduct D - Provisional Bearing Schedule	0		0%	0	21-Apr-14		27-Aug-14	93	0



Actual Work
Planned Bar
Critical Bar
Milestone

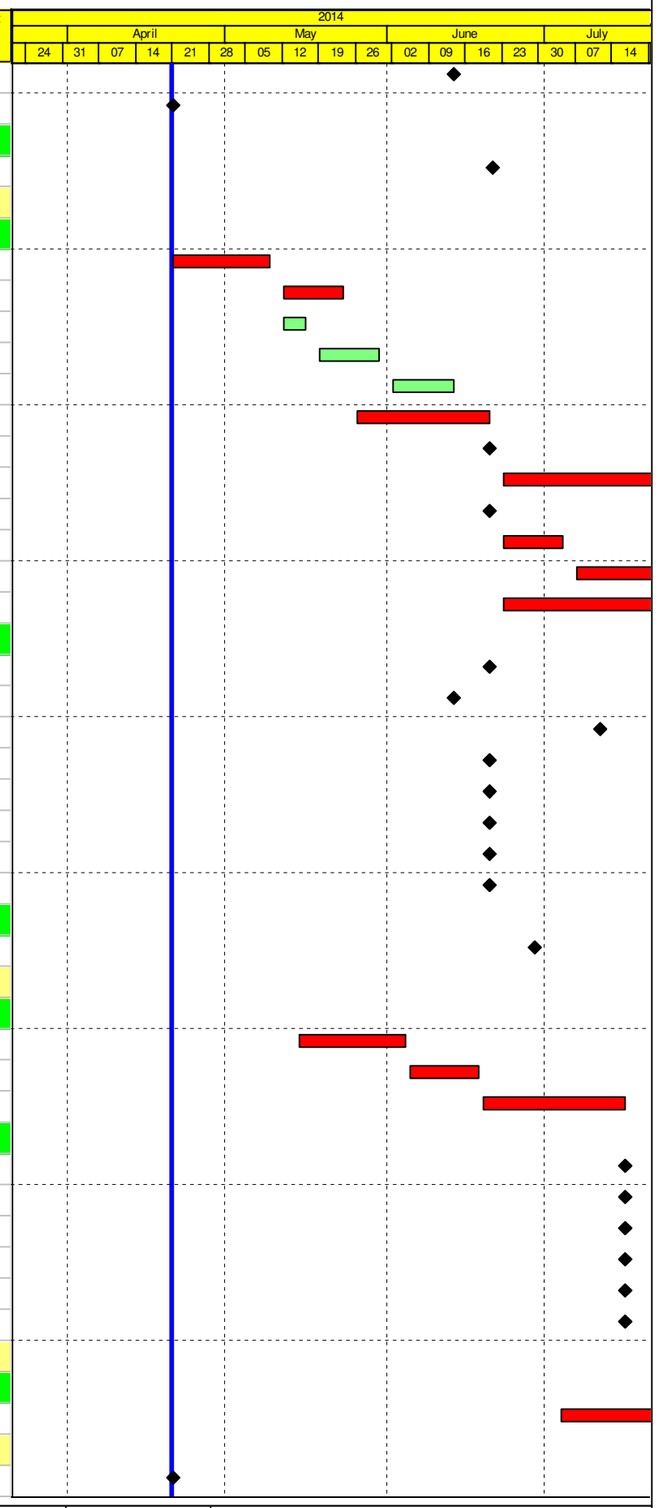
Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 4 of 15 Pages)
(Progress as of 21-Apr-14)

Date	Revision	Checked	Approved
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
ARDD0352	Viaduct D - Final Bearing Schedule	0		0%	0	13-Jun-14		04-Feb-19	1211	1211
ARDD0353	Viaduct D - Provisional Movement Joint (MJ) Schedule	0		0%	0	21-Apr-14		28-Feb-14	-35	0
Associated Construction Milestones										
ARDD0361	Viaduct D - Commencement of Piling	0	21-Jun-14	0%	0		17-Jun-14		-4	0
Viaduct C										
Viaduct Design										
ARDD0367	Viaduct C - Setup Midas Model	15	21-Apr-14	0%	15	09-May-14	31-Mar-14	18-Apr-14	-15	0
ARDD0368	Viaduct C - Sectional and Segment Dimensional Analysis	10	12-May-14	0%	10	23-May-14	21-Apr-14	02-May-14	-15	0
ARDD0369	Viaduct C - Provisonal Load Rundown and Global Analysis	5	12-May-14	0%	5	16-May-14	12-Aug-14	19-Aug-14	67	0
ARDD0370	Viaduct C - Provisional Pile Loads	10	19-May-14	0%	10	30-May-14	19-Aug-14	02-Sep-14	67	0
ARDD0371	Viaduct C - Preparation of Foundation Scheme	10	02-Jun-14	0%	10	13-Jun-14	02-Sep-14	16-Sep-14	67	0
ARDD0372	Viaduct C - Preparation of Sub & Superstructure Scheme	20	26-May-14	0%	20	20-Jun-14	05-May-14	30-May-14	-15	0
ARDD0373	Viaduct C - Submission of Sub & Superstructure AIP - DP13.00	0		0%	0	20-Jun-14		30-May-14	-15	0
ARDD0374	Viaduct C - IC/SO Approval of Sub & Superstructure AIP - DP13.00	68	23-Jun-14	0%	68	24-Sep-14	25-Jun-14	26-Sep-14	2	0
ARDD0375	Viaduct C - Receipt of Data for Final Analysis	0		0%	0	20-Jun-14		30-May-14	-15	0
ARDD0376	Viaduct C - Update Midas Model	10	23-Jun-14	0%	10	04-Jul-14	30-Jun-14	11-Jul-14	5	0
ARDD0377	Viaduct C - Final Pile Loads and Global Analysis	15	07-Jul-14	0%	15	25-Jul-14	14-Jul-14	01-Aug-14	5	20
ARDD0378	Viaduct C - Foundation DDA - DP13.01	45	23-Jun-14	0%	45	22-Aug-14	02-Jun-14	01-Aug-14	-15	0
Information to Contractor										
ARDD0386	Viaduct C - Provisional Segment Types and Weights	0		0%	0	20-Jun-14		02-Jan-15	140	100
ARDD0387	Viaduct C - Pile Spacing and Diameter for Temp Platform Design	0		0%	0	13-Jun-14		16-Sep-14	67	0
ARDD0388	Viaduct C - Typical Pile Reinforcement - Stainless Rebar	0		0%	0	11-Jul-14		15-Sep-14	46	6
ARDD0391	Viaduct C - Typical Pilecap Shapes for Formwork	0		0%	0	20-Jun-14		02-Dec-14	117	65
ARDD0395	Viaduct C - Typical Pier Shapes for Formwork Planning	0		0%	0	20-Jun-14		01-Sep-14	51	30
ARDD0400	Viaduct C - Typical Anchorage and Tendon Types	0		0%	0	20-Jun-14		02-Jan-15	140	100
ARDD0402	Viaduct C - Provisional Bearing Schedule	0		0%	0	20-Jun-14		28-Jul-14	26	10
ARDD0404	Viaduct C - Provisional Movement Joint (MJ) Schedule	0		0%	0	20-Jun-14		04-Jun-14	-12	10
Associated Construction Milestones										
ARDD0412	Viaduct C - Commencement of Piling	0	29-Jun-14	0%	0		20-Dec-14		174	31
Viaduct F1 & F3										
Viaduct Design										
ARDD0469	Viaduct F1 & F3 - Setup Midas Model	15	15-May-14	0%	15	04-Jun-14	05-May-14	23-May-14	-8	0
ARDD0470	Viaduct F1 & F3 - Sectional and Segment Dimensional Analysis	10	05-Jun-14	0%	10	18-Jun-14	26-May-14	06-Jun-14	-8	0
ARDD0474	Viaduct F1 & F3 - Preparation of Sub & Superstructure Scheme	20	19-Jun-14	0%	20	16-Jul-14	09-Jun-14	04-Jul-14	-8	0
Information to Contractor										
ARDD0487	Viaduct F1 & F3 - Provisional Segment Types and Weights	0		0%	0	16-Jul-14		24-Nov-14	93	135
ARDD0491	Viaduct F1 & F3 - Typical Pilecap Shapes for Formwork	0		0%	0	16-Jul-14		03-Sep-14	35	61
ARDD0495	Viaduct F1 & F3 - Typical Pier Shapes for Formwork Planning	0		0%	0	16-Jul-14		25-Sep-14	51	10
ARDD0500	Viaduct F1 & F3 - Typical Anchorage and Tendon Types	0		0%	0	16-Jul-14		24-Nov-14	93	135
ARDD0502	Viaduct F1 & F3 - Provisional Bearing Schedule	0		0%	0	16-Jul-14		19-Sep-14	47	10
ARDD0504	Viaduct F1 & F3 - Provisional Movement Joint (MJ) Schedule	0		0%	0	16-Jul-14		04-Jul-14	-8	10
Viaduct F2, F4 and F5										
Viaduct Design										
ARDD0513	Viaduct F2, F4 & F5 - Setup Midas Model	15	04-Jul-14	0%	15	24-Jul-14	05-May-14	23-May-14	-44	0
Parapet and Utility Trough										
ARDD0559	Submission of Parapet and Utility Trough AIP - DP30.00	0		0%	0	21-Apr-14		27-May-14	27	0



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Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 5 of 15 Pages)
(Progress as of 21-Apr-14)

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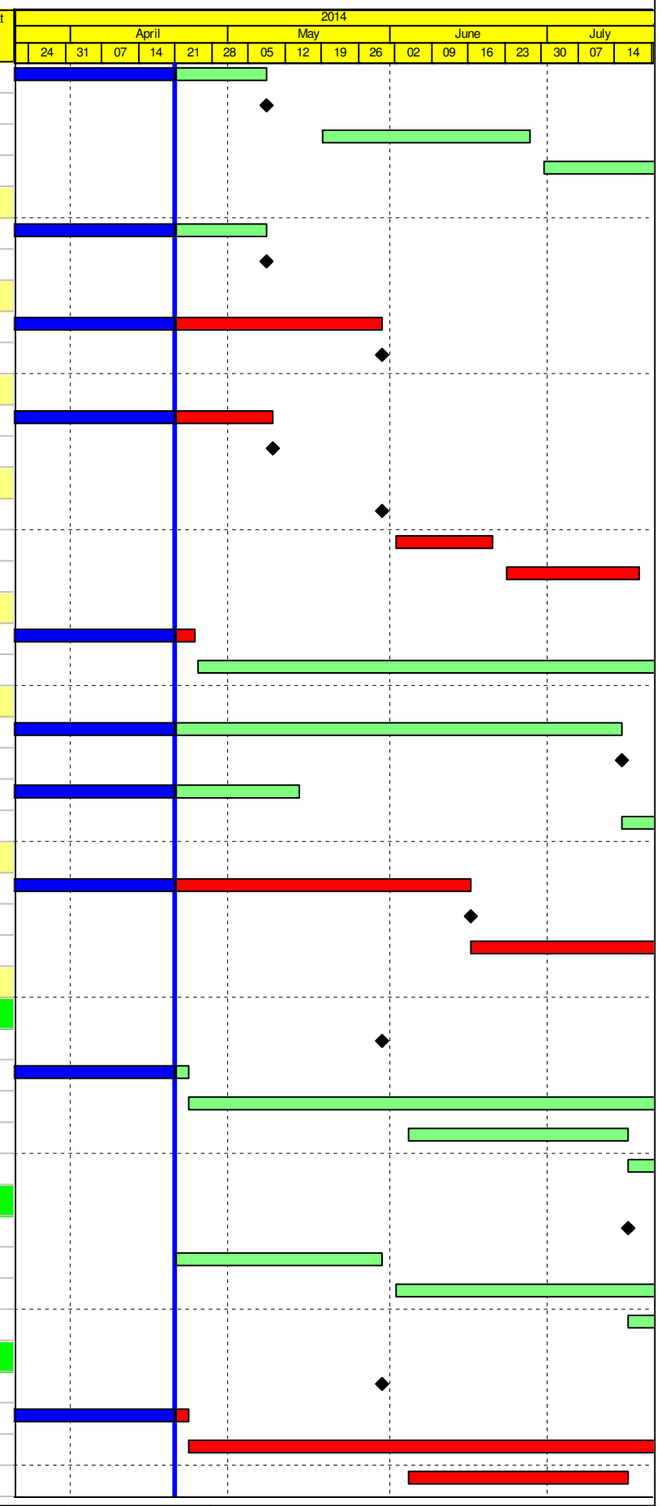
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
ARDD0560	IC/SO Approval of AIP - DP30.00	68	30-Sep-13 A	80%	14	08-May-14	25-Jun-14	14-Jul-14	47	0
ARDD0560-1	IC/SO Approval of AIP - DP30.00	0		0%	0	08-May-14		14-Jul-14	47	70
ARDD0562	Preparation of Utility Trough DDA - DP30.01	30	19-May-14	0%	30	27-Jun-14	25-Jun-14	05-Aug-14	27	0
ARDD0563	Preparation of Utility Truss DDA - DP30.01	60	30-Jun-14	0%	60	19-Sep-14	06-Aug-14	28-Oct-14	27	14
TCSS Provisions										
ARDD0570	IC/SO Approval of AIP for TCSS civil provisions - BP10.00	68	09-Dec-13 A	80%	14	08-May-14	06-Aug-14	25-Aug-14	77	0
ARDD0570-1	IC/SO Approval of AIP for TCSS civil provisions - BP10.00	0		0%	0	08-May-14		25-Aug-14	77	100
Slopeworks for Viaduct B: 9SE- B/C8, B/C9, B/F9, B/F85+ 10SW-A/F52, A/F53										
ARDD0579	IC/SO Approval of Slope Combined AIP/DDA-CP12.01	75	05-Oct-13 A	60%	30	30-May-14	23-Jan-14	05-Mar-14	-62	0
ARDD0579-1	IC/SO Approval of Slope Combined AIP/DDA-CP12.01	0		0%	0	30-May-14		05-Mar-14	-62	0
Slopeworks for Viaduct C: 10NW -C/C22, C/C26, C/C27, C/F13, C/F14. C/F15										
ARDD0587	IC/SO Approval of Slope Combined AIP/DDA -CP13.01	75	20-Nov-13 A	0%	15	09-May-14	24-Feb-14	14-Mar-14	-40	0
ARDD0587-1	IC/SO Approval of Slope Combined AIP/DDA -CP13.01	0		0%	0	09-May-14		14-Mar-14	-40	46
Slopeworks for Viaduct A: 9SE-B/FR8, B/R1, B/R2										
ARDD0592	Receipt of Topo & Ground Investigation	0		0%	0	30-May-14		24-Jan-14	-90	0
ARDD0593	Slope Analysis	15	02-Jun-14	0%	15	20-Jun-14	27-Jan-14	14-Feb-14	-90	0
ARDD0594	Preparation of Slope Combined AIP/DDA - CP11.01	20	23-Jun-14	0%	20	18-Jul-14	17-Feb-14	14-Mar-14	-90	0
Slopeworks for Viaduct D: 10NW -C/R4, C/F9, C/F10, C/F11, C/F17, C/F50										
ARDD0602	Preparation of Slope Combined AIP/DDA - CP14.01	20	20-Jan-14 A	80%	4	24-Apr-14	21-Jan-14	24-Jan-14	-64	0
ARDD0603	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	75	25-Apr-14	0%	75	07-Aug-14	18-Jul-14	30-Oct-14	60	0
Natural Terrian Hazard Assessment										
ARDD0612	IC/SO Approval of NTHA Combined General Submission - CP20.01, CP21.01	68	30-Dec-13 A	0%	61	15-Jul-14	06-Nov-14	30-Jan-15	144	0
ARDD0612-1	IC/SO Approval of NTHA Combined General Submission - CP20.01, CP21.01	0		0%	0	15-Jul-14		30-Jan-15	144	0
ARDD0612-2	Natural Terrain Hazard Mitigation	20	04-Feb-14 A	0%	18	14-May-14	07-Jan-15	30-Jan-15	187	43
ARDD0612-3	Preparation of NTHM Combined AIP/DDA - CP20.02, CP21.02	20	15-Jul-14	0%	20	12-Aug-14	02-Feb-15	27-Feb-15	144	0
Waterworks, Drainage & Utility Diversions										
ARDD0622	IC/SO Approval of AIP for Waterworks, Drainage & Utility Diversions - BP20.00	68	02-Jan-14 A	40%	41	16-Jun-14	29-Apr-14	24-Jun-14	6	0
ARDD0622-1	IC/SO Approval of AIP for Waterworks, Drainage & Utility Diversions	0		0%	0	16-Jun-14		24-Jun-14	6	0
ARDD0624	Preparation of Waterworks, Drainage & Utility DDA - BP20.01	40	16-Jun-14	0%	40	11-Aug-14	25-Jun-14	19-Aug-14	6	0
Viaduct Approach Ramp Retaining Walls										
Approach Ramp D										
ARDD0648	Approach D - Receipt of Topographic and Utility Survey	0		0%	0	30-May-14		25-Jul-14	40	3
ARDD0649	Approach D - Preparation of Approach Ramp D AIP Submission - DP20.00	55	04-Nov-13 A	95%	3	23-Apr-14	11-Jun-14	13-Jun-14	37	0
ARDD0650	Approach D - IC/SO Approval of Approach Ramp D AIP - DP20.00	68	23-Apr-14	0%	68	28-Jul-14	16-Jun-14	17-Sep-14	37	0
ARDD0651	Approach D - Preparation of Approach Ramp D DDA Submission - DP20.04	30	04-Jun-14	0%	30	16-Jul-14	28-Jul-14	05-Sep-14	37	0
ARDD0652	Approach D - IC/SO Approval of Approach Ramp D DDA - DP20.04	75	16-Jul-14	0%	75	29-Oct-14	08-Sep-14	19-Dec-14	37	0
Approach Ramp C										
ARDD0654	Approach C - Receipt of Topographic and Utility Survey	0		0%	0	16-Jul-14		17-Oct-14	67	0
ARDD0655	Approach C - Preparation of Approach Ramp C AIP Submission -DP20.00 Update	30	21-Apr-14	0%	30	30-May-14	28-Jul-14	05-Sep-14	70	0
ARDD0656	Approach C - IC/SO Approval of Approach Ramp C AIP -DP20.00	68	02-Jun-14	0%	68	03-Sep-14	08-Sep-14	10-Dec-14	70	0
ARDD0657	Approach C - Preparation of Approach Ramp C DDA Submission - DP20.03	30	16-Jul-14	0%	30	27-Aug-14	20-Oct-14	28-Nov-14	67	0
Approach Ramp B										
ARDD0660	Approach B - Receipt of Topographic and Utility Survey	0		0%	0	30-May-14		03-Jun-14	2	3
ARDD0661	Approach B - Preparation of Approach Ramp B AIP Submission - DP20.00 Update	55	09-Dec-13 A	95%	3	23-Apr-14	18-Apr-14	22-Apr-14	-1	0
ARDD0662	Approach B - IC/SO Approval of Approach Ramp B AIP -DP20.00	68	23-Apr-14	0%	68	28-Jul-14	23-Apr-14	25-Jul-14	-1	0
ARDD0663	Approach B - Preparation of Approach Ramp B DDA Submission -DP20.02	30	04-Jun-14	0%	30	16-Jul-14	04-Jun-14	15-Jul-14	-1	0



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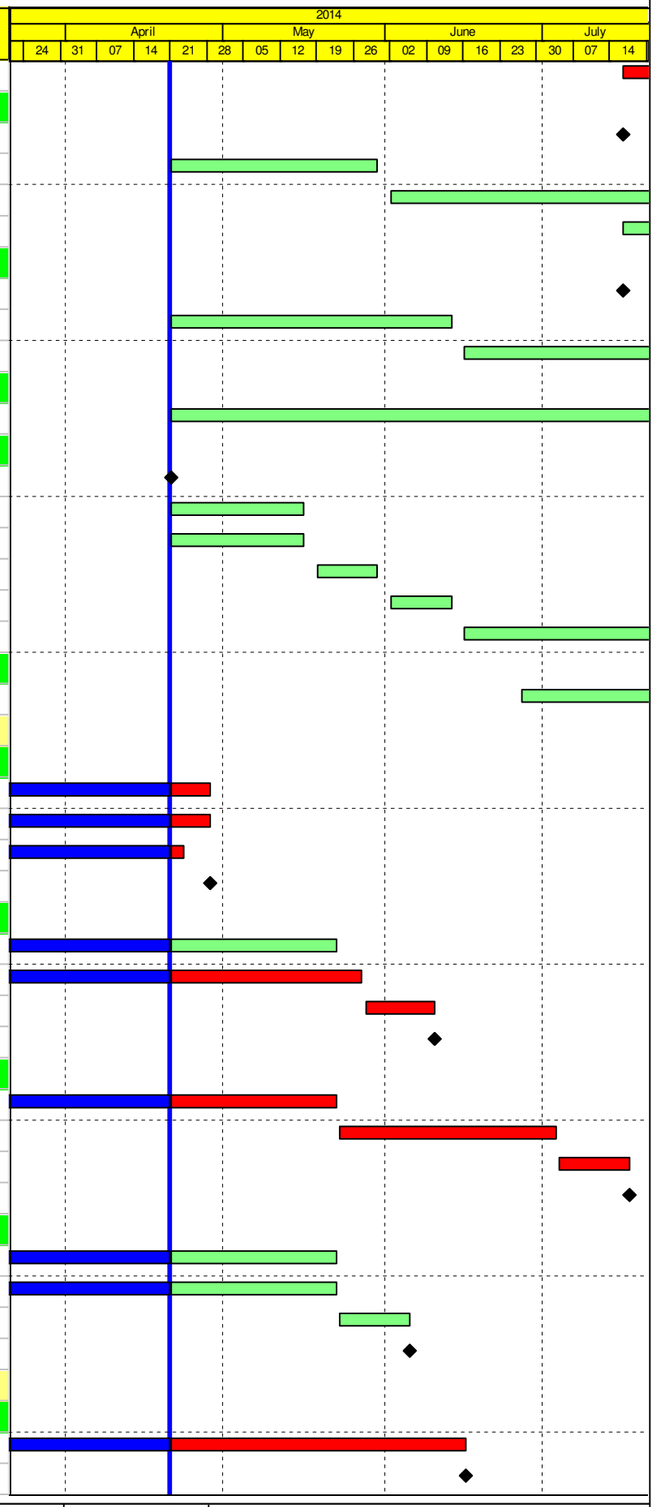
ARDD0664	Approach B - IC/SO Approval of Approach Ramp B DDA -DP20.02	75	16-Jul-14	0%	75	29-Oct-14	16-Jul-14	28-Oct-14	-1	0
Approach A										
ARDD0666	Approach A - Receipt of Topographic and Utility Survey	0		0%	0	16-Jul-14		30-Oct-14	76	0
ARDD0667	Approach A - Preparation of Approach Ramp A AIP Submission -DP20.00 Update	30	21-Apr-14	0%	30	30-May-14	08-Aug-14	18-Sep-14	79	0
ARDD0668	Approach A - IC/SO Approval of Approach Ramp A AIP -DP20.00	68	02-Jun-14	0%	68	03-Sep-14	19-Sep-14	23-Dec-14	79	0
ARDD0669	Approach A - Preparation of Approach Ramp A DDA Submission -DP20.01	30	16-Jul-14	0%	30	27-Aug-14	31-Oct-14	11-Dec-14	76	0
Approach F										
ARDD0672	Approach F - Receipt of Topographic and Utility Survey	0		0%	0	16-Jul-14		29-Sep-14	53	7
ARDD0673	Approach F - Preparation of Approach Ramp F AIP Submission -DP21.00 Update	40	21-Apr-14	0%	40	13-Jun-14	24-Jun-14	18-Aug-14	46	0
ARDD0674	Approach F - IC/SO Approval of Approach Ramp F AIP -DP21.00	68	16-Jun-14	0%	68	17-Sep-14	19-Aug-14	20-Nov-14	46	0
Signs, Markings and Street Furniture										
ARDD0683	IC/SO Approval of Signs, Markings & Street Furniture AIP - BP03.00	68	21-Apr-14	0%	68	23-Jul-14	05-Jun-14	08-Sep-14	33	0
Landscape										
ARDD0691	Confirm Acceptance of Reference Design LVIA	0		0%	0	21-Apr-14		20-Nov-14	154	0
ARDD0692	Prepare Outline Planting Plans	20	21-Apr-14	0%	20	16-May-14	21-Nov-14	18-Dec-14	154	0
ARDD0693	Prepare Outline Irrigtaion Plans	20	21-Apr-14	0%	20	16-May-14	21-Nov-14	18-Dec-14	154	0
ARDD0694	Preparation of AIP Submission for landscape works	10	19-May-14	0%	10	30-May-14	19-Dec-14	01-Jan-15	154	0
ARDD0695	Updated LVIA Submission to Gov't Depts	10	02-Jun-14	0%	10	13-Jun-14	02-Jan-15	15-Jan-15	154	0
ARDD0696	IC/SO Approval of AIP for landscape works - BP22.00	68	16-Jun-14	0%	68	17-Sep-14	16-Jan-15	21-Apr-15	154	0
Remaining Works										
ARDD0704	Preparation of Remaining Works AIP - ZP01.00	30	27-Jun-14	0%	30	07-Aug-14	22-Aug-14	02-Oct-14	40	0
Segment Target Geometry And Erection Engineering										
Viaduct B										
ARDD0712	Viaduct B - Erection Sequence Analysis	20	17-Jan-14 A	70%	6	28-Apr-14	02-Apr-14	10-Apr-14	-13	0
ARDD0713	Viaduct B - Target Geomtery Analysis	20	10-Feb-14 A	70%	6	28-Apr-14	02-Apr-14	10-Apr-14	-13	0
ARDD0714	Viaduct B - Segment Geometry Schedules	10	10-Feb-14 A	70%	3	23-Apr-14	07-Apr-14	10-Apr-14	-10	3
ARDD0714-1	Viaduct B - Final Erection Geometry	0		0%	0	28-Apr-14		10-Apr-14	-13	0
Viaduct E5 and E6										
ARDD0732	Viaduct E5 & E6 - Erection Sequence Analysis	30	17-Jan-14 A	20%	24	22-May-14	14-May-14	16-Jun-14	17	13
ARDD0733	Viaduct E5 & E6 - Target Geometry Analysis	30	10-Feb-14 A	10%	27	27-May-14	25-Apr-14	02-Jun-14	4	0
ARDD0734	Viaduct E5 & E6 - Segment Geometry Schedules	10	28-May-14	0%	10	10-Jun-14	03-Jun-14	16-Jun-14	4	0
ARDD0734-1	Viaduct E5 & E6 - Final Erection Geometry	0		0%	0	10-Jun-14		16-Jun-14	4	38
Viaduct E7 & E8										
ARDD0737	Viaduct E7 & E8 - Erection Sequence Analysis	30	17-Jan-14 A	20%	24	22-May-14	19-Mar-14	21-Apr-14	-23	0
ARDD0738	Viaduct E7 & E8 - Target Geometry Analysis	30	23-May-14	0%	30	03-Jul-14	22-Apr-14	02-Jun-14	-23	0
ARDD0739	Viaduct E7 & E8 - Segment Geometry Schedules	10	04-Jul-14	0%	10	17-Jul-14	03-Jun-14	16-Jun-14	-23	0
ARDD0739-1	Viaduct E7 & E8 - Final Erection Geometry	0		0%	0	17-Jul-14		16-Jun-14	-23	17
Viaduct E2										
ARDD0747	Viaduct E2 - Erection Sequence Analysis	30	17-Jan-14 A	20%	24	22-May-14	22-Jul-14	22-Aug-14	66	10
ARDD0748	Viaduct E2 - Target Geometry Analysis	30	10-Feb-14 A	20%	24	22-May-14	08-Jul-14	08-Aug-14	56	0
ARDD0749	Viaduct E2 - Segment Geometry Schedules	10	23-May-14	0%	10	05-Jun-14	11-Aug-14	22-Aug-14	56	0
ARDD0749-1	Viaduct E2 - Final Erection Geometry	0		0%	0	05-Jun-14		22-Aug-14	56	6
Reprovisioning Works										
Chung Tung Road Realignment Viaduct B										
ARDD0804	Viaduct B - IC/SO Approval of AIP of CTR Reprovisioning Works AIP - BP33.00	68	30-Dec-13 A	40%	41	16-Jun-14	19-Mar-14	14-May-14	-23	0
ARDD0804-1	Viaduct B - IC/SO Approval of AIP of CTR Reprovisioning Works AIP - BP33.00	0		0%	0	16-Jun-14		14-May-14	-23	0



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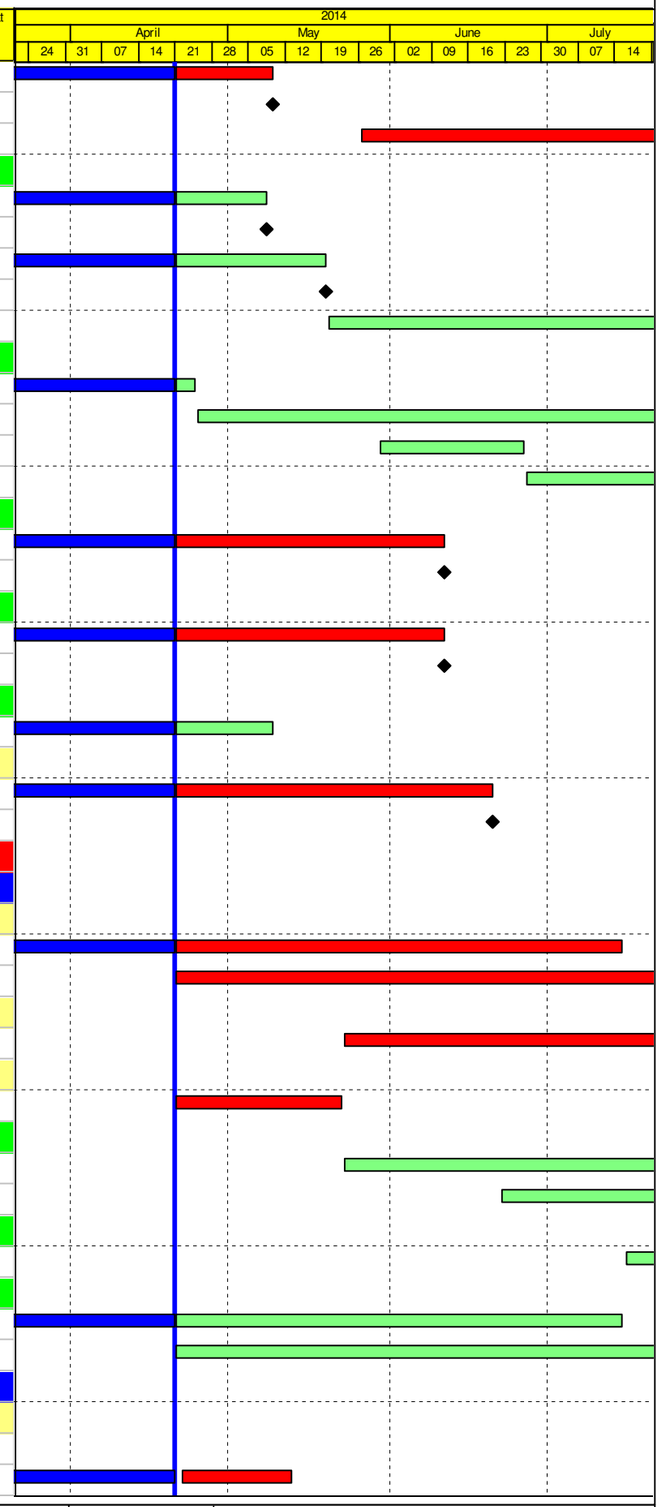
ARDD0805	Viaduct B - Preparation of CTR Reprovisioning Works DDA - BP33.01	30	26-Dec-13 A	50%	15	09-May-14	14-Apr-14	02-May-14	-5	0
ARDD0806	Viaduct B - Submission of CTR Reprovisioning Works DDA - BP33.01	0		0%	0	09-May-14		02-May-14	-5	11
ARDD0807	Viaduct B - IC/SO Approval of CTR Reprovisioning Works DDA - BP33.01	75	26-May-14	0%	75	08-Sep-14	05-May-14	15-Aug-14	-16	0
Chung Tung Road Realignment Viaduct C										
ARDD0881	Viaduct C - IC/SO Approval of AIP of CTR Reprovisioning Works AIP - BP34.00	68	04-Feb-14 A	80%	14	08-May-14	09-Jun-14	26-Jun-14	35	0
ARDD0881-1	Viaduct C - IC/SO Approval of AIP of CTR Reprovisioning Works AIP - BP34.00	0		0%	0	08-May-14		26-Jun-14	35	22
ARDD0883	Viaduct C - Preparation of CTR Reprovisioning Works DDA - BP34.01	30	26-Dec-13 A	30%	21	19-May-14	08-May-14	05-Jun-14	13	0
ARDD0885	Viaduct C - Submission of CTR Reprovisioning Works DDA - BP34.01	0		0%	0	19-May-14		05-Jun-14	13	0
ARDD0887	Viaduct C - IC/SO Approval of CTR Reprovisioning Works DDA - BP34.01	75	20-May-14	0%	75	01-Sep-14	06-Jun-14	18-Sep-14	13	0
Remaining Reprovisioning Works (Viaduct A&D)										
ARDD0812	Viaduct A&D - Preparation of AIP Remaining Reprovisioning Works V-A&D BP35.00	20	06-Mar-14 A	80%	4	24-Apr-14	16-Jun-14	19-Jun-14	40	0
ARDD0813	Viaduct A&D - IC/SO Approval of AIP for Remaining Reprovisioning Works V-A&D BP35.00	68	25-Apr-14	0%	68	29-Jul-14	20-Jun-14	23-Sep-14	40	0
ARDD0814	Viaduct A&D - Preparation of DDA of Remaining Reprovisioning Works V-A&D BP35.01	20	30-May-14	0%	20	26-Jun-14	25-Jul-14	21-Aug-14	40	0
ARDD0815	Viaduct A&D - IC/SO Approval of DDA of Remaining Reprovisioning Works BP35.01	75	27-Jun-14	0%	75	09-Oct-14	24-Sep-14	07-Jan-15	63	0
Emergency Gates										
ARDD0854	IC/SO Approval of Combined AIP/DDA for Emergency Gates - BP30.01	75	26-Nov-13 A	50%	38	11-Jun-14	08-Jan-14	28-Feb-14	-73	0
ARDD0854-1	IC/SO Approval of Combined AIP/DDA for Emergency Gates - BP30.01	0		0%	0	11-Jun-14		28-Feb-14	-73	0
ESS Substation										
ARDD0819	IC/SO Approval of Combined AIP/DDA for ESS Substation - BP31.01	75	11-Nov-13 A	50%	38	11-Jun-14	24-Mar-14	14-May-14	-20	0
ARDD0821	IC/SO Approval of Combined AIP/DDA for ESS Substation - BP31.01	0		0%	0	11-Jun-14		14-May-14	-20	0
CEDD Access Track										
ARDD0808	Preparation of Combined AIP/DDA for CEDD Access Track - BP32.01	30	09-Sep-13 A	50%	15	09-May-14	05-Nov-15	25-Nov-15	403	0
Construction Traffic Impact Assessment										
ARDD0811	IC/SO Approval of CTIA - AP05.00	75	24-Feb-14 A	40%	45	20-Jun-14	11-Apr-14	13-Jun-14	-6	0
ARDD0816	IC/SO Approval of CTIA - AP05.00	0		0%	0	20-Jun-14		13-Jun-14	-6	90
Major Procurement										
Deck Segment Installation Equipment										
Launching Gantry 1										
PR60078-2	Launching Gantry 1 Design	122	13-Feb-14 A	30%	85	15-Jul-14	29-Jan-14	24-Apr-14	-82	18
PR60078-4	Launching Gantry 1 Fabrication	151	21-Apr-14	0%	151	18-Sep-14	29-Jan-14	29-Jun-14	-82	0
Lifting Frames										
PR60098	Lifting Frame Technical Specs & Order	76	23-May-14	0%	76	06-Aug-14	14-Mar-14	28-May-14	-70	0
Unloading Gantries										
PR60103	Unloading Gantries Procurement Review & Order	32	21-Apr-14	0%	32	22-May-14	10-Feb-14	13-Mar-14	-70	0
Type 1										
PR60104	Unloading Gantry Type 1 Design	122	23-May-14	0%	122	21-Sep-14	29-Aug-14	28-Dec-14	98	0
PR60106	Unloading Gantry Type 1 Fabrication	185	22-Jun-14	0%	185	23-Dec-14	07-Feb-15	10-Aug-15	230	0
Type 2										
PR60110	Unloading Gantry Type 2 Design	122	16-Jul-14	0%	122	14-Nov-14	22-Oct-14	20-Feb-15	98	0
Type 3 & 4										
PR60116	Unloading Gantry Type 3 & 4 Design	122	13-Feb-14 A	30%	85	15-Jul-14	21-Nov-14	14-Feb-15	214	52
PR60118	Unloading Gantry Type 3 & 4 Fabrication	185	21-Apr-14	0%	185	22-Oct-14	21-Nov-14	24-May-15	214	0
Deck Segments & Precast Pile Cap Shells										
Preliminaries										
MBBC0000	Precast Subcontractor Procurement & Mobilization	84	22-Jun-13 A	100%	0	30-Aug-13 A				
MBBC0010	Set Up Pile Cap Shell Casting Yard & Beds etc	161	02-Dec-13 A	90%	16	13-May-14	03-Apr-14	26-Apr-14	-11	0



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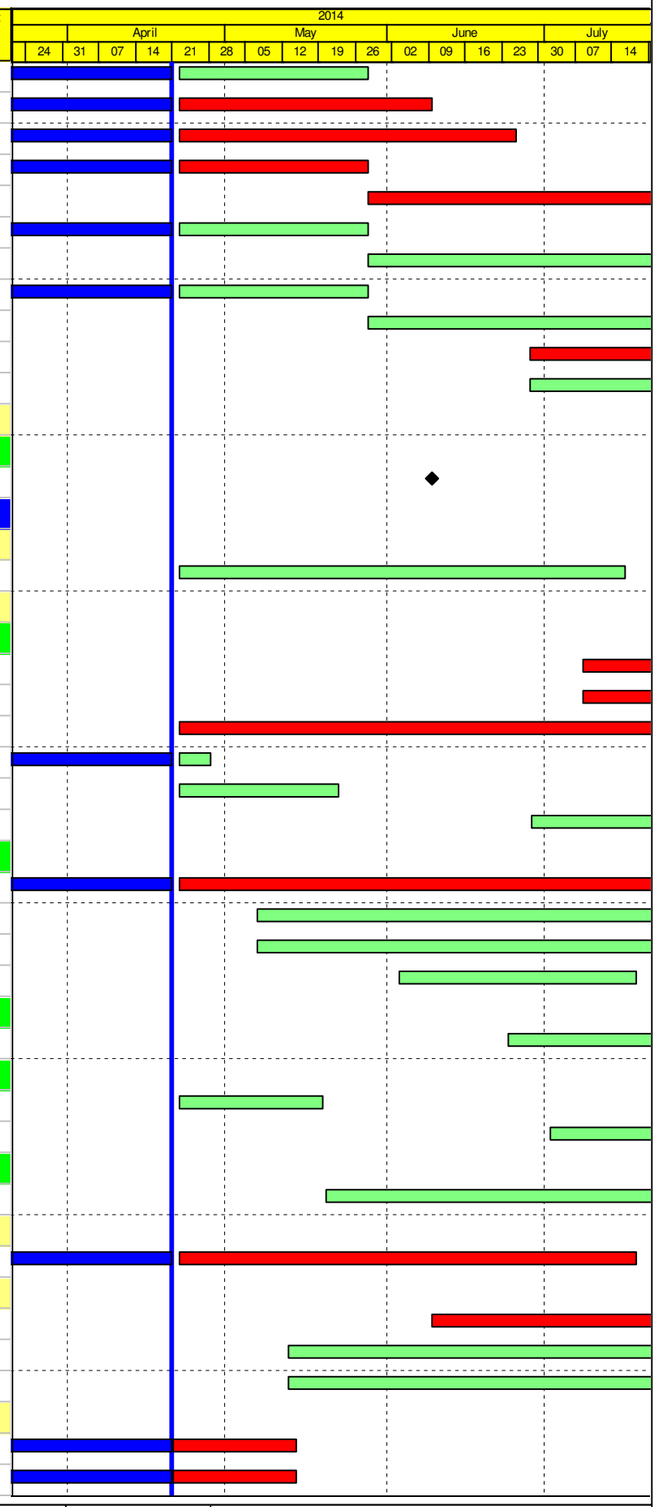
MBBC0012	Pile Cap Shell Mould Design (M1 & M2)	42	02-Dec-13 A	30%	29	28-May-14	31-Dec-18	04-Feb-19	1394	1394
MBBC0014	Pile Cap Shell Mould Fabrication & Erection (M1 & M2)	55	02-Dec-13 A	30%	39	09-Jun-14	08-Mar-14	26-Apr-14	-34	0
MBBE0010	Set Up Precast Segment Casting Yard & Beds etc	176	15-Oct-13 A	70%	53	25-Jun-14	08-Apr-14	14-Jun-14	-9	77
MBBE0012	Precast Segment Mould Design (Viaduct B)	42	15-Oct-13 A	30%	29	28-May-14	04-Jan-14	10-Feb-14	-85	0
MBBE0014	Precast Segment Mould Fabrication & Erection (Viaduct B)	52	28-May-14	0%	52	30-Jul-14	11-Feb-14	12-Apr-14	-85	0
MBBE0018	Precast Segment Mould Design (Viaduct E5, E6, E7 & E8)	42	15-Oct-13 A	30%	29	28-May-14	16-May-14	20-Jun-14	20	0
MBBE0020	Precast Segment Mould Fabrication & Erection (Viaduct E5, E6, E7 & E8)	52	28-May-14	0%	52	30-Jul-14	21-Jun-14	21-Aug-14	20	65
MBBE0024	Precast Segment Mould Design (Viaduct E2)	42	15-Oct-13 A	30%	29	28-May-14	22-Jul-14	25-Aug-14	74	0
MBBE0026	Precast Segment Mould Fabrication & Erection (Viaduct E2)	52	28-May-14	0%	52	30-Jul-14	25-Aug-14	28-Oct-14	74	48
MBBE0030	Precast Segment Mould Design (Viaduct E1)	42	28-Jun-14	0%	42	16-Aug-14	05-Jul-14	22-Aug-14	5	0
MBBE0036	Precast Segment Mould Design (Viaduct D)	42	28-Jun-14	0%	42	16-Aug-14	30-Aug-14	21-Oct-14	53	0
Viaduct B										
Precast Pile Caps										
MBBC0120	B: Commence Pile Cap Shell Casting on Approval of DDA	0	09-Jun-14	0%	0		27-Apr-14		-43	0
General										
H-Piles										
PP7390	Procurement of Viaduct D Socketted H-Piles	70	22-Apr-14	0%	70	16-Jul-14	17-May-14	09-Aug-14	21	24
Reinforcement										
Bored Piles										
PP7100	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct E5 & E6 Piles	145	08-Jul-14	0%	145	30-Dec-14	24-Jun-14	13-Dec-14	-12	58
PP7170	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct E7 & E8 Piles	60	08-Jul-14	0%	60	17-Sep-14	25-Apr-14	09-Jul-14	-59	58
PP7240	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct E2 Piles	106	22-Apr-14	0%	106	27-Aug-14	17-Mar-14	26-Jul-14	-27	8
PP7310	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct E1 Piles	36	14-Feb-14 A	85%	5	28-Apr-14	28-Jul-14	02-Aug-14	79	44
PP7380	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct D Piles	25	22-Apr-14	0%	25	22-May-14	17-May-14	16-Jun-14	20	24
PP7460	Rebar - Cut, Bend & Fabricate Pile Cage for Viaduct C Piles	46	28-Jun-14	0%	46	22-Aug-14	22-Aug-14	18-Oct-14	46	0
Marine Pile Caps										
PP7040	Rebar - Cut, Bend & Fabricate for Viaduct B Marine Pile Caps	30	15-Feb-14 A	96%	225	20-Jan-15	21-Oct-13	25-Jul-14	-148	0
PP7110	Rebar - Cut, Bend & Fabricate for Viaduct E5 & E6 Pile Caps	204	07-May-14	0%	204	08-Jan-15	25-Jul-14	30-Mar-15	66	0
PP7250	Rebar - Cut, Bend & Fabricate for Viaduct E2 Pile Caps	154	07-May-14	0%	154	07-Nov-14	13-Jun-14	15-Dec-14	32	24
PP7400	Rebar - Cut, Bend & Fabricate for Viaduct D Marine Pile Caps	39	03-Jun-14	0%	39	18-Jul-14	07-May-15	23-Jun-15	275	249
Marine Piers - Viaduct E										
PP7130	Rebar - Cut, Bend & Fabricate for Viaduct E5 & E6 Piers	120	24-Jun-14	0%	120	14-Nov-14	11-Sep-14	03-Feb-15	66	39
Land Pile Caps										
PP7752	Rebar - Cut, Bend & Fabricate for Viaduct B Land Pile Caps	22	22-Apr-14	0%	22	19-May-14	18-Jun-14	14-Jul-14	46	0
PP7754	Rebar - Cut, Bend & Fabricate for Viaduct D Land Pile Caps	24	02-Jul-14	0%	24	29-Jul-14	30-Aug-14	27-Sep-14	51	33
Land / Marine Piers - Viaduct A, B, C, D & F										
PP7060	Bending of Rebar for Viaduct B Piers	64	20-May-14	0%	64	04-Aug-14	15-Jul-14	27-Sep-14	46	28
In-Situ Formworks / Falseworks										
PPPF02	Design & Fabrication of Falsework / Formwork & Delivery	120	20-Feb-14 A	40%	72	18-Jul-14	22-Apr-14	19-Jul-14	0	0
Pre-cast Pile Caps Shells										
PP7050	Production of Viaduct B Marine Precast Pile Cap Shells	60	09-Jun-14	0%	60	19-Aug-14	26-Apr-14	10-Jul-14	-34	0
PP7190	Production of Viaduct E7 & E8 Marine Precast Pile Cap Shells	140	13-May-14	0%	140	29-Oct-14	24-Jul-14	09-Jan-15	60	0
PP7260	Production of Viaduct E2 Marine Precast Pile Cap Shells	70	13-May-14	0%	70	05-Aug-14	30-May-14	22-Aug-14	16	0
Bearings										
PPBRB1	Design & Approval of Bearings Viaduct B	90	11-Feb-14 A	75%	24	14-May-14	18-Mar-14	11-Apr-14	-34	0
PPBRB1-1	Design & Approval of Bearings Viaduct E5 & E6, E7 & E8	90	11-Feb-14 A	75%	24	14-May-14	17-Dec-13	10-Jan-14	-124	0



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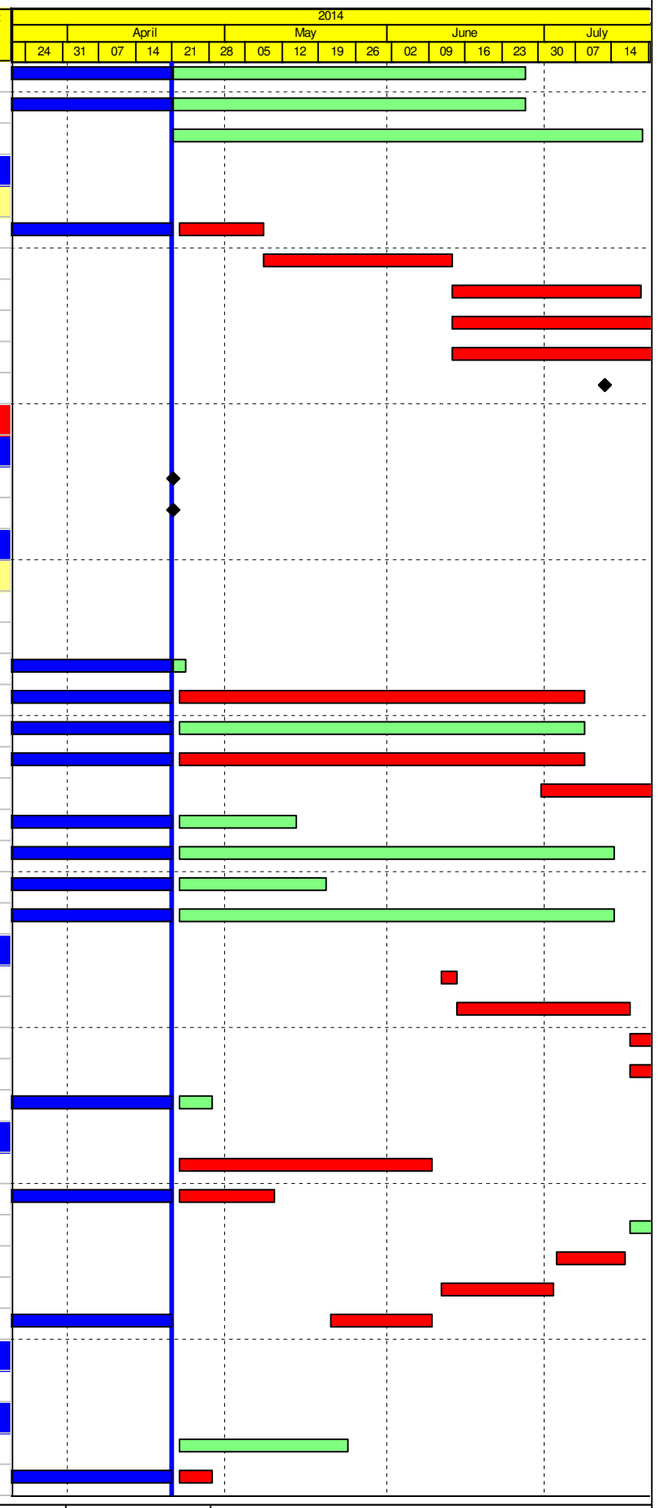
PPBRD1-1	Design & Approval of Bearings Viaduct D	90	21-Feb-14 A	25%	68	27-Jun-14	31-Jul-14	06-Oct-14	102	78
PPBRE1-1	Design & Approval of Bearings Viaduct E1	90	11-Feb-14 A	25%	68	27-Jun-14	31-Aug-14	06-Nov-14	133	23
PPBRE2-1	Design & Approval of Bearings Viaduct E2	90	21-Apr-14	0%	90	19-Jul-14	09-Aug-14	06-Nov-14	110	0
Other Sub-Contract Procurement										
Structural Health Monitoring System (SHMS)										
PP7770	Procure SHMS Sub-Contractor	42	10-Dec-13 A	70%	13	08-May-14	21-Mar-14	04-Apr-14	-23	0
PP7772	SHMS - Prepare & Submit Preliminary System Proposal	30	08-May-14	0%	30	13-Jun-14	07-Apr-14	16-May-14	-23	0
PP7774	SHMS - So approval of Preliminary System Proposal	30	13-Jun-14	0%	30	19-Jul-14	16-Jun-14	21-Jul-14	1	18
PP7776	SHMS - Prepare & Submit Final System Proposal	48	13-Jun-14	0%	48	09-Aug-14	24-May-14	21-Jul-14	-17	0
PP7780	SHMS - Prepare Civil Work Provision	90	13-Jun-14	0%	90	29-Sep-14	17-May-14	01-Sep-14	-23	0
PP7782	SHMS - Submit Precast Pile Cap Shell SHMS details for E5-E6-E7-E8	0	12-Jul-14	0%	0		02-Aug-14		18	44
Site Preparation / Mobilisations										
Temp Traffic Mgt Submission & Approval										
TTM00310	Earliest Implementation of TTM after TMLG Meeting No. 7	0	21-Apr-14	0%	0		18-Jun-14		42	20
TTM00320	Send TTMs to SO & Govt Depts for TMLG Meeting No. 8	0		0%	0	21-Apr-14		26-Mar-14	-18	0
Tree Felling / Transplant										
Approved Trees in Contract										
TR00100	Appoint Competent Person to oversee and supervise tree works	0		100%	0	22-Jun-13 A				
TR00110	Procure Specialist Subcontractor for landscape work	30	22-Jun-13 A	100%	0	27-Jul-13 A				
TR00140	SO Approval of Base Tree Survey Report	30	14-Oct-13 A	90%	3	23-Apr-14	30-Jan-19	04-Feb-19	1248	1248
TR00200	Tree transplant for Viaduct B - affecting Piers B11 to B17	90	17-Feb-14 A	30%	63	08-Jul-14	20-Mar-14	09-Jun-14	-24	1360
TR00220	Tree transplant for Viaduct B - affecting Pier B18 & Abutment B	90	17-Feb-14 A	30%	63	08-Jul-14	29-May-14	12-Aug-14	30	125
TR00240	Tree transplant for Viaduct B - affecting realigned CTR	90	17-Feb-14 A	30%	63	08-Jul-14	15-Mar-14	04-Jun-14	-28	41
TR00250	Tree felling for Viaduct B - affecting Slopes 9SE-B/F9, C8 & C9	48	30-Jun-14	0%	48	25-Aug-14	02-Apr-14	04-Jun-14	-69	0
TR00260	Tree felling for Viaduct C - affecting Piers C9 to Abutment C	24	30-Jan-14 A	25%	18	14-May-14	04-Oct-14	24-Oct-14	135	127
TR00270	Tree transplant for Viaduct C - affecting Piers C9 to Abutment C	90	17-Feb-14 A	25%	68	14-Jul-14	04-Aug-14	24-Oct-14	86	78
TR00280	Tree felling for Viaduct C - affecting realigned CTR	30	30-Jan-14 A	25%	23	20-May-14	18-Jun-14	15-Jul-14	46	45
TR00290	Tree transplant for Viaduct C - affecting realigned CTR	90	17-Feb-14 A	25%	68	14-Jul-14	16-Jun-14	03-Sep-14	45	0
Site Set Up for Works Area along CTR for Viaduct B										
PR22040-1	Pier B10 (B2c) - Implement TTM for constructing new Emergency Access Gates G8 & G9	2	11-Jun-14	0%	2	14-Jun-14	03-Mar-14	04-Mar-14	-67	0
PR22040-2	Pier B10 (B2c) - Construct fencing / roadside beam barriers between new Gates G8 & G9	20	14-Jun-14	0%	20	17-Jul-14	05-Mar-14	27-Mar-14	-67	0
PR22040-3	Pier B10 (B2c) - Construct new Gate G9	20	17-Jul-14	0%	20	09-Aug-14	28-Mar-14	24-Apr-14	-88	0
PR22040-4	Pier B10 (B2c) - Construct new Gate G8	20	17-Jul-14	0%	20	09-Aug-14	28-Mar-14	24-Apr-14	-88	0
ZB40260	Abutment B - Trial trench	24	02-Dec-13 A	80%	5	28-Apr-14	30-Jan-19	04-Feb-19	1268	1268
Site Set Up for Works Area 3 and Site Offices along CEDD Access Road										
PR30030	Works Area 3-A1/3-A2 - Construct 1.5m steel access bridge	30	22-Apr-14	0%	30	09-Jun-14	07-Dec-13	14-Jan-14	-103	0
PR30040	Set up container site offices at crest of CEDD Seawall	60	16-Oct-13 A	80%	12	10-May-14	31-Dec-13	14-Jan-14	-85	18
PR30050-1	Construct temp. road at CEDD track for piling at A8	12	17-Jul-14	0%	12	30-Jul-14	08-Nov-14	22-Nov-14	95	8
PR30050-2	Construct temp. road at CEDD track for piling at C7	12	03-Jul-14	0%	12	16-Jul-14	08-Apr-14	24-Apr-14	-67	0
PR30050-3	Construct temp. road at CEDD track for piling at D8	12	11-Jun-14	0%	12	02-Jul-14	15-Jan-14	28-Jan-14	-103	0
PR30050-4	Construct temp. road at CEDD track for piling at B8	12	10-Feb-14 A	10%	11	09-Jun-14	02-Jan-14	14-Jan-14	-103	0
Site Set Up for Works Area 5										
PR01520	Facilities for SO - procurement, including permanent and temporary offices	148	22-Jun-13 A	100%	0	30-Jan-14 A				
Temporary Working Platform at North Lantau										
PR08020	Temp. Working Platform at N.Lantau - Install MTR protection fence	22	22-Apr-14	0%	22	24-May-14	09-Jan-19	04-Feb-19	1251	1251
PR08030	Temp. Working Platform at N.Lantau - Modify top of existing seawall	24	25-Nov-13 A	80%	5	28-Apr-14	14-Mar-14	19-Mar-14	-26	16



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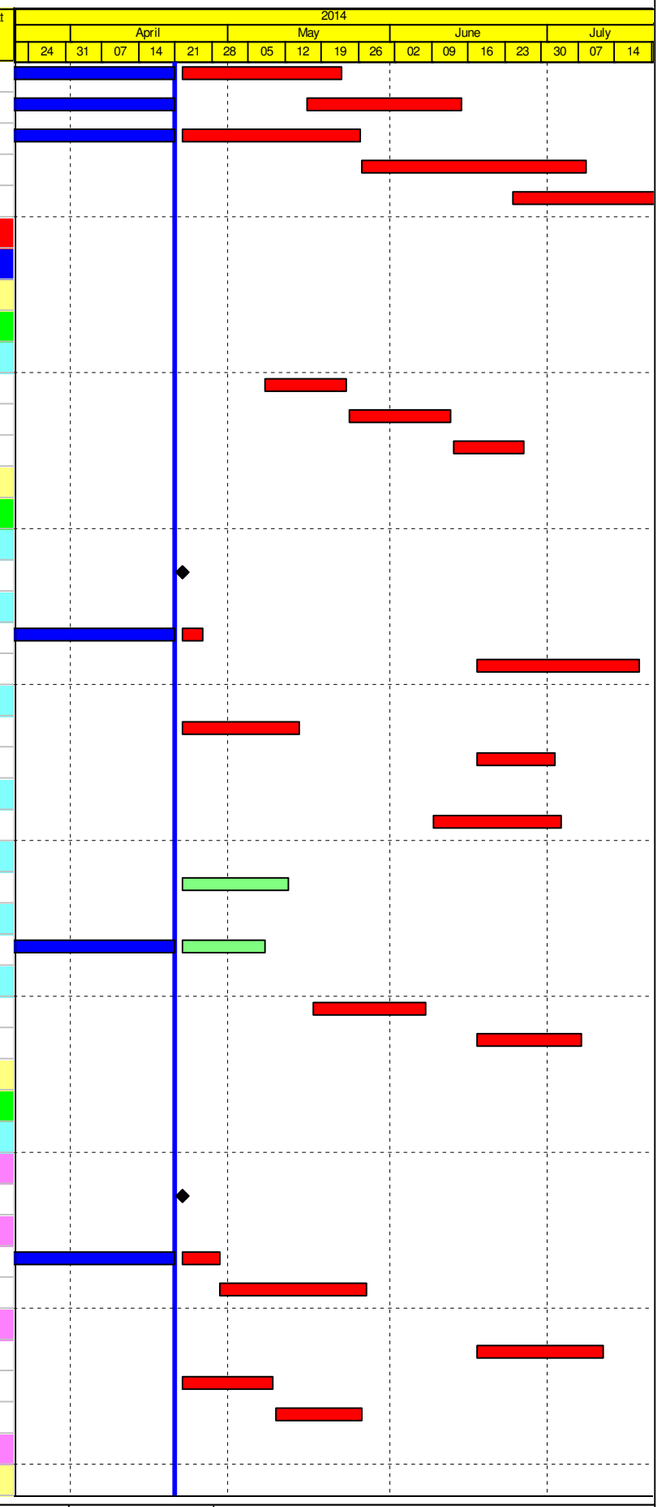
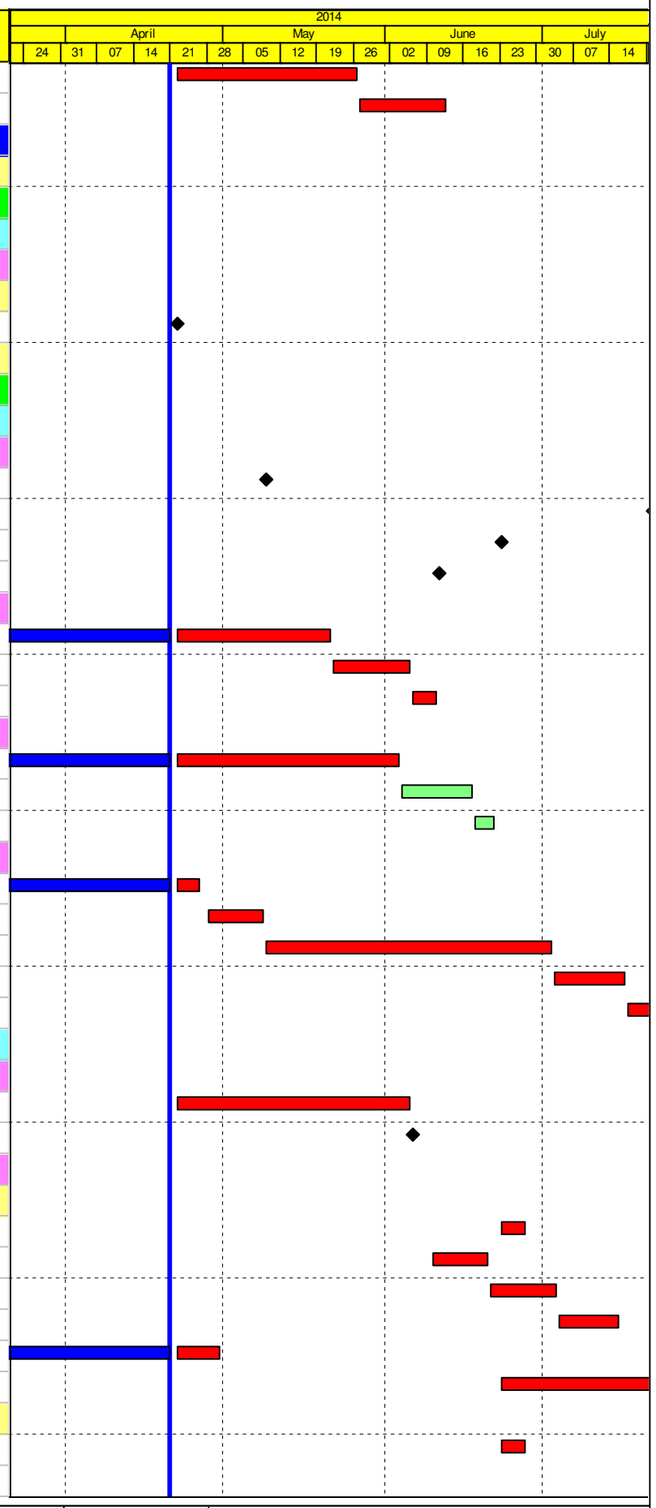
Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
PR08040	Temp. Working Platform at N.Lantau - Temp.Seawall & Precast cover slab for culvert outfall extn.	30	25-Nov-13 A	30%	21	22-May-14	22-Feb-14	19-Mar-14	-42	0
PR08050	Temp. Working Platform at N.Lantau - Temp. rockfill & paving between existing & Temp.Seawalls	30	17-Feb-13 A	40%	18	14-Jun-14	12-Mar-14	03-Apr-14	-42	2
PR08060	Temp. Working Platform at N.Lantau - Install pipe piles for steel platform	30	15-Mar-14 A	25%	23	26-May-14	21-Feb-14	19-Mar-14	-44	0
PR08070	Temp. Working Platform at N.Lantau - Construct steel deck / bollards / fenders	24	26-May-14	0%	24	08-Jul-14	19-Mar-14	25-Apr-14	-44	0
PR08080	Temp. Working Platform at N.Lantau - Inst.Lifting Gantry incl. Test/Commissioning for seg.lift	37	24-Jun-14	0%	37	07-Aug-14	13-Jun-14	26-Jul-14	-10	17
Construction										
Main Marine Crossing										
Viaduct E1										
Viaduct E1 - Marine Foundation										
Pier E1 (E1a1-2-3-4)										
GFXX021	E01 (E1a1/2) - Inst.Temp.Working Platform	14	08-May-14	0%	14	23-May-14	29-Apr-14	17-May-14	-5	0
GFXX021-2	E01 (E1a3/4) - Inst.Temp.Working Platform	16	24-May-14	0%	16	12-Jun-14	17-May-14	06-Jun-14	-5	0
GFXX022-1	E01 (E1a1) - Predrilling (2 nos)	12	13-Jun-14	0%	12	26-Jun-14	06-Jun-14	20-Jun-14	-5	0
Viaduct E2										
Viaduct E2 - Marine Foundation										
Milestones										
GFXX034	E2 - ARUP issues Pile Spacing & Diameter for Temporary Platform Design	0	22-Apr-14	0%	0		12-Mar-14		-30	0
Pier E3 (E2a)										
GFXX035	E03 (E2a) - Inst.Temp.Working Platform	26	17-Feb-14 A	84%	4	26-Apr-14	10-Mar-14	14-Mar-14	-32	42
GFXX036	E03 (E2a) - Predrilling (6 nos)	26	17-Jun-14	0%	26	18-Jul-14	14-Mar-14	15-Apr-14	-74	0
Pier E4 (E2b)										
GFXX040	E04 (E2b) - Inst.Temp.Working Platform	18	22-Apr-14	0%	18	14-May-14	12-Mar-14	02-Apr-14	-30	0
GFXX041	E04 (E2b) - Predrilling (4 nos)	12	17-Jun-14	0%	12	02-Jul-14	02-Apr-14	17-Apr-14	-58	0
Pier E5 (E2c)										
GFXX046	E05 (E2c) - Predrilling (4 nos)	21	09-Jun-14	0%	21	03-Jul-14	10-Jun-14	05-Jul-14	2	0
Pier E6 (E2d)										
GFXX050	E06 (E2d) - Inst.Temp.Working Platform	16	22-Apr-14	0%	16	12-May-14	16-Jun-14	05-Jul-14	45	43
Pier E9 (E2g)										
GFXX066	E09 (E2g) - Predrilling (6 nos)	18	12-Mar-14 A	33%	12	08-May-14	11-Dec-14	27-Dec-14	194	20
Pier E10 (E2h)										
GFXX070	E10 (E2h) - Inst.Temp.Working Platform	18	17-May-14	0%	18	07-Jun-14	12-May-14	03-Jun-14	-4	0
GFXX071	E10 (E2h) - Predrilling (8 nos)	16	17-Jun-14	0%	16	07-Jul-14	03-Jun-14	21-Jun-14	-12	0
Viaduct E5, E6, E7 & E8										
E5 to E8 Foundation Works										
Viaduct E5 to E8 - Marine Foundation										
Milestones										
GFXX081	E5/E6/E7/E8 - ARUP issues Pile Spacing & Diameter for Temporary Platform Design	0	22-Apr-14	0%	0		05-Mar-14		-37	0
Pier E11 (E5E6a/E7E8a)										
GFXX082	E11 (E5E6a/E7E8a) - Inst.Temp.Working Platform	18	10-Mar-14 A	62%	7	29-Apr-14	05-Mar-14	12-Mar-14	-37	0
GFXX083	E11 (E5E6a/E7E8a) - Predrilling (7 nos)	22	29-Apr-14	0%	22	27-May-14	27-Mar-14	26-Apr-14	-24	91
Pier E12 (E5b/E6b + E7b/E8b + Dolphin E5b/E8b)										
GFXX088-1	E12 (E5b/E6b/E7b/E8b) - Predrilling (14 nos)	20	17-Jun-14	0%	20	11-Jul-14	30-May-14	23-Jun-14	-15	54
GFXX088-2	E12 (E5b Dolphin) - Predrilling (3 nos)	14	22-Apr-14	0%	14	09-May-14	25-Apr-14	13-May-14	3	0
GFXX088-3	E12 (E5b Dolphin) - Predrilling (3 nos)	14	10-May-14	0%	14	26-May-14	14-May-14	29-May-14	3	18
Pier E13										
E13 (E5cE6c)										



Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
GFXX093	E13B (E5c/E6c, Dolphin E5c) - Inst.Temp.Working Platform	28	22-Apr-14	0%	28	26-May-14	05-Mar-14	07-Apr-14	-37	0
GFXX094	E13B (E5c/E6c Dolphin E5c) - Predrilling (11 nos)	14	27-May-14	0%	14	12-Jun-14	08-Apr-14	26-Apr-14	-37	77
Approach from Lantau										
Viaduct A										
Viaduct A Foundation Works										
Viaduct A - Land Foundation - North Lantau										
Preliminary Works for Land Piling										
Milestones										
ZA10010	MTR approval of protection measures	0		0%	0	22-Apr-14		11-Dec-14	193	90
Viaduct B										
Viaduct B Foundation Works										
Viaduct B - Marine Foundation										
Milestones										
GFXX172-1	B03 (B3d) - Fnds start date for piling	0	09-May-14	0%	0		15-Feb-14		-65	0
GFXX175-1	B03 (B3d) - Completion of piling works	0		0%	0	22-Jul-14		25-Jul-14	3	0
GFXX180-1	B02 (B3e) - Completion of piling works	0		0%	0	23-Jun-14		11-Jul-14	15	0
GFXX185-1	B01 (B3f) - Completion of piling works	0		0%	0	11-Jun-14		04-Jun-14	-6	0
Pier B1 (B3f)										
GFXX183	B01 (B3f) - Bored Piles (1.80m dia. x 3 nos)	45	28-Feb-14 A	80%	24	21-May-14	11-Apr-14	15-May-14	-6	0
GFXX184	B01 (B3f) - Sonic & Interface Coring	12	22-May-14	0%	12	05-Jun-14	15-May-14	29-May-14	-6	0
GFXX185	B01 (B3f) - Demob from platform	4	06-Jun-14	0%	4	10-Jun-14	29-May-14	04-Jun-14	-6	0
Pier B2 (B3e)										
GFXX178	B02 (B3e) - Bored Piles (2.20m dia. x 2 nos)	45	10-Mar-14 A	32%	34	03-Jun-14	01-Mar-14	11-Apr-14	-40	0
GFXX179	B02 (B3e) - Sonic & Interface Coring	12	04-Jun-14	0%	12	17-Jun-14	21-Jun-14	07-Jul-14	15	0
GFXX180	B02 (B3e) - Demob from platform	4	18-Jun-14	0%	4	21-Jun-14	07-Jul-14	11-Jul-14	15	0
Pier B3 (B3d)										
GFXX171	B03 (B3d) - Inst.Temp.Working Platform	10	14-Mar-14 A	50%	5	26-Apr-14	28-Jan-14	06-Feb-14	-65	0
GFXX172	B03 (B3d) - Predrilling (2 nos)	8	28-Apr-14	0%	8	08-May-14	06-Feb-14	15-Feb-14	-65	0
GFXX173	B03 (B3d) - Bored Piles (2.20m dia. x 2 nos)	45	09-May-14	0%	45	02-Jul-14	15-Feb-14	10-Apr-14	-65	0
GFXX174	B03 (B3d) - Sonic & Interface Coring	12	03-Jul-14	0%	12	16-Jul-14	07-Jul-14	21-Jul-14	3	0
GFXX175	B03 (B3d) - Demob from platform	4	17-Jul-14	0%	4	21-Jul-14	21-Jul-14	25-Jul-14	3	0
Viaduct B - Land Foundation - North Lantau										
Preliminary Works for Land Piling										
GFXX303-1	Viaduct B - Install Geo. Instru. B16-B10 & Baseline Monitoring	36	22-Apr-14	0%	36	05-Jun-14	06-Dec-13	21-Jan-14	-108	0
GFXX303-3	Viaduct B - Submit baseline monitoring for Geo. Instru. for B16-B10	0	06-Jun-14	0%	0		21-Jan-14		-108	0
Socketted H-Pile Installation (132nos.; 1no. Rig)										
Pier B8 (B2e) - Workfront no. Bwf7 - Phase 1										
GFXX309-	B08 (B2e) - Mobilization for Pregrouting (B8 and B9)	5	23-Jun-14	0%	5	27-Jun-14	22-Feb-14	28-Feb-14	-96	22
ZB20020	B08 (B2e) - Relocate MTR fence	10	10-Jun-14	0%	10	20-Jun-14	07-Feb-14	19-Feb-14	-98	0
ZB20030	B08 (B2e) - Install protection fence	10	21-Jun-14	0%	10	03-Jul-14	19-Feb-14	03-Mar-14	-98	0
ZB20040	B08 (B2e) - Set up piling platform	10	04-Jul-14	0%	10	15-Jul-14	03-Mar-14	14-Mar-14	-98	20
ZB30000-9	B08 (B2e) - MTRC Approval for Piling Fence Design	36	06-Jan-14 A	80%	7	30-Apr-14	13-Jan-14	21-Jan-14	-79	29
ZB30010-6	B08 (B2e) - Install Geo. Instru. & Baseline Monitoring	36	23-Jun-14	0%	36	04-Aug-14	14-Feb-14	28-Mar-14	-103	15
Pier B9 (B2d) - Workfront no. Bwf6 - Phase 1										
GFXX309	B09 (B2d) - Mobilization for Pregrouting	5	23-Jun-14	0%	5	27-Jun-14	22-Feb-14	28-Feb-14	-96	22
GFXX310-	B09 (B2d) - Pre-grouting Works B9	12	25-Jul-14	0%	12	07-Aug-14	28-Feb-14	14-Mar-14	-118	0



Actual Work
Planned Bar
Critical Bar
Milestone

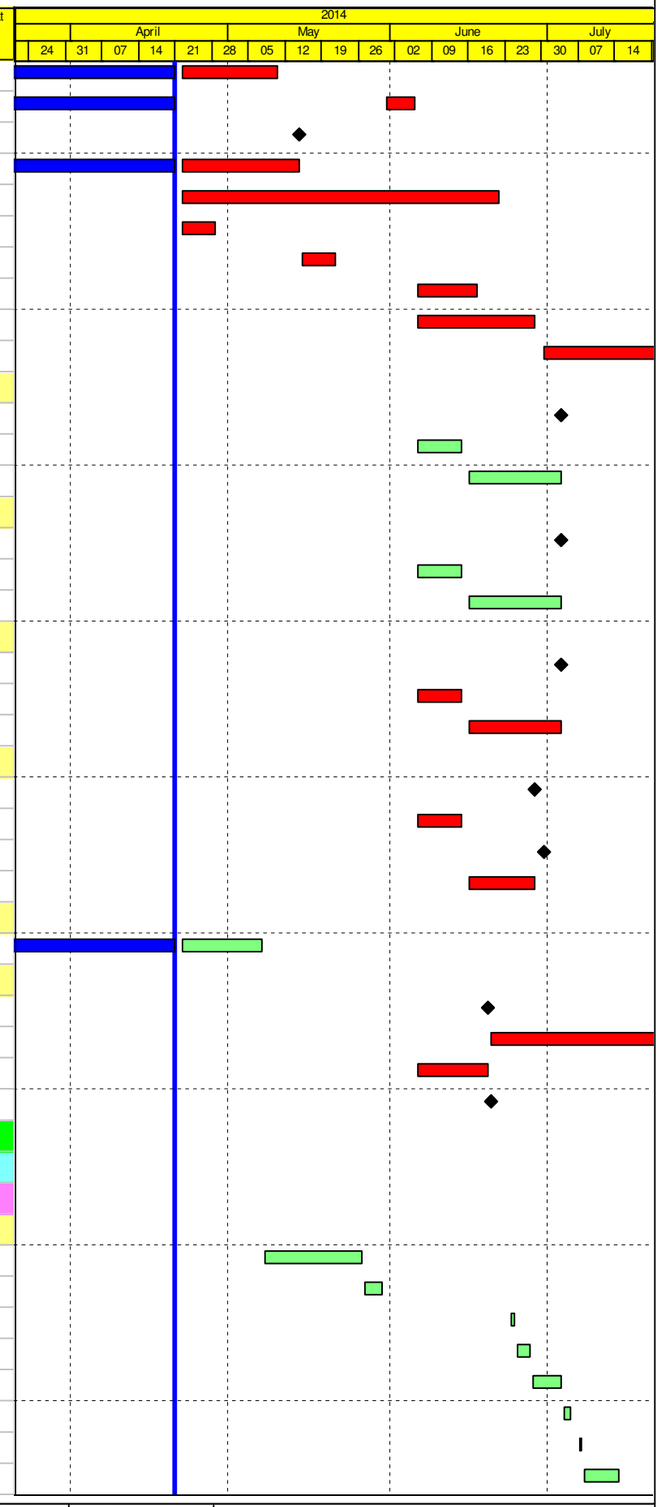
Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 12 of 15 Pages)
(Progress as of 21-Apr-14)

Date	Revision	Checked	Approved
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
ZB30000-2	B09 (B2d) - MTRC Approval for Piling Fence Design/Method Statement	36	06-Jan-14 A	60%	14	10-May-14	03-Jan-14	21-Jan-14	-86	22
ZB30000-3	B09 (B2d) - Procure Temp.Mtrls & Fabricate Pile Fence & Delivery	36	21-Oct-13 A	90%	4	05-Jun-14	16-Jan-14	21-Jan-14	-108	0
ZB30000-6	B09 (B2d) - Implement TTM Stage 2	0		0%	0	14-May-14		14-Jan-14	-96	0
ZB30000-7	B09 (B2d) - Temp.Works Design & Approval	36	07-Oct-13 A	50%	18	14-May-14	06-Dec-13	30-Dec-13	-108	0
ZB30010-3	B09 (B2d) - Install Geo. Instru. & Baseline Monitoring	36	22-Apr-14	0%	36	21-Jun-14	30-Dec-13	14-Feb-14	-86	0
ZB30020-3	B09 (B2d) - Remove existing MTRC Security Fence	5	22-Apr-14	0%	5	28-Apr-14	15-Jan-14	21-Jan-14	-73	23
ZB30020-5	B09 (B2d) - Setup platform for erecting MTRC Security Fence	6	15-May-14	0%	6	21-May-14	14-Jan-14	21-Jan-14	-88	8
ZB30030	B09 (B2d) - Erect MTR Piling Protection Fence	6	06-Jun-14	0%	6	17-Jun-14	21-Jan-14	28-Jan-14	-96	0
ZB30040	B09 (B2d) - Erect platform for ELS	12	06-Jun-14	0%	12	28-Jun-14	21-Jan-14	07-Feb-14	-96	0
ZB30050-1	B09 (B2d) - Install Temp.Timber Platform for access	18	30-Jun-14	0%	18	24-Jul-14	07-Feb-14	28-Feb-14	-96	0
Pier B11 (B2b) - Workfront no. Bwf3 - Phase 1										
GFXX322-	Pier B11 (B2b) - Complete Civil Preparation Works for piling to commence	0		0%	0	03-Jul-14		04-Aug-14	26	23
GFXX333-	B11 (B2b) - Predrilling (1 nos)	8	06-Jun-14	0%	8	14-Jun-14	08-Jul-14	17-Jul-14	26	0
ZB90150-4	B11 (B2b) - Formation for piling platform (after predrilling)	15	16-Jun-14	0%	15	03-Jul-14	17-Jul-14	04-Aug-14	26	0
Pier B12 (B2a) - Workfront no. Bwf3 - Phase 1										
GFXX322-	Pier B12 (B2a) - Complete Civil Preparation Works for piling to commence	0		0%	0	03-Jul-14		24-Jul-14	17	23
GFXX333-	B12 (B2a) - Predrilling (1 nos)	8	06-Jun-14	0%	8	14-Jun-14	26-Jun-14	07-Jul-14	17	0
ZB90150-3	B12 (B2a) - Formation for piling platform (after predrilling)	15	16-Jun-14	0%	15	03-Jul-14	07-Jul-14	24-Jul-14	17	0
Pier B13 (B1g) - Workfront no. Bwf3 - Phase 1										
GFXX322-	Pier B13 (B1g) - Complete Civil Preparation Works for piling to commence	0		0%	0	03-Jul-14		19-May-14	-37	23
GFXX333-	B13 (B1g) - Predrilling (1 nos)	8	06-Jun-14	0%	8	14-Jun-14	17-Apr-14	29-Apr-14	-37	0
ZB90150-2	B13 (B1g) - Formation for piling platform (after predrilling)	15	16-Jun-14	0%	15	03-Jul-14	30-Apr-14	19-May-14	-37	0
Pier B14 (B1f) - Workfront no. Bwf3 - Phase 1										
GFXX322-	Pier B14 (B1f) - Complete Civil Preparation Works for piling to commence	0		0%	0	28-Jun-14		19-May-14	-34	0
GFXX333-	B14 (B1f) - Predrilling (1 nos)	8	06-Jun-14	0%	8	14-Jun-14	24-Apr-14	03-May-14	-34	0
ZB00100	Pier B14 (B1f) - Fnds. Start date for piling	0	30-Jun-14	0%	0		20-May-14		-34	26
ZB50050-1	B14 (B1f) - Formation for piling platform (after predrilling)	12	16-Jun-14	0%	12	28-Jun-14	05-May-14	19-May-14	-34	0
Pier B15 (B1e) - Workfront no. Bwf1 - Phase 1										
GFXX318-	B15 (B1e) - Install SH Pile (13 nr)	34	27-Feb-14 A	32%	12	07-May-14	05-May-14	19-May-14	10	0
Pier B16 (B1d) - Workfront no. Bwf1 - Phase 1										
GFXX316-	Pier B16 (B1d) - Complete Civil Preparation Works for piling to commence	0		0%	0	19-Jun-14		02-Apr-14	-60	0
GFXX318-	B16 (B1d) - Install SH Pile (10 nr)	34	20-Jun-14	0%	34	30-Jul-14	03-Apr-14	19-May-14	-60	0
ZB16000	B16 (B1d) - Set up piling platform	12	06-Jun-14	0%	12	19-Jun-14	20-Mar-14	02-Apr-14	-60	0
ZB16010	Pier B16 (B1d) - Fnds. Start date for piling	0	20-Jun-14	0%	0		03-Apr-14		-60	0
Viaduct B Substructure										
Structure B1										
Pier B15 (B1e)										
Pile Cap Works										
SB1E0094	B15 (B1e) - Pile cap Excavation / ELS (incl. sheet piling)	16	08-May-14	0%	16	26-May-14	30-Jan-15	18-Feb-15	222	0
SB1E0096	B15 (B1e) - Pile Breakdown to cut-off etc.	4	27-May-14	0%	4	30-May-14	23-Feb-15	26-Feb-15	222	19
SB1E0102	B15 (B1e) - Pile cap Blinding	1	24-Jun-14	0%	1	24-Jun-14	27-Feb-15	27-Feb-15	203	0
SB1E0112	B15 (B1e) - Pile cap Formwork	3	25-Jun-14	0%	3	27-Jun-14	28-Feb-15	03-Mar-15	203	0
SB1E0124	B15 (B1e) - Pile cap Rebarwork	4	28-Jun-14	0%	4	03-Jul-14	04-Mar-15	07-Mar-15	203	0
SB1E0126	B15 (B1e) - Pile cap Kicker Formwork	2	04-Jul-14	0%	2	05-Jul-14	09-Mar-15	10-Mar-15	203	0
SB1E0132	B15 (B1e) - Pile cap Concreting	1	07-Jul-14	0%	1	07-Jul-14	11-Mar-15	11-Mar-15	203	0
SB1E0142	B15 (B1e) - Pile cap Curing & Striking of Forms incl. CJ prep	6	08-Jul-14	0%	6	14-Jul-14	12-Mar-15	18-Mar-15	203	0



Actual Work
Planned Bar
Critical Bar
Milestone

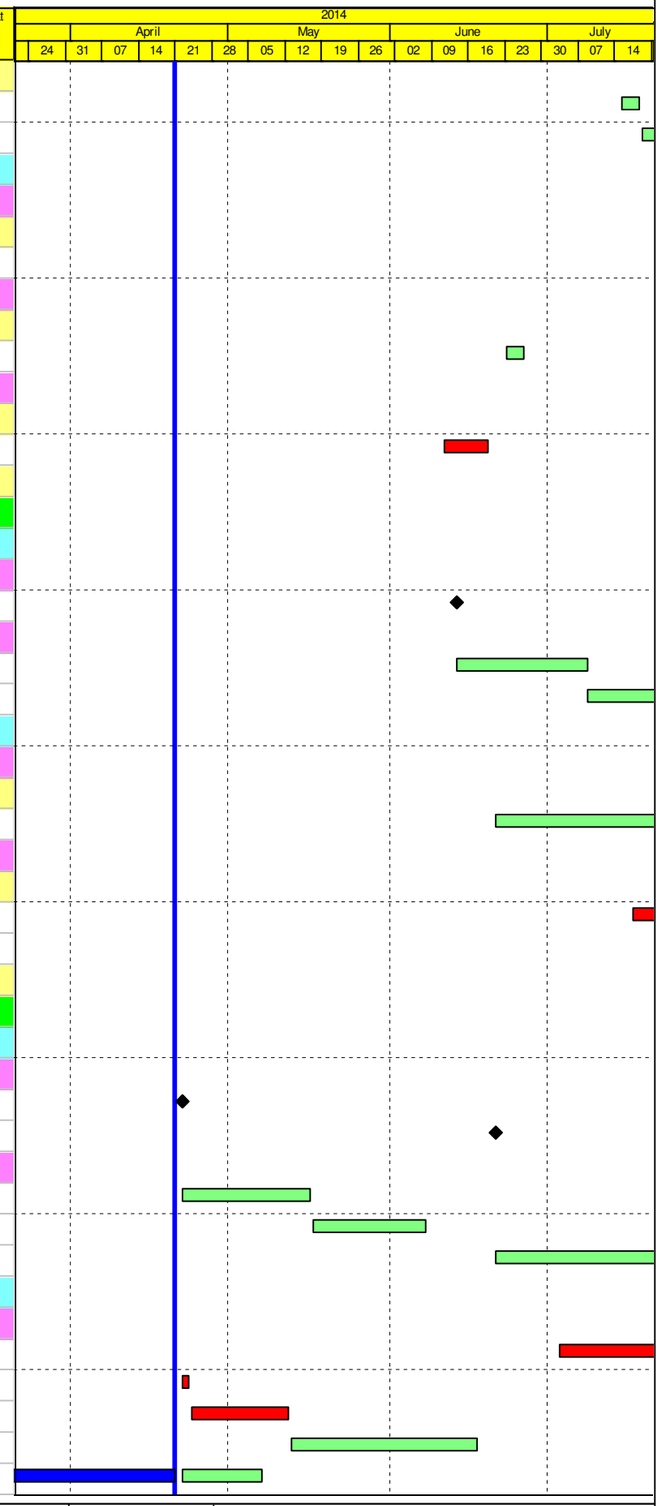
Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 13 of 15 Pages)
(Progress as of 21-Apr-14)

Date	Revision	Checked	Approved
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
	Pier Works									
SB1E0150	B15 (B1e) - Type 5B Pier Scaffolding (1st Lift)	4	15-Jul-14	0%	4	18-Jul-14	19-Mar-15	23-Mar-15	203	0
SB1E0160	B15 (B1e) - Type 5B Pier Rebarwork (1st Lift)	4	19-Jul-14	0%	4	23-Jul-14	24-Mar-15	27-Mar-15	203	0
	Structure B3									
	Pier B3 (B3d)									
	Pile Cap Works									
SB3D0070	B03 (B3d) - Marine Pile Cap - Inst.prefab.collar frame to permanent casing of Bored pile	4	22-Jul-14	0%	4	25-Jul-14	25-Jul-14	30-Jul-14	3	1
	Pier B2 (B3e)									
	Pile Cap Works									
SB3E0070	B02 (B3e) - Marine Pile Cap - Inst.prefab.collar frame to permanent casing of Bored pile	4	23-Jun-14	0%	4	26-Jun-14	11-Jul-14	16-Jul-14	15	25
	Pier B1 (B3f)									
	Pile Cap Works									
SB3F0070	B01 (B3f) - Marine Pile Cap - Inst.prefab.collar frame to permanent casing of Bored pile	8	11-Jun-14	0%	8	19-Jun-14	04-Jun-14	14-Jun-14	-5	31
	Viaduct C									
	Viaduct C Foundation Works									
	Viaduct C - Marine Foundation									
	Milestones									
GFXX192	Bridge C - ARUP issues Pile Spacing & Diameter for Temporary Platform Design	0		0%	0	13-Jun-14		16-Sep-14	79	0
	Pier C1 (C4e)									
GFXX218	C01 (C4e) - Inst.Temp.Working Platform	20	13-Jun-14	0%	20	08-Jul-14	04-Dec-14	30-Dec-14	145	0
GFXX219	C01 (C4e) - Predrilling (3 nos)	18	08-Jul-14	0%	18	29-Jul-14	30-Dec-14	21-Jan-15	145	0
	Viaduct C - Land Foundation - North Lantau									
	Preliminary Works for Land Piling									
	Construction Works									
GFXX358-	Viaduct C - Install Geo. Instru. for C8 & Baseline Monitoring	36	21-Jun-14	0%	36	02-Aug-14	30-Jul-14	10-Sep-14	32	0
	Viaduct C - Land Foundations - Socketted H-Piles									
	Pier C7 (C3e) - Workfront no. Cwf7									
ZC10020	Pier C7 (C3e) - Relocate MTR fence	10	17-Jul-14	0%	10	28-Jul-14	25-Apr-14	08-May-14	-67	0
ZC10030	Pier C7 (C3e) - Install protection fence	10	29-Jul-14	0%	10	08-Aug-14	17-Oct-14	28-Oct-14	66	0
	Viaduct D									
	Viaduct D Foundation Works									
	Viaduct D - Marine Foundation									
	Milestones									
GFXX228	Bridge D - ARUP issuses Pile Spacing & Diameter for Temporary Platform Design	0		0%	0	22-Apr-14		10-May-14	15	0
GFXX260-1	Pier D4f - Start date for piling	0	21-Jun-14	0%	0		10-Jul-14		16	0
	Pier D1 (D4f)									
GFXX259	D01 (D4f) - Inst.Temp.Working Platform	20	22-Apr-14	0%	20	16-May-14	24-May-14	18-Jun-14	27	0
GFXX260	D01 (D4f) - Predrilling for Piles (3 nos)	18	17-May-14	0%	18	07-Jun-14	18-Jun-14	10-Jul-14	27	11
GFXX261	D01 (D4f) - Bored Piles (1.80m dia. x 3 nos)	56	21-Jun-14	0%	56	26-Aug-14	10-Jul-14	15-Sep-14	16	0
	Viaduct D - Land Foundation - North Lantau									
	Preliminary Works for Land Piling									
GFXX426-1	Viaduct D - Install Geo. Instru. for D8 - D19 & Baseline Monitoring	36	03-Jul-14	0%	36	13-Aug-14	29-Jan-14	13-Mar-14	-123	0
ZD20010	Viaduct D works area between MTR and NLH - Setup TTM	2	22-Apr-14	0%	2	23-Apr-14	10-Jan-14	11-Jan-14	-81	0
ZD20020	Viaduct D works area between MTR and NLH - General site clearance	14	24-Apr-14	0%	14	12-May-14	13-Jan-14	28-Jan-14	-81	0
ZD20030	Viaduct D works area between MTR and NLH - Set up piling platform	30	13-May-14	0%	30	17-Jun-14	31-Dec-18	04-Feb-19	1377	1377
ZD20040	Viaduct D works area between MTR and NLH - Erect MTR protection fence	12	10-Feb-14 A	5%	11	07-May-14	25-Jun-14	09-Jul-14	53	0



Actual Work
Planned Bar
Critical Bar
Milestone

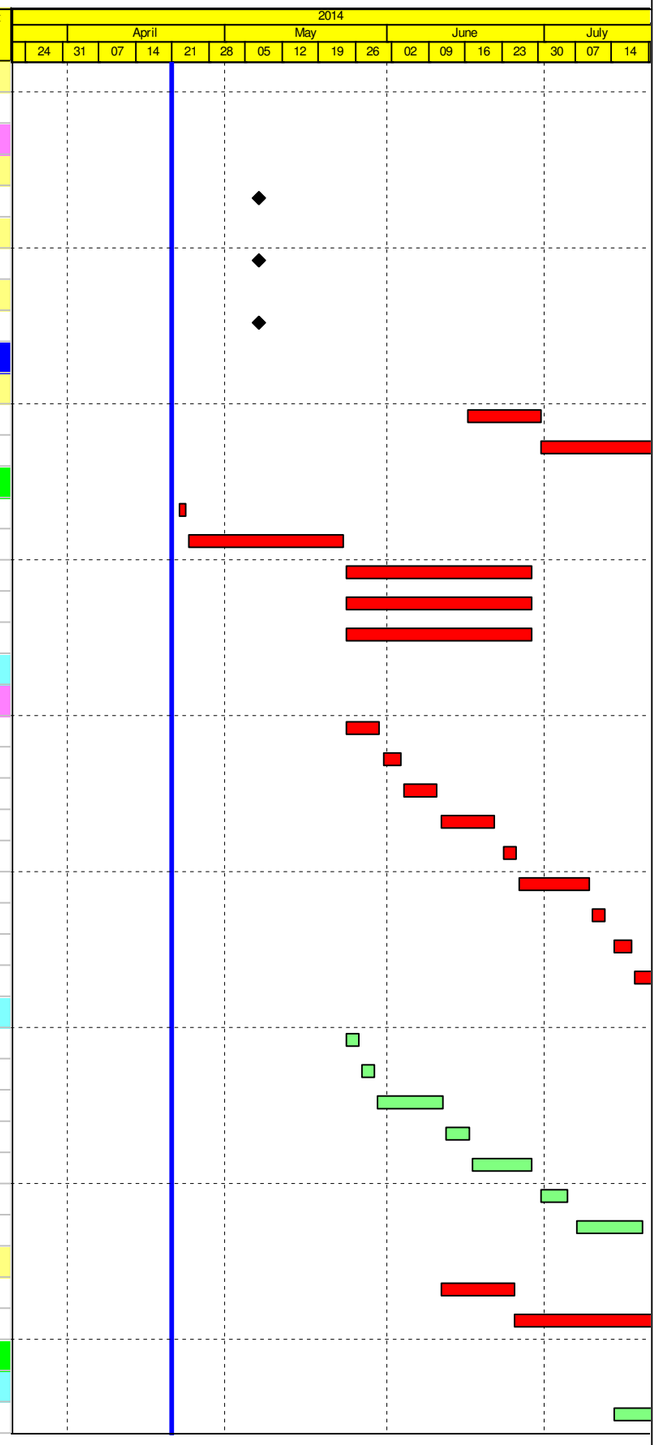
Project ID: J3518DWPrD-U06
Layout: J3518-DWP-3MRP submission
Filter: TASK filters: 3-Month Lookahead, No Level of Effort, TCSS Design Excluded.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 14 of 15 Pages)
(Progress as of 21-Apr-14)

Date	Revision	Checked	Approved
21-Apr-14		FZ	

DWG. No.:
J3518/GCL/PGM/3MRP-M11

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Physical % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float
Pier D8										
ZD10030	D8 (D3d) - Relocate MTR fence	10	29-Jul-14	0%	10	08-Aug-14	09-May-14	20-May-14	-67	0
Socketted H-Pile Installation										
Pier D10A (D3b-L) (Workfront no. Dwf6)										
GFXX459-	D10A (D3b-L) - Complete Civil Preparation Works for piling to commence	0		0%	0	07-May-14		09-Jul-14	53	83
Pier D11A (D3a-L) (Workfront no. Dwf6)										
GFXX459-	D11A (D3a-L) - Complete Civil Preparation Works for piling to commence	0		0%	0	07-May-14		06-Aug-14	77	107
Pier D12A (D2e-L) (Workfront no. Dwf6)										
GFXX459-	D12A (D2e-L) - Complete Civil Preparation Works for piling to commence	0		0%	0	07-May-14		27-Oct-14	144	131
At-Grade Roadworks and Other Works along Cheung Tung Road										
Re-alignment of Cheung Tung Road adjacent to Viaduct B										
RP00010	Apply for relocation of ESS affected by CTR re-alignment adj. to Viaduct B	12	16-Jun-14	0%	12	30-Jun-14	15-May-14	28-May-14	-27	0
RP00020	Construct new ESSA SubStn.adjacent to Viaduct B	60	30-Jun-14	0%	60	10-Sep-14	29-May-14	08-Aug-14	-27	0
Viaduct B Slope Works										
SWVB0010	Setup TTM for slopework for Slope 9SE-B/C8, B/C9, B/F9	2	22-Apr-14	0%	2	23-Apr-14	24-Jan-14	25-Jan-14	-69	0
SWVB0020	Slope 9SE-B/C8, B/C9, B/F9 - Erect safety fence on CTR	24	24-Apr-14	0%	24	23-May-14	27-Jan-14	25-Feb-14	-69	0
SWVB0030-1	Slope 9SE-B/C8 - Form haul road	30	24-May-14	0%	30	28-Jun-14	26-Feb-14	01-Apr-14	-69	0
SWVB0030-2	Slope 9SE-B/C9 - Form haul road	30	24-May-14	0%	30	28-Jun-14	26-Feb-14	01-Apr-14	-69	0
SWVB0030-3	Slope 9SE-B/F9 - Form haul road	30	24-May-14	0%	30	28-Jun-14	26-Feb-14	01-Apr-14	-69	0
Slope 9SE-B/C9										
Zone A										
SWVB1010	9SE-B/C9 Zone A - Form access track over crest of slope	6	24-May-14	0%	6	30-May-14	27-Feb-14	05-Mar-14	-68	0
SWVB1020	9SE-B/C9 Zone A - Excav. to +25.00	2	31-May-14	0%	2	03-Jun-14	06-Mar-14	07-Mar-14	-68	0
SWVB1030	9SE-B/C9 Zone A - Soil nail pull out test	6	04-Jun-14	0%	6	10-Jun-14	08-Mar-14	14-Mar-14	-68	0
SWVB1040	9SE-B/C9 Zone A - Soil nail 18 nr.@ +26.5	10	11-Jun-14	0%	10	21-Jun-14	15-Mar-14	26-Mar-14	-68	0
SWVB1050	9SE-B/C9 Zone A - Excav. to +23.00	3	23-Jun-14	0%	3	25-Jun-14	27-Mar-14	29-Mar-14	-68	0
SWVB1060	9SE-B/C9 Zone A - Soil nail 24 nr.@ +24.5	11	26-Jun-14	0%	11	09-Jul-14	31-Mar-14	12-Apr-14	-68	0
SWVB1070	9SE-B/C9 Zone A - Excav. to +22.00	3	10-Jul-14	0%	3	12-Jul-14	14-Apr-14	16-Apr-14	-68	0
SWVB1080	9SE-B/C9 Zone A - Raking Drain 11 nr @ +23.5	4	14-Jul-14	0%	4	17-Jul-14	17-Apr-14	24-Apr-14	-68	0
SWVB1090	9SE-B/C9 Zone A - Excav. to +21.00	5	18-Jul-14	0%	5	23-Jul-14	25-Apr-14	30-Apr-14	-68	0
Slope 9SE-B/C8										
SWVB2010	9SE-B/C8 - Form access track over crest of slope	2	24-May-14	0%	2	26-May-14	22-Jul-14	23-Jul-14	48	0
SWVB2020	9SE-B/C8 -Soil nail pull out test	3	27-May-14	0%	3	29-May-14	24-Jul-14	26-Jul-14	48	0
SWVB2030	9SE-B/C8 -Soil nail 39 nr. @ +21.0	10	30-May-14	0%	10	11-Jun-14	28-Jul-14	07-Aug-14	48	0
SWVB2040	9SE-B/C8 -Excav. to +18.50	4	12-Jun-14	0%	4	16-Jun-14	08-Aug-14	12-Aug-14	48	0
SWVB2050	9SE-B/C8 -Soil nail 44 nr. @ +19.0	11	17-Jun-14	0%	11	28-Jun-14	13-Aug-14	25-Aug-14	48	0
SWVB2060	9SE-B/C8 -Excav. to +16.50	5	30-Jun-14	0%	5	05-Jul-14	26-Aug-14	30-Aug-14	48	0
SWVB2070	9SE-B/C8 -Soil nail 53 nr. @ +17.0	12	07-Jul-14	0%	12	19-Jul-14	01-Sep-14	15-Sep-14	48	26
Re-alignment of Cheung Tung Road adjacent to Viaduct C										
RP10010	Apply for relocation of ESS near Viaduct C	12	11-Jun-14	0%	12	25-Jun-14	04-Jun-14	17-Jun-14	-7	0
RP10020	Construct new ESS-C Sub.Stn. adjacent to Viaduct C	60	25-Jun-14	0%	60	04-Sep-14	18-Jun-14	27-Aug-14	-7	0
Viaduct C Slope Works										
Slope 10NW-C/C22										
SWVC1000	10NW-C/C22 - Slope works	18	14-Jul-14	0%	18	04-Aug-14	04-Sep-14	25-Sep-14	45	0



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Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 15 of 15 Pages)
(Progress as of 21-Apr-14)

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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 BridgeTuen Mun-Chep Lap Kok Link – Investigation. UpdatedEM&A Manual for Tuen Mun-Chek Lap Kok Link)

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

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

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

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

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

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
			construction during bored piling						
8.14	6.3,6.5	Avoidance of peak CWD calving season in May and June for driving of metal caissons during bored piling works	Southern marine viaduct/ May and June during bored piling	Contractor	TMEIA		Y		n/a
8.14	6.3,6.5	Specification and implementation of 250m dolphin exclusion zone.	All marine bored piling and temporary staging works areas/Detailed Design/during all marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.5	Specification and deployment of an artificial reef of an area of 3,600 m² in an area where fishing activities are prohibited.	Area of prohibited fishing activities/Detailed Design/towards end of construction period	TM-CLKL/ HKBCF Design Consultant/ TM-CLKL/ HKBCF Contractor	TMEIA	Y		Y	n/a To be enforced by AFCD.
8.14	6.3, 6.5	Specification and implementation of marine vessel control specifications	All areas/Detailed Design/during construction works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.14	6.3, 6.5	Design and implementation of acoustic decoupling methods for marine bored piling and the whole lifespan of temporary staging works.	All areas/ Detailed Design/during marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		<>
8.15	6.3, 6.4	Pre-construction phase survey and coral translocation	Tai Ho Wan (donar site) and Yam Tsui Wan (receptor site) /Detailed Design/Prior to construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.5	Audit coral translocation success	Yam Tsui Wan (receptor site)/Post translocation	Contractor	TMEIA		Y		✓
7.13	6.5	Undertaken gabion wall works in Stream NL1 in the dry season	North Lantau slope works/dry	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	
			season/construction phase						
7.13	6.5	The loss of habitat shall be supplemented by enhancement planting in accordance with the landscape mitigation schedule.	All areas / As soon as accessible	Contractor	TMEIA		Y		n/a. To be approved by AFCD/LCSD
7.13	6.5	Spoil heaps shall be covered at all times.	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Avoid damage and disturbance to the remaining and surrounding natural habitat	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Placement of equipment in designated areas within the existing disturbed land	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Disturbed areas to be reinstated immediately after completion of the works.	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
7.13	6.5	Construction activities should be restricted to the proposed works boundary	All areas / Throughout construction period	Contractor	TMEIA		Y		✓
LANDSCAPE AND VISUAL									
10.9	7.6	Round angle, patterned finishes, and oval shaped pier were considered in the viaduct design, and further details will be developed under ACABAS submission (DM3)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Details of the street furniture will be developed in the detailed design stage (DM4)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Aesthetic design of the viaduct, retaining wall and other structures will be developed under ACABAS submission (DM5)	All areas/detailed design	Design Consultant	TMEIA	Y			n/a
10.9	7.6	Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection measures will be detailed at Tree Removal Application stage) (CM1)							
10.9	7.6	Trees unavoidably affected by the works shall be transplanted where practical. Trees will be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme (CM2)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
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		n/a
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		✓
10.9	7.6	Recycle/Reuse all felled trees and vegetation, e.g.	All areas/detailed	Design	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	
		mulching (CM9)	design/ during construction	Consultant/ Contractor					
10.9	7.6	Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006 (CM10).	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/ L CSD
10.9	7.6	Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a To be implemented by HyD/LCSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and minimise unnecessary light spill (OM3)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement (OM4)	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	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and	All areas/detailed design/ during	Design Consultant/	TMEIA	Y	Y	Y	n/a. To be

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		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.	construction period						
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: - suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; - Having a capacity of <450L unless the specifications have been approved by the EPD; and - Displaying a label in English and Chinese according to the instructions prescribed in Schedule 2 of the Regulations. Clearly labelled and used solely for the storage of chemical wastes; - Enclosed with at least 3 sides; - Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest; - Adequate ventilation; - Sufficiently covered to prevent rainfall entering	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	
		(water collected within the bund must be tested and disposed of as chemical waste, if necessary); and - Incompatible materials are adequately separated.							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		n/a
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 warrant collection. Participation in a local	Site Offices/ 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	
		collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.							
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas / throughout construction period	Contractor	EM&A Manual		Y		<>
CULTURAL HERITAGE									
11.8	Section 9	EM&A in the form of audit of the mitigation measures	All areas / throughout construction period	Highways Department	EIAO-TM		Y		n/a

Notes:

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

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

Status:

✓	Compliance of Mitigation Measures
<>	Compliance of Mitigation but need improvement
x	Non-compliance of Mitigation Measures
▲	Non-compliance of Mitigation Measures but rectified by Contractor
Δ	Deficiency of Mitigation Measures but rectified by Contractor
n/a	Not Applicable in Reporting Period

Appendix D

Summary of Action and Limit Levels

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

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

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

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

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

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

Notes:

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

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

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

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

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

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

Table D4 Action and Limit Levels for Impact Dolphin Monitoring

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

Notes:

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

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

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

Appendix E

Calibration Certificates of Monitoring Equipments

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 8(A)
Calibrated by	:	P.F.Yeung
Date	:	05/03/2014

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	12 Mar 2013
Slope (m)	:	2.05818
Intercept (b)	:	0.01929
Correlation Coefficient(r)	:	0.99991

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	290

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.5	3.593	1.736	62	63.00
2	13 holes	10.2	3.245	1.567	57	57.92
3	10 holes	7.5	2.783	1.343	51	51.83
4	7 holes	5.0	2.272	1.095	45	45.73
5	5 holes	2.9	1.731	0.831	37	37.60

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):27.595 Intercept(b): 14.942 Correlation Coefficient(r): 0.9993

Checked by: Magnum Fan Date: 20/03/2014

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR8
Calibrated by	:	P.F.Yeung
Date	:	05/03/2014

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	12 Mar 2013
Slope (m)	:	2.05818
Intercept (b)	:	0.01929
Correlation Coefficient(r)	:	0.99991

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	290

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.0	3.520	1.701	53	53.86
2	13 holes	9.5	3.132	1.512	48	48.78
3	10 holes	7.0	2.689	1.297	42	42.68
4	7 holes	4.5	2.156	1.038	36	36.58
5	5 holes	2.8	1.700	0.817	30	30.49

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):26.248 Intercept(b): 9.062 Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan Date: 20/03/2014

Certification of Quality

This product has been tested in accordance with procedures established through Global Water Instrumentation's Quality Management System. This product meets or exceeds its manufacturing acceptance criteria.

ITEM DESCRIPTION:	Wind Speed Sensor
MODEL NAME/ NUMBER:	WE550
PART NUMBER:	EC0000
SENSOR RANGE:	0-110 MPH
SENSOR OUTPUT:	4.00-19.91 mA
ACCURACY:	.2 MPH over the range 11 to 55 MPH
POWER REQUIRED	10-36 VDC
SERIAL NUMBER:	1337005099
CABLE LENGTH:	25 ft
CERTIFICATES:	CE Compliant

Technician: *Wright, Jess* **Date:** 9/10/2013

NOT Global Water Instrumentation warrants that its products are free from defects in material & workmanship under normal use & service for a period of one year from date of original shipment from factory. Repaired components are warranted for a period of 90 days from shipment. Contact us for complete warranty details.

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Fax 1-979-690-0440
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Visit our online catalog at www.globalw.com
Our Service Address
151 Graham Rd
College Station, TX 77845

Certification of Quality

This product has been tested in accordance with procedures established through Global Water Instrumentation's Quality Management System. This product meets or exceeds its manufacturing acceptance criteria.

ITEM DESCRIPTION:	Wind Direction
MODEL NAME/ NUMBER:	WE570
PART NUMBER:	ED0000
SENSOR RANGE:	0-360 °
SENSOR OUTPUT:	4.01-20.03 mA
ACCURACY:	1% of full scale
POWER REQUIRED	10-36 VDC
SERIAL NUMBER:	1337005143
CABLE LENGTH:	25 ft
CERTIFICATES:	CE Compliant

Technician: *Wright, Jess* **Date:** 9/12/2013

NOT Global Water Instrumentation warrants that its products are free from defects in material & workmanship under normal use & service for a period of one year from date of original shipment from factory. Repaired components are warranted for a period of 90 days from shipment. Contact us for complete warranty details.

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151 Graham Rd
College Station, TX 77845

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 12, 2013 Rootsmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 2454 Pa (mm) - 748.03

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	1.4750	3.2	2.00
2	NA	NA	1.00	1.0290	6.4	4.00
3	NA	NA	1.00	0.9170	8.0	5.00
4	NA	NA	1.00	0.8740	8.9	5.50
5	NA	NA	1.00	0.7220	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9967	0.6757	1.4150		0.9957	0.6750	0.8851
0.9925	0.9645	2.0010		0.9915	0.9635	1.2517
0.9902	1.0799	2.2372		0.9892	1.0788	1.3995
0.9891	1.1317	2.3464		0.9881	1.1305	1.4678
0.9839	1.3627	2.8299		0.9828	1.3613	1.7702
Qstd slope (m) =		2.05818		Qa slope (m) =		1.28880
intercept (b) =		0.01929		intercept (b) =		0.01207
coefficient (r) =		0.99991		coefficient (r) =		0.99991
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}

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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 24, 2014 Rootsmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 2454 Pa (mm) - 758.19

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	1.4740	3.2	2.00
2	NA	NA	1.00	1.0340	6.4	4.00
3	NA	NA	1.00	0.9240	7.9	5.00
4	NA	NA	1.00	0.8820	8.8	5.50
5	NA	NA	1.00	0.7270	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)
1.0103	0.6854	1.4245
1.0061	0.9730	2.0146
1.0040	1.0866	2.2524
1.0028	1.1370	2.3623
0.9976	1.3722	2.8491

Qstd slope (m) = 2.07593
intercept (b) = -0.00102
coefficient (r) = 0.99996

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

Va	(x axis) Qa	(y axis)
0.9958	0.6755	0.8791
0.9916	0.9590	1.2433
0.9895	1.0709	1.3900
0.9884	1.1206	1.4579
0.9832	1.3524	1.7583

Qa slope (m) = 1.29991
intercept (b) = -0.00063
coefficient (r) = 0.99996

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. : C133573
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC13-1422)

Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-31
Serial No. / 編號	:	00410224
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 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 14 June 2013

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
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : K C Lee

Certified By 核證 : K K Wong

Date of Issue 簽發日期 : 17 June 2013

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

Certificate of Calibration
校正證書

Certificate No. : C133573
證書編號

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

2. Self-calibration was performed before the test.

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

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C130019
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.5	± 0.3

Sun Creation Engineering Limited – Calibration & Testing 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. : C134307
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC13-1709)

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 July 2013

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
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : K C Lee

Certified By 核證 : K M Wu

Date of Issue 簽發日期 : 15 July 2013

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

Certificate No. : C134307
證書編號

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

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

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C133632
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C120886

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.7	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.988	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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C133573
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.3	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.3	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.9	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.7	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307154

- Mfr's Spec. : IEC 61672 Class 1

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

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

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

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Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/010 Manufacturer : HACH

Model No. : 2100Q Serial No. : 11110 C 014260

Date of Calibration : 07/01/2014 Due Date : 06/04/2014

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	19.2	-4.08
100	104	3.92
800	793	-0.88

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

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 : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/010 Manufacturer : HACH

Model No. : 2100Q Serial No. : 11110 C 014260

Date of Calibration : 07/04/2014 Due Date : 06/07/2014

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	19.5	-2.50
100	103	3.00
800	792	-1.00

(*) 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 Report of Dissolved Oxygen Meter

Equipment Ref. No.	:	ET/EW/008/005	Manufacturer	:	YSI
Model No.	:	Pro 2030	Serial No.	:	12A 100353
Date of Calibration	:	29/01/2014	Calibration Due Date	:	28/04/2014

Temperature Verification

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

Ref. No. of Water Bath : ---

	Temperature (°C)			
Reference Thermometer reading	Measured	20.2	Corrected	19.8
DO Meter reading	Measured	19.7	Difference	0.1

Standardization of sodium thiosulphate ($Na_2S_2O_3$) solution

Reagent No. of $Na_2S_2O_3$ titrant	CPE/012/4.5/001/8	Reagent No. of 0.025N $K_2Cr_2O_7$	CPE/012/4.4/001/24

	Trial 1	Trial 2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	10.50
Final Vol. of $Na_2S_2O_3$ (ml)	10.50	20.95
Vol. of $Na_2S_2O_3$ used (ml)	10.50	10.45
Normality of $Na_2S_2O_3$ solution (N)	0.02381	0.02392
Average Normality (N) of $Na_2S_2O_3$ solution (N)	0.02387	
Acceptance criteria, Deviation	Less than ± 0.001N	

Calculation: Normality of $Na_2S_2O_3$, N = 0.25 / ml $Na_2S_2O_3$ used

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
Trial	1	2	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	11.90	23.50	0.00	8.20	13.20
Final Vol. of $Na_2S_2O_3$ (ml)	11.90	23.50	31.90	8.20	13.20	17.90
Vol. (V) of $Na_2S_2O_3$ used (ml)	11.90	11.60	8.40	8.20	5.00	4.70
Dissolved Oxygen (DO), mg/L	7.63	7.43	5.38	5.25	3.20	3.01
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	7.65	7.41	7.53	7.63	7.43	7.53	0.00
5	5.38	5.21	5.30	5.38	5.25	5.32	0.38
10	3.22	3.09	3.16	3.20	3.01	3.11	1.59
Linear regression coefficient				0.9998			

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/012/4.7/002/15	Reagent No. of NaCl (30ppt)	CPE/012/4.8/002/15

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	12.30	24.40	35.80
Final Vol. of $Na_2S_2O_3$ (ml)	12.30	24.40	35.80	47.00
Vol. (V) of $Na_2S_2O_3$ used (ml)	12.30	12.10	11.40	11.20
Dissolved Oxygen (DO), mg/L	7.88	7.75	7.31	7.18
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 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	7.88	7.65	7.77	7.88	7.75	7.82	0.64
30	7.23	7.14	7.19	7.31	7.18	7.25	0.83

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 :

Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No.	:	ET/EW/008/005	Manufacturer	:	YSI
Model No.	:	Pro 2030	Serial No.	:	12A 100353
Date of Calibration	:	28/04/2014	Calibration Due Date	:	27/07/2014

Temperature Verification

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

Ref. No. of Water Bath : ---

	Temperature (°C)			
Reference Thermometer reading	Measured	20.1	Corrected	19.7
DO Meter reading	Measured	19.6	Difference	0.1

Standardization of sodium thiosulphate ($Na_2S_2O_3$) solution

Reagent No. of $Na_2S_2O_3$ titrant	CPE/012/4.5/001/8	Reagent No. of 0.025N $K_2Cr_2O_7$	CPE/012/4.4/001/26

	Trial 1	Trial 2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	10.20
Final Vol. of $Na_2S_2O_3$ (ml)	10.20	20.45
Vol. of $Na_2S_2O_3$ used (ml)	10.20	10.25
Normality of $Na_2S_2O_3$ solution (N)	0.02451	0.02439
Average Normality (**N**) of $Na_2S_2O_3$ solution (N)	0.02445	
Acceptance criteria, Deviation	Less than ± 0.001N	

Calculation: Normality of $Na_2S_2O_3$, **N** = 0.25 / ml $Na_2S_2O_3$ used

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
Trial	1	2	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	12.00	24.00	0.00	8.10	12.90
Final Vol. of $Na_2S_2O_3$ (ml)	12.00	24.00	32.00	8.10	12.90	17.60
Vol. (**V**) of $Na_2S_2O_3$ used (ml)	12.00	12.00	8.00	8.10	4.80	4.70
Dissolved Oxygen (**DO**), mg/L	7.88	7.88	5.25	5.32	3.15	3.08
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	7.65	7.58	7.62	7.88	7.88	7.88	3.35
5	5.34	5.39	5.37	5.25	5.32	5.29	1.50
10	3.21	3.17	3.19	3.15	3.08	3.12	2.22
Linear regression coefficient				0.9983			

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/012/4.7/002/19	Reagent No. of NaCl (30ppt)	CPE/012/4.8/002/19

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	11.90	23.70	34.20
Final Vol. of $Na_2S_2O_3$ (ml)	11.90	23.70	34.20	44.80
Vol. (**V**) of $Na_2S_2O_3$ used (ml)	11.90	11.80	10.50	10.60
Dissolved Oxygen (**DO**), mg/L	7.81	7.75	6.89	6.96
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = **V** x **N** x 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	7.86	7.79	7.83	7.81	7.75	7.78	0.64
30	6.95	6.99	6.97	6.89	6.96	6.93	0.58

Acceptance Criteria

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

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

Delete as appropriate

Calibrated by : Approved by :

Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/005 Manufacturer : YSI

Model No. : Pro 2030 Serial No. : 12A 100353

Date of Calibration : 29/01/2014 Due Date : 28/04/2014

Ref. No. of Salinity Standard used (30ppt)	S/001/5

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30.0	30.9	3.00

Acceptance Criteria

Difference : <10 %

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

Checked by : _____ Approved by : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Salinity Meter

Equipment Ref. No.	: ET/EW/008/005	Manufacturer	: YSI
Model No.	: Pro 2030	Serial No.	: 12A 100353
Date of Calibration	: 28/04/2014	Due Date	: 27/07/2014

Ref. No. of Salinity Standard used (30ppt)	S/001/5

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference * (%)
30.0	31.1	3.67

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

Acceptance Criteria

Difference : -10 % to 10 %

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

Checked by : _____ Approved by : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Internal Calibration & Performance Check of pH Meter

Equipment Ref. No. : ET/EW/007/003 Manufacturer : HANNA

Model No. : HI 8314 Serial No. : 674469

Date of Calibration : 10/03/2014 Calibration Due Date : 09/04/2014

Liquid Junction Error

Primary Standard Solution Used : Phosphate Ref No. of Primary Solution: 003/5.2/001/17

Temperature of Solution : 20.0 $\Delta pH_{1/2}$ = +0.08

pH value of diluted buffer : 6.79 pH (S) = 6.881

ΔpH = pH(S) - pH of diluted buffer = 0.091 (Observed Deviation)

Liquid Junction Error (ΔpH_j) = ΔpH - $\Delta pH_{1/2}$ = 0.011

Shift on Stirring

pH of buffer solution (with stirring), pH_s = 6.90

Shift on stirring, ΔpH_s= pH_s - pH(S) - ΔpH_j = 0.008

Noise

Noise, ΔpH_n = difference between max and min reading : 0.00

Verification of ATC

Ref. No. of reference thermometer used: ET/0521/008

Temperature record from the reference thermometer (T_R): 20.0 °C

Temperature record from the ATC (T_{ATC}): 19.9 °C

Temperature Difference, $|T_R - T_{ATC}|$ 0.1 °C

Acceptance Criteria

Performance Characteristic		Acceptable Range
Liquid Junction Error	ΔpHj	≤0.05
Shift on Stirring	ΔpHs	≤0.02
Noise	ΔpHn	≤0.02
Verifcation of ATC	Temperature Difference	≤0.5°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 :

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Internal Calibration & Performance Check of pH Meter

Equipment Ref. No. :	ET/EW/007/003	Manufacturer :	HANNA
Model No. :	HI 8314	Serial No. :	674469
Date of Calibration :	10/04/2014	Calibration Due Date :	09/05/2014

Liquid Junction Error

Primary Standard Solution Used : Phosphate — Ref No. of Primary Solution: 003/5.2/001/17

Temperature of Solution : 20.0 — $\Delta pH_{½}$ = +0.08

pH value of diluted buffer : 6.77 — pH (S) = 6.881

ΔpH = pH(S) - pH of diluted buffer = 0.111 (Observed Deviation)

Liquid Junction Error (ΔpH_j) = ΔpH - $\Delta pH_{½}$ = 0.031

Shift on Stirring

pH of buffer solution (with stirring), pH_s = 6.92

Shift on stirring, ΔpH_s= pH_s - pH(S) - ΔpH_j = 0.008

Noise

Noise, ΔpH_n = difference between max and min reading : 0.00

Verification of ATC

Ref. No. of reference thermometer used: ET/0521/008

Temperature record from the reference thermometer (T_R): 20.0 °C

Temperature record from the ATC (T_{ATC}): 19.9 °C

Temperature Difference, $|T_R - T_{ATC}|$ 0.1 °C

Acceptance Criteria

Performance Characteristic		Acceptable Range
Liquid Junction Error	ΔpHj	≤0.05
Shift on Stirring	ΔpHs	≤0.02
Noise	ΔpHn	≤0.02
Verifcation of ATC	Temperature Difference	≤0.5°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 : _____

Appendix F

EM&A Monitoring Schedules

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Noise Monitoring Schedule (1 Apr to 30 Apr 2014)

Noise Monitoring at the rooftop of Pak Mong Village Watch Tower

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

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Air Quality Monitoring Schedule (1 Apr to 30 Apr 2014)

Air Quality Monitoring at WA4 and rooftop of Pak Mong Village Watch Tower

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	public holiday 05-Apr
				1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*		
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
			1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*			
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	public holiday 18-Apr	public holiday 19-Apr
		1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*			1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*	
20-Apr	public holiday 21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
				1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*		
27-Apr	28-Apr	29-Apr	30-Apr			
			1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*			

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Tentative Impact Noise Monitoring Schedule (1 May to 31 May 2014)

Noise Monitoring at the rooftop of Pak Mong Village Watch Tower

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

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Tentative Impact Air Quality Monitoring Schedule (1 May to 31 May 2014)

Air Quality Monitoring at WA4 and rooftop of Pak Mong Village Watch Tower

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				public holiday 01-May	02-May	03-May
04-May	05-May	public holiday 06-May	07-May	08-May	09-May	10-May
	1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*					1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*
11-May	12-May	13-May	14-May	15-May	16-May	17-May
					1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*	
18-May	19-May	20-May	21-May	22-May	23-May	24-May
				1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*		
25-May	26-May	27-May	28-May	29-May	30-May	31-May
			1-hour TSP - 3 times 24-hour TSP - 1 time *Impact AQM*			

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

HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (Apr 14)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	05-Apr
		WQM Mid-Flood 7:46 (06:01 - 09:31) Mid-Ebb 14:04 (12:19 - 15:49)		**WQM** Mid-Flood 8:43 (06:57 - 10:27) Mid-Ebb 15:22 (13:37 - 17:07)		**WQM** Mid-Flood 9:41 (07:56 - 11:26) Mid-Ebb 16:48 (15:03 - 18:33)
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
		WQM Mid-Flood 7:26 (05:41 - 09:11) Mid-Ebb 20:03 (18:18 - 21:48)		**WQM** Mid-Ebb 10:34 (08:49 - 12:19) Mid-Flood 15:54 (14:09 - 17:39)		**WQM** Mid-Ebb 11:33 (09:48 - 13:18) Mid-Flood 17:28 (15:43 - 19:13)
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr
		WQM Mid-Ebb 13:02 (11:17 - 14:47) Mid-Flood 19:31 (17:46 - 21:16)		**WQM** Mid-Flood 7:46 (06:01 - 09:31) Mid-Ebb 14:12 (12:27 - 15:57)		**WQM** Mid-Flood 8:53 (07:08 - 10:38) Mid-Ebb 15:36 (13:51 - 17:21)
20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
		WQM Mid-Flood 11:29 (09:44 - 13:14) Mid-Ebb 18:35 (16:50 - 20:20)		**WQM** Mid-Ebb 9:39 (07:54 - 11:24) Mid-Flood 14:48 (13:03 - 16:33)		**WQM** Mid-Ebb 11:15 (09:30 - 13:00) Mid-Flood 17:01 (15:16 - 18:46)
27-Apr	28-Apr	29-Apr	30-Apr			
		WQM Mid-Ebb 13:06 (11:21 - 14:51) Mid-Flood 19:40 (17:55 - 21:25)				

HY/2012/07 - Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section

Tentative **Impact Marine Water Quality Monitoring (WQM) Schedule (May14)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-May	02-May	03-May
				WQM Mid-Flood 7:37 (05:52 - 09:22) Mid-Ebb 14:22 (12:37 - 16:07)		**WQM** Mid-Flood 8:38 (06:53 - 10:23) Mid-Ebb 15:38 (13:53 - 17:23)
04-May	05-May	06-May	07-May	08-May	09-May	10-May
		WQM Mid-Flood 10:14 (08:29 - 11:59) Mid-Ebb 17:46 (16:01 - 19:31)		**WQM** Mid-Ebb 8:35 (06:50 - 10:20) Mid-Flood 13:27 (11:42 - 15:12)		**WQM** Mid-Ebb 10:27 (08:42 - 12:12) Mid-Flood 16:16 (14:31 - 18:01)
11-May	12-May	13-May	14-May	15-May	16-May	17-May
		WQM Mid-Ebb 12:04 (10:19 - 13:49) Mid-Flood 18:40 (16:55 - 20:25)		**WQM** Mid-Ebb 13:18 (11:33 - 15:03) Mid-Flood 20:15 (18:30 - 22:00)		**WQM** Mid-Flood 7:55 (06:10 - 09:40) Mid-Ebb 14:42 (12:57 - 16:27)
18-May	19-May	20-May	21-May	22-May	23-May	24-May
		WQM Mid-Flood 10:19 (08:34 - 12:04) Mid-Ebb 17:15 (15:30 - 19:00)		**WQM** Mid-Ebb 8:00 (06:15 - 09:45) Mid-Flood 13:11 (11:26 - 14:56)		**WQM** Mid-Ebb 10:05 (08:20 - 11:50) Mid-Flood 15:52 (14:07 - 17:37)
25-May	26-May	27-May	28-May	29-May	30-May	31-May
		WQM Mid-Ebb 12:11 (10:26 - 13:56) Mid-Flood 18:51 (17:06 - 20:36)		**WQM** Mid-Ebb 13:26 (11:41 - 15:11) Mid-Flood 20:23 (18:38 - 22:08)		**WQM** Mid-Flood 7:40 (05:55 - 09:25) Mid-Ebb 14:41 (12:56 - 16:26)

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 April to 30 April 2014)

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

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Tentative Impact Dolphin Monitoring Survey Schedule (1 May to 31 May 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				Public Holiday 1-May	2-May	3-May
					Impact Dolphin Monitoring	
4-May	5-May	Public Holiday 6-May	7-May	8-May	9-May	10-May
11-May	12-May	13-May	14-May	15-May	16-May	17-May
	Impact Dolphin Monitoring					
18-May	19-May	20-May	21-May	22-May	23-May	24-May
	Impact Dolphin Monitoring					
25-May	26-May	27-May	28-May	29-May	30-May	31-May
	Impact Dolphin Monitoring					

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Monitoring on Shore-based Theodolite Tracking to Investigate Dolphin Behaviour and Movement in Relation to Bored Piling Activities (1 April to 30 April 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	Public Holiday 05-Apr
			Theodolite Tracking Survey (Day 20: Completed)		Theodolite Tracking Survey (Day 21: Completed)	
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
		Theodolite Tracking Survey (Day 22: Completed)	Theodolite Tracking Survey (Day 23: Completed)	Theodolite Tracking Survey (Day 24: Completed)	Theodolite Tracking Survey (Day 25: Completed)	
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	Public Holiday 18-Apr	Public Holiday 19-Apr
	Theodolite Tracking Survey (Day 26: Completed)	Theodolite Tracking Survey (Day 27: Completed)	Theodolite Tracking Survey (Day 28: Completed)	Theodolite Tracking Survey (Day 29: Completed)		
20-Apr	Public Holiday 21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
			Theodolite Tracking Survey (Day 30 Completed)			
27-Apr	28-Apr	29-Apr	30-Apr			

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Monitoring on Underwater Noise and Dolphin Acoustic Behaviour in Relatoin to Bored Piling Activities (1 April to 30 April 2014)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Apr	02-Apr	03-Apr	04-Apr	Public Holiday 05-Apr
		Acoustic Monitoring Survey (Day 19: Completed)	Acoustic Monitoring Survey (Day 20: Completed)		Acoustic Monitoring Survey (Day 21: Completed)	
06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr
		Acoustic Monitoring Survey (Day 22: Completed)	Acoustic Monitoring Survey (Day 23: Completed)	Acoustic Monitoring Survey (Day 24: Completed)	Acoustic Monitoring Survey (Day 25: Completed)	
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	Public Holiday 18-Apr	Public Holiday 19-Apr
	Acoustic Monitoring Survey (Day 26: Completed)	Acoustic Monitoring Survey (Day 27: Completed)				
20-Apr	Public Holiday 21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
			Acoustic Monitoring Survey (Day 28: Completed)	Acoustic Monitoring Survey (Day 29: Completed)	Acoustic Monitoring Survey (Day 30: Completed)	
27-Apr	28-Apr	29-Apr	30-Apr			

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	2014/04/03	ASR8A	8:25	1-hr TSP	61	394	500
TMCLKL	HY/2012/07	2014/04/03	ASR8A	9:27	1-hr TSP	86		
TMCLKL	HY/2012/07	2014/04/03	ASR8A	10:29	1-hr TSP	111		
TMCLKL	HY/2012/07	2014/04/09	ASR8A	8:10	1-hr TSP	88		
TMCLKL	HY/2012/07	2014/04/09	ASR8A	9:12	1-hr TSP	65		
TMCLKL	HY/2012/07	2014/04/09	ASR8A	10:!4	1-hr TSP	72		
TMCLKL	HY/2012/07	2014/04/15	ASR8A	8:10	1-hr TSP	72		
TMCLKL	HY/2012/07	2014/04/15	ASR8A	9:12	1-hr TSP	75		
TMCLKL	HY/2012/07	2014/04/15	ASR8A	10:14	1-hr TSP	75		
TMCLKL	HY/2012/07	2014/04/18	ASR8A	8:05	1-hr TSP	81		
TMCLKL	HY/2012/07	2014/04/18	ASR8A	9:07	1-hr TSP	79		
TMCLKL	HY/2012/07	2014/04/18	ASR8A	10:09	1-hr TSP	92		
TMCLKL	HY/2012/07	2014/04/24	ASR8A	8:20	1-hr TSP	165		
TMCLKL	HY/2012/07	2014/04/24	ASR8A	9:22	1-hr TSP	138		
TMCLKL	HY/2012/07	2014/04/24	ASR8A	10:24	1-hr TSP	122		
TMCLKL	HY/2012/07	2014/04/30	ASR8A	8:05	1-hr TSP	164		
TMCLKL	HY/2012/07	2014/04/30	ASR8A	9:07	1-hr TSP	142		
TMCLKL	HY/2012/07	2014/04/30	ASR8A	10:09	1-hr TSP	124		

Average	101
Min.	61
Max.	165

1-hour TSP Monitoring Results at Air Quality Monitoring Station ASR8

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	2014/04/03	ASR8	8:38	1-hr TSP	85	393	500
TMCLKL	HY/2012/07	2014/04/03	ASR8	9:40	1-hr TSP	95		
TMCLKL	HY/2012/07	2014/04/03	ASR8	10:42	1-hr TSP	66		
TMCLKL	HY/2012/07	2014/04/09	ASR8	8:22	1-hr TSP	94		
TMCLKL	HY/2012/07	2014/04/09	ASR8	9:24	1-hr TSP	75		
TMCLKL	HY/2012/07	2014/04/09	ASR8	10:26	1-hr TSP	67		
TMCLKL	HY/2012/07	2014/04/15	ASR8	8:23	1-hr TSP	70		
TMCLKL	HY/2012/07	2014/04/15	ASR8	9:25	1-hr TSP	67		
TMCLKL	HY/2012/07	2014/04/15	ASR8	10:27	1-hr TSP	88		
TMCLKL	HY/2012/07	2014/04/18	ASR8	8:17	1-hr TSP	117		
TMCLKL	HY/2012/07	2014/04/18	ASR8	9:19	1-hr TSP	80		
TMCLKL	HY/2012/07	2014/04/18	ASR8	10:21	1-hr TSP	131		
TMCLKL	HY/2012/07	2014/04/24	ASR8	8:32	1-hr TSP	154		
TMCLKL	HY/2012/07	2014/04/24	ASR8	9:34	1-hr TSP	173		
TMCLKL	HY/2012/07	2014/04/24	ASR8	10:36	1-hr TSP	144		
TMCLKL	HY/2012/07	2014/04/30	ASR8	8:15	1-hr TSP	148		
TMCLKL	HY/2012/07	2014/04/30	ASR8	9:17	1-hr TSP	133		
TMCLKL	HY/2012/07	2014/04/30	ASR8	10:19	1-hr TSP	117		

Average	106
Min.	66
Max.	173

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

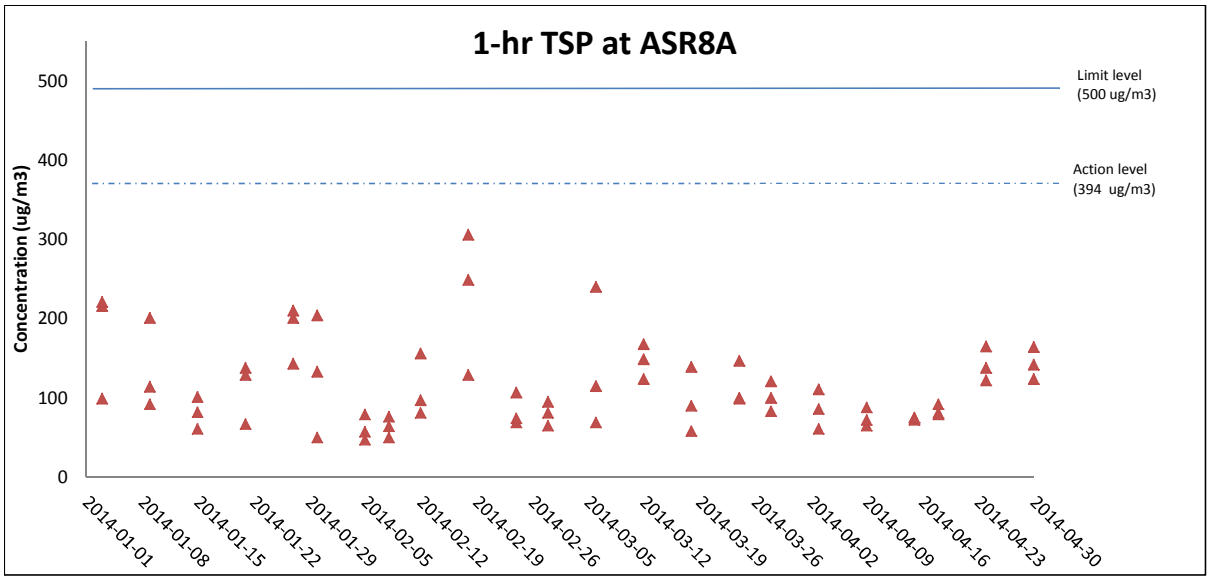
Project	Works	Date (yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results (ug/m3)	Action Level (ug/m3)	Limit Level (ug/m3)
TMCLKL	HY/2012/07	2014/04/03	ASR8A	11:31	24-hr TSP	109	178	260
TMCLKL	HY/2012/07	2014/04/09	ASR8A	11:16	24-hr TSP	42		
TMCLKL	HY/2012/07	2014/04/15	ASR8A	11:16	24-hr TSP	73		
TMCLKL	HY/2012/07	2014/04/18	ASR8A	11:11	24-hr TSP	40		
TMCLKL	HY/2012/07	2014/04/24	ASR8A	11:26	24-hr TSP	52		
TMCLKL	HY/2012/07	2014/04/30	ASR8A	11:11	24-hr TSP	87		
					Average	67		
					Min.	40		
					Max.	109		

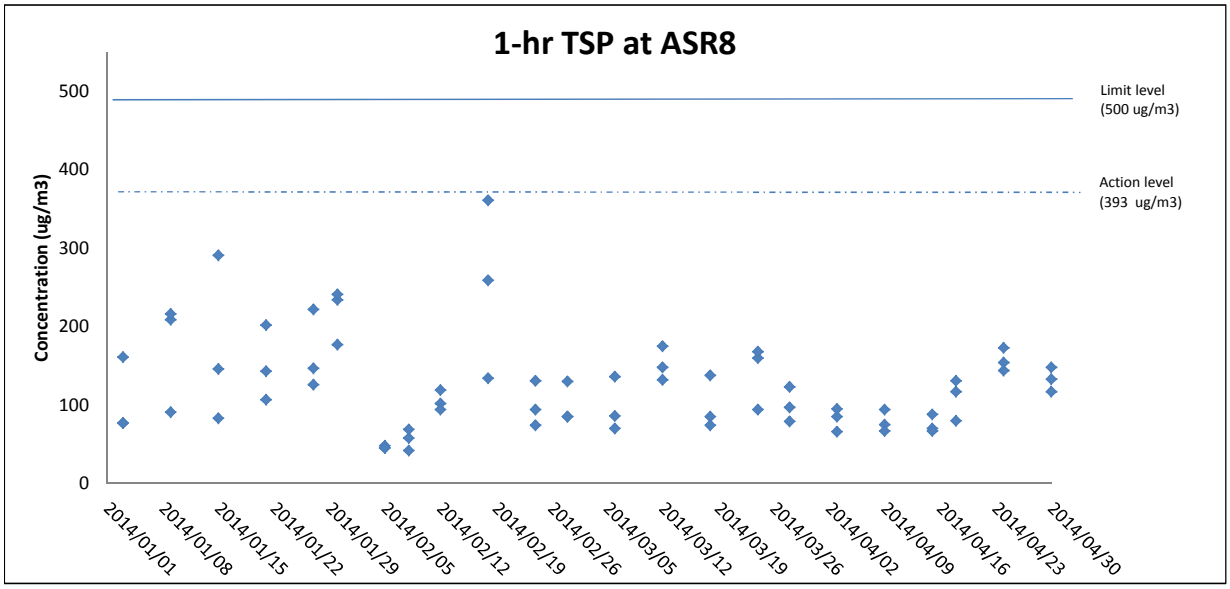
24-hour TSP Monitoring Results at Air Quality Monitoring Station ASR8

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	2014/04/03	ASR8	11:44	24-hr TSP	43	178	260
TMCLKL	HY/2012/07	2014/04/09	ASR8	11:28	24-hr TSP	48		
TMCLKL	HY/2012/07	2014/04/15	ASR8	11:29	24-hr TSP	84		
TMCLKL	HY/2012/07	2014/04/18	ASR8	11:23	24-hr TSP	50		
TMCLKL	HY/2012/07	2014/04/24	ASR8	11:34	24-hr TSP	64		
TMCLKL	HY/2012/07	2014/04/30	ASR8	11:21	24-hr TSP	89		
					Average	63		
					Min.	43		
					Max.	89		

Action Level Exceedance

Limit Level Exceedance

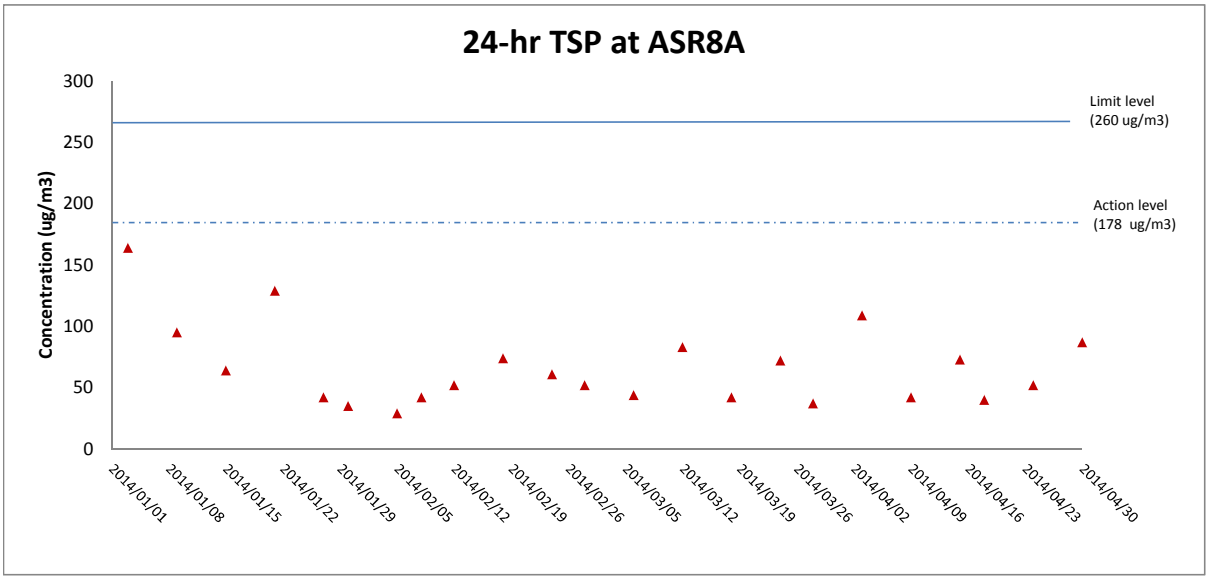


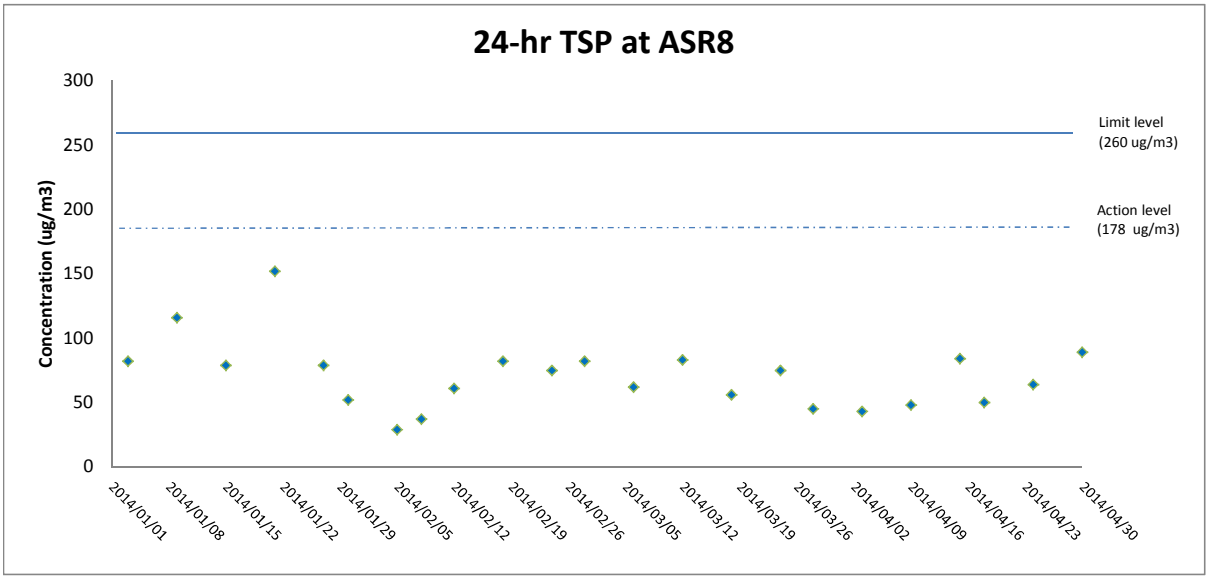


Weather condition within the reporting period varied between sunny to rainy.

Major construction works undertaken within the reporting period include site office erection, fence relocation for Viaduct A, C & D and land piling at Viaduct B.

Marine works within the reporting period include rockfill platform construction, marine piling platform installation and survey tower erection.





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

Major construction works undertaken within the reporting period include site office erection, fence relocation for Viaduct A, C & D and land piling at Viaduct B.

Marine works within the reporting period include rockfill platform construction, marine piling platform installation and survey tower erection.

Appendix H

Meteorological Data for the Reporting Month

Date	Time	Average Wind Speed (m/s)	Average Wind Direction (degrees)
03-04-2014	0:00	1.17	156.63
03-04-2014	1:00	0.62	123.45
03-04-2014	2:00	0.18	74.20
03-04-2014	3:00	0.43	126.33
03-04-2014	4:00	0.72	202.16
03-04-2014	5:00	1.08	172.42
03-04-2014	6:00	0.32	172.38
03-04-2014	7:00	0.15	121.00
03-04-2014	8:00	0.02	273.38
03-04-2014	9:00	0.07	243.18
03-04-2014	10:00	0.02	256.80
03-04-2014	11:00	0.28	103.56
03-04-2014	12:00	0.27	131.38
03-04-2014	13:00	0.04	179.73
03-04-2014	14:00	0.03	208.96
03-04-2014	15:00	0.04	189.08
03-04-2014	16:00	0.43	148.95
03-04-2014	17:00	0.46	149.63
03-04-2014	18:00	0.35	152.67
03-04-2014	19:00	0.09	66.92
03-04-2014	20:00	0.02	107.61
03-04-2014	21:00	0.02	186.67
03-04-2014	22:00	0.02	120.78
03-04-2014	23:00	0.02	177.16
04-04-2014	0:00	0.02	210.50
04-04-2014	1:00	0.02	206.15
04-04-2014	2:00	0.02	178.58
04-04-2014	3:00	0.03	230.85
04-04-2014	4:00	0.02	215.99
04-04-2014	5:00	0.05	193.13
04-04-2014	6:00	0.04	188.24
04-04-2014	7:00	0.02	142.16
04-04-2014	8:00	0.05	191.42
04-04-2014	9:00	0.54	85.59
04-04-2014	10:00	2.18	103.57
04-04-2014	11:00	0.95	135.10
04-04-2014	12:00	1.46	94.48
04-04-2014	13:00	0.80	143.89
04-04-2014	14:00	1.24	113.80
04-04-2014	15:00	0.68	134.25
04-04-2014	16:00	1.09	100.79
04-04-2014	17:00	0.92	98.29
04-04-2014	18:00	0.81	123.35
04-04-2014	19:00	0.52	98.52
04-04-2014	20:00	0.35	122.70
04-04-2014	21:00	0.52	194.49
04-04-2014	22:00	0.30	150.08
04-04-2014	23:00	0.35	89.80
09-04-2014	0:00	0.02	178.73
09-04-2014	1:00	0.02	198.40
09-04-2014	2:00	0.02	163.50
09-04-2014	3:00	0.02	195.68
09-04-2014	4:00	0.02	225.29
09-04-2014	5:00	0.02	225.35
09-04-2014	6:00	0.02	191.20
09-04-2014	7:00	0.02	187.99
09-04-2014	8:00	0.02	285.79
09-04-2014	9:00	0.08	232.03

Date	Time	Average Wind Speed (m/s)	Average Wind Direction (degrees)
09-04-2014	10:00	0.10	204.94
09-04-2014	11:00	0.08	198.48
09-04-2014	12:00	0.19	102.66
09-04-2014	13:00	0.13	202.48
09-04-2014	14:00	0.20	302.45
09-04-2014	15:00	0.66	91.75
09-04-2014	16:00	0.63	129.09
09-04-2014	17:00	0.51	129.36
09-04-2014	18:00	0.49	99.58
09-04-2014	19:00	0.57	164.82
09-04-2014	20:00	1.06	168.76
09-04-2014	21:00	0.37	172.42
09-04-2014	22:00	0.65	143.87
09-04-2014	23:00	0.81	126.93
10-04-2014	0:00	0.23	85.01
10-04-2014	1:00	0.05	142.64
10-04-2014	2:00	0.19	129.41
10-04-2014	3:00	0.13	87.20
10-04-2014	4:00	0.09	146.75
10-04-2014	5:00	0.03	78.63
10-04-2014	6:00	1.42	83.51
10-04-2014	7:00	0.94	133.57
10-04-2014	8:00	0.91	113.57
10-04-2014	9:00	0.69	160.14
10-04-2014	10:00	0.57	105.73
10-04-2014	11:00	0.99	147.78
10-04-2014	12:00	0.86	153.81
10-04-2014	13:00	0.97	157.35
10-04-2014	14:00	0.75	119.05
10-04-2014	15:00	0.46	124.01
10-04-2014	16:00	0.36	147.04
10-04-2014	17:00	0.18	201.36
10-04-2014	18:00	0.23	116.50
10-04-2014	19:00	0.30	151.56
10-04-2014	20:00	0.22	100.20
10-04-2014	21:00	0.27	102.10
10-04-2014	22:00	0.23	113.74
10-04-2014	23:00	0.22	163.65
15-04-2014	0:00	1.26	160.14
15-04-2014	1:00	0.74	138.22
15-04-2014	2:00	0.79	150.96
15-04-2014	3:00	1.75	136.12
15-04-2014	4:00	0.77	98.43
15-04-2014	5:00	1.51	79.27
15-04-2014	6:00	0.94	161.49
15-04-2014	7:00	1.37	120.73
15-04-2014	8:00	1.59	76.69
15-04-2014	9:00	1.10	115.37
15-04-2014	10:00	1.69	79.79
15-04-2014	11:00	0.70	124.60
15-04-2014	12:00	1.81	124.02
15-04-2014	13:00	1.51	157.13
15-04-2014	14:00	0.90	150.78
15-04-2014	15:00	1.02	157.32
15-04-2014	16:00	0.62	124.92
15-04-2014	17:00	0.68	130.74
15-04-2014	18:00	0.64	90.72
15-04-2014	19:00	0.69	102.81

Date	Time	Average Wind Speed (m/s)	Average Wind Direction (degrees)
15-04-2014	20:00	0.30	138.91
15-04-2014	21:00	0.65	66.19
15-04-2014	22:00	0.75	166.65
15-04-2014	23:00	1.26	133.46
16-04-2014	0:00	0.87	115.16
16-04-2014	1:00	0.43	119.34
16-04-2014	2:00	0.34	108.76
16-04-2014	3:00	0.97	132.08
16-04-2014	4:00	0.85	90.22
16-04-2014	5:00	0.81	117.32
16-04-2014	6:00	0.19	131.41
16-04-2014	7:00	0.34	160.54
16-04-2014	8:00	0.38	131.14
16-04-2014	9:00	0.43	129.37
16-04-2014	10:00	0.92	120.04
16-04-2014	11:00	1.67	107.49
16-04-2014	12:00	1.23	168.23
16-04-2014	13:00	1.25	151.85
16-04-2014	14:00	0.66	173.69
16-04-2014	15:00	1.30	155.12
16-04-2014	16:00	1.45	139.05
16-04-2014	17:00	0.43	132.48
16-04-2014	18:00	0.72	71.49
16-04-2014	19:00	0.71	114.85
16-04-2014	20:00	1.04	166.58
16-04-2014	21:00	0.15	149.28
16-04-2014	22:00	0.10	152.65
16-04-2014	23:00	0.52	87.04
18-04-2014	0:00	0.16	139.34
18-04-2014	1:00	0.21	220.15
18-04-2014	2:00	0.14	213.55
18-04-2014	3:00	0.09	217.50
18-04-2014	4:00	0.11	208.93
18-04-2014	5:00	0.13	191.64
18-04-2014	6:00	0.04	179.11
18-04-2014	7:00	0.15	118.57
18-04-2014	8:00	0.41	95.53
18-04-2014	9:00	0.12	119.34
18-04-2014	10:00	0.10	153.65
18-04-2014	11:00	0.15	321.79
18-04-2014	12:00	0.61	108.82
18-04-2014	13:00	1.86	103.70
18-04-2014	14:00	1.04	112.49
18-04-2014	15:00	0.91	128.71
18-04-2014	16:00	1.05	97.68
18-04-2014	17:00	1.21	78.85
18-04-2014	18:00	0.16	111.80
18-04-2014	19:00	0.45	119.93
18-04-2014	20:00	0.10	131.94
18-04-2014	21:00	0.11	92.57
18-04-2014	22:00	0.12	98.07
18-04-2014	23:00	0.14	132.85
19-04-2014	0:00	0.14	189.30
19-04-2014	1:00	0.06	184.02
19-04-2014	2:00	0.14	204.68
19-04-2014	3:00	0.07	208.67
19-04-2014	4:00	0.09	185.65
19-04-2014	5:00	0.12	153.10

Date	Time	Average Wind Speed (m/s)	Average Wind Direction (degrees)
19-04-2014	6:00	0.17	116.27
19-04-2014	7:00	0.13	125.95
19-04-2014	8:00	0.42	131.88
19-04-2014	9:00	0.80	132.02
19-04-2014	10:00	0.61	96.94
19-04-2014	11:00	0.81	121.27
19-04-2014	12:00	1.24	126.38
19-04-2014	13:00	0.59	112.93
19-04-2014	14:00	1.19	77.34
19-04-2014	15:00	0.74	119.64
19-04-2014	16:00	0.80	84.89
19-04-2014	17:00	0.93	111.13
19-04-2014	18:00	0.24	150.01
19-04-2014	19:00	0.23	118.51
19-04-2014	20:00	0.36	132.83
19-04-2014	21:00	0.37	131.40
19-04-2014	22:00	0.24	111.11
19-04-2014	23:00	0.07	195.91
24-04-2014	0:00	0.79	145.93
24-04-2014	1:00	1.23	138.87
24-04-2014	2:00	1.10	133.23
24-04-2014	3:00	0.97	141.21
24-04-2014	4:00	0.56	159.95
24-04-2014	5:00	0.50	122.92
24-04-2014	6:00	0.94	114.36
24-04-2014	7:00	0.96	128.21
24-04-2014	8:00	0.69	68.71
24-04-2014	9:00	0.84	92.99
24-04-2014	10:00	1.01	100.16
24-04-2014	11:00	0.18	131.81
24-04-2014	12:00	0.75	104.91
24-04-2014	13:00	0.75	120.85
24-04-2014	14:00	0.60	94.93
24-04-2014	15:00	0.15	109.25
24-04-2014	16:00	0.45	140.64
24-04-2014	17:00	0.90	168.55
24-04-2014	18:00	1.04	126.06
24-04-2014	19:00	0.92	143.18
24-04-2014	20:00	1.03	146.45
24-04-2014	21:00	1.40	154.38
24-04-2014	22:00	0.59	177.51
24-04-2014	23:00	1.07	117.72
25-04-2014	0:00	1.41	184.18
25-04-2014	1:00	0.60	125.49
25-04-2014	2:00	0.62	108.44
25-04-2014	3:00	0.80	81.58
25-04-2014	4:00	0.86	143.81
25-04-2014	5:00	0.47	137.79
25-04-2014	6:00	0.68	103.88
25-04-2014	7:00	0.70	123.61
25-04-2014	8:00	0.44	178.82
25-04-2014	9:00	1.27	131.37
25-04-2014	10:00	0.79	149.38
25-04-2014	11:00	0.96	142.69
25-04-2014	12:00	1.09	108.55
25-04-2014	13:00	0.81	94.93
25-04-2014	14:00	1.31	120.61
25-04-2014	15:00	0.15	222.58

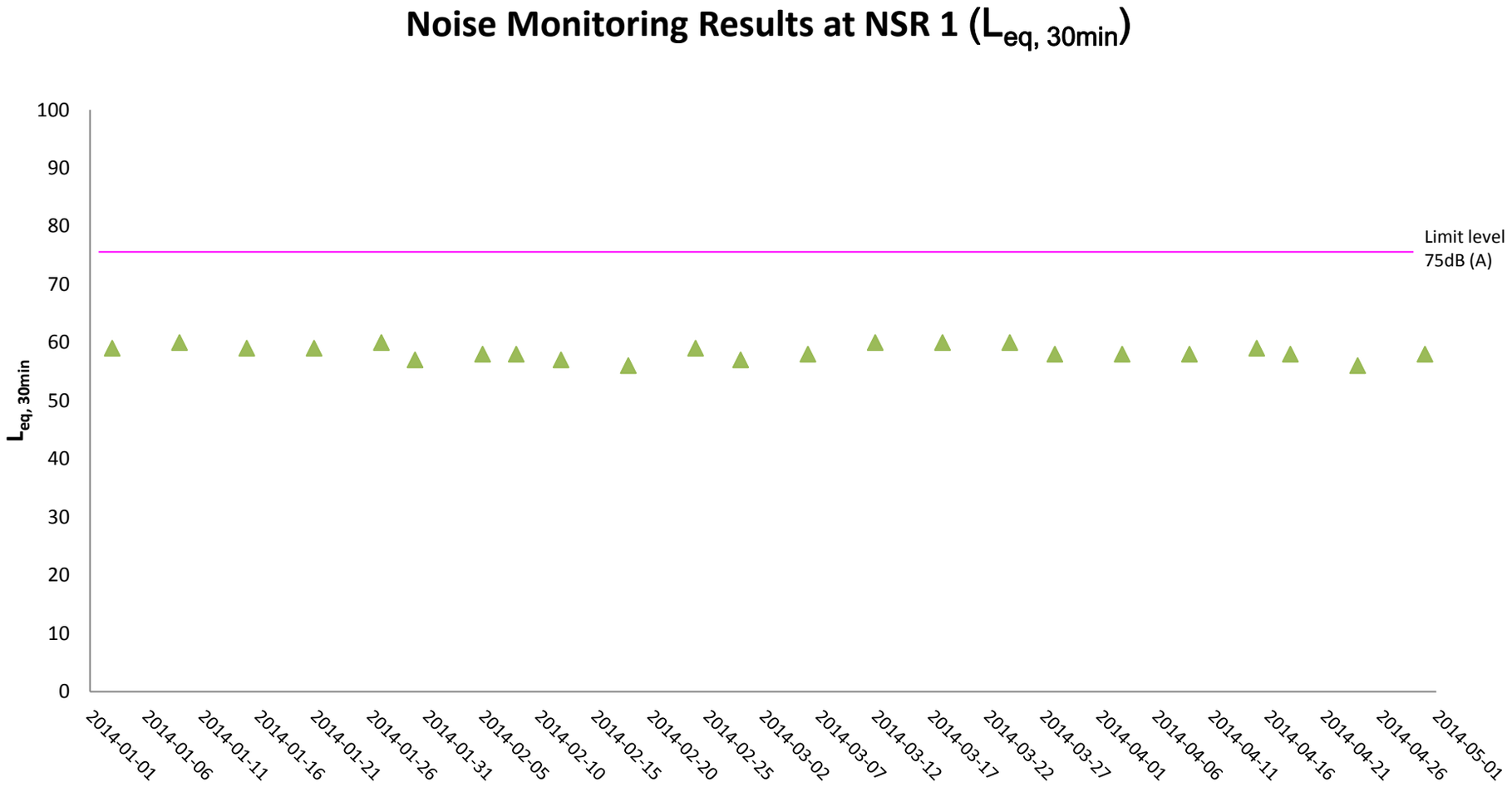
Date	Time	Average Wind Speed (m/s)	Average Wind Direction (degrees)
25-04-2014	16:00	0.36	136.14
25-04-2014	17:00	0.22	120.31
25-04-2014	18:00	0.25	122.20
25-04-2014	19:00	0.40	179.12
25-04-2014	20:00	0.35	180.71
25-04-2014	21:00	0.48	99.67
25-04-2014	22:00	0.17	132.73
25-04-2014	23:00	0.71	111.92
30-04-2014	0:00	0.13	162.97
30-04-2014	1:00	0.08	152.81
30-04-2014	2:00	0.03	150.18
30-04-2014	3:00	0.02	186.73
30-04-2014	4:00	0.05	107.08
30-04-2014	5:00	0.02	151.18
30-04-2014	6:00	0.07	122.74
30-04-2014	7:00	0.13	144.56
30-04-2014	8:00	0.23	141.75
30-04-2014	9:00	0.18	127.09
30-04-2014	10:00	0.17	134.68
30-04-2014	11:00	0.24	102.02
30-04-2014	12:00	0.02	155.33
30-04-2014	13:00	0.02	194.83
30-04-2014	14:00	0.02	174.38
30-04-2014	15:00	0.05	199.41
30-04-2014	16:00	0.20	279.87
30-04-2014	17:00	0.02	225.79
30-04-2014	18:00	0.02	173.83
30-04-2014	19:00	0.04	152.40
30-04-2014	20:00	0.02	202.93
30-04-2014	21:00	0.11	243.93
30-04-2014	22:00	0.05	215.78
30-04-2014	23:00	0.02	99.85
01-05-2014	0:00	0.04	108.31
01-05-2014	1:00	0.21	178.66
01-05-2014	2:00	0.23	115.18
01-05-2014	3:00	0.17	126.02
01-05-2014	4:00	0.25	131.59
01-05-2014	5:00	0.18	145.59
01-05-2014	6:00	0.05	154.10
01-05-2014	7:00	0.04	123.71
01-05-2014	8:00	0.11	124.74
01-05-2014	9:00	0.02	109.18
01-05-2014	10:00	0.03	139.95
01-05-2014	11:00	0.02	194.84
01-05-2014	12:00	0.04	54.55
01-05-2014	13:00	0.26	154.87
01-05-2014	14:00	0.33	143.78
01-05-2014	15:00	0.08	122.35
01-05-2014	16:00	0.34	115.90
01-05-2014	17:00	0.14	155.67
01-05-2014	18:00	0.13	141.71
01-05-2014	19:00	0.17	180.02
01-05-2014	20:00	0.07	172.22
01-05-2014	21:00	0.41	178.00
01-05-2014	22:00	0.56	138.70
01-05-2014	23:00	1.30	91.09

Appendix I

Impact Noise Monitoring Results and Graphical Presentation

Project	Works	Date (yyyy-mm-dd)	Station	Weather Condition	Time (hh:mm, 24hour)	Noise Level for 30-min, dB(A)			Limit Level dB(A)	Temp (° C)	Wind Speed (m/s)	Noise Meter Model/ID	Calibrator Model/ID
						Leq	L10	L90					
TMCLKL	HY/2012/07	2014/04/03	NSR1	Cloudy	9:43	58	60	55	75	20	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/09	NSR1	Sunny	9:30	58	60	54	75	24	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/15	NSR1	Sunny	9:27	59	62	53	75	22	2.1	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/18	NSR1	Sunny	9:22	58	62	53	75	25	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/24	NSR1	Sunny	9:37	56	58	53	75	22	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/30	NSR1	Cloudy	9:25	58	62	50	75	24	0.1	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
					Min.	56							
					Max.	59							
					Average	58							

Project	Works	Date (yyyy-mm-dd)	Station	Weather Condition	Time (hh:mm, 24hour)	Noise Level for 30-min, dB(A)			Limit Level dB(A)	Temp (° C)	Wind Speed (m/s)	Noise Meter Model/ID	Calibrator Model/ID
						Leq	L10	L90					
TMCLKL	HY/2012/07	2014/04/03	NSR1	Cloudy	9:43	58	60	55	75	20	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/09	NSR1	Sunny	9:30	58	60	54	75	24	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/15	NSR1	Sunny	9:27	59	62	53	75	22	2.1	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/18	NSR1	Sunny	9:22	58	62	53	75	25	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/24	NSR1	Sunny	9:37	56	58	53	75	22	0.2	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
TMCLKL	HY/2012/07	2014/04/30	NSR1	Cloudy	9:25	58	62	50	75	24	0.1	RION NL31 (S/N 00410224)	RION NC73 (S/N 10997142)
					Min.	56							
					Max.	59							
					Average	58							



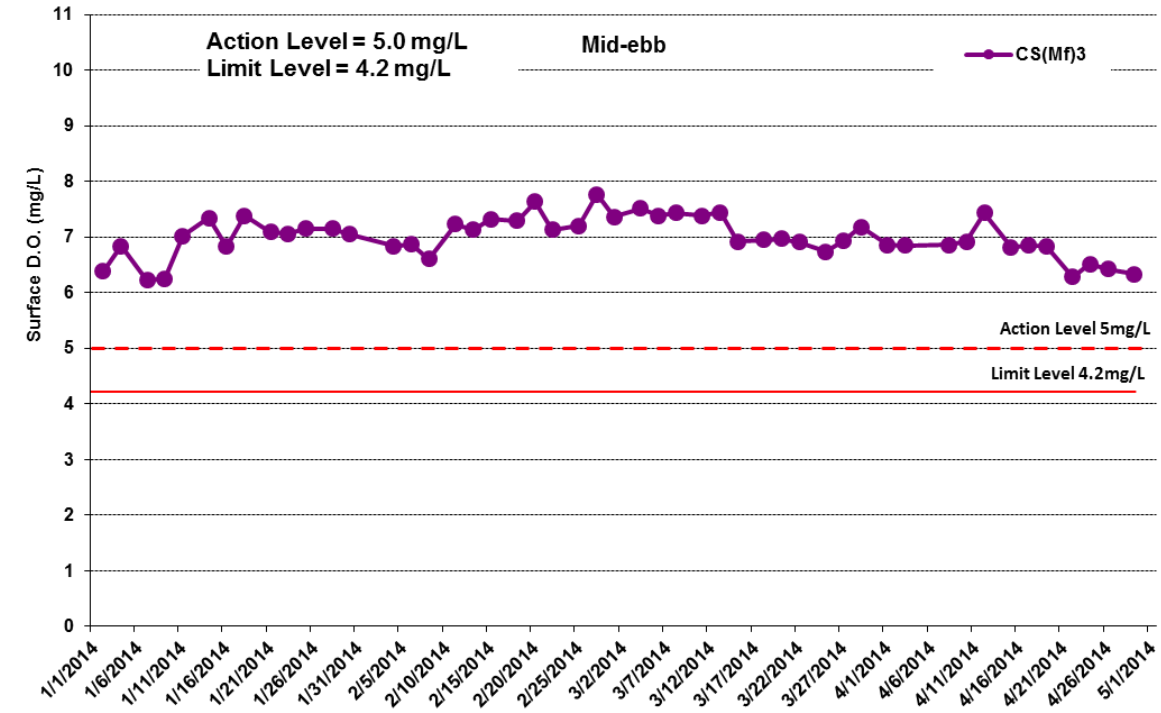
Weather condition within the reporting period varied between sunny to rainy.

Major construction works undertaken within the reporting period include site office erection, fence relocation for Viaduct A, C & D and land piling at Viaduct B.

Marine works within the reporting period include rockfill platform construction, marine piling platform installation and survey tower erection.

Appendix J

Impact Water Quality Monitoring Results and Graphical Presentation



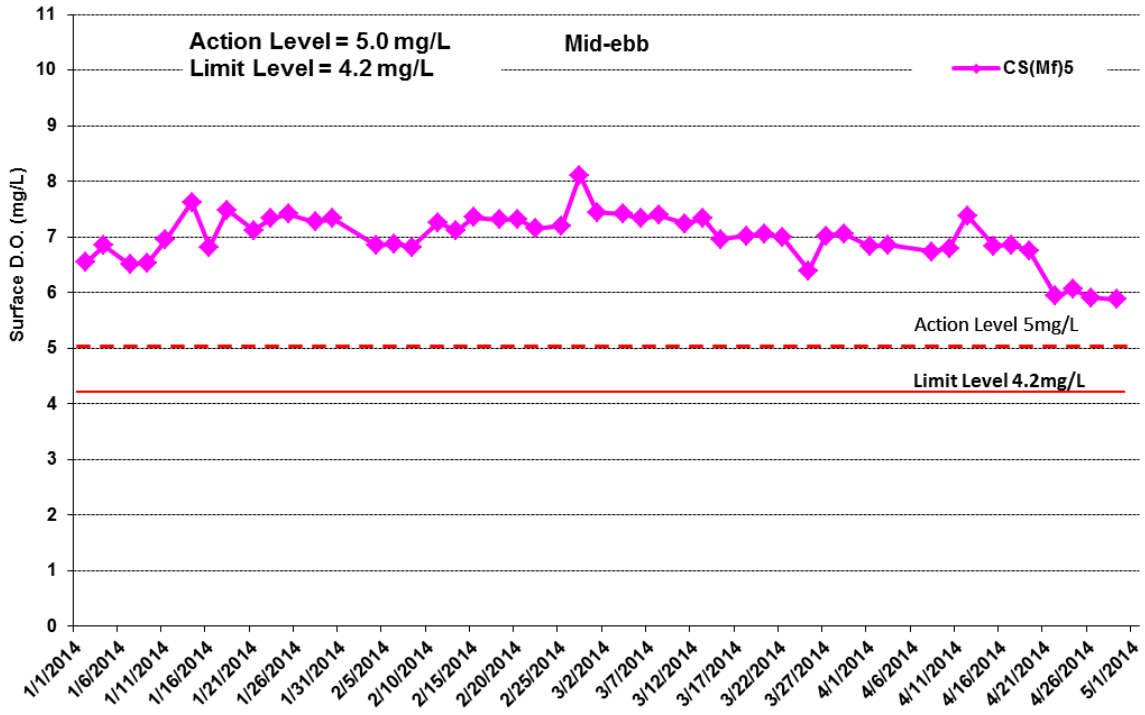
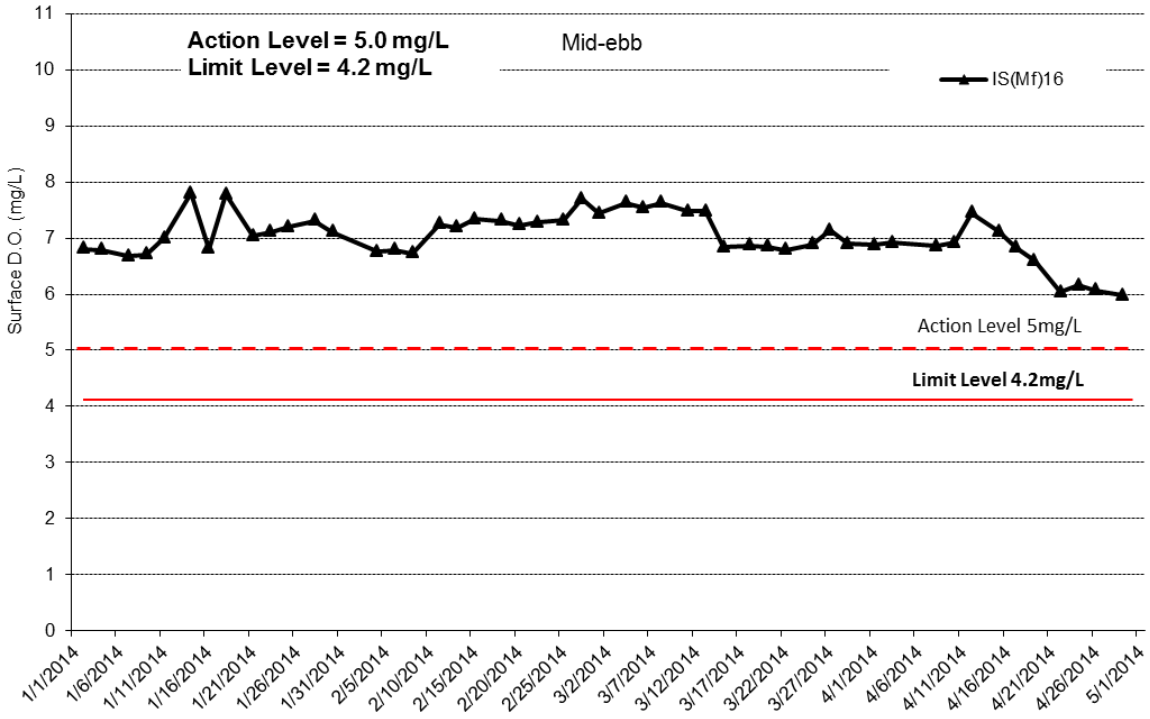


Figure J1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



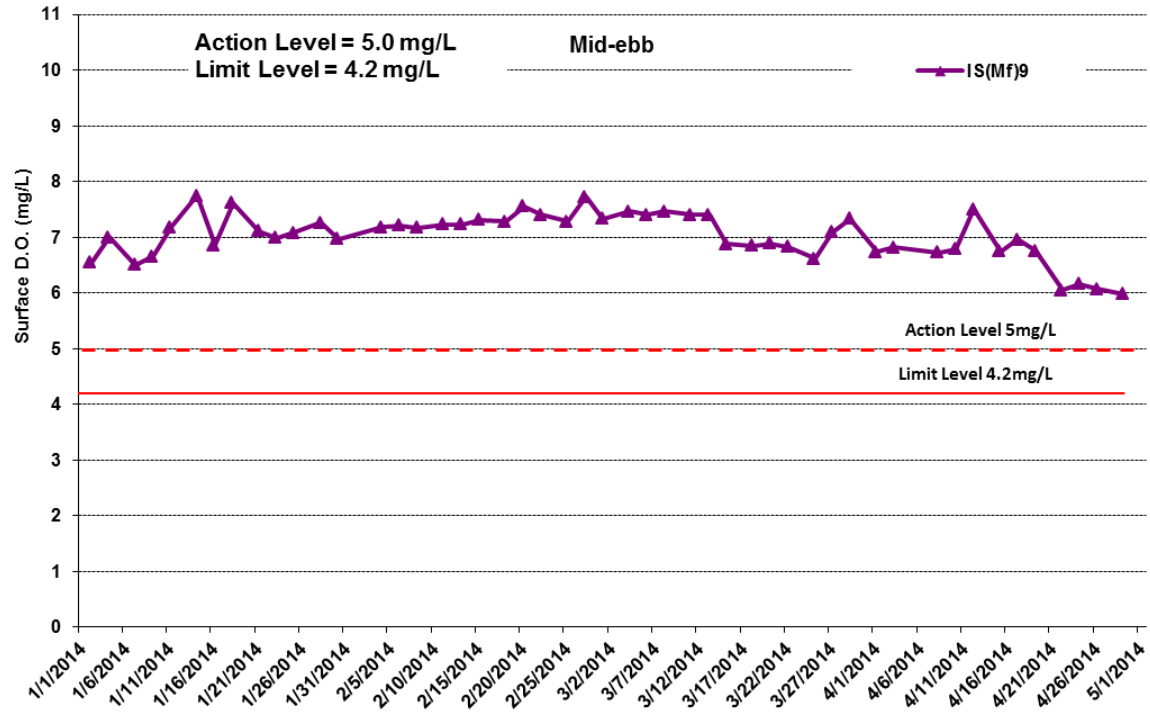
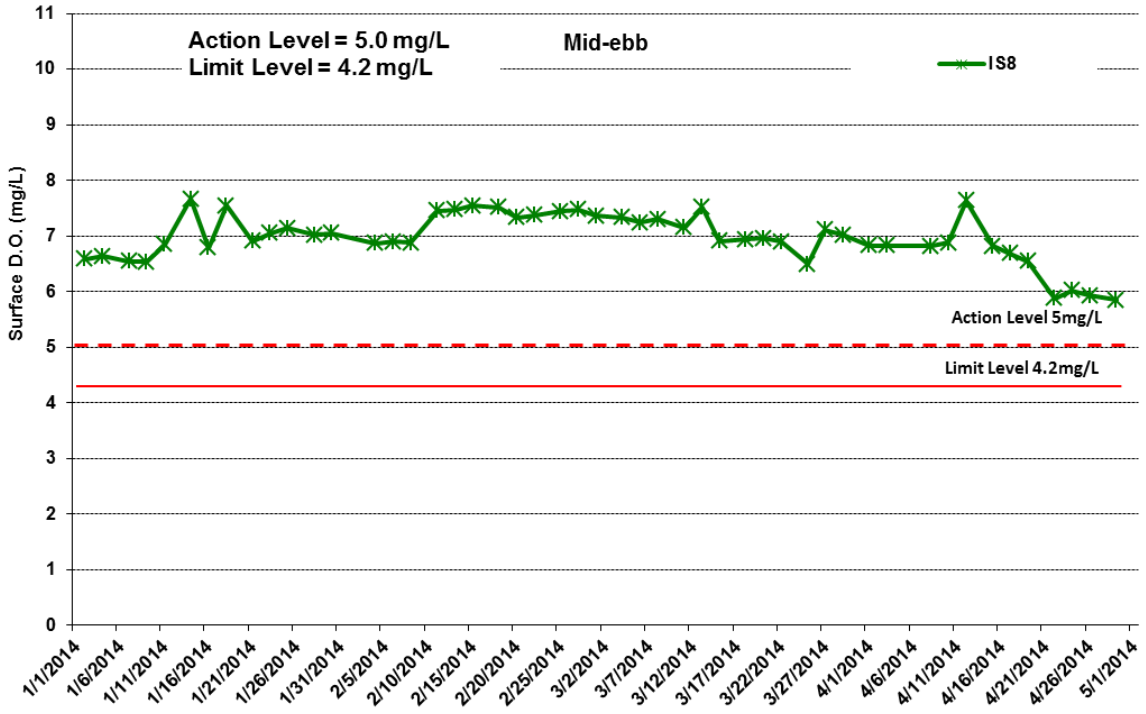


Figure J2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



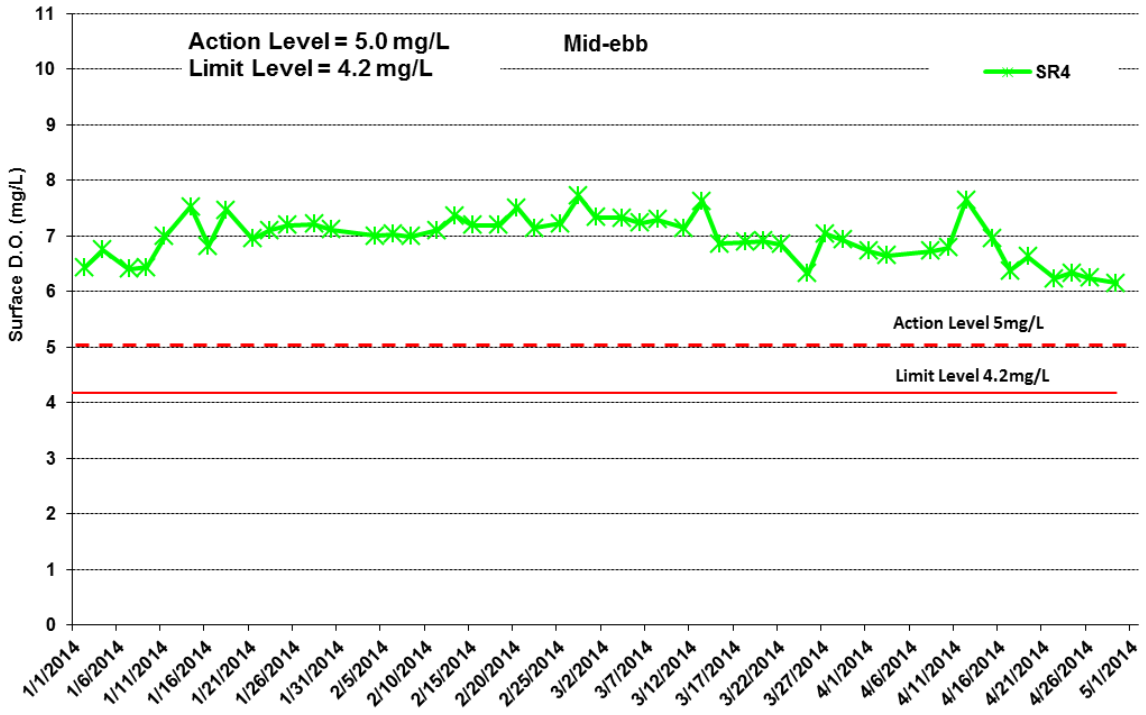


Figure J3 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

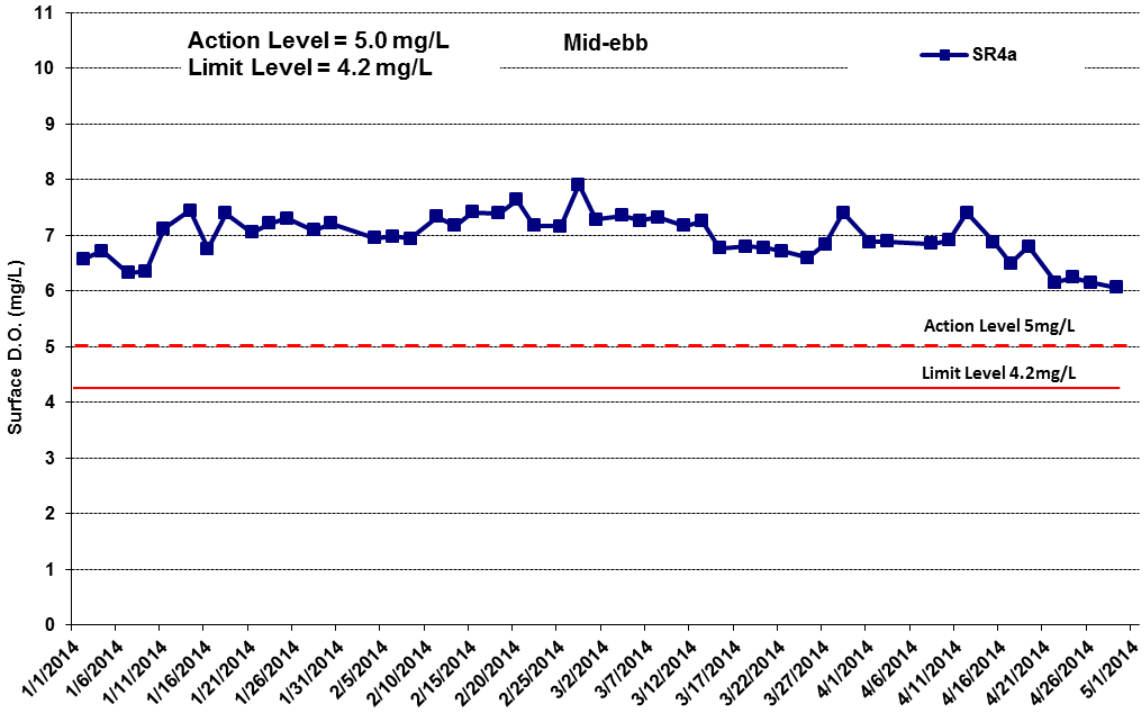


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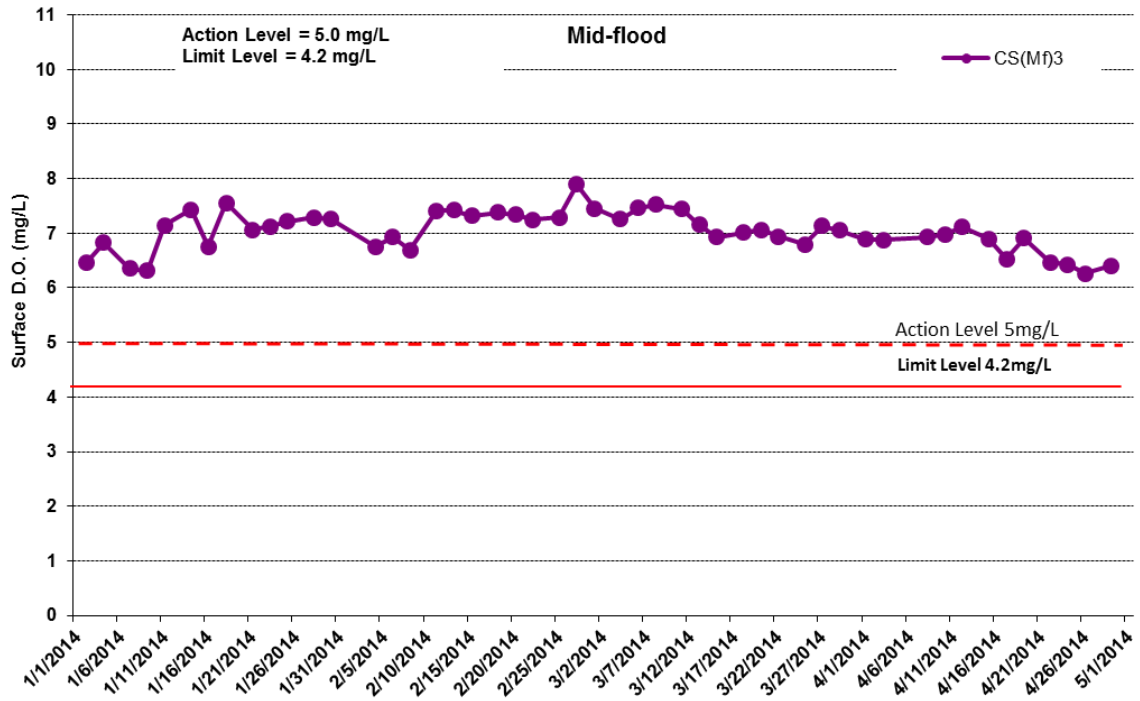
Figure J4 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



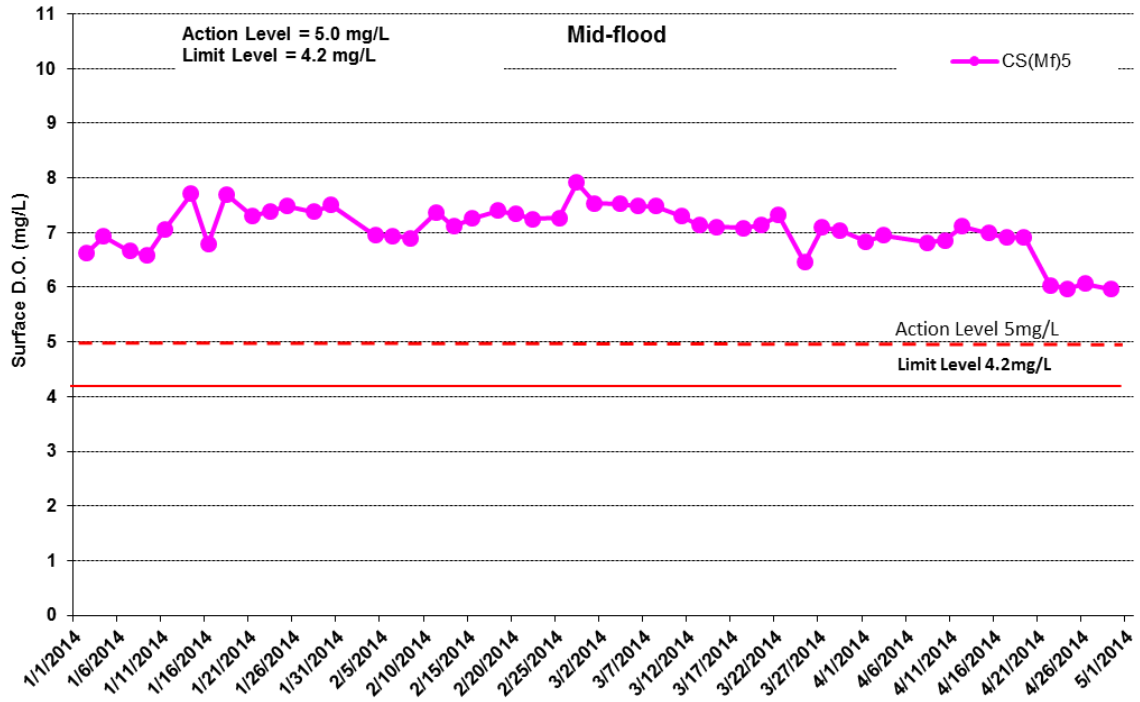
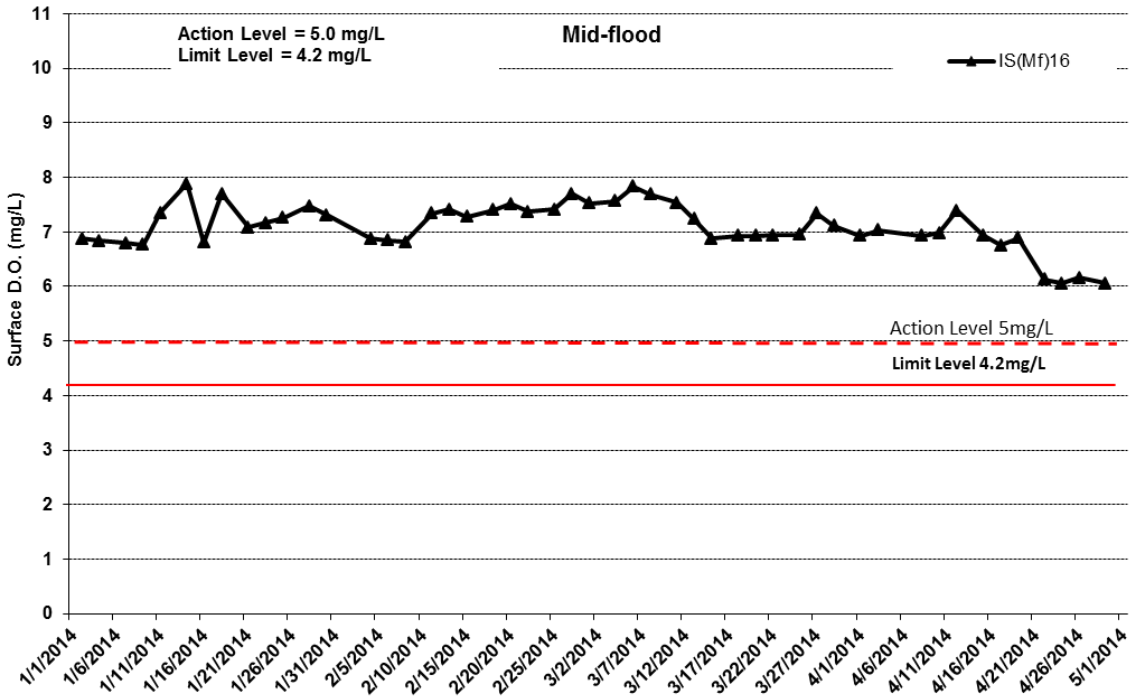


Figure J5 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



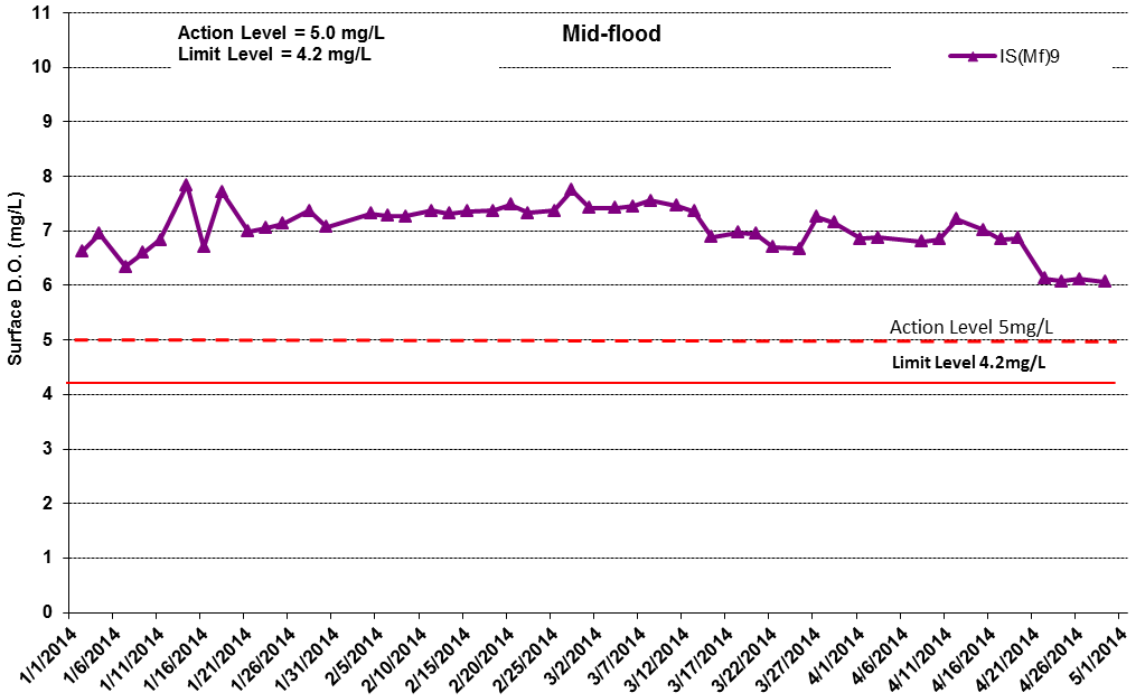
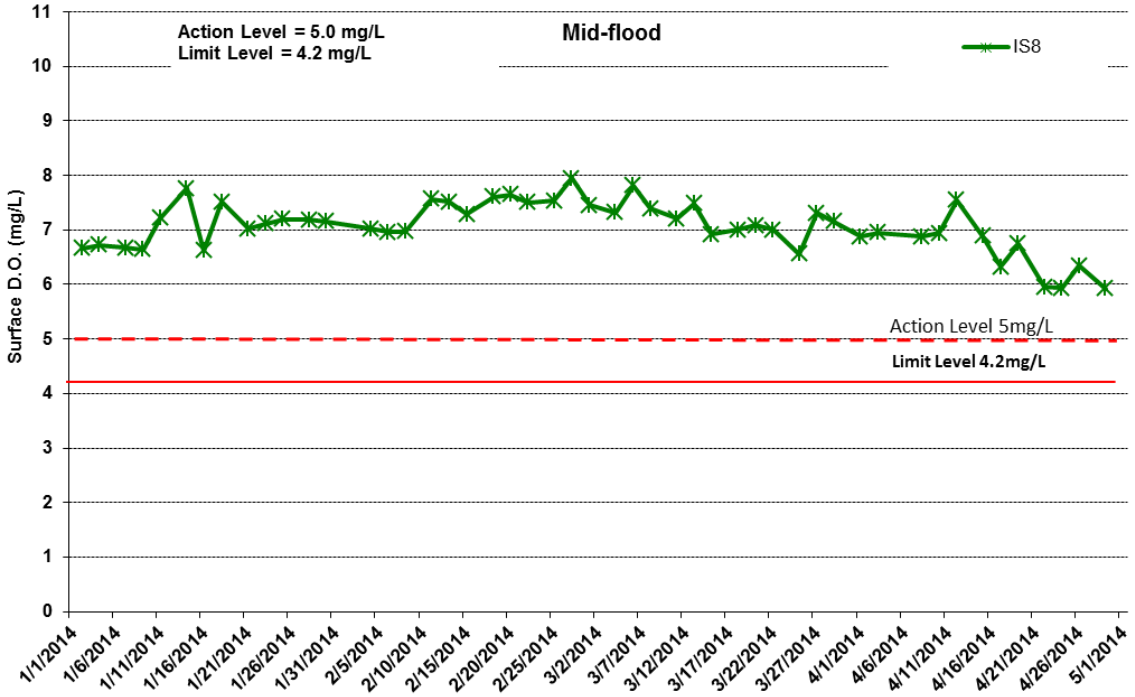


Figure J6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



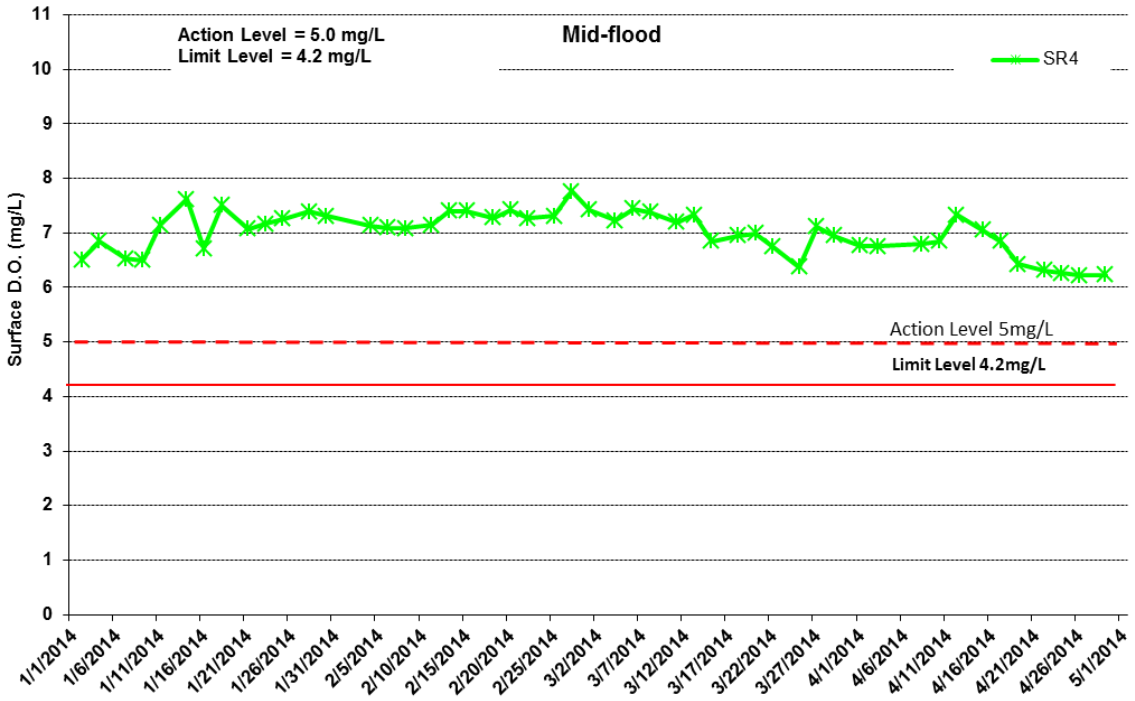


Figure J7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

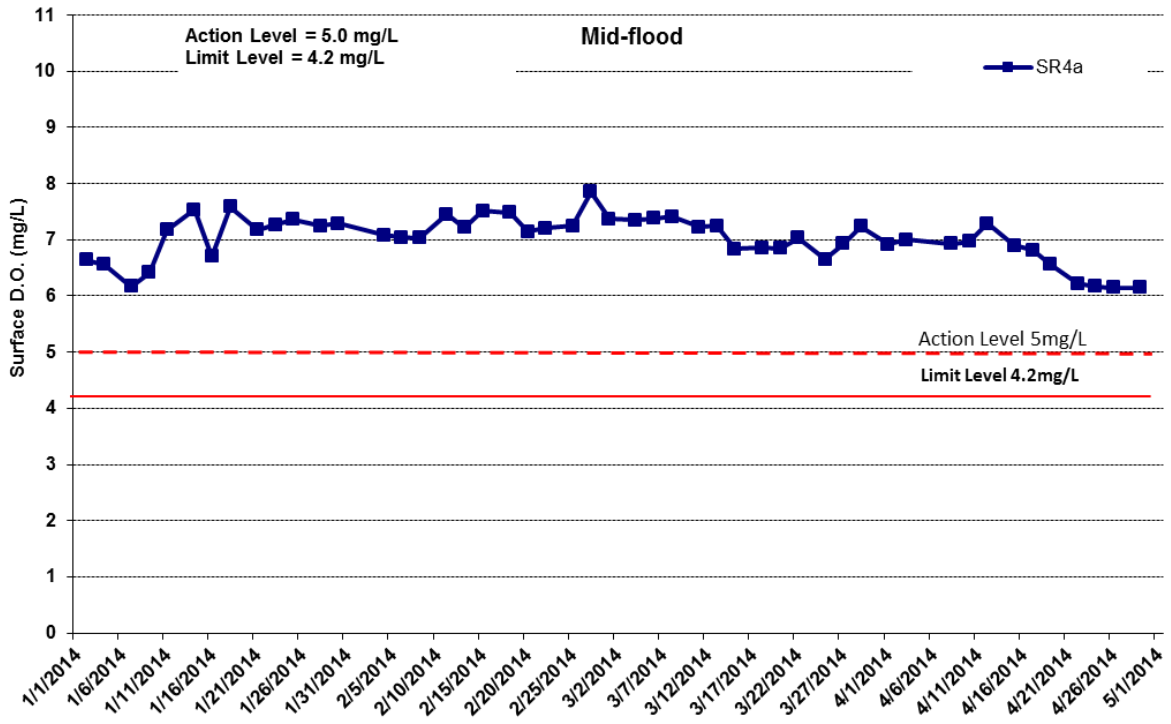
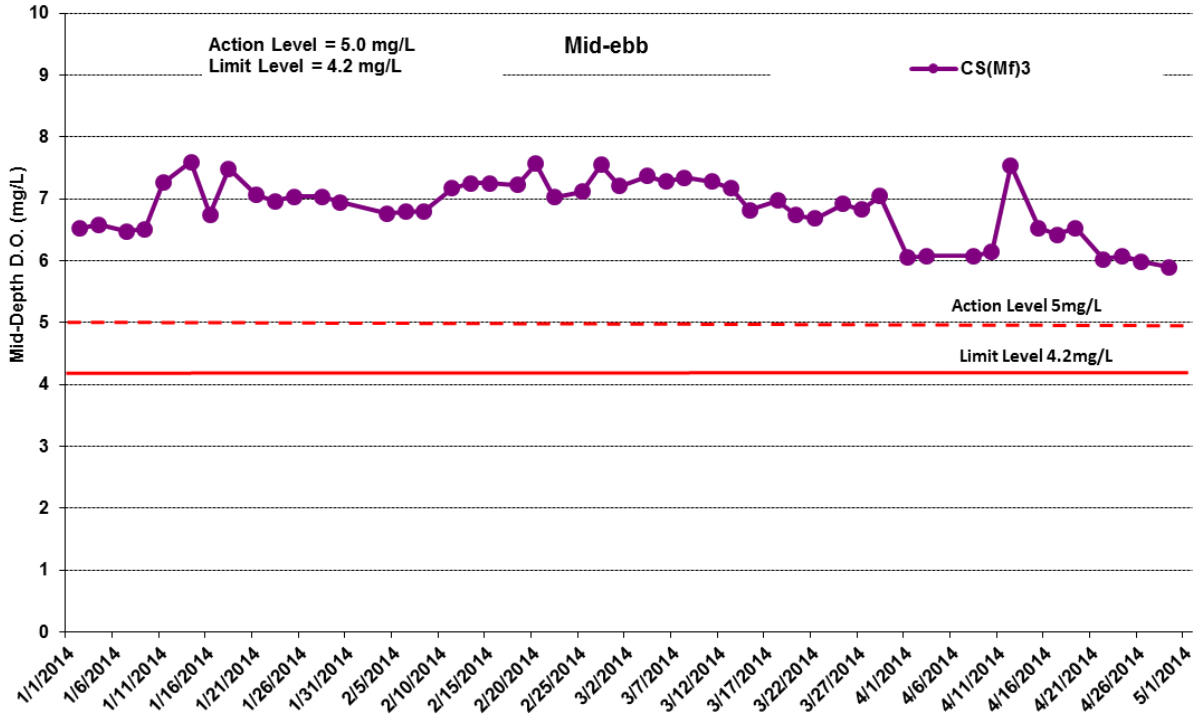


Figure J8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



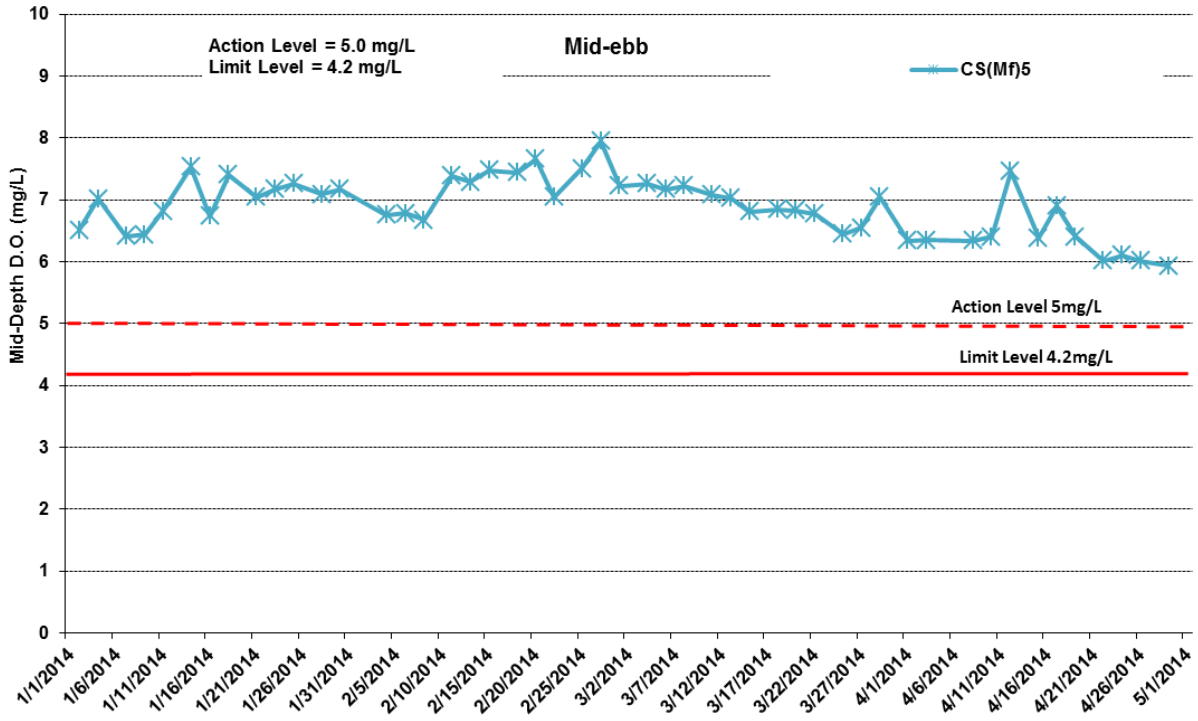


Figure J9 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

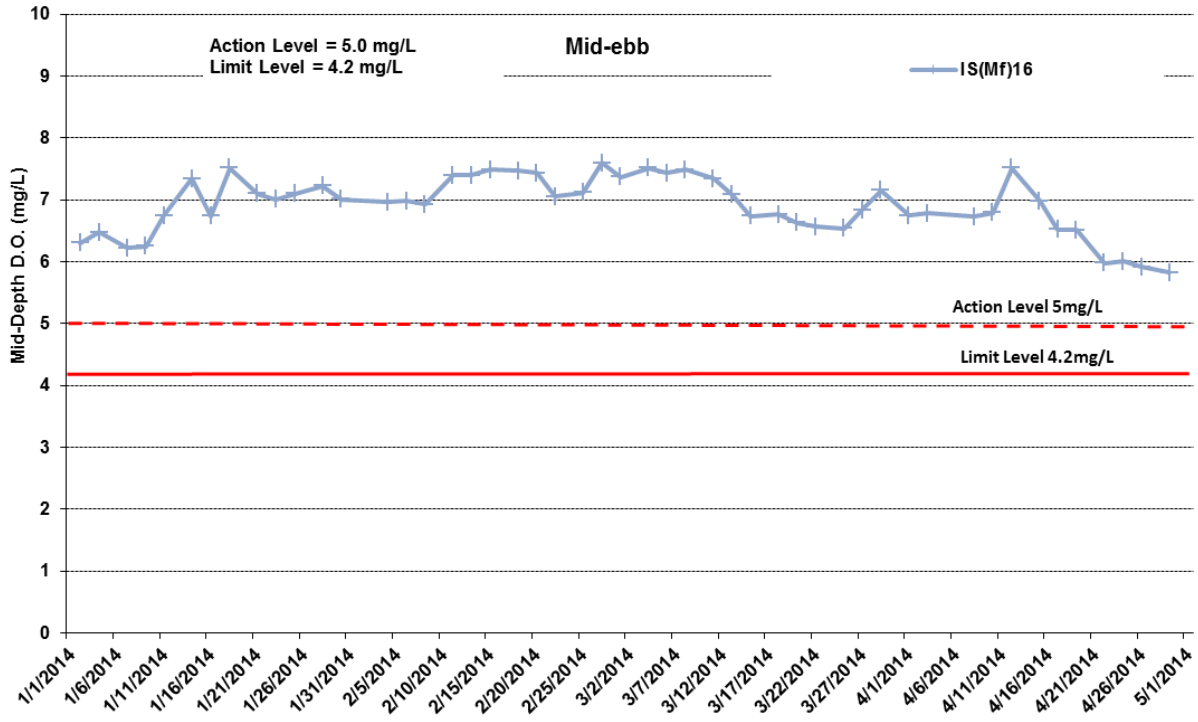
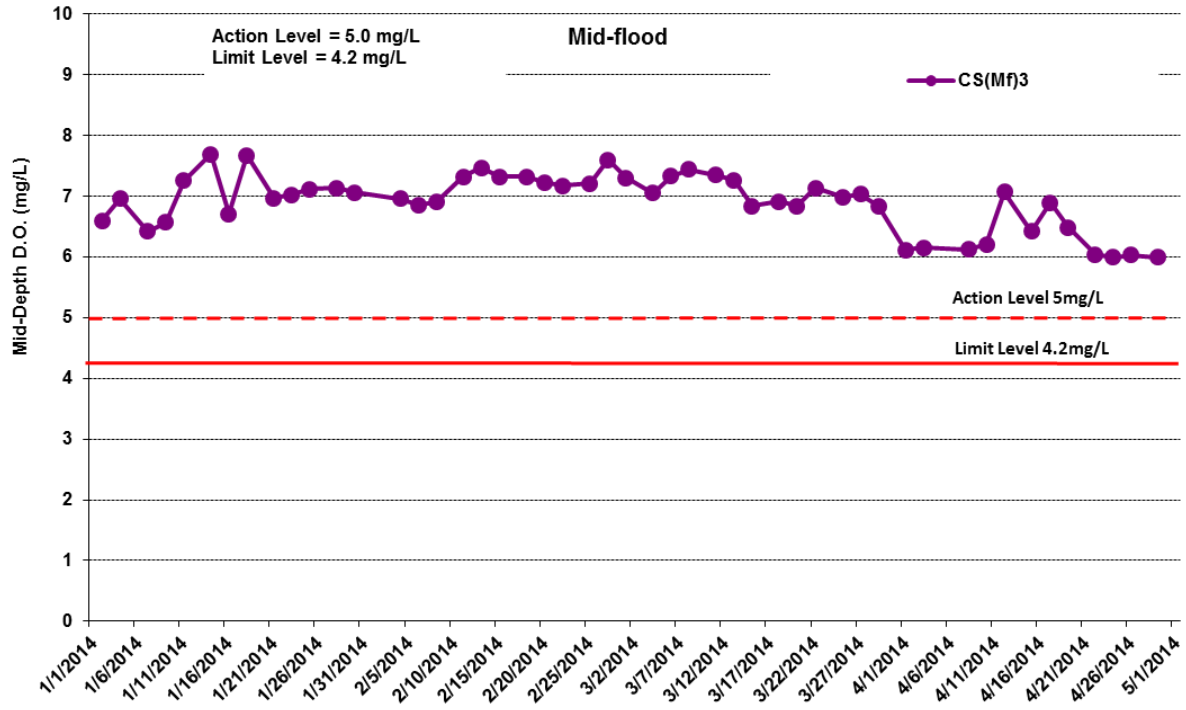


Figure J10 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS(Mf)16.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



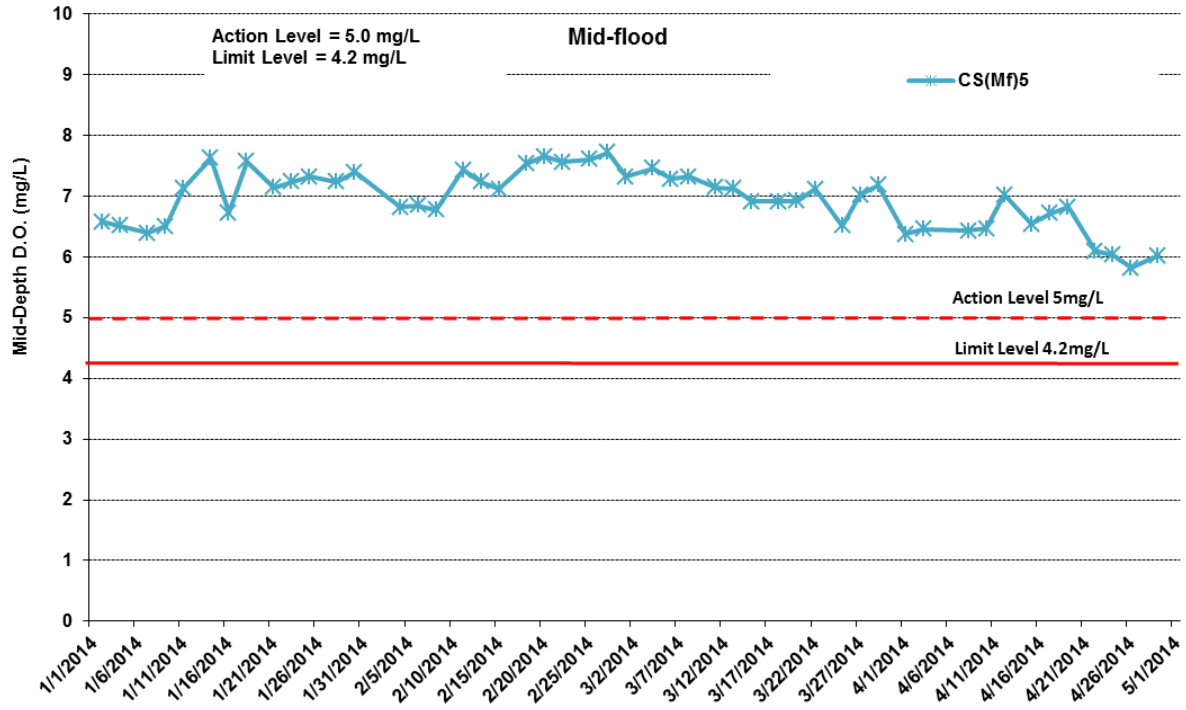


Figure J11 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

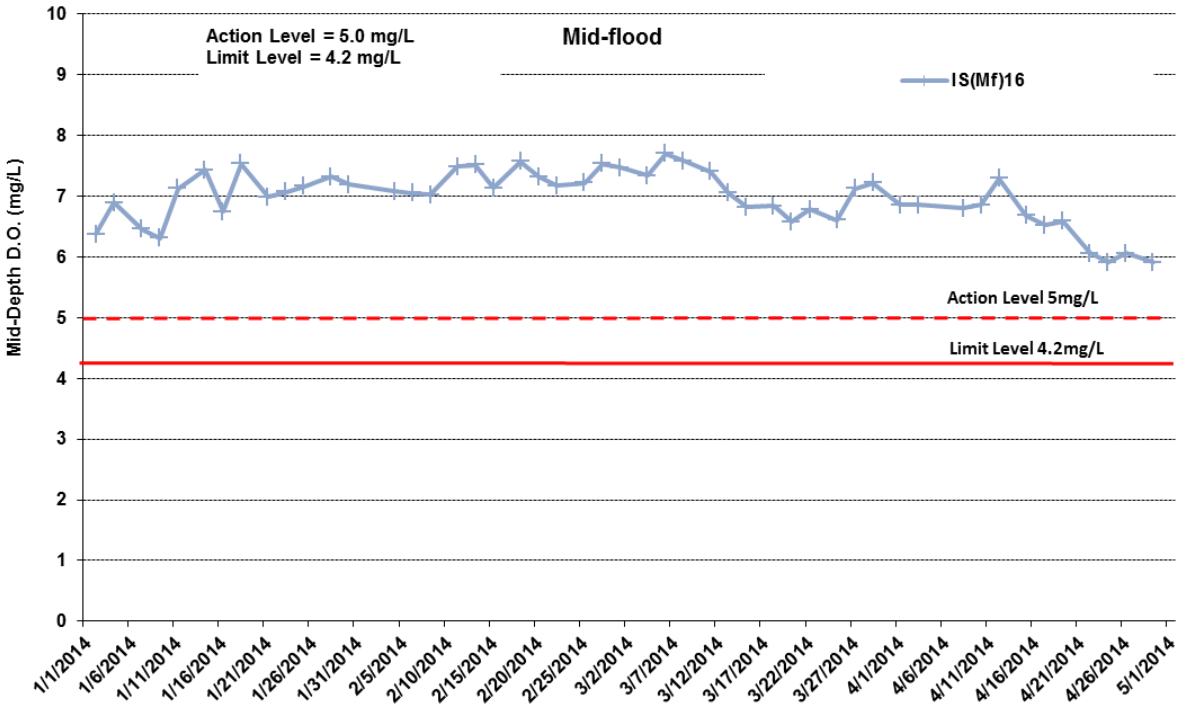
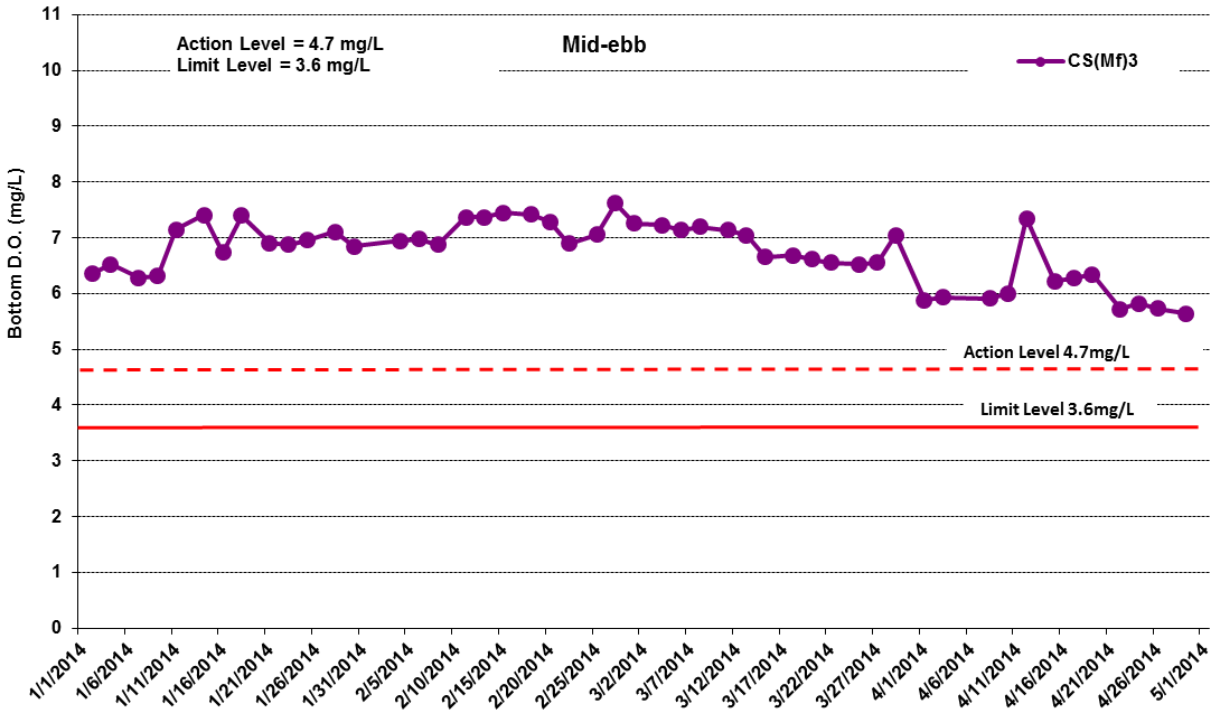


Figure J12 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 January 2014 and 30 April 2014 at IS(Mf)16.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



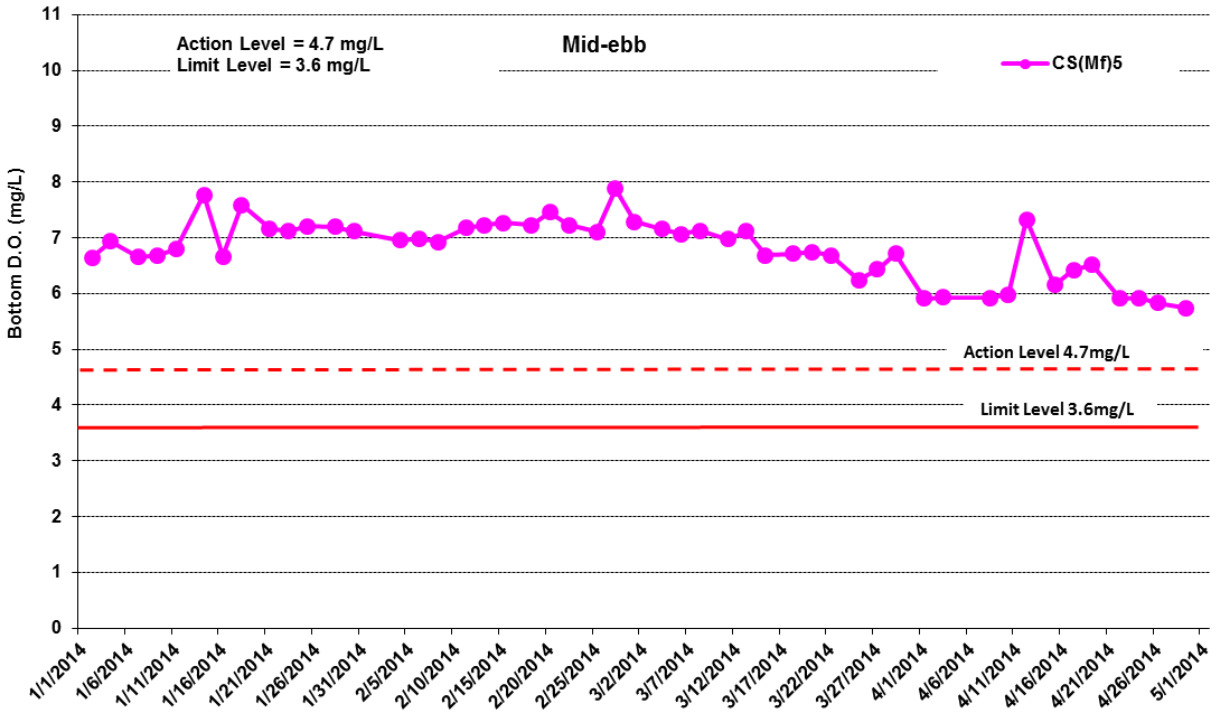
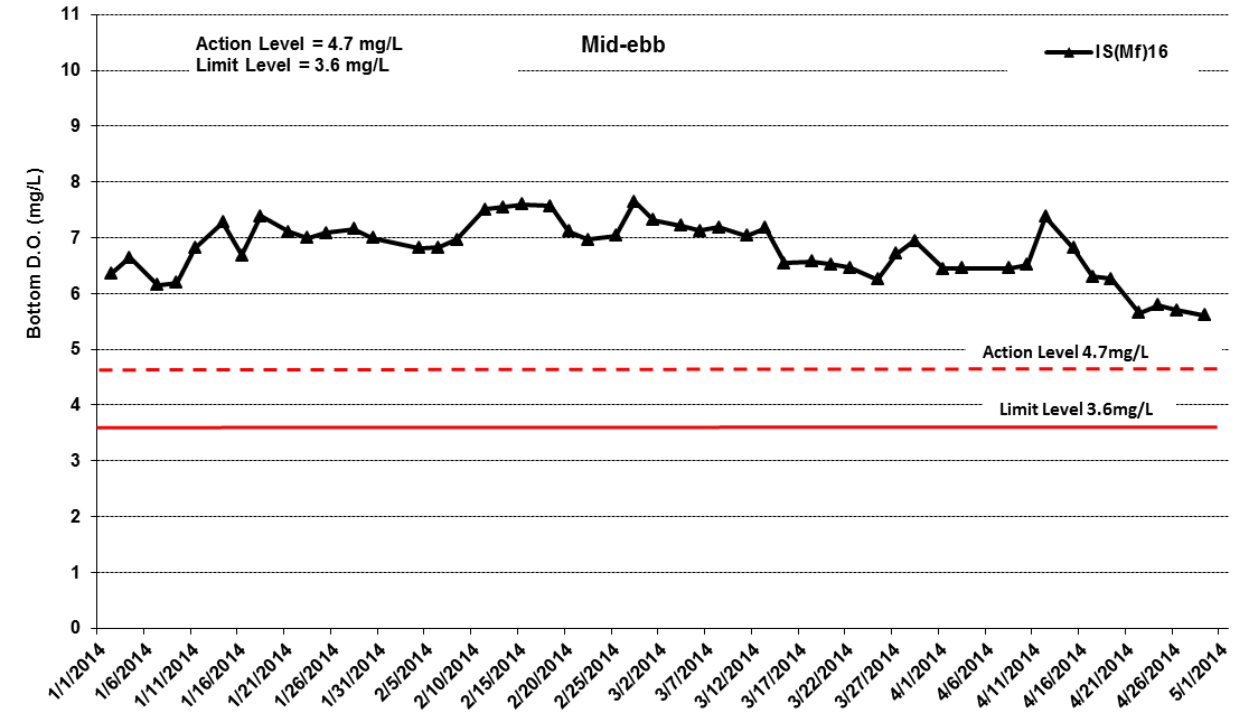


Figure J13 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



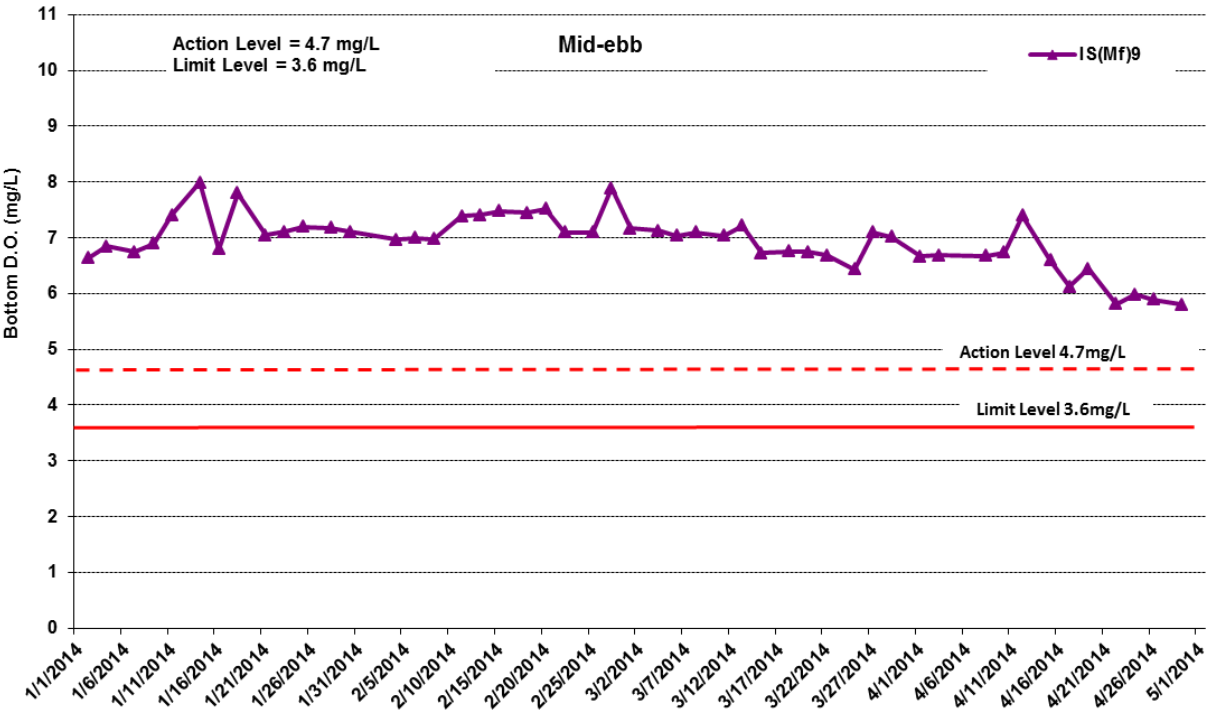
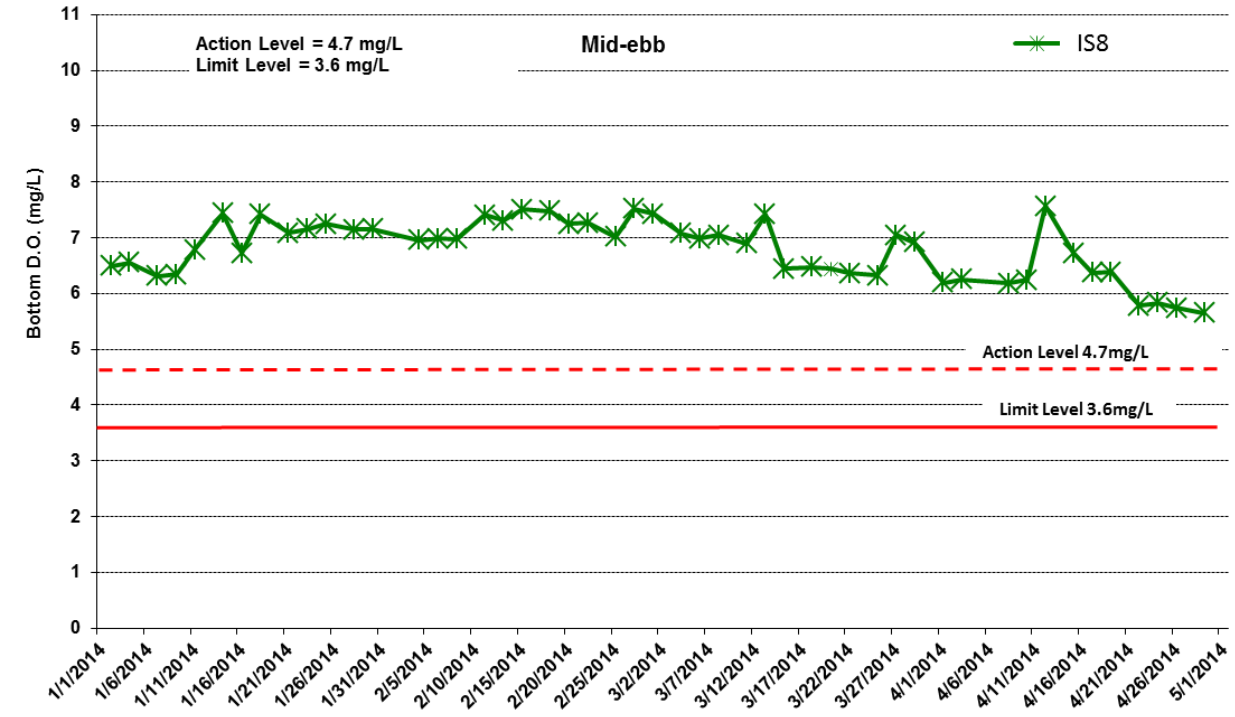


Figure J14 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



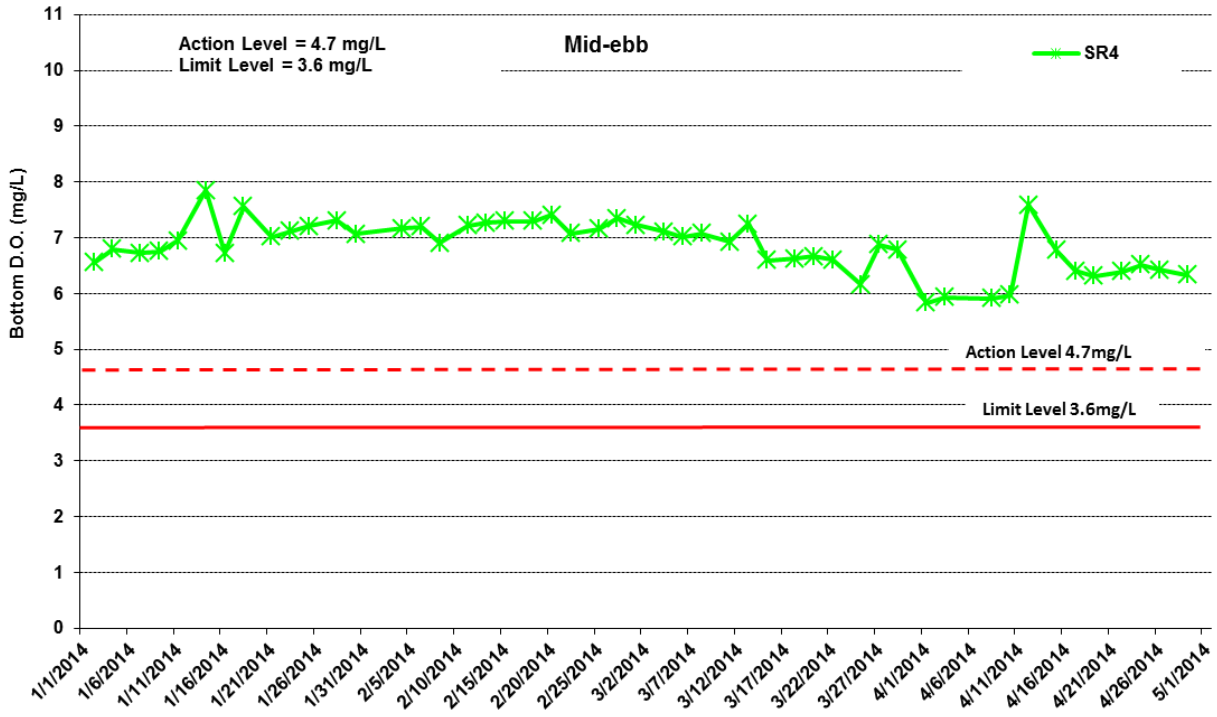


Figure J15 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

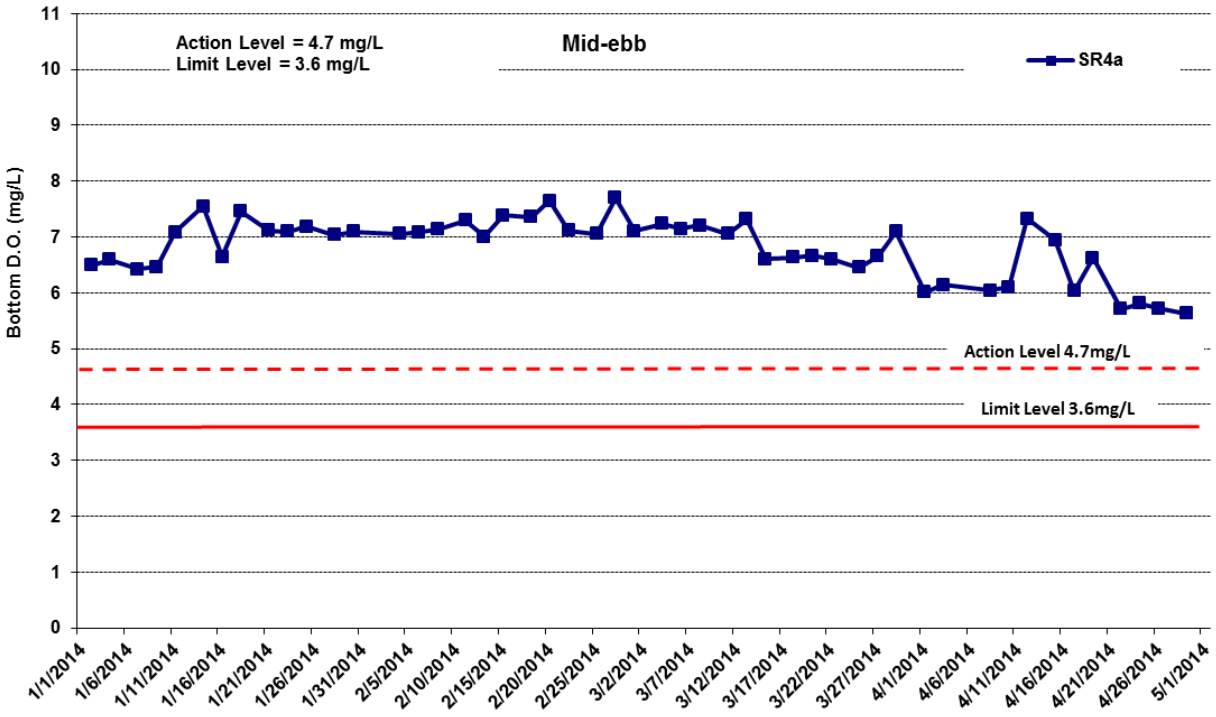
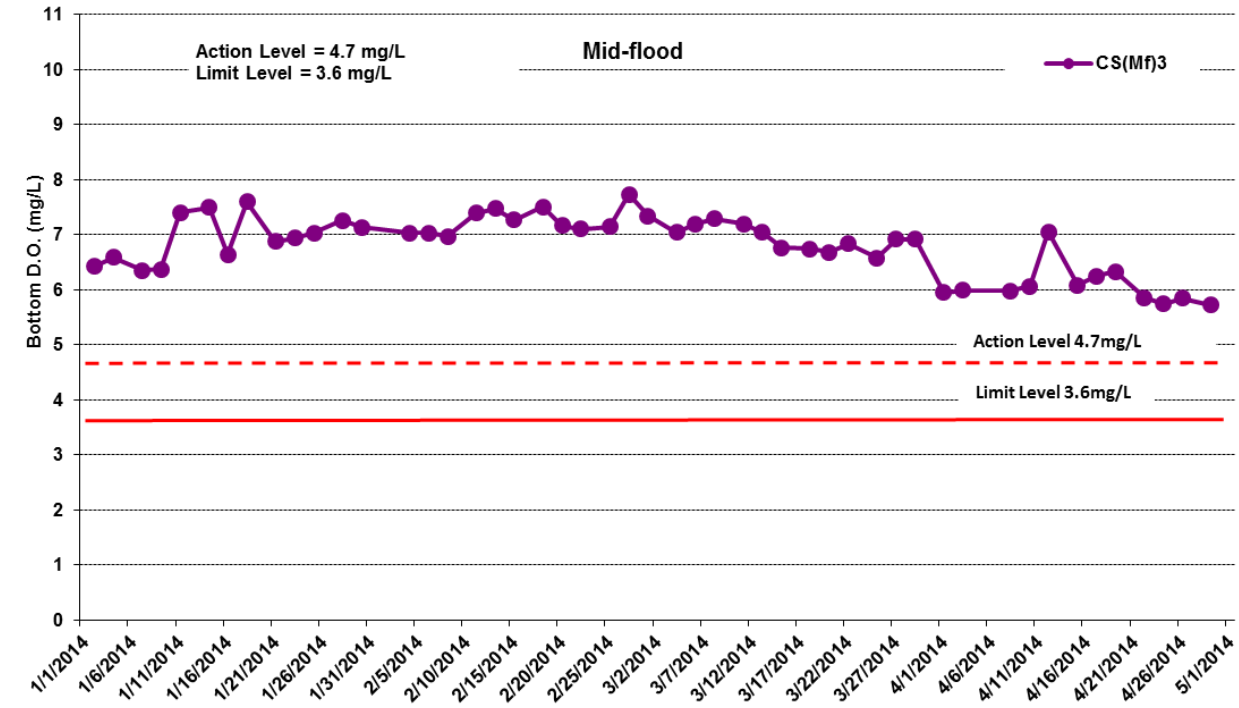


Figure J16 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



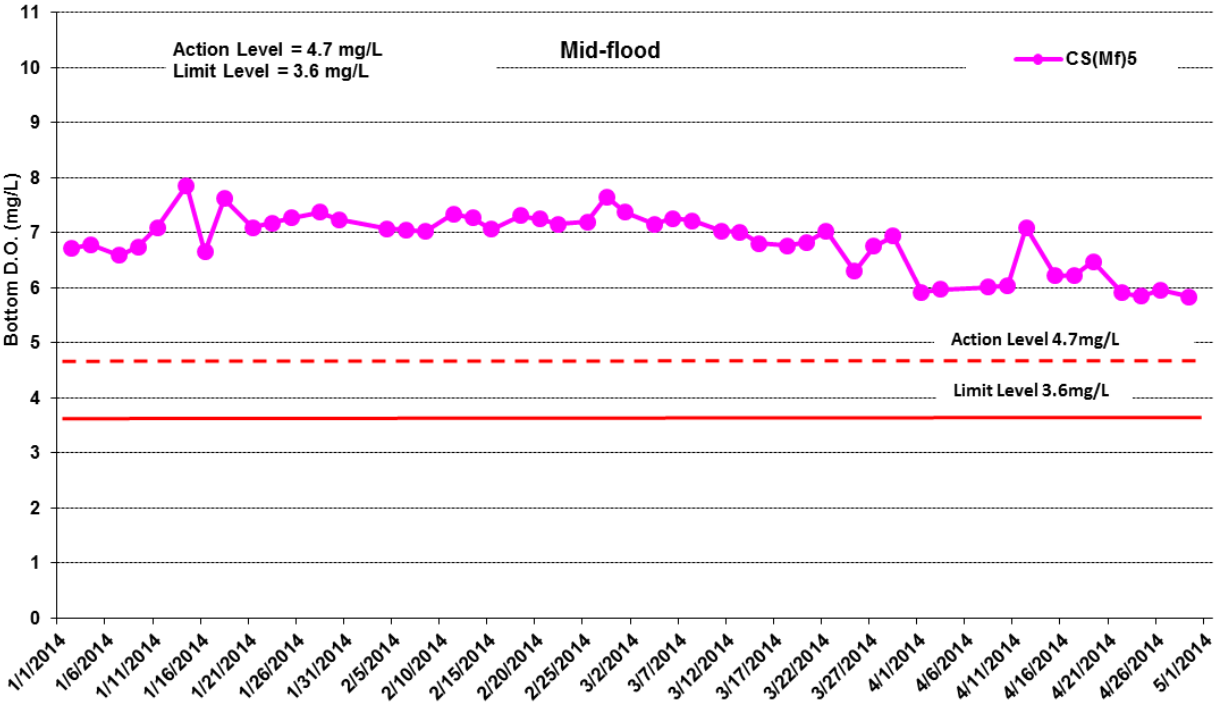
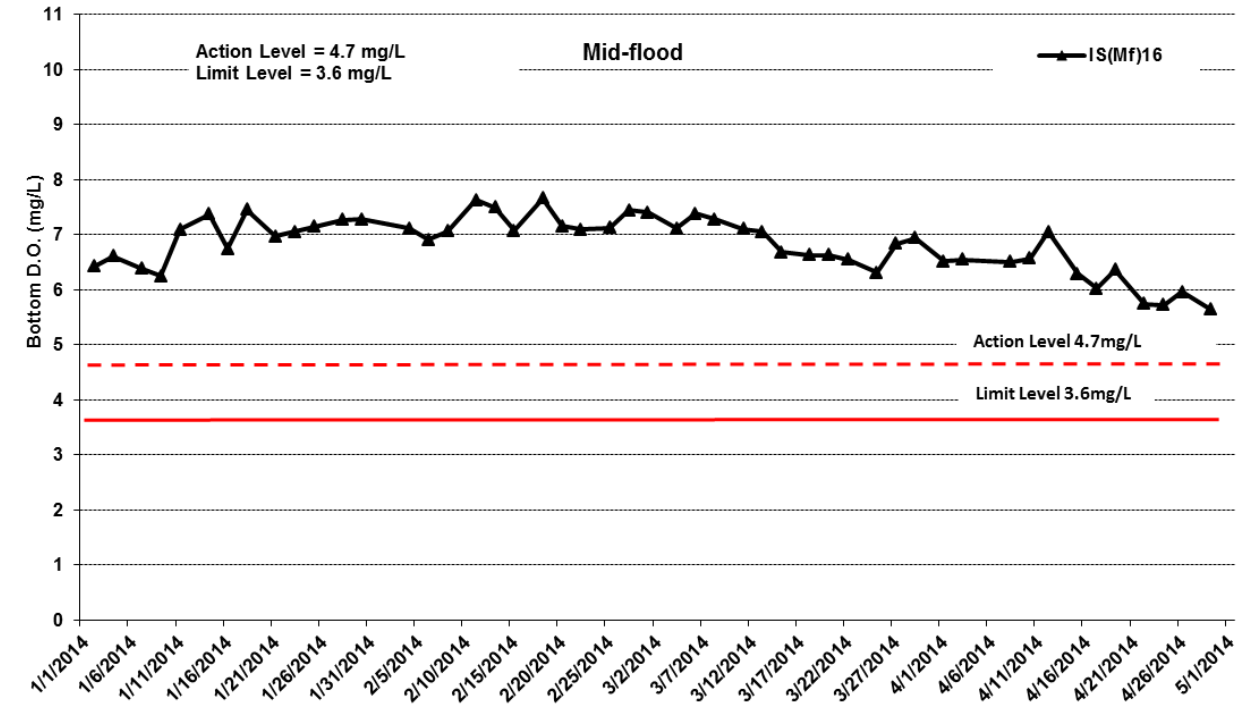


Figure J17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



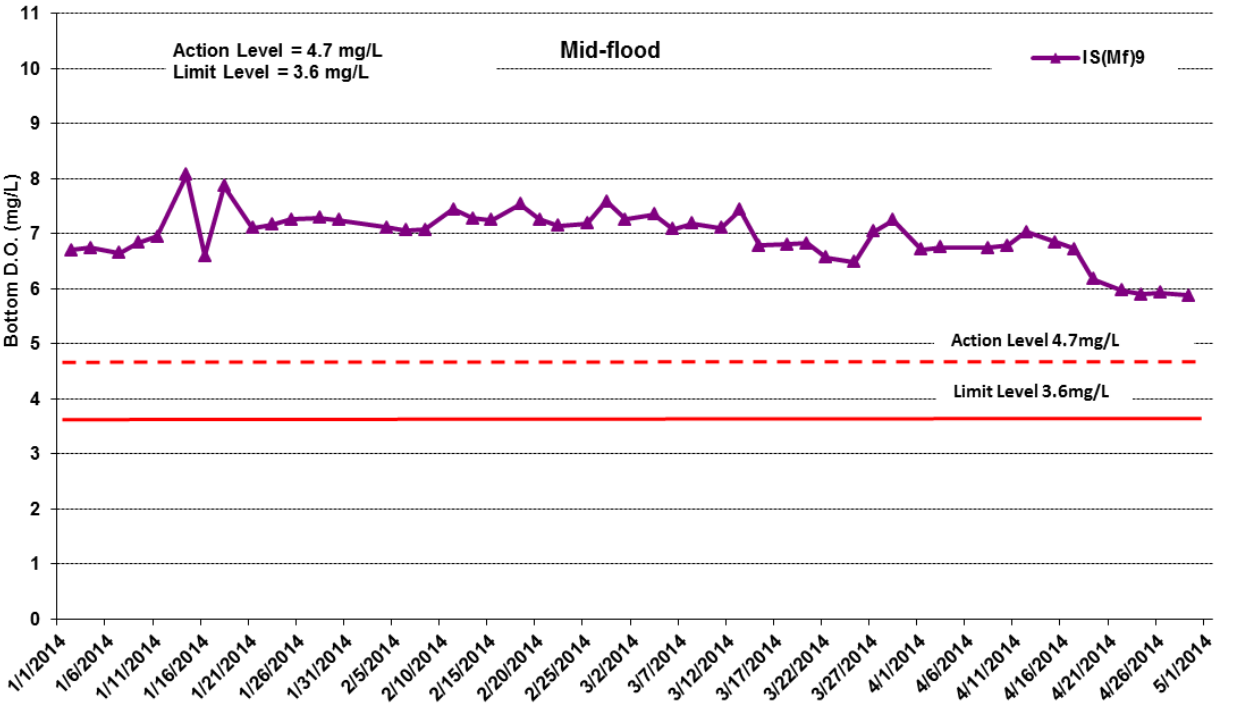
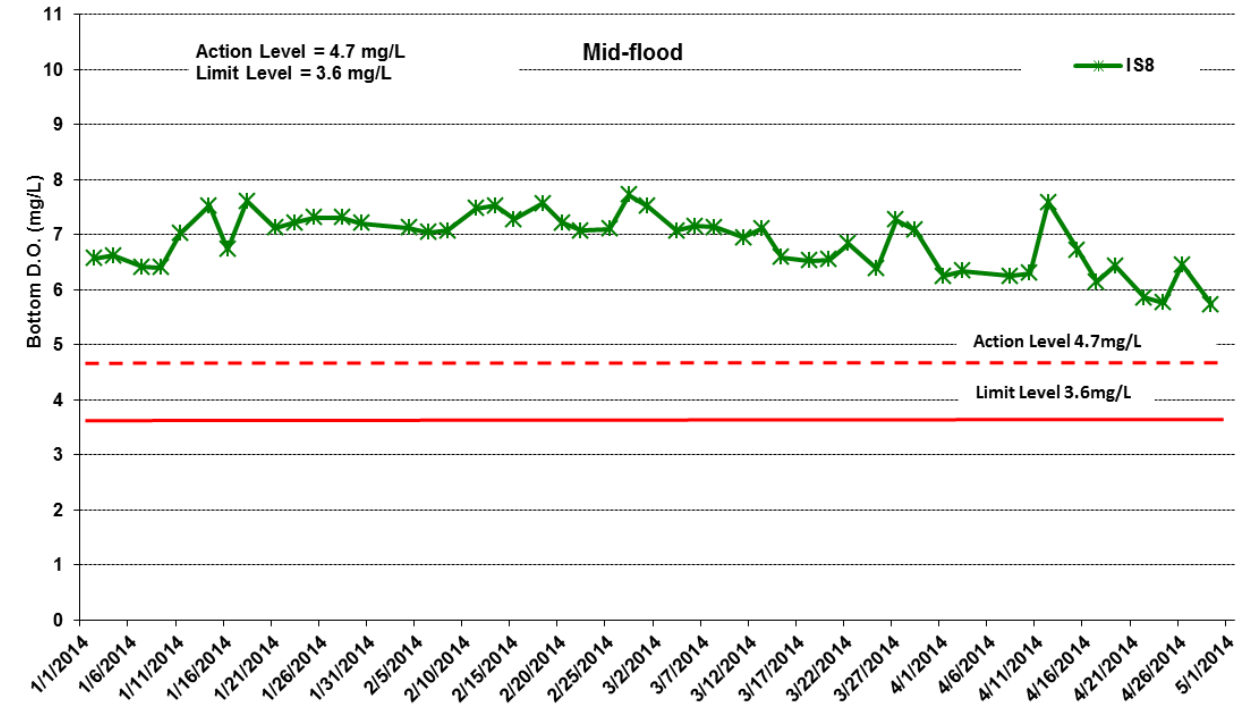


Figure J18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



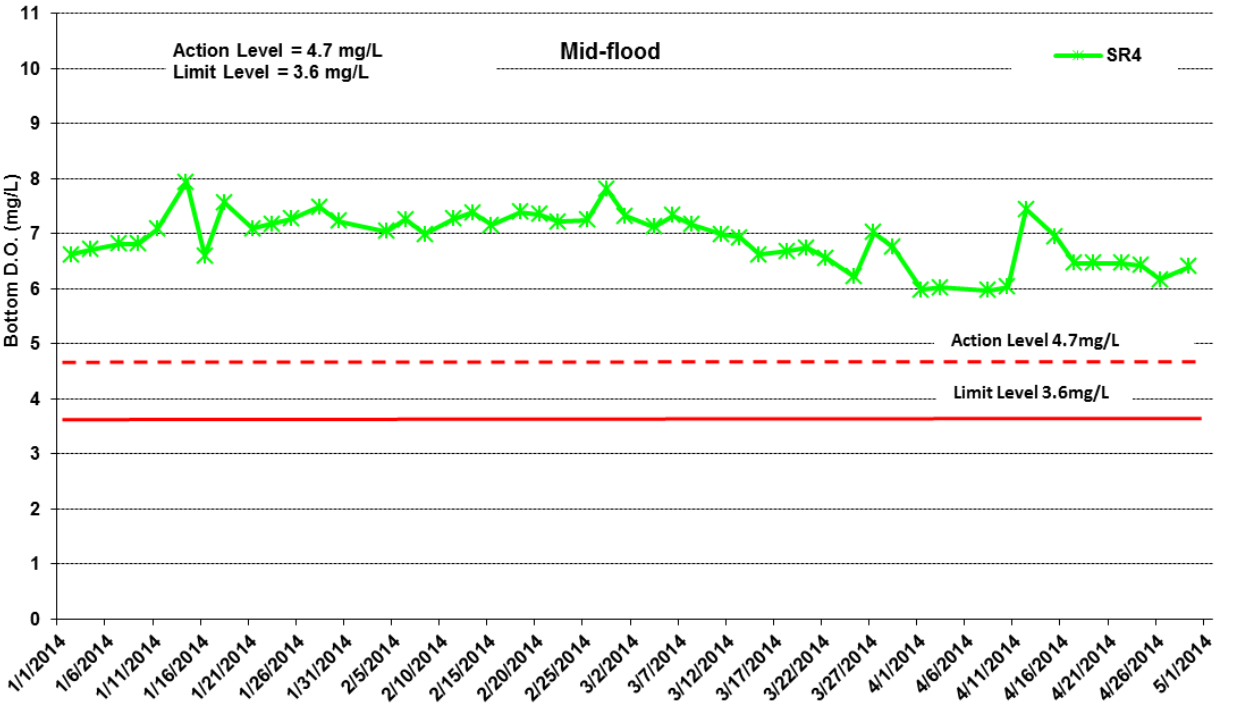


Figure J19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

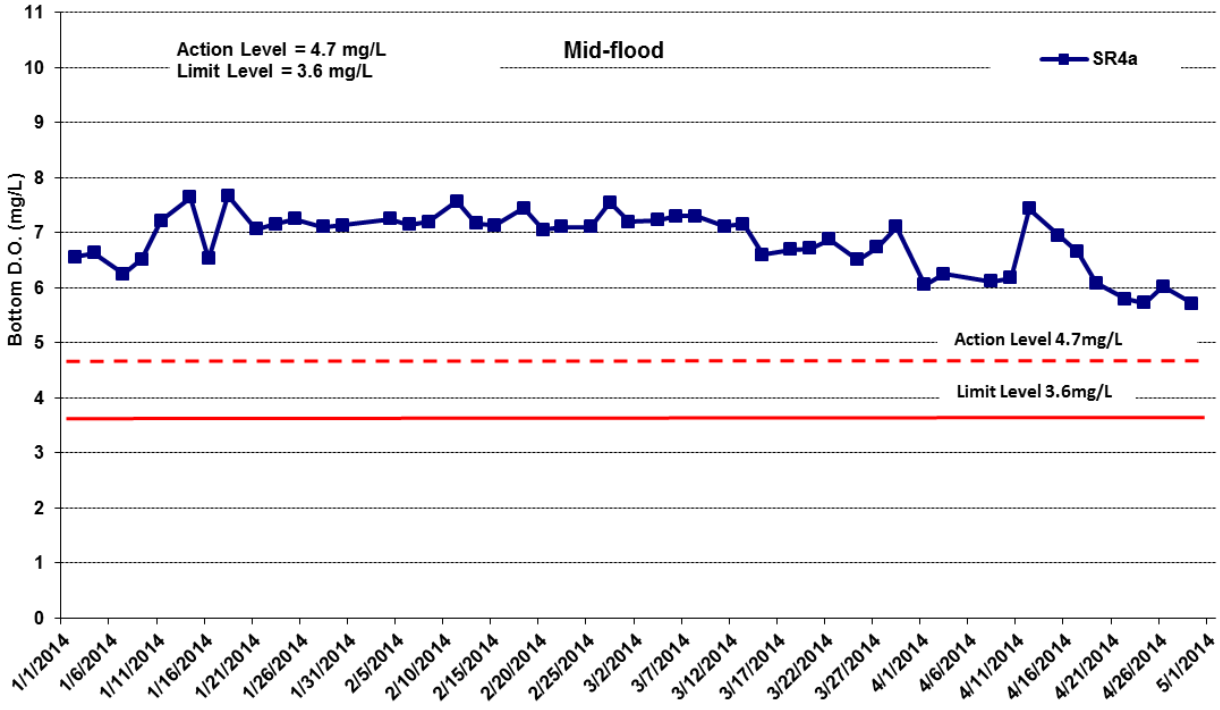
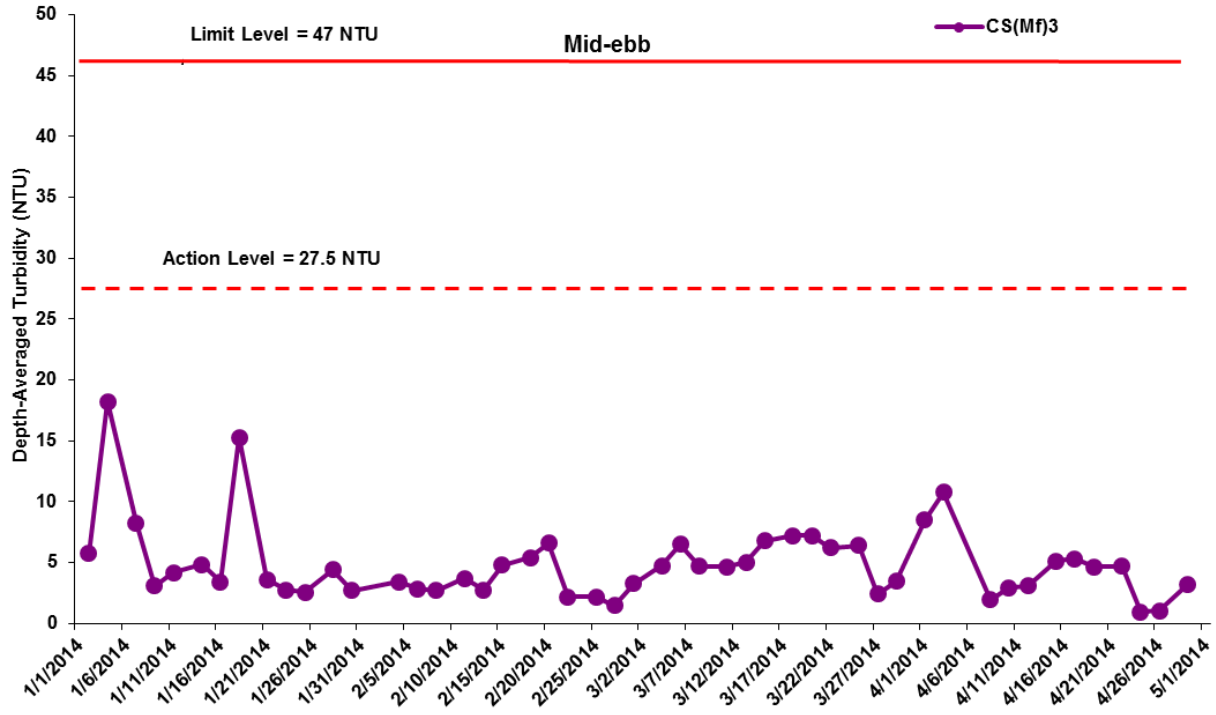


Figure J20 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



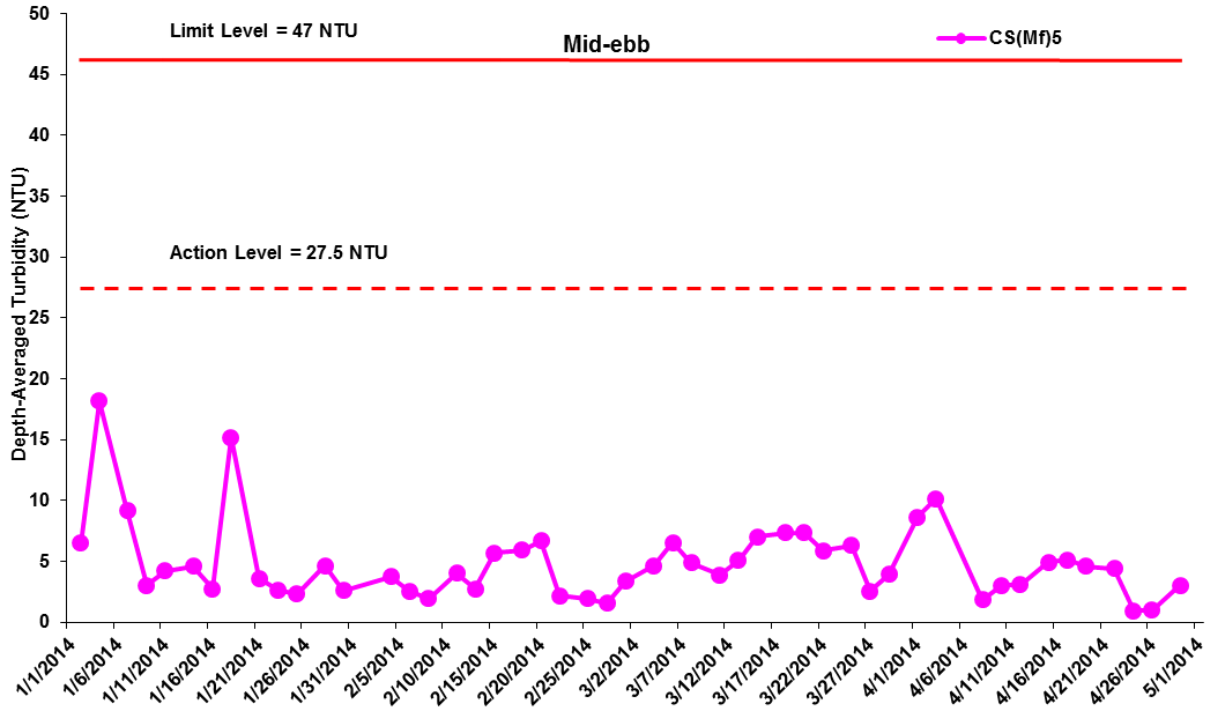
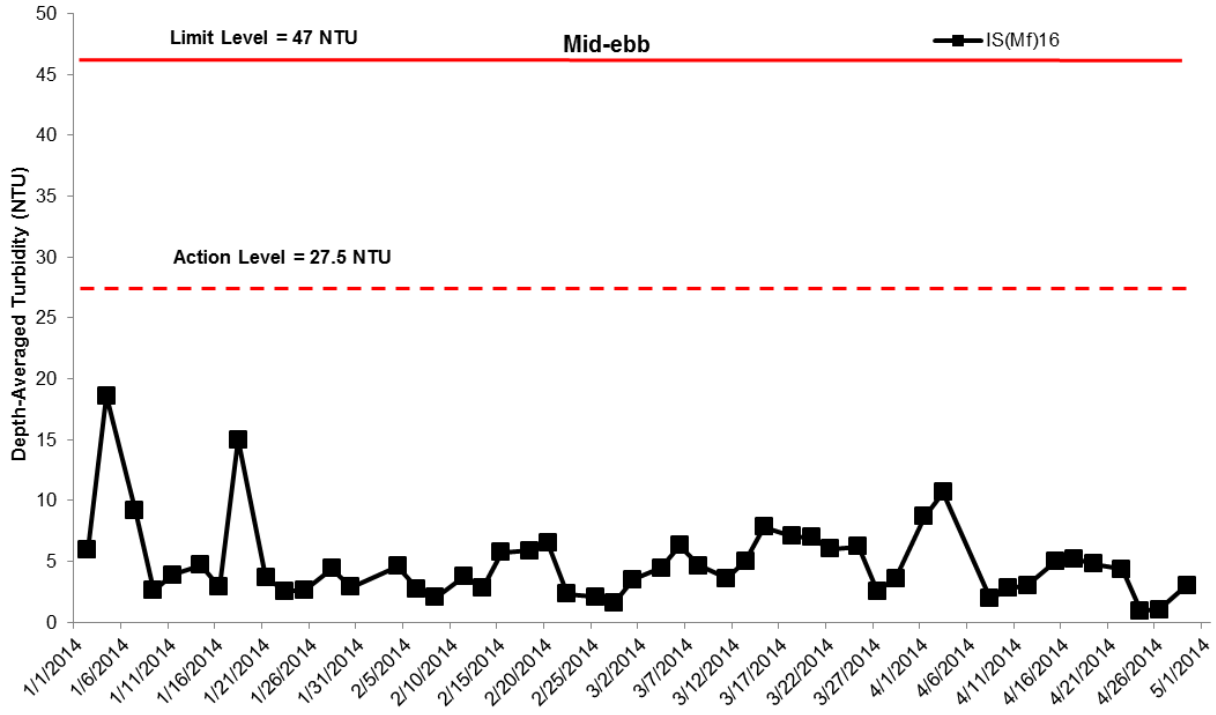


Figure J21 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)



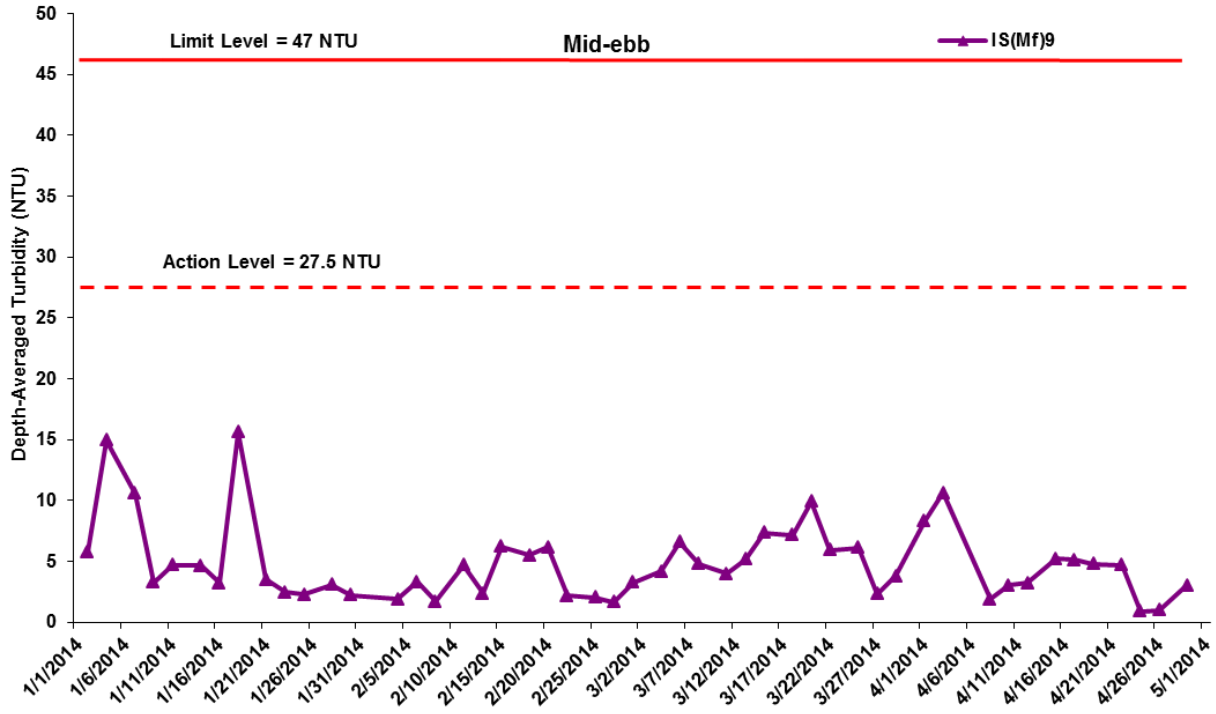
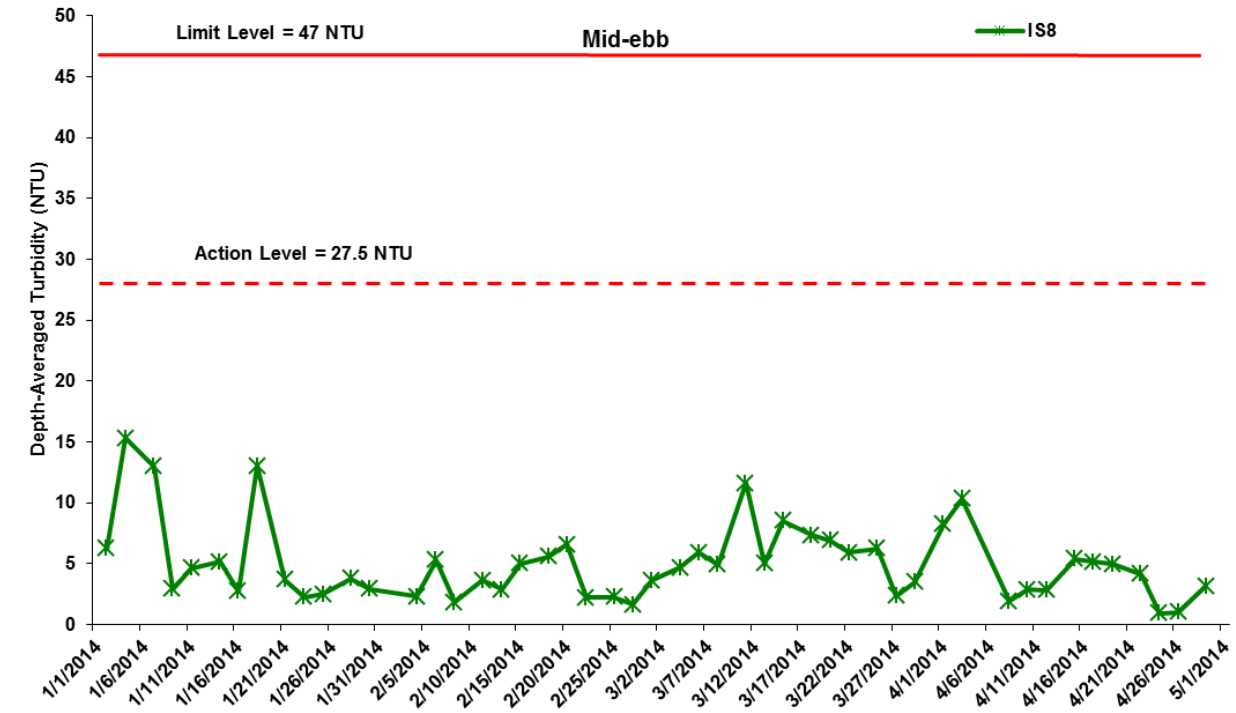


Figure J22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



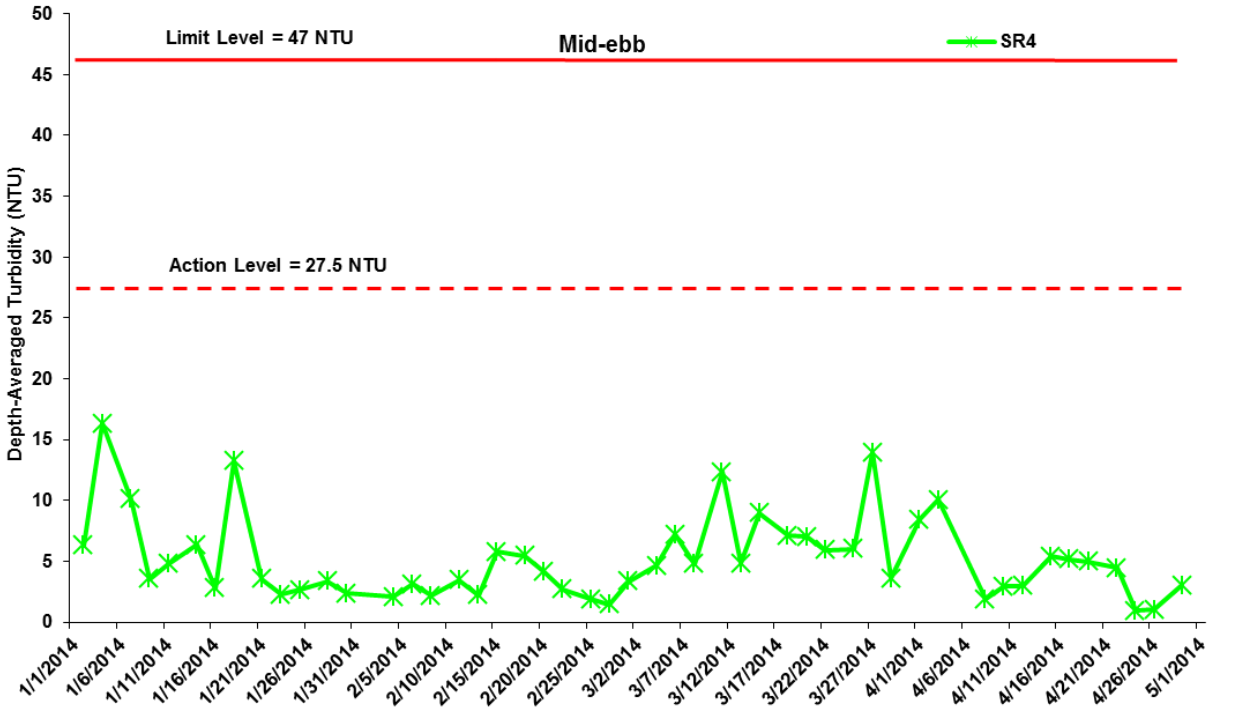


Figure J23 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

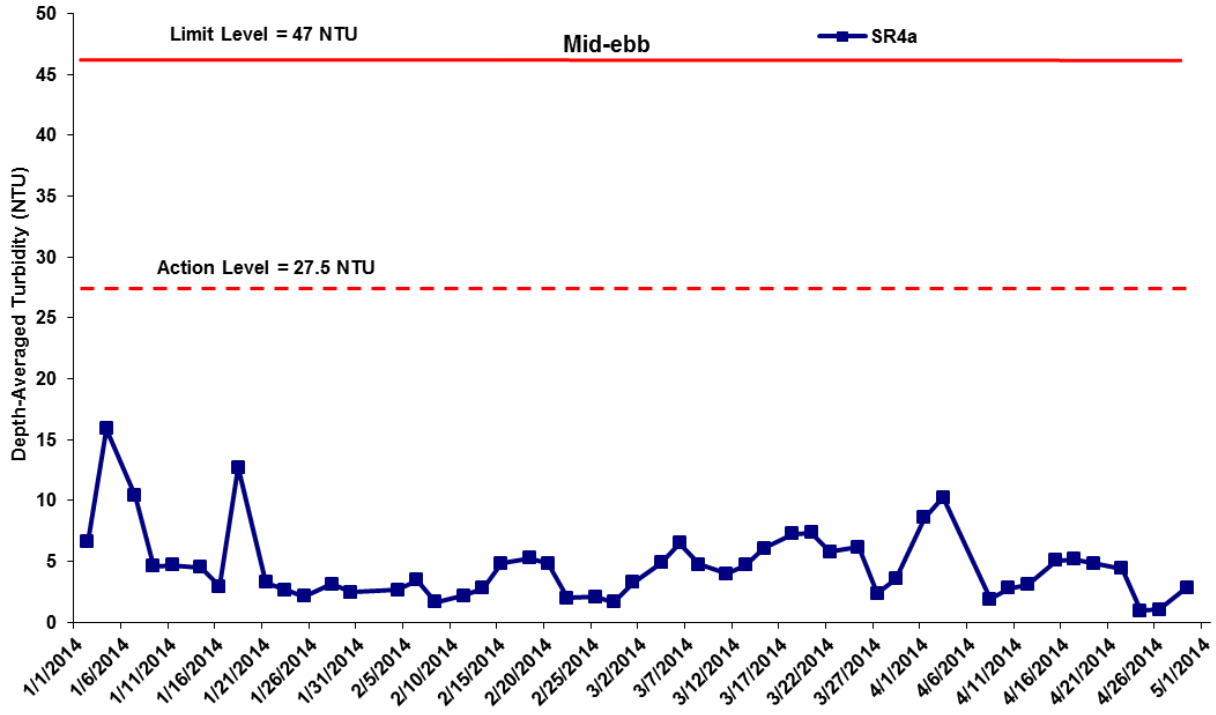
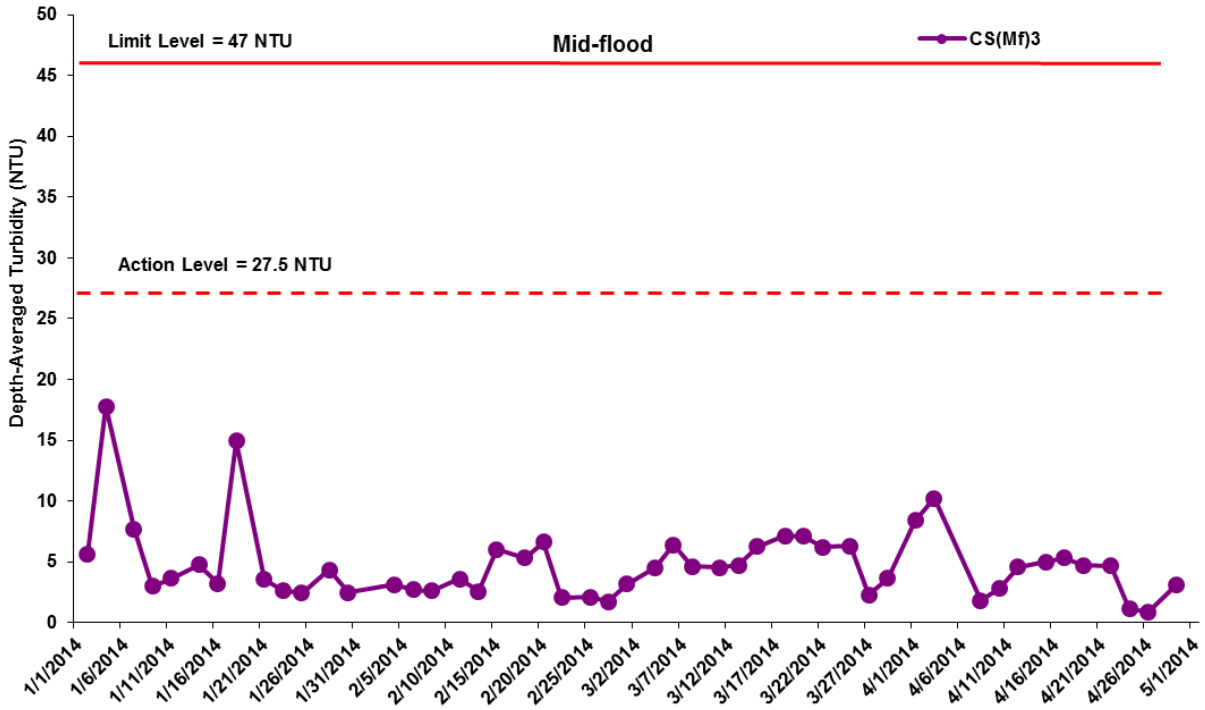


Figure J24 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



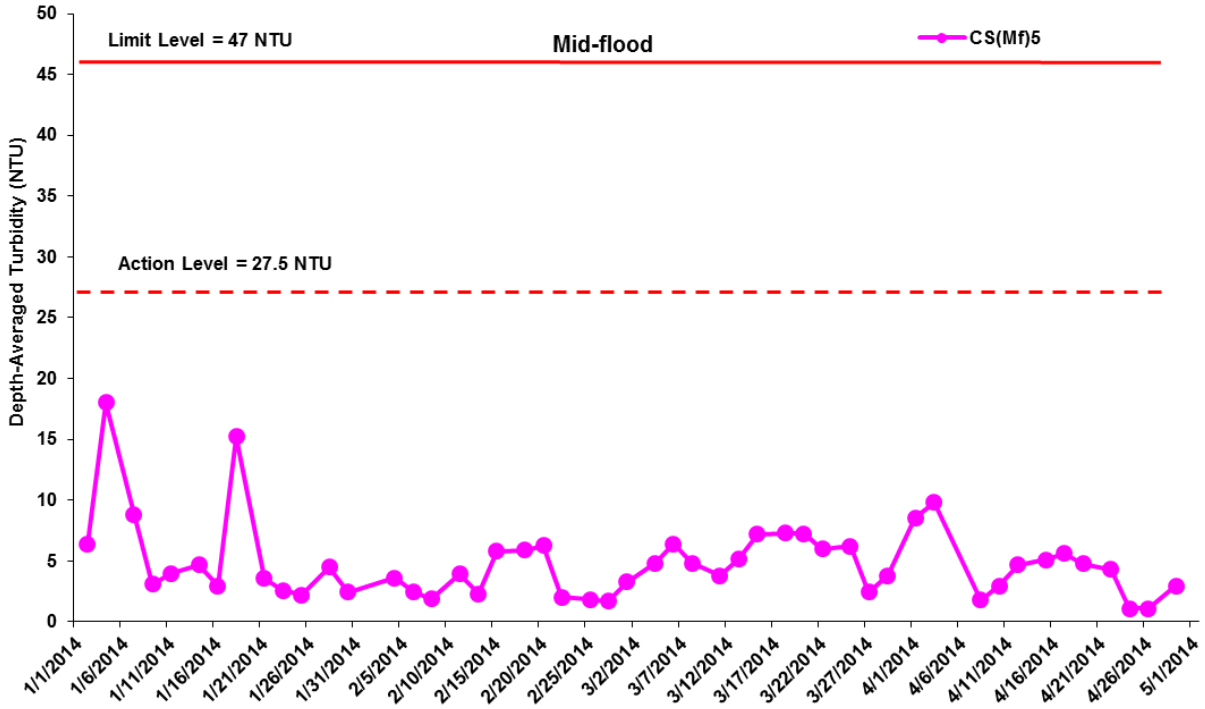
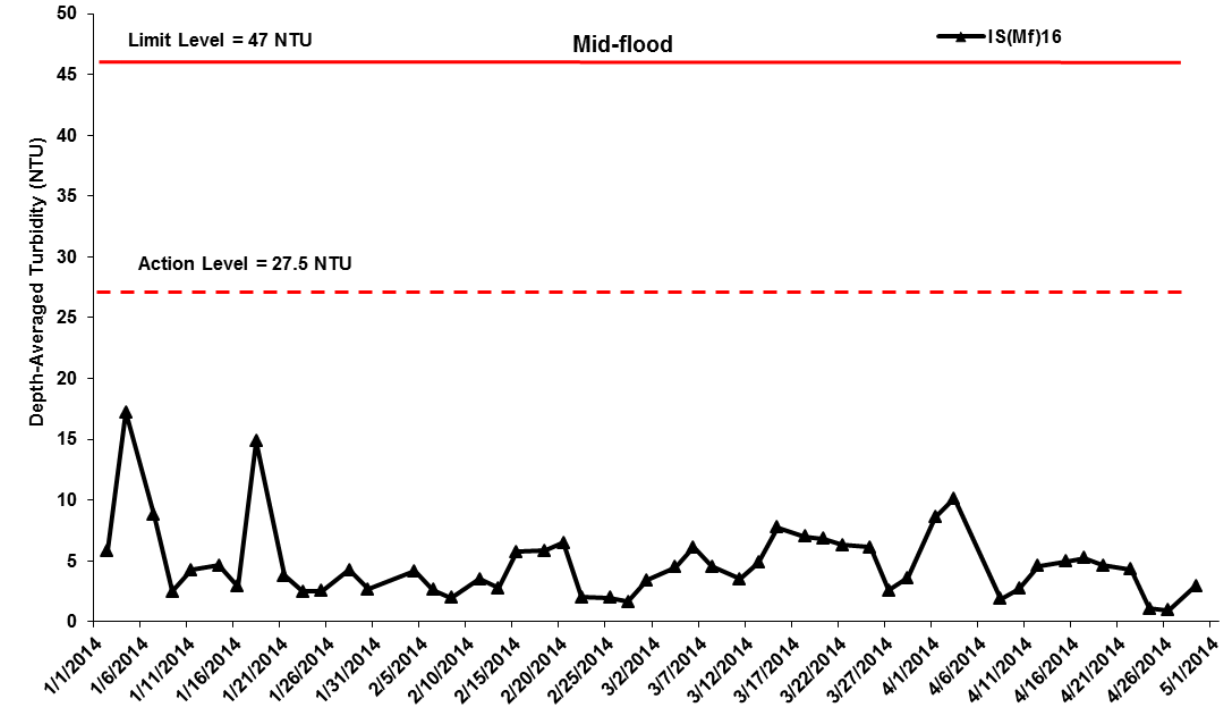


Figure J25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(MF)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



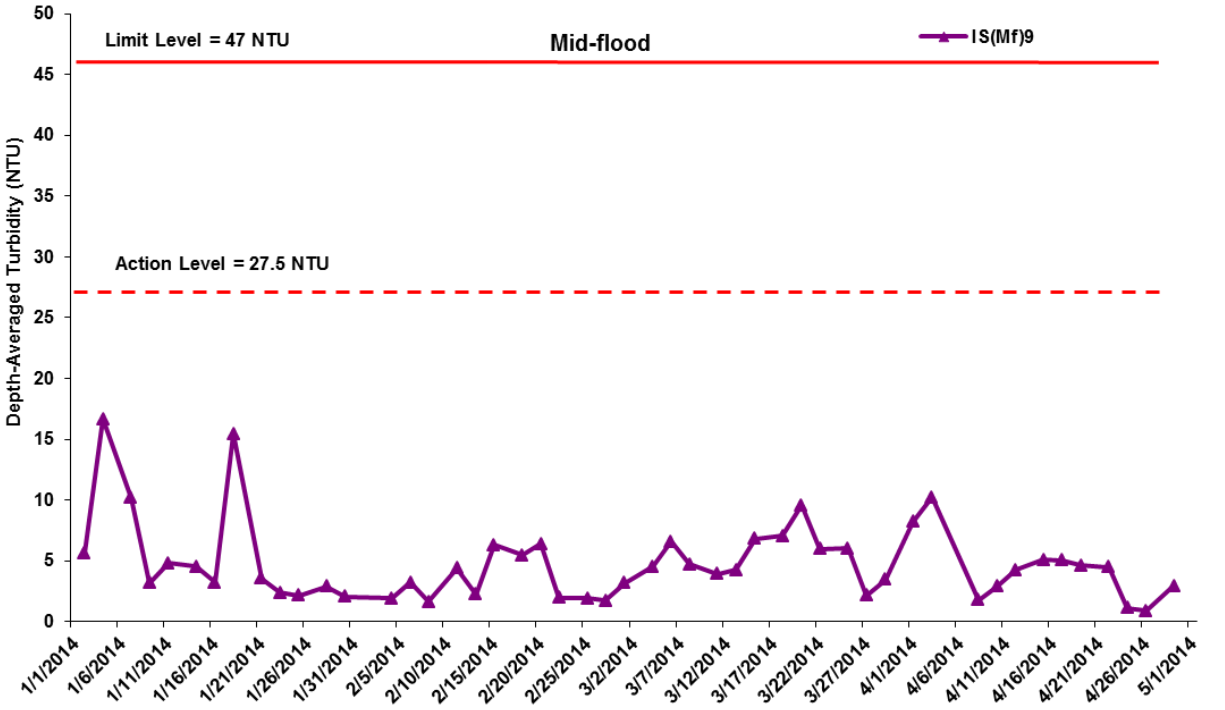
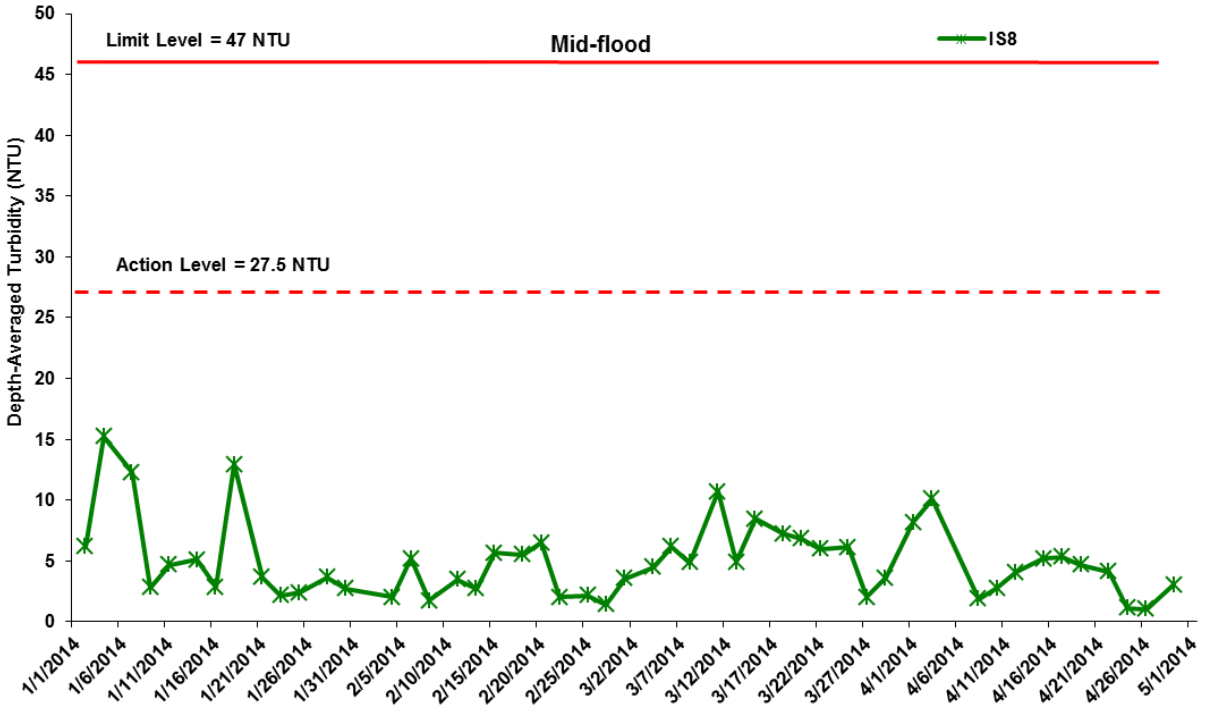


Figure J26 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



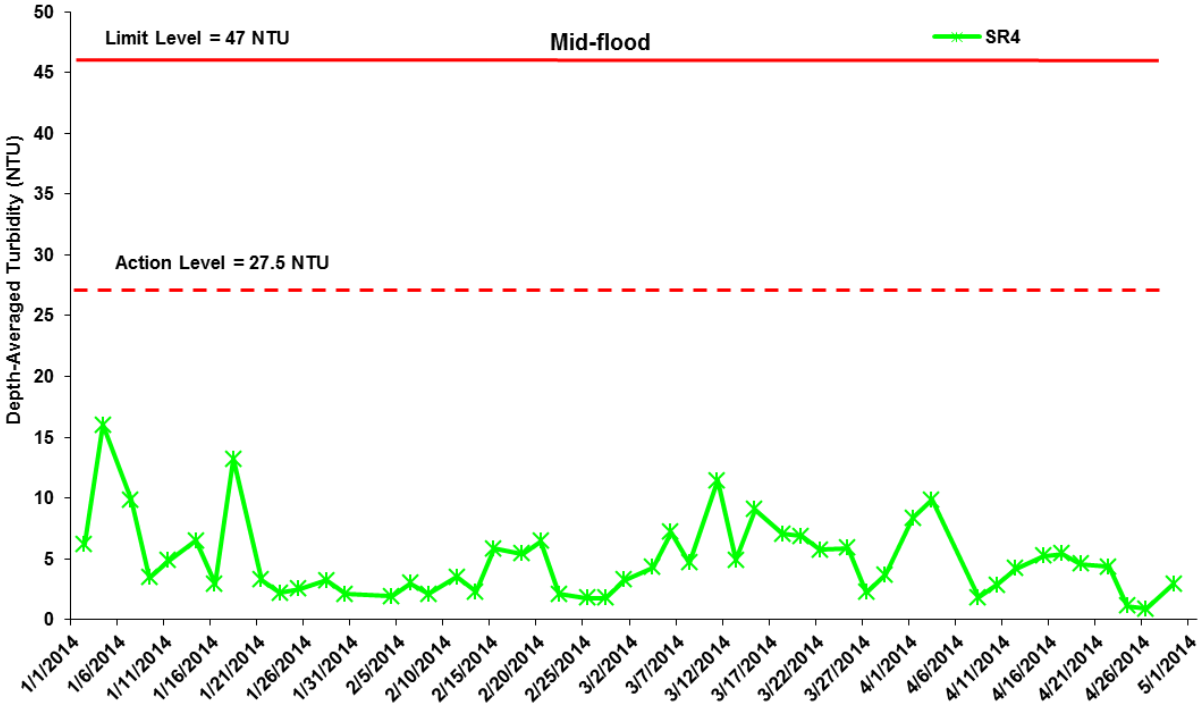


Figure J27 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

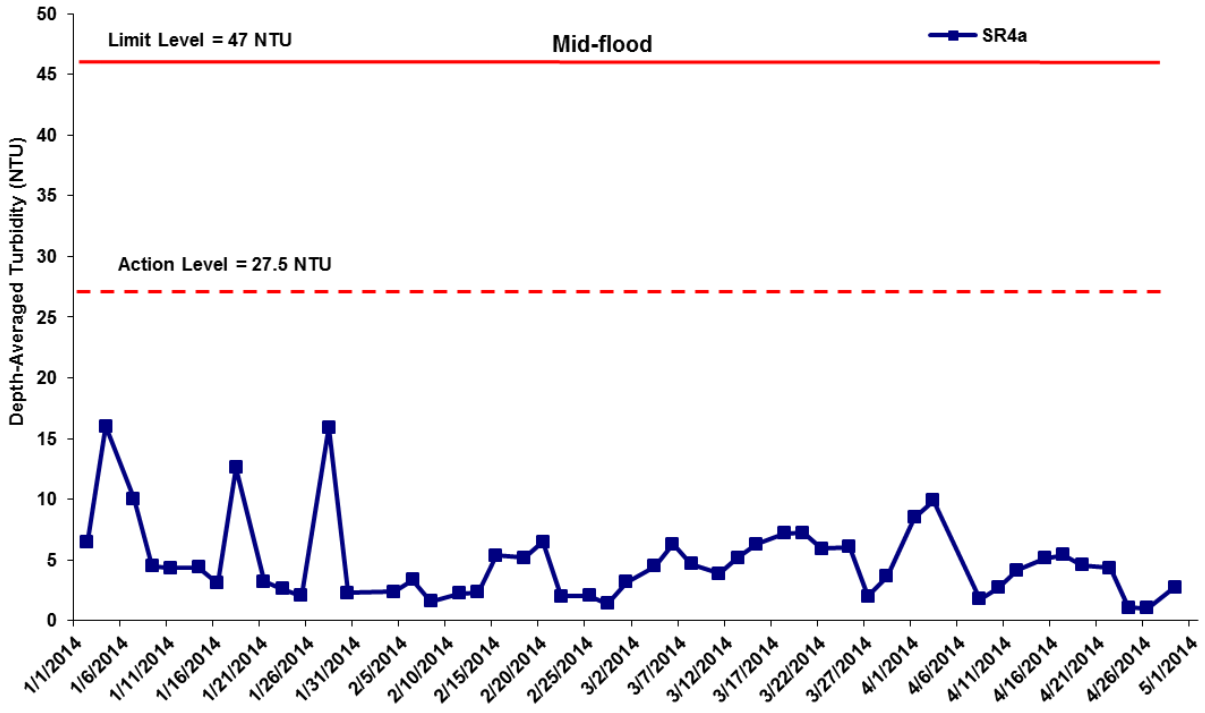


Figure J28 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

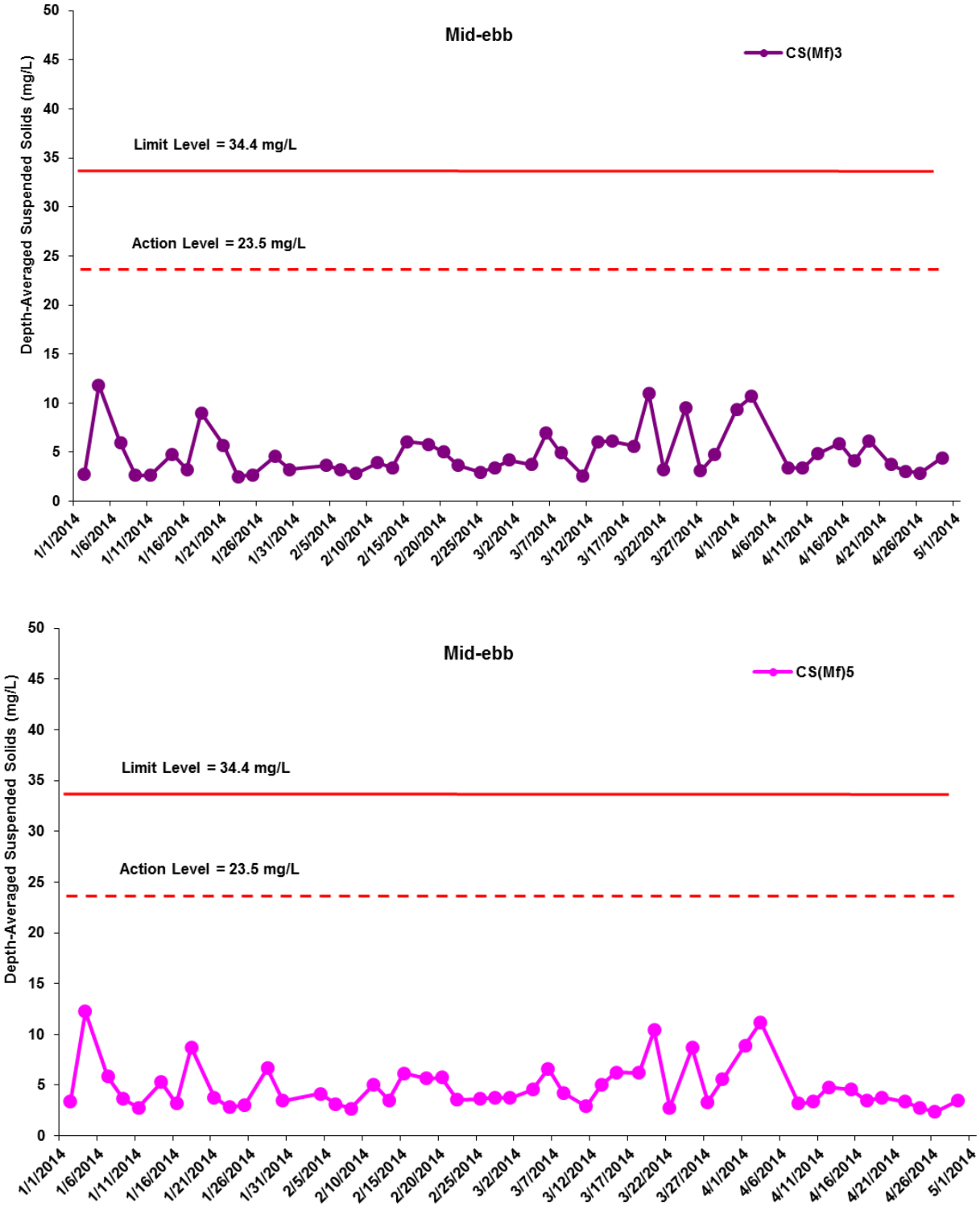
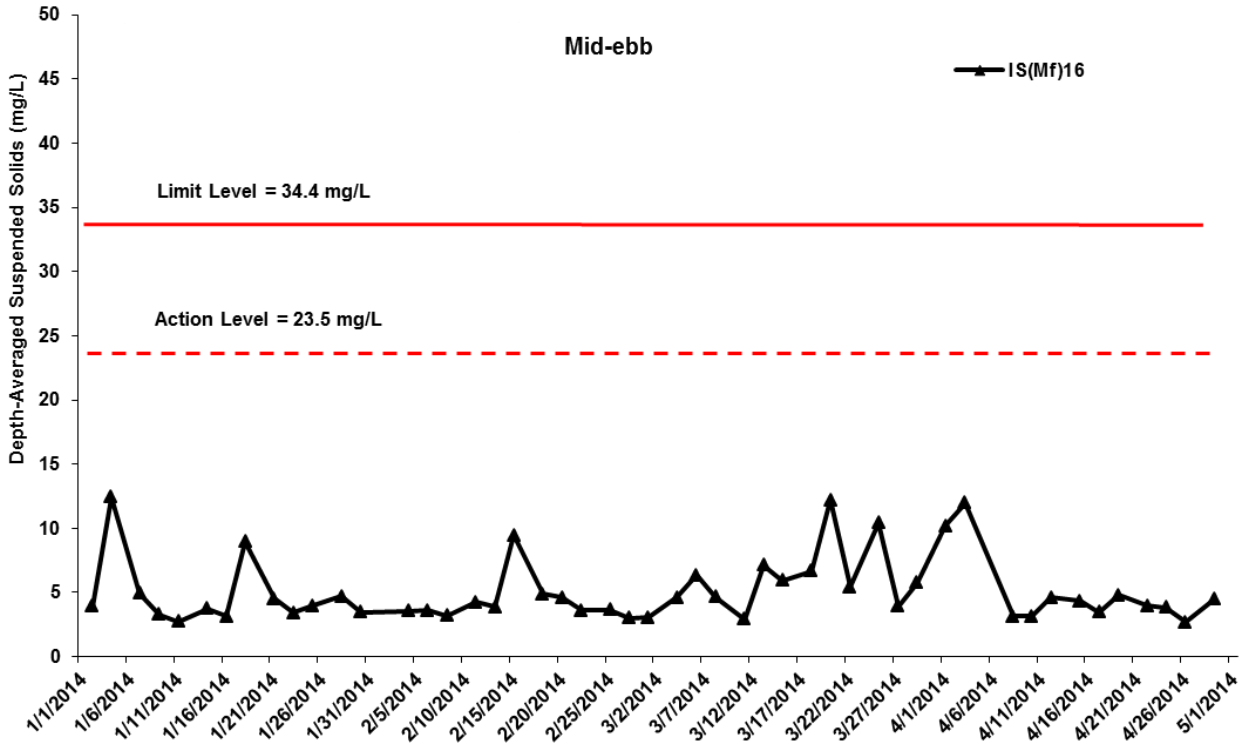


Figure J29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



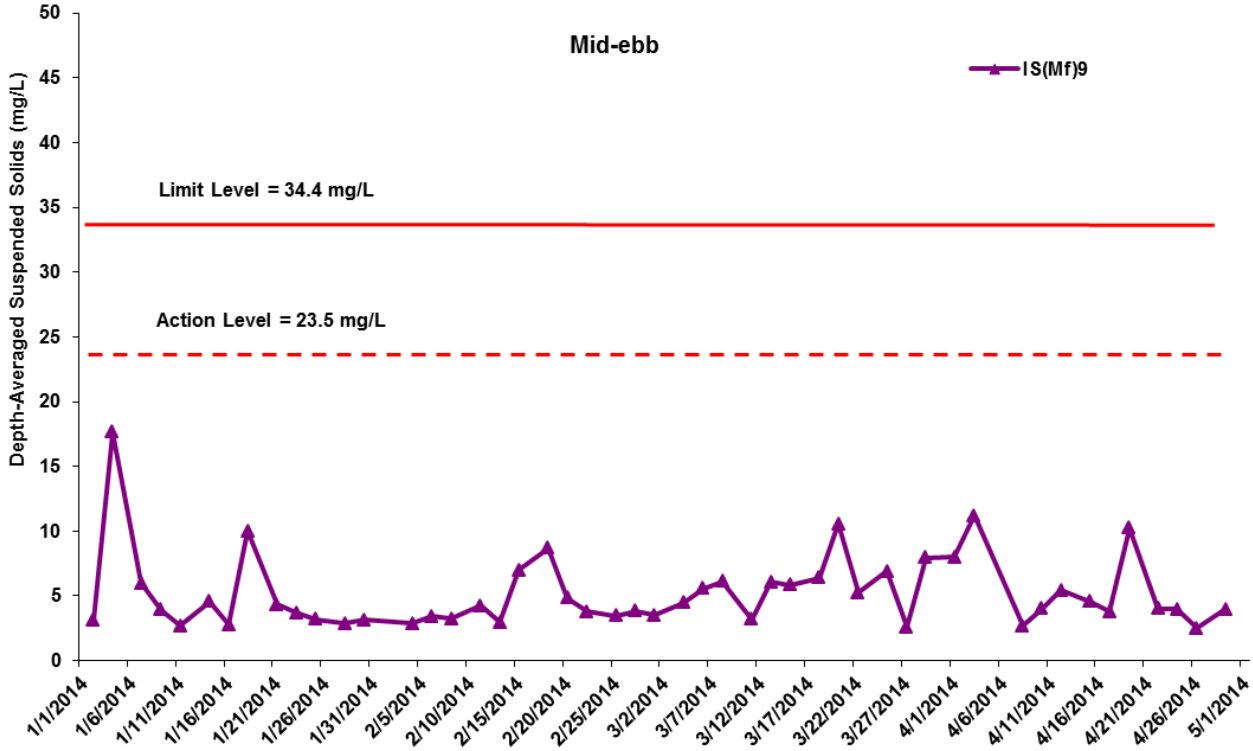
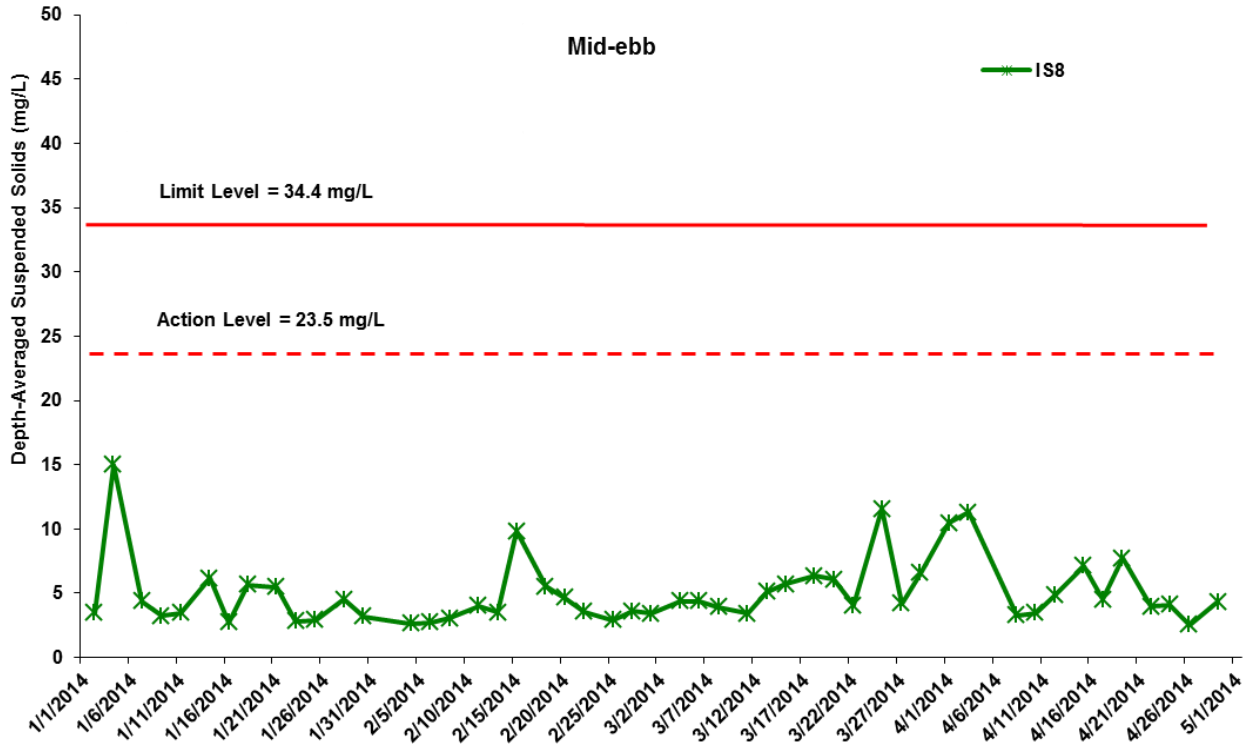


Figure J30 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



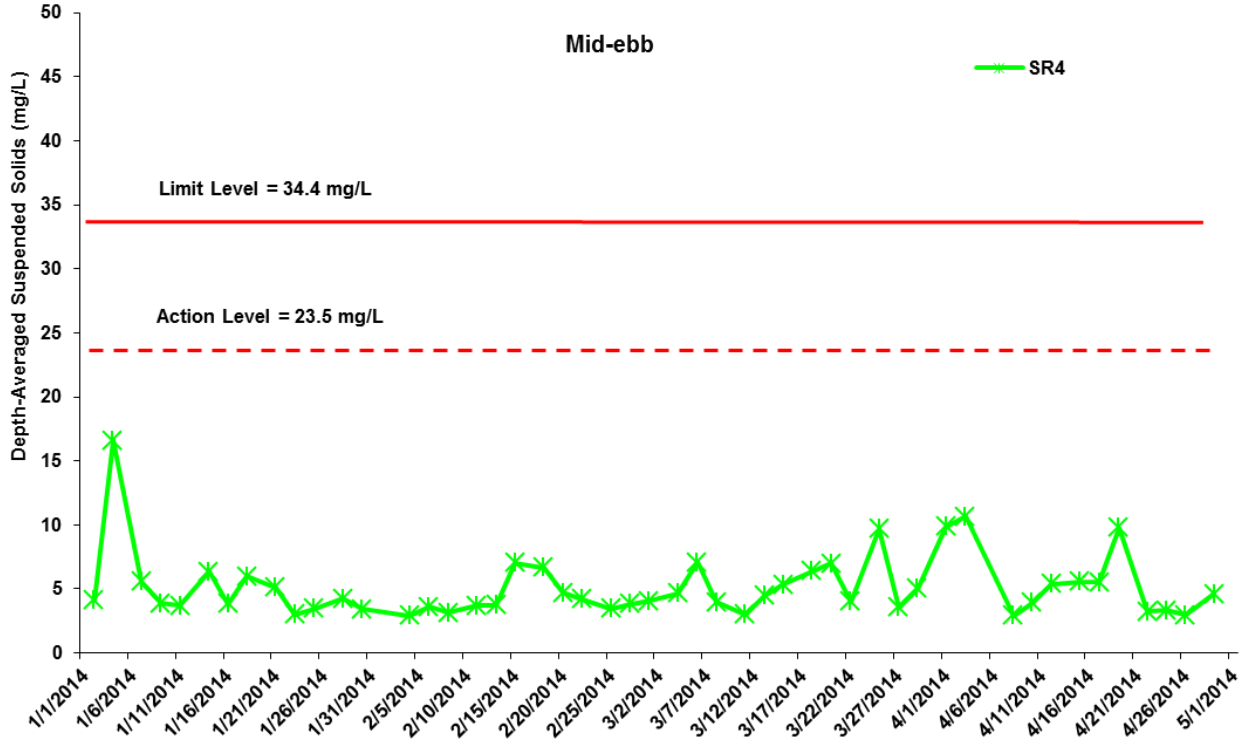


Figure J31 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

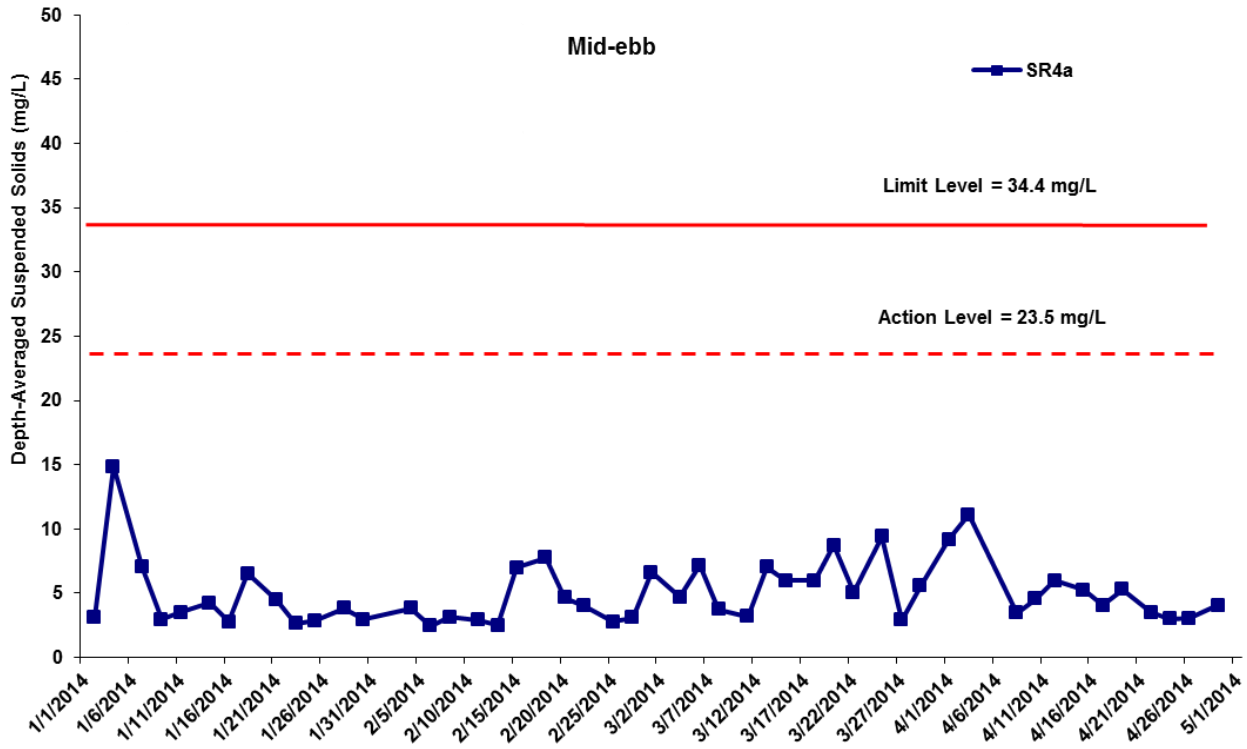
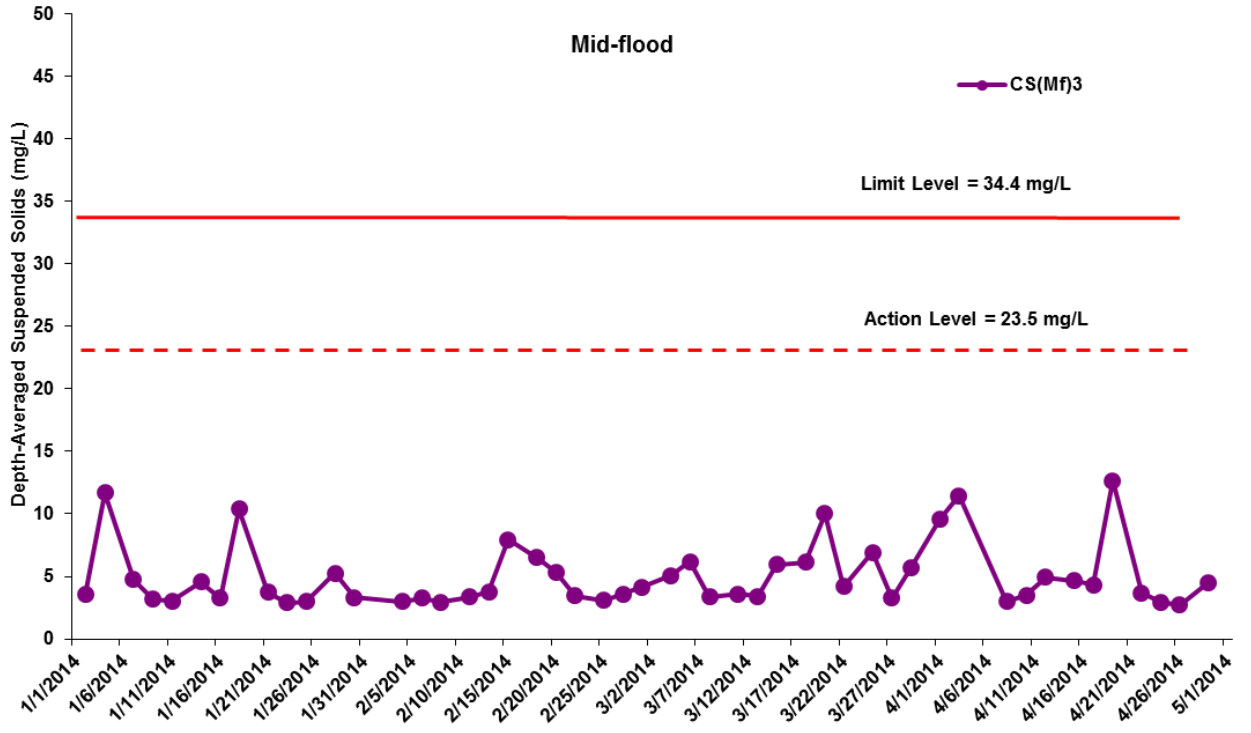


Figure J32 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



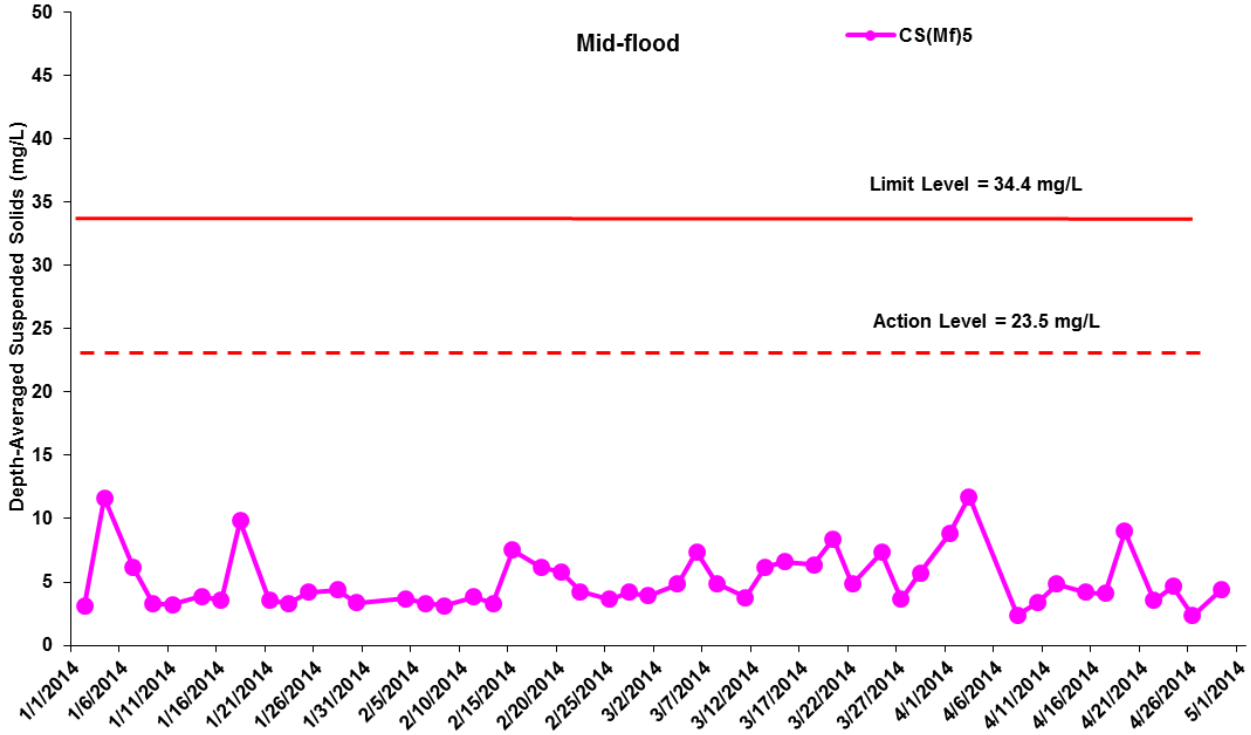
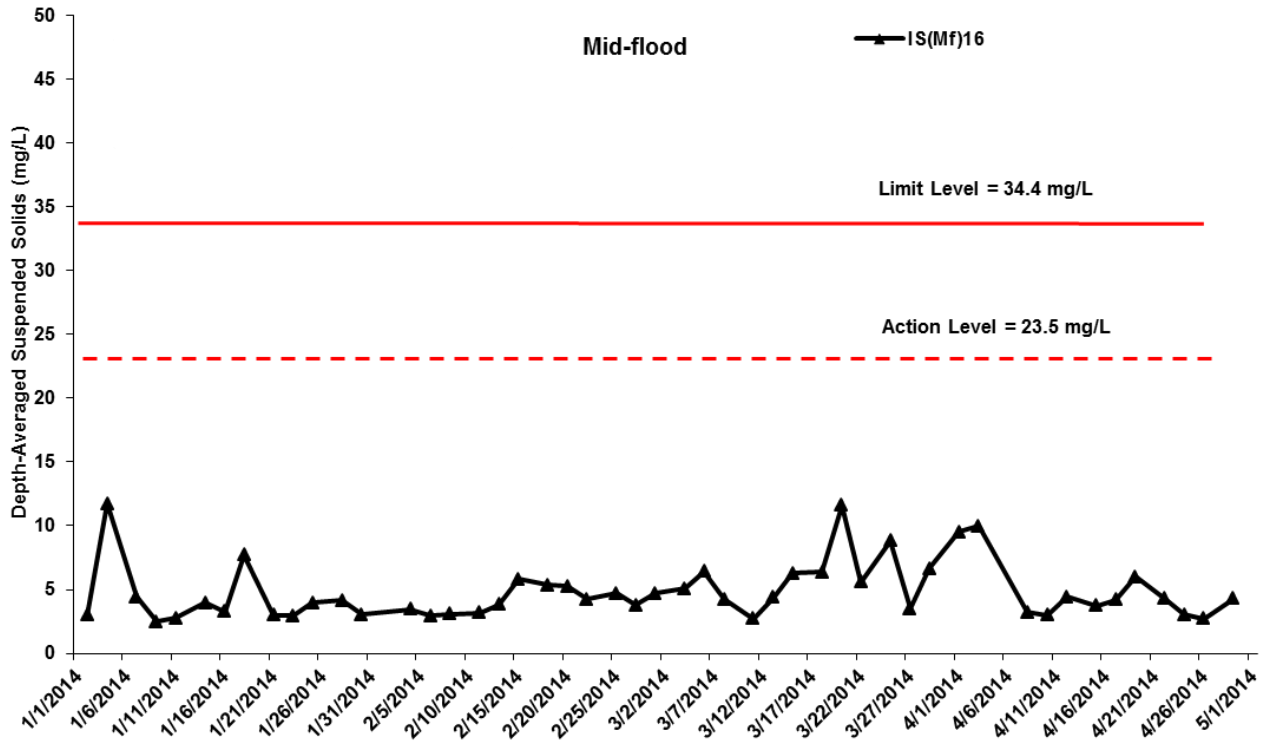


Figure J33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 January 2014 and 30 April 2014 at CS(Mf)3 and CS(Mf)5.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



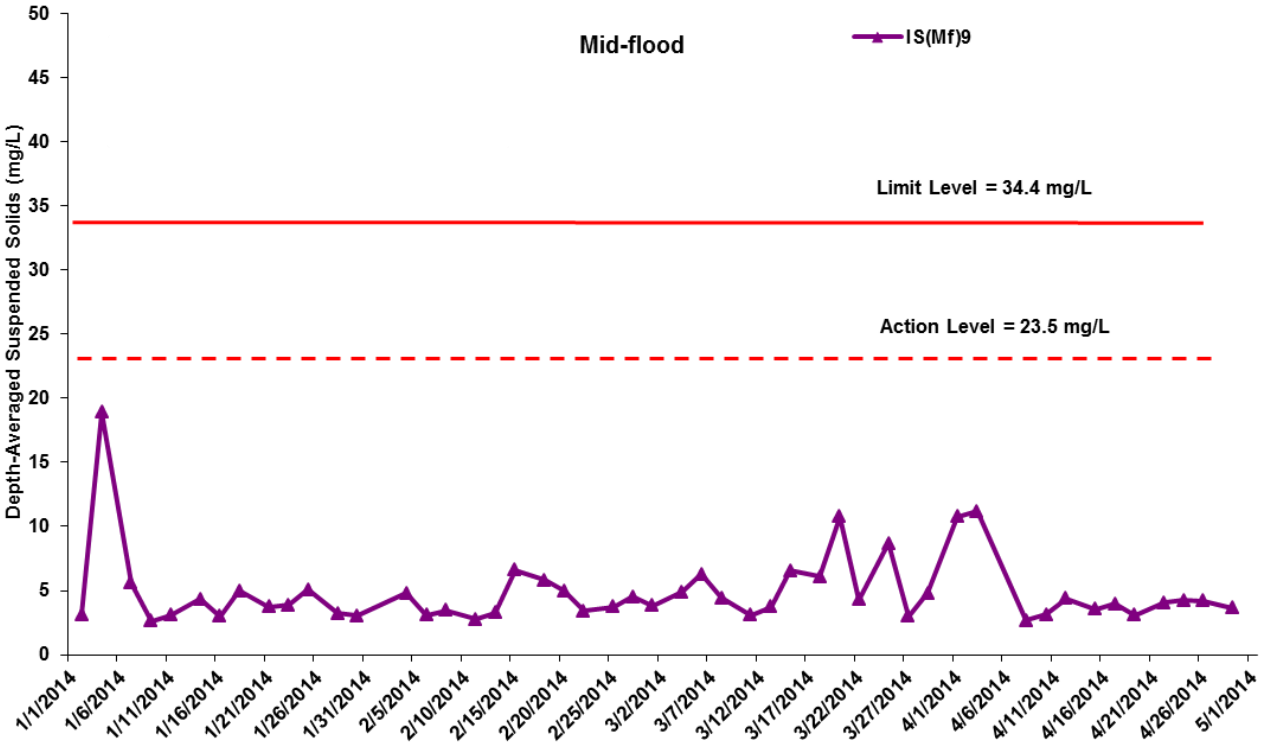
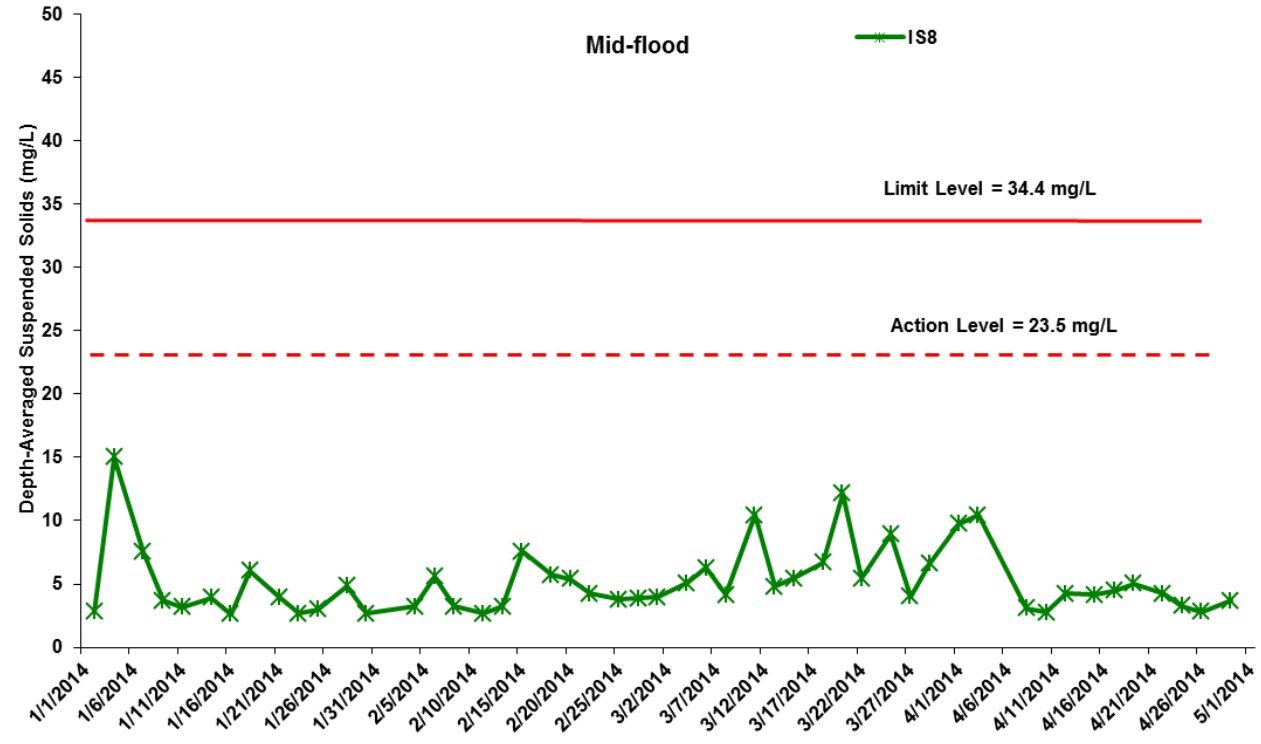


Figure J34 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 January 2014 and 30 April 2014 at IS(Mf)16 and IS(Mf)9.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM



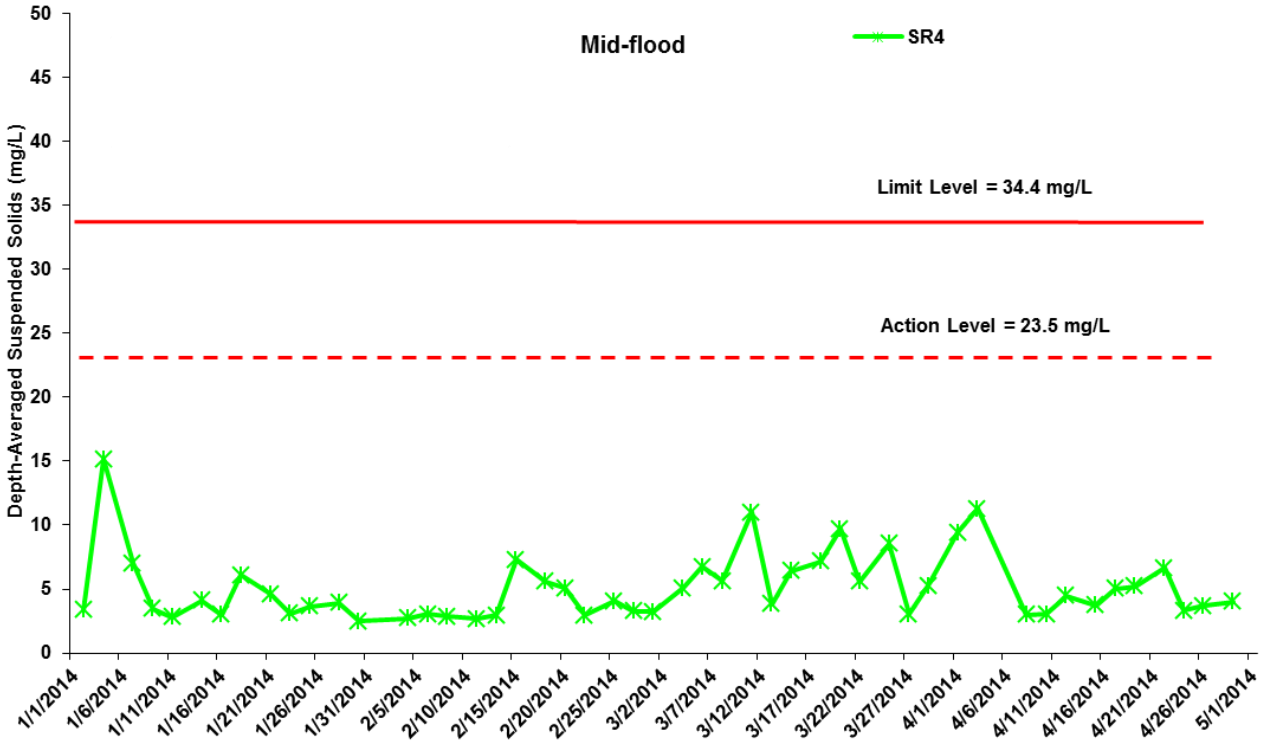


Figure J35 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 January 2014 and 30 April 2014 at IS8 and SR4.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

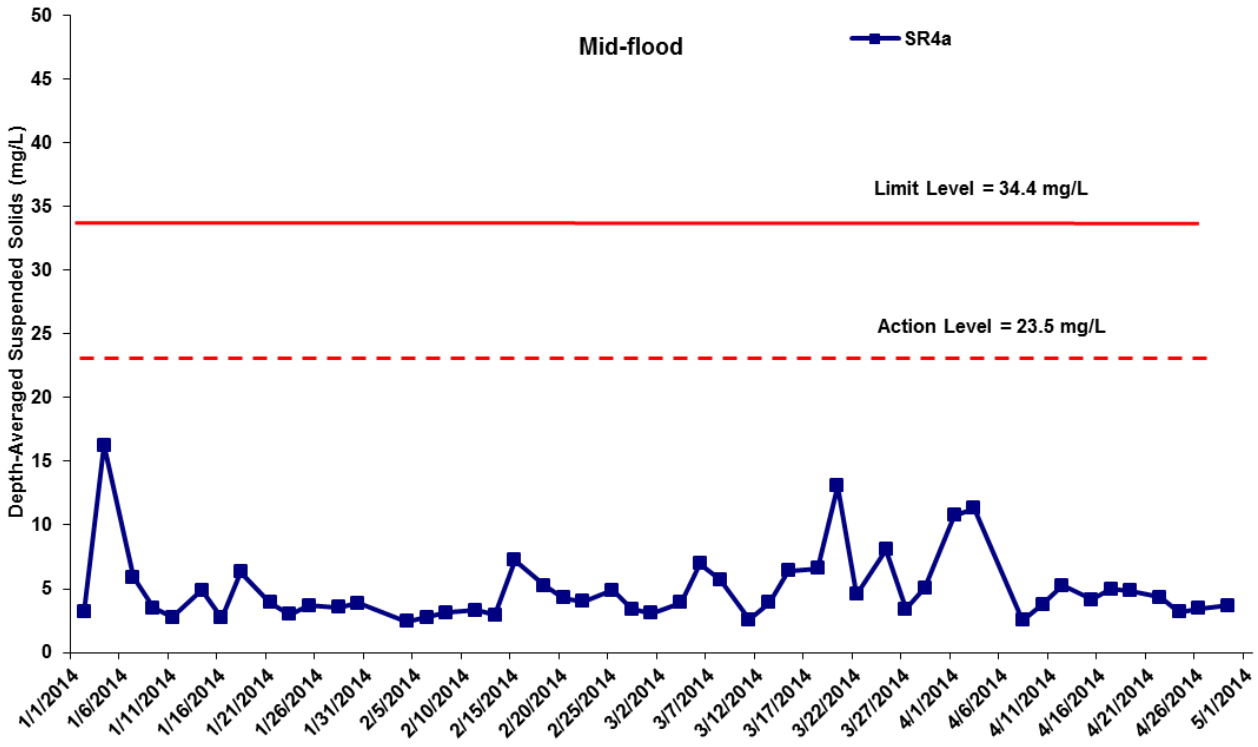


Figure J36 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 January 2014 and 30 April 2014 at SR4a.

(Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include rockfill platform construction, marine piling platform installation and marine piling.)

Environmental Resources Management

ERM

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Surface	1	1	1	8:00	20.4	7.7	23.0	6.87	8.46	8.10	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Surface	1	1	2	8:00	20.4	7.7	23.0	6.81	8.50	9.10	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Middle	5.2	2	1	8:00	20.3	7.7	23.1	6.37	8.93	9.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Middle	5.2	2	2	8:00	20.3	7.8	23.1	6.38	8.97	8.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Bottom	9.4	3	1	8:00	20.3	7.8	23.2	5.95	8.26	8.70	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)5	Bottom	9.4	3	2	8:00	20.2	7.8	23.2	5.90	8.24	9.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Surface	1	1	1	8:13	20.4	7.8	23.0	6.91	8.23	8.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Surface	1	1	2	8:13	20.4	7.8	23.0	6.93	8.21	10.20	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Middle		2	1	8:13							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Middle		2	2	8:13							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Bottom	4.8	3	1	8:13	20.3	7.8	23.1	6.07	8.84	12.50	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4a	Bottom	4.8	3	2	8:13	20.3	7.8	23.1	6.03	8.80	11.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Surface	1	1	1	8:26	20.4	7.8	23.1	6.76	8.41	9.10	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Surface	1	1	2	8:26	20.4	7.8	23.1	6.78	8.40	9.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Middle		2	1	8:26							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Middle		2	2	8:26							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Bottom	4.4	3	1	8:26	20.3	7.8	23.1	5.97	8.30	9.20	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	SR4	Bottom	4.4	3	2	8:26	20.3	7.8	23.2	5.99	8.34	10.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Surface	1	1	1	8:39	20.4	7.7	23.0	6.86	8.27	9.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Surface	1	1	2	8:39	20.3	7.7	23.0	6.90	8.23	8.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Middle		2	1	8:39							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Middle		2	2	8:39							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Bottom	4.6	3	1	8:39	20.3	7.7	23.1	6.21	8.10	10.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS8	Bottom	4.6	3	2	8:39	20.3	7.7	23.1	6.29	8.14	10.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Surface	1	1	1	8:52	20.4	7.7	23.0	6.91	8.47	9.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Surface	1	1	2	8:52	20.3	7.7	23.1	6.95	8.50	9.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Middle	4.1	2	1	8:52	20.3	7.5	23.1	6.83	8.62	9.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Middle	4.1	2	2	8:52	20.3	7.6	23.1	6.87	8.60	9.20	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Bottom	7.2	3	1	8:52	20.2	7.7	23.2	6.53	8.76	9.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)16	Bottom	7.2	3	2	8:52	20.3	7.7	23.2	6.50	8.71	10.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Surface	1	1	1	9:05	20.4	7.8	23.0	6.85	8.17	10.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Surface	1	1	2	9:05	20.4	7.9	23.0	6.87	8.13	10.70	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Middle		2	1	9:05							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Middle		2	2	9:05							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Bottom	4.8	3	1	9:05	20.3	7.9	23.1	6.73	8.23	11.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	IS(Mf)9	Bottom	4.8	3	2	9:05	20.3	7.9	23.0	6.70	8.27	10.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Surface	1	1	1	9:18	20.3	7.9	23.0	6.90	8.43	10.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Surface	1	1	2	9:18	20.3	7.9	23.0	6.88	8.47	9.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Middle	6.5	2	1	9:18	20.3	7.8	23.0	6.13	8.20	9.20	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Middle	6.5	2	2	9:18	20.3	7.8	23.0	6.10	8.22	8.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Bottom	12	3	1	9:18	20.3	7.9	23.1	5.94	8.62	9.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Flood	Drizzle	Small Wave	CS(Mf)3	Bottom	12	3	2	9:18	20.2	7.9	23.1	5.96	8.63	9.50	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	12:19	20.3	7.8	23.0	6.85	8.52	9.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	12:19	20.4	7.8	23.1	6.87	8.54	8.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle		2	1	12:19	20.3	7.8	23.1	6.04	8.27	9.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle		2	2	12:19	20.2	7.9	23.2	6.06	8.25	9.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	1	12:19	20.2	7.7	23.3	5.87	8.66	9.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	2	12:19	20.2	7.7	23.3	5.90	8.64	9.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	14:53	20.4	7.8	23.0	6.87	8.27	9.10	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	14:53	20.4	7.8	23.0	6.89	8.29	9.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	14:53							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	14:53							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	1	14:53	20.3	7.7	23.1	6.00	8.92	9.10	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	2	14:53	20.2	7.7	23.2	6.02	8.90	8.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	14:22	20.4	7.7	23.0	6.72	8.37	10.20	2014-04-10

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	14:22	20.4	7.8	23.1	6.74	8.39	9.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	14:22							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	14:22							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.2	3	1	14:22	20.3	7.8	23.2	5.82	8.44	10.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.2	3	2	14:22	20.3	7.9	23.2	5.84	8.46	9.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	13:51	20.4	7.8	23.0	6.82	8.33	9.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	13:51	20.3	7.9	23.0	6.84	8.35	10.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	13:51							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	13:51							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	1	13:51	20.3	7.7	23.1	6.20	8.13	12.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	2	13:51	20.2	7.8	23.2	6.18	8.15	10.50	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	13:21	20.4	7.8	23.0	6.87	8.49	10.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	13:21	20.4	7.9	23.1	6.89	8.51	9.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	1	13:21	20.3	7.9	23.2	6.74	8.73	10.60	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	2	13:21	20.2	7.9	23.2	6.76	8.75	9.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	1	13:21	20.2	7.7	23.3	6.43	8.80	10.50	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	2	13:21	20.1	7.8	23.4	6.45	8.82	10.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	12:50	20.4	7.8	23.0	6.73	8.25	6.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	12:50	20.3	7.8	23.0	6.75	8.23	8.40	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	12:50							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	12:50							2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	1	12:50	20.3	7.9	23.0	6.65	8.33	8.00	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	2	12:50	20.3	7.8	23.1	6.67	8.31	8.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	15:24	20.4	7.7	23.0	6.84	8.52	9.30	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	15:24	20.3	7.8	23.1	6.82	8.54	8.70	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	1	15:24	20.3	7.8	23.2	6.35	9.02	8.50	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	2	15:24	20.3	7.9	23.2	6.33	9.04	8.90	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.2	3	1	15:24	20.2	7.9	23.3	5.90	8.33	9.80	2014-04-10
TM-CLK Southern	HY/2012/07	2014-04-01	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.2	3	2	15:24	20.1	7.9	23.2	5.92	8.35	8.20	2014-04-10

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	7:45	20.5	7.7	23.0	6.94	9.73	11.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	7:45	20.5	7.7	23.0	6.96	9.75	12.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	1	7:45	20.4	7.8	23.1	6.46	9.82	11.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	2	7:45	20.3	7.8	23.2	6.44	9.84	11.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.3	3	1	7:45	20.3	7.8	23.3	5.96	9.91	12.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.3	3	2	7:45	20.3	7.8	23.3	5.98	9.90	11.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	8:09	20.4	7.7	23.0	6.99	9.84	10.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	8:09	20.5	7.8	23.1	7.01	9.86	10.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	8:09							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	8:09							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	1	8:09	20.3	7.8	23.2	6.24	9.93	11.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	2	8:09	20.3	7.8	23.3	6.26	9.95	12.70	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	8:33	20.5	7.8	23.0	6.74	9.73	11.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	8:33	20.4	7.8	23.1	6.76	9.75	11.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	8:33							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	8:33							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.3	3	1	8:33	20.3	7.8	23.2	6.01	9.97	11.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.3	3	2	8:33	20.4	7.8	23.3	6.03	9.95	11.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	8:57	20.5	7.8	23.0	6.94	9.84	10.70	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	8:57	20.5	7.9	23.0	6.96	9.86	10.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	8:57							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	8:57							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	1	8:57	20.4	7.8	23.1	6.33	10.20	9.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	2	8:57	20.4	7.8	23.2	6.35	10.40	10.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	9:21	20.5	7.7	23.0	7.02	10.20	9.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	9:21	20.4	7.8	23.1	7.04	10.00	10.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.1	2	1	9:21	20.3	7.8	23.2	6.84	9.98	9.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.1	2	2	9:21	20.3	7.8	23.2	6.86	9.99	10.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.2	3	1	9:21	20.2	7.7	23.3	6.54	10.40	10.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.2	3	2	9:21	20.1	7.7	23.4	6.56	10.20	11.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	9:45	20.5	7.7	23.0	6.87	10.00	10.80	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	9:45	20.5	7.7	23.0	6.89	10.10	11.80	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	9:45							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	9:45							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.4	3	1	9:45	20.4	7.7	23.1	6.74	10.30	10.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.4	3	2	9:45	20.3	7.7	23.2	6.76	10.50	11.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	10:09	20.5	7.8	23.0	6.87	9.94	10.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	10:09	20.4	7.8	23.1	6.89	9.92	11.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.3	2	1	10:09	20.4	7.8	23.2	6.14	10.30	10.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.3	2	2	10:09	20.3	7.8	23.2	6.16	10.50	11.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.6	3	1	10:09	20.3	7.7	23.3	5.98	10.20	12.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.6	3	2	10:09	20.2	7.7	23.2	6.00	10.40	13.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	13:37	20.5	7.8	23.0	6.84	10.00	10.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	13:37	20.5	7.8	23.0	6.86	10.30	11.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	1	13:37	20.4	7.8	23.1	6.07	11.10	11.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	2	13:37	20.3	7.8	23.2	6.09	11.30	10.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	1	13:37	20.2	7.7	23.3	5.92	10.90	10.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	2	13:37	20.3	7.7	23.3	5.94	11.00	11.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	15:46	20.5	7.8	23.0	6.88	10.00	11.70	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	15:46	20.5	7.8	23.0	6.90	9.98	10.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	15:46							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	15:46							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	1	15:46	20.4	7.8	23.1	6.13	10.40	11.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	2	15:46	20.3	7.9	23.2	6.15	10.60	10.70	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	15:20	20.5	7.7	23.0	6.64	9.89	10.30	2014-04-15

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	15:20	20.5	7.8	23.1	6.66	9.90	11.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	15:20							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	15:20							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.1	3	1	15:20	20.4	7.7	23.2	5.92	10.10	10.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.1	3	2	15:20	20.3	7.7	23.3	5.94	10.30	10.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	14:54	20.4	7.7	23.0	6.84	10.00	11.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	14:54	20.5	7.7	23.0	6.82	10.20	11.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	14:54							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	14:54							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	1	14:54	20.4	7.7	23.1	6.24	10.50	10.80	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	2	14:54	20.4	7.8	23.2	6.26	10.60	12.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	14:29	20.5	7.7	23.0	6.91	10.90	12.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	14:29	20.4	7.8	23.1	6.93	11.10	11.40	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	1	14:29	20.4	7.8	23.2	6.77	10.30	12.30	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	2	14:29	20.3	7.8	2.2	6.79	10.10	12.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	1	14:29	20.3	7.8	23.3	6.44	10.70	12.70	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	2	14:29	20.3	7.8	23.4	6.46	10.90	11.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	14:03	20.5	7.8	23.0	6.81	10.30	11.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	14:03	20.4	7.8	23.1	6.83	10.50	10.80	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	14:03							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	14:03							2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	1	14:03	20.3	7.6	23.2	6.67	10.80	12.10	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	2	14:03	20.3	7.7	23.1	6.69	10.90	10.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	16:15	20.5	7.7	23.0	6.85	10.00	10.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	16:15	20.4	7.8	23.1	6.87	10.20	11.20	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	1	16:15	20.4	7.7	23.2	6.34	10.50	11.00	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	2	16:15	20.3	7.7	23.2	6.36	10.70	10.90	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.1	3	1	16:15	20.3	7.8	23.3	5.92	9.78	11.60	2014-04-15
TM-CLK Southern	HY/2012/07	2014-04-03	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.1	3	2	16:15	20.3	7.9	23.4	5.94	9.79	11.80	2014-04-15

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	6:11	20.4	7.8	23.7	6.81	1.67	2.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	6:11	204	7.8	23.8	6.83	1.69	2.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	1	6:11	20.3	7.8	23.8	6.42	1.77	2.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	2	6:11	20.3	7.8	23.9	6.44	1.79	2.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.5	3	1	6:11	20.2	7.8	24.0	6.00	1.83	2.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.5	3	2	6:11	20.1	7.9	23.9	6.02	1.85	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	6:37	20.4	7.7	23.7	6.92	1.73	2.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	6:37	20.3	7.8	23.7	6.94	1.75	2.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	6:37							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	6:37							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	1	6:37	20.3	7.8	23.8	6.11	1.84	2.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	2	6:37	20.3	7.9	23.9	6.13	1.86	2.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	7:03	20.4	7.7	23.7	6.79	1.77	2.50	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	7:03	20.4	7.8	23.7	6.81	1.79	3.20	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	7:03							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	7:03							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	5.4	3	1	7:03	20.3	7.8	23.8	5.96	1.83	3.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	5.4	3	2	7:03	20.2	7.8	23.9	5.98	1.85	2.50	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	7:29	20.4	7.8	23.7	6.87	1.83	3.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	7:29	20.3	7.8	23.8	6.89	1.85	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	7:29							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	7:29							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	1	7:29	20.2	7.9	23.9	6.24	1.87	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	2	7:29	20.3	7.9	24.0	6.26	1.87	3.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	7:55	20.4	7.7	23.7	6.92	1.80	3.20	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	7:55	20.3	7.8	23.7	6.94	1.82	2.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.1	2	1	7:55	20.3	7.6	23.8	6.81	1.87	3.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.1	2	2	7:55	20.3	7.6	23.9	6.79	1.89	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.2	3	1	7:55	20.2	7.8	24.0	6.50	1.92	4.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.2	3	2	7:55	20.2	7.8	24.0	6.52	1.94	3.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	8:21	20.4	7.7	23.6	6.82	1.77	2.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	8:21	20.4	7.7	23.7	6.80	1.75	2.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	8:21							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	8:21							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.4	3	1	8:21	20.3	7.7	23.8	6.73	1.82	2.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.4	3	2	8:21	20.2	7.7	23.8	6.75	1.80	3.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	8:49	20.3	7.7	23.6	6.92	1.73	2.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	8:49	20.4	7.8	23.6	6.94	1.70	4.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	1	8:49	20.3	7.8	23.7	6.11	1.82	3.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	2	8:49	20.2	7.8	23.8	6.13	1.84	3.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.7	3	1	8:49	20.2	7.9	23.9	5.97	1.91	2.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.7	3	2	8:49	20.2	7.9	24.0	5.99	1.93	2.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	18:18	20.4	7.7	23.6	6.85	1.93	2.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	18:18	20.4	7.7	23.7	6.87	1.95	4.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.5	2	1	18:18	20.3	7.8	23.8	6.07	1.88	2.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.5	2	2	18:18	20.2	7.8	23.8	6.09	1.90	3.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	12.8	3	1	18:18	20.2	7.9	23.9	5.90	1.96	3.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	12.8	3	2	18:18	20.2	7.9	24.0	5.92	1.98	3.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	20:30	20.3	7.8	23.7	6.84	1.84	4.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	20:30	20.3	7.8	23.8	6.86	1.86	3.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	20:30							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	20:30							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	1	20:30	20.4	7.7	23.9	6.03	1.97	3.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.6	3	2	20:30	20.5	7.8	24.0	6.05	1.95	3.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	20:04	20.4	7.7	23.6	6.72	1.82	2.70	2014-04-22

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	20:04	20.3	7.7	23.7	6.74	1.84	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	20:04							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	20:04							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.2	3	1	20:04	20.3	7.7	23.8	5.92	1.94	3.00	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4.2	3	2	20:04	20.3	7.7	23.9	5.90	1.96	3.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	19:38	20.4	7.7	23.7	6.81	1.93	3.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	19:38	20.4	7.8	23.8	6.83	1.95	2.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	19:38							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	19:38							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	1	19:38	20.3	7.7	23.9	6.17	1.88	3.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.4	3	2	19:38	20.2	7.7	23.9	6.19	1.90	3.30	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	19:10	20.4	7.8	23.7	6.85	2.02	2.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	19:10	20.3	7.8	23.7	6.87	2.04	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	1	19:10	20.3	7.7	23.8	6.72	1.92	3.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	2	19:10	20.3	7.7	23.9	6.74	1.94	3.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	1	19:10	20.2	7.7	24.0	6.44	1.88	4.10	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	2	19:10	20.2	7.7	23.9	6.46	1.86	3.80	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	18:44	20.3	7.7	23.7	6.72	1.84	2.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	18:44	20.4	7.8	23.8	6.74	1.86	2.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	18:44							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	18:44							2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	1	18:44	20.2	7.7	23.9	6.66	1.92	2.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.6	3	2	18:44	20.3	7.8	24.0	6.68	1.94	3.50	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	20:59	20.4	7.7	23.7	6.73	1.73	3.60	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	20:59	20.3	7.8	23.7	6.75	1.75	2.70	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	1	20:59	20.3	7.8	23.8	6.33	1.82	2.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.1	2	2	20:59	20.3	7.8	23.9	6.35	1.84	3.40	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.2	3	1	20:59	20.2	7.9	24.0	5.93	1.93	2.90	2014-04-22
TM-CLK Southern	HY/2012/07	2014-04-08	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.2	3	2	20:59	20.3	7.9	24.0	5.91	1.95	4.20	2014-04-22

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	14:09	20.5	7.8	23.9	6.85	2.72	2.40	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	14:09	20.6	7.9	23.8	6.87	2.74	2.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	1	14:09	20.5	7.9	24.0	6.45	2.99	3.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	2	14:09	20.4	7.9	23.9	6.47	3.03	3.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.4	3	1	14:09	20.4	8.0	24.0	6.05	3.09	4.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.4	3	2	14:09	20.3	8.0	24.1	6.03	3.10	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	14:44	20.5	7.9	23.9	6.96	2.60	3.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	14:44	20.4	7.9	23.8	6.98	2.56	3.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	14:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	14:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	1	14:44	20.3	7.8	24.0	6.18	2.79	4.20	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.8	3	2	14:44	20.4	7.9	23.9	6.17	2.84	4.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	15:14	20.4	7.8	23.9	6.84	2.61	2.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	15:14	20.3	7.8	23.9	6.86	2.64	3.20	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	15:14							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	15:14							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.2	3	1	15:14	20.2	7.8	23.9	6.04	3.11	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.2	3	2	15:14	20.3	7.8	24.0	6.02	3.08	3.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	15:44	20.4	7.8	23.9	6.93	2.52	2.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	15:44	20.5	7.9	23.8	6.95	2.55	2.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	15:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	15:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4	3	1	15:44	20.3	7.8	23.9	6.29	3.00	2.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4	3	2	15:44	20.3	7.8	24.0	6.31	2.96	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	16:14	20.6	7.9	23.8	6.97	2.39	3.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	16:14	20.5	7.9	23.9	6.99	2.42	2.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.8	2	1	16:14	20.4	7.8	24.0	6.84	2.57	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.8	2	2	16:14	20.3	7.8	23.9	6.86	2.64	2.70	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.6	3	1	16:14	20.2	7.8	24.1	6.56	3.05	3.30	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.6	3	2	16:14	20.3	7.8	24.0	6.58	3.09	3.40	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	16:44	20.4	7.8	23.9	6.84	2.64	3.70	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	16:44	20.5	7.9	24.0	6.86	2.69	2.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	16:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	16:44							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	1	16:44	20.2	7.8	24.1	6.78	3.15	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	2	16:44	20.3	7.9	24.0	6.80	3.19	3.40	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	17:14	20.5	7.8	23.8	6.97	2.59	3.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	17:14	20.6	7.8	23.9	6.99	2.55	4.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	1	17:14	20.5	7.9	23.9	6.19	2.70	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	2	17:14	20.4	7.9	24.0	6.21	2.72	3.70	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	1	17:14	20.4	8.0	24.1	6.07	3.20	3.20	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	2	17:14	20.3	8.0	24.1	6.05	3.05	4.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	9:20	20.5	7.7	23.7	6.91	2.68	3.40	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	9:20	20.4	7.8	23.8	6.93	2.64	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.3	2	1	9:20	20.3	7.9	23.9	6.13	2.79	4.30	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.3	2	2	9:20	20.4	7.9	23.8	6.15	2.81	2.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.6	3	1	9:20	20.3	8.0	24.0	6.01	3.29	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.6	3	2	9:20	20.2	8.0	24.1	5.99	3.34	3.70	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	11:30	20.4	7.9	23.8	6.90	2.69	4.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	11:30	20.3	7.9	23.9	6.92	2.65	4.20	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	11:30							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	11:30							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.4	3	1	11:30	20.4	7.8	24.0	6.09	2.88	4.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.4	3	2	11:30	20.4	7.8	24.1	6.11	2.93	6.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	11:04	20.5	7.7	23.8	6.78	2.70	3.60	2014-04-23

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	11:04	20.4	7.7	23.7	6.80	2.73	3.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	11:04							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	11:04							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.6	3	1	11:04	20.2	7.8	23.8	5.98	3.20	4.60	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.6	3	2	11:04	20.1	7.8	23.9	5.96	3.17	3.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	10:38	20.4	7.8	23.8	6.87	2.61	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	10:38	20.3	7.8	23.9	6.89	2.64	3.40	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	10:38							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	10:38							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.8	3	1	10:38	20.2	7.7	24.0	6.23	3.09	3.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.8	3	2	10:38	20.3	7.7	23.9	6.25	3.05	4.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	10:12	20.4	7.9	23.7	6.91	2.48	3.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	10:12	20.5	7.9	23.8	6.93	2.51	4.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	1	10:12	20.3	7.7	23.9	6.78	2.66	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	2	10:12	20.2	7.7	23.8	6.80	2.73	2.90	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	1	10:12	20.1	7.8	24.0	6.50	3.14	2.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	2	10:12	20.2	7.8	23.9	6.52	3.18	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	9:46	20.4	7.8	23.8	6.78	2.73	5.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	9:46	20.3	7.8	23.9	6.80	2.78	3.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	9:46							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	9:46							2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	1	9:46	20.2	7.8	24.0	6.72	3.24	3.70	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	2	9:46	20.1	7.8	23.9	6.74	3.28	4.30	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	11:56	20.5	7.8	23.7	6.79	2.81	3.00	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	11:56	20.4	7.8	23.8	6.81	2.83	3.50	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	4.9	2	1	11:56	20.3	7.9	23.9	6.39	3.08	4.10	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	4.9	2	2	11:56	20.4	7.9	24.0	6.41	3.12	3.80	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	8.8	3	1	11:56	20.2	8.0	24.1	5.99	3.18	3.20	2014-04-23
TM-CLK Southern	HY/2012/07	2014-04-10	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	8.8	3	2	11:56	20.3	8.0	24.0	5.97	3.19	2.70	2014-04-23

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Surface	1	1	1	15:43	22.1	7.6	23.5	7.12	4.63	3.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Surface	1	1	2	15:43	22	7.6	23.4	7.10	4.60	4.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Middle	5.4	2	1	15:43	21.9	7.5	23.6	7.03	4.93	5.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Middle	5.4	2	2	15:43	21.9	7.6	23.7	7.01	4.98	5.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Bottom	9.8	3	1	15:43	21.8	7.6	23.8	7.10	4.46	6.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)5	Bottom	9.8	3	2	15:43	21.7	7.6	23.9	7.09	4.40	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Surface	1	1	1	16:08	22	7.6	23.4	7.28	4.30	5.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Surface	1	1	2	16:08	22	7.7	23.3	7.30	4.24	4.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Middle		2	1	16:08							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Middle		2	2	16:08							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Bottom	4.8	3	1	16:08	21.8	7.5	23.8	7.48	4.06	6.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4a	Bottom	4.8	3	2	16:08	21.8	7.5	23.8	7.40	4.04	5.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Surface	1	1	1	16:33	21.9	7.6	23.4	7.36	4.20	3.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Surface	1	1	2	16:33	21.8	7.6	23.4	7.30	4.12	4.60	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Middle		2	1	16:33							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Middle		2	2	16:33							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Bottom	4.4	3	1	16:33	21.4	7.6	23.9	7.43	4.21	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	SR4	Bottom	4.4	3	2	16:33	21.4	7.6	23.8	7.47	4.29	5.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Surface	1	1	1	16:58	21.8	7.5	22.2	7.54	4.12	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Surface	1	1	2	16:58	21.7	7.5	22.1	7.56	4.17	4.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Middle		2	1	16:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Middle		2	2	16:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Bottom	4.8	3	1	16:58	21.5	7.5	22.3	7.57	4.00	4.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS8	Bottom	4.8	3	2	16:58	21.4	7.5	22.4	7.60	4.07	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Surface	1	1	1	17:23	21.8	7.6	23.7	7.40	4.41	4.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Surface	1	1	2	17:23	21.8	7.6	23.7	7.38	4.46	4.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Middle	4	2	1	17:23	21.9	7.5	23.8	7.28	4.80	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Middle	4	2	2	17:23	21.9	7.5	23.8	7.30	4.78	4.10	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Bottom	7	3	1	17:23	21.9	7.6	24.0	7.02	4.52	4.70	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)16	Bottom	7	3	2	17:23	21.9	7.6	24.0	7.08	4.58	4.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Surface	1	1	1	17:58	21.8	7.8	23.5	7.24	4.03	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Surface	1	1	2	17:58	21.8	7.8	23.4	7.20	4.08	4.00	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Middle		2	1	17:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Middle		2	2	17:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Bottom	4.2	3	1	17:58	21.5	7.6	23.7	7.06	4.46	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	IS(Mf)9	Bottom	4.2	3	2	17:58	21.5	7.6	23.6	7.01	4.40	4.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Surface	1	1	1	18:30	21.8	7.7	23.6	7.13	4.28	4.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Surface	1	1	2	18:30	21.8	7.7	23.6	7.10	4.30	5.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Middle	6.4	2	1	18:30	21.7	7.6	23.7	7.04	4.53	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Middle	6.4	2	2	18:30	21.7	7.6	23.8	7.09	4.60	5.10	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Bottom	11.8	3	1	18:30	21.4	7.7	24.1	7.02	4.96	4.60	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Flood	Fine	Small Wave	CS(Mf)3	Bottom	11.8	3	2	18:30	21.5	7.7	24.0	7.08	4.90	5.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Surface	1	1	1	10:00	21.5	7.5	23.5	7.46	3.08	4.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Surface	1	1	2	10:00	21.6	7.5	23.7	7.41	3.02	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Middle	6.2	2	1	10:00	21.7	7.6	23.8	7.52	3.03	5.70	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Middle	6.2	2	2	10:00	21.4	7.6	23.7	7.56	3.05	4.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Bottom	11.3	3	1	10:00	21.5	7.5	24.1	7.38	3.18	4.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Bottom	11.3	3	2	10:00	21.6	7.5	24.3	7.32	3.21	5.10	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Surface	1	1	1	12:27	22.1	7.5	23.4	7.42	3.02	5.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Surface	1	1	2	12:27	22.2	7.6	23.6	7.39	2.98	5.60	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Middle		2	1	12:27							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Middle		2	2	12:27							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Bottom	4.3	3	1	12:27	21.8	7.5	23.9	7.31	3.08	5.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4a	Bottom	4.3	3	2	12:27	21.7	7.5	23.8	7.34	3.13	7.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Surface	1	1	1	11:58	22.2	7.5	23.4	7.63	2.95	5.00	2014-04-24

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Surface	1	1	2	11:58	21.8	7.6	23.3	7.67	2.99	5.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Middle		2	1	11:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Middle		2	2	11:58							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Bottom	3.5	3	1	11:58	21.7	7.5	24.1	7.57	3.01	6.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	SR4	Bottom	3.5	3	2	11:58	21.4	7.5	23.8	7.61	3.05	4.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Surface	1	1	1	11:25	22.2	7.5	21.6	7.61	2.65	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Surface	1	1	2	11:25	22.2	7.4	21.2	7.66	2.63	4.80	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Middle		2	1	11:25							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Middle		2	2	11:25							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Bottom	4.7	3	1	11:25	21.8	7.4	21.9	7.54	2.92	4.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS8	Bottom	4.7	3	2	11:25	21.5	7.4	22.2	7.59	2.97	5.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Surface	1	1	1	10:54	22.1	7.5	23.3	7.43	3.06	4.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Surface	1	1	2	10:54	22.2	7.5	23.6	7.46	3.09	5.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Middle	3.8	2	1	10:54	21.9	7.5	23.9	7.52	2.96	4.60	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Middle	3.8	2	2	10:54	22	7.4	23.7	7.51	2.91	4.30	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Bottom	6.6	3	1	10:54	21.7	7.4	24.1	7.35	3.14	3.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Bottom	6.6	3	2	10:54	21.9	7.4	24.2	7.41	3.11	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Surface	1	1	1	10:27	22.1	7.6	23.6	7.53	3.13	6.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Surface	1	1	2	10:27	21.8	7.7	23.3	7.49	3.09	4.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Middle		2	1	10:27							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Middle		2	2	10:27							2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Bottom	3.6	3	1	10:27	21.5	7.6	23.9	7.39	3.31	5.10	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Bottom	3.6	3	2	10:27	21.6	7.6	23.7	7.41	3.27	5.70	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Surface	1	1	1	12:55	21.9	7.5	23.5	7.36	3.08	4.40	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Surface	1	1	2	12:55	22.3	7.6	23.3	7.41	3.04	4.90	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Middle	5.1	2	1	12:55	21.7	7.5	23.9	7.45	3.01	5.50	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Middle	5.1	2	2	12:55	21.8	7.5	23.8	7.48	2.96	5.20	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Bottom	9.2	3	1	12:55	21.5	7.4	24.2	7.31	3.15	4.60	2014-04-24
TM-CLK Southern	HY/2012/07	2014-04-12	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Bottom	9.2	3	2	12:55	21.1	7.5	24.4	7.34	3.19	4.10	2014-04-24

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	17:46	22	7.8	23.7	7.00	5.26	3.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	17:46	22.1	7.8	23.6	6.98	5.30	3.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	6	2	1	17:46	21.8	7.8	23.8	6.50	5.11	3.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	6	2	2	17:46	21.7	7.8	23.9	6.58	5.09	4.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	11	3	1	17:46	21.7	7.9	24.0	6.23	4.96	5.40	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	11	3	2	17:46	21.7	7.9	24.1	6.21	4.90	5.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	18:16	21.8	7.9	23.6	6.90	5.13	3.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	18:16	21.8	7.9	23.6	6.89	5.17	4.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	18:16							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	18:16							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4	3	1	18:16	21.6	7.9	23.7	6.97	5.09	4.40	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4	3	2	18:16	21.7	7.9	23.7	6.93	5.11	4.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	18:46	21.8	7.9	23.5	7.08	5.20	3.60	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	18:46	21.7	7.9	23.6	7.02	5.18	3.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	18:46							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	18:46							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.2	3	1	18:46	21.7	7.9	23.7	6.94	5.30	4.40	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.2	3	2	18:46	21.7	7.9	23.7	6.96	5.34	3.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	19:16	21.8	7.9	23.6	6.88	5.13	4.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	19:16	21.8	7.9	23.6	6.90	5.19	3.50	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	19:16							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	19:16							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.4	3	1	19:16	21.7	7.8	23.6	6.71	5.25	4.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.4	3	2	19:16	21.6	7.8	23.6	6.73	5.21	4.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	19:45	21.9	7.9	23.6	6.95	4.74	4.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	19:45	22	7.9	23.6	6.93	4.72	3.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.2	2	1	19:45	21.8	7.9	23.9	6.67	4.92	3.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4.2	2	2	19:45	21.7	7.9	23.9	6.69	4.90	3.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.4	3	1	19:45	21.7	7.8	24.0	6.30	5.21	3.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7.4	3	2	19:45	21.7	7.9	24.1	6.28	5.29	3.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	20:17	21.8	7.8	23.4	7.03	5.14	3.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	20:17	21.9	7.8	23.5	7.01	5.18	2.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	20:17							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	20:17							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.8	3	1	20:17	21.6	7.8	23.8	6.83	5.08	3.50	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.8	3	2	20:17	21.7	7.8	23.9	6.87	5.01	4.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	20:40	22	7.8	23.4	6.90	4.88	5.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	20:40	22.1	7.8	23.5	6.89	4.86	4.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.5	2	1	20:40	22	7.7	23.9	6.43	5.01	5.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.5	2	2	20:40	21.9	7.8	23.9	6.40	5.03	3.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	12	3	1	20:40	21.8	7.9	24.0	6.10	5.14	4.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	12	3	2	20:40	21.7	7.9	24.0	6.07	5.16	4.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	11:17	22.2	7.7	23.5	6.83	4.95	5.40	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	11:17	22.1	7.7	23.5	6.81	4.91	4.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	1	11:17	21.8	7.7	23.9	6.55	5.10	5.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.4	2	2	11:17	21.8	7.7	23.8	6.51	5.14	7.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	1	11:17	21.7	7.8	24.1	6.20	5.24	6.40	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.8	3	2	11:17	21.7	7.8	24.1	6.24	5.26	6.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	14:00	21.8	7.9	23.5	6.87	5.00	6.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	14:00	21.9	7.9	23.5	6.88	5.07	6.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	14:00							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	14:00							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	3.6	3	1	14:00	21.7	7.8	23.8	6.92	5.17	4.50	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	3.6	3	2	14:00	21.7	7.8	23.7	6.98	5.11	4.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	13:20	21.7	7.8	23.5	6.98	5.23	5.80	2014-04-28

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	13:20	21.7	7.8	23.6	6.92	5.27	5.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	13:20							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	13:20							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.8	3	1	13:20	21.6	7.9	23.8	6.78	5.50	5.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.8	3	2	13:20	21.6	7.9	23.7	6.76	5.51	5.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	12:49	21.8	7.8	23.6	6.83	5.46	5.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	12:49	21.8	7.8	23.6	6.81	5.48	4.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	12:49							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	12:49							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.6	3	1	12:49	21.7	7.9	23.7	6.71	5.30	9.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.6	3	2	12:49	21.6	7.9	23.6	6.73	5.34	8.70	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	12:17	22	7.7	23.6	7.13	5.01	3.50	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	12:17	22	7.7	23.5	7.10	4.99	4.10	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	1	12:17	21.9	7.8	23.7	6.98	4.83	3.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	2	12:17	21.8	7.8	23.8	6.99	4.81	4.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	1	12:17	21.8	7.8	24.0	6.84	5.20	5.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	2	12:17	21.8	7.8	24.0	6.80	5.21	5.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	11:47	21.9	7.8	23.6	6.73	5.14	5.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	11:47	21.9	7.8	23.6	6.77	5.10	5.20	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	11:47							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	11:47							2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	1	11:47	21.7	7.8	23.9	6.59	5.27	3.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	2	11:47	21.7	7.8	23.9	6.60	5.30	4.00	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	14:27	22.1	7.8	23.5	6.88	4.79	3.90	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	14:27	22.1	7.8	23.6	6.80	4.81	4.60	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.6	2	1	14:27	21.8	7.8	23.8	6.38	4.94	3.80	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.6	2	2	14:27	21.8	7.8	23.8	6.40	4.92	5.30	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	10.2	3	1	14:27	21.7	7.8	23.9	6.12	5.08	5.50	2014-04-28
TM-CLK Southern	HY/2012/07	2014-04-15	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	10.2	3	2	14:27	21.7	7.8	24.0	6.18	5.10	4.30	2014-04-28

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Surface	1	1	1	6:30	22.9	8.2	25.8	6.92	5.33	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Surface	1	1	2	6:30	22.9	8.2	25.8	6.90	5.30	4.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Middle	5.7	2	1	6:30	22.9	8.2	26.0	6.72	5.61	4.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Middle	5.7	2	2	6:30	22.8	8.2	26.0	6.70	5.63	4.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Bottom	10.4	3	1	6:30	22.8	8.1	26.1	6.26	5.98	3.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)5	Bottom	10.4	3	2	6:30	22.7	8.1	26.2	6.20	5.92	2.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Surface	1	1	1	6:55	23	8.2	25.9	6.82	5.29	4.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Surface	1	1	2	6:55	23	8.2	25.9	6.81	5.31	4.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Middle		2	1	6:55							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Middle		2	2	6:55							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Bottom	4.4	3	1	6:55	22.8	8.1	26.1	6.65	5.51	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4a	Bottom	4.4	3	2	6:55	22.8	8.1	26.1	6.66	5.50	6.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Surface	1	1	1	7:20	23	8.0	25.8	6.81	5.14	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Surface	1	1	2	7:20	23	8.0	25.9	6.89	5.12	6.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Middle		2	1	7:20							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Middle		2	2	7:20							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Bottom	4.2	3	1	7:20	22.8	8.1	26.0	6.50	5.71	5.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	SR4	Bottom	4.2	3	2	7:20	22.8	8.1	26.0	6.44	5.78	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Surface	1	1	1	7:45	23.1	8.1	25.8	6.30	5.26	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Surface	1	1	2	7:45	23.2	8.1	25.8	6.34	5.27	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Middle		2	1	7:45							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Middle		2	2	7:45							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Bottom	4.4	3	1	7:45	22.5	8.2	26.1	6.18	5.38	4.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS8	Bottom	4.4	3	2	7:45	22.5	8.2	26.1	6.12	5.32	5.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Surface	1	1	1	8:10	23	8.0	25.7	6.73	5.06	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Surface	1	1	2	8:10	22.9	8.0	25.8	6.77	5.03	4.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Middle	4	2	1	8:10	22.8	8.0	26.0	6.50	5.43	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Middle	4	2	2	8:10	22.8	8.0	26.0	6.54	5.47	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Bottom	7	3	1	8:10	22.6	8.1	26.2	6.03	5.25	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)16	Bottom	7	3	2	8:10	22.7	8.1	26.2	6.01	5.10	4.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Surface	1	1	1	8:35	23.1	8.1	26.0	6.82	5.02	3.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Surface	1	1	2	8:35	23.1	8.1	26.0	6.88	5.01	4.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Middle		2	1	8:35							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Middle		2	2	8:35							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Bottom	4	3	1	8:35	22.9	8.0	26.2	6.73	5.06	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	IS(Mf)9	Bottom	4	3	2	8:35	22.9	8.0	26.2	6.71	5.07	4.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Surface	1	1	1	9:10	23.2	8.2	25.8	6.55	5.29	4.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Surface	1	1	2	9:10	23.1	8.2	25.9	6.51	5.21	5.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Middle	6.4	2	1	9:10	22.9	8.2	26.0	6.88	5.30	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Middle	6.4	2	2	9:10	22.9	8.2	25.9	6.90	5.33	3.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Bottom	11.8	3	1	9:10	22.8	8.0	26.2	6.24	5.40	4.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Flood	Fine	Calm	CS(Mf)3	Bottom	11.8	3	2	9:10	22.7	8.0	26.1	6.27	5.44	3.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Surface	1	1	1	12:27	23.1	8.1	26.0	6.87	5.21	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Surface	1	1	2	12:27	23.1	8.1	26.0	6.83	5.23	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Middle	6	2	1	12:27	22.9	8.1	26.1	6.41	5.12	4.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Middle	6	2	2	12:27	23	8.1	26.1	6.43	5.10	3.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Bottom	11	3	1	12:27	22.6	8.2	26.2	6.28	5.52	4.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)3	Bottom	11	3	2	12:27	22.6	8.2	26.2	6.26	5.58	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Surface	1	1	1	14:50	22.9	8.1	26.0	6.49	5.16	4.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Surface	1	1	2	14:50	23	8.1	26.0	6.50	5.20	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Middle		2	1	14:50							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Middle		2	2	14:50							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Bottom	3.6	3	1	14:50	22.8	8.0	26.1	6.05	5.12	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4a	Bottom	3.6	3	2	14:50	22.8	8.0	26.1	6.01	5.10	4.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Surface	1	1	1	14:17	22.9	8.0	26.1	6.35	5.12	6.20	2014-04-30

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Surface	1	1	2	14:17	22.8	8.0	26.0	6.39	5.16	6.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Middle		2	1	14:17							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Middle		2	2	14:17							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Bottom	3.8	3	1	14:17	22.9	8.1	25.9	6.43	5.20	6.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	SR4	Bottom	3.8	3	2	14:17	22.8	8.1	25.9	6.38	5.18	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Surface	1	1	1	13:47	23.2	8.1	25.8	6.69	5.03	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Surface	1	1	2	13:47	23.2	8.1	25.8	6.68	5.01	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Middle		2	1	13:47							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Middle		2	2	13:47							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Bottom	4	3	1	13:47	22.6	8.1	26.1	6.37	5.27	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS8	Bottom	4	3	2	13:47	22.5	8.1	26.1	6.38	5.30	5.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Surface	1	1	1	13:22	23.1	8.1	25.9	6.83	5.04	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Surface	1	1	2	13:22	23.1	8.1	25.8	6.82	5.02	2.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Middle	3.7	2	1	13:22	23	8.1	26.0	6.51	5.41	2.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Middle	3.7	2	2	13:22	23	8.1	26.1	6.54	5.46	3.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Bottom	6.4	3	1	13:22	22.9	8.1	26.0	6.29	5.18	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)16	Bottom	6.4	3	2	13:22	22.9	8.1	26.0	6.31	5.19	4.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Surface	1	1	1	12:57	23	8.2	25.8	6.94	5.04	4.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Surface	1	1	2	12:57	23	8.2	25.9	6.98	5.02	4.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Middle		2	1	12:57							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Middle		2	2	12:57							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Bottom	3.8	3	1	12:57	22.7	8.1	26.0	6.11	5.17	3.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	IS(Mf)9	Bottom	3.8	3	2	12:57	22.6	8.1	26.0	6.13	5.19	3.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Surface	1	1	1	15:32	23.2	8.2	25.8	6.84	5.20	3.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Surface	1	1	2	15:32	23.1	8.1	25.9	6.88	5.23	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Middle	5.5	2	1	15:32	22.9	8.1	26.0	6.91	5.10	3.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Middle	5.5	2	2	15:32	22.9	8.1	26.0	6.90	5.04	3.30	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Bottom	10	3	1	15:32	22.6	8.1	26.1	6.43	5.05	3.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-17	Mid-Ebb	Fine	Calm	CS(Mf)5	Bottom	10	3	2	15:32	22.6	8.1	26.2	6.41	5.01	2.60	2014-04-30

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	7:48	23.1	8.2	25.7	6.90	4.44	6.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	7:48	23	8.2	25.8	6.94	4.53	5.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.7	2	1	7:48	22.7	8.2	25.9	6.82	4.75	7.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.7	2	2	7:48	22.8	8.2	25.8	6.81	4.78	8.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	10.4	3	1	7:48	22.5	8.1	26.1	6.49	4.97	13.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	10.4	3	2	7:48	22.4	8.1	26.0	6.47	5.06	12.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	8:12	27.8	8.2	25.9	6.55	4.35	3.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	8:12	27.9	8.2	25.8	6.56	4.39	3.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	8:12							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	8:12							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4	3	1	8:12	22.7	8.1	26.0	6.11	4.80	6.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4	3	2	8:12	22.6	8.1	25.9	6.07	4.79	5.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	8:36	22.7	8.1	26.1	6.41	4.29	4.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	8:36	22.8	8.1	26.2	6.45	4.33	4.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	8:36							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	8:36							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	3.6	3	1	8:36	22.8	8.1	26.0	6.49	4.89	5.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	3.6	3	2	8:36	22.7	8.1	25.9	6.44	4.85	5.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	9:02	23.1	8.2	25.8	6.75	4.40	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	9:02	23	8.1	25.9	6.74	4.42	4.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	9:02							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	9:02							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	3.8	3	1	9:02	22.5	8.2	26.0	6.43	4.91	5.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	3.8	3	2	9:02	22.4	8.1	25.9	6.44	4.96	5.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	9:26	23	8.1	25.8	6.89	4.28	5.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	9:26	22.9	8.1	25.7	6.88	4.35	4.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.9	2	1	9:26	22.9	8.1	25.9	6.57	4.66	5.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.9	2	2	9:26	22.8	8.2	26.0	6.60	4.68	5.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.8	3	1	9:26	22.7	8.1	25.9	6.35	4.86	7.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.8	3	2	9:26	22.8	8.1	25.9	6.37	4.90	7.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	9:51	22.9	8.2	25.8	6.85	4.31	3.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	9:51	22.8	8.2	25.7	6.89	4.24	2.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	9:51							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	9:51							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	1	9:51	22.6	8.2	25.9	6.17	4.93	3.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	2	9:51	22.5	8.2	25.8	6.19	4.94	3.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	10:18	22.9	8.1	25.9	6.92	4.49	11.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	10:18	23	8.1	25.8	6.89	4.51	10.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.2	2	1	10:18	22.9	8.2	26.0	6.47	4.70	11.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6.2	2	2	10:18	22.8	8.2	25.9	6.49	4.64	12.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.4	3	1	10:18	22.5	8.3	26.0	6.34	4.89	15.30	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11.4	3	2	10:18	22.4	8.3	26.1	6.32	4.98	15.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Surface	1	1	1	13:51	23	8.1	26.0	6.83	4.57	5.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Surface	1	1	2	13:51	23.1	8.1	26.0	6.85	4.51	5.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Middle	5.9	2	1	13:51	22.8	8.1	26.1	6.51	4.71	5.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Middle	5.9	2	2	13:51	22.7	8.1	26.1	6.55	4.76	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Bottom	10.8	3	1	13:51	22.6	8.1	26.2	6.33	4.68	8.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)3	Bottom	10.8	3	2	13:51	22.7	8.1	26.2	6.35	4.65	7.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Surface	1	1	1	16:25	23.2	8.1	26.1	6.81	4.79	4.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Surface	1	1	2	16:25	23.2	8.1	26.0	6.78	4.72	6.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Middle		2	1	16:25							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Middle		2	2	16:25							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Bottom	3.6	3	1	16:25	22.8	8.1	26.2	6.60	4.96	5.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4a	Bottom	3.6	3	2	16:25	22.7	8.2	26.2	6.64	4.92	4.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Surface	1	1	1	15:50	23.1	8.1	26.0	6.64	4.92	4.90	2014-04-30

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Surface	1	1	2	15:50	23.1	8.1	26.0	6.61	4.98	24.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Middle		2	1	15:50							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Middle		2	2	15:50							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Bottom	3.2	3	1	15:50	22.8	8.2	26.1	6.29	4.99	4.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	SR4	Bottom	3.2	3	2	15:50	22.8	8.1	26.2	6.33	4.95	5.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Surface	1	1	1	15:20	23.2	8.1	26.0	6.53	5.03	5.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Surface	1	1	2	15:20	23.2	8.1	26.0	6.57	5.08	7.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Middle		2	1	15:20							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Middle		2	2	15:20							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Bottom	3.4	3	1	15:20	22.8	8.1	26.1	6.40	4.82	9.70	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS8	Bottom	3.4	3	2	15:20	22.8	8.1	26.2	6.37	4.77	9.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Surface	1	1	1	14:50	23.1	8.1	26.1	6.62	4.79	4.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Surface	1	1	2	14:50	23.2	8.1	26.1	6.57	4.85	4.50	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Middle	3.4	2	1	14:50	22.8	8.2	26.2	6.53	4.63	4.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Middle	3.4	2	2	14:50	22.8	8.2	26.2	6.50	4.70	4.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Bottom	5.8	3	1	14:50	22.6	8.2	26.2	6.25	4.86	5.10	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)16	Bottom	5.8	3	2	14:50	22.6	8.1	26.2	6.27	4.82	5.90	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Surface	1	1	1	14:21	23.1	8.1	26.0	6.77	4.64	9.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Surface	1	1	2	14:21	23.1	8.1	26.0	6.74	4.60	8.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Middle		2	1	14:21							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Middle		2	2	14:21							2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Bottom	3.8	3	1	14:21	22.7	8.1	26.1	6.46	4.92	11.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	IS(Mf)9	Bottom	3.8	3	2	14:21	22.7	8.1	26.1	6.42	4.98	11.40	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Surface	1	1	1	17:05	23.2	8.1	26.1	6.77	4.34	4.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Surface	1	1	2	17:05	23.2	8.1	26.1	6.74	4.30	4.20	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Middle	5.3	2	1	17:05	22.9	8.2	26.2	6.42	4.66	3.80	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Middle	5.3	2	2	17:05	22.9	8.1	26.2	6.38	4.61	3.60	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Bottom	9.6	3	1	17:05	22.8	8.2	26.2	6.53	4.80	3.00	2014-04-30
TM-CLK Southern	HY/2012/07	2014-04-19	Mid-Ebb	Fine	Small Wave	CS(Mf)5	Bottom	9.6	3	2	17:05	22.8	8.2	26.1	6.50	4.87	4.00	2014-04-30

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	10:00	23.6	7.9	26.3	6.07	4.12	2.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	10:00	23.5	7.9	26.4	6.00	4.18	3.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	1	10:00	23.4	7.9	26.7	6.10	4.29	3.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	2	10:00	23.4	7.9	26.8	6.09	4.31	4.10	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	1	10:00	23.2	7.9	27.7	5.90	4.47	4.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	2	10:00	23.3	8.0	27.7	5.92	4.50	3.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	10:27	23.5	8.0	26.4	6.23	4.01	4.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	10:27	23.4	8.0	26.4	6.21	4.09	4.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	10:27							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	10:27							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.4	3	1	10:27	23.1	7.8	27.8	5.79	4.69	3.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.4	3	2	10:27	23.2	7.8	27.7	5.81	4.61	4.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	10:54	23.6	7.9	26.3	6.32	4.09	7.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	10:54	23.6	7.9	26.3	6.31	4.06	7.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	10:54							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	10:54							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4	3	1	10:54	23.4	7.8	27.6	6.49	4.68	6.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4	3	2	10:54	23.4	7.9	27.6	6.45	4.60	5.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	11:21	23.6	8.0	26.4	5.98	3.92	3.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	11:21	23.5	8.0	26.5	5.93	3.98	3.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	11:21							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	11:21							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.4	3	1	11:21	23.4	8.0	27.6	5.87	4.25	4.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.4	3	2	11:21	23.3	8.0	27.5	5.84	4.23	5.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	11:48	23.6	7.8	26.3	6.12	4.29	5.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	11:48	23.6	7.8	26.4	6.13	4.24	4.10	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	1	11:48	23.5	7.8	26.8	6.02	4.07	3.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	2	11:48	23.4	7.8	26.7	6.09	4.01	4.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	1	11:48	23.3	7.9	27.1	5.73	4.54	3.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	2	11:48	23.2	7.9	27.2	5.76	4.58	5.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	12:15	23.5	7.8	26.3	6.12	4.16	4.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	12:15	23.5	7.8	26.3	6.13	4.10	4.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	12:15							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	12:15							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	1	12:15	23.3	8.0	27.0	5.96	4.84	4.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	2	12:15	23.3	8.0	27.0	5.98	4.81	4.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	12:54	23.6	8.0	26.3	6.49	4.30	3.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	12:54	23.6	8.0	26.4	6.44	4.34	3.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6	2	1	12:54	23.4	7.9	26.8	6.07	4.66	3.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6	2	2	12:54	23.5	8.0	26.8	6.01	4.69	3.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11	3	1	12:54	23.4	7.8	27.1	5.84	4.99	3.10	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11	3	2	12:54	23.4	7.8	27.1	5.88	4.94	4.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	19:50	23.6	8.0	26.4	6.27	4.46	4.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	19:50	23.7	8.0	26.3	6.30	4.50	3.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	5.8	2	1	19:50	23.5	8.0	26.7	6.03	4.84	3.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	5.8	2	2	19:50	23.4	8.0	26.7	6.02	4.80	4.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	10.6	3	1	19:50	23.4	7.8	27.0	5.71	4.68	3.60	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	10.6	3	2	19:50	23.4	7.8	27.0	5.73	4.70	3.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	17:20	23.6	8.0	26.5	6.15	4.11	3.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	17:20	23.5	8.0	26.4	6.16	4.10	3.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	17:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	17:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.3	3	1	17:20	23.5	7.9	26.6	5.70	4.74	3.60	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.3	3	2	17:20	23.5	7.9	26.5	5.72	4.73	3.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	17:50	23.4	7.9	26.4	6.24	4.17	3.30	2014-05-05

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	17:50	23.5	7.9	26.3	6.23	4.16	3.70	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	17:50							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	17:50							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.8	3	1	17:50	23.3	7.9	27.8	6.40	4.74	3.40	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.8	3	2	17:50	23.4	7.9	27.9	6.39	4.68	2.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	18:20	23.4	8.0	26.3	5.90	4.01	4.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	18:20	23.5	8.0	26.4	5.87	4.03	4.10	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	18:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	18:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.2	3	1	18:20	23.3	8.0	27.7	5.80	4.32	3.70	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.2	3	2	18:20	23.1	8.0	27.6	5.76	4.29	3.80	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	18:50	23.4	7.8	26.2	6.04	4.39	3.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	18:50	23.5	7.9	26.3	6.03	4.35	3.90	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	1	18:50	23.5	7.8	26.6	5.96	4.15	3.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	2	18:50	23.5	7.9	26.7	5.99	4.09	4.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	1	18:50	23.5	7.9	27.0	5.65	4.61	4.00	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	2	18:50	23.4	7.9	26.9	5.66	4.63	4.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	19:20	23.6	7.9	26.4	6.06	4.41	4.50	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	19:20	23.6	7.9	26.4	6.04	4.49	3.20	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	19:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	19:20							2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	3.7	3	1	19:20	23.4	7.9	27.1	5.82	4.96	4.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	3.7	3	2	19:20	23.3	8.0	27.1	5.80	4.90	4.10	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	16:50	23.4	7.9	26.4	5.95	4.20	2.60	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	16:50	23.5	7.9	26.5	5.93	4.24	3.70	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	1	16:50	23.6	7.9	26.6	6.03	4.38	3.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	2	16:50	23.5	8.0	26.7	6.01	4.39	4.30	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.6	3	1	16:50	23.5	8.0	26.6	5.91	4.55	2.70	2014-05-05
TM-CLK Southern	HY/2012/07	2014-04-22	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.6	3	2	16:50	23.5	8.0	26.6	5.92	4.57	3.70	2014-05-05

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	16:09	23.6	7.8	26.4	5.96	0.94	2.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	16:09	23.6	7.8	26.5	5.98	0.96	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	1	16:09	23.5	7.7	26.6	6.02	1.14	5.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.3	2	2	16:09	23.4	7.7	26.6	6.04	1.12	6.30	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.6	3	1	16:09	23.3	7.8	26.7	5.86	1.22	6.00	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.6	3	2	16:09	23.3	7.8	26.8	5.84	1.20	5.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	15:38	23.5	7.7	26.4	6.16	1.03	3.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	15:38	23.6	7.7	26.4	6.18	1.05	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	15:38							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	15:38							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.2	3	1	15:38	23.4	7.7	26.6	5.71	1.09	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	4.2	3	2	15:38	23.4	7.7	26.5	5.73	1.11	2.30	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	15:07	23.5	7.8	26.5	6.25	1.06	4.30	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	15:07	23.6	7.8	26.6	6.27	1.08	3.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	15:07							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	15:07							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	3.8	3	1	15:07	23.4	7.8	26.7	6.42	1.17	3.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	3.8	3	2	15:07	23.3	7.8	26.8	6.44	1.15	2.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	14:36	23.6	7.7	26.5	5.92	1.11	3.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	14:36	23.6	7.7	26.5	5.94	1.09	3.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	14:36							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	14:36							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.1	3	1	14:36	23.5	7.7	26.6	5.76	1.17	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.1	3	2	14:36	23.4	7.7	26.7	5.78	1.19	2.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	14:05	23.5	7.8	26.5	6.07	0.99	2.30	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	14:05	23.5	7.8	26.6	6.05	1.01	3.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	1	14:05	23.4	7.8	26.7	5.92	1.06	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	2	14:05	23.3	7.8	26.7	5.90	1.08	2.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	1	14:05	23.2	7.7	26.8	5.71	1.15	4.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	2	14:05	23.3	7.7	26.9	5.73	1.17	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	13:34	23.6	7.7	26.5	6.09	1.11	3.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	13:34	23.5	7.8	26.6	6.07	1.13	4.70	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	13:34							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	13:34							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	1	13:34	23.4	7.8	26.7	5.91	1.17	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	4	3	2	13:34	23.4	7.8	26.7	5.89	1.19	4.90	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	13:03	23.6	7.7	26.5	6.42	1.06	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	13:03	23.6	7.7	26.5	6.44	1.07	2.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	5.9	2	1	13:03	23.5	7.7	26.6	6.00	1.12	2.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	5.9	2	2	13:03	23.4	7.7	26.7	5.98	1.14	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	10.8	3	1	13:03	23.3	7.8	26.9	5.73	1.20	2.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	10.8	3	2	13:03	23.4	7.8	26.8	5.75	1.18	3.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	11:00	23.5	7.7	26.4	6.51	0.90	3.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	11:00	23.6	7.7	26.5	6.52	0.89	3.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.1	2	1	11:00	23.5	7.7	26.5	6.09	0.92	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	6.1	2	2	11:00	23.5	7.7	26.5	6.07	0.94	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.1	3	1	11:00	23.4	7.8	26.8	5.82	0.95	3.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	11.1	3	2	11:00	23.3	7.8	26.7	5.83	0.97	3.00	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	8:55	23.5	7.7	26.5	6.23	0.91	2.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	8:55	23.5	7.7	26.4	6.25	0.92	3.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	8:55							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	8:55							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.4	3	1	8:55	23.3	7.7	26.7	5.80	0.96	3.00	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.4	3	2	8:55	23.4	7.8	26.6	5.82	0.95	3.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	9:20	23.4	7.7	26.3	6.34	0.92	4.00	2014-05-07

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	9:20	23.5	7.8	26.5	6.32	0.93	3.70	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	9:20							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	9:20							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4	3	1	9:20	23.3	7.8	26.8	6.50	0.96	3.30	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	4	3	2	9:20	23.3	7.8	26.9	6.52	0.97	2.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	9:45	23.5	7.7	26.4	6.01	0.89	5.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	9:45	23.6	7.7	26.5	6.04	0.91	4.10	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	9:45							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	9:45							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.3	3	1	9:45	23.4	7.7	26.7	5.83	0.95	3.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	4.3	3	2	9:45	23.4	7.7	26.6	5.84	0.94	3.80	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	10:10	23.5	7.7	26.4	6.15	0.90	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	10:10	23.4	7.8	26.5	6.16	0.87	3.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	1	10:10	23.4	7.8	26.6	6.02	0.94	4.00	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.7	2	2	10:10	23.3	7.8	26.7	6.00	0.96	4.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	1	10:10	23.3	7.6	26.9	5.79	0.96	4.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.4	3	2	10:10	23.3	7.6	26.8	5.80	0.97	3.90	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	10:35	23.5	7.7	26.4	6.15	0.87	3.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	10:35	23.4	7.8	26.5	6.18	0.89	3.70	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	10:35							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	10:35							2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	1	10:35	23.3	7.8	26.6	5.99	0.91	4.20	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	4.2	3	2	10:35	23.4	7.8	26.8	5.97	0.93	4.70	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	8:30	23.5	7.8	26.5	6.05	0.86	3.50	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	8:30	23.6	7.8	26.4	6.07	0.88	3.70	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	1	8:30	23.5	7.7	26.5	6.10	0.92	2.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	2	8:30	23.5	7.7	26.5	6.12	0.93	2.40	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	1	8:30	23.4	7.8	26.7	5.93	0.96	2.60	2014-05-07
TM-CLK Southern	HY/2012/07	2014-04-24	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	2	8:30	23.3	7.8	26.8	5.92	0.97	2.00	2014-05-07

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	15:16	23.6	7.8	26.5	6.06	1.01	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	15:16	23.6	7.8	26.6	6.08	1.04	2.00	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	1	15:16	23.5	7.8	26.7	5.80	1.06	2.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Middle	5.4	2	2	15:16	23.4	7.8	26.7	5.82	1.00	2.40	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	1	15:16	23.4	7.9	26.7	5.98	1.14	2.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)5	Bottom	9.8	3	2	15:16	23.3	7.9	26.8	5.95	1.11	2.20	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	1	15:41	23.6	7.8	26.6	6.13	0.90	3.00	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Surface	1	1	2	15:41	23.5	7.8	26.6	6.17	0.94	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	1	15:41							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Middle		2	2	15:41							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	3.8	3	1	15:41	23.4	7.9	26.8	6.01	1.16	3.20	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4a	Bottom	3.8	3	2	15:41	23.3	7.9	26.8	6.04	1.19	4.90	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	1	16:06	23.6	7.7	26.5	6.21	0.89	3.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Surface	1	1	2	16:06	23.6	7.7	26.6	6.23	0.86	3.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	1	16:06							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Middle		2	2	16:06							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.4	3	1	16:06	23.3	7.8	26.8	6.19	0.98	3.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	SR4	Bottom	4.4	3	2	16:06	23.3	7.8	26.7	6.14	0.90	3.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	1	16:31	23.6	7.8	26.6	6.37	1.02	3.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Surface	1	1	2	16:31	23.5	7.8	26.6	6.31	1.08	2.10	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	1	16:31							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Middle		2	2	16:31							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	1	16:31	23.3	7.9	26.8	6.44	1.05	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS8	Bottom	4.6	3	2	16:31	23.4	7.9	26.7	6.48	1.03	2.90	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	16:56	23.6	7.7	26.5	6.13	0.89	2.20	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	16:56	23.6	7.8	26.6	6.19	0.84	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	1	16:56	23.5	7.8	26.7	6.04	0.95	2.00	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Middle	4	2	2	16:56	23.4	7.8	26.7	6.08	0.91	3.40	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	1	16:56	23.3	7.8	26.8	5.93	1.00	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)16	Bottom	7	3	2	16:56	23.3	7.9	26.8	5.99	1.03	4.10	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	17:21	23.6	7.8	26.6	6.14	0.89	3.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	17:21	23.7	7.8	26.6	6.10	0.84	4.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	17:21							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	17:21							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	3.8	3	1	17:21	23.4	7.9	26.7	5.96	0.97	5.10	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	IS(Mf)9	Bottom	3.8	3	2	17:21	23.3	7.8	26.7	5.90	0.91	3.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	17:55	23.7	7.8	26.6	6.29	0.74	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	17:55	23.7	7.9	26.5	6.24	0.78	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6	2	1	17:55	23.5	7.9	26.7	6.05	1.03	3.00	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Middle	6	2	2	17:55	23.6	7.8	26.7	6.01	1.09	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11	3	1	17:55	23.4	8.0	26.8	5.83	0.92	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Flood	Cloudy	Small Wave	CS(Mf)3	Bottom	11	3	2	17:55	23.4	7.9	26.7	5.87	0.93	2.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	1	9:30	23.6	7.7	26.6	6.42	0.99	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Surface	1	1	2	9:30	23.7	7.7	26.5	6.43	0.98	3.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	5.8	2	1	9:30	23.6	7.8	26.6	6.00	1.01	2.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Middle	5.8	2	2	9:30	23.5	7.8	26.7	5.98	1.03	3.10	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	10.6	3	1	9:30	23.3	7.9	26.8	5.73	1.04	2.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)3	Bottom	10.6	3	2	9:30	23.2	7.9	26.7	5.74	1.06	2.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	1	12:05	23.6	7.7	26.5	6.14	1.00	2.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Surface	1	1	2	12:05	23.5	7.7	26.6	6.16	1.01	3.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	1	12:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Middle		2	2	12:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.2	3	1	12:05	23.5	7.8	26.8	5.71	1.05	3.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4a	Bottom	4.2	3	2	12:05	23.4	7.8	26.7	5.73	1.04	2.90	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	1	11:35	23.6	7.8	26.5	6.25	1.01	3.30	2014-05-08

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Surface	1	1	2	11:35	23.5	7.8	26.4	6.23	1.02	3.00	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	1	11:35							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Middle		2	2	11:35							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.6	3	1	11:35	23.3	7.9	26.8	6.41	1.05	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	SR4	Bottom	3.6	3	2	11:35	23.4	7.9	26.9	6.43	1.06	2.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	1	11:05	23.6	7.7	26.5	5.92	0.97	2.40	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Surface	1	1	2	11:05	23.7	7.8	26.6	5.95	1.01	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	1	11:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Middle		2	2	11:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.8	3	1	11:05	23.5	7.8	26.7	5.74	1.04	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS8	Bottom	3.8	3	2	11:05	23.4	7.8	26.8	5.75	1.03	2.80	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	1	10:35	23.6	7.8	26.5	6.06	0.98	2.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Surface	1	1	2	10:35	23.5	7.8	26.6	6.07	0.96	3.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	1	10:35	23.5	7.9	26.8	5.93	1.03	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Middle	3.6	2	2	10:35	23.4	7.9	26.7	5.91	1.05	2.10	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	1	10:35	23.3	7.7	27.0	5.70	1.05	2.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)16	Bottom	6.2	3	2	10:35	23.4	7.7	26.9	5.71	1.06	2.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	1	10:05	23.6	7.8	26.5	6.06	0.96	2.50	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Surface	1	1	2	10:05	23.5	7.8	26.6	6.09	0.98	2.40	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	1	10:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Middle		2	2	10:05							2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	3.6	3	1	10:05	23.5	8.0	26.8	5.90	1.00	2.20	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	IS(Mf)9	Bottom	3.6	3	2	10:05	23.4	7.9	26.7	5.88	1.02	2.90	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	1	12:40	23.6	7.8	26.6	5.96	0.93	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Surface	1	1	2	12:40	23.7	7.8	26.5	5.87	0.95	2.20	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	1	12:40	23.5	7.7	26.6	6.01	0.99	2.30	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Middle	5.2	2	2	12:40	23.6	7.7	26.7	6.03	1.00	2.70	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.4	3	1	12:40	23.5	7.9	26.8	5.84	1.03	2.60	2014-05-08
TM-CLK Southern	HY/2012/07	2014-04-26	Mid-Ebb	Cloudy	Small Wave	CS(Mf)5	Bottom	9.4	3	2	12:40	23.4	7.9	26.9	5.83	1.04	2.20	2014-05-08

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Surface	1	1	1	17:55	23.7	7.8	26.7	5.95	2.73	4.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Surface	1	1	2	17:55	23.6	7.9	26.8	5.98	2.75	4.00	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Middle	5.2	2	1	17:55	23.6	7.8	26.6	6.01	2.91	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Middle	5.2	2	2	17:55	23.6	7.8	26.7	6.03	2.95	3.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Bottom	9.4	3	1	17:55	23.5	7.9	26.8	5.84	3.16	4.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)5	Bottom	9.4	3	2	17:55	23.6	7.9	26.9	5.83	3.13	5.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Surface	1	1	1	18:21	23.6	7.8	26.7	6.14	2.67	4.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Surface	1	1	2	18:21	23.7	7.8	26.8	6.15	2.69	3.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Middle		2	1	18:21							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Middle		2	2	18:21							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Bottom	4.3	3	1	18:21	23.5	7.8	26.6	5.71	2.85	3.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4a	Bottom	4.3	3	2	18:21	23.5	7.8	26.7	5.72	2.88	3.70	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Surface	1	1	1	18:47	23.5	7.8	26.7	6.24	2.70	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Surface	1	1	2	18:47	23.6	7.9	26.6	6.22	2.73	3.80	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Middle		2	1	18:47							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Middle		2	2	18:47							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Bottom	3.6	3	1	18:47	23.4	7.9	27.1	6.40	3.13	3.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	SR4	Bottom	3.6	3	2	18:47	23.4	7.9	27.2	6.41	3.15	3.70	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Surface	1	1	1	19:13	23.6	7.8	26.5	5.91	2.83	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Surface	1	1	2	19:13	23.5	7.8	26.6	5.93	2.85	3.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Middle		2	1	19:13							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Middle		2	2	19:13							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Bottom	3.8	3	1	19:13	23.5	7.8	26.8	5.73	3.27	3.00	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS8	Bottom	3.8	3	2	19:13	23.5	7.9	26.7	5.74	3.23	3.30	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Surface	1	1	1	19:39	23.6	7.8	26.4	6.05	2.73	3.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Surface	1	1	2	19:39	23.6	7.8	26.5	6.07	2.76	5.30	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Middle	3.6	2	1	19:39	23.5	7.9	26.7	5.92	2.91	3.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Middle	3.6	2	2	19:39	23.6	7.9	26.8	5.90	2.97	4.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Bottom	6.1	3	1	19:39	23.4	7.7	26.9	5.68	3.14	4.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)16	Bottom	6.1	3	2	19:39	23.3	7.7	27.0	5.60	3.21	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Surface	1	1	1	20:05	23.5	7.8	26.5	6.05	2.70	4.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Surface	1	1	2	20:05	23.6	7.8	26.4	6.09	2.72	3.80	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Middle		2	1	20:05							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Middle		2	2	20:05							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Bottom	3.6	3	1	20:05	23.6	7.9	26.7	5.89	3.14	3.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	IS(Mf)9	Bottom	3.6	3	2	20:05	23.5	7.9	26.8	5.87	3.18	3.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Surface	1	1	1	20:31	23.6	7.7	26.5	6.40	2.85	3.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Surface	1	1	2	20:31	23.6	7.8	26.6	6.41	2.81	4.80	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Middle	5.8	2	1	20:31	23.7	7.8	26.8	6.00	3.10	3.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Middle	5.8	2	2	20:31	23.6	7.8	26.9	5.98	3.17	5.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Bottom	10.6	3	1	20:31	23.5	7.9	26.7	5.72	3.30	5.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Flood	Cloudy	Calm	CS(Mf)3	Bottom	10.6	3	2	20:31	23.4	7.9	26.8	5.73	3.33	4.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Surface	1	1	1	11:21	23.7	7.8	26.6	6.33	2.93	4.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Surface	1	1	2	11:21	23.8	7.8	26.7	6.34	2.89	4.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Middle	5.7	2	1	11:21	23.7	7.8	26.7	5.91	3.18	4.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Middle	5.7	2	2	11:21	23.6	7.8	26.8	5.89	3.25	4.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Bottom	10.4	3	1	11:21	23.4	7.9	26.9	5.64	3.39	4.80	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)3	Bottom	10.4	3	2	11:21	23.3	7.9	26.8	5.65	3.41	3.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Surface	1	1	1	13:56	23.7	7.8	26.6	6.05	2.75	4.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Surface	1	1	2	13:56	23.6	7.8	26.7	6.07	2.77	3.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Middle		2	1	13:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Middle		2	2	13:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Bottom	4	3	1	13:56	23.5	7.8	26.8	5.62	2.93	4.50	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4a	Bottom	4	3	2	13:56	23.6	7.9	26.9	5.64	2.96	4.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Surface	1	1	1	13:26	23.7	7.8	26.5	6.16	2.77	3.60	2014-05-13

Appendix J1
HY/2012/07 Impact Water Quality Monitoring Data

Project	Works	Date (yyyy-mm-dd)	Tide	Weather	Sea Condition	Stat	Level	Water Depth	Lev_Cod	Replicate	Time	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)	Received Date (SS)
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Surface	1	1	2	13:26	23.6	7.9	26.6	6.14	2.81	5.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Middle		2	1	13:26							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Middle		2	2	13:26							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Bottom	3.4	3	1	13:26	23.5	7.9	27.0	6.32	3.20	5.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	SR4	Bottom	3.4	3	2	13:26	23.4	7.9	26.9	6.34	3.25	4.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Surface	1	1	1	12:56	23.7	7.8	26.6	5.83	2.91	3.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Surface	1	1	2	12:56	23.8	7.8	26.7	5.86	2.94	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Middle		2	1	12:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Middle		2	2	12:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Bottom	3.6	3	1	12:56	23.5	7.8	26.9	5.65	3.35	4.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS8	Bottom	3.6	3	2	12:56	23.6	7.8	26.8	5.66	3.31	4.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Surface	1	1	1	12:26	23.7	7.8	26.6	5.97	2.81	3.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Surface	1	1	2	12:26	23.6	7.9	26.7	5.98	2.84	3.00	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Middle	3.4	2	1	12:26	23.6	7.9	26.9	5.84	2.99	4.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Middle	3.4	2	2	12:26	23.5	7.9	26.8	5.82	3.06	5.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Bottom	5.8	3	1	12:26	23.4	7.7	27.0	5.61	3.22	5.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)16	Bottom	5.8	3	2	12:26	23.3	7.7	27.1	5.62	3.29	5.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Surface	1	1	1	11:56	23.6	7.8	26.7	5.97	2.78	4.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Surface	1	1	2	11:56	23.7	7.9	26.6	6.00	2.81	3.30	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Middle		2	1	11:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Middle		2	2	11:56							2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Bottom	3.4	3	1	11:56	23.5	7.9	26.8	5.81	3.22	4.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	IS(Mf)9	Bottom	3.4	3	2	11:56	23.6	7.9	26.9	5.79	3.26	3.40	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Surface	1	1	1	14:31	23.8	7.9	26.6	5.87	2.81	3.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Surface	1	1	2	14:31	23.7	7.9	26.7	5.89	2.83	3.60	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Middle	5.1	2	1	14:31	23.6	7.8	26.7	5.92	2.99	2.90	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Middle	5.1	2	2	14:31	23.7	7.8	26.8	5.94	3.03	3.20	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Bottom	9.2	3	1	14:31	23.7	7.9	27.0	5.75	3.24	3.10	2014-05-13
TM-CLK Southern	HY/2012/07	2014-04-29	Mid-Ebb	Cloudy	Calm	CS(Mf)5	Bottom	9.2	3	2	14:31	23.6	7.9	26.9	5.74	3.21	4.20	2014-05-13

Appendix K

Impact Dolphin Monitoring Survey Results

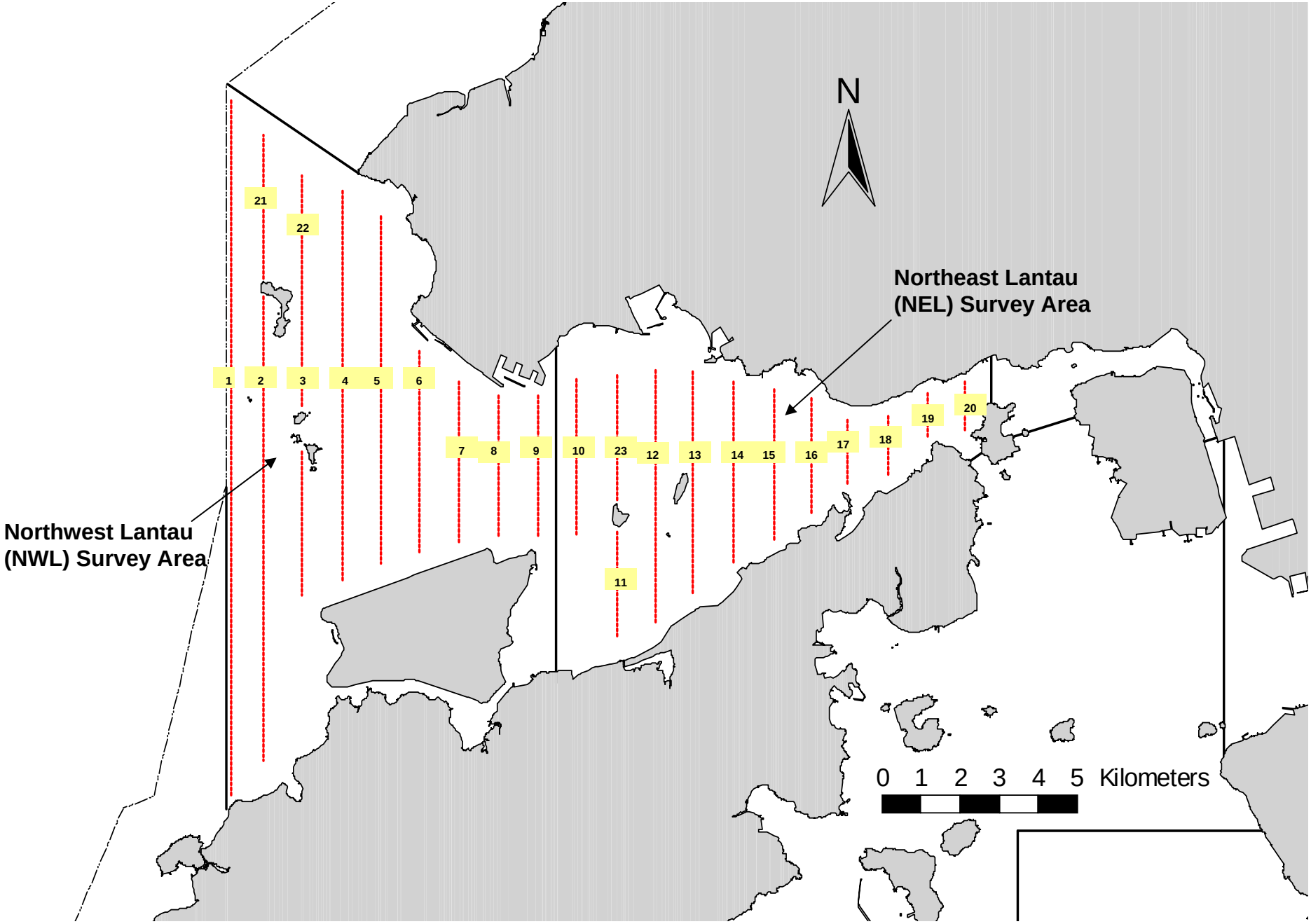


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

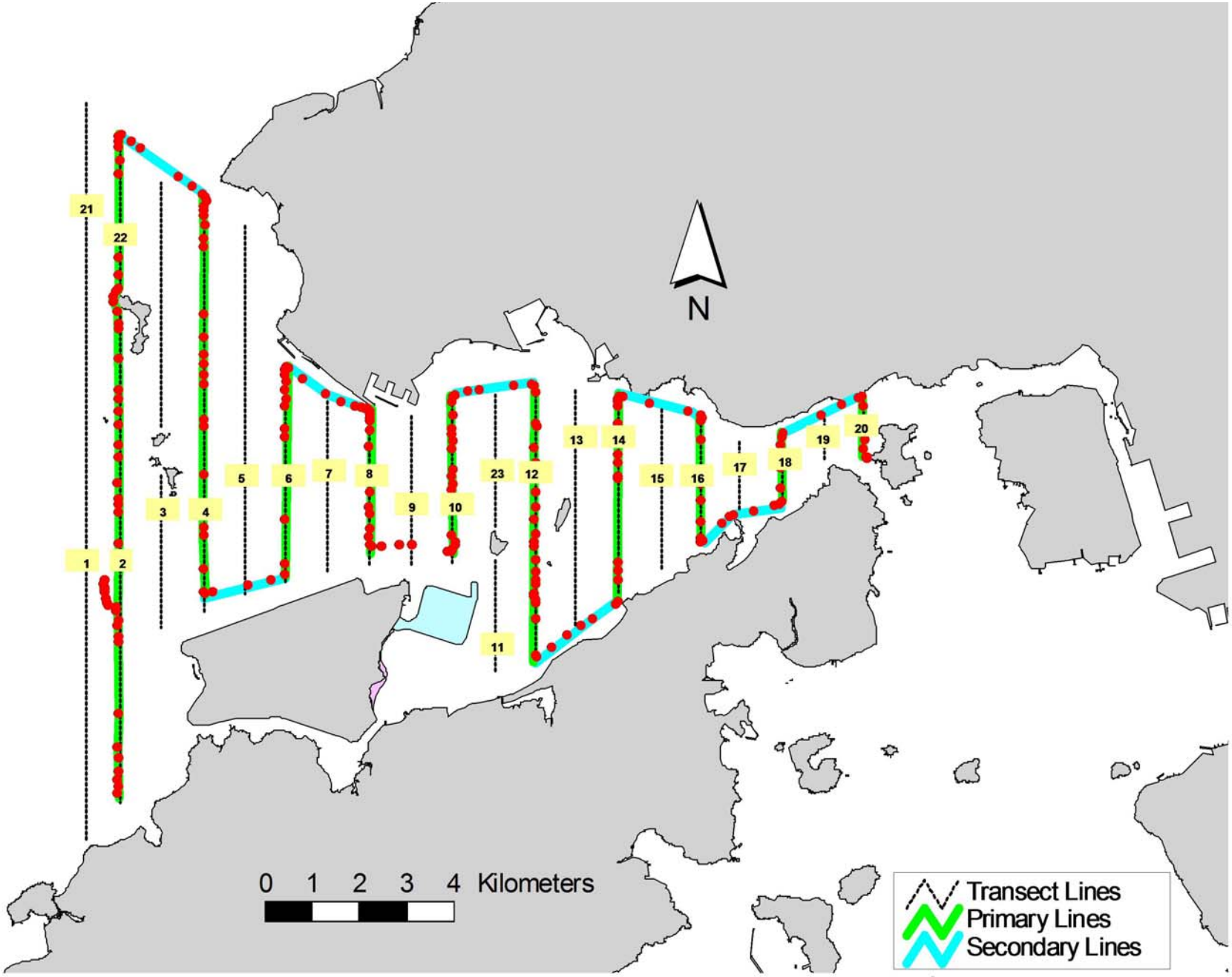


Figure 2. Survey Route on April 4th, 2014 (from HKLR03 project)

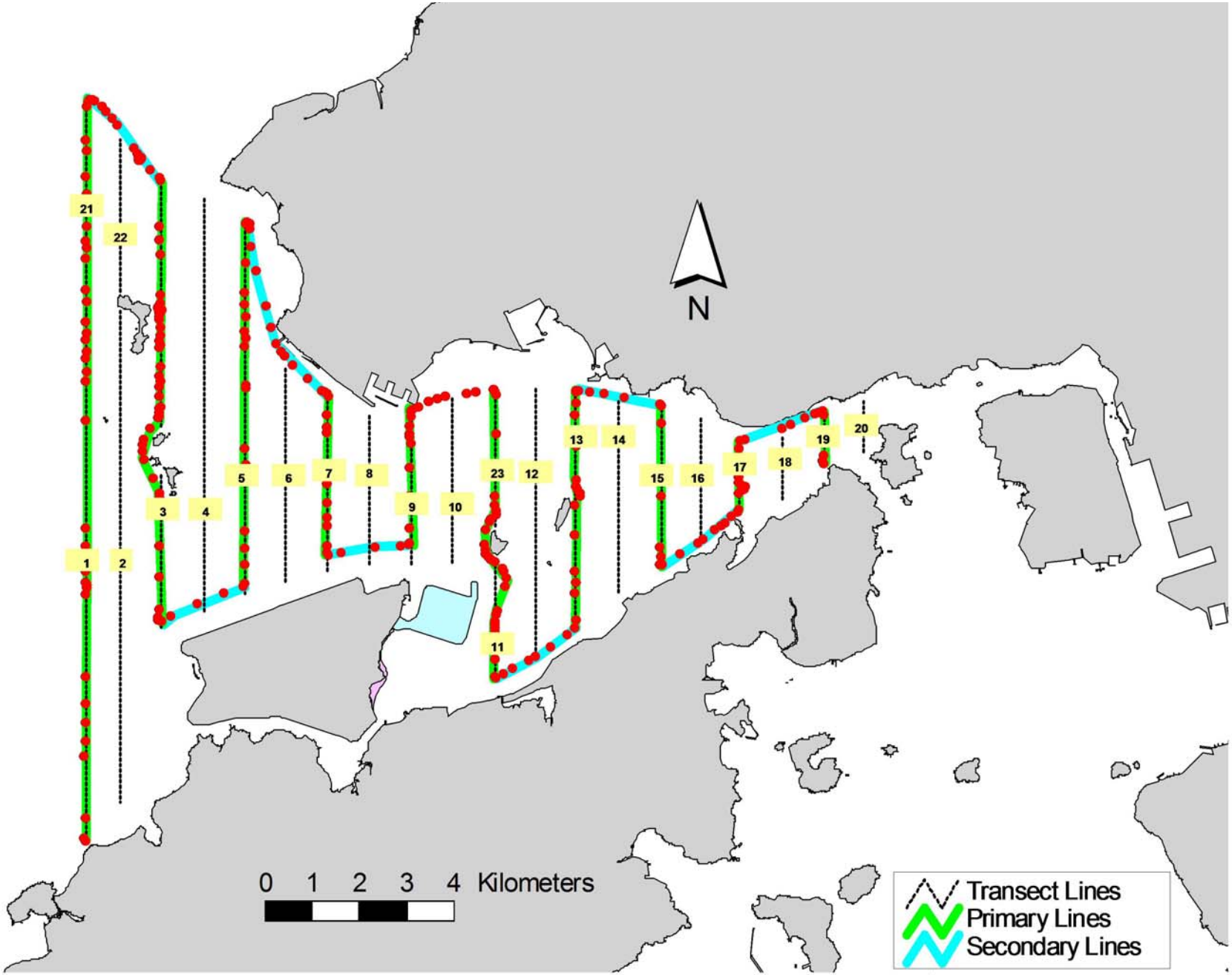


Figure 3. Survey Route on April 14th, 2014 (from HKLR03 project)

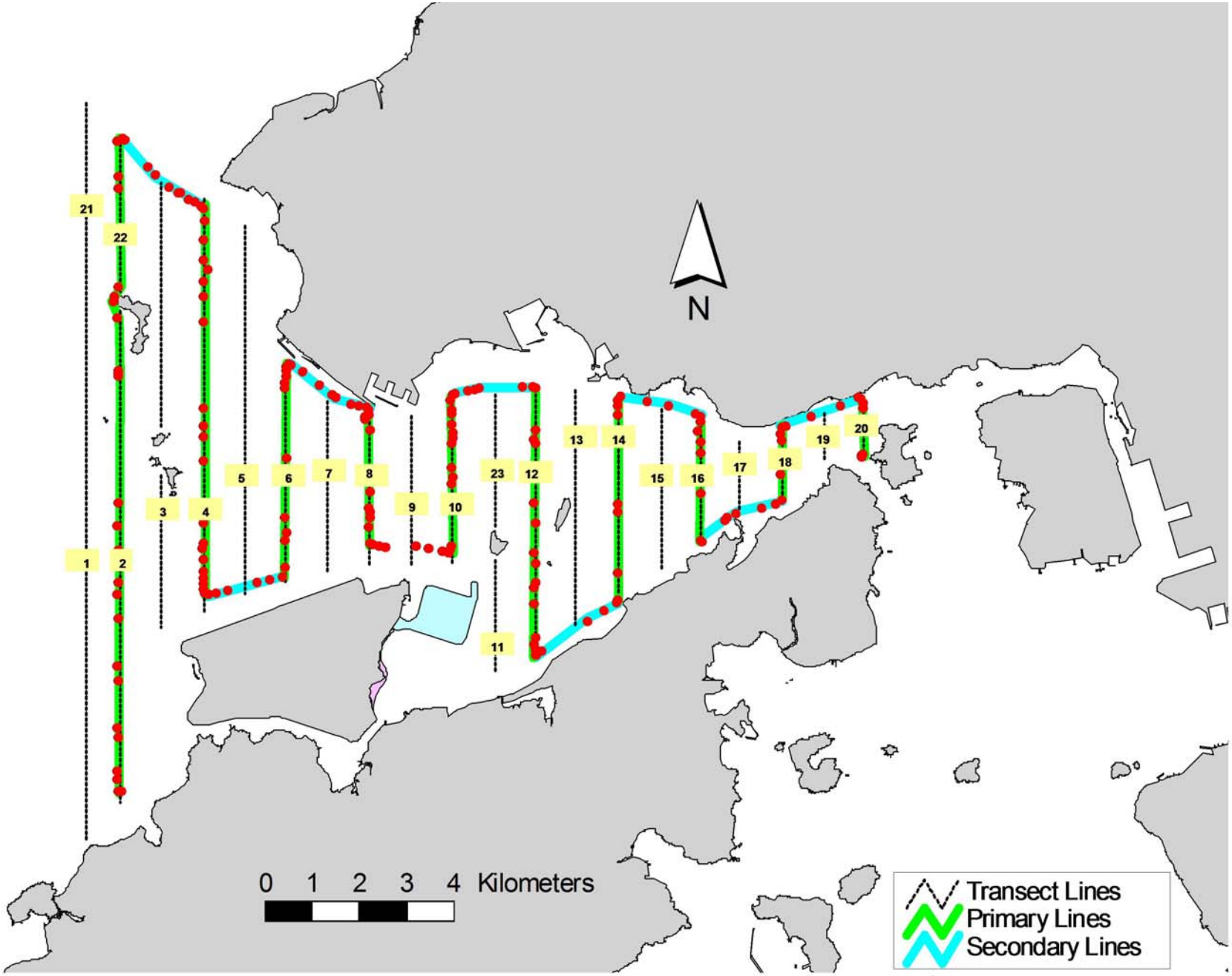


Figure 4. Survey Route on April 16th, 2014 (from HKLR03 project)

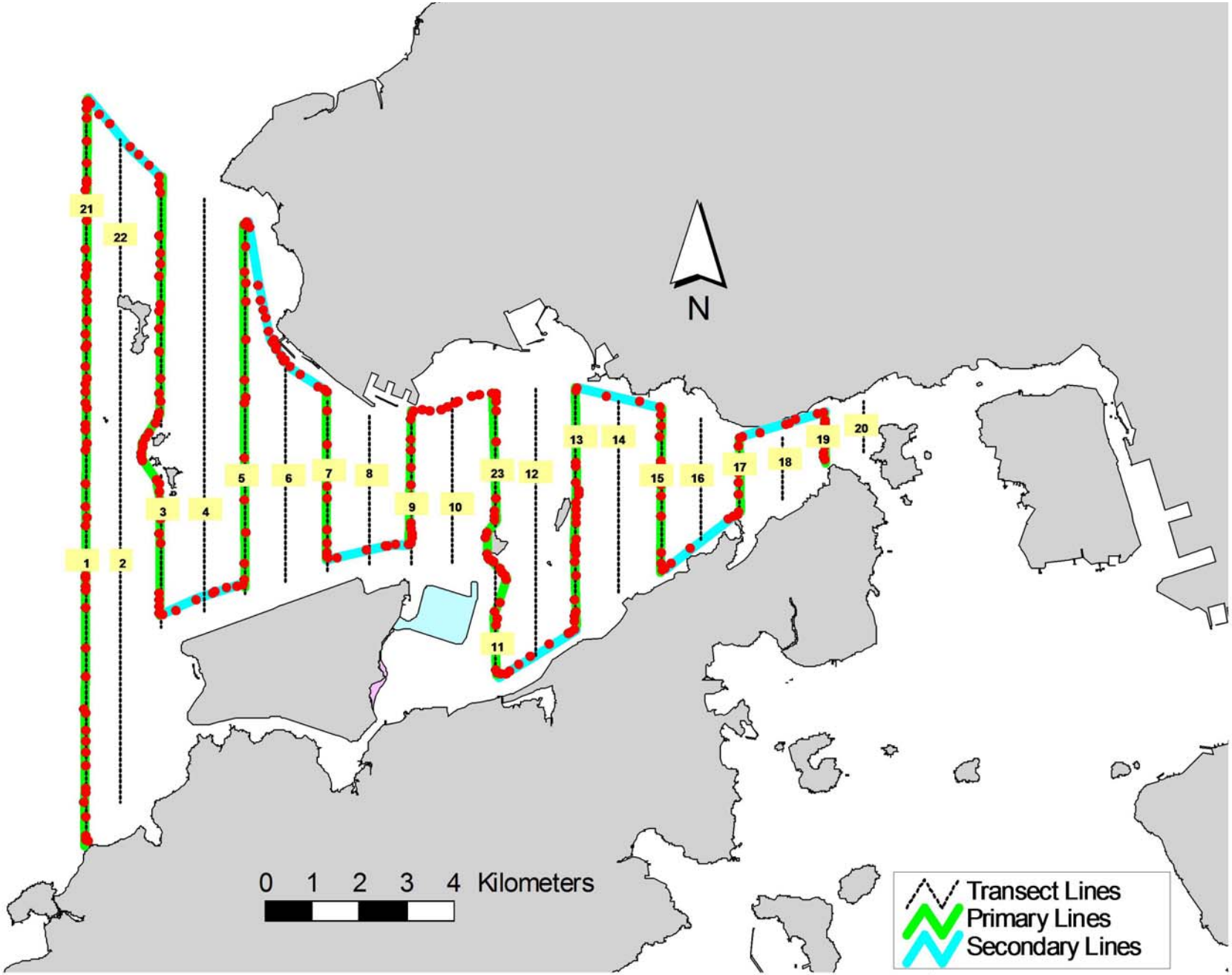


Figure 5. Survey Route on April 24th, 2014 (from HKLR03 project)

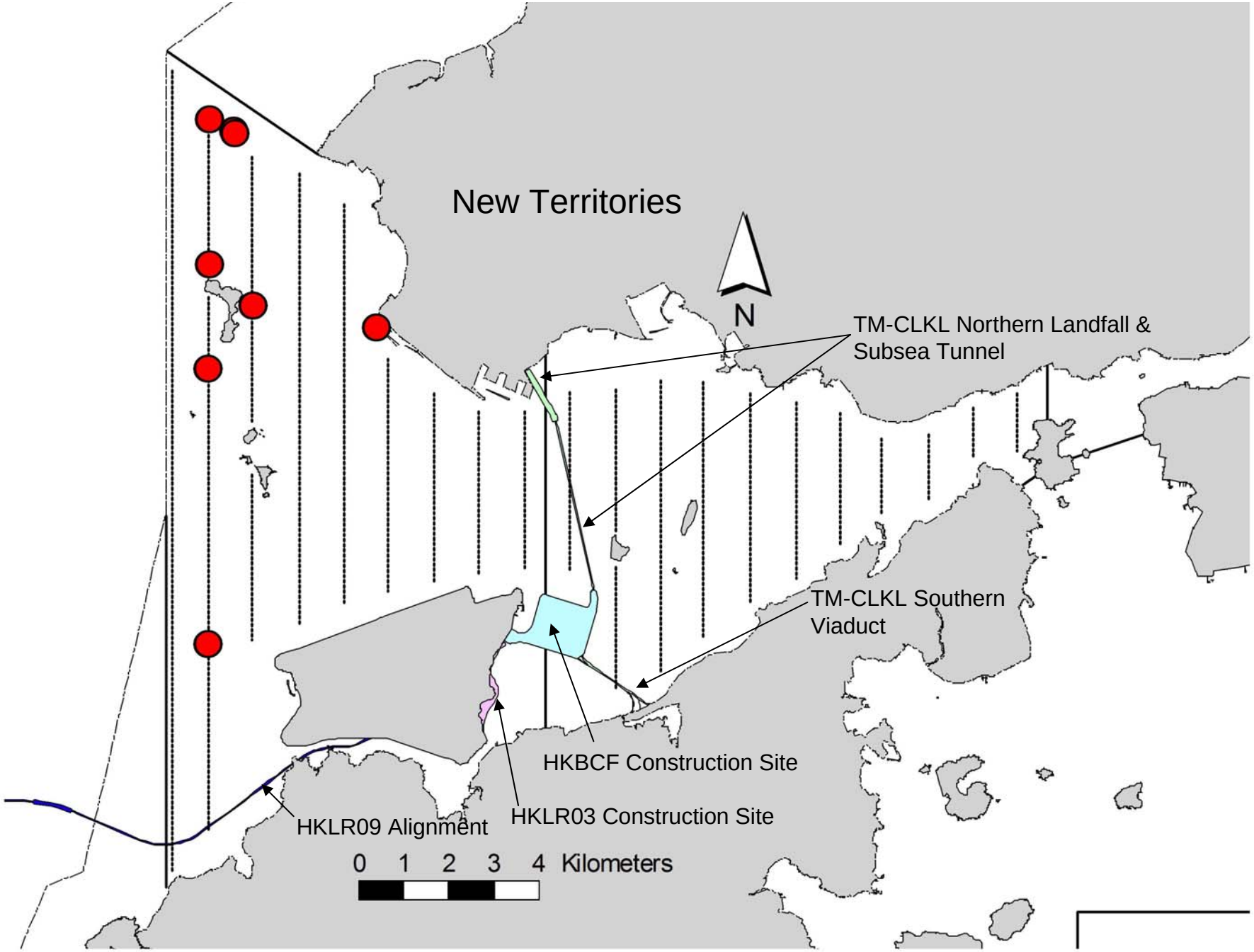


Figure 6. Distribution of Chinese White Dolphin Sightings During April 2014 HKLR03 Monitoring Surveys

Appendix I. HKLR03 Survey Effort Database (April 2014)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
4-Apr-14	NW LANTAU	1	1.41	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NW LANTAU	2	8.57	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NW LANTAU	3	14.93	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NW LANTAU	4	3.00	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NW LANTAU	2	3.16	SPRING	STANDARD31516	HKLR	S
4-Apr-14	NW LANTAU	3	3.00	SPRING	STANDARD31516	HKLR	S
4-Apr-14	NW LANTAU	4	1.00	SPRING	STANDARD31516	HKLR	S
4-Apr-14	NE LANTAU	2	0.80	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NE LANTAU	3	15.53	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NE LANTAU	4	4.16	SPRING	STANDARD31516	HKLR	P
4-Apr-14	NE LANTAU	2	2.20	SPRING	STANDARD31516	HKLR	S
4-Apr-14	NE LANTAU	3	8.51	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NE LANTAU	2	0.90	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NE LANTAU	3	9.61	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NE LANTAU	4	6.20	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NE LANTAU	2	1.80	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NE LANTAU	3	6.39	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NE LANTAU	4	2.90	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NW LANTAU	2	1.40	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NW LANTAU	3	14.62	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NW LANTAU	4	23.91	SPRING	STANDARD31516	HKLR	P
14-Apr-14	NW LANTAU	2	2.10	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NW LANTAU	3	7.86	SPRING	STANDARD31516	HKLR	S
14-Apr-14	NW LANTAU	4	2.99	SPRING	STANDARD31516	HKLR	S
16-Apr-14	NW LANTAU	2	4.27	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NW LANTAU	3	24.56	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NW LANTAU	4	2.91	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NW LANTAU	2	2.45	SPRING	STANDARD31516	HKLR	S
16-Apr-14	NW LANTAU	3	4.20	SPRING	STANDARD31516	HKLR	S
16-Apr-14	NE LANTAU	2	3.94	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NE LANTAU	3	15.37	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NE LANTAU	4	1.10	SPRING	STANDARD31516	HKLR	P
16-Apr-14	NE LANTAU	2	1.20	SPRING	STANDARD31516	HKLR	S
16-Apr-14	NE LANTAU	3	9.49	SPRING	STANDARD31516	HKLR	S
24-Apr-14	NW LANTAU	2	1.91	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NW LANTAU	3	29.94	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NW LANTAU	4	8.44	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NW LANTAU	2	0.80	SPRING	STANDARD31516	HKLR	S
24-Apr-14	NW LANTAU	3	9.72	SPRING	STANDARD31516	HKLR	S
24-Apr-14	NW LANTAU	4	2.20	SPRING	STANDARD31516	HKLR	S
24-Apr-14	NE LANTAU	2	5.03	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NE LANTAU	3	10.14	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NE LANTAU	4	1.31	SPRING	STANDARD31516	HKLR	P
24-Apr-14	NE LANTAU	2	7.37	SPRING	STANDARD31516	HKLR	S
24-Apr-14	NE LANTAU	3	3.65	SPRING	STANDARD31516	HKLR	S

Appendix II. HKLR03 Chinese White Dolphin Sighting Database (April 2014)

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

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
4-Apr-14	1	1021	3	NW LANTAU	3	43	ON	HKLR	819355	805442	SPRING	NONE	P
14-Apr-14	1	1438	8	NW LANTAU	3	94	ON	HKLR	826451	806445	SPRING	NONE	P
14-Apr-14	2	1517	2	NW LANTAU	4	273	ON	HKLR	830117	806010	SPRING	NONE	S
16-Apr-14	1	1048	4	NW LANTAU	2	541	ON	HKLR	825124	805454	SPRING	NONE	P
16-Apr-14	2	1113	1	NW LANTAU	2	385	ON	HKLR	827306	805458	SPRING	NONE	P
16-Apr-14	3	1137	2	NW LANTAU	2	17	ON	HKLR	830362	805465	SPRING	NONE	P
16-Apr-14	4	1150	9	NW LANTAU	2	49	ON	HKLR	830073	806051	SPRING	NONE	S
24-Apr-14	1	1328	1	NW LANTAU	3	123	ON	HKLR	825992	809184	SPRING	NONE	S

Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in April 2014

ID#	DATE	STG#	AREA
EL01	16/04/14	2	NW LANTAU
NL24	14/04/14	1	NW LANTAU
NL48	16/04/14	4	NW LANTAU
NL104	16/04/14	4	NW LANTAU
NL120	14/04/14	1	NW LANTAU
NL145	16/04/14	1	NW LANTAU
NL182	24/04/14	1	NW LANTAU
NL202	16/04/14	4	NW LANTAU
NL214	16/04/14	3	NW LANTAU
NL224	16/04/14	3	NW LANTAU
NL226	04/04/14	1	NW LANTAU
NL259	04/04/14	1	NW LANTAU
	16/04/14	4	NW LANTAU
NL261	16/04/14	4	NW LANTAU
NL262	16/04/14	4	NW LANTAU
NL286	16/04/14	4	NW LANTAU
NL287	16/04/14	1	NW LANTAU
NL306	16/04/14	1	NW LANTAU
WL179	16/04/14	1	NW LANTAU

Appendix IV. Photographs of Identified Individual Dolphins in April 2014 (HKLR03)

Appendix IV. (cont'd)

Appendix IV. (cont'd)

Appendix L

Event Action Plan

Appendix L1 Event/ Action Plan for Air Quality

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

Appendix L2 Event/ Action Plan for Construction Noise

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

Appendix L3 Event/ Action Plan for Water Quality

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

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

Appendix L4 Implementation of Event-Action Plan for Dolphin Monitoring

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

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

Appendix L5 Event and Action Plan on Dolphin Acoustic Behaviour

EVENT	ACTION			
	ET Leader	**IEC**	**SO**	**Contractor**
Action Level With the numerical values presented in *Table 5.7*, 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 *Table5.8*), or when there is a difference of 20% in dolphin acoustic signal detection at nighttime period at Site C1 only, the action level should be triggered	1. Repeat statistical data analysis to confirm findings; 2. Review all available and relevant data to ascertain if differences are as a result of natural variation or seasonal differences; 3. Identify source(s) of impact; 4. Inform the IEC, SO and Contractor; 5. Check monitoring data; 6. Carry out audit to ensure all dolphin protective measures are implemented fully and additional measures be proposed if necessary	1. Check monitoring data submitted by ET and Contractor; 2. Discuss monitoring with the ET and the Contractor;	1. Discuss with the IEC the repeat monitoring and any other measures proposed by the ET; 2. Make agreement on measures to be implemented.	1. Inform the SO and confirm notification of the non- compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SO; 3. Implement the agreed measures.

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

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, SO – Supervising Office

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 2014 (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	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	0.138	0.011	0.108	-	0.030	-	-	-	-	-	22.380	-	10.240	-	-
Feb	4.809	0.010	0.124	-	0.010	4.674	-	-	-	-	10.670	-	0.780	-	-
Mar	3.279	0.009	0.960	-	0.221	2.098	-	-	-	0.275	12.390	-	46.050	-	-
Apr	0.710	0.000	0.080	-	0.118	0.512	-	-	-	-	87.650	-	15.760	-	-
May															
Jun															
SUB-TOTAL	**8.937**	**0.030**	**1.272**	**-**	**0.380**	**7.285**	**-**	**-**	**-**	**0.275**	**133.090**	**-**	**72.830**	**-**	**-**
Jul															
Aug															
Sep															
Oct															
Nov															
Dec															
TOTAL	**8.937**	**0.030**	**1.272**	**-**	**0.380**	**7.285**	**-**	**-**	**-**	**0.275**	**133.090**	**-**	**72.830**	**-**	**-**

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.

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	1
	Limit	0	0
Impact Dolphin Monitoring	Action	0	1
	Limit	0	0

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 (Apr 2014)	0	0	0
Total No. received since project commencement	1	0	0