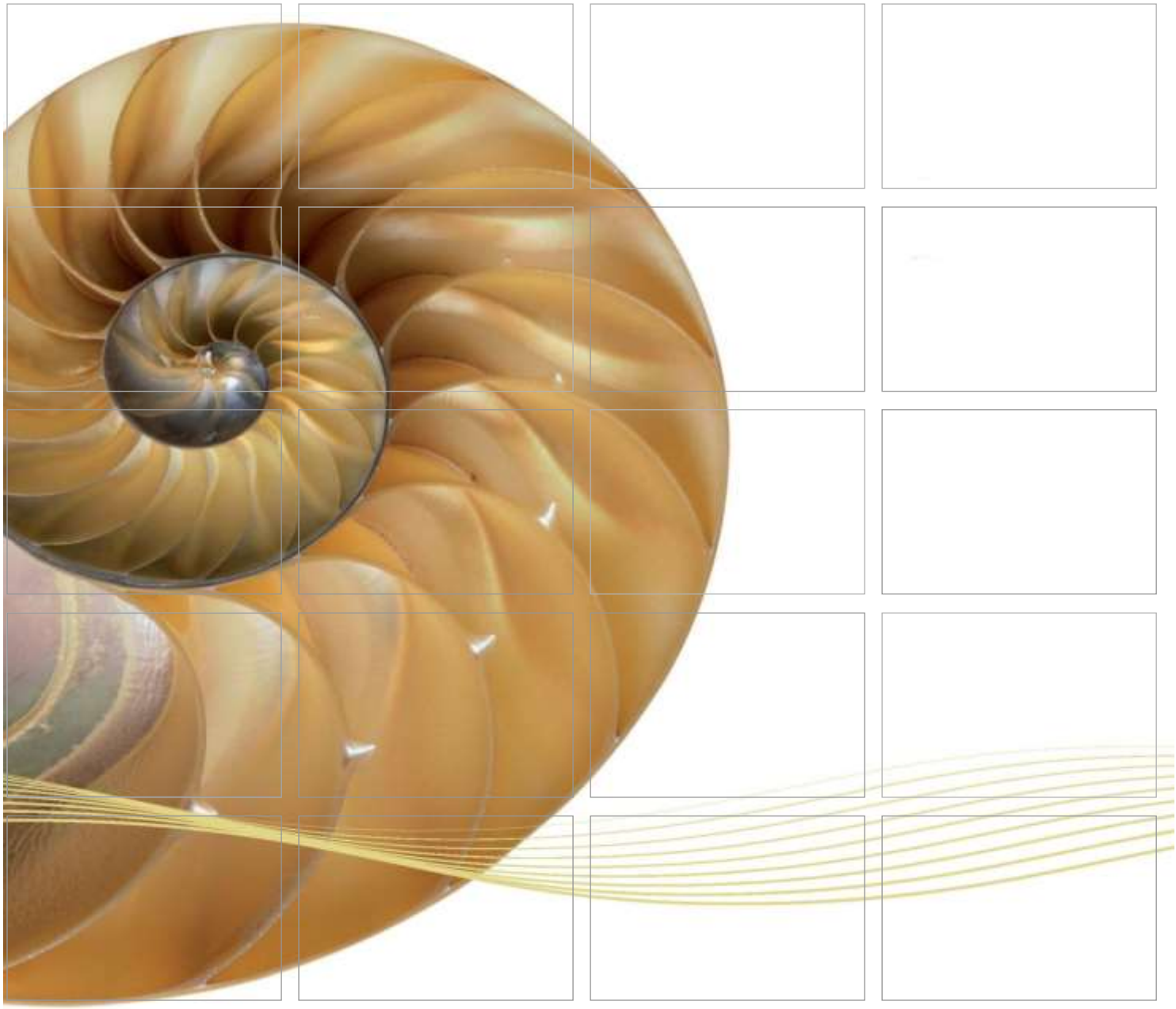
Report



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

Eighth Quarterly Environmental Monitoring & Audit (EM&A) Report

29 March 2016

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

www.erm.com

ERM

The world's leading sustainability consultancy

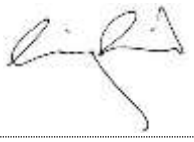
Contract No. HY/2012/07
Tuen Mun – Chek Lap Kok Link – Southern Connection Viaduct Section

Eighth Quarterly Environmental Monitoring & Audit (EM&A) Report

Document Code:
0215660_8th Qtr EM&A 20160329.doc

Environmental Resources Management

16/F, Berkshire House
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

Client:	Project No:
Gammon	0215660
Summary: This document presents the Eighth Quarterly EM&A Report for Tuen Mun – Chek Lap Kok Link Southern Connection Viaduct Section.	Date: 29 March 2016 Approved by:  *Mr Craig Reid* *Partner* Certified by:  *Mr Jovy Tam* *ET Leader*

Revision	Description	By	Checked	Approved	Date
	8th Quarterly EM&A Report	VAR	JT	CAR	29/03/16

Distribution

☐ Internal

☒ Public

☐ Confidential

RAMBOLL ENVIRON

Ref.: HYDHZMBEEM00_0_4024L.16 30 March 2016

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

Attention: Mr. Daniel Ip

Dear Mr. Ip,

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

Contract No. HY/2012/07 TM-CLKL Southern Connection Viaduct Section
8th Quarterly EM&A Report for Sep to Nov 2015 (EP-354/2009/D)

Reference is made to the Eighth Quarterly Environmental Monitoring and Audit (EM&A) Report (Sep. to Nov. 2015) (ET's ref.: "0215660_8th Qtr EM&A 20160329.doc" dated 29 Mar. 2016) certified by the ET Leader and provided to us via e-mail on 29 Mar. 2016.

Please be informed that we have no adverse comments on the captioned quarterly EM&A report.

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

Yours sincerely,

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

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

Internal: DY, YH, CL, ENPO Site

Q:\Projects\HYDHZMBEEM00\02_Proj_Mgt\02_Corr\HYDHZMBEEM00_0_4024L.16.docx

Ramboll Environ Hong Kong Limited 英環香港有限公司
Room 2403, 24/F., Jubilee Centre, 18 Fenwick Street, Wanchai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.Ramboll-Environ.com

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	*I*
1	*INTRODUCTION*	*1*
1.1	*BACKGROUND*	*1*
1.2	*SCOPE OF REPORT*	*2*
1.3	*ORGANIZATION STRUCTURE*	*2*
1.4	*SUMMARY OF CONSTRUCTION WORKS*	*3*
1.5	*SUMMARY OF EM&A PROGRAMME REQUIREMENTS*	*6*
2	*EM&A RESULTS*	*7*
2.1	*AIR QUALITY*	*7*
2.2	*NOISE MONITORING*	*10*
2.3	*WATER QUALITY MONITORING*	*13*
2.4	*DOLPHIN MONITORING*	*15*
2.5	*EM&A SITE INSPECTION*	*19*
2.6	*WASTE MANAGEMENT STATUS*	*22*
2.7	*ENVIRONMENTAL LICENSES AND PERMITS*	*22*
2.8	*IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*	*26*
2.9	*SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT*	*26*
2.10	*SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS*	*27*
3	*FUTURE KEY ISSUES*	*28*
3.1	*CONSTRUCTION ACTIVITIES FOR THE COMING QUARTER*	*28*
3.2	*KEY ISSUES FOR THE COMING QUARTER*	*29*
3.3	*MONITORING SCHEDULE FOR THE COMING QUARTER*	*29*
4	*CONCLUSIONS AND RECOMMENDATIONS*	*30*
4.1	*CONCLUSIONS*	*30*

List of Appendices

Appendix A	Project Organization for Environmental Works
Appendix B	Three Month Rolling Construction Programmes
Appendix C	Implementation Schedule of Environmental Mitigation Measures (EMIS)
Appendix D	Summary of Action and Limit Levels
Appendix E	EM&A Monitoring Schedules
Appendix F	Impact Air Quality Monitoring Results and Graphical Presentation
Appendix G	Impact Noise Monitoring Results and Graphical Presentation
Appendix H	Impact Water Quality Monitoring Results and Graphical Presentation
Appendix I	Impact Dolphin Monitoring Survey Results
Appendix J	Event Action Plan
Appendix K	Quarterly Summary of Waste Flow Table
Appendix L	Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

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

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

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

This is the eighth quarterly EM&A report presenting the EM&A works carried out during the period from 1 September to 30 November 2015 for the Southern Connection Viaduct Section in accordance with the Updated EM&A Manual of the TM-CLK Link Project. As informed by the Contractor, major activities in the reporting period included:

<u>September 2015</u>

Marine Works

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

Land-based Works

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

October 2015

Marine Works

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

Land-based Works

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

November 2015

Marine Works

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

Land-based Works

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Installation of pier head segment;

- Additional land GI, trial pits & lab testing;
- Relocation of MTRC fence; and,
- Slope work of Viaducts A, B & C.

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

24-hour TSP monitoring	17 sessions
1-hour TSP monitoring	17 sessions
Noise monitoring	17 sessions
Water quality monitoring	38 sessions
Dolphin monitoring	6 sessions
Joint Environmental site inspection	13 sessions

Breaches of Action and Limit Levels for Air Quality
No exceedance of Action and Limit Levels was recorded for air quality monitoring in the reporting period.

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

Breaches of Action and Limit Levels for Water Quality

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

Impact Dolphin Monitoring

Two (2) Action Level exceedances were observed for the quarterly dolphin monitoring data between September and November 2015, no unacceptable impact from the construction activities of the TM-CLKL Southern Connection Viaduct Section on Chinese White Dolphins was noticeable from general observations during the dolphin monitoring in this reporting quarter. The exceedances are considered unlikely due to the works of this Project upon further investigation.

Daily marine mammal exclusion zone monitoring was undertaken during the period of marine works under this Contract. No Passive Acoustic Monitoring (PAM) was implemented as the marine piling works were not carried out outside the daylight hours in this reporting period. No sighting of the Indo-Pacific humpback dolphin *Sousa chinensis* (i.e. Chinese White Dolphin) was recorded in the monitoring period during the exclusion zone monitoring.

Environmental Complaints, Non-compliance & Summons

One (1) complaint with regard to potential noise nuisance from night time works was received on 8 October 2015.

Reporting Change

There was no reporting change in this reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the coming quarter include the following:

December 2015

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

January 2016

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

February 2016

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the coming quarterly period are mainly associated with air quality, noise, marine water quality, marine ecology and waste management issue.

1 INTRODUCTION

1.1 BACKGROUND

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

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. *ESB-175/2007*) and the *Technical Memorandum of the Environmental Impact Assessment Process* (*EIAO-TM*). The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number: *AEIAR-146/2009*), an Environmental Permit (*EP-354/2009*) for TM-CLKL was granted by the Director of Environmental Protection (DEP) on 4 November 2009, and EP variation (*EP-354/2009A*) was issued on 8 December 2010. Further applications for variation of environmental permit (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

Under *Contract No. HY/2012/07*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Southern Connection Viaduct Section of TM-CLKL ("the Contract") while AECOM Asia Company Limited was appointed by HyD as the Supervising Officer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Environ Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) in accordance with *Environmental Permit No. EP-354/2009/A*.

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

reclamation area for southern landfall was subsequently handed-over to *Contract No. HY/2012/07*.

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

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

1.2 SCOPE OF REPORT

This is the Eighth Quarterly 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 from 1 September to 30 November 2015.

1.3 ORGANIZATION STRUCTURE

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

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
SOR (AECOM Asia Company Limited)	Chief Resident Engineer	Daniel Ip	3553 3800	2492 2057
	Resident Engineer	Kingman Chan	3691 2950	3691 2899
ENPO / IEC (Ramboll Environ Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3547 2133	3465 2899
	IEC	Dr. F.C. Tsang	3547 2134	3465 2899
Contractor (Gammon Construction Limited)	Environmental Manager	Brian Kam	3520 0387	3520 0486
	Environmental Officer	Roy Leung	3520 0387	3520 0486
	24-hour Complaint Hotline		9738 4332	
ET (ERM-HK)	ET Leader	Jovy Tam	2271 3113	2723 5660

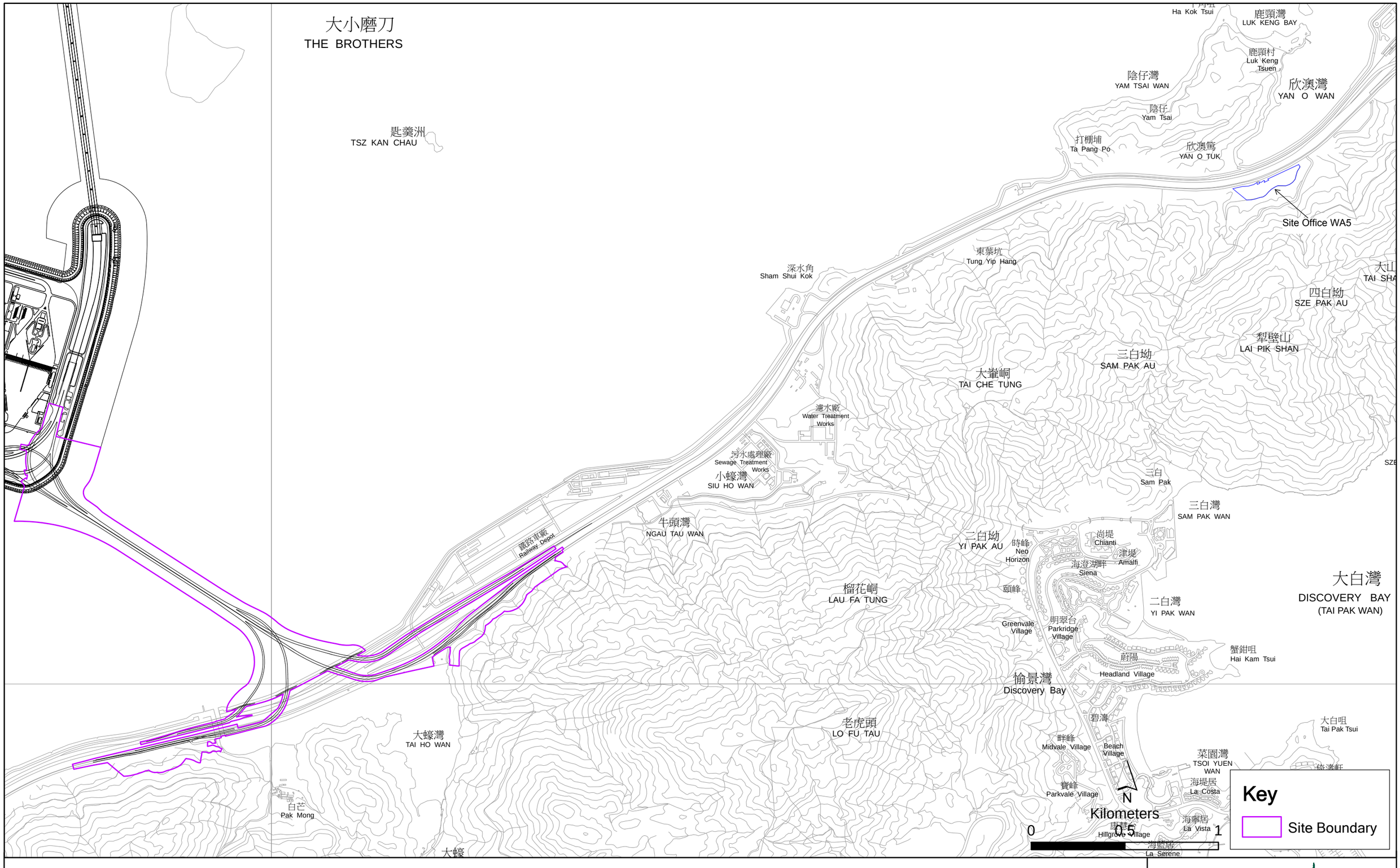


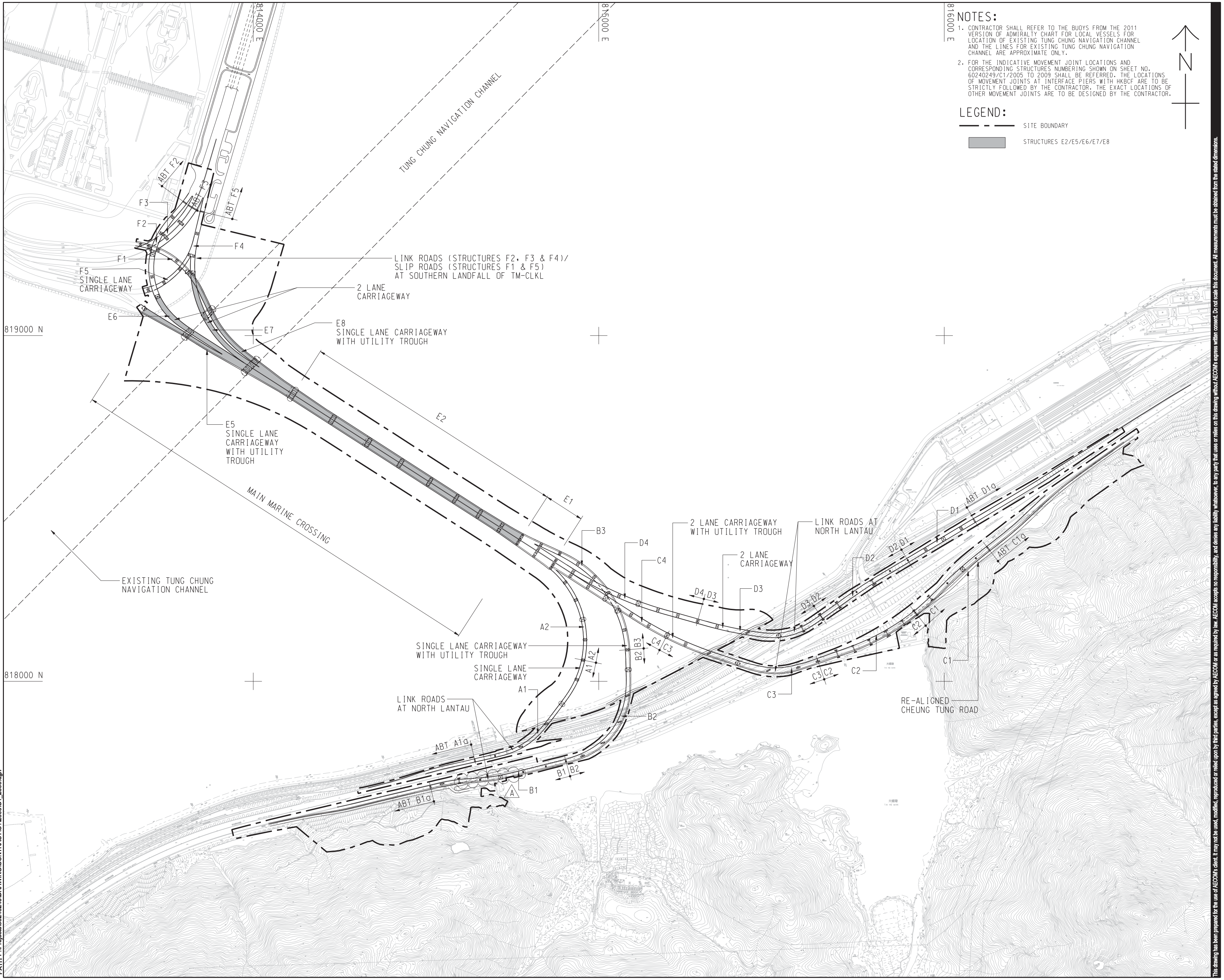
Figure 1.1

General Layout Plan of the Project

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_General_layout_plan.mxd
Date: 6/8/2014

Environmental Resources Management

ERM



NOTES:

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

LEGEND:

SITE BOUNDARY

STRUCTURES E2/E5/E6/E7/E8

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

Plot File by: HUANGC2 Nov-07-2012
PATH P:\Projects\60240249\DRAWING\CONTRACT\C1\2000\C1_2000.dgn

AECOM

PROJECT 項目

TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

Figure 1.2a

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例: A1 1 : 5000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60240249

CONTRACT NO. 合約編號: HY/2012/07

SHEET TITLE 圖紙名稱

SOUTHERN CONNECTION GENERAL LAYOUT PLAN

SHEET NUMBER 圖紙編號

60240249/C1/2000A

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				

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

Client: 路政署 HIGHWAYS DEPARTMENT, Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

Supervising Officer: AECOM

Contractor: Gammon

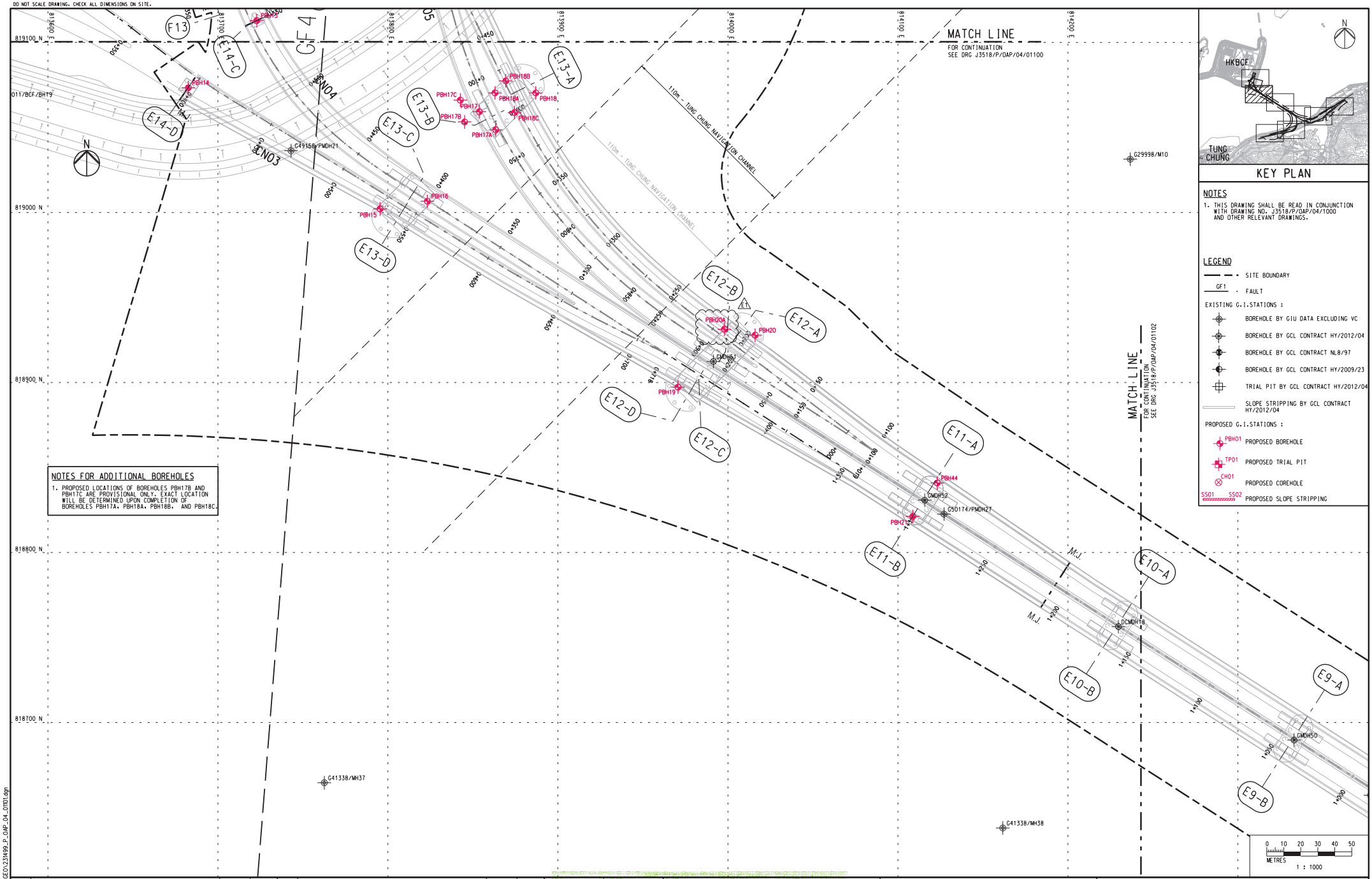
Originator: ARUP

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

Drawing title: **Figure 1.2b**

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

Printed by : 12/9/2013
File name : J3518/P/OAP/RECORD/20130912/Ground Investigation Plan/CAD/231498_P_OAP_04_01100.dgn



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				

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

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

Supervising Officer: AECOM

Contractor: Gammon

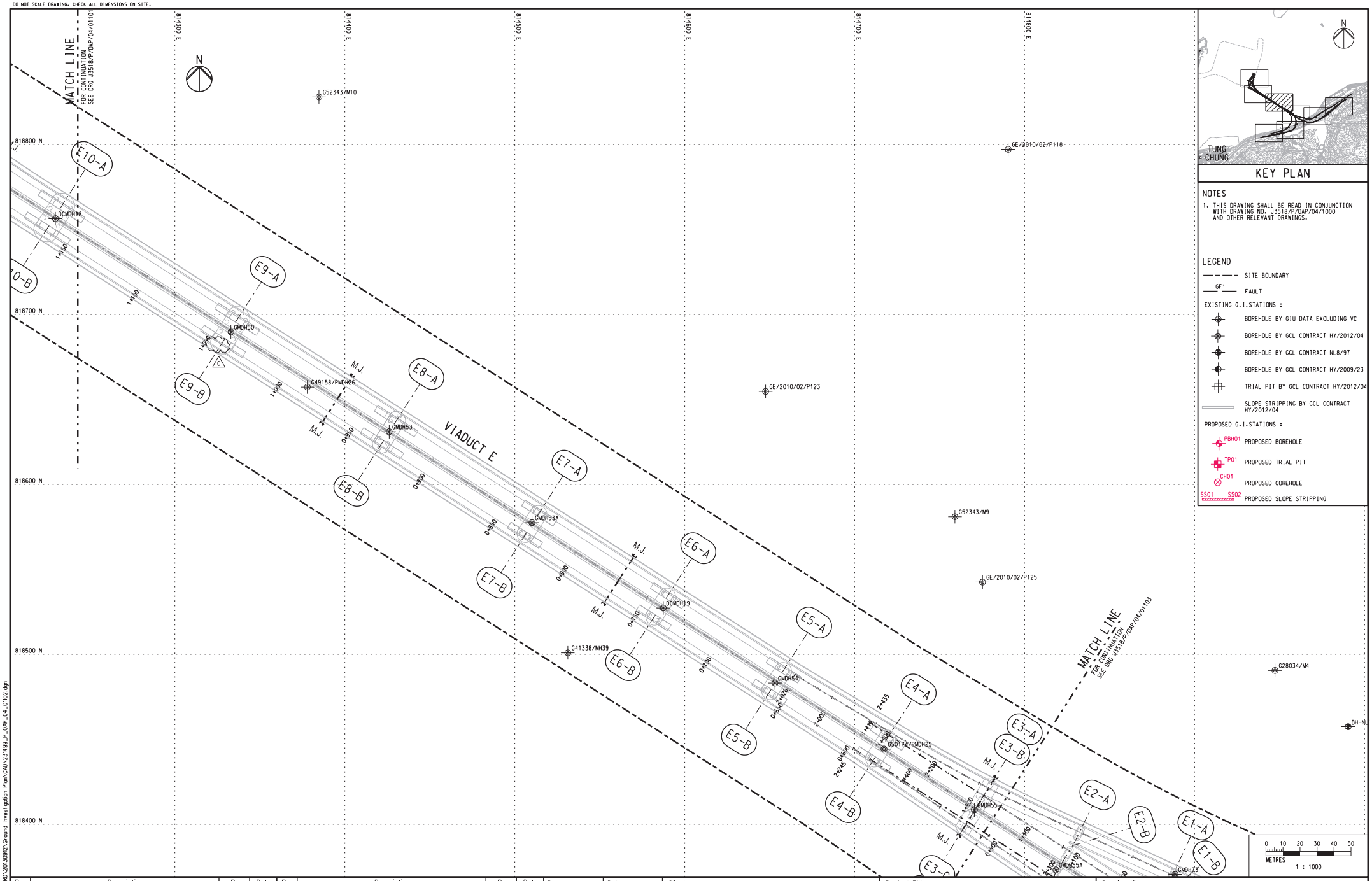
Originator: ARUP

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

Drawing title: **Figure 1.2c**

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

Printed by : 05.11.13
Filename : J:\231499\ARUP\CED\231499_P_OAP_04_01101.dgn



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

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

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

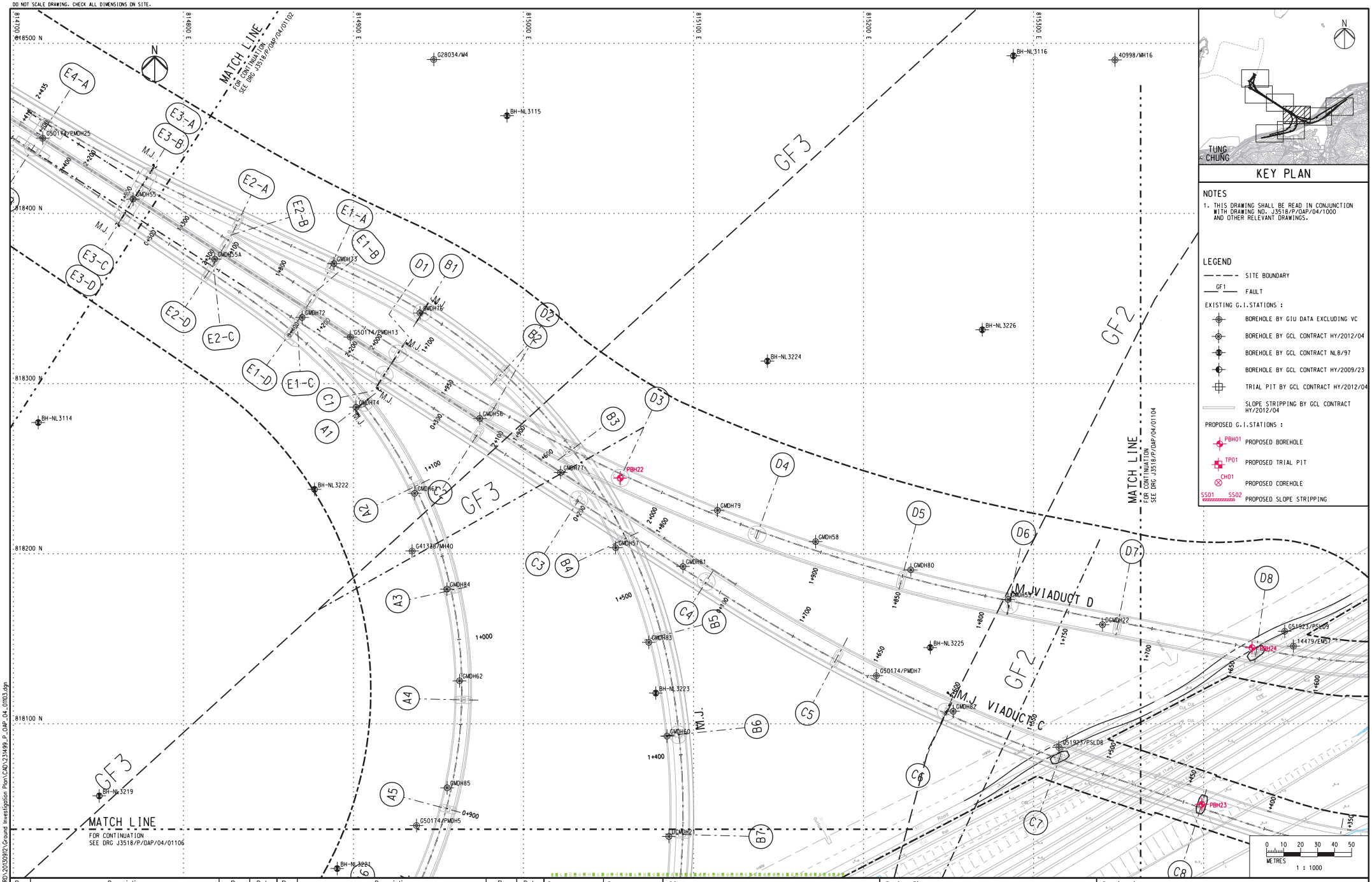
Project Title: Contract No. HY/2012/07
Tuen Mun - Chek Lap Kok Link
Southern Connection Viaduct Section

Supervising Officer: AECOM
Contractor: Gammon
Originator: ARUP

Drawing title: **Figure 1.2d**

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

Printed by : 12/9/2013
File name : J3518/P/OAP/RECORD/20130912/Ground Investigation Plan/CAD/231499_P_OAP_04_0102.dgn



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

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

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

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

Supervising Officer: AECOM

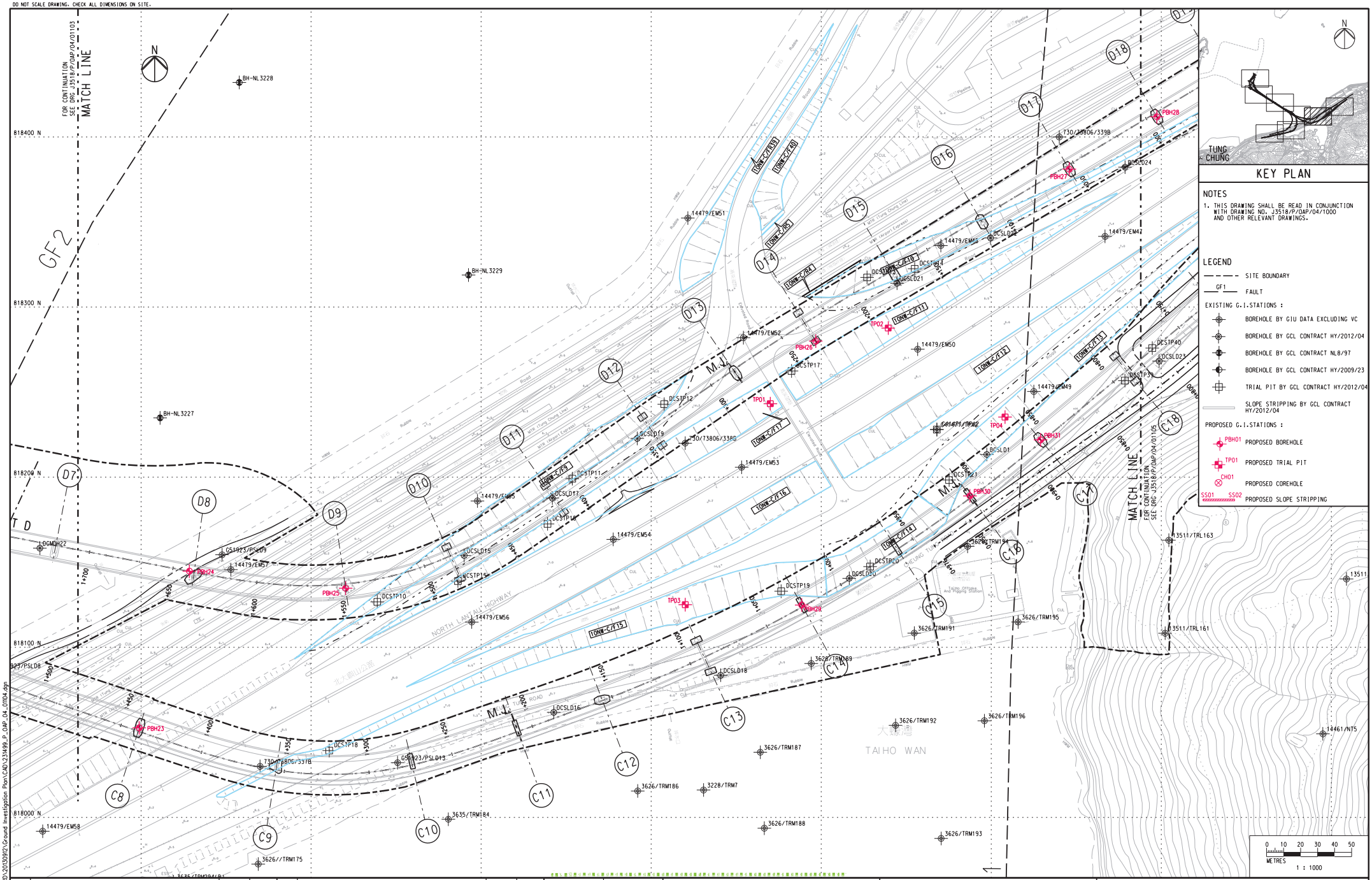
Contractor: Gammon

Originator: ARUP

Drawing title: **Figure 1.2e**

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

Printed by : 13/9/2013
File name : J3518/P/OAP/04/01103.dgn



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
File name : J3518P3_CAD\231499_P_OAP_04_01104.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

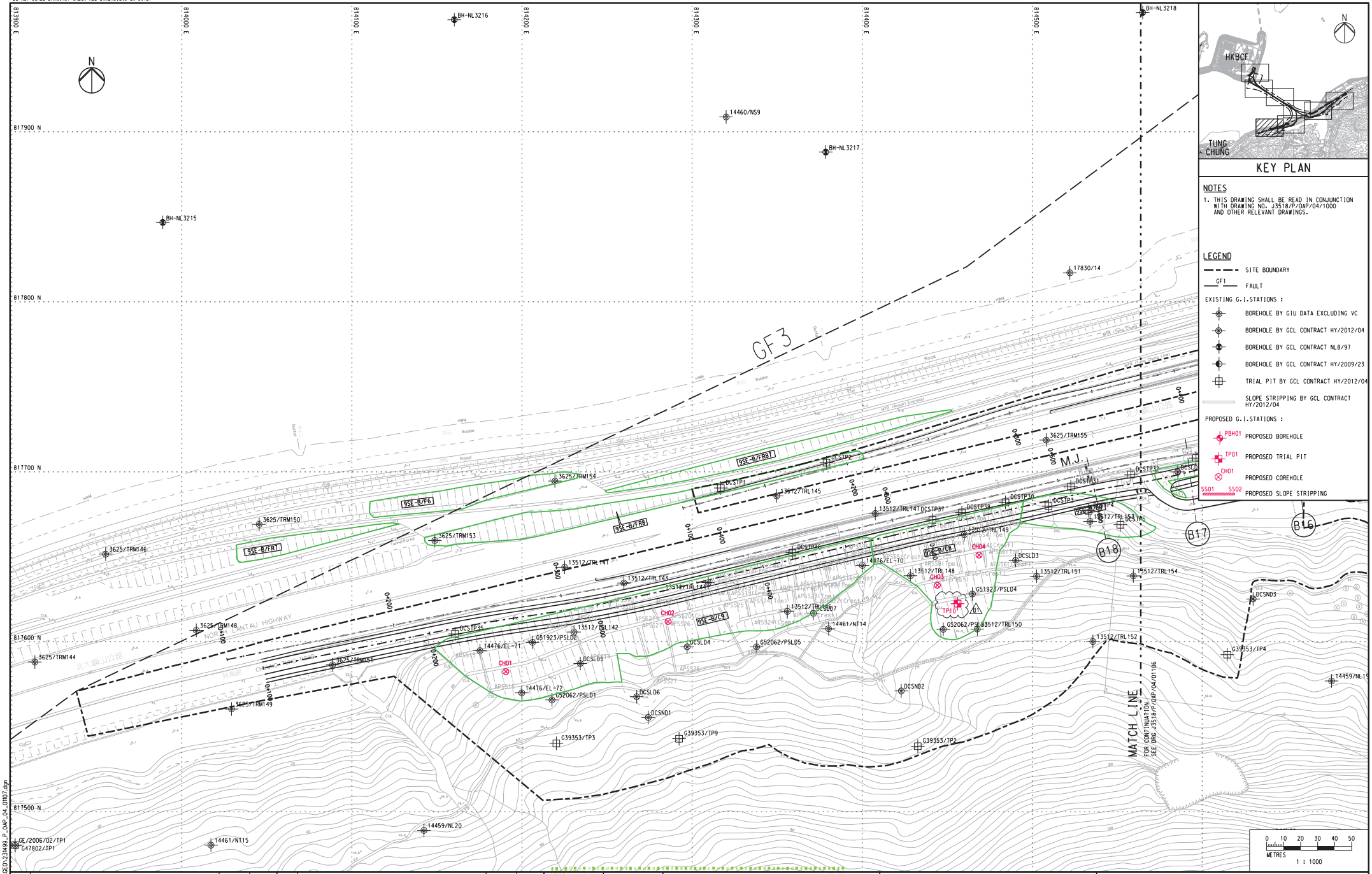
Contractor: Gammon

Originator: ARUP

Drawing title: **Figure 1.2f**

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

0 10 20 30 40 50 METRES

1 : 1000

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

Drawn: RL — Date: 07/13

Checked: DS — Approved: DOP

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

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

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

Supervising Officer: AECOM

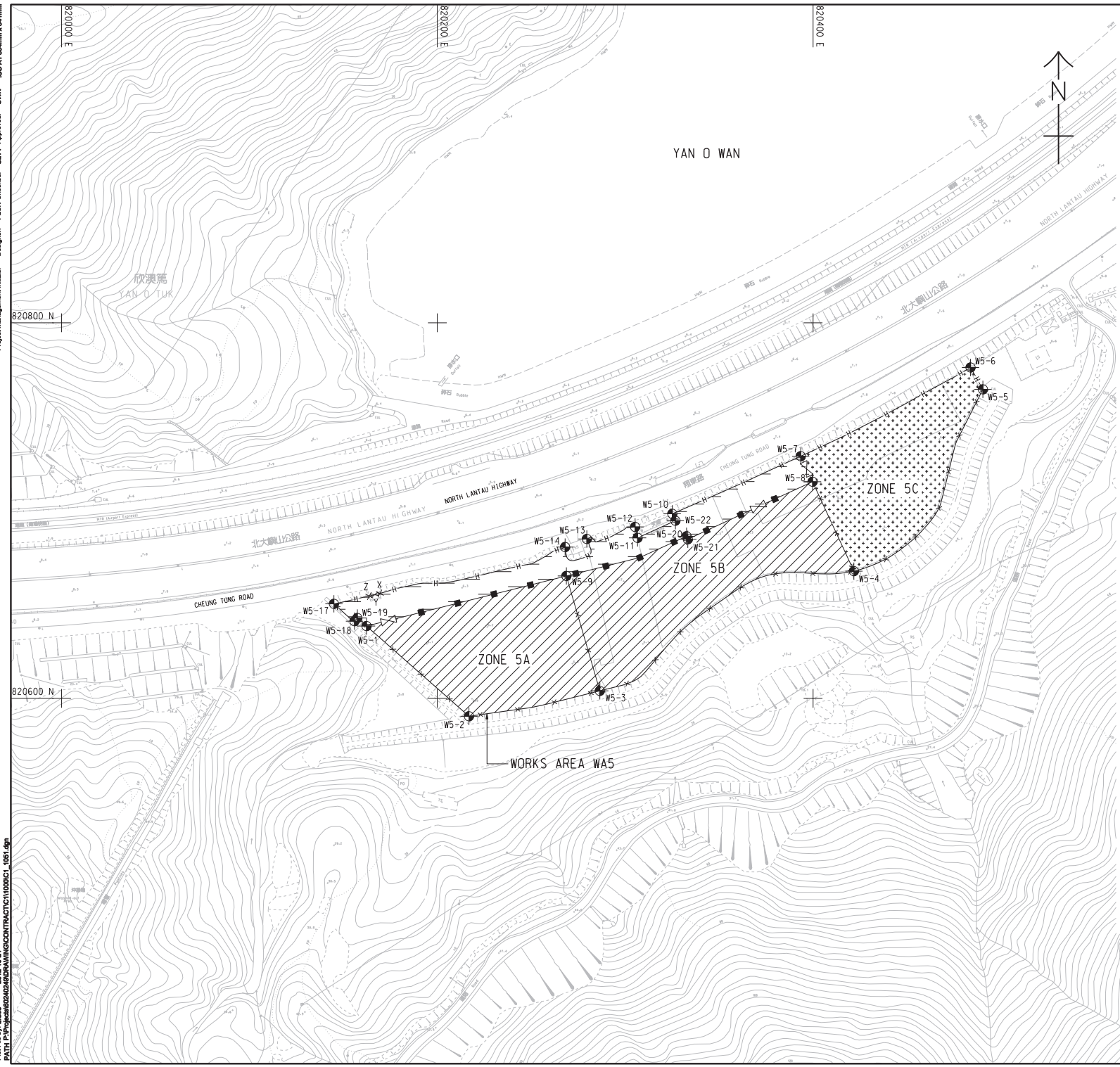
Contractor: Gammon

Originator: ARUP

Drawing title: **Figure 1.2g**

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

Printed by : 07/11/2013
File name : J3518/P/OAP/ARUP/GEO/231499_P_OAP_04_01107.dgn



NOTES:

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

LEGEND:

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

SETTING OUT COORDINATES OF WORKS AREA WA5

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

AECOM

PROJECT
TUEN MUN - CHEK LAP KOK LINK

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

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

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

VR	DATE	DESCRIPTION	CHK.
-	OCT. 12	TENDER DRAWING	CWN

STATUS

SCALE: A1 1 : 1000
DIMENSION UNIT: METRES

KEY PLAN

Figure 1.2h

PROJECT NO.: 60240249
CONTRACT NO.: HY/2012/07

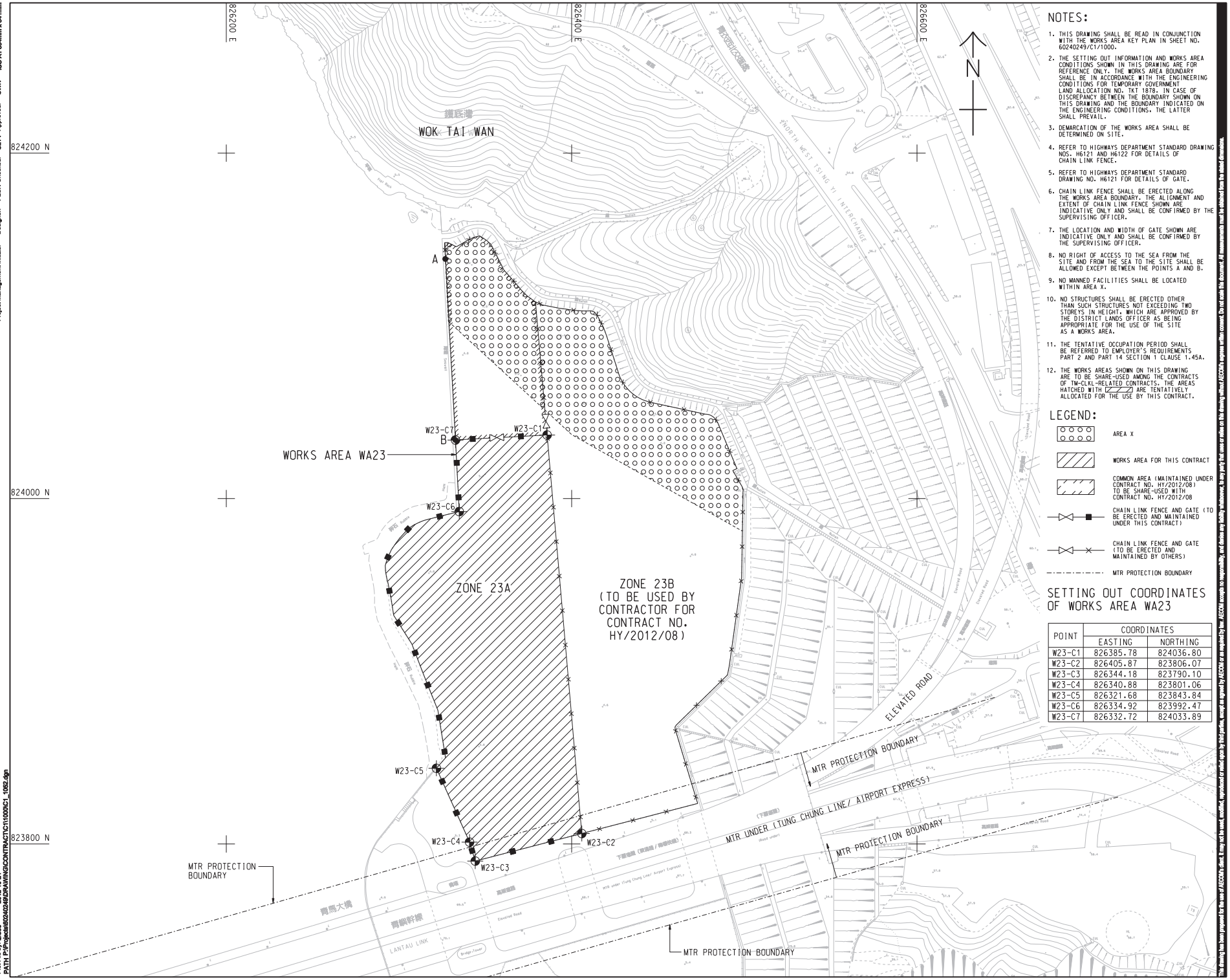
SHEET TITLE
WORKS AREA AND HOARDING PLAN

SHEET 1 OF 2

SHEET NUMBER
60240249/C1/1051

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

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



NOTES:

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

LEGEND:

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

SETTING OUT COORDINATES OF WORKS AREA WA23

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

AECOM

PROJECT
TUEN MUN - CHEK LAP KOK LINK

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

CLIENT
HIGHWAYS DEPARTMENT
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

VR	DATE	DESCRIPTION	CHK.
-	OCT. 12	TENDER DRAWING	CWN

STATUS

SCALE: A1 1 : 1000
DIMENSION UNIT: METRES

KEY PLAN

Figure 1.2i

PROJECT NO.: 60240249
CONTRACT NO.: HY/2012/07

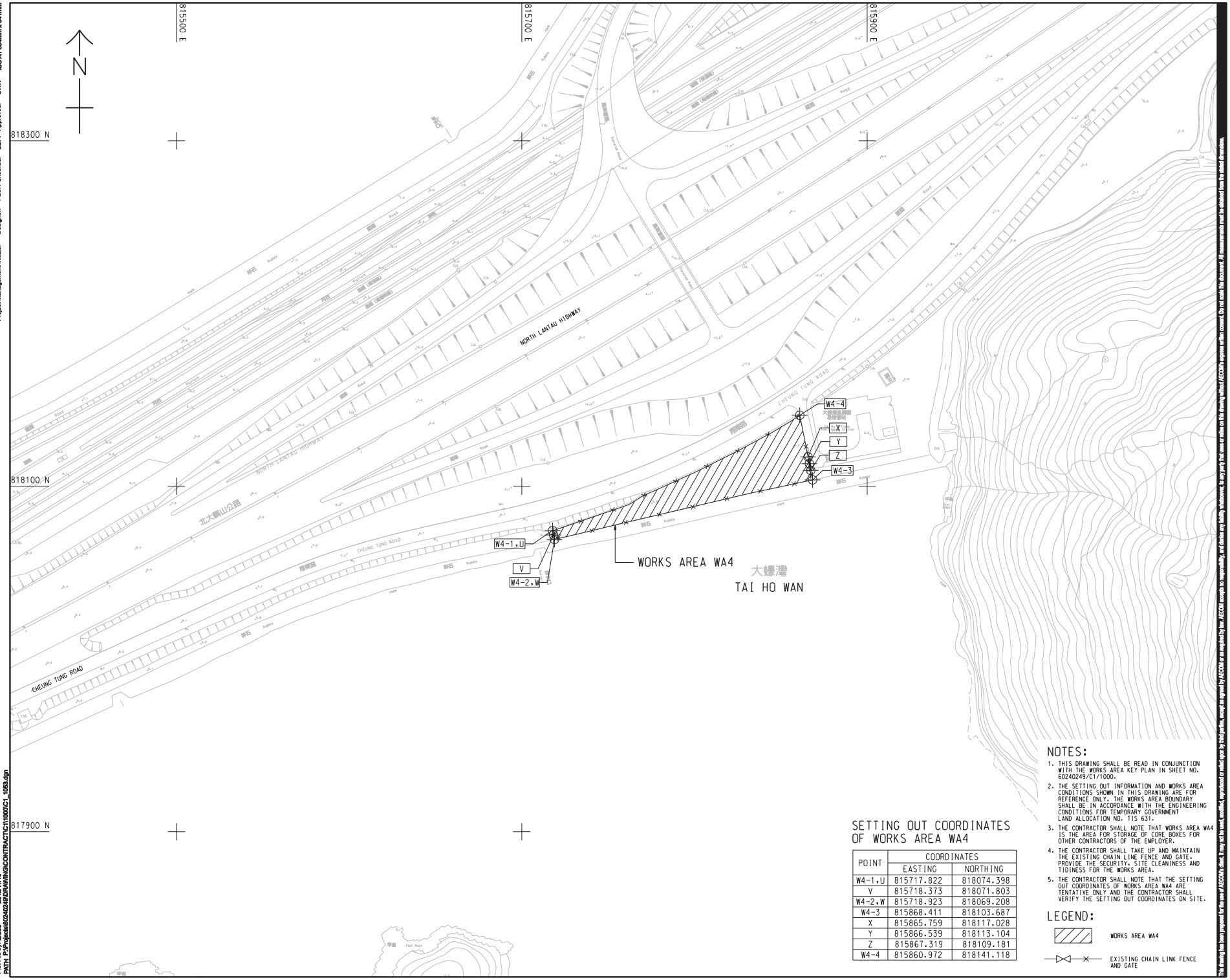
SHEET TITLE
WORKS AREA AND HOARDING PLAN

SHEET 2 OF 2

SHEET NUMBER
60240249/C1/1052

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_1052.dgn



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

SETTING OUT COORDINATES OF WORKS AREA WA4

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

NOTES:

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

LEGEND:

WORKS AREA WA4

EXISTING CHAIN LINK FENCE AND GATE

AECOM

PROJECT
TUEN MUN - CHEK LAP KOK LINK

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

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

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

Figure 1.2j

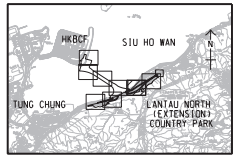
ISSUE/REVISION

VR	DATE	DESCRIPTION	CHK.
-	NOV. 12	TENDER ADDENDUM NO. 1	CWN

STATUS

SCALE: A1 1 : 1000
DIMENSION UNIT: METRES

KEY PLAN

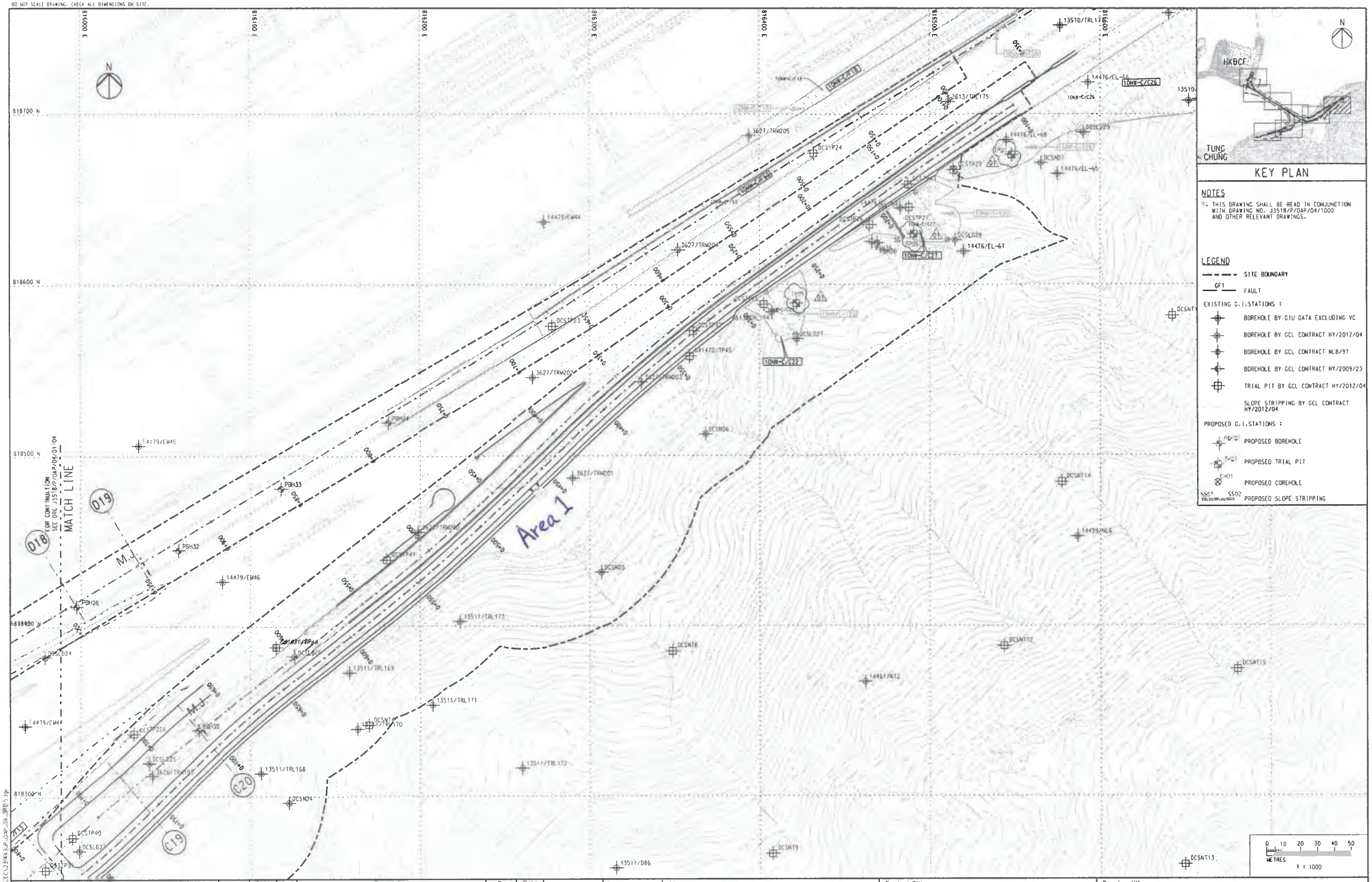


PROJECT NO.: 60240249
CONTRACT NO.: HY/2012/07

SHEET TITLE
WORKS AREA WA4

SHEET NUMBER
60240249/C1/1053

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



KEY PLAN

NOTES

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

LEGEND

- SITE BOUNDARY
- 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	[illegible]	RL	07/13				
B	[illegible]	RL	07/13				
C	[illegible]	RL	09/13				
D1	ETA INTERNAL REVIEW	RL	10/13				

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

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

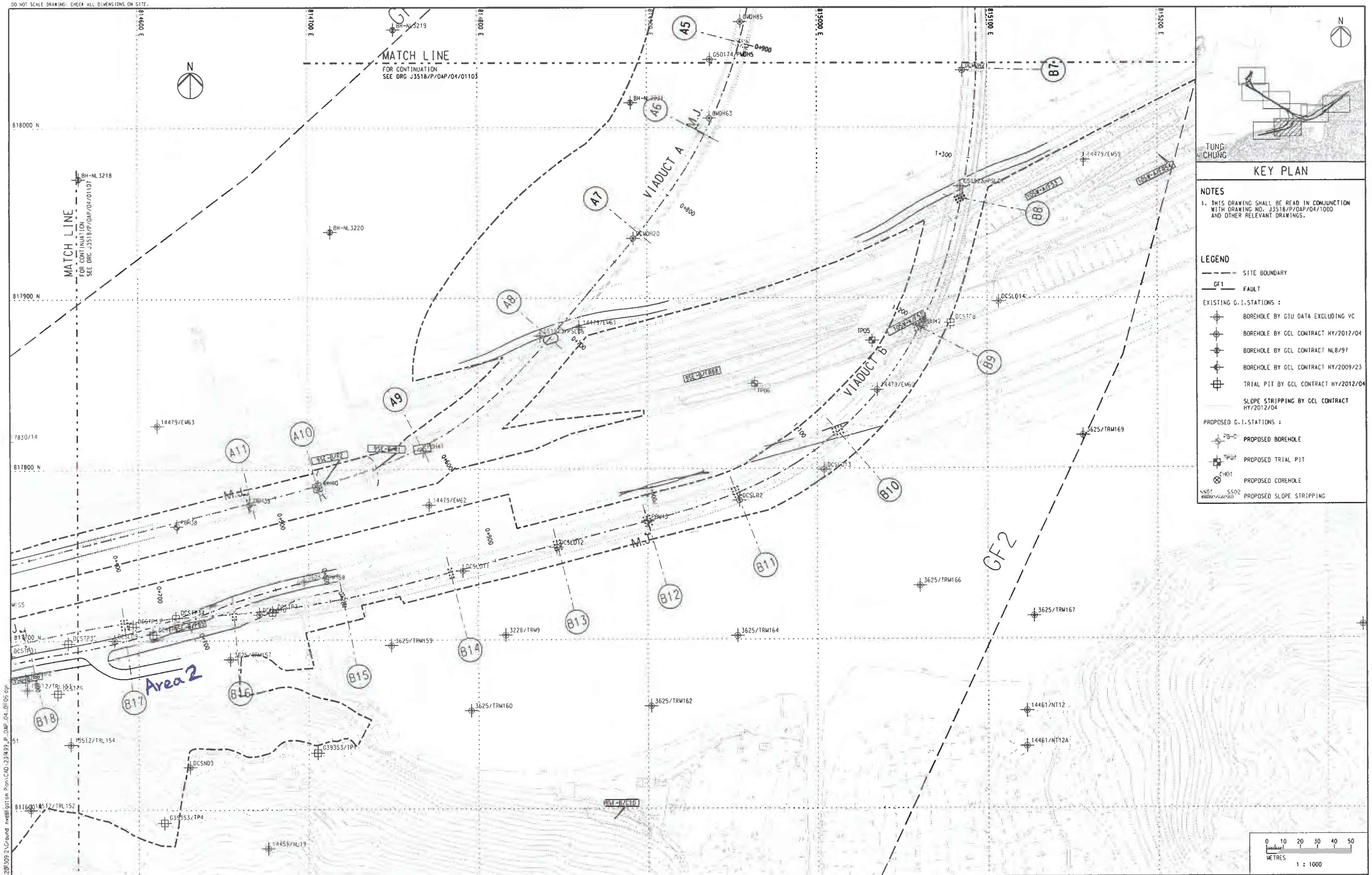
Project Title: Contract No. HY/2012/07 Tuen Mun - Chek Lap Kok Link Southern Connection Viaduct Section

Supervising Officer: AECOM | Contractor: Gammon | Originator: ARUP

Drawing title: **Figure 1.2k**

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

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.



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

Supervising Officer: AECOM

Contractor: Gammon

Originator: ARUP

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

Drawing title:

Figure 1.2I

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

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of the Contract commenced on 31 October 2013. The rolling construction programme for the period of September to November 2015 is shown in *Appendix B*.

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

September 2015

Marine Works

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

Land-based Works

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

October 2015

Marine Works

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

Land-based Works

- Predrilling at Viaduct F;
- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Installation of pier head segment;
- Additional land GI, trial pits & lab testing;

- Relocation of MTRC fence; and,
- Slope work of Viaduct A.

November 2015

Marine Works

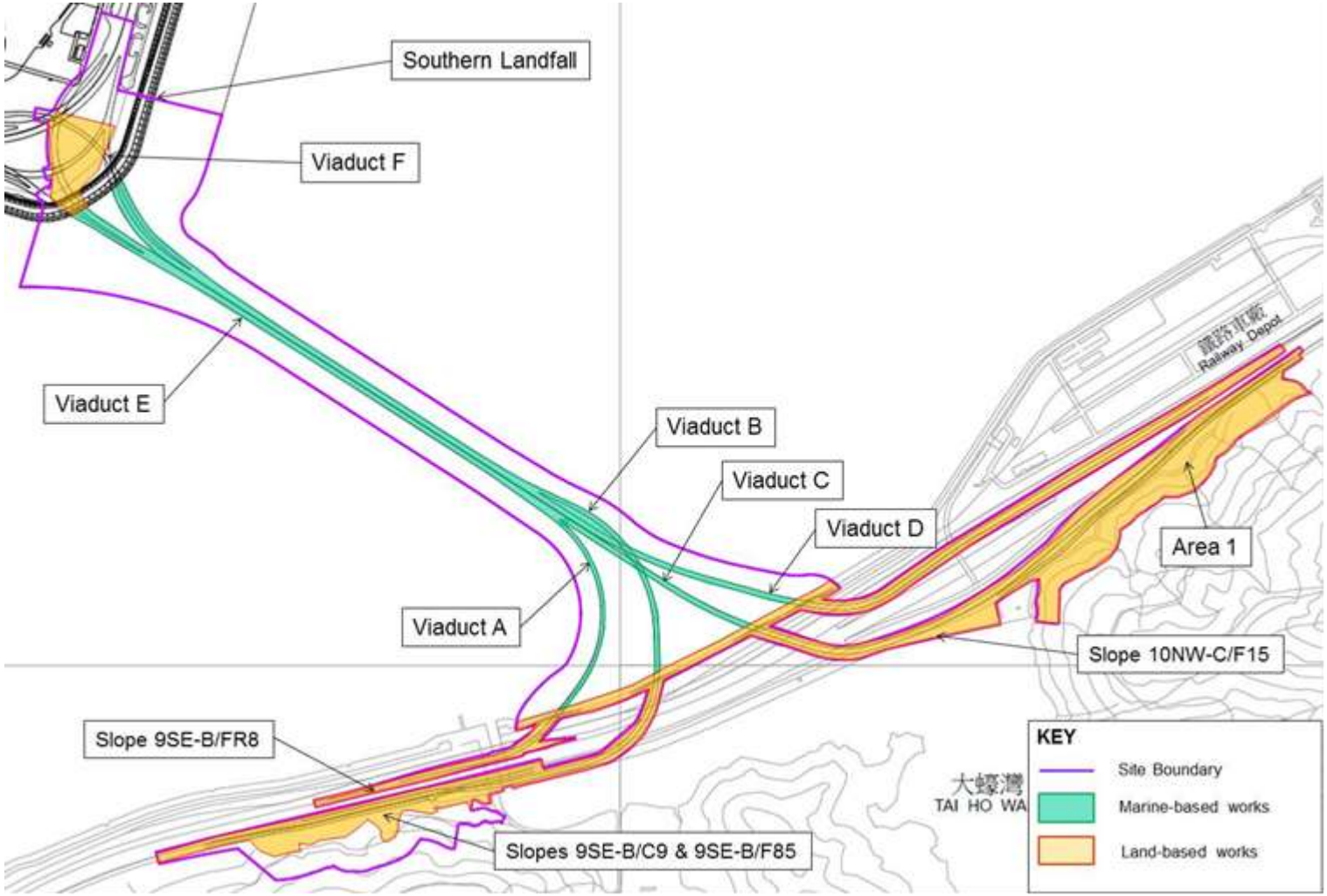
- Construction and installation of pile caps;
- Uninstallation of marine piling platform;
- Pier construction;
- Launching gantry operation; and
- Installation of deck segment and pier head segment.

Land-based Works

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

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

Figure 1.3 Locations of Construction Activities in the Reporting Period



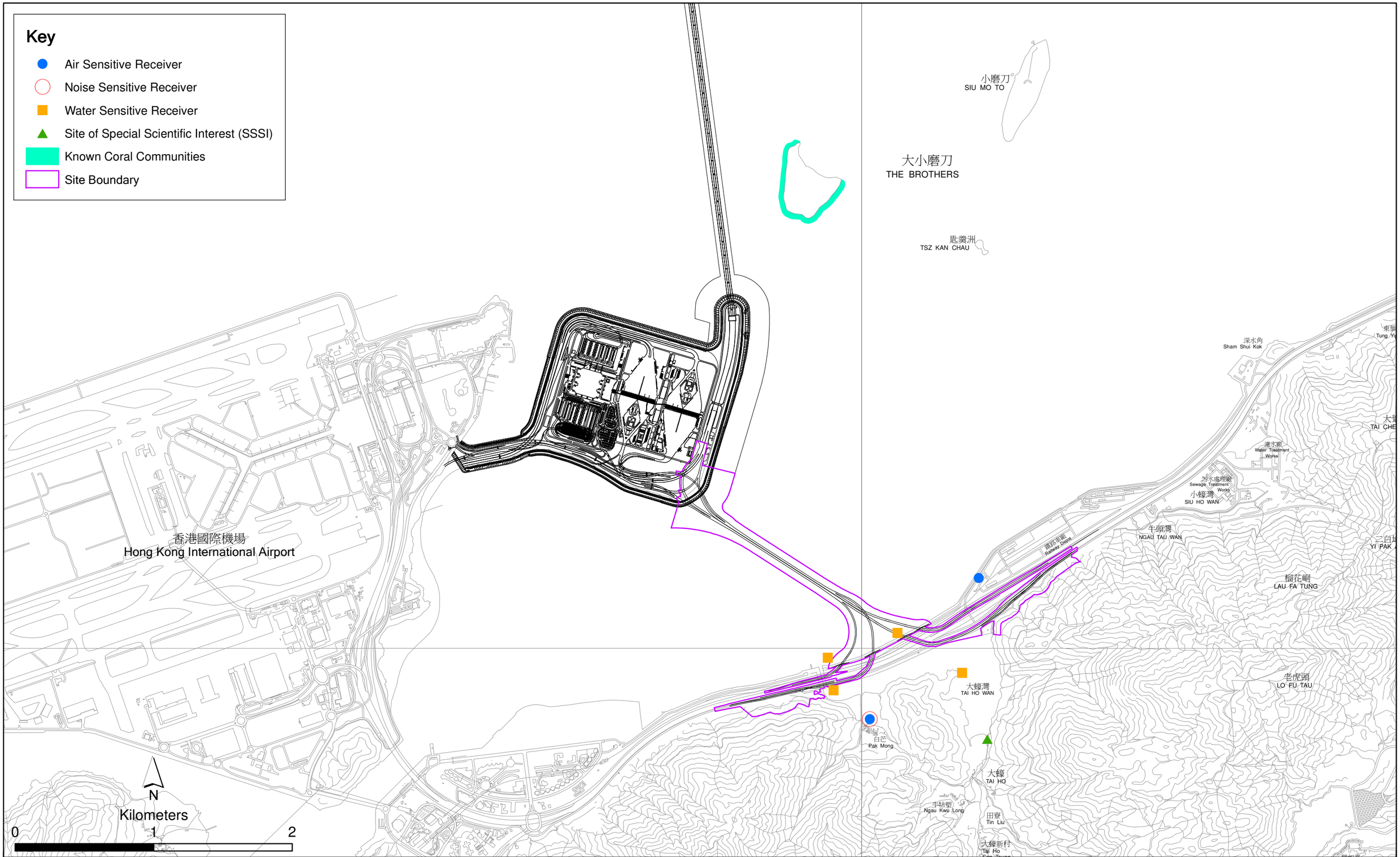


Figure 1.4

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

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

Environmental Resources Management

ERM

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

1.5 SUMMARY OF EM&A PROGRAMME REQUIREMENTS

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 described in the following sections, which include:

- Monitoring parameters;
- Monitoring schedules for the reporting months and forthcoming months;
- Action and Limit levels for all environmental parameters;
- Event Action Plan;
- Results and observations;
- Environmental mitigation measures, as recommended in the approved EIA Report; and
- Environmental requirement in contract documents.

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

The baseline air quality monitoring undertaken by the Hong Kong – Zhuhai – Macao Bridge Hong Kong Projects (HKZMB) during October 2011 has included the two monitoring stations ASR9A and ASR9C for this project. Thus, the baseline monitoring results and Action/ Limit Level presented in HKZMB Baseline Monitoring Report [1] are adopted for this Project.

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 while the highest dust impact was expected. Impact 24-hour TSP monitoring was carried out once every six (6) days. The Action and Limit Levels of the air quality monitoring is provided in *Appendix D*.

1-hour TSP and 24-hour TSP monitoring were conducted at 2 alternative air quality monitoring stations, ASR8A (Area 4) and ASR9 (Entrance of MTR Depot) during the reporting period in accordance with the requirement of the Updated EM&A Manual. The monitoring stations are indicated in *Figure 2.1* and details are presented in *Table 2.1*.

High Volume Samplers (HVSs) were used for carrying out 1-hour and 24-hour TSP monitoring during the reporting period. The HVSs meets all requirements of the Updated EM&A Manual. Brand and model of the equipment are given in *Table 2.2*.

Wind data monitoring equipment was installed at Area 4 during the reporting period for logging wind speed and wind direction. The wind sensor was setup such that it was clear of obstructions or turbulence caused by building. The wind data monitoring equipment is recalibrated at least once every six months.

[1] *Agreement No. CE 35/2011 (EP) Baseline Environmental Monitoring for Hong Kong - Zhuhai - Macao Bridge Hong Kong Projects - Investigation*. Baseline Environmental Monitoring Report (Version C). Submitted on 8 March 2012 and subsequently approved by EPD.

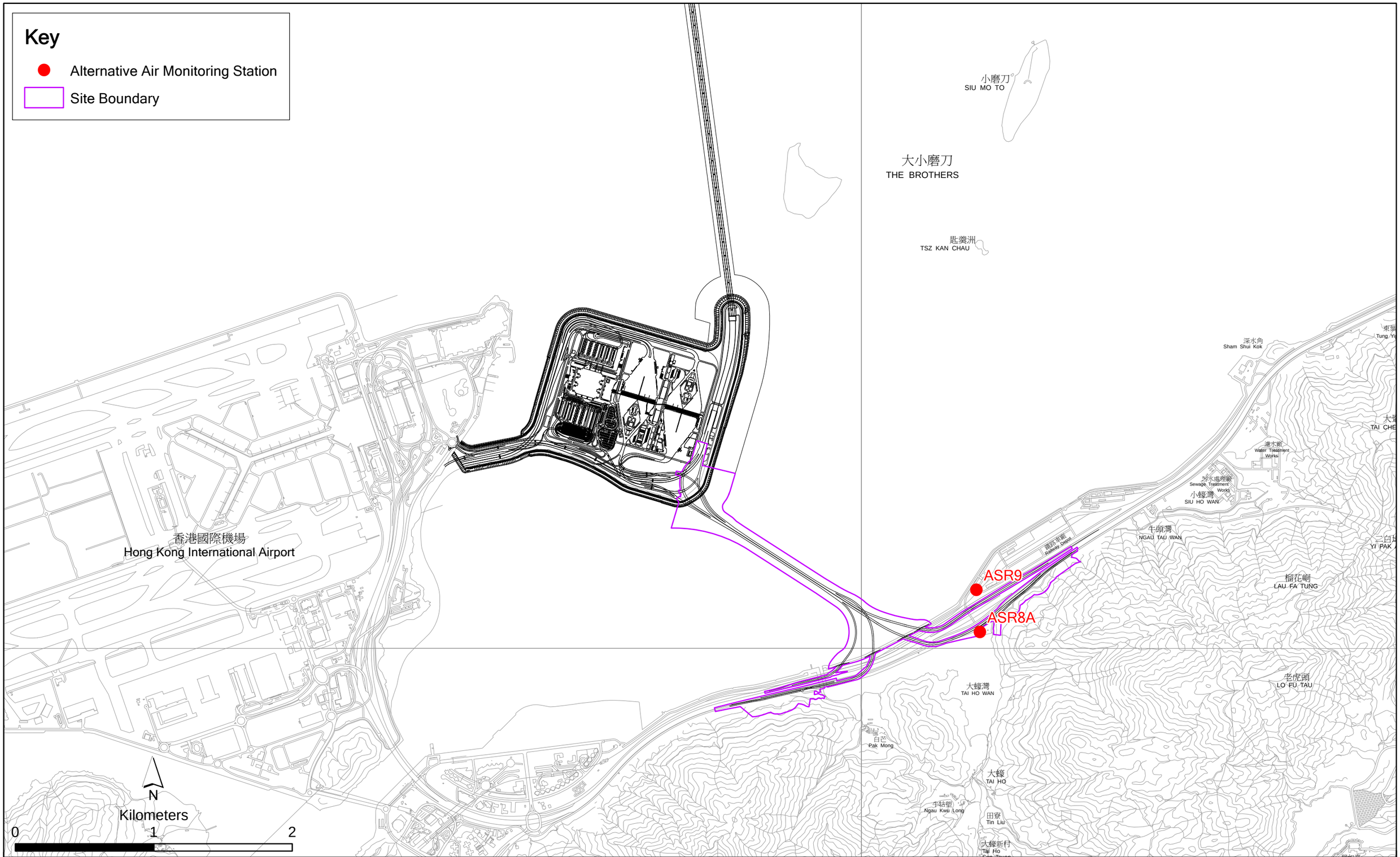


Figure 2.1

Locations of Air Quality Monitoring Stations

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

Environmental Resources Management

ERM

Table 2.1 ***Locations of Impact Air Quality Monitoring Stations and Monitoring Dates in this Reporting Period***

Monitoring Station (1)	Monitoring Period	Location	Description	Parameters & Frequency
ASR8A	2, 8, 14, 17, 23 and 29 September 2015; 5, 8, 14, 20, 26 and 29 October 2015; 4, 10, 16, 19 and 25 November 2015	Area 4	On ground at the Area 4	• 1-hour Total Suspended Particulates (1-hour TSP, µg/m³), 3 times per day every 6 days
ASR9		MTR Depot	On the ground nearby MTR Depot Entrance	• 24-hour Total Suspended Particulates (24-hour TSP, µg/m³), daily for 24-hour every 6 days

Note:
(1) Air Quality Monitoring Stations ASR9A and ASR9C at Siu Ho Wan MTRC Depot proposed in accordance with the Updated EM&A were relocated to ASR9 and ASR8A respectively.

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

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

2.1.2 Action & Limit Levels

The Action and Limit Levels of the air quality monitoring are provided in *Appendix D*. The Event and Action plan is presented in *Appendix J*.

2.1.3 Monitoring Schedule for the Reporting Quarter

The schedules for air quality monitoring in the reporting quarter are provided in *Appendix E*.

2.1.4 Results and Observations

The monitoring results for 1-hour TSP and 24-hour TSP are summarized in *Tables 2.3* and *2.4*, respectively. Monitoring results are presented graphically in *Appendix F*. Detailed impact air quality monitoring results and meteorological information were reported in the *Twenty-third* to *Twenty-fifth Monthly EM&A Reports*.

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

Month	Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
September 2015	ASR 8A	86	43 - 188	394	500
	ASR 9	86	58 - 173	393	500
October 2015	ASR 8A	74	43 - 145	394	500
	ASR 9	84	45 - 172	393	500
November 2015	ASR 8A	91	54 - 157	394	500
	ASR 9	105	53 - 181	393	500

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

Month	Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
September 2015	ASR 8A	59	46 – 91	178	260
	ASR 9	60	50 – 73	178	260
October 2015	ASR 8A	59	43 - 82	178	260
	ASR 9	71	41 - 112	178	260
November 2015	ASR 8A	64	51 - 91	178	260
	ASR 9	74	55 - 98	178	260

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

In this reporting period, a total of seventeen (17) monitoring events were undertaken within the reporting period, in which no Action or Limit Level exceedance for 1-hour and 24-hour TSP for air quality was recorded during the reporting period.

2.2 NOISE MONITORING

The baseline noise monitoring undertaken by the Hong Kong – Zhuhai – Macao Bridge Hong Kong Projects (HKZMB) during the period of 18 October to 1 November 2011 has included the monitoring station NSR1 for this project. Thus, the baseline monitoring results and Action/ Limit Level presented in *HKZMB Baseline Monitoring Report* [1] are adopted for this Project.

2.2.1 Monitoring Requirements and Equipment

In accordance with the Updated EM&A Manual, impact noise monitoring should be conducted once per week during the construction phase of the Contract.

Noise monitoring was conducted at the alternative noise monitoring station, NSR1A (Pak Mong Village Pavilion) during the reporting period in accordance with the requirement of Updated EM&A Manual. *Figure 2.2* shows the location of the monitoring station. *Table 2.5* describes the details of the monitoring station.

Noise monitoring was performed using sound level meter at the designated monitoring station in the reporting quarter. The deployed sound level meter complies with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meter at a known sound pressure level. Brand and model of the equipment is given in *Table 2.6.*

[1] *Agreement No. CE 35/2011 (EP) Baseline Environmental Monitoring for Hong Kong - Zhuhai - Macao Bridge Hong Kong Projects - Investigation*. Baseline Environmental Monitoring Report (Version C). Submitted on 8 March 2012 and subsequently approved by EPD.

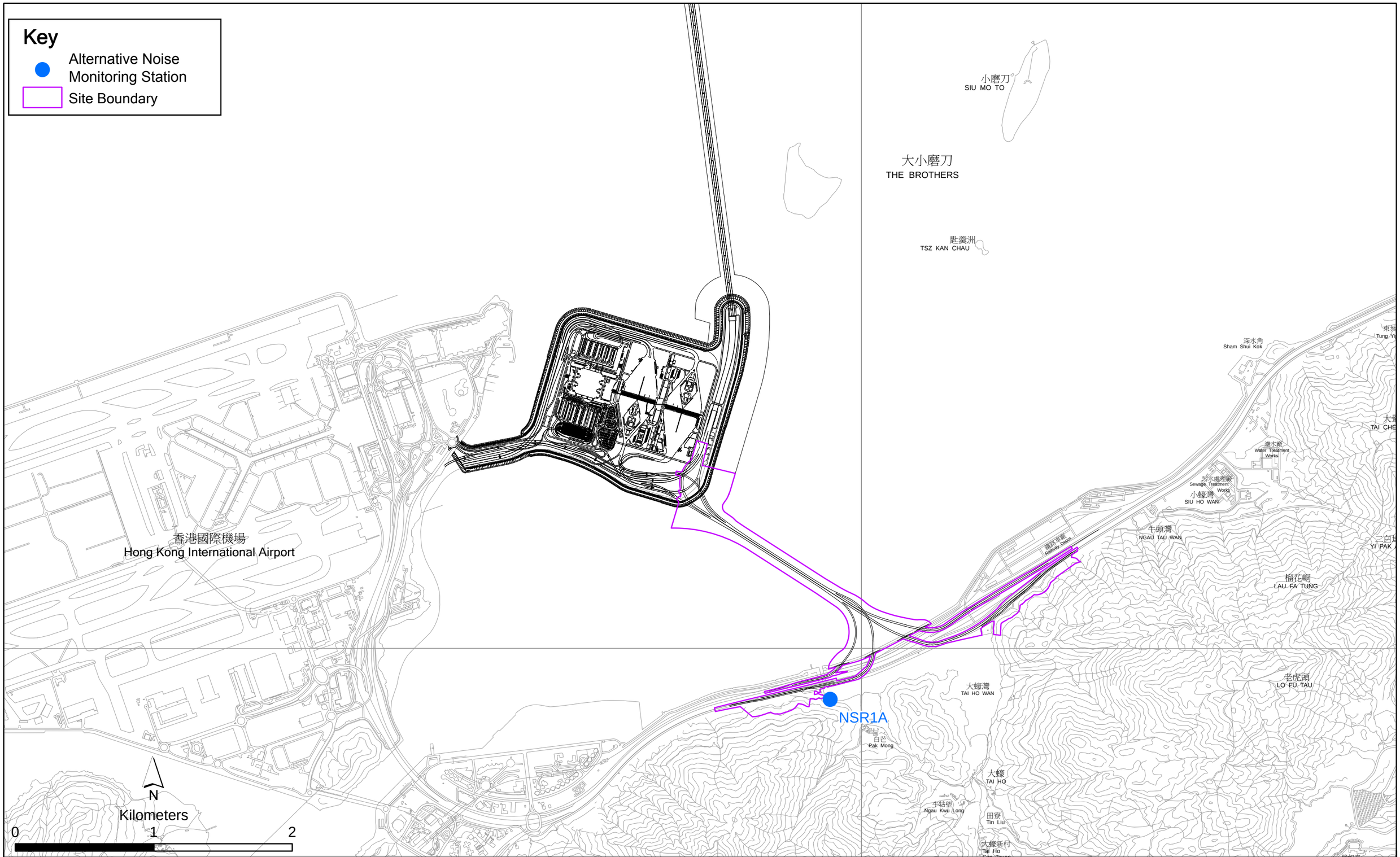


Figure 2.2

Location of Noise Monitoring Station

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

Environmental Resources Management

ERM

Table 2.5 ***Location of Impact Noise Monitoring Station and Monitoring Dates in this Reporting Period***

Monitoring Station	Monitoring Period	Location	Parameters & Frequency
NSR1A	2, 8, 14, 17, 23 and 29 September 2015; 5, 8, 14, 20, 26 and 29 October 2015; 4, 10, 16, 19 and 25 November 2015	Pak Mong Village Pavilion	• 30-mins 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 a week

Note:
(1) Noise Monitoring Station NSR1 at Pak Mong Village proposed in accordance with the Updated EM&A was relocated to NSR1A.

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 Action and Limit Levels

The Action and Limit levels of the noise monitoring are provided in *Appendix D*. The Event and Action plan is presented in *Appendix J*.

2.2.3 Monitoring Schedule for the Reporting Quarter

The schedules for noise monitoring in the reporting quarter are provided in *Appendix E*.

2.2.4 Results and Observations

The monitoring results for noise monitoring are summarized in *Table 2.7*. Monitoring results are presented graphically in *Appendix G* and detailed impact noise monitoring results are reported in the *Twenty-third* to *Twenty-fifth Monthly EM&A Reports*.

Table 2.7 ***Summary of Construction Noise Monitoring Results at NSR1A in the Reporting Period***

Month	Average , dB(A), L_{eq} (30mins)	Range, dB(A), L_{eq} (30mins)	Limit Level, dB(A), L_{eq} (30mins)
September 2015	59	58 - 59	75
October 2015	58	57 - 60	75
November 2015	59	57 - 60	75

A total of seventeen (17) monitoring events were undertaken in the reporting period with no Action Level and Limit Level exceedance recorded at the monitoring station in the reporting period. No action is thus required to be undertaken in accordance with the Event Action Plan presented in *Appendix J*.

Major noise sources during the noise monitoring included construction activities, nearby traffic noise and aircraft noise.

2.3 *WATER QUALITY MONITORING*

The baseline water quality monitoring undertaken by the Hong Kong – Zhuhai – Macao Bridge Hong Kong Projects (HKZMB) between 6 and 31 October 2011 has included all monitoring stations except SR4a for the Project. Thus, the baseline monitoring results except for station SR4a and Action/Limit Level presented in HKZMB Baseline Monitoring Report [(1)] are adopted for this Project. Baseline water quality monitoring was conducted at station SR4a from 29 August to 24 September 2013.

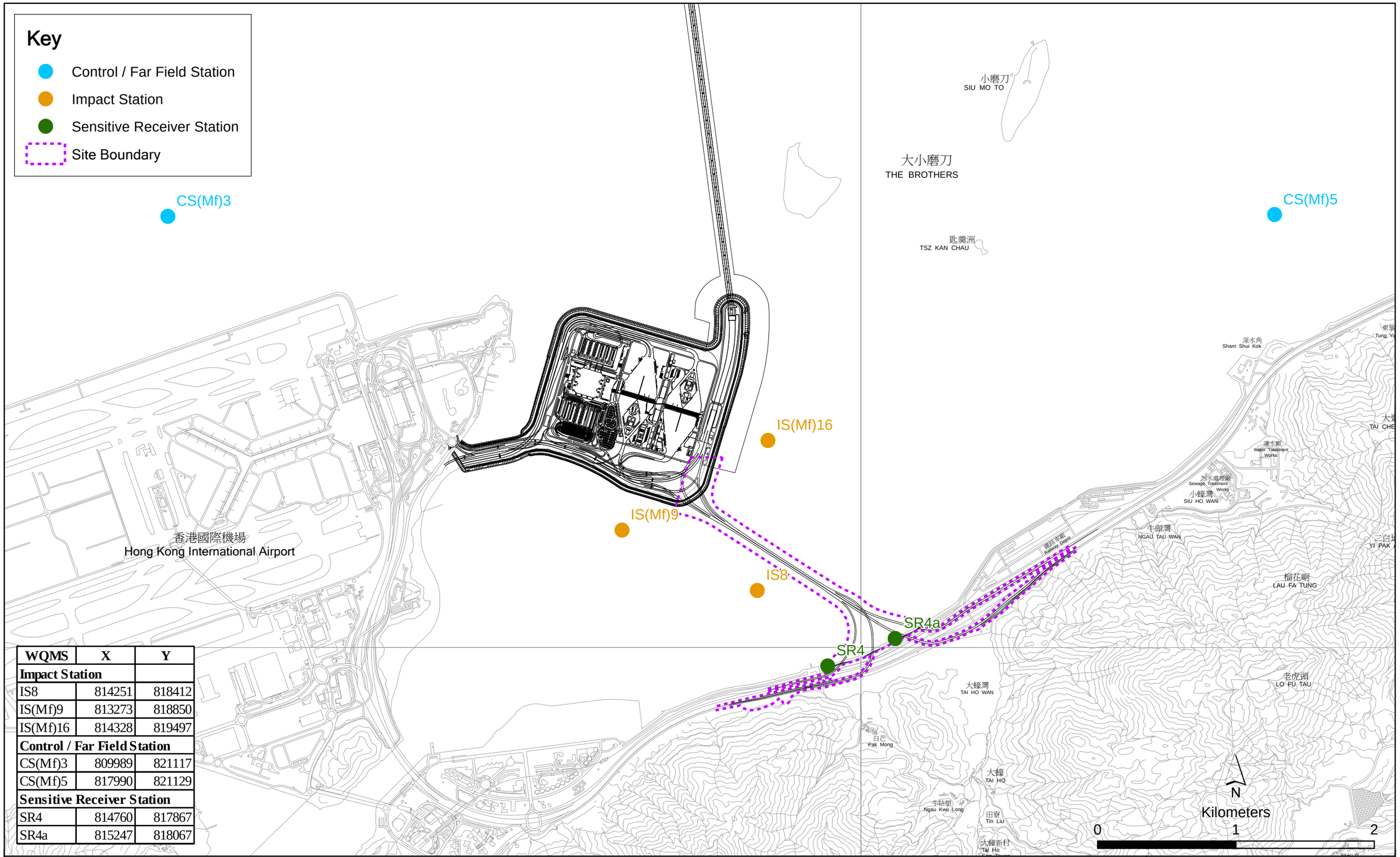
2.3.1 *Monitoring Requirements and Equipment*

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 at seven water quality monitoring stations in accordance with the Updated EM&A Manual (*Figure 2.3*; *Table 2.8*).

Table 2.8 Locations of Water Quality Monitoring Stations and the Corresponding Monitoring Requirements

Station ID	Type	Coordinates		*Parameters, unit	Depth	Frequency
		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)	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.	Impact monitoring: 3 days per week, at mid-flood and mid-ebb tides during the construction period of the Contract.
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			

(1) *Agreement No. CE 35/2011 (EP) Baseline Environmental Monitoring for Hong Kong - Zhuhai - Macao Bridge Hong Kong Projects - Investigation*. Baseline Environmental Monitoring Report (Version C). Submitted on 8 March 2012 and subsequently approved by EPD.



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

File: T:\GIS\CONTRACT\0215660\Mxd\0215660_WQMS.mxd
Date: 6/12/2013

Environmental Resources Management

ERM

Station ID	Type	Coordinates		*Parameters, unit	Depth	Frequency
		Easting	Northing			
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 summarizes the equipment used in the impact water quality monitoring programme.

Table 2.9 Water Quality Monitoring Equipment

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

2.3.2 Action & Limit Levels

The Action and Limit Levels of the water quality monitoring are provided in *Appendix D*.

2.3.3 Monitoring Schedule for the Reporting Quarter

The schedules for water quality monitoring in the reporting quarter are provided in *Appendix E*. The water quality monitoring on 3 October 2015 was cancelled due to adverse weather.

2.3.4 Results and Observations

Impact water quality monitoring was conducted at all designated monitoring stations in the reporting period. Monitoring results are presented graphically in *Appendix H* and detailed impact water quality monitoring results were reported in the *Twenty-third* to *Twenty-fifth Monthly EM&A Reports*.

In this reporting period, a total of thirty-eight (38) monitoring events were undertaken with no Action Level and Limit Level exceedance recorded at the monitoring station in the reporting period. No action is thus required to be undertaken in accordance with the Event Action Plan presented in *Appendix J*.

2.4 DOLPHIN MONITORING

2.4.1 Monitoring Requirements

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

2.4.2 Monitoring Equipment

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

Table 2.10 Dolphin Monitoring Equipment

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

2.4.3 Monitoring Parameter, Frequencies & 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.

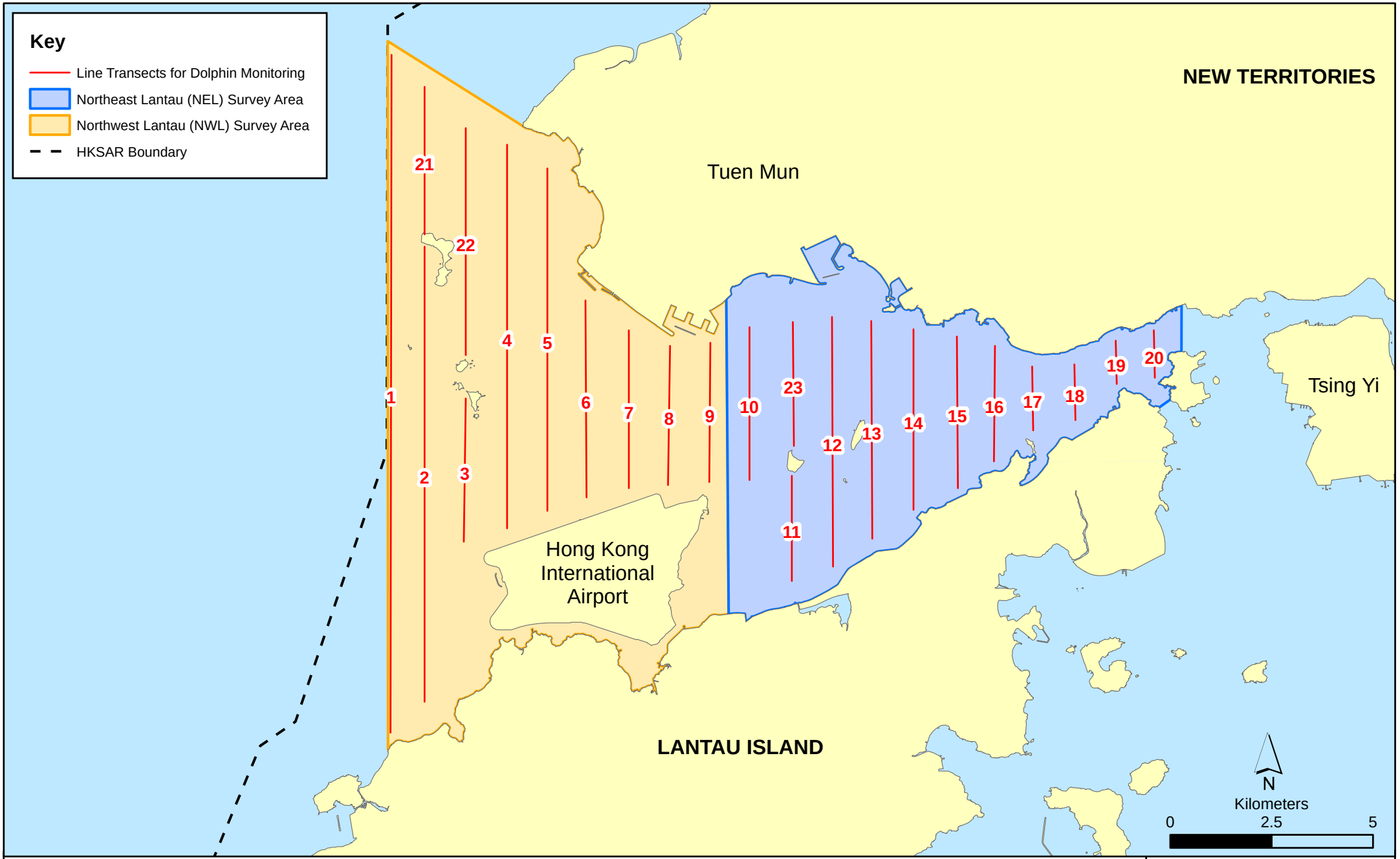


Figure 2.4

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

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_Transect_of_Dolphin_Monitoring.mxd
Date: 10/12/2013

Environmental Resources Management

ERM

Table 2.11 Impact Dolphin Monitoring Line Transect Co-ordinates

Line No.		Easting	Northing	Line No.		Easting	Northing
1	Start Point	804671	814456	13	Start Point	816506	819480
1	End Point	804671	831404	13	End Point	816506	824859
2	Start Point	805475	815913	14	Start Point	817537	820220
2	End Point	805477	826654	14	End Point	817537	824613
3	Start Point	806464	819435	15	Start Point	818568	820735
3	End Point	806464	822911	15	End Point	818568	824433
4	Start Point	807518	819771	16	Start Point	819532	821420
4	End Point	807518	829230	16	End Point	819532	824209
5	Start Point	808504	820220	17	Start Point	820451	822125
5	End Point	808504	828602	17	End Point	820451	823671
6	Start Point	809490	820466	18	Start Point	821504	822371
6	End Point	809490	825352	18	End Point	821504	823761
7	Start Point	810499	820880	19	Start Point	822513	823268
7	End Point	810499	824613	19	End Point	822513	824321
8	Start Point	811508	821123	20	Start Point	823477	823402
8	End Point	811508	824254	20	End Point	823477	824613
9	Start Point	812516	821303	21	Start Point	805476	827081
9	End Point	812516	824254	21	End Point	805476	830562
10	Start Point	813525	820872	22	Start Point	806464	824033
10	End Point	813525	824657	22	End Point	806464	829598
11	Start Point	814556	818853	23	Start Point	814559	821739
11	End Point	814556	820992	23	End Point	814559	824768
12	Start Point	815542	818807				
12	End Point	815542	824882				

2.4.5 Action & Limit Levels

The action and limit levels of dolphin impact monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix J*.

2.4.6 Monitoring Schedule for the Reporting Period

The dolphin monitoring schedules for the reporting period are shown in *Appendix E*.

2.4.7 Results & Observations

A total of 902.25 km of survey effort was collected, with 95.0% of the total survey effort being conducted under favourable weather conditions (i.e.

Beaufort Sea State 3 or below with good visibility). Among the two areas, 346.64 km and 555.61 km of survey effort were conducted in NEL and NWL survey areas respectively. The total survey effort conducted on primary lines was 656.41 km, while the effort on secondary lines was 245.84 km. Survey effort conducted on both primary and secondary lines were considered as on-effort survey data. The survey efforts are summarized in *Appendix I*.

During the six sets of monitoring surveys in September to November 2015, a total of eighteen (18) groups of ninety-five (95) Chinese White Dolphins were sighted. All dolphin sightings were made during on-effort search, and all except one (1) dolphin sighting were made on primary lines. In this quarterly period, all dolphin groups were sighted in NWL. Summary table of the dolphin sightings is shown in *Appendix I*.

Encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data from the primary transect lines under favourable conditions (Beaufort 3 or below) in the reporting period with the results presented in *Tables 2.12* and *2.13*.

Table 2.12 Individual Survey Event Encounter Rates

Survey Area	**Survey period**	**Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)**	**Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)**
		Primary Lines Only	Primary Lines Only
NEL	Set 1: Sept 2nd / 11th	0.0	0.0
	Set 2: Sept 17th / 29th	0.0	0.0
	Set 3: Oct 6th / 13th	0.0	0.0
	Set 4: Oct 19th / 26th	0.0	0.0
	Set 5: Nov 2nd / 6th	0.0	0.0
	Set 6: Nov 10th / 16th	0.0	0.0
NWL	Set 1: Sept 2nd / 11th	5.5	52.0
	Set 2: Sept 17th / 29th	4.0	21.4
	Set 3: Oct 6th / 13th	5.9	24.9
	Set 4: Oct 19th / 26th	2.7	10.9
	Set 5: Nov 2nd / 6th	3.8	15.4
	Set 6: Nov 10th / 16th	1.7	1.7

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

Table 2.13 Quarterly Average Encounter Rates

Survey Area	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)	
	September - November 2015	**September - November 2011**	**September - November 2015**	**September - November 2011**
Northeast Lantau	0.0	6.00 ± 5.05	0.0	22.19 ± 26.81
Northwest Lantau	3.94 ± 1.57	9.85 ± 5.85	21.05 ± 17.19	44.66 ± 29.85

Note: encounter rates deduced from the baseline monitoring period (September – November 2011) have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions

The average dolphin group size in NWL waters during September to November 2015 was higher than the ones recorded during the three-month baseline period. Seven (7) of the eighteen (18) groups were composed of one to three (1-3) individuals only, while five (5) other groups were moderate in size with four to six (4-6) individuals per group. Moreover, six (6) large dolphin groups were sighted during the present quarterly period, including three (3) groups with seven to nine (7-9) individuals each, and another three (3) groups with 10-12 individuals each. The average dolphin group sizes from these three months were compared with the ones deduced from the baseline period in September to November 2011, as shown in *Table 2.14*.

Table 2.14 Comparison of Quarterly Average Encounter Rates

	Average Dolphin Group Size	
	September - November 2015	**September - November 2011**
Overall	5.28 ± 3.54 (n = 18)	3.72 ± 3.13 (n = 66)
Northeast Lantau	N/A (n = 0)	3.18 ± 2.16 (n = 17)
Northwest Lantau	5.28 ± 3.54 (n = 18)	3.92 ± 3.40 (n = 49)

Two (2) Action Level exceedances were observed for the quarterly dolphin monitoring data between September and November 2015.

During this quarter of dolphin monitoring, no unacceptable impact from the activities of this Contract on Chinese White Dolphins was noticeable from the general observations.

Although the dolphins infrequently occurred along the alignment of TM-CLKL Southern Connection Viaduct in the past and during the baseline monitoring period, it is apparent that dolphin usage has been significantly reduced in NEL, and many individuals have shifted away from the important habitat around the Brothers Islands.

It is critical to monitor the dolphin usage in North Lantau region in the upcoming quarters, to determine whether the dolphins are continuously affected by the various construction activities in relation to the HZMB-related works, and whether suitable mitigation measure can be applied to revert the situation.

2.4.8 Marine Mammal Exclusion Zone Monitoring

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

Passive Acoustic Monitoring (PAM) was decommissioned in this reporting period as no marine piling works was carried out outside the daylight hours since September 2015. Daytime marine mammal exclusion zone was still in effect to cater for temporary staging installation and uninstallation works.

2.5 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Thirteen (13) site inspections were carried out in the reporting quarter on 2, 9, 16, 24 and 29 September 2015; 7, 12, 20 and 30 October 2015.; 4, 11, 18 and 26 November 2015.

Key observations during the site inspections in this reporting period are summarized in *Table 2.15*.

Table 2.15 Specific Observations Identified during the Weekly Site Inspection in this Reporting Period

Inspection Date	Location & Environmental Observations	Recommendations/ Remarks
2 September 2015	Area 1 • Stagnant water was accumulated in a drip tray for generator. Pier C13 • A skip for waste was full.	Area 1 • Stagnant water in drip tray should be removed. Pier C13 • Waste should be cleaned up regularly.
9 September 2015	Pier A2 • A drip tray for generator was not plugged. • Stagnant water was accumulated in gutter. • Some chemical containers were not placed in drip tray. Pier E9 • Stagnant water was accumulated in a drip tray for generator.	Pier A2 • Drip tray for generator should be plugged. • Stagnant water in gutter should be cleaned up regularly. • Chemical containers should be placed in drip tray. Pier E9 • Stagnant water in drip tray should be removed.

Inspection Date	Location & Environmental Observations	Recommendations/ Remarks
16 September 2015	Abutment D • An old EP was displayed. • The exposed area was partially dry.	Abutment D • The old EP was removed immediately. Only the latest EP should be displayed. • Watering should be applied to the exposed area regularly.
24 September 2015	Abutment D • Stockpile was not well covered. Pier E9 • Excess soil was found in gutter. • Gutter was not properly installed. Barge Sai Hoi • A drip tray was not plugged. • A generator was not properly placed on decoupling pad.	Abutment D • Stockpile should be well covered. Pier E9 • Excess soil in gutter should be removed regularly. • Gutter should be properly installed. Barge Sai Hoi • Drip tray should be plugged. • Generator should be properly placed on decoupling pad.
29 September 2015	Pier E4 • A drip tray for generator was not plugged. • A generator was not well placed on decoupling pad. • No bund or gutter was found at the edge of platform. Pier E13AB • Surface water on platform was not well retained or collected.	Pier E4 • Drip tray for generator should be plugged. • Generator should be well placed on decoupling pad. • Surface runoff control measures should be provided on the platform. Pier E13AB • Surface runoff control measures should be provided on the platform.
7 October 2015	Area 1 • Checklist for a wetsep was not displayed. • Some chemical containers were not labelled. • Refuse was found in drainage. • Proper outlet was not installed.	Area 1 • Wetsep should be checked regularly and its checklist should be displayed. • Chemical containers should be properly labelled. • Drainage should be cleaned up regularly. • Proper outlet should be installed for wetsep.
12 October 2015	Seafront • Stagnant water was found in drip tray for generator. Pier E4 • Sandbags were insufficient to avoid runoff on platform. Pier E8 • Stagnant water was found in drip tray for generator. • Sandbags were insufficient to avoid runoff on platform.	Seafront • Stagnant water should be regularly cleaned up. Pier E4 • Sandbags should be provided if runoff collection is not available. Pier E8 • Stagnant water should be regularly cleaned up. • Sandbags should be provided if runoff collection is not available.

Inspection Date	Location & Environmental Observations	Recommendations/ Remarks
20 October 2015	Site Access 6A • A chemical container was not placed in drip tray. • Refuse was found in drainage Abutment D • The old EP was displayed. • The exposed area was dry. Area 1 • The exposed area was dry.	Site Access 6A • Chemical container should be placed in drip tray. • Refuse in drainage should be cleaned up regularly. Abutment D • Only the most updated EP should be displayed. • Exposed area should be watered regularly. Area 1 • Exposed area should be watered regularly.
30 October 2015	Seafront • Some chemical containers were placed without drip tray.	Seafront • Chemical containers should be placed in drip tray.
4 November 2015	Pier E4 • Oil stain was found on platform. Pier E11 • Surface runoff control on platform was insufficient. Pier E12 • A generator was not placed on decoupling pad.	Pier E4 • Oil stain should be cleaned up. Pier E11 • Gutter or sandbag should be provided for control of wastewater runoff. Pier E12 • A generator should be placed on decoupling pad.
11 November 2015	Site Access 6A • Refuse was found in drainage. • Chemical containers were not placed in drip tray. Area 2 • Soil stockpile was not covered. Slope B/C9 • An air compressor was not placed in drip tray.	Site Access 6A • Refuse in drainage should be cleaned up regularly. • Chemical containers should be placed in drip tray. Area 2 • Soil stockpile should be covered by tarpaulin sheet. Slope B/C9 • An air compressor should be placed in drip tray.
18 November 2015	Pier A1 • A drip tray was not plugged. Seafront • Refuse was accumulated onsite. • A Chemical container near Pier B8 was not placed in drip tray	Pier A1 • Drip tray should be plugged. Seafront • Refuse should be cleaned up regularly. • The chemical container should be placed in drip tray.
26 November 2015	Pier E10 • Drip trays were found unplugged. • Excessive soil was found in gutter.	Pier E10 • Drip trays should be plugged. • Excessive soil in gutter should be cleaned up regularly.

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

2.6 WASTE MANAGEMENT STATUS

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

Wastes generated during this reporting period include mainly construction wastes (inert and non-inert), recyclable materials and chemical wastes. Reference has been made to the waste flow table prepared by the Contractor (*Appendix K*). The quantities of different types of wastes are summarized in *Table 2.16.*

Table 2.16 Quantities of Different Waste Generated in the Reporting Period

Month / Year	Inert Construction Waste [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
September 2015	3,525	0	623	66,680	105	600	0	0
October 2015	1,635	0	651	102,080	84	0	0	0
November 2015	204	0	725	64,740	98	2,000	0	0
Total	5,364	0	1,999	233,500	287	2,600	0	0

Notes:

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

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

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

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

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

2.7 ENVIRONMENTAL LICENSES AND PERMITS

The status of environmental licensing and permit is summarized in *Table 2.17* below.

Table 2.17 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13-Mar-15	N/A	HyD	Tuen Mun- Chek Lap Kok Link
Environmental Permit	EP-353/2009/I	17-Jul-15	N/A	HyD	Hong Kong Boundary Crossing Facilities
Chemical Waste Registration	5213-951-G2380-17	12-Jun-14	N/A	GCL	Viaducts A, B, C, D & E
Chemical Waste Registration	5213-961-G2380-13	10-Oct-13	N/A	GCL	Chemical waste produced in Contract HY/2012/07 (Area 1 adjacent to Cheng Tung Road, Siu Ho Wan)
Chemical Waste Registration	5213-961-G2380-14	10-Oct-13	N/A	GCL	Chemical waste produced in Contract HY/2012/07 (Area 2 adjacent to Cheung Tung Road, Pak Mong Village)
Chemical Waste Registration	5213-974-G2588-03	04-Nov-13	N/A	GCL	Chemical waste produced in Contract HY/2012/07 (WA5 adjacent to Cheung Tung Road, Yam O)
Construction Dust Notification	361571	05-Jul-13	N/A	GCL	
Construction Dust Notification	362093	17-Jul-13	N/A	GCL	For Area 23
Construction Noise Permit	Nil	N/A	N/A	GCL	For Piling Works
Construction Noise Permit for night works and works in general holidays	GW-RS0691-15	23-Jun-15	22-Dec-15	GCL	For Broad Permit
Construction Noise Permit for night works and works in general holidays	GW-RS0769-15	15-Jul-15	30-Sep-15	GCL	TTA Case 009 Ch.2.1E-4.2E
Construction Noise Permit for night works and works in general holidays	GW-RS0809-15	29-Jul-15	29-Jan-16	GCL	For Plant mobilization using tractor with trailer
Construction Noise Permit for night works and works in general holidays	GW-RS0854-15	12-Aug-14	15-Feb-16	GCL	Pre-casted pile cap shell installation at E10-E13

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Construction Noise Permit for night works and works in general holidays	GW-RS0855-15	12-Aug-15	11-Feb-16	GCL	Pier construction at C7, D8, D9
Construction Noise Permit for night works and works in general holidays	GW-RS0911-15	27-Aug-15	26-Feb-16	GCL	Broad Permit for Seg. Launching at Land Portion
Construction Noise Permit for night works and works in general holidays	GW-RS1054-15	30-Sep-15	29-Mar-16	GCL	For Load unload at NLH near Viaduct D
Construction Noise Permit for night works and works in general holidays	GW-RS1086-15	07-Oct-15	15-Dec-15	GCL	TTA Case 009 Ch.2.1E-4.2E
Construction Noise Permit for night works and works in general holidays	GW-RS1144-15	20-Oct-15	19-Feb-16	GCL	For Broad Permit
Construction Noise Permit for night works and works in general holidays	GW-RW0422-15	21-Aug-15	25-Jan-16	GCL	General works at WA5
Construction Noise Permit for night works and works in general holidays	GW-RW0861-15	13-Aug-15	30-Sep-15	GCL	Portal beam installation at Pier D14
Construction Waste Disposal Account	7017735	10-Jul-13	N/A	GCL	-
Construction Waste Disposal Account	7019470	03-Mar-14	N/A	GCL	Vessel CHIT Account
Marine Dumping Permit	EP/MD/15-257	02-Apr-15	07-Oct-15	GCL	For dumping Type I sediment
Marine Dumping Permit	EP/MD/16-089	22-Sep-15	26-Oct-15	GCL	For dumping Type I (Dedicated Site) and Type II sediment
Marine Dumping Permit	EP/MD/16-102	13-Oct-15	16-Apr-16	GCL	For dumping Type I sediment
Marine Dumping Permit	EP/MD/16-112	22-Oct-15	29-Nov-15	GCL	For dumping Type I (Dedicated Site) and Type II sediment
Marine Dumping Permit	EP/MD/16-134	27-Nov-15	29-Dec-15	GCL	For dumping Type I (Dedicated Site) and Type II sediment

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Waste Water Discharge License	WT00019017-2014	13-May-14	31-May-19	GCL	Discharge for marine portion
Waste Water Discharge License	WT00019018-2014	13-May-14	31-May-19	GCL	Discharge for land portion

2.8 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

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

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

2.9 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

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

The construction impact on depth-averaged SS was assessed by comparing the quarterly mean values of depth-averaged SS with the relevant ambient mean values. The monitoring results showed that the quarterly means of depth-averaged SS at all sampling stations during both mid-ebb and mid-flood tides were well below the corresponding ambient means (*Table 2.18*). The depth-averaged SS results suggest that the Project did not cause unacceptable impact on water quality in the reporting period.

Table 2.18 ***Comparison between Quarterly Mean and Ambient Mean Values of Depth-averaged Suspended Solids***

Station	Baseline Mean		Ambient Mean [a]		Quarterly Mean (September 2015 to November 2015)	
	Mid-ebb	Mid-flood	Mid-ebb	Mid-flood	Mid-ebb	Mid-flood
CS(Mf)3	9.2	12.8	12.0	16.6	11.4	11.3
CS(Mf)5	9.2	11.5	11.9	14.9	11.3	11.1
SR4	10.3	12.3	13.4	16.0	11.2	11.0
SR4a	9.1	9.8	11.9	12.7	11.3	10.9
IS8	11.3	13.5	14.6	17.6	11.2	10.8
IS(Mf)9	10.9	14.3	14.2	18.5	11.2	10.9
IS(Mf)16	11.4	10.3	14.8	13.4	11.5	11.2

Notes:
(a) Ambient mean value is defined as a 30% increase of the baseline mean value

Two (2) Action Level exceedances were recorded for impact dolphin monitoring in this reporting quarter. Following the review of the monitoring data and marine works details as per the procedure stipulated in the Event and Action Plan of the Updated EM&A Manual, no unacceptable impact was associated with the construction works under this Contract that may have affected the dolphin usage in the North Lantau region. Investigation findings were detailed in *Appendix L*.

2.10 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

The Environmental Complaint Handling Procedure is provided in *Figure 2.5*.

One (1) complaint regarding the potential noise nuisance from nighttime works of this Project was received on 8 October 2015. A joint inspection among representatives of EPD, HyD, SOR, Contractor and ET was held on 28 October 2015. The inspection findings suggested that the potential noise nuisance was mainly associated with aircraft. The complaint was handled in accordance with the Environmental Complaint Handling Procedure. Detailed investigation report for the complaint is presented in *Appendix L*.

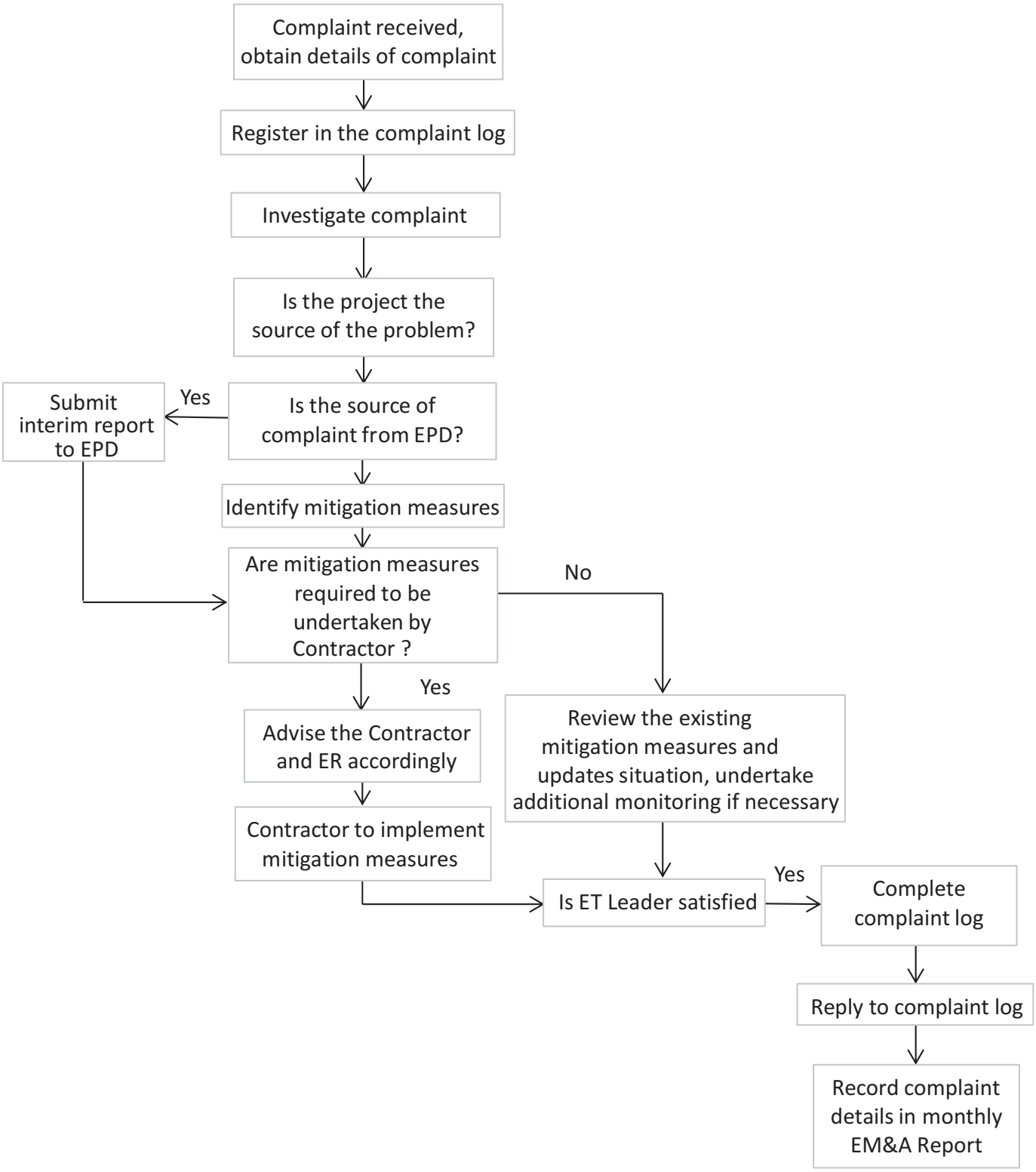


Figure 2.5 Environmental Complaint Handling Procedure

FILE: 0215660n2.cdr
DATE: 06/12/2013

Environmental Resources Management

ERM

3 FUTURE KEY ISSUES

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING QUARTER

As informed by the Contractor, the major works for the Contract in the coming quarter are summarized below:

December 2015

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

January 2016

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

February 2016

Marine Works

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

Land-based Works

- Construction and installation of pile caps;
- Pier construction;
- Re-alignment of Cheung Tung Road;
- Predrilling at Viaduct F;
- Additional land GI, trial pits & lab testing;
- Installation of pier head segment; and
- Slope work of Viaducts A, B & C.

3.2 KEY ISSUES FOR THE COMING QUARTER

Potential environmental impacts arising from the above upcoming construction activities are mainly associated with air quality, noise, marine water quality, marine ecology and waste management issues.

3.3 MONITORING SCHEDULE FOR THE COMING QUARTER

Impact monitoring for air quality, noise, marine water quality and dolphin monitoring are scheduled to continue for the next reporting period.

The monitoring programme has been reviewed and was considered as adequate to cater for the nature of works in progress.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

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

Neither Action Level nor Limit Level exceedances were observed for air quality, noise and water quality monitoring in this reporting period.

A total of eighteen (18) groups of ninety-five (95) Chinese White Dolphins were sighted during the six sets of survey from September to November 2015. Two (2) Action Level exceedances were recorded for the quarterly dolphin monitoring data between September and November 2015, no unacceptable impact from the activities of this Contract on Chinese White Dolphins was noticeable from the general observations. It is critical to monitor the dolphin usage in North Lantau region in the upcoming quarters, to determine whether the dolphins are continuously affected by the various construction activities in relation to the HZMB-related works, and whether suitable mitigation measure can be applied to revert the situation.

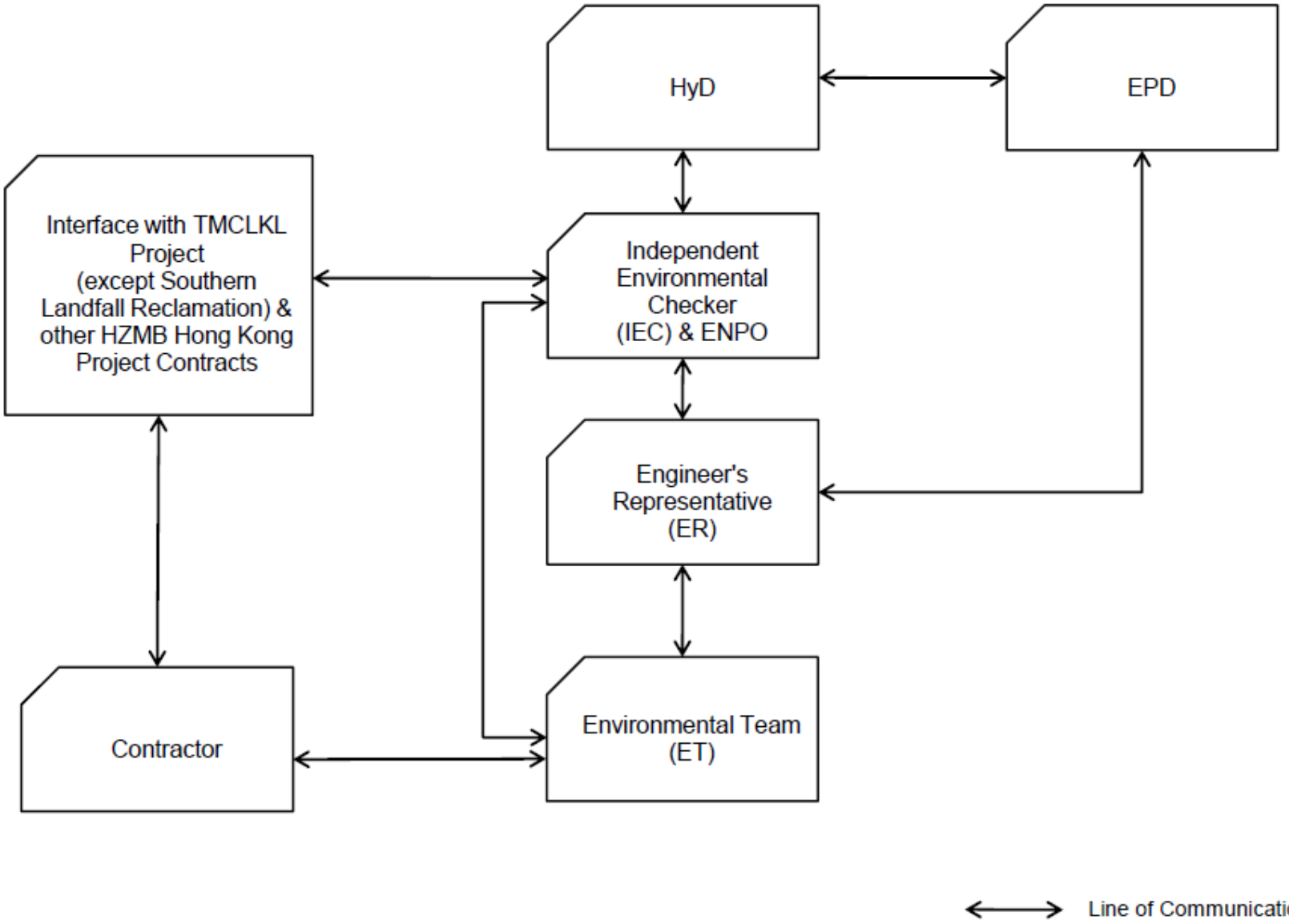
Environmental site inspection was carried out thirteen (13) times in the reporting period. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.

One (1) environmental complaint regarding potential nuisance of night time works from this Project was received in the reporting period.

The monitoring programme has been reviewed and was considered as adequate to cater for the nature of works in progress. Change to the monitoring programme was thus not recommended at this stage. The monitoring programme will be evaluated as appropriate in the next reporting period. The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

Project Organization for Environmental Works



Appendix A1

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

DATE: 06/03/2013

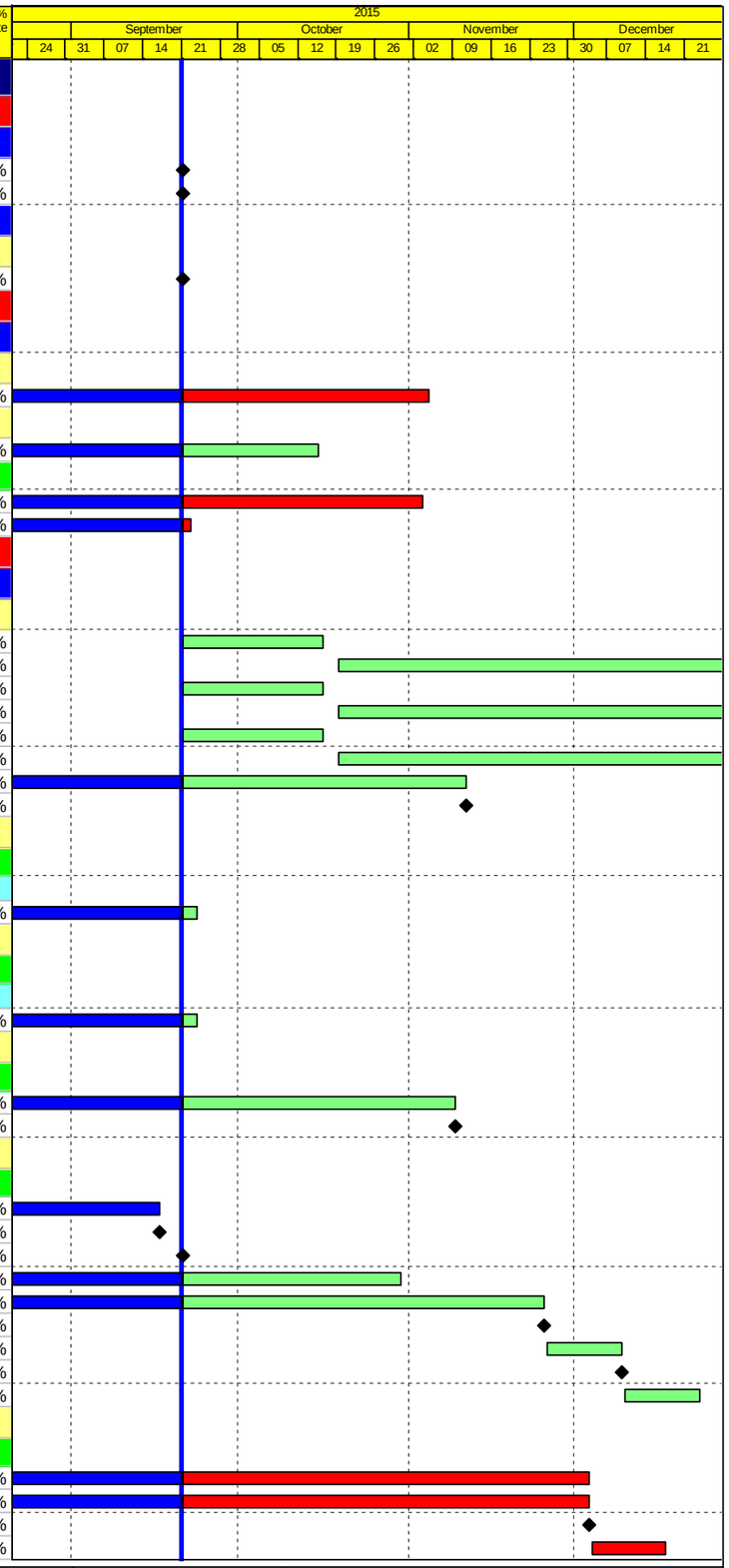
Environmental Resources Management

ERM

Appendix B

Construction Programme for the Reporting Quarter

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
HY/2012/07 - TM-CLK Link-SC [DWP rE1] - Status Update 21-09-2015 yet											
Contract Key Dates											
Possession Dates / Access Period											
POS02	Portion A (Commencement of Works+499 days)	0	21-Sep-15*	0%	0		03-Jun-15		-110	0	0%
POS03	Portion B (Commencement of Works+619 days)	0	21-Sep-15*	0%	0		03-Jun-15		-110	0	0%
Section Completion Dates											
Vacate Works Area											
VAC05	Vacate Works Area WA5 (Zone 5C) (Commencement of Works+758 days)	0		0%	0	21-Sep-15*		19-Jul-15	-63	1230	0%
General Submissions											
General Requirements											
Temporary Works Design											
PR00130	Unloading Jetty at HKBCF - Working Platform design and approval	90	02-Jun-14 A	60%	36	04-Nov-15	25-Jul-15	04-Sep-15	-49	963	10%
Land Works											
PR00160	Propose/submit a performance review for piled fnds in accordance w/ ETW	101	26-May-14 A	80.2%	20	15-Oct-15	08-Mar-16	02-Apr-16	136	363	80%
Land GI Works											
PR02204	SQR Sampling & Testing and Approval	110	14-Aug-14 A	68.18%	35	03-Nov-15	27-Nov-14	09-Jan-15	-241	0	68%
PR03110	Trial Pits along Cheung Tung Road	20	21-Oct-13 A	90%	2	22-Sep-15	08-Jan-15	09-Jan-15	-208	33	85%
Design Submissions											
Detailed Design (v18.8 18-08-14)											
General Submissions											
ARDD0037-1	Preparation of Seismic Performance Report Viaduct A,B,C,D - AP12.01	20	21-Sep-15	0%	20	16-Oct-15	24-Nov-15	21-Dec-15	46	0	0%
ARDD0037-2	IC/SO Approval of Seismic Performance Report Viaduct A,B,C,D - AP12.01	75	19-Oct-15	0%	75	29-Jan-16	22-Dec-15	04-Apr-16	46	244	0%
ARDD0037-4	Preparation of Seismic Performance Report Viaduct E - AP12.02	20	21-Sep-15	0%	20	16-Oct-15	24-Nov-15	21-Dec-15	46	0	0%
ARDD0037-5	IC/SO Approval of Seismic Performance Report Viaduct E - AP12.02	75	19-Oct-15	0%	75	29-Jan-16	22-Dec-15	04-Apr-16	46	0	0%
ARDD0037-7	Preparation of Seismic Performance Report Viaduct F - AP12.03	20	21-Sep-15	0%	20	16-Oct-15	24-Nov-15	21-Dec-15	46	0	0%
ARDD0037-8	IC/SO Approval of Seismic Performance Report Viaduct F - AP12.03	75	19-Oct-15	0%	75	29-Jan-16	22-Dec-15	04-Apr-16	46	0	0%
ARDD0042-2	IC/SO Approval of O&M Facility Provisions DDA - BP11.01	75	14-Jan-15 A	50%	38	11-Nov-15	29-Oct-15	21-Dec-15	29	0	50%
ARDD0042-4	IC/SO Approval of O&M Facility Provisions DDA - BP11.01	0		0%	0	11-Nov-15		21-Dec-15	29	73	0%
Viaduct E5 and E6											
Viaduct Design											
Viaduct E5 E6 Superstructure Optimisation											
TGP0550	Viaduct E5 & E6 - Preparation of Optimised Movement Joint Schedule	15	03-Feb-15 A	80%	3	23-Sep-15	25-Jan-16	27-Jan-16	90	83	80%
Viaduct E7 & E8											
Viaduct Design											
Viaduct E7 E8 Superstructure Optimisation											
TGP0750	Viaduct E7 & E8 - Preparation of Optimised Movement Joint Schedule	15	03-Feb-15 A	80%	3	23-Sep-15	25-Jan-16	27-Jan-16	90	83	80%
Viaduct C											
Viaduct Design											
ARDD0384-3	Viaduct C - Coordination and Further Issue of Construction Method and Te	60	02-Mar-15 A	40%	36	09-Nov-15	14-Dec-18	01-Feb-19	844	0	40%
ARDD0384-5	Viaduct C - GCL/FRE Final Coordinated Construction Method/Temporary \	0		0%	0	09-Nov-15		01-Feb-19	844	844	0%
Viaduct A											
Viaduct Design											
ARDD0435	Viaduct A - IC/SO Approval of DDA DP11.03	75	23-Feb-15 A	100%	0	17-Sep-15 A					100%
ARDD0435-1	Viaduct A - IC/SO Approval of DDA DP11.03	0		100%	0	17-Sep-15 A					100%
ARDD0435-2	Viaduct A - GCL/FRE Issue of Construction Method/Temporary Work Data	0		0%	0	21-Sep-15		01-Feb-19	880	880	0%
ARDD0435-3	Viaduct A - Coordination and Further Issue of Construction Method and Ter	60	01-Jun-15 A	50%	30	30-Oct-15	31-Dec-15	10-Feb-16	73	18	50%
ARDD0435-4	Viaduct A - Preparation of Draft DDA Working Drawing Set	60	01-Jun-15 A	20%	48	25-Nov-15	07-Dec-15	10-Feb-16	55	0	20%
ARDD0435-5	Viaduct A - GCL/FRE Final Coordinated Construction Method/Temporary W	0		0%	0	25-Nov-15		10-Feb-16	55	0	0%
ARDD0435-6	Viaduct A - Preparation and Coordination of Working Drawing Set	10	26-Nov-15	0%	10	09-Dec-15	11-Feb-16	24-Feb-16	55	0	0%
ARDD0435-7	Viaduct A - Submission of Working Drawings for Viaduct A DP11.03	0		0%	0	09-Dec-15		13-Apr-16	90	0	0%
ARDD0435-8	Viaduct A - IC/SO Consent of Supplemental Working Drawings Viaduct A	10	10-Dec-15	0%	10	23-Dec-15	14-Apr-16	27-Apr-16	90	0	0%
Viaduct F1 & F3											
Viaduct Design											
ARDD0486-2	Viaduct F1 & F3 - Coordination and Further Issue of Construction Method a	60	02-Mar-15 A	10%	54	03-Dec-15	29-Jan-15	14-Apr-15	-167	0	10%
ARDD0486-3	Viaduct F1 & F3 - Preparation of Draft Working Drawing Set	60	02-Mar-15 A	10%	54	03-Dec-15	29-Jan-15	14-Apr-15	-167	0	10%
ARDD0486-4	Viaduct F1 & F3 - GCL/FRE Final Coordinated Construction Method/Temp	0		0%	0	03-Dec-15		14-Apr-15	-167	0	0%
ARDD0486-5	Viaduct F1 & F3 - Preparation and Coordination of DDA/Working Drawing	10	04-Dec-15	0%	10	17-Dec-15	15-Apr-15	28-Apr-15	-167	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

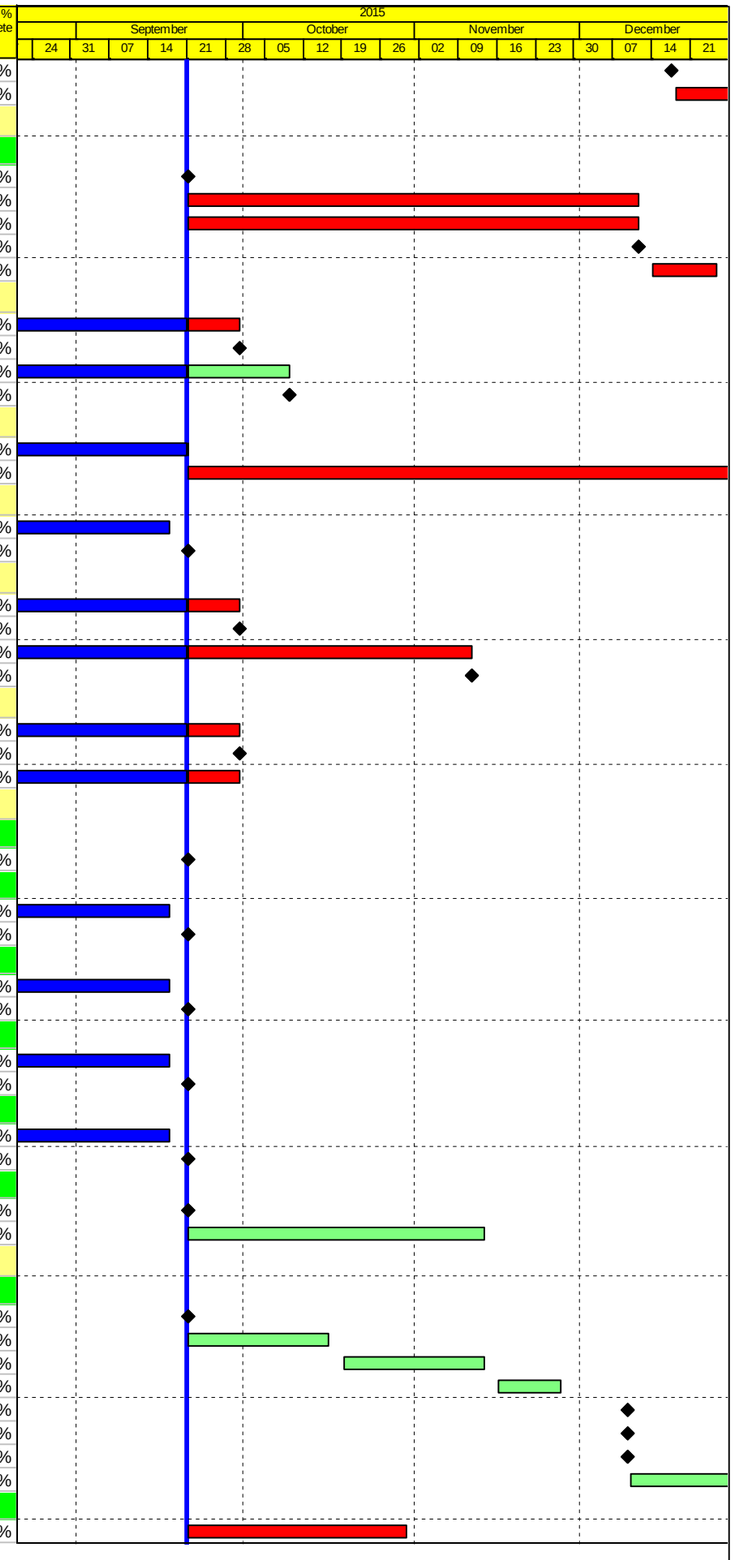
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 1 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
ARDD0486-6	Viaduct F1 & F3 - Submission of Working DDA Drawings Viaduct F1,F3 DF	0		0%	0	17-Dec-15		17-Sep-15	-65	0	0%
ARDD0486-7	Viaduct F1 & F3 - IC/SO Consent of Supplemental Working Drawings Viad	10	18-Dec-15	0%	10	31-Dec-15	18-Sep-15	01-Oct-15	-65	0	0%
Viaduct F2, F4 and F5											
Viaduct Design											
ARDD0530-2	Viaduct F2, F4 & F5 - GCL/FRE Issue of Construction Method/Temporary	0		0%	0	21-Sep-15		20-Jan-15	-173	0	0%
ARDD0530-3	Viaduct F2, F4 & F5 - Coordination and Further Issue of Construction Meth	60	21-Sep-15	0%	60	11-Dec-15	21-Jan-15	14-Apr-15	-173	0	0%
ARDD0530-4	Viaduct F2, F4 & F5 - Preparation of Draft Working Drawing Set	60	21-Sep-15	0%	60	11-Dec-15	21-Jan-15	14-Apr-15	-173	0	0%
ARDD0530-5	Viaduct F2, F4 & F5 - GCL/FRE Final Coordination Construction Method/T	0		0%	0	11-Dec-15		14-Apr-15	-173	0	0%
ARDD0530-6	Viaduct F2, F4 & F5 - Preparation and Coordination of DDA/Working Draw	10	14-Dec-15	0%	10	25-Dec-15	15-Apr-15	28-Apr-15	-173	0	0%
Parapet and Utility Trough											
ARDD0562-4	IC/SO Approval of DDA -DP30.01	75	31-Jul-14 A	90%	8	30-Sep-15	20-Apr-15	29-Apr-15	-110	0	90%
ARDD0562-5	IC/SO Approval of DDA -DP30.01	0		0%	0	30-Sep-15		29-Apr-15	-110	0	0%
ARDD0566	IC/SO Approval of DDA -DP31.01	75	24-Oct-14 A	80%	15	09-Oct-15	18-Nov-15	08-Dec-15	42	0	80%
ARDD0566-1	IC/SO Approval of DDA -DP31.01	0		0%	0	09-Oct-15		08-Dec-15	42	130	0%
Slopeworks for Viaduct B: 9SE- B/C8, B/C9, B/F9, B/F85+ 10SW-A/F52, A/F53											
ARDD0580-5	Preparation of Slope A/F52 Submission - CP12.03	20	10-Feb-15 A	100%	0	21-Sep-15	23-Apr-15	23-Apr-15	-106	0	100%
ARDD0580-6	IC/SO Approval of Slope - CP12.03	75	21-Sep-15	0%	75	01-Jan-16	24-Apr-15	06-Aug-15	-106	0	0%
Slopeworks for Viaduct C: 10NW -C/C22, C/C26, C/C27, C/F13, C/F14. C/F15											
ARDD0588-2	IC/SO Approval of Combined AIP/DDA -CP13.02	75	25-Feb-15 A	100%	0	18-Sep-15 A					100%
ARDD0588-3	IC/SO Approval of Combined AIP/DDA -CP13.02	0		0%	0	21-Sep-15		19-Jul-16	217	65	0%
Slopeworks for Viaduct D: 10NW -C/R4, C/F9, C/F10, C/F11, C/F17, C/F50											
ARDD0603	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	75	16-Dec-14 A	90%	8	30-Sep-15	26-May-15	04-Jun-15	-84	0	90%
ARDD0603-1	IC/SO Approval of Slope Combined AIP/DDA -CP14.01	0		0%	0	30-Sep-15		04-Jun-15	-84	0	0%
ARDD0604-2	IC/SO Approval of Slope Combined AIP/DDA -CP14.02	75	18-May-15 A	50%	38	11-Nov-15	18-Aug-15	08-Oct-15	-24	0	50%
ARDD0604-3	IC/SO Approval of Revised Slope Combined AIP/DDA -CP14.02	0		0%	0	11-Nov-15		08-Oct-15	-24	60	0%
Waterworks, Drainage & Utility Diversions											
ARDD0629	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	75	22-Jul-14 A	90%	8	30-Sep-15	12-Aug-15	21-Aug-15	-28	0	90%
ARDD0629-1	IC/SO Approval of Waterworks, Drainage & Utility DDA - BP20.01	0		0%	0	30-Sep-15		21-Aug-15	-28	0	0%
ARDD0629-2	Gov't Approval of Submissions for Waterworks, Drainage & Utility Diversior	75	02-Jan-14 A	90%	8	30-Sep-15	12-Aug-15	21-Aug-15	-28	0	90%
Viaduct Approach Ramp Retaining Walls											
Approach Ramp D											
ARDD0652-1	Approach D - IC/SO Approval of Approach Ramp D DDA - DP23.01	0		0%	0	21-Sep-15		24-Apr-15	-105	0	0%
Approach Ramp C											
ARDD0658	Approach C - IC/SO Approval of Approach Ramp C DDA -DP20.01	75	03-Oct-14 A	100%	0	18-Sep-15 A					100%
ARDD0658-1	Approach C - IC/SO Approval of Approach Ramp C DDA -DP20.01	0		0%	0	21-Sep-15		01-Feb-19	880	880	0%
Approach Ramp B											
ARDD0664	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	75	14-Oct-14 A	100%	0	18-Sep-15 A					100%
ARDD0664-1	Approach B - IC/SO Approval of Approach Ramp B DDA -DP21.01	0		0%	0	21-Sep-15		08-Jan-16	80	164	0%
Approach A											
ARDD0670	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	75	03-Oct-14 A	100%	0	18-Sep-15 A					100%
ARDD0670-1	Approach A - IC/SO Approval of Approach Ramp A DDA - DP20.01	0		0%	0	21-Sep-15		15-Sep-15	-3	0	0%
Approach F											
ARDD0676	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	75	23-Dec-14 A	100%	0	18-Sep-15 A					100%
ARDD0676-1	Approach F - IC/SO Approval of Approach Ramp F DDA -DP24.01	0		0%	0	21-Sep-15		12-Jan-16	82	233	0%
Landscape											
ARDD0701	Water Supply Application to WSD	0		0%	0	21-Sep-15		01-Jan-16	75	0	0%
ARDD0702	Gov't Approval of LVIA	40	21-Sep-15	0%	40	13-Nov-15	04-Jan-16	26-Feb-16	75	175	0%
Segment Target Geometry And Erection Engineering											
Viaduct A											
ARDD0716	Viaduct A - Confirmation of Erection Sequence from Freyssinet	0		0%	0	21-Sep-15		16-Dec-15	63	0	0%
ARDD0717	Viaduct A - Erection Sequence Analysis	20	21-Sep-15	0%	20	16-Oct-15	17-Dec-15	13-Jan-16	63	0	0%
ARDD0718	Viaduct A - Target Geometry Analysis	20	19-Oct-15	0%	20	13-Nov-15	14-Jan-16	10-Feb-16	63	0	0%
ARDD0719	Viaduct A - Segment Geometry Schedules	10	16-Nov-15	0%	10	27-Nov-15	11-Feb-16	24-Feb-16	63	8	0%
ARDD0719-1	Viaduct A - Issue of Pierhead Segments Bridge A1, A2	0		0%	0	09-Dec-15		27-Apr-16	100	10	0%
ARDD0719-3	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A2 (Final	0		0%	0	09-Dec-15		27-Apr-16	100	10	0%
ARDD0719-4	Viaduct A - Issue of Casting Data and Segment Catalogue Bridge A1 (Final	0		0%	0	09-Dec-15		24-Feb-16	55	0	0%
ARDD0719-5	Viaduct A - Issue Erection Manual	40	10-Dec-15	0%	40	03-Feb-16	25-Feb-16	20-Apr-16	55	0	0%
Viaduct C											
ARDD0724-5	Viaduct C - Issue Erection Manual	30	21-Sep-15	0%	30	30-Oct-15	13-Apr-15	22-May-15	-115	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

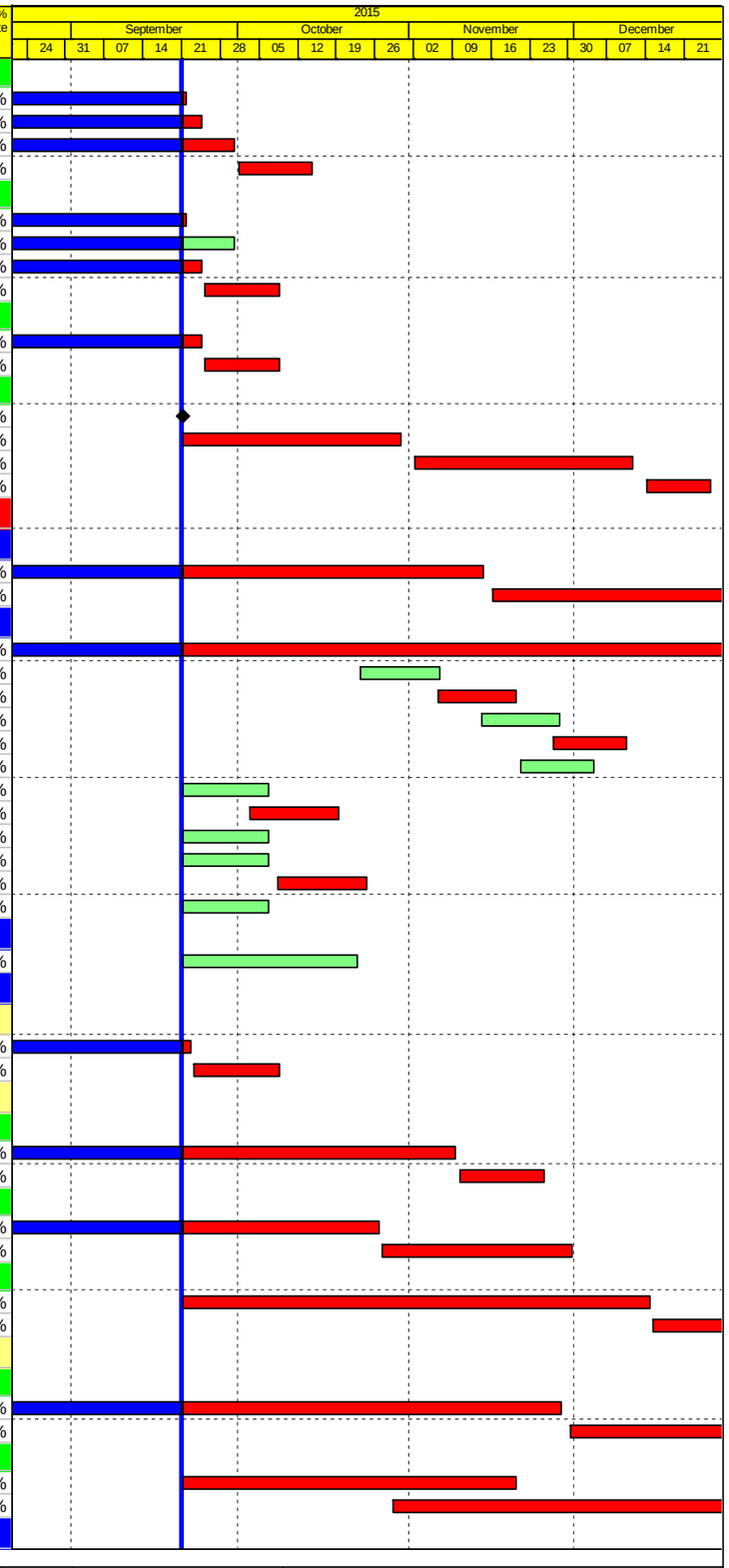
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 2 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Viaduct E5 and E6											
ARDD0734	Viaduct E5 & E6 - Segment Geometry Schedules	10	05-May-14 A	90%	1	21-Sep-15	17-Jul-15	17-Jul-15	-46	7	90%
TGP0560	Viaduct E5 & E6 - Issue of Optimised Casting Data and Segment Catalogu	20	30-Apr-15 A	80%	4	24-Sep-15	29-Jul-15	03-Aug-15	-38	74	80%
TGP0570	Viaduct E5 & E6 - Issue of Optimised Casting Data and Segment Catalogu	40	30-Apr-15 A	80%	8	30-Sep-15	08-Jul-15	17-Jul-15	-53	0	80%
TGP0590	Viaduct E5 & E6 - Issue Erection Manual	10	01-Oct-15	0%	10	14-Oct-15	20-Jul-15	31-Jul-15	-53	132	0%
Viaduct E7 & E8											
ARDD0739	Viaduct E7 & E8 - Segment Geometry Schedules	10	05-May-14 A	90%	1	21-Sep-15	17-Jul-15	17-Jul-15	-46	3	90%
TGP0760	Viaduct E7 & E8 - Issue of Optimised Casting Data and Segment Catalogu	40	31-Jul-15 A	80%	8	30-Sep-15	10-Oct-16	19-Oct-16	275	386	80%
TGP0770	Viaduct E7 & E8 - Issue of Optimised Casting Data and Segment Catalogu	20	31-Jul-15 A	80%	4	24-Sep-15	14-Jul-15	17-Jul-15	-49	0	80%
TGP0790	Viaduct E7 & E8 - Issue Erection Manual	10	25-Sep-15	0%	10	08-Oct-15	20-Jul-15	31-Jul-15	-49	136	0%
Viaduct E2											
TGP0260	Viaduct E2 - Issue of Optimised Casting Data and Segment Catalogue Brid	20	04-May-15 A	80%	4	24-Sep-15	11-Dec-14	16-Dec-14	-202	0	80%
TGP0290	Viaduct E2 - Issue of Erection Manual	10	25-Sep-15	0%	10	08-Oct-15	19-Jan-15	30-Jan-15	-179	0	0%
Viaduct F											
ARDD0751	Viaduct F - Confirmation of Erection Sequence from Freyssinet	0		0%	0	21-Sep-15		20-Jan-15	-173	0	0%
ARDD0752	Viaduct F - Erection Sequence Analysis	30	21-Sep-15	0%	30	30-Oct-15	21-Jan-15	03-Mar-15	-173	0	0%
ARDD0753	Viaduct F - Target Geometry Analysis	30	02-Nov-15	0%	30	11-Dec-15	04-Mar-15	14-Apr-15	-173	0	0%
ARDD0754	Viaduct F - Segment Geometry Schedules	10	14-Dec-15	0%	10	25-Dec-15	15-Apr-15	28-Apr-15	-173	0	0%
Major Procurement											
Marine Permanent Navigaion Aids											
PR65011	Design & Approvals for Marine Navigation Aids	150	23-Oct-13 A	70%	45	14-Nov-15	15-Aug-15	08-Oct-15	-31	0	55%
PR65012	Procure & Deliver Marine Navigation Aids	240	16-Nov-15	0%	240	06-Sep-16	09-Oct-15	01-Aug-16	-31	0	0%
Tower Cranes											
PR66011	Procure & Deliver Tower Cranes	236	03-Oct-14 A	21.61%	185	09-May-16	28-Apr-15	07-Dec-15	-121	814	0%
PR66013	Erect & Commission Tower Crane @ E4	12	23-Oct-15	0%	12	06-Nov-15	19-Jan-19	01-Feb-19	906	906	0%
PR66014	Erect & Commission Tower Crane @ E5	12	06-Nov-15	0%	12	20-Nov-15	28-Aug-15	11-Sep-15	-54	8	0%
PR66015	Erect & Commission Tower Crane @ E6	12	14-Nov-15	0%	12	28-Nov-15	17-Nov-15	30-Nov-15	2	5	0%
PR66016	Erect & Commission Tower Crane @ E7	12	27-Nov-15	0%	12	10-Dec-15	06-Nov-15	19-Nov-15	-18	5	0%
PR66017	Erect & Commission Tower Crane @ E8	12	21-Nov-15	0%	12	04-Dec-15	06-Jan-16	19-Jan-16	36	13	0%
PR66018	Erect & Commission Tower Crane @ E9	12	21-Sep-15	0%	12	06-Oct-15	19-Jan-19	01-Feb-19	930	930	0%
PR66019	Erect & Commission Tower Crane @ E10	12	03-Oct-15	0%	12	19-Oct-15	25-Jul-15	08-Aug-15	-53	0	0%
PR66021	Erect & Commission Tower Crane @ E12A	12	21-Sep-15	0%	12	06-Oct-15	24-Oct-15	07-Nov-15	25	182	0%
PR66022	Erect & Commission Tower Crane @ E12B	12	21-Sep-15	0%	12	06-Oct-15	05-Feb-16	22-Feb-16	110	182	0%
PR66023	Erect & Commission Tower Crane @ E13-Sth	12	08-Oct-15	0%	12	24-Oct-15	18-Jul-15	01-Aug-15	-63	154	0%
PR66024	Erect & Commission Tower Crane @ E13-Nth	12	21-Sep-15	0%	12	06-Oct-15	04-Feb-16	20-Feb-16	109	205	0%
Equipment Platforms for Tower Cranes											
PR66026	Inst.Temp.Eqpt.Platform (piles & deck) @ E4	24	21-Sep-15	0%	24	22-Oct-15	19-Dec-18	18-Jan-19	906	0	0%
Deck Segment Installation Equipment											
Launching Gantry 2											
PR67043	Launching Gantry 2 Fabrication	142	16-Jun-14 A	98.59%	2	22-Sep-15	15-Oct-14	16-Oct-14	-278	0	100%
PR67044	Launching Gantry 2 Delivery	12	23-Sep-15	0%	12	08-Oct-15	17-Oct-14	30-Oct-14	-278	0	0%
Lifting Frames											
Lifting Frames 1 & 2											
PR68013	Lifting Frame 1&2 Fabrication	85	24-Jan-15 A	52.94%	40	09-Nov-15	29-Apr-15	16-Jun-15	-120	0	0%
PR68014	Lifting Frame 1&2 Delivery	14	10-Nov-15	0%	14	25-Nov-15	17-Jun-15	04-Jul-15	-120	0	0%
Lifting Frames 3 & 4											
PR68017	Lifting Frame 3&4 Fabrication	85	29-Sep-14 A	67.06%	28	26-Oct-15	24-Apr-15	28-May-15	-124	0	10%
PR68018	Lifting Frame 3&4 Delivery	30	27-Oct-15	0%	30	30-Nov-15	29-May-15	04-Jul-15	-124	40	0%
Lifting Frames 5 & 6											
PR68019	Lifting Frame 5&6 Design	70	21-Sep-15	0%	70	14-Dec-15	22-Jan-15	21-Apr-15	-196	0	0%
PR68020	Lifting Frame 5&6 Approval	60	15-Dec-15	0%	60	29-Feb-16	22-Apr-15	04-Jul-15	-196	0	0%
Unloading Frames											
Type 1 (at B6 and D6)											
PR69110	Unloading Frame Type 1 Fabrication	80	23-Feb-15 A	28.75%	57	28-Nov-15	09-May-15	17-Jul-15	-112	0	0%
PR69120	Unloading Frame Type 1 Delivery (UF-1A & UF-1B)	24	30-Nov-15	0%	24	29-Dec-15	18-Jul-15	14-Aug-15	-112	0	0%
Type 2 (at Bridge E1)											
PR69170	Unloading Frame Type 2 Design	50	21-Sep-15	0%	50	20-Nov-15	31-Aug-15	30-Oct-15	-18	0	0%
PR69180	Unloading Frame Type 2 Fabrication	80	29-Oct-15	0%	80	02-Feb-16	07-Oct-15	12-Jan-16	-18	0	0%
Deck Segments & Precast Pile Cap Shells											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

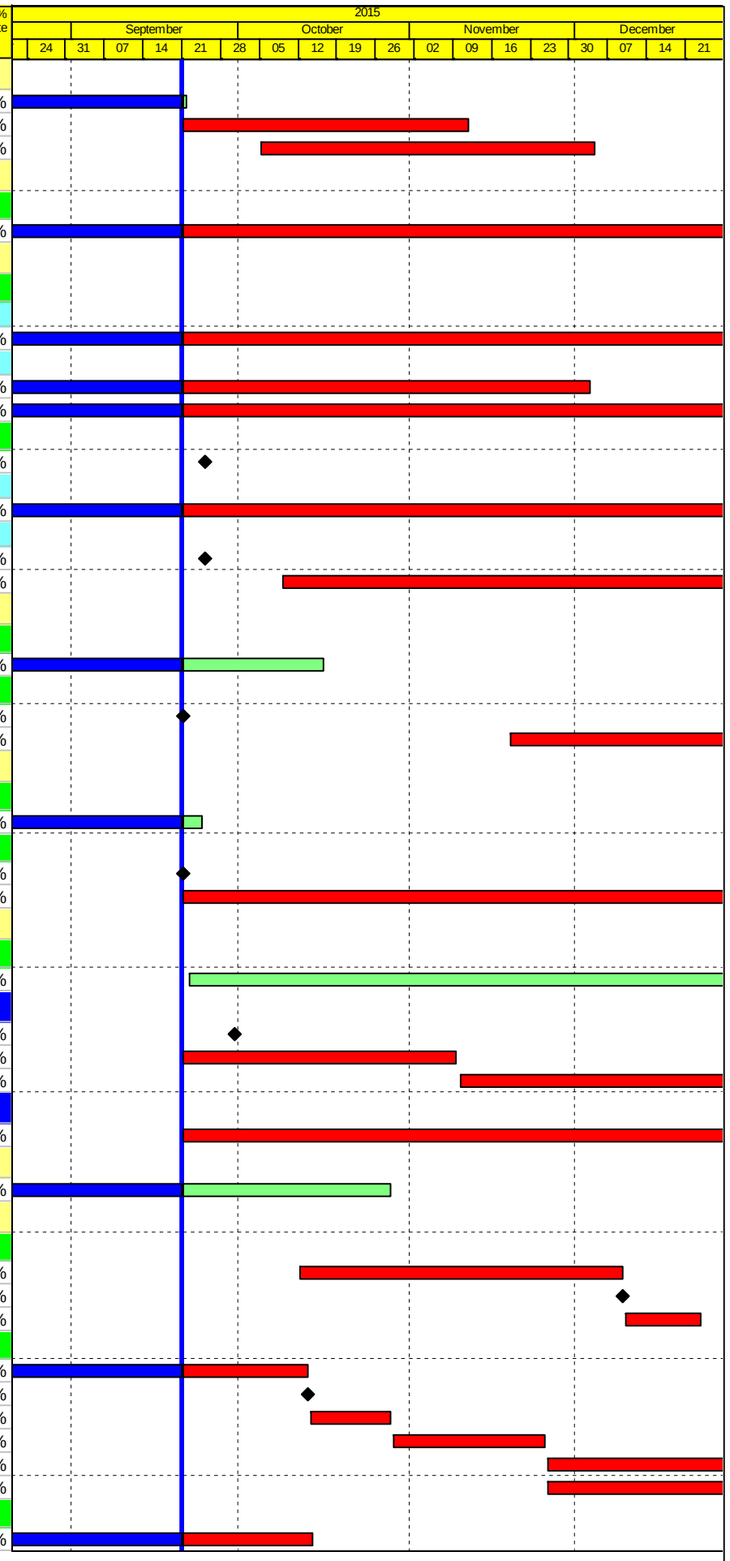
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 3 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Preliminaries											
MBBE0050	Precast Segment Mould Fabrication & Erection (Viaduct A)	52	24-Dec-14 A	98.08%	1	21-Sep-15	03-Mar-16	03-Mar-16	132	0	100%
MBBE0054	Precast Segment Mould Design (Viaduct F1 to F5)	42	21-Sep-15	0%	42	11-Nov-15	27-Aug-15	16-Oct-15	-21	0	0%
MBBE0056	Precast Segment Mould Fabrication & Erection (Viaduct F1 to F5)	52	05-Oct-15	0%	52	04-Dec-15	08-Sep-15	10-Nov-15	-21	59	0%
Viaduct B											
Precast Deck Segments											
MBBE130-1	B: Progressive Match Cast Segment Manufacture & Delivery remaining seg	598	24-Oct-14 A	23.91%	455	01-Apr-17	24-Nov-14	10-Jun-16	-244	0	10.48%
Viaduct E											
Precast Pile Caps											
Viaduct E2											
PP7260	Production of Viaduct E2 Marine Precast Pile Cap Shells	80	12-Nov-14 A	0%	85	04-Jan-16	21-Aug-15	01-Dec-15	-26	914	33%
Viaduct E5, E6, E7 & E8											
PP7120	Production of Viaduct E5 & E6 Marine Precast Pile Cap Shells	151	13-Apr-15 A	59.6%	61	03-Dec-15	25-Apr-15	09-Jul-15	-123	938	0%
PP7190	Production of Viaduct E7 & E8 Marine Precast Pile Cap Shells	151	13-Apr-15 A	45.7%	82	30-Dec-15	18-Jul-15	24-Oct-15	-55	917	0%
Precast Deck Segments											
MBE00014	Viaduct E2 - Pier Head Segment Casting	0	25-Sep-15	0%	0		17-Dec-14		-228	0	0%
Viaduct E1											
MBEE0130-5	E1: Progressive Segment Manufacture & Delivery remaining segments (18	457	08-Apr-15 A	2.41%	446	22-Mar-17	27-Jan-15	01-Aug-16	-192	553	0%
Viaduct E2											
MBEE0120-2	E2: Commence Segment Casting on Approval of DDA	0	25-Sep-15	0%	0		17-Dec-14		-228	0	0%
MBEE0130-7	E2: Progressive Segment Manufacture & Delivery remaining segments (41	376	09-Oct-15	0%	376	13-Jan-17	31-Dec-14	11-Apr-16	-228	24	0%
Viaduct D											
Precast Pile Caps											
MBDC0130-8	D: Progressive Pile Cap Shell Manufacture & Delivery remaining shells	143	29-Sep-14 A	85.31%	21	16-Oct-15	09-Jan-19	01-Feb-19	978	978	42.8%
Precast Deck Segments											
MBDE0120	D: Commence Segment Casting on Approval of DDA	0	21-Sep-15	0%	0		11-Dec-14		-229	0	0%
MBDE0130-7	D: Progressive Match Cast Segment Manufacture & Delivery (311 Nr)	315	19-Nov-15	0%	315	09-Dec-16	09-Feb-15	04-Mar-16	-229	0	0%
Viaduct C											
Precast Pile Caps											
MBCC0130-1	C: Progressive Pile Cap Shell Manufacture & Delivery remaining shells	117	01-Dec-14 A	96.58%	4	24-Sep-15	29-Jan-19	01-Feb-19	995	995	0%
Precast Deck Segments											
MBCE0120	C: Commence Segment Casting on Approval of DDA	0	21-Sep-15	0%	0		08-May-15		-113	0	0%
MBCE0130-1	C: Progressive Segment Manufacture & Delivery remaining segments (388	265	21-Sep-15	0%	265	13-Aug-16	08-May-15	30-Mar-16	-113	1	0%
Viaduct A											
Precast Pile Caps											
MBAC0130-1	A: Progressive Pile Cap Shell Manufacture & Delivery remaining shells	274	22-Sep-15	0%	274	25-Aug-16	04-Mar-16	04-Feb-17	132	6	0%
Parapets											
MBEE0090	Approval of DDA to start Precast Parapets/Barriers Casting	0	30-Sep-15	0%	0		30-Apr-15		-127	33	0%
PP6010	Procure Sub-Contractor for Precast Parapets/Barriers	40	21-Sep-15	0%	40	09-Nov-15	10-Mar-15	29-Apr-15	-159	0	0%
PP6011	Precast Parapets/Barriers Detail Design & Procure Moulds	120	10-Nov-15	0%	120	08-Apr-16	30-Apr-15	21-Sep-15	-159	0	0%
Materials											
PP7010	Procure Sub-contractor for Signs & Street Furniture	90	21-Sep-15	0%	90	09-Jan-16	31-Aug-15	16-Dec-15	-18	0	0%
In-Situ Formworks / Falseworks											
PPPF02	Design & Fabrication of Falsework / Formwork & Delivery	120	20-Feb-14 A	75%	30	28-Oct-15	26-Jul-16	29-Aug-16	248	417	75%
Bearings											
Viaduct A											
PPBRA1	Preliminary Design of Bearings - Viaduct A	50	12-Oct-15	0%	50	09-Dec-15	06-Oct-15	03-Dec-15	-5	0	0%
PPBRA2	Confirmation of bearing assumption - Viaduct A	0		0%	0	09-Dec-15		03-Dec-15	-5	0	0%
PPBRA3	Bearing design and submission - Viaduct A	12	10-Dec-15	0%	12	23-Dec-15	04-Dec-15	17-Dec-15	-5	0	0%
Viaduct C											
PPBRC1	Preliminary Design of Bearings - Viaduct C	50	22-Dec-14 A	64%	18	13-Oct-15	26-Sep-14	18-Oct-14	-292	0	65%
PPBRC2	Confirmation of bearing assumption - Viaduct C	0		0%	0	13-Oct-15		18-Oct-14	-292	0	0%
PPBRC3	Bearing design and submission - Viaduct C	12	14-Oct-15	0%	12	28-Oct-15	20-Oct-14	01-Nov-14	-292	0	0%
PPBRC4	Design check by ICE - Viaduct C	24	29-Oct-15	0%	24	25-Nov-15	03-Nov-14	29-Nov-14	-292	0	0%
PPBRC5	SO review & comment on design submission - Viaduct C	36	26-Nov-15	0%	36	09-Jan-16	01-Dec-14	14-Jan-15	-292	0	0%
PPBRC7	Manufacture of Bearing - Viaduct C	54	26-Nov-15	0%	54	30-Jan-16	01-Dec-14	04-Feb-15	-292	0	0%
Viaduct D											
PPBRD4	Design check by ICE - Viaduct D	24	20-Dec-14 A	20.83%	19	14-Oct-15	26-Nov-14	17-Dec-14	-242	0	20%



Actual Work
Planned Bar
Critical Bar
Milestone

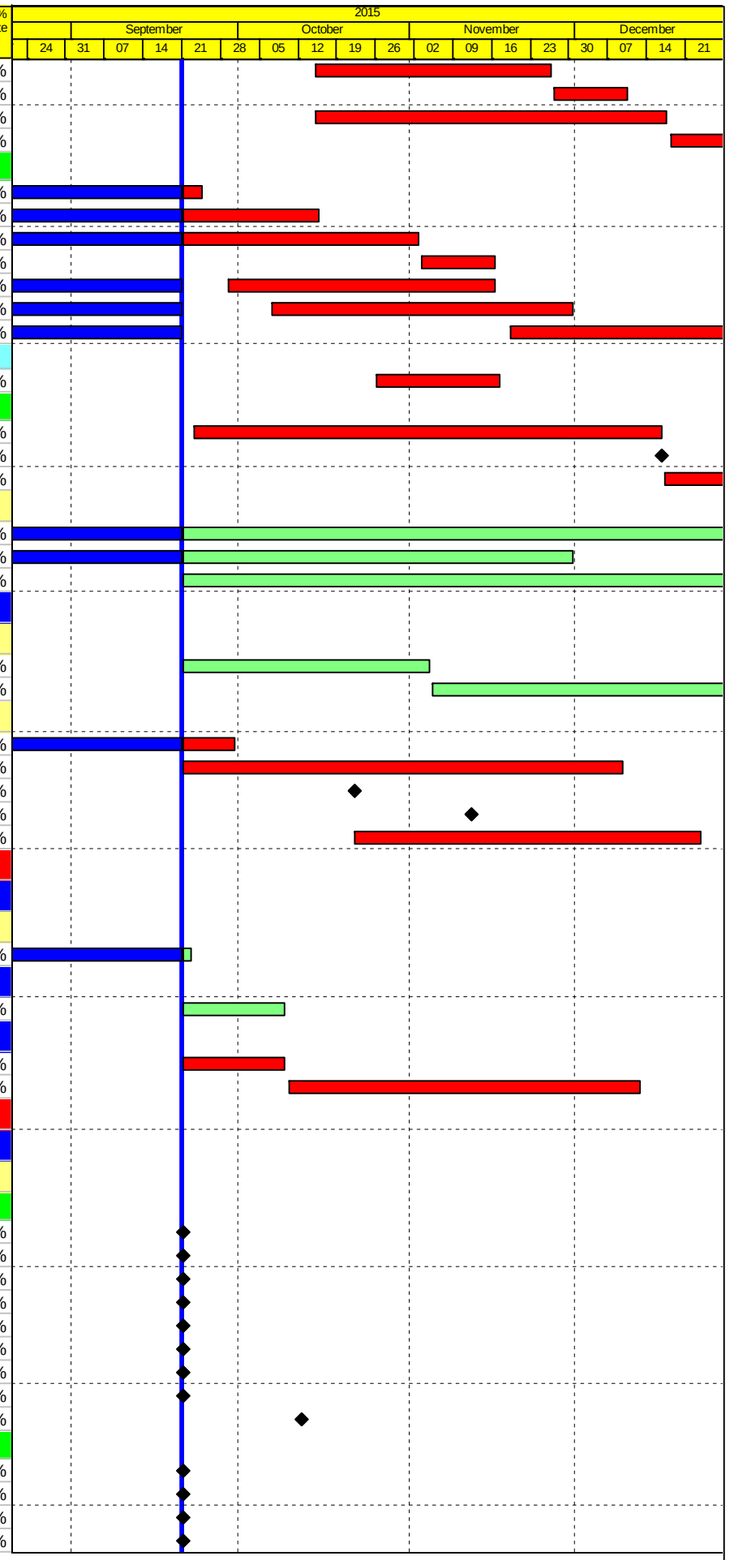
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 4 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
PPBRD5	SO review & comment on design submission - Viaduct D	36	15-Oct-15	0%	36	26-Nov-15	18-Dec-14	31-Jan-15	-242	0	0%
PPBRD6	Bearing Design Amendment & re-issue - Viaduct D	12	27-Nov-15	0%	12	10-Dec-15	09-Feb-15	25-Feb-15	-236	6	0%
PPBRD7	Manufacture of Bearing - Viaduct D	54	15-Oct-15	0%	54	17-Dec-15	18-Dec-14	25-Feb-15	-242	0	0%
PPBRD8	Testing Bearing - Viaduct D	18	18-Dec-15	0%	18	11-Jan-16	26-Feb-15	18-Mar-15	-242	0	0%
Viaduct E											
PPBRE3	Bearing design and submission - Viaduct E (E1, E2, E5, E6, E7 & E8)	12	06-Jan-14 A	66.67%	4	24-Sep-15	26-Sep-14	30-Sep-14	-292	4	65%
PPBRE4	Design check by ICE - Viaduct E (E1, E2, E5, E6, E7 & E8)	24	06-Jun-14 A	16.67%	20	15-Oct-15	22-Sep-14	16-Oct-14	-296	2	16%
PPBRE5	SO review & comment on design submission - Viaduct E (E1, E2, E5, E6, E	36	10-Oct-14 A	5.56%	34	02-Nov-15	19-Sep-14	30-Oct-14	-298	0	5%
PPBRE6	Bearing Design Amendment & re-issue - Viaduct E (E1, E2, E5, E6, E7 & E	12	03-Nov-15	0%	12	16-Nov-15	31-Oct-14	13-Nov-14	-298	0	0%
PPBRE7	Manufacture of Bearing - Viaduct E (E1, E2, E5, E6, E7 & E8)	54	02-Jun-14 A	25.93%	40	16-Nov-15	26-Sep-14	13-Nov-14	-298	0	5%
PPBRE8	Testing Bearing - Viaduct E (E1, E2, E5, E6, E7 & E8)	24	30-Jun-14 A	0%	46	30-Nov-15	06-Oct-14	27-Nov-14	-298	0	5%
PPBRE9	Bearing Delivery - Viaduct E (E1, E2, E5, E6, E7 & E8)	48	18-Oct-14 A	4.17%	46	14-Jan-16	17-Nov-14	12-Jan-15	-298	0	5%
Bridge E1											
PP7360	Site preparation Bearings for Viaduct E1	18	26-Oct-15	0%	18	17-Nov-15	19-Dec-14	12-Jan-15	-232	48	0%
Viaduct F											
PPBRF1	Preliminary Design of Bearings - Viaduct F	70	23-Sep-15	0%	70	16-Dec-15	14-Apr-15	08-Jul-15	-135	0	0%
PPBRF2	Confirmation of bearing assumption - Viaduct F	0		0%	0	16-Dec-15		08-Jul-15	-135	0	0%
PPBRF3	Bearing design and submission - Viaduct F	12	17-Dec-15	0%	12	02-Jan-16	09-Jul-15	22-Jul-15	-135	0	0%
Movement Joints											
PPMJ01	Design & Submission of MJ	138	08-Feb-14 A	29.71%	97	18-Jan-16	02-Oct-15	27-Jan-16	8	902	30%
PPMJ02-1	MJ Design Approval	96	26-May-14 A	39.58%	58	30-Nov-15	02-Oct-15	09-Dec-15	8	130	40%
PPMJ02-2	Manufacture & delivery of MJ	188	21-Sep-15	0%	188	12-May-16	02-Oct-15	23-May-16	8	0	0%
Other Sub-Contract Procurement											
Pavement											
PP7760-2	Procure Pavement Viaduct Sub-Contractor	36	21-Sep-15	0%	36	04-Nov-15	08-Apr-16	21-May-16	159	0	0%
PP7760-4	Pavement Viaduct Sub-Contractor - Materials approvals & MS	90	05-Nov-15	0%	90	24-Feb-16	23-May-16	06-Sep-16	159	172	0%
Structural Health Monitoring System (SHMS)											
PP7778	SHMS - So approval of Final System Proposal	30	16-Dec-14 A	73.33%	8	30-Sep-15	16-Jan-15	24-Jan-15	-201	52	75%
PP7780	SHMS - Prepare Civil Work Provision	66	21-Sep-15	0%	66	09-Dec-15	05-Dec-14	26-Feb-15	-234	0	0%
PP7782	SHMS - Submit Precast Pile Cap Shell SHMS details for E5-E6-E7-E8	0	22-Oct-15	0%	0		12-Feb-15		-202	32	0%
PP7786	SHMS - Submit Segment SHMS details for E5-E6-E7-E8	0	12-Nov-15	0%	0		10-Jun-15		-128	0	0%
PP7788	SHMS - FAT & Delivery for Bridge E5-E6-E7-E8 equipment	54	22-Oct-15	0%	54	23-Dec-15	16-Jan-15	23-Mar-15	-225	2	0%
Site Preparation / Mobilisations											
Tree Felling / Transplant											
Approved Trees in Contract											
TR00220	Tree transplant for Viaduct B - affecting Pier B18 & Abutment B	90	17-Feb-14 A	97.78%	2	22-Sep-15	11-Jan-16	12-Jan-16	88	940	95%
Temporary Working Platform at North Lantau											
PR08080	Inst.Unloading Frame incl. T&C for seg.lift (incl. Load Test)	15	21-Sep-15	0%	15	09-Oct-15	16-Jan-19	01-Feb-19	927	927	0%
Unloading Jetty at HKBCF											
PR09060	Unloading Jetty at HKBCF - Conditional survey & finalize jetty design modifi	15	21-Sep-15	0%	15	09-Oct-15	07-Jul-15	24-Jul-15	-58	0	0%
PR09070	Unloading Jetty at HKBCF - Install Unloading Frame incl. testing/commissio	52	10-Oct-15	0%	52	12-Dec-15	25-Jul-15	02-Oct-15	-58	165	0%
CONSTRUCTION											
PILING AND SUBSTRUCTURE											
Viaduct A											
Milestones - Marine Foundation											
GFXX116-1	A7 (A1e) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX121-1	A6 (A1f) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX123-1	A5 (A2a) - Start date for piling	0	21-Sep-15	0%	0		01-Feb-19		999	999	0%
GFXX126-1	A5 (A2a) - Completion of piling works	0		0%	0	21-Sep-15		30-Mar-16	153	0	0%
GFXX128-1	A4 (A2b) - Start date for piling	0	21-Sep-15	0%	0		01-Feb-19		999	999	0%
GFXX131-1	A4 (A2b) - Completion of piling works	0		0%	0	21-Sep-15		29-Mar-16	152	0	0%
GFXX136-1	A3 (A2c) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX138-1	A2 (A2d) - Start date for piling	0	21-Sep-15	0%	0		02-Feb-16		109	0	0%
GFXX141-1	A2 (A2d) - Completion of piling works	0		0%	0	12-Oct-15		24-Feb-16	109	12	0%
Milestones - Land Foundation											
ZA00021	A8 (A1d) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
ZA00030	A9 (A1c) - Start date for piling	0	21-Sep-15	0%	0		01-Feb-19		999	999	0%
ZA00031	A9 (A1c) - Completion of piling works	0		0%	0	21-Sep-15		03-Feb-16	111	13	0%
ZA00051	A11 (A1a) - Completion of piling works	0	21-Sep-15	0%	0		20-Jan-16		98	101	0%



Actual Work
Planned Bar
Critical Bar
Milestone

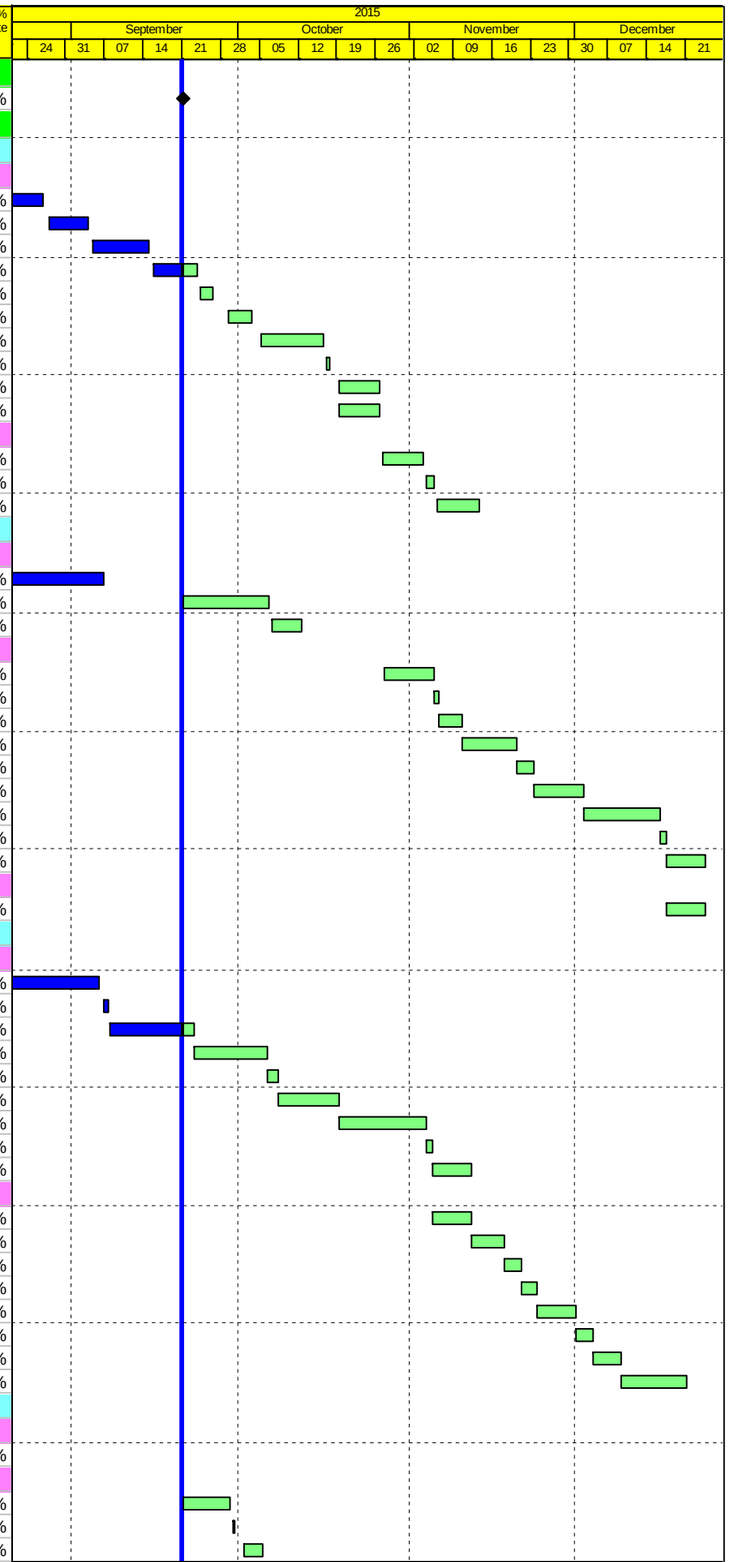
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 5 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
General											
ZA00010	Viaduct A - Approval of Foundation DDA DP11.01	0		0%	0	21-Sep-15		01-Feb-19	880	880	0%
Bridge A2											
Pier A1 (A2e)											
Pier Works											
SA2E0180	A1 (A2e) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (1st Lift)	5	20-Aug-15 A	100%	0	27-Aug-15 A					100%
SA2E0200	A1 (A2e) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift	3	28-Aug-15 A	100%	0	04-Sep-15 A					100%
SA2E0210	A1 (A2e) - Type 4B-MJ Pier Scaffolding (2nd Lift)	2	05-Sep-15 A	100%	0	15-Sep-15 A					100%
SA2E0220	A1 (A2e) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	6	16-Sep-15 A	50%	3	23-Sep-15	08-Apr-16	11-Apr-16	157	0	50%
SA2E0240	A1 (A2e) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (2nd Lil	3	24-Sep-15	0%	3	26-Sep-15	12-Apr-16	15-Apr-16	157	0	0%
SA2E0300	A1 (A2e) - Type 4B-MJ Pier Head Scaffolding	4	29-Sep-15	0%	4	03-Oct-15	16-Apr-16	21-Apr-16	157	0	0%
SA2E0310	A1 (A2e) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	10	05-Oct-15	0%	10	16-Oct-15	22-Apr-16	04-May-16	157	0	0%
SA2E0330	A1 (A2e) - Type 4B-MJ Pier Head Concreting	1	17-Oct-15	0%	1	17-Oct-15	05-May-16	05-May-16	157	0	0%
SA2E0340	A1 (A2e) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaffc	6	19-Oct-15	0%	6	26-Oct-15	06-May-16	12-May-16	157	0	0%
SA2E0350	A1 (A2e) - Type 4B- Bearing Plinth	6	19-Oct-15	0%	6	26-Oct-15	06-May-16	12-May-16	157	0	0%
Pier Head Segments											
SA2E0380	A1 (A2e) - Pier Head Segment - Temporary Platform	6	27-Oct-15	0%	6	03-Nov-15	13-May-16	21-May-16	157	0	0%
SA2E0381	A1 (A2e) - Pier Head Segment Bearings	2	04-Nov-15	0%	2	05-Nov-15	23-May-16	24-May-16	157	0	0%
SA2E0382	A1 (A2e) - Pier Head Segment Lift & Temp Support (2 seg)	7	06-Nov-15	0%	7	13-Nov-15	25-May-16	03-Jun-16	157	0	0%
Pier A2 (A2d)											
Foundation Works											
GFXX139	A2 (A2d) - Bored Piles (2.20m dia. x 3 nos)	120	20-May-15 A	100%	0	07-Sep-15 A					100%
GFXX140	A2 (A2d) - Sonic & Interface Coring	12	21-Sep-15	0%	12	06-Oct-15	02-Feb-16	18-Feb-16	109	0	0%
GFXX141	A2 (A2d) - Dismantle removable panels of temp. platform	5	07-Oct-15	0%	5	12-Oct-15	19-Feb-16	24-Feb-16	109	0	0%
Pile Cap Works											
SA2D0070	A2 (A2d) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	27-Oct-15	0%	7	05-Nov-15	25-Feb-16	03-Mar-16	96	0	0%
SA2D0080	A2 (A2d) - Marine Pile Cap M2b - Install precast shell in position	1	05-Nov-15	0%	1	06-Nov-15	04-Mar-16	04-Mar-16	96	0	0%
SA2D0090	A2 (A2d) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	06-Nov-15	0%	3	10-Nov-15	05-Mar-16	08-Mar-16	96	0	0%
SA2D0100	A2 (A2d) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	10-Nov-15	0%	9	20-Nov-15	09-Mar-16	18-Mar-16	96	0	0%
SA2D0120	A2 (A2d) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	20-Nov-15	0%	2	23-Nov-15	19-Mar-16	21-Mar-16	96	0	0%
SA2D0130	A2 (A2d) - Marine Pile Cap M2b - Pile cut down	8	23-Nov-15	0%	8	02-Dec-15	22-Mar-16	02-Apr-16	96	0	0%
SA2D0140	A2 (A2d) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	02-Dec-15	0%	12	16-Dec-15	05-Apr-16	19-Apr-16	96	0	0%
SA2D0150	A2 (A2d) - Marine Pile Cap M2b - Concreting	1	16-Dec-15	0%	1	17-Dec-15	21-Apr-16	21-Apr-16	96	0	0%
SA2D0160	A2 (A2d) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	17-Dec-15	0%	6	24-Dec-15	22-Apr-16	28-Apr-16	96	0	0%
Pier Works											
SA2D0170	A2 (A2d) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	17-Dec-15	0%	6	24-Dec-15	22-Apr-16	28-Apr-16	96	0	0%
Pier A3 (A2c)											
Pile Cap Works											
SA2C0070	A3 (A2c) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	21-Aug-15 A	100%	0	06-Sep-15 A					100%
SA2C0080	A3 (A2c) - Marine Pile Cap M2b -Install precast shell in position	1	07-Sep-15 A	100%	0	07-Sep-15 A					100%
SA2C0090	A3 (A2c) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	08-Sep-15 A	30%	2	23-Sep-15	21-Mar-16	23-Mar-16	146	0	30%
SA2C0100	A3 (A2c) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	23-Sep-15	0%	9	06-Oct-15	23-Mar-16	07-Apr-16	146	0	0%
SA2C0120	A3 (A2c) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	06-Oct-15	0%	2	08-Oct-15	07-Apr-16	09-Apr-16	146	0	0%
SA2C0130	A3 (A2c) - Marine Pile Cap M2b - Pile cut down	8	08-Oct-15	0%	8	19-Oct-15	09-Apr-16	21-Apr-16	146	0	0%
SA2C0140	A3 (A2c) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	19-Oct-15	0%	12	04-Nov-15	21-Apr-16	06-May-16	146	0	0%
SA2C0150	A3 (A2c) - Marine Pile Cap M2b - Concreting	1	04-Nov-15	0%	1	05-Nov-15	06-May-16	07-May-16	146	0	0%
SA2C0160	A3 (A2c) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	05-Nov-15	0%	6	12-Nov-15	07-May-16	16-May-16	146	0	0%
Pier Works											
SA2C0170	A3 (A2c) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	05-Nov-15	0%	6	12-Nov-15	07-May-16	16-May-16	146	0	0%
SA2C0180	A3 (A2c) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	12-Nov-15	0%	5	18-Nov-15	16-May-16	23-May-16	146	0	0%
SA2C0200	A3 (A2c) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	18-Nov-15	0%	3	21-Nov-15	23-May-16	27-May-16	146	0	0%
SA2C0210	A3 (A2c) - Type 4B Pier Scaffolding (2nd Lift)	2	21-Nov-15	0%	2	24-Nov-15	27-May-16	30-May-16	146	0	0%
SA2C0220	A3 (A2c) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	24-Nov-15	0%	6	01-Dec-15	30-May-16	08-Jun-16	146	0	0%
SA2C0240	A3 (A2c) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	01-Dec-15	0%	3	04-Dec-15	08-Jun-16	13-Jun-16	146	0	0%
SA2C0300	A3 (A2c) - Type 4B Pier Head Scaffolding	4	04-Dec-15	0%	4	09-Dec-15	13-Jun-16	20-Jun-16	146	0	0%
SA2C0310	A3 (A2c) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	09-Dec-15	0%	10	21-Dec-15	20-Jun-16	05-Jul-16	146	0	0%
Pier A4 (A2b)											
Foundation Works											
GFXX131	A4 (A2b) - Dismantle removable panels of temp. platform	5	15-Aug-15 A	100%	0	21-Aug-15 A					100%
Pile Cap Works											
SA2B0070	A4 (A2b) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	21-Sep-15	0%	7	29-Sep-15	29-Mar-16	07-Apr-16	150	0	0%
SA2B0080	A4 (A2b) - Marine Pile Cap M2b - Install precast shell in position	1	30-Sep-15	0%	1	30-Sep-15	07-Apr-16	08-Apr-16	150	0	0%
SA2B0090	A4 (A2b) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	02-Oct-15	0%	3	05-Oct-15	08-Apr-16	12-Apr-16	150	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

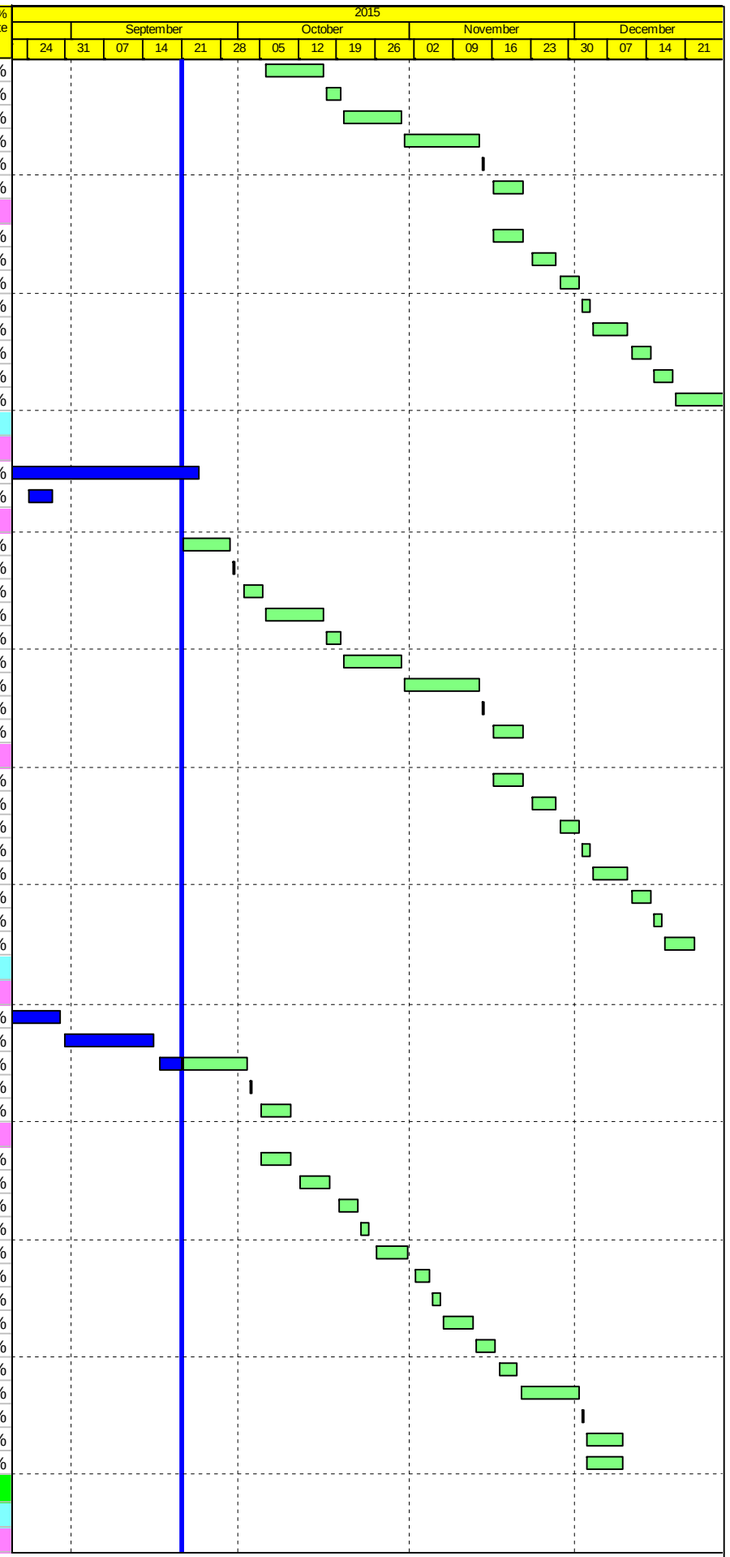
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 6 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SA2B0100	A4 (A2b) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	06-Oct-15	0%	9	16-Oct-15	12-Apr-16	25-Apr-16	150	0	0%
SA2B0120	A4 (A2b) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	17-Oct-15	0%	2	19-Oct-15	25-Apr-16	27-Apr-16	150	0	0%
SA2B0130	A4 (A2b) - Marine Pile Cap M2b - Pile cut down	8	20-Oct-15	0%	8	30-Oct-15	27-Apr-16	07-May-16	150	0	0%
SA2B0140	A4 (A2b) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	31-Oct-15	0%	12	13-Nov-15	07-May-16	24-May-16	150	0	0%
SA2B0150	A4 (A2b) - Marine Pile Cap M2b - Concreting	1	14-Nov-15	0%	1	14-Nov-15	24-May-16	25-May-16	150	0	0%
SA2B0160	A4 (A2b) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	16-Nov-15	0%	6	21-Nov-15	25-May-16	03-Jun-16	150	0	0%
Pier Works											
SA2B0170	A4 (A2b) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	16-Nov-15	0%	6	21-Nov-15	25-May-16	03-Jun-16	150	0	0%
SA2B0180	A4 (A2b) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	23-Nov-15	0%	5	27-Nov-15	03-Jun-16	11-Jun-16	150	0	0%
SA2B0200	A4 (A2b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	28-Nov-15	0%	3	01-Dec-15	11-Jun-16	16-Jun-16	150	0	0%
SA2B0210	A4 (A2b) - Type 4B Pier Scaffolding (2nd Lift)	2	02-Dec-15	0%	2	03-Dec-15	16-Jun-16	20-Jun-16	150	0	0%
SA2B0220	A4 (A2b) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	04-Dec-15	0%	6	10-Dec-15	20-Jun-16	28-Jun-16	150	0	0%
SA2B0240	A4 (A2b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	11-Dec-15	0%	3	14-Dec-15	28-Jun-16	04-Jul-16	150	0	0%
SA2B0300	A4 (A2b) - Type 4B Pier Head Scaffolding	4	15-Dec-15	0%	4	18-Dec-15	04-Jul-16	08-Jul-16	150	0	0%
SA2B0310	A4 (A2b) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	19-Dec-15	0%	10	02-Jan-16	08-Jul-16	22-Jul-16	150	0	0%
Pier A5 (A2a)											
Foundation Works											
GFXX125	A5 (A2a) - Sonic & Interface Coring	12	11-Aug-15 A	100%	0	24-Sep-15 A					100%
GFXX126	A5 (A2a) - Dismantle removable panels of temp. platform	5	24-Aug-15 A	100%	0	28-Aug-15 A					100%
Pile Cap Works											
SA2A0070	A5 (A2a) - Marine Pile Cap M2b - Inst.Floating Seal & Casing Head Steelw	7	21-Sep-15	0%	7	29-Sep-15	30-Mar-16	08-Apr-16	151	0	0%
SA2A0080	A5 (A2a) - Marine Pile Cap M2b - Install precast shell in position	1	30-Sep-15	0%	1	30-Sep-15	08-Apr-16	09-Apr-16	151	0	0%
SA2A0090	A5 (A2a) - Marine Pile Cap M2b - Inst.Access & make Watertight	3	02-Oct-15	0%	3	05-Oct-15	09-Apr-16	13-Apr-16	151	0	0%
SA2A0100	A5 (A2a) - Marine Pile Cap M2b - Weld Fin plates/Plug Rebar & Concrete	9	06-Oct-15	0%	9	16-Oct-15	13-Apr-16	26-Apr-16	151	0	0%
SA2A0120	A5 (A2a) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	17-Oct-15	0%	2	19-Oct-15	26-Apr-16	28-Apr-16	151	0	0%
SA2A0130	A5 (A2a) - Marine Pile Cap M2b - Pile cut down	8	20-Oct-15	0%	8	30-Oct-15	28-Apr-16	09-May-16	151	0	0%
SA2A0140	A5 (A2a) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	31-Oct-15	0%	12	13-Nov-15	09-May-16	25-May-16	151	0	0%
SA2A0150	A5 (A2a) - Marine Pile Cap M2b - Concreting	1	14-Nov-15	0%	1	14-Nov-15	25-May-16	27-May-16	151	0	0%
SA2A0160	A5 (A2a) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	16-Nov-15	0%	6	21-Nov-15	27-May-16	04-Jun-16	151	0	0%
Pier Works											
SA2A0170	A5 (A2a) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	16-Nov-15	0%	6	21-Nov-15	27-May-16	04-Jun-16	151	0	0%
SA2A0180	A5 (A2a) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	23-Nov-15	0%	5	27-Nov-15	04-Jun-16	13-Jun-16	151	0	0%
SA2A0200	A5 (A2a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	28-Nov-15	0%	3	01-Dec-15	13-Jun-16	18-Jun-16	151	0	0%
SA2A0210	A5 (A2a) - Type 4B Pier Scaffolding (2nd Lift)	2	02-Dec-15	0%	2	03-Dec-15	18-Jun-16	22-Jun-16	151	0	0%
SA2A0220	A5 (A2a) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	04-Dec-15	0%	6	10-Dec-15	22-Jun-16	30-Jun-16	151	0	0%
SA2A0240	A5 (A2a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	11-Dec-15	0%	3	14-Dec-15	30-Jun-16	05-Jul-16	151	0	0%
SA2A0250	A5 (A2a) - Type 4B Pier Scaffolding (3rd Lift)	2	15-Dec-15	0%	2	16-Dec-15	05-Jul-16	07-Jul-16	151	0	0%
SA2A0260	A5 (A2a) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	17-Dec-15	0%	5	22-Dec-15	07-Jul-16	14-Jul-16	151	0	0%
Pier A6 (A1f)											
Pile Cap Works											
SA1F0110	A6 (A1f) - Marine Pile Cap M2 - Dewater precast shell / Remove Lifting Fra	2	21-Aug-15 A	100%	0	30-Aug-15 A					100%
SA1F0120	A6 (A1f) - Marine Pile Cap M2 - Pile cut down	12	31-Aug-15 A	100%	0	16-Sep-15 A					100%
SA1F0130	A6 (A1f) - Marine Pile Cap M2 - Rebar fixing, inst.inserts etc	12	17-Sep-15 A	25%	9	02-Oct-15	18-Mar-16	31-Mar-16	143	0	25%
SA1F0140	A6 (A1f) - Marine Pile Cap M2 - Concreting	1	03-Oct-15	0%	1	03-Oct-15	01-Apr-16	01-Apr-16	143	0	0%
SA1F0164	A6 (A1f) - Marine Pile Cap M2 - Curing incl. CJ preparation	6	05-Oct-15	0%	6	10-Oct-15	02-Apr-16	09-Apr-16	143	0	0%
Pier Works											
SA1F0170	A6 (A1f) - Type 4B-MJ Pier Temp. Support Platform & Scaffold (1st Lift)	6	05-Oct-15	0%	6	10-Oct-15	02-Apr-16	09-Apr-16	143	0	0%
SA1F0180	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (1st Lift)	5	12-Oct-15	0%	5	17-Oct-15	11-Apr-16	16-Apr-16	143	0	0%
SA1F0200	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	19-Oct-15	0%	3	22-Oct-15	18-Apr-16	21-Apr-16	143	0	0%
SA1F0210	A6 (A1f) - Type 4B-MJ Pier Scaffolding (2nd Lift)	2	23-Oct-15	0%	2	24-Oct-15	22-Apr-16	23-Apr-16	143	0	0%
SA1F0220	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	5	26-Oct-15	0%	5	31-Oct-15	25-Apr-16	29-Apr-16	143	0	0%
SA1F0240	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (2nd Lift	3	02-Nov-15	0%	3	04-Nov-15	30-Apr-16	04-May-16	143	0	0%
SA1F0250	A6 (A1f) - Type 4B-MJ Pier Scaffolding (3rd Lift)	2	05-Nov-15	0%	2	06-Nov-15	05-May-16	06-May-16	143	0	0%
SA1F0260	A6 (A1f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (3rd Lift)	5	07-Nov-15	0%	5	12-Nov-15	07-May-16	12-May-16	143	0	0%
SA1F0280	A6 (A1f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (3rd Lift	3	13-Nov-15	0%	3	16-Nov-15	13-May-16	18-May-16	143	0	0%
SA1F0300	A6 (A1f) - Type 4B-MJ Pier Head Scaffolding	4	17-Nov-15	0%	4	20-Nov-15	19-May-16	23-May-16	143	0	0%
SA1F0310	A6 (A1f) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	9	21-Nov-15	0%	9	01-Dec-15	24-May-16	04-Jun-16	143	0	0%
SA1F0330	A6 (A1f) - Type 4B-MJ Pier Head Concreting	1	02-Dec-15	0%	1	02-Dec-15	06-Jun-16	06-Jun-16	143	0	0%
SA1F0340	A6 (A1f) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaffo	6	03-Dec-15	0%	6	09-Dec-15	08-Jun-16	16-Jun-16	143	0	0%
SA1F0350	A6 (A1f) - Type 4B-Bearing Plinth	6	03-Dec-15	0%	6	09-Dec-15	08-Jun-16	16-Jun-16	143	0	0%
Bridge A1											
Pier A7 (A1e)											
Pile Cap Works											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

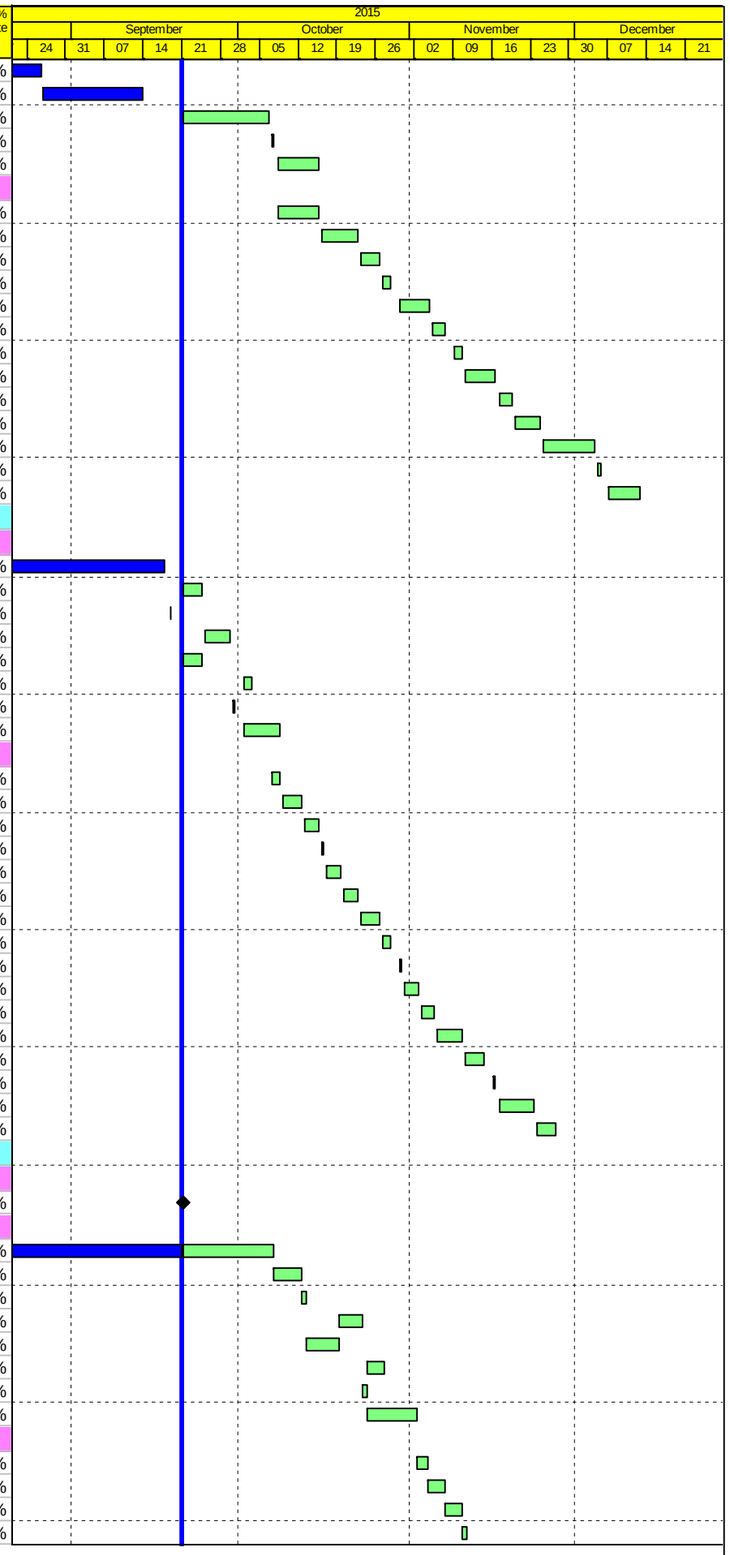
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 7 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SA1E0120	A7 (A1e) - Marine Pile Cap M2b - Dewater precast shell / Remove Lifting F	2	21-Aug-15 A	100%	0	26-Aug-15 A					100%
SA1E0130	A7 (A1e) - Marine Pile Cap M2b - Pile cut down	8	27-Aug-15 A	100%	0	14-Sep-15 A					100%
SA1E0140	A7 (A1e) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	12	21-Sep-15	0%	12	06-Oct-15	23-Jan-16	05-Feb-16	99	0	0%
SA1E0150	A7 (A1e) - Marine Pile Cap M2b - Concreting	1	07-Oct-15	0%	1	07-Oct-15	06-Feb-16	06-Feb-16	99	0	0%
SA1E0160	A7 (A1e) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	08-Oct-15	0%	6	15-Oct-15	11-Feb-16	17-Feb-16	99	0	0%
Pier Works											
SA1E0170	A7 (A1e) - Type 5B Pier Temp. Support Platform & Scaffold (1st Lift)	6	08-Oct-15	0%	6	15-Oct-15	11-Feb-16	17-Feb-16	99	0	0%
SA1E0180	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (1st Lift)	5	16-Oct-15	0%	5	22-Oct-15	18-Feb-16	23-Feb-16	99	0	0%
SA1E0200	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	23-Oct-15	0%	3	26-Oct-15	24-Feb-16	26-Feb-16	99	0	0%
SA1E0210	A7 (A1e) - Type 5B Pier Scaffolding (2nd Lift)	2	27-Oct-15	0%	2	28-Oct-15	27-Feb-16	29-Feb-16	99	0	0%
SA1E0220	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	30-Oct-15	0%	5	04-Nov-15	01-Mar-16	05-Mar-16	99	0	0%
SA1E0240	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	05-Nov-15	0%	3	07-Nov-15	07-Mar-16	09-Mar-16	99	0	0%
SA1E0250	A7 (A1e) - Type 5B Pier Scaffolding (3rd Lift)	2	09-Nov-15	0%	2	10-Nov-15	10-Mar-16	11-Mar-16	99	0	0%
SA1E0260	A7 (A1e) - Type 5B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	11-Nov-15	0%	5	16-Nov-15	12-Mar-16	17-Mar-16	99	0	0%
SA1E0280	A7 (A1e) - Type 5B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	17-Nov-15	0%	3	19-Nov-15	18-Mar-16	21-Mar-16	99	0	0%
SA1E0300	A7 (A1e) - Type 5B Pier Head Scaffolding	4	20-Nov-15	0%	4	24-Nov-15	22-Mar-16	29-Mar-16	99	0	0%
SA1E0310	A7 (A1e) - Type 5B Pier Head Rebarwork, Formwork & Prep	9	25-Nov-15	0%	9	04-Dec-15	30-Mar-16	09-Apr-16	99	0	0%
SA1E0330	A7 (A1e) - Type 5B Pier Head Concreting	1	05-Dec-15	0%	1	05-Dec-15	11-Apr-16	11-Apr-16	99	0	0%
SA1E0340	A7 (A1e) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffoldin	6	07-Dec-15	0%	6	12-Dec-15	12-Apr-16	19-Apr-16	99	0	0%
Pier A8 (A1d)											
Pile Cap Works											
SA1D0090	A8 (A1d) - Pile cap Excavation / ELS	20	17-Aug-15 A	100%	0	18-Sep-15 A					100%
SA1D0092	A8 (A1d) - Pile Breakdown to cut-off etc.	4	21-Sep-15	0%	4	24-Sep-15	29-Jan-19	01-Feb-19	938	938	0%
SA1D0100	A8 (A1d) - Pile cap Blinding	1	19-Sep-15 A	100%	0	19-Sep-15 A					100%
SA1D0110	A8 (A1d) - Pile cap Formwork	3	25-Sep-15	0%	3	29-Sep-15	18-Mar-16	21-Mar-16	139	0	0%
SA1D0120	A8 (A1d) - Pile cap Rebarwork	4	21-Sep-15	0%	4	24-Sep-15	14-Mar-16	17-Mar-16	139	0	0%
SA1D0122	A8 (A1d) - Pile cap Kicker Formwork	2	02-Oct-15	0%	2	03-Oct-15	31-Mar-16	01-Apr-16	143	4	0%
SA1D0130	A8 (A1d) - Pile cap Concreting	1	30-Sep-15	0%	1	30-Sep-15	22-Mar-16	22-Mar-16	139	0	0%
SA1D0140	A8 (A1d) - Pile cap Curing & Striking of Forms incl. CJ prep	6	02-Oct-15	0%	6	08-Oct-15	23-Mar-16	01-Apr-16	139	0	0%
Pier Works											
SA1D0150	A8 (A1d) - Type 5B Pier Scaffolding (1st Lift)	2	07-Oct-15	0%	2	08-Oct-15	31-Mar-16	01-Apr-16	139	0	0%
SA1D0160	A8 (A1d) - Type 5B Pier Rebarwork (1st Lift)	3	09-Oct-15	0%	3	12-Oct-15	02-Apr-16	06-Apr-16	139	0	0%
SA1D0170	A8 (A1d) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	2	13-Oct-15	0%	2	15-Oct-15	07-Apr-16	08-Apr-16	139	0	0%
SA1D0180	A8 (A1d) - Type 5B Pier Concreting (1st Lift)	1	16-Oct-15	0%	1	16-Oct-15	09-Apr-16	09-Apr-16	139	0	0%
SA1D0182	A8 (A1d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	17-Oct-15	0%	2	19-Oct-15	11-Apr-16	12-Apr-16	139	0	0%
SA1D0190	A8 (A1d) - Type 5B Pier Scaffolding (2nd Lift)	2	20-Oct-15	0%	2	22-Oct-15	13-Apr-16	15-Apr-16	139	0	0%
SA1D0200	A8 (A1d) - Type 5B Pier Rebarwork (2nd Lift)	3	23-Oct-15	0%	3	26-Oct-15	16-Apr-16	19-Apr-16	139	0	0%
SA1D0210	A8 (A1d) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	2	27-Oct-15	0%	2	28-Oct-15	21-Apr-16	22-Apr-16	139	0	0%
SA1D0220	A8 (A1d) - Type 5B Pier Concreting (2nd Lift)	1	30-Oct-15	0%	1	30-Oct-15	23-Apr-16	23-Apr-16	139	0	0%
SA1D0222	A8 (A1d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	31-Oct-15	0%	2	02-Nov-15	25-Apr-16	26-Apr-16	139	0	0%
SA1D0230	A8 (A1d) - Type 5B Pier Head Scaffolding	3	03-Nov-15	0%	3	05-Nov-15	27-Apr-16	29-Apr-16	139	0	0%
SA1D0240	A8 (A1d) - Type 5B Pier Head Rebarwork	4	06-Nov-15	0%	4	10-Nov-15	30-Apr-16	05-May-16	139	0	0%
SA1D0250	A8 (A1d) - Type 5B Pier Head Formwork & Prep for Concreting	4	11-Nov-15	0%	4	14-Nov-15	06-May-16	10-May-16	139	0	0%
SA1D0260	A8 (A1d) - Type 5B Pier Head Concreting	1	16-Nov-15	0%	1	16-Nov-15	11-May-16	11-May-16	139	0	0%
SA1D0270	A8 (A1d) - Type 5B Pier Head Curing & Striking of Forms & Remove Scaffo	6	17-Nov-15	0%	6	23-Nov-15	12-May-16	20-May-16	139	0	0%
SA1D0280	A8 (A1d) - Type 5B Pier Backfilling Works	4	24-Nov-15	0%	4	27-Nov-15	21-May-16	25-May-16	139	55	0%
Pier A9 (A1c)											
Preliminary Works for Land Piling											
PA090060	A9 (A1c) - Complete civil preparation works for piling to commence	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
Pile Cap Works											
SA1C0090	A9 (A1c) - Pile cap Excavation / ELS	18	10-Aug-15 A	30%	13	07-Oct-15	20-Jan-16	03-Feb-16	96	0	30%
SA1C0092	A9 (A1c) - Pile Breakdown to cut-off etc.	4	07-Oct-15	0%	4	12-Oct-15	04-Feb-16	11-Feb-16	96	0	0%
SA1C0100	A9 (A1c) - Pile cap Blinding	1	12-Oct-15	0%	1	13-Oct-15	12-Feb-16	12-Feb-16	96	0	0%
SA1C0110	A9 (A1c) - Pile cap Formwork	3	19-Oct-15	0%	3	23-Oct-15	18-Feb-16	20-Feb-16	96	0	0%
SA1C0120	A9 (A1c) - Pile cap Rebarwork	4	13-Oct-15	0%	4	19-Oct-15	13-Feb-16	17-Feb-16	96	0	0%
SA1C0122	A9 (A1c) - Pile cap Kicker Formwork	2	24-Oct-15	0%	2	27-Oct-15	23-Feb-16	24-Feb-16	96	0	0%
SA1C0130	A9 (A1c) - Pile cap Concreting	1	23-Oct-15	0%	1	24-Oct-15	22-Feb-16	22-Feb-16	96	0	0%
SA1C0140	A9 (A1c) - Pile cap Curing & Striking of Forms incl. CJ prep	6	24-Oct-15	0%	6	02-Nov-15	15-Apr-16	23-Apr-16	137	0	0%
Pier Works											
SA1C0150	A9 (A1c) - Type 5B Pier Scaffolding (1st Lift)	2	02-Nov-15	0%	2	04-Nov-15	23-Apr-16	26-Apr-16	137	0	0%
SA1C0160	A9 (A1c) - Type 5B Pier Rebarwork (1st Lift)	3	04-Nov-15	0%	3	07-Nov-15	26-Apr-16	29-Apr-16	137	0	0%
SA1C0170	A9 (A1c) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	2	07-Nov-15	0%	2	10-Nov-15	29-Apr-16	03-May-16	137	0	0%
SA1C0180	A9 (A1c) - Type 5B Pier Concreting (1st Lift)	1	10-Nov-15	0%	1	11-Nov-15	03-May-16	04-May-16	137	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

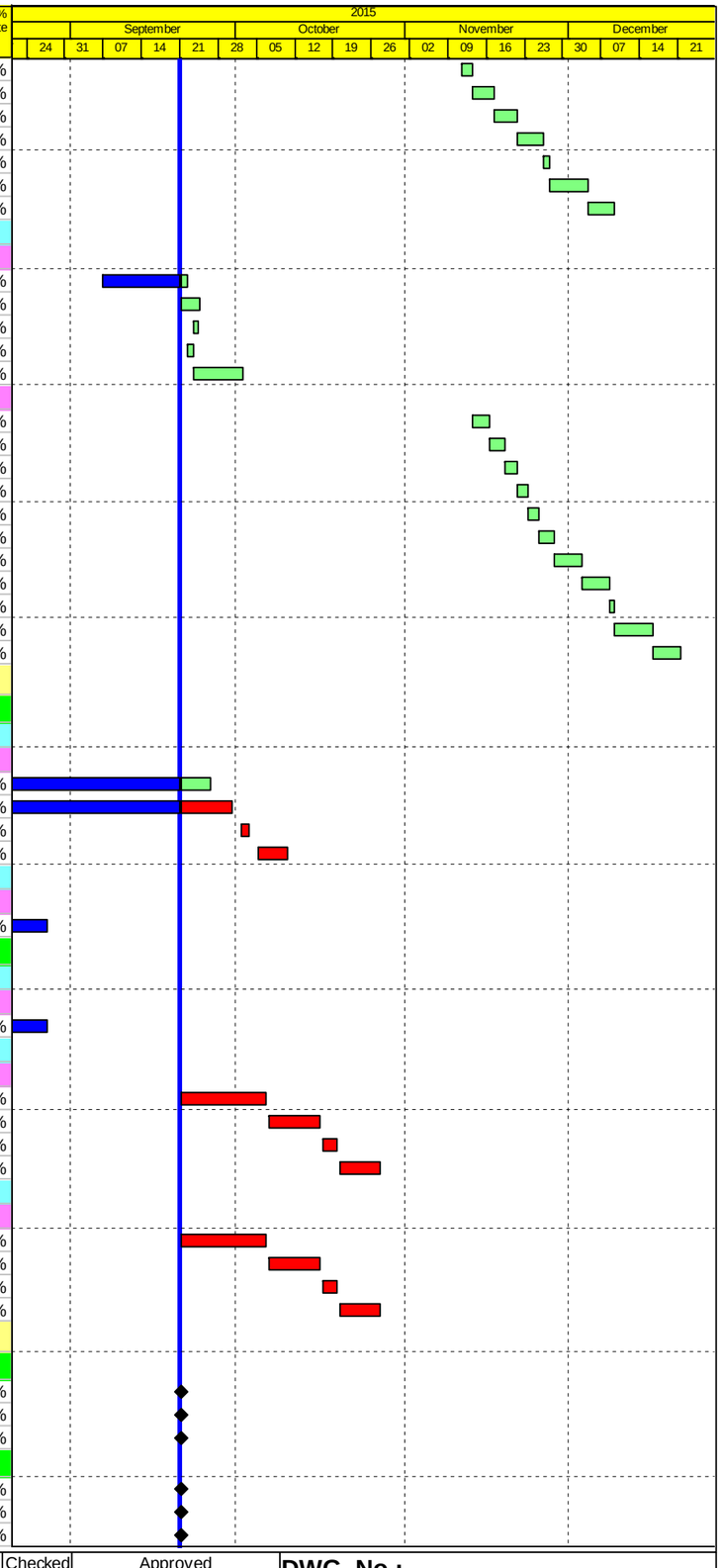
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 8 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SA1C0182	A9 (A1c) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	11-Nov-15	0%	2	13-Nov-15	04-May-16	06-May-16	137	0	0%
SA1C0190	A9 (A1c) - Type 5B Pier Head Scaffolding	3	13-Nov-15	0%	3	17-Nov-15	06-May-16	10-May-16	137	0	0%
SA1C0200	A9 (A1c) - Type 5B Pier Head Rebarwork	4	17-Nov-15	0%	4	21-Nov-15	10-May-16	16-May-16	137	0	0%
SA1C0210	A9 (A1c) - Type 5B Pier Head Formwork & Prep for Concreting	4	21-Nov-15	0%	4	26-Nov-15	16-May-16	21-May-16	137	0	0%
SA1C0220	A9 (A1c) - Type 5B Pier Head Concreting	1	26-Nov-15	0%	1	27-Nov-15	21-May-16	23-May-16	137	0	0%
SA1C0270	A9 (A1c) - Type 5B Pier Head Curing & Striking of Forms & Remove Scaff(	6	27-Nov-15	0%	6	04-Dec-15	23-May-16	31-May-16	137	0	0%
SA1C0280	A9 (A1c) - Type 5B Pier Backfilling Works	4	04-Dec-15	0%	4	09-Dec-15	31-May-16	06-Jun-16	137	45	0%
Pier A10 (A1b)											
Pile Cap Works											
SA1B0110	A10 (A1b) - Pile cap Formwork	3	07-Sep-15 A	50%	2	22-Sep-15	13-Jun-16	16-Jun-16	205	0	50%
SA1B0120	A10 (A1b) - Pile cap Rebarwork	4	21-Sep-15	0%	4	24-Sep-15	29-Jan-19	01-Feb-19	938	938	0%
SA1B0122	A10 (A1b) - Pile cap Kicker Formwork	1	23-Sep-15	0%	1	24-Sep-15	25-Jun-16	27-Jun-16	210	38	0%
SA1B0130	A10 (A1b) - Pile cap Concreting	1	22-Sep-15	0%	1	23-Sep-15	16-Jun-16	18-Jun-16	205	0	0%
SA1B0140	A10 (A1b) - Pile cap Curing & Striking of Forms incl. CJ prep	6	23-Sep-15	0%	6	02-Oct-15	18-Jun-16	27-Jun-16	205	33	0%
Pier Works											
SA1B0150	A10 (A1b) - Type 5B Pier Scaffolding (1st Lift)	2	13-Nov-15	0%	2	16-Nov-15	27-Jun-16	30-Jun-16	172	0	0%
SA1B0160	A10 (A1b) - Type 5B Pier Rebarwork (1st Lift)	3	16-Nov-15	0%	3	19-Nov-15	30-Jun-16	05-Jul-16	172	0	0%
SA1B0170	A10 (A1b) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	2	19-Nov-15	0%	2	21-Nov-15	05-Jul-16	07-Jul-16	172	0	0%
SA1B0180	A10 (A1b) - Type 5B Pier Concreting (1st Lift)	1	21-Nov-15	0%	1	23-Nov-15	07-Jul-16	08-Jul-16	172	0	0%
SA1B0182	A10 (A1b) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	23-Nov-15	0%	2	25-Nov-15	08-Jul-16	11-Jul-16	172	0	0%
SA1B0190	A10 (A1b) - Type 5B Pier Head Scaffolding	3	25-Nov-15	0%	3	28-Nov-15	11-Jul-16	15-Jul-16	172	0	0%
SA1B0200	A10 (A1b) - Type 5B Pier Head Rebarwork	4	28-Nov-15	0%	4	03-Dec-15	15-Jul-16	20-Jul-16	172	0	0%
SA1B0210	A10 (A1b) - Type 5B Pier Head Formwork & Prep for Concreting	4	03-Dec-15	0%	4	08-Dec-15	20-Jul-16	26-Jul-16	172	0	0%
SA1B0220	A10 (A1b) - Type 5B Pier Head Concreting	1	08-Dec-15	0%	1	09-Dec-15	26-Jul-16	27-Jul-16	172	0	0%
SA1B0270	A10 (A1b) - Type 5B Pier Head Curing & Striking of Forms & Remove Scaf	6	09-Dec-15	0%	6	16-Dec-15	27-Jul-16	03-Aug-16	172	0	0%
SA1B0280	A10 (A1b) - Type 5B Pier Backfilling Works	4	16-Dec-15	0%	4	21-Dec-15	03-Aug-16	08-Aug-16	172	35	0%
Viaduct B											
Bridge B2											
Pier B10 (B2c)											
Pier Head Segments											
SB2C0374	B10 (B2c) - Pier Head Segment Diaphragm - Rebar	12	03-Aug-15 A	50%	6	26-Sep-15	26-Jan-19	01-Feb-19	936	936	50%
SB2C0376	B10 (B2c) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	11-Aug-15 A	0%	8	30-Sep-15	31-Mar-15	13-Apr-15	-125	0	50%
SB2C0378	B10 (B2c) - Pier Head Segment Diaphragm - Concreting	2	02-Oct-15	0%	2	03-Oct-15	14-Apr-15	16-Apr-15	-125	0	0%
SB2C0380	B10 (B2c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	05-Oct-15	0%	6	10-Oct-15	17-Apr-15	24-Apr-15	-125	0	0%
Pier B11 (B2b)											
Pier Head Segments											
SB2B0380	B11 (B2b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Jul-15 A	100%	0	27-Aug-15 A					100%
Bridge B1											
Pier B13 (B1g)											
Pier Head Segments											
SB1G0380	B13 (B1g) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	11-Aug-15 A	100%	0	27-Aug-15 A					100%
Pier B14 (B1f)											
Pier Head Segments											
SB1F0374	B14 (B1f) - Pier Head Segment Diaphragm - Rebar	12	21-Sep-15	0%	12	06-Oct-15	08-Jun-15	27-Jun-15	-77	0	0%
SB1F0376	B14 (B1f) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	07-Oct-15	0%	8	16-Oct-15	29-Jun-15	08-Jul-15	-77	0	0%
SB1F0378	B14 (B1f) - Pier Head Segment Diaphragm - Concreting	2	17-Oct-15	0%	2	19-Oct-15	09-Jul-15	10-Jul-15	-77	0	0%
SB1F0380	B14 (B1f) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Oct-15	0%	6	27-Oct-15	11-Jul-15	18-Jul-15	-77	0	0%
Pier B15 (B1e)											
Pier Head Segments											
SB1E0374	B15 (B1e) - Pier Head Segment Diaphragm - Rebar	12	21-Sep-15	0%	12	06-Oct-15	04-Jul-15	18-Jul-15	-61	0	0%
SB1E0376	B15 (B1e) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	07-Oct-15	0%	8	16-Oct-15	20-Jul-15	28-Jul-15	-61	0	0%
SB1E0378	B15 (B1e) - Pier Head Segment Diaphragm - Concreting	2	17-Oct-15	0%	2	19-Oct-15	30-Jul-15	31-Jul-15	-61	0	0%
SB1E0380	B15 (B1e) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Oct-15	0%	6	27-Oct-15	01-Aug-15	08-Aug-15	-60	0	0%
Viaduct C											
Milestones - Marine Foundation											
GFXX197-1	C6 (C3f) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX202-1	C5 (C4a) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX212-1	C3 (C4c) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
Milestones - Land Foundation											
ZC00051	C17 (C2a) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
ZC00061	C16 (C2b) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
ZC00091-1	C12 (C2f) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

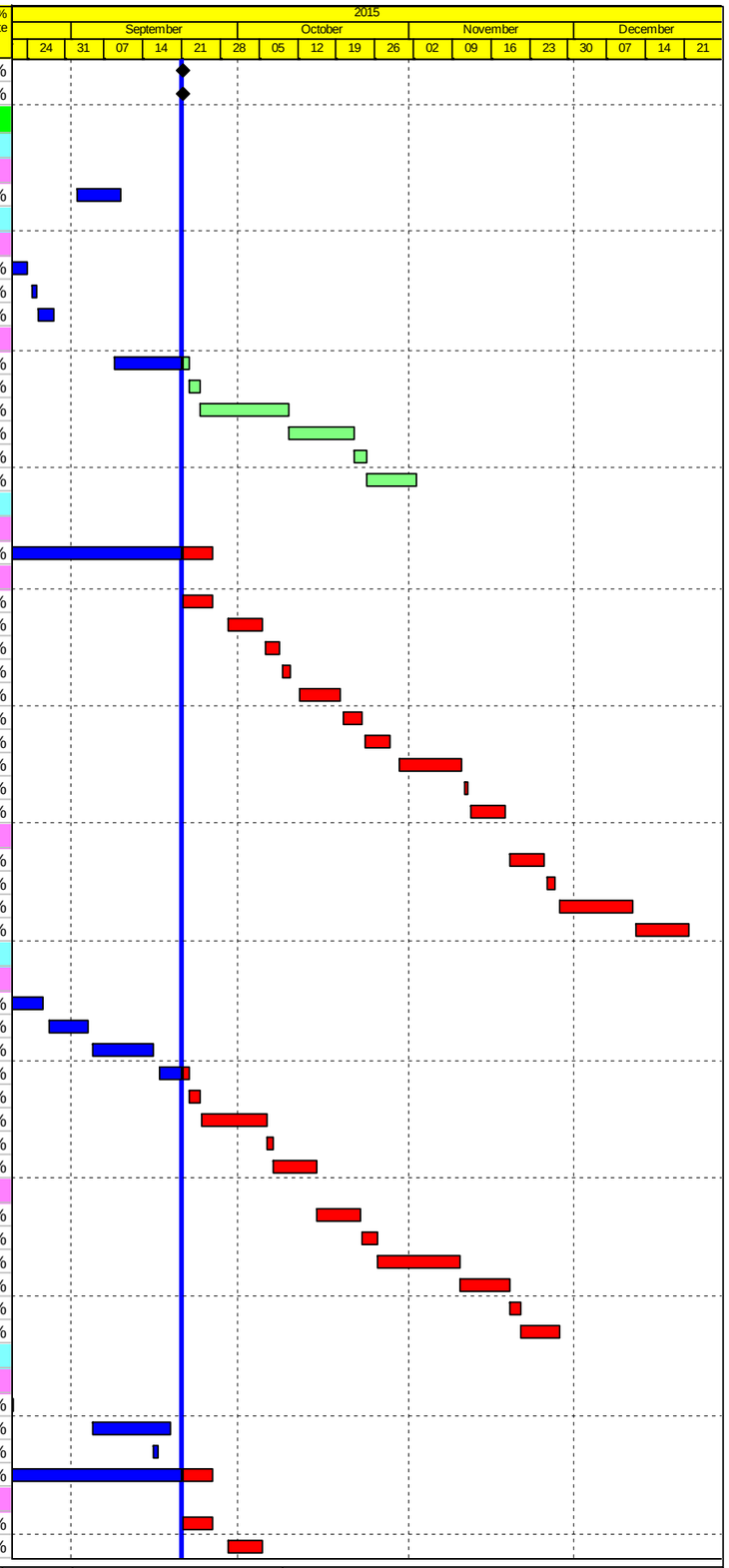
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 9 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
ZC00092-1	C11 (C3a) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
ZC00096-1	C7 (C3e) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
Bridge C4											
Pier C1 (C4e)											
Pier Head Segments											
SC4E0370	C1 (C4e) - Pier Head Segment - Temporary Platform	6	02-Sep-15 A	100%	0	10-Sep-15 A					100%
Pier C2 (C4d)											
Pier Works											
SC4D0310	C2 (C4d) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	30-Jun-15 A	100%	0	24-Aug-15 A					100%
SC4D0330	C2 (C4d) - Type 4B Pier Head Concreting	1	25-Aug-15 A	100%	0	25-Aug-15 A					100%
SC4D0340	C2 (C4d) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	26-Aug-15 A	100%	0	29-Aug-15 A					100%
Pier Head Segments											
SC4D0370	C2 (C4d) - Pier Head Segment - Temporary Platform	6	09-Sep-15 A	80%	1	22-Sep-15	02-Nov-15	03-Nov-15	32	0	80%
SC4D0372	C2 (C4d) - Pier Head Segment Lift & Fix (1 seg)	2	22-Sep-15	0%	2	24-Sep-15	04-Nov-15	05-Nov-15	32	0	0%
SC4D0374	C2 (C4d) - Pier Head Segment Diaphragm - Rebar	12	24-Sep-15	0%	12	10-Oct-15	06-Nov-15	19-Nov-15	32	0	0%
SC4D0376	C2 (C4d) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	10-Oct-15	0%	8	22-Oct-15	20-Nov-15	28-Nov-15	32	0	0%
SC4D0378	C2 (C4d) - Pier Head Segment Diaphragm - Concreting	2	22-Oct-15	0%	2	24-Oct-15	30-Nov-15	01-Dec-15	32	0	0%
SC4D0380	C2 (C4d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	24-Oct-15	0%	6	02-Nov-15	02-Dec-15	08-Dec-15	32	0	0%
Pier C3 (C4c)											
Pile Cap Works											
SC4C0160	C3 (C4c) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	21-Aug-15 A	0%	6	26-Sep-15	05-Sep-15	12-Sep-15	-11	0	0%
Pier Works											
SC4C0170	C3 (C4c) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	21-Sep-15	0%	6	26-Sep-15	05-Sep-15	12-Sep-15	-11	0	0%
SC4C0180	C3 (C4c) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	29-Sep-15	0%	5	05-Oct-15	14-Sep-15	19-Sep-15	-11	0	0%
SC4C0200	C3 (C4c) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	06-Oct-15	0%	3	08-Oct-15	21-Sep-15	23-Sep-15	-11	0	0%
SC4C0210	C3 (C4c) - Type 4B Pier Scaffolding (2nd Lift)	2	09-Oct-15	0%	2	10-Oct-15	24-Sep-15	25-Sep-15	-11	0	0%
SC4C0220	C3 (C4c) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	6	12-Oct-15	0%	6	19-Oct-15	26-Sep-15	05-Oct-15	-11	0	0%
SC4C0240	C3 (C4c) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	20-Oct-15	0%	3	23-Oct-15	06-Oct-15	08-Oct-15	-11	0	0%
SC4C0300	C3 (C4c) - Type 4B Pier Head Scaffolding	4	24-Oct-15	0%	4	28-Oct-15	09-Oct-15	13-Oct-15	-11	0	0%
SC4C0310	C3 (C4c) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	30-Oct-15	0%	10	10-Nov-15	15-Oct-15	27-Oct-15	-11	0	0%
SC4C0330	C3 (C4c) - Type 4B Pier Head Concreting	1	11-Nov-15	0%	1	11-Nov-15	28-Oct-15	28-Oct-15	-11	0	0%
SC4C0340	C3 (C4c) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	12-Nov-15	0%	6	18-Nov-15	30-Oct-15	05-Nov-15	-11	0	0%
Pier Head Segments											
SC4C0370	C3 (C4c) - Pier Head Segment - Temporary Platform	6	19-Nov-15	0%	6	25-Nov-15	06-Nov-15	12-Nov-15	-11	0	0%
SC4C0372	C3 (C4c) - Pier Head Segment Lift & Fix (1 seg)	2	26-Nov-15	0%	2	27-Nov-15	13-Nov-15	14-Nov-15	-11	0	0%
SC4C0374	C3 (C4c) - Pier Head Segment Diaphragm - Rebar	12	28-Nov-15	0%	12	11-Dec-15	16-Nov-15	28-Nov-15	-11	0	0%
SC4C0376	C3 (C4c) - Pier Head Segment Diaphragm - Formwork & Prep for Concrel	8	12-Dec-15	0%	8	21-Dec-15	30-Nov-15	08-Dec-15	-11	0	0%
Pier C4 (C4b)											
Pier Works											
SC4B0200	C4 (C4b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	19-Aug-15 A	100%	0	27-Aug-15 A					100%
SC4B0210	C4 (C4b) - Type 4B Pier Scaffolding (2nd Lift)	1	28-Aug-15 A	100%	0	04-Sep-15 A					100%
SC4B0220	C4 (C4b) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	05-Sep-15 A	100%	0	16-Sep-15 A					100%
SC4B0240	C4 (C4b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	17-Sep-15 A	50%	2	22-Sep-15	02-Apr-15	08-Apr-15	-122	0	50%
SC4B0300	C4 (C4b) - Type 4B Pier Head Scaffolding	2	22-Sep-15	0%	2	24-Sep-15	09-Apr-15	10-Apr-15	-122	0	0%
SC4B0310	C4 (C4b) - Type 4B Pier Head Rebarwork, Formwork & Prep	8	24-Sep-15	0%	8	06-Oct-15	11-Apr-15	21-Apr-15	-122	0	0%
SC4B0330	C4 (C4b) - Type 4B Pier Head Concreting	1	06-Oct-15	0%	1	07-Oct-15	22-Apr-15	22-Apr-15	-122	0	0%
SC4B0340	C4 (C4b) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	07-Oct-15	0%	6	15-Oct-15	24-Apr-15	30-Apr-15	-122	0	0%
Pier Head Segments											
SC4B0370	C4 (C4b) - Pier Head Segment - Temporary Platform	6	15-Oct-15	0%	6	23-Oct-15	02-May-15	08-May-15	-122	0	0%
SC4B0372	C4 (C4b) - Pier Head Segment Lift & Fix (1 seg)	2	23-Oct-15	0%	2	26-Oct-15	09-May-15	11-May-15	-122	0	0%
SC4B0374	C4 (C4b) - Pier Head Segment Diaphragm - Rebar	12	26-Oct-15	0%	12	10-Nov-15	13-May-15	28-May-15	-122	0	0%
SC4B0376	C4 (C4b) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	10-Nov-15	0%	8	19-Nov-15	29-May-15	08-Jun-15	-122	0	0%
SC4B0378	C4 (C4b) - Pier Head Segment Diaphragm - Concreting	2	19-Nov-15	0%	2	21-Nov-15	10-Jun-15	12-Jun-15	-122	0	0%
SC4B0380	C4 (C4b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	21-Nov-15	0%	6	28-Nov-15	13-Jun-15	22-Jun-15	-122	0	0%
Pier C5 (C4a)											
Pile Cap Works											
SC4A0130	C5 (C4a) - Marine Pile Cap M2b - Pile cut down	6	06-Aug-15 A	100%	0	21-Aug-15 A					100%
SC4A0140	C5 (C4a) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	6	05-Sep-15 A	100%	0	19-Sep-15 A					100%
SC4A0150	C5 (C4a) - Marine Pile Cap M2b - Concreting	1	16-Sep-15 A	100%	0	16-Sep-15 A					100%
SC4A0160	C5 (C4a) - Marine Pile Cap M2b - Curing incl. CJ Preparation	6	17-Aug-15 A	0%	6	26-Sep-15	25-Feb-15	04-Mar-15	-153	0	0%
Pier Works											
SC4A0170	C5 (C4a) - Type 4B Pier Temp. Support Platform & Scaffold (1st Lift)	6	21-Sep-15	0%	6	26-Sep-15	25-Feb-15	04-Mar-15	-153	0	0%
SC4A0180	C5 (C4a) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	29-Sep-15	0%	5	05-Oct-15	04-Mar-15	10-Mar-15	-153	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

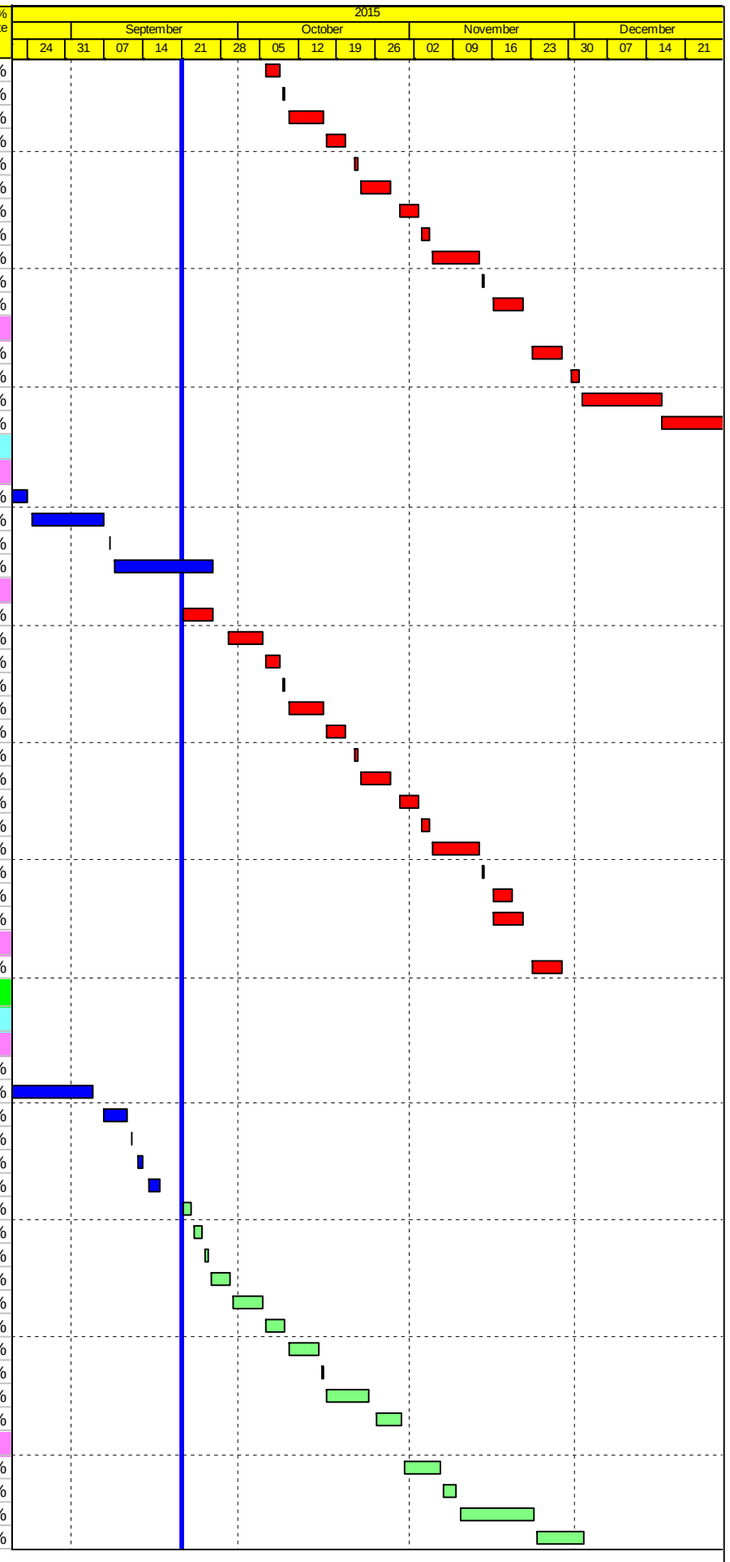
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 10 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SC4A0200	C5 (C4a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	06-Oct-15	0%	3	08-Oct-15	10-Mar-15	13-Mar-15	-153	0	0%
SC4A0210	C5 (C4a) - Type 4B Pier Scaffolding (2nd Lift)	1	09-Oct-15	0%	1	09-Oct-15	13-Mar-15	14-Mar-15	-153	0	0%
SC4A0220	C5 (C4a) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	10-Oct-15	0%	5	16-Oct-15	14-Mar-15	20-Mar-15	-153	0	0%
SC4A0240	C5 (C4a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	17-Oct-15	0%	3	20-Oct-15	20-Mar-15	24-Mar-15	-153	0	0%
SC4A0250	C5 (C4a) - Type 4B Pier Scaffolding (3rd Lift)	1	22-Oct-15	0%	1	22-Oct-15	24-Mar-15	25-Mar-15	-153	0	0%
SC4A0260	C5 (C4a) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	23-Oct-15	0%	5	28-Oct-15	25-Mar-15	31-Mar-15	-153	0	0%
SC4A0280	C5 (C4a) - Type 4B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	30-Oct-15	0%	3	02-Nov-15	31-Mar-15	08-Apr-15	-153	0	0%
SC4A0300	C5 (C4a) - Type 4B Pier Head Scaffolding	2	03-Nov-15	0%	2	04-Nov-15	08-Apr-15	10-Apr-15	-153	0	0%
SC4A0310	C5 (C4a) - Type 4B Pier Head Rebarwork, Formwork & Prep	8	05-Nov-15	0%	8	13-Nov-15	10-Apr-15	21-Apr-15	-153	0	0%
SC4A0330	C5 (C4a) - Type 4B Pier Head Concreting	1	14-Nov-15	0%	1	14-Nov-15	21-Apr-15	22-Apr-15	-153	0	0%
SC4A0340	C5 (C4a) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	16-Nov-15	0%	6	21-Nov-15	22-Apr-15	30-Apr-15	-153	0	0%
Pier Head Segments											
SC4A0370	C5 (C4a) - Pier Head Segment - Temporary Platform	6	23-Nov-15	0%	6	28-Nov-15	30-Apr-15	08-May-15	-153	0	0%
SC4A0372	C5 (C4a) - Pier Head Segment Lift & Fix (1 seg)	2	30-Nov-15	0%	2	01-Dec-15	08-May-15	11-May-15	-153	0	0%
SC4A0374	C5 (C4a) - Pier Head Segment Diaphragm - Rebar	13	02-Dec-15	0%	13	16-Dec-15	11-May-15	28-May-15	-153	0	0%
SC4A0376	C5 (C4a) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	16-Dec-15	0%	8	28-Dec-15	29-May-15	08-Jun-15	-153	0	0%
Pier C6 (C3f)											
Pile Cap Works											
SC3F0120	C6 (C3f) - Marine Pile Cap M2b - Pile cut down	6	07-Aug-15 A	100%	0	24-Aug-15 A					100%
SC3F0130	C6 (C3f) - Marine Pile Cap M2b - Rebar fixing, inst.inserts etc	6	25-Aug-15 A	100%	0	07-Sep-15 A					100%
SC3F0140	C6 (C3f) - Marine Pile Cap M2b - Concreting	1	08-Sep-15 A	100%	0	08-Sep-15 A					100%
SC3F0164	C6 (C3f) - Marine Pile Cap M2b - Curing incl. CJ preparation	6	09-Sep-15 A	100%	0	26-Sep-15 A					100%
Pier Works											
SC3F0170	C6 (C3f) - Type 4B-MJ Pier Temp. Support Platform & Scaffold (1st Lift)	6	21-Sep-15 A	0%	6	26-Sep-15	23-Mar-15	28-Mar-15	-131	0	0%
SC3F0180	C6 (C3f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (1st Lift)	5	29-Sep-15	0%	5	05-Oct-15	30-Mar-15	08-Apr-15	-131	0	0%
SC3F0200	C6 (C3f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift	3	06-Oct-15	0%	3	08-Oct-15	09-Apr-15	11-Apr-15	-131	0	0%
SC3F0210	C6 (C3f) - Type 4B-MJ Pier Scaffolding (2nd Lift)	1	09-Oct-15	0%	1	09-Oct-15	13-Apr-15	13-Apr-15	-131	0	0%
SC3F0220	C6 (C3f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	5	10-Oct-15	0%	5	16-Oct-15	14-Apr-15	20-Apr-15	-131	0	0%
SC3F0240	C6 (C3f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (2nd Lif	3	17-Oct-15	0%	3	20-Oct-15	21-Apr-15	24-Apr-15	-131	0	0%
SC3F0250	C6 (C3f) - Type 4B-MJ Pier Scaffolding (3rd Lift)	1	22-Oct-15	0%	1	22-Oct-15	25-Apr-15	25-Apr-15	-131	0	0%
SC3F0260	C6 (C3f) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (3rd Lift)	5	23-Oct-15	0%	5	28-Oct-15	27-Apr-15	02-May-15	-131	0	0%
SC3F0280	C6 (C3f) - Type 4B-MJ Pier Concreting, Curing & Striking, CJ prep (3rd Lift	3	30-Oct-15	0%	3	02-Nov-15	04-May-15	06-May-15	-131	0	0%
SC3F0300	C6 (C3f) - Type 4B-MJ Pier Head Scaffolding	2	03-Nov-15	0%	2	04-Nov-15	07-May-15	08-May-15	-131	0	0%
SC3F0310	C6 (C3f) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	8	05-Nov-15	0%	8	13-Nov-15	09-May-15	19-May-15	-131	0	0%
SC3F0330	C6 (C3f) - Type 4B-MJ Pier Head Concreting	1	14-Nov-15	0%	1	14-Nov-15	20-May-15	20-May-15	-131	0	0%
SC3F0340	C6 (C3f) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaff	4	16-Nov-15	0%	4	19-Nov-15	26-May-15	29-May-15	-129	2	0%
SC3F0350	C6 (C3f) - Type 4B-Bearing Plinth	6	16-Nov-15	0%	6	21-Nov-15	22-May-15	29-May-15	-131	0	0%
Pier Head Segments											
SC3F0370	C6 (C3f) - Pier Head Segment - Temporary Platform	6	23-Nov-15	0%	6	28-Nov-15	30-May-15	06-Jun-15	-131	121	0%
Bridge C3											
Pier C7 (C3e)											
Pier Works											
SC3E0190	C7 (C3e) - Type 5B Pier Scaffolding (2nd Lift)	2	17-Aug-15 A	100%	0	21-Aug-15 A					100%
SC3E0200	C7 (C3e) - Type 5B Pier Rebarwork (2nd Lift)	2	21-Aug-15 A	100%	0	05-Sep-15 A					100%
SC3E0210	C7 (C3e) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	2	07-Sep-15 A	100%	0	11-Sep-15 A					100%
SC3E0220	C7 (C3e) - Type 5B Pier Concreting (2nd Lift)	1	12-Sep-15 A	100%	0	12-Sep-15 A					100%
SC3E0222	C7 (C3e) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	13-Sep-15 A	100%	0	14-Sep-15 A					100%
SC3E0230	C7 (C3e) - Type 5B Pier Scaffolding (3rd Lift)	2	15-Sep-15 A	100%	0	17-Sep-15 A					100%
SC3E0240	C7 (C3e) - Type 5B Pier Rebarwork (3rd Lift)	2	21-Sep-15	0%	2	22-Sep-15	02-Nov-15	03-Nov-15	31	0	0%
SC3E0250	C7 (C3e) - Type 5B Pier Formwork & Prep for Concreting (3rd Lift)	2	23-Sep-15	0%	2	24-Sep-15	04-Nov-15	05-Nov-15	31	0	0%
SC3E0260	C7 (C3e) - Type 5B Pier Concreting (3rd Lift)	1	25-Sep-15	0%	1	25-Sep-15	06-Nov-15	06-Nov-15	31	0	0%
SC3E0262	C7 (C3e) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	26-Sep-15	0%	2	29-Sep-15	07-Nov-15	09-Nov-15	31	0	0%
SC3E0270	C7 (C3e) - Type 5B Pier Head Scaffolding	4	30-Sep-15	0%	4	05-Oct-15	10-Nov-15	13-Nov-15	31	0	0%
SC3E0280	C7 (C3e) - Type 5B Pier Head Rebarwork	4	06-Oct-15	0%	4	09-Oct-15	14-Nov-15	18-Nov-15	31	0	0%
SC3E0290	C7 (C3e) - Type 5B Pier Head Formwork & Prep for Concreting	4	10-Oct-15	0%	4	15-Oct-15	19-Nov-15	24-Nov-15	32	0	0%
SC3E0300	C7 (C3e) - Type 5B Pier Head Concreting	1	16-Oct-15	0%	1	16-Oct-15	25-Nov-15	25-Nov-15	32	0	0%
SC3E0310	C7 (C3e) - Type 5B Pier head Curing/Striking of Forms/Remove Scaffoldin	6	17-Oct-15	0%	6	24-Oct-15	26-Nov-15	02-Dec-15	32	0	0%
SC3E0320	C7 (C3e) - Type 5B Pier Backfilling Works	4	26-Oct-15	0%	4	30-Oct-15	03-Dec-15	07-Dec-15	32	0	0%
Pier Head Segments											
SC3E0370	C7 (C3e) - Pier Head Segment - Temporary Platform	6	31-Oct-15	0%	6	06-Nov-15	08-Dec-15	14-Dec-15	32	0	0%
SC3E0372	C7 (C3e) - Pier Head Segment Lift & Fix (1 seg)	2	07-Nov-15	0%	2	09-Nov-15	15-Dec-15	16-Dec-15	32	0	0%
SC3E0374	C7 (C3e) - Pier Head Segment Diaphragm - Rebar	12	10-Nov-15	0%	12	23-Nov-15	17-Dec-15	02-Jan-16	32	0	0%
SC3E0376	C7 (C3e) - Pier Head Segment Diaphragm - Formwork	8	24-Nov-15	0%	8	02-Dec-15	04-Jan-16	12-Jan-16	32	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

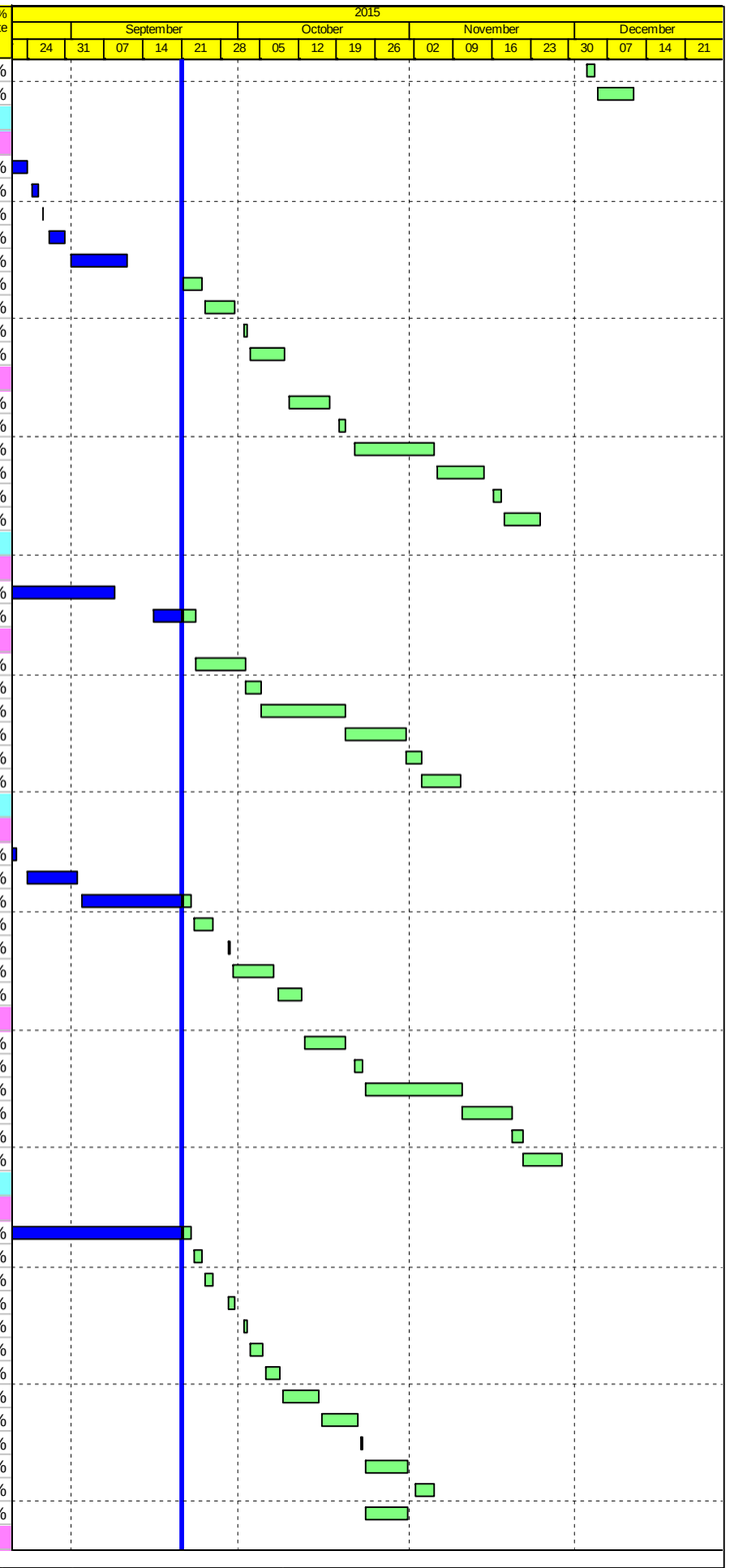
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 11 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SC3E0378	C7 (C3e) - Pier Head Segment Diaphragm - Concreting	2	03-Dec-15	0%	2	04-Dec-15	13-Jan-16	14-Jan-16	32	0	0%
SC3E0380	C7 (C3e) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	05-Dec-15	0%	6	11-Dec-15	15-Jan-16	21-Jan-16	32	0	0%
Pier C8 (C3d)											
Pier Works											
SC3D0240	C8 (C3d) - Type 5B Pier Rebarwork (3rd Lift)	2	10-Aug-15 A	100%	0	24-Aug-15 A					100%
SC3D0250	C8 (C3d) - Type 5B Pier Formwork & Prep for Concreting (3rd Lift)	2	25-Aug-15 A	100%	0	26-Aug-15 A					100%
SC3D0260	C8 (C3d) - Type 5B Pier Concreting (3rd Lift)	1	27-Aug-15 A	100%	0	27-Aug-15 A					100%
SC3D0262	C8 (C3d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	28-Aug-15 A	100%	0	31-Aug-15 A					100%
SC3D0270	C8 (C3d) - Type 5B Pier Head Scaffolding	3	01-Sep-15 A	100%	0	11-Sep-15 A					100%
SC3D0280	C8 (C3d) - Type 5B Pier Head Rebarwork	4	21-Sep-15	0%	4	24-Sep-15	21-Dec-15	24-Dec-15	73	0	0%
SC3D0290	C8 (C3d) - Type 5B Pier Head Formwork & Prep for Concreting	4	25-Sep-15	0%	4	30-Sep-15	28-Dec-15	31-Dec-15	73	0	0%
SC3D0300	C8 (C3d) - Type 5B Pier Head Concreting	1	02-Oct-15	0%	1	02-Oct-15	02-Jan-16	02-Jan-16	73	0	0%
SC3D0310	C8 (C3d) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	03-Oct-15	0%	6	09-Oct-15	04-Jan-16	09-Jan-16	73	0	0%
Pier Head Segments											
SC3D0370	C8 (C3d) - Pier Head Segment - Temporary Platform	6	10-Oct-15	0%	6	17-Oct-15	11-Jan-16	16-Jan-16	73	0	0%
SC3D0372	C8 (C3d) - Pier Head Segment Lift & Fix (1 seg)	2	19-Oct-15	0%	2	20-Oct-15	18-Jan-16	19-Jan-16	73	0	0%
SC3D0374	C8 (C3d) - Pier Head Segment Diaphragm - Rebar	12	22-Oct-15	0%	12	05-Nov-15	20-Jan-16	02-Feb-16	73	0	0%
SC3D0376	C8 (C3d) - Pier Head Segment Diaphragm - Formwork	8	06-Nov-15	0%	8	14-Nov-15	03-Feb-16	15-Feb-16	73	0	0%
SC3D0378	C8 (C3d) - Pier Head Segment Diaphragm - Concreting	2	16-Nov-15	0%	2	17-Nov-15	16-Feb-16	17-Feb-16	73	0	0%
SC3D0380	C8 (C3d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	18-Nov-15	0%	6	24-Nov-15	18-Feb-16	24-Feb-16	73	0	0%
Pier C9 (C3c)											
Pier Works											
SC3C0310	C9 (C3c) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	06-Aug-15 A	100%	0	09-Sep-15 A					100%
SC3C0320	C9 (C3c) - Type 5B Pier Backfilling Works	4	16-Sep-15 A	40%	2	23-Sep-15	06-Feb-16	12-Feb-16	112	0	0%
Pier Head Segments											
SC3C0370	C9 (C3c) - Pier Head Segment - Temporary Platform	6	23-Sep-15	0%	6	02-Oct-15	13-Feb-16	19-Feb-16	112	0	0%
SC3C0372	C9 (C3c) - Pier Head Segment Lift & Fix (1 seg)	2	02-Oct-15	0%	2	05-Oct-15	20-Feb-16	22-Feb-16	112	0	0%
SC3C0374	C9 (C3c) - Pier Head Segment Diaphragm - Rebar	12	05-Oct-15	0%	12	20-Oct-15	23-Feb-16	07-Mar-16	112	0	0%
SC3C0376	C9 (C3c) - Pier Head Segment Diaphragm - Formwork	8	20-Oct-15	0%	8	31-Oct-15	08-Mar-16	16-Mar-16	112	0	0%
SC3C0378	C9 (C3c) - Pier Head Segment Diaphragm - Concreting	2	31-Oct-15	0%	2	03-Nov-15	17-Mar-16	18-Mar-16	112	0	0%
SC3C0380	C9 (C3c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	03-Nov-15	0%	6	10-Nov-15	19-Mar-16	29-Mar-16	112	0	0%
Pier C10 (C3b)											
Pier Works											
SC3B0222	C10 (C3b) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift	3	17-Aug-15 A	100%	0	22-Aug-15 A					100%
SC3B0270	C10 (C3b) - Type 5B Pier Head Scaffolding	3	24-Aug-15 A	100%	0	02-Sep-15 A					100%
SC3B0280	C10 (C3b) - Type 5B Pier Head Rebarwork	4	03-Sep-15 A	50%	2	22-Sep-15	17-Feb-16	19-Feb-16	117	0	50%
SC3B0290	C10 (C3b) - Type 5B Pier Head Formwork & Prep for Concreting	4	23-Sep-15	0%	4	26-Sep-15	19-Feb-16	24-Feb-16	117	0	0%
SC3B0300	C10 (C3b) - Type 5B Pier Head Concreting	1	29-Sep-15	0%	1	29-Sep-15	24-Feb-16	25-Feb-16	117	0	0%
SC3B0310	C10 (C3b) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffold	6	30-Sep-15	0%	6	07-Oct-15	25-Feb-16	03-Mar-16	117	0	0%
SC3B0320	C10 (C3b) - Type 5B Pier Backfilling Works	4	08-Oct-15	0%	4	12-Oct-15	03-Mar-16	08-Mar-16	117	0	0%
Pier Head Segments											
SC3B0370	C10 (C3b) - Pier Head Segment - Temporary Platform	6	13-Oct-15	0%	6	20-Oct-15	08-Mar-16	15-Mar-16	117	0	0%
SC3B0372	C10 (C3b) - Pier Head Segment Lift & Fix (1 seg)	2	22-Oct-15	0%	2	23-Oct-15	15-Mar-16	17-Mar-16	117	0	0%
SC3B0374	C10 (C3b) - Pier Head Segment Diaphragm - Rebar	14	24-Oct-15	0%	14	10-Nov-15	17-Mar-16	06-Apr-16	117	0	0%
SC3B0376	C10 (C3b) - Pier Head Segment Diaphragm - Formwork	8	10-Nov-15	0%	8	19-Nov-15	07-Apr-16	16-Apr-16	117	0	0%
SC3B0378	C10 (C3b) - Pier Head Segment Diaphragm - Concreting	2	19-Nov-15	0%	2	21-Nov-15	18-Apr-16	19-Apr-16	117	0	0%
SC3B0380	C10 (C3b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	21-Nov-15	0%	6	28-Nov-15	21-Apr-16	27-Apr-16	117	0	0%
Pier C11 (C3a)											
Pier Works											
SC3A0222	C11 (C3a) - Type 5B-MJ Pier Curing & Striking of Forms incl. CJ prep (2nd	2	19-Aug-15 A	0%	2	22-Sep-15	02-Mar-16	03-Mar-16	129	0	0%
SC3A0230	C11 (C3a) - Type 5B-MJ Pier Scaffolding (3rd Lift)	2	23-Sep-15	0%	2	24-Sep-15	04-Mar-16	05-Mar-16	129	0	0%
SC3A0240	C11 (C3a) - Type 5B-MJ Pier Rebarwork (3rd Lift)	2	25-Sep-15	0%	2	26-Sep-15	07-Mar-16	08-Mar-16	129	0	0%
SC3A0250	C11 (C3a) - Type 5B-MJ Pier Formwork & Prep for Concreting (3rd Lift)	2	29-Sep-15	0%	2	30-Sep-15	09-Mar-16	10-Mar-16	129	0	0%
SC3A0260	C11 (C3a) - Type 5B-MJ Pier Concreting (3rd Lift)	1	02-Oct-15	0%	1	02-Oct-15	11-Mar-16	11-Mar-16	129	0	0%
SC3A0262	C11 (C3a) - Type 5B-MJ Pier Curing & Striking of Forms incl. CJ prep (3rd	2	03-Oct-15	0%	2	05-Oct-15	12-Mar-16	14-Mar-16	129	0	0%
SC3A0300	C11 (C3a) - Type 5B-MJ Pier Head Scaffolding	3	06-Oct-15	0%	3	08-Oct-15	15-Mar-16	17-Mar-16	129	0	0%
SC3A0310	C11 (C3a) - Type 5B-MJ Pier Head Rebarwork	5	09-Oct-15	0%	5	15-Oct-15	18-Mar-16	23-Mar-16	129	0	0%
SC3A0320	C11 (C3a) - Type 5B-MJ Pier Head Formwork & Prep for Concreting	5	16-Oct-15	0%	5	22-Oct-15	24-Mar-16	01-Apr-16	129	0	0%
SC3A0330	C11 (C3a) - Type 5B-MJ Pier Head Concreting	1	23-Oct-15	0%	1	23-Oct-15	02-Apr-16	02-Apr-16	129	0	0%
SC3A0340	C11 (C3a) - Type 5B-MJ Pier Head Curing/Striking of Forms/Remove Scaf	6	24-Oct-15	0%	6	31-Oct-15	05-Apr-16	11-Apr-16	129	0	0%
SC3A0360	C11 (C3a) - Type 5B-MJ Pier Backfilling Works	4	02-Nov-15	0%	4	05-Nov-15	12-Apr-16	16-Apr-16	129	0	0%
SC3A0380	C11 (C3a) - Type 5B-Bearing Plinth	6	24-Oct-15	0%	6	31-Oct-15	05-Apr-16	11-Apr-16	129	0	0%
Pier Head Segments											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

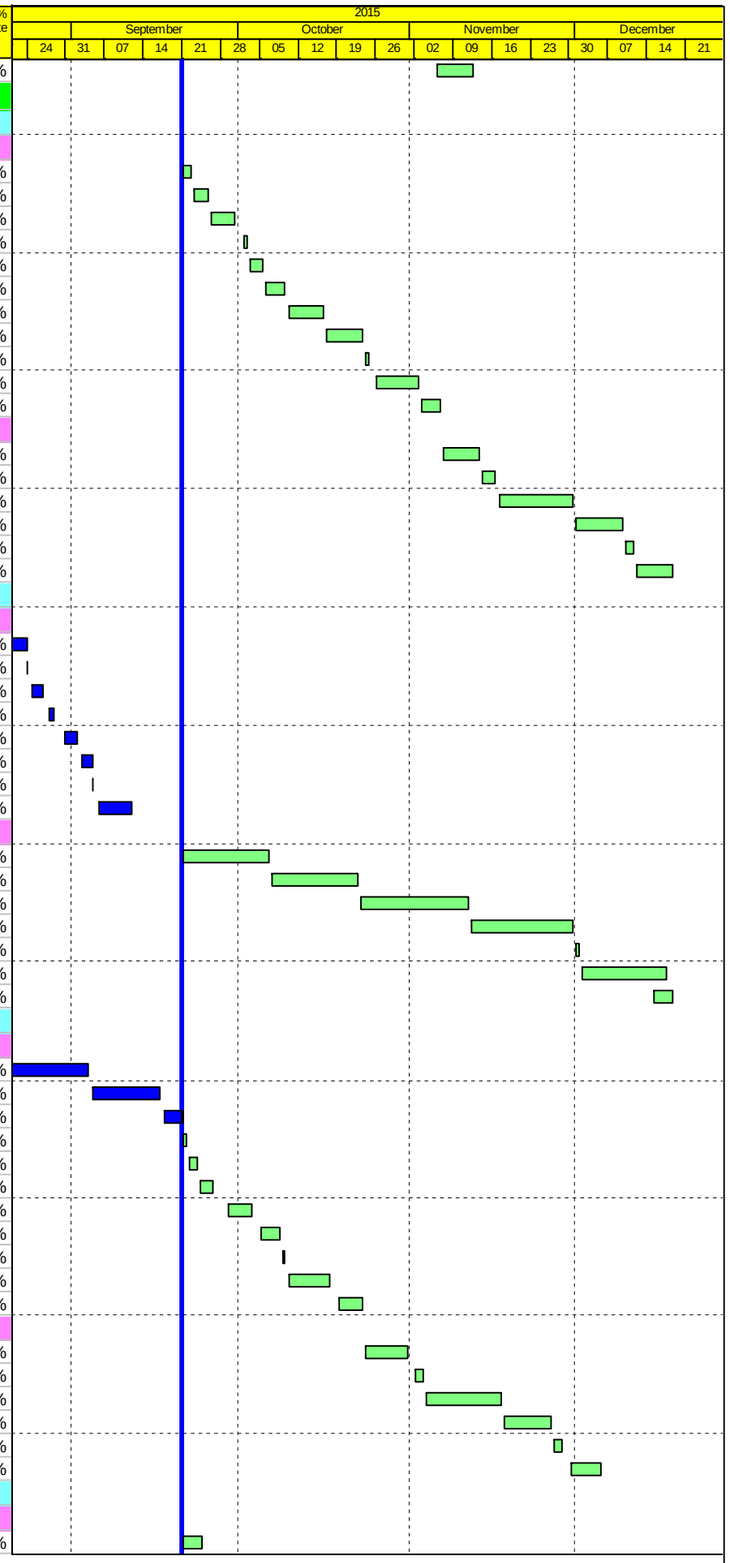
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 12 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SC3A0370	C11 (C3a) - Pier Head Segment - Temporary Platform	6	06-Nov-15	0%	6	12-Nov-15	18-Apr-16	25-Apr-16	129	135	0%
Bridge C2											
Pier C12 (C2f)											
Pier Works											
SC2F0190	C12 (C2f) - Pier Scaffolding (2nd Lift)	2	21-Sep-15	0%	2	22-Sep-15	05-Feb-16	06-Feb-16	110	0	0%
SC2F0200	C12 (C2f) - Pier Rebarwork (2nd Lift)	3	23-Sep-15	0%	3	25-Sep-15	11-Feb-16	13-Feb-16	110	0	0%
SC2F0210	C12 (C2f) - Pier Formwork & Prep for Concreting (2nd Lift)	3	26-Sep-15	0%	3	30-Sep-15	15-Feb-16	17-Feb-16	110	0	0%
SC2F0220	C12 (C2f) - Pier Concreting (2nd Lift)	1	02-Oct-15	0%	1	02-Oct-15	18-Feb-16	18-Feb-16	110	0	0%
SC2F0222	C12 (C2f) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	03-Oct-15	0%	2	05-Oct-15	19-Feb-16	20-Feb-16	110	0	0%
SC2F0230	C12 (C2f) - Pier Head Scaffolding	4	06-Oct-15	0%	4	09-Oct-15	22-Feb-16	25-Feb-16	110	0	0%
SC2F0240	C12 (C2f) - Pier Head Rebarwork	5	10-Oct-15	0%	5	16-Oct-15	26-Feb-16	02-Mar-16	110	0	0%
SC2F0250	C12 (C2f) - Pier Head Formwork & Prep for Concreting	5	17-Oct-15	0%	5	23-Oct-15	03-Mar-16	08-Mar-16	110	0	0%
SC2F0260	C12 (C2f) - Pier Head Concreting	1	24-Oct-15	0%	1	24-Oct-15	09-Mar-16	09-Mar-16	110	0	0%
SC2F0270	C12 (C2f) - Pier Head Curing/Striking of Forms/Remove Scaffolding	6	26-Oct-15	0%	6	02-Nov-15	10-Mar-16	16-Mar-16	110	0	0%
SC2F0275	C12 (C2f) - Pier Backfilling Works	4	03-Nov-15	0%	4	06-Nov-15	17-Mar-16	21-Mar-16	110	0	0%
Pier Head Segments											
SC2F0370	C12 (C2f) - Pier Head Segment - Temporary Platform	6	07-Nov-15	0%	6	13-Nov-15	22-Mar-16	31-Mar-16	110	0	0%
SC2F0372	C12 (C2f) - Pier Head Segment Lift & Fix (1 seg)	2	14-Nov-15	0%	2	16-Nov-15	01-Apr-16	02-Apr-16	110	0	0%
SC2F0374	C12 (C2f) - Pier Head Segment Diaphragm - Rebar	12	17-Nov-15	0%	12	30-Nov-15	05-Apr-16	19-Apr-16	110	0	0%
SC2F0376	C12 (C2f) - Pier Head Segment Diaphragm - Formwork	8	01-Dec-15	0%	8	09-Dec-15	21-Apr-16	29-Apr-16	110	0	0%
SC2F0378	C12 (C2f) - Pier Head Segment Diaphragm - Concreting	2	10-Dec-15	0%	2	11-Dec-15	30-Apr-16	03-May-16	110	0	0%
SC2F0380	C12 (C2f) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	12-Dec-15	0%	6	18-Dec-15	04-May-16	10-May-16	110	0	0%
Pier C13 (C2e) Portal											
Pier Works											
SC2EL210	C13A (C2e-L) - Pier Formwork & Prep for Concreting (2nd Lift)	3	21-Aug-15 A	100%	0	24-Aug-15 A					100%
SC2EL220	C13A (C2e-L) - Pier Concreting (2nd Lift)	1	24-Aug-15 A	100%	0	24-Aug-15 A					100%
SC2EL222	C13A (C2e-L) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	25-Aug-15 A	100%	0	27-Aug-15 A					100%
SC2EL230	C13A (C2e-L) - Pier Scaffolding (3rd Lift)	2	28-Aug-15 A	100%	0	29-Aug-15 A					100%
SC2EL240	C13A (C2e-L) - Pier Rebarwork (3rd Lift)	3	31-Aug-15 A	100%	0	02-Sep-15 A					100%
SC2EL250	C13A (C2e-L) - Pier Formwork & Prep for Concreting (3rd Lift)	3	03-Sep-15 A	100%	0	05-Sep-15 A					100%
SC2EL260	C13A (C2e-L) - Pier Concreting (3rd Lift)	1	05-Sep-15 A	100%	0	05-Sep-15 A					100%
SC2EL262	C13A (C2e-L) - Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	06-Sep-15 A	100%	0	12-Sep-15 A					100%
Portal											
SC2ER280	C13 (C2e) - Portal Beam Scaffolding	12	21-Sep-15	0%	12	06-Oct-15	18-Feb-16	02-Mar-16	118	0	0%
SC2ER290	C13 (C2e) - Portal Beam Soffit Formwork	12	07-Oct-15	0%	12	22-Oct-15	03-Mar-16	16-Mar-16	118	0	0%
SC2ER300	C13 (C2e) - Portal Beam Rebarwork & Inserts	16	23-Oct-15	0%	16	11-Nov-15	17-Mar-16	08-Apr-16	118	0	0%
SC2ER302	C13 (C2e) - Portal Beam Side Formwork & Prep for Concreting	16	12-Nov-15	0%	16	30-Nov-15	09-Apr-16	29-Apr-16	118	0	0%
SC2ER310	C13 (C2e) - Portal Beam Concreting	1	01-Dec-15	0%	1	01-Dec-15	30-Apr-16	30-Apr-16	118	0	0%
SC2ER320	C13 (C2e) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	02-Dec-15	0%	14	17-Dec-15	03-May-16	20-May-16	118	0	0%
SC2ER325	C13 (C2e) - Pier Backfilling Works	4	15-Dec-15	0%	4	18-Dec-15	23-Aug-16	26-Aug-16	190	0	0%
Pier C14 (C2d)											
Pier Works											
SC2D0190	C14 (C2d) - Type 5B Pier Scaffolding (2nd Lift)	2	31-Jul-15 A	100%	0	04-Sep-15 A					100%
SC2D0200	C14 (C2d) - Type 5B Pier Rebarwork (2nd Lift)	3	05-Sep-15 A	100%	0	17-Sep-15 A					100%
SC2D0210	C14 (C2d) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	3	18-Sep-15 A	100%	0	21-Sep-15	08-Mar-16	08-Mar-16	135	0	100%
SC2D0220	C14 (C2d) - Type 5B Pier Concreting (2nd Lift)	1	21-Sep-15	0%	1	21-Sep-15	09-Mar-16	09-Mar-16	135	0	0%
SC2D0222	C14 (C2d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift	2	22-Sep-15	0%	2	23-Sep-15	10-Mar-16	11-Mar-16	135	0	0%
SC2D0230	C14 (C2d) - Type 5B Pier Head Scaffolding	3	24-Sep-15	0%	3	26-Sep-15	12-Mar-16	15-Mar-16	135	0	0%
SC2D0240	C14 (C2d) - Type 5B Pier Head Rebarwork	4	29-Sep-15	0%	4	03-Oct-15	16-Mar-16	19-Mar-16	135	0	0%
SC2D0250	C14 (C2d) - Type 5B Pier Head Formwork & Prep for Concreting	4	05-Oct-15	0%	4	08-Oct-15	21-Mar-16	24-Mar-16	135	0	0%
SC2D0260	C14 (C2d) - Type 5B Pier Head Concreting	1	09-Oct-15	0%	1	09-Oct-15	29-Mar-16	29-Mar-16	135	0	0%
SC2D0270	C14 (C2d) - Type 5B Pier Head Curing & Striking of Forms & Remove Sca	6	10-Oct-15	0%	6	17-Oct-15	30-Mar-16	06-Apr-16	135	0	0%
SC2D0280	C14 (C2d) - Type 5B Pier Backfilling Works	4	19-Oct-15	0%	4	23-Oct-15	07-Apr-16	11-Apr-16	135	0	0%
Pier Head Segments											
SC2D0370	C14 (C2d) - Pier Head Segment - Temporary Platform	6	24-Oct-15	0%	6	31-Oct-15	12-Apr-16	19-Apr-16	135	0	0%
SC2D0372	C14 (C2d) - Pier Head Segment Lift & Fix (1 seg)	2	02-Nov-15	0%	2	03-Nov-15	21-Apr-16	22-Apr-16	135	0	0%
SC2D0374	C14 (C2d) - Pier Head Segment Diaphragm - Rebar	12	04-Nov-15	0%	12	17-Nov-15	23-Apr-16	07-May-16	135	0	0%
SC2D0376	C14 (C2d) - Pier Head Segment Diaphragm - Formwork & Prep for Concr	8	18-Nov-15	0%	8	26-Nov-15	09-May-16	19-May-16	135	0	0%
SC2D0378	C14 (C2d) - Pier Head Segment Diaphragm - Concreting	2	27-Nov-15	0%	2	28-Nov-15	20-May-16	21-May-16	135	0	0%
SC2D0380	C14 (C2d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	30-Nov-15	0%	6	05-Dec-15	23-May-16	30-May-16	135	0	0%
Pier C15 (C2c)											
Pier Works											
SC2C0280	C15 (C2c) - Type 5B Pier Backfilling Works	4	21-Sep-15	0%	4	24-Sep-15	15-Apr-16	19-Apr-16	162	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

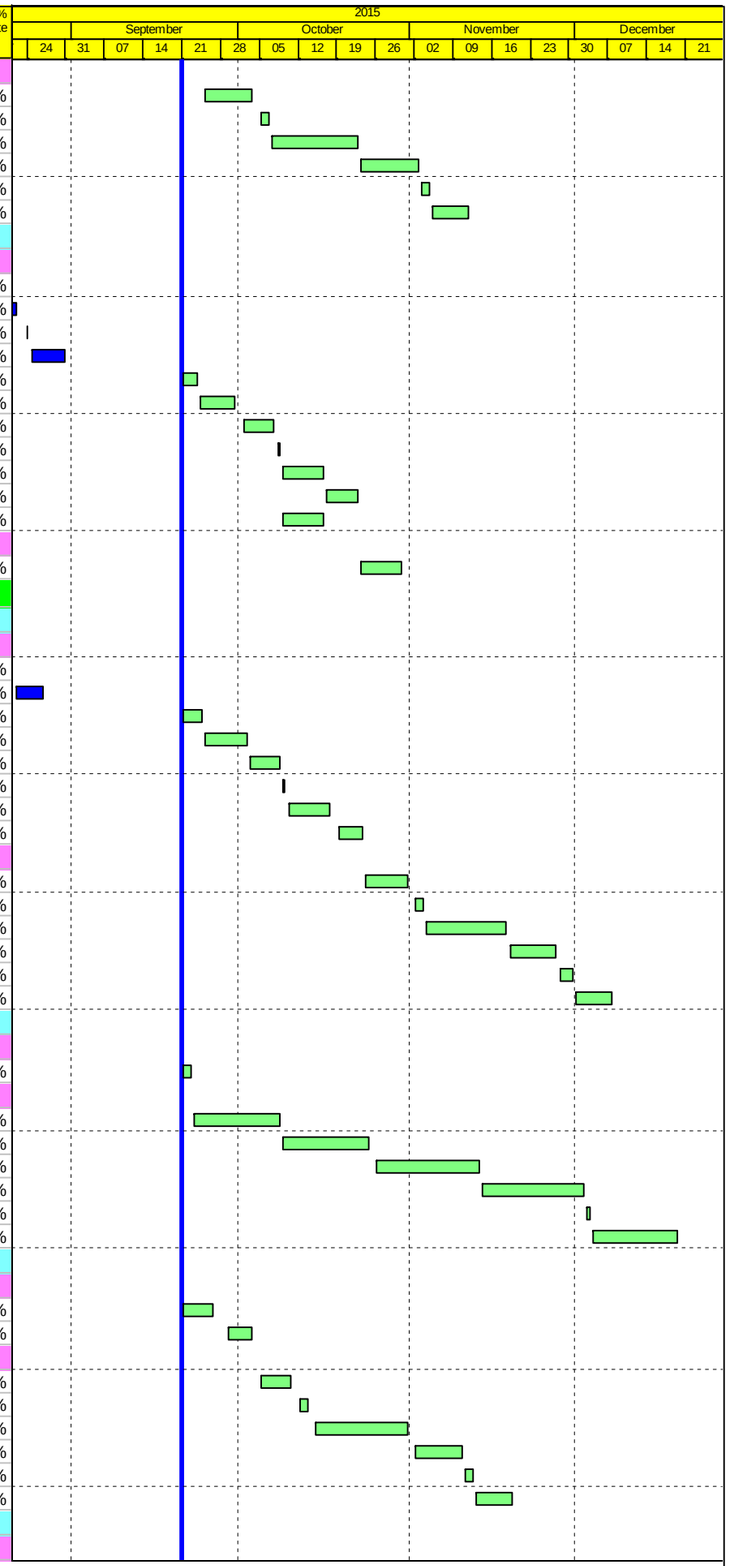
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 13 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Pier Head Segments											
SC2C0370	C15 (C2c) - Pier Head Segment - Temporary Platform	6	25-Sep-15	0%	6	03-Oct-15	21-Apr-16	27-Apr-16	162	0	0%
SC2C0372	C15 (C2c) - Pier Head Segment Lift & Fix (1 seg)	2	05-Oct-15	0%	2	06-Oct-15	28-Apr-16	29-Apr-16	162	0	0%
SC2C0374	C15 (C2c) - Pier Head Segment Diaphragm - Rebar	12	07-Oct-15	0%	12	22-Oct-15	30-Apr-16	16-May-16	162	0	0%
SC2C0376	C15 (C2c) - Pier Head Segment Diaphragm - Formwork & Prep for Concr	8	23-Oct-15	0%	8	02-Nov-15	18-May-16	27-May-16	162	0	0%
SC2C0378	C15 (C2c) - Pier Head Segment Diaphragm - Concreting	2	03-Nov-15	0%	2	04-Nov-15	28-May-16	30-May-16	162	0	0%
SC2C0380	C15 (C2c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	05-Nov-15	0%	6	11-Nov-15	31-May-16	08-Jun-16	162	0	0%
Pier C16 (C2b)											
Pier Works											
SC2B0160	C16 (C2b) - Type 5B-MJ Pier Rebarwork (1st Lift)	3	20-Aug-15 A	100%	0	21-Aug-15 A					100%
SC2B0170	C16 (C2b) - Type 5B-MJ Pier Formwork & Prep for Concreting (1st Lift)	2	21-Aug-15 A	100%	0	22-Aug-15 A					100%
SC2B0180	C16 (C2b) - Type 5B-MJ Pier Concreting (1st Lift)	1	24-Aug-15 A	100%	0	24-Aug-15 A					100%
SC2B0182	C16 (C2b) - Type 5B-MJ Pier Curing & Striking of Forms incl. CJ prep (1st	2	25-Aug-15 A	100%	0	31-Aug-15 A					100%
SC2B0300	C16 (C2b) - Type 5B-MJ Pier Head Scaffolding	3	21-Sep-15	0%	3	23-Sep-15	23-Apr-16	26-Apr-16	168	0	0%
SC2B0310	C16 (C2b) - Type 5B-MJ Pier Head Rebarwork	5	24-Sep-15	0%	5	30-Sep-15	27-Apr-16	03-May-16	168	0	0%
SC2B0320	C16 (C2b) - Type 5B-MJ Pier Head Formwork & Prep for Concreting	5	02-Oct-15	0%	5	07-Oct-15	04-May-16	09-May-16	168	0	0%
SC2B0330	C16 (C2b) - Type 5B-MJ Pier Head Concreting	1	08-Oct-15	0%	1	08-Oct-15	10-May-16	10-May-16	168	0	0%
SC2B0340	C16 (C2b) - Type 5B-MJ Pier Head Curing/Striking of Forms/Remove Scaf	6	09-Oct-15	0%	6	16-Oct-15	11-May-16	19-May-16	168	0	0%
SC2B0360	C16 (C2b) - Type 5B-MJ Pier Backfilling Works	4	17-Oct-15	0%	4	22-Oct-15	20-May-16	24-May-16	168	0	0%
SC2B0380	C16 (C2b) - Type 5B-Bearing Plinth	6	09-Oct-15	0%	6	16-Oct-15	11-May-16	19-May-16	168	0	0%
Pier Head Segments											
SC2B0370	C16 (C2b) - Pier Head Segment - Temporary Platform	6	23-Oct-15	0%	6	30-Oct-15	25-May-16	01-Jun-16	168	146	0%
Bridge C1											
Pier C17 (C2a)											
Pier Works											
SC2A0180	C17 (C2a) - Type 5B Pier Concreting (1st Lift)	1	21-Aug-15 A	100%	0	21-Aug-15 A					100%
SC2A0182	C17 (C2a) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	22-Aug-15 A	100%	0	27-Aug-15 A					100%
SC2A0230	C17 (C2a) - Type 5B Pier Head Scaffolding	4	21-Sep-15	0%	4	24-Sep-15	29-Feb-16	03-Mar-16	127	0	0%
SC2A0240	C17 (C2a) - Type 5B Pier Head Rebarwork	5	25-Sep-15	0%	5	02-Oct-15	04-Mar-16	09-Mar-16	127	0	0%
SC2A0250	C17 (C2a) - Type 5B Pier Head Formwork & Prep for Concreting	5	03-Oct-15	0%	5	08-Oct-15	10-Mar-16	15-Mar-16	127	0	0%
SC2A0260	C17 (C2a) - Type 5B Pier Head Concreting	1	09-Oct-15	0%	1	09-Oct-15	16-Mar-16	16-Mar-16	127	0	0%
SC2A0270	C17 (C2a) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffol	6	10-Oct-15	0%	6	17-Oct-15	17-Mar-16	23-Mar-16	127	0	0%
SC2A0275	C17 (C2a) - Type 5B Pier Backfilling Works	4	19-Oct-15	0%	4	23-Oct-15	24-Mar-16	31-Mar-16	127	0	0%
Pier Head Segments											
SC2A0370	C17 (C2a) - Pier Head Segment - Temporary Platform	6	24-Oct-15	0%	6	31-Oct-15	01-Apr-16	08-Apr-16	127	0	0%
SC2A0372	C17 (C2a) - Pier Head Segment Lift & Fix (1 seg)	2	02-Nov-15	0%	2	03-Nov-15	09-Apr-16	12-Apr-16	128	0	0%
SC2A0374	C17 (C2a) - Pier Head Segment Diaphragm - Rebar	13	04-Nov-15	0%	13	18-Nov-15	13-Apr-16	29-Apr-16	128	0	0%
SC2A0376	C17 (C2a) - Pier Head Segment Diaphragm - Formwork	8	19-Nov-15	0%	8	27-Nov-15	30-Apr-16	11-May-16	129	0	0%
SC2A0378	C17 (C2a) - Pier Head Segment Diaphragm - Concreting	2	28-Nov-15	0%	2	30-Nov-15	12-May-16	13-May-16	129	0	0%
SC2A0380	C17 (C2a) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	01-Dec-15	0%	6	07-Dec-15	16-May-16	23-May-16	129	0	0%
Pier C18 (C3d) Portal											
Pier Works											
SC1ER182	C18B (C1e-R) - Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	21-Sep-15	0%	2	22-Sep-15	14-Jan-16	15-Jan-16	91	0	0%
Portal											
SC1ER280	C18 (C1e) - Portal Beam Scaffolding	12	23-Sep-15	0%	12	08-Oct-15	16-Jan-16	29-Jan-16	91	0	0%
SC1ER290	C18 (C1e) - Portal Beam Soffit Formwork	12	09-Oct-15	0%	12	24-Oct-15	30-Jan-16	16-Feb-16	91	0	0%
SC1ER300	C18 (C1e) - Portal Beam Rebarwork & Inserts	16	26-Oct-15	0%	16	13-Nov-15	17-Feb-16	05-Mar-16	91	0	0%
SC1ER302	C18 (C1e) - Portal Beam Side Formwork & Prep for Concreting	16	14-Nov-15	0%	16	02-Dec-15	07-Mar-16	29-Mar-16	92	0	0%
SC1ER310	C18 (C1e) - Portal Beam Concreting	1	03-Dec-15	0%	1	03-Dec-15	30-Mar-16	30-Mar-16	92	0	0%
SC1ER320	C18 (C1e) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	04-Dec-15	0%	14	19-Dec-15	31-Mar-16	18-Apr-16	92	0	0%
Pier C19 (C1d)											
Pier Works											
SC1D0190	C19 (C1d) - Type 5B-B Pier/Pier Head Curing/Striking of Forms/Remove S	6	21-Sep-15	0%	6	26-Sep-15	08-Jan-16	14-Jan-16	86	0	0%
SC1D0195	C19 (C1d) - Type 5B-B Pier/Pier Head Backfilling Works	4	29-Sep-15	0%	4	03-Oct-15	15-Jan-16	19-Jan-16	86	0	0%
Pier Head Segments											
SC1D0370	C19 (C1d) - Pier Head Segment - Temporary Platform	6	05-Oct-15	0%	6	10-Oct-15	20-Jan-16	26-Jan-16	86	0	0%
SC1D0372	C19 (C1d) - Pier Head Segment Lift & Fix (1 seg)	2	12-Oct-15	0%	2	13-Oct-15	27-Jan-16	29-Jan-16	87	0	0%
SC1D0374	C19 (C1d) - Pier Head Segment Diaphragm - Rebar	13	15-Oct-15	0%	13	31-Oct-15	30-Jan-16	17-Feb-16	87	0	0%
SC1D0376	C19 (C1d) - Pier Head Segment Diaphragm - Formwork	8	02-Nov-15	0%	8	10-Nov-15	18-Feb-16	26-Feb-16	87	0	0%
SC1D0378	C19 (C1d) - Pier Head Segment Diaphragm - Concreting	2	11-Nov-15	0%	2	12-Nov-15	27-Feb-16	29-Feb-16	87	0	0%
SC1D0380	C19 (C1d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	13-Nov-15	0%	6	19-Nov-15	01-Mar-16	07-Mar-16	87	15	0%
Pier C20 (C1c) & Abutment C											
Pier Head Segments											



Actual Work
Planned Bar
Critical Bar
Milestone

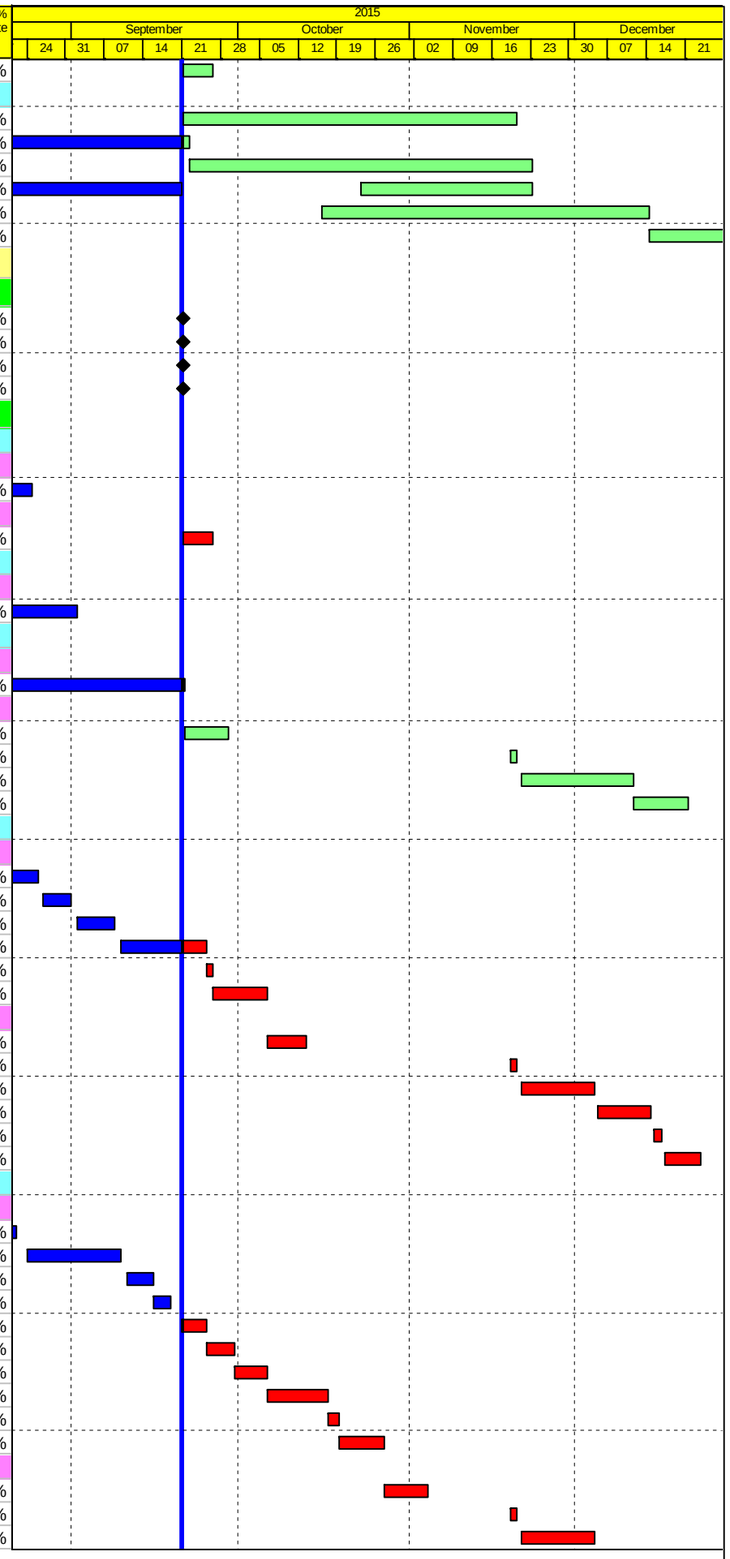
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 14 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SC1C0370	C20 (C1c) - Pier Head Segment - Temporary Platform	6	21-Sep-15	0%	6	26-Sep-15	19-Mar-16	29-Mar-16	144	164	0%
Abutment & Approach Ramp C											
SC1C0200	Abutment C - Walls & Staircase	48	21-Sep-15	0%	48	20-Nov-15	01-Mar-16	03-May-16	128	19	0%
SC1C0250	AR-C - RE Walls - Erect fencing, Excavation/formation/ drainage filter & bo	12	22-Apr-15 A	90%	1	22-Sep-15	28-Jan-16	29-Jan-16	104	0	90%
SC1C0251	AR-C - RE Walls - Upper layers with backfill in stages	48	22-Sep-15	0%	48	23-Nov-15	30-Jan-16	01-Apr-16	104	0	0%
SC1C0252	AR-C - RC Walls - Base Slabs	50	08-Apr-15 A	50%	25	23-Nov-15	01-Mar-16	01-Apr-16	104	0	50%
SC1C0253	AR-C - RC Walls - Side Walls	48	16-Oct-15	0%	48	14-Dec-15	01-Mar-16	03-May-16	109	0	0%
SC1C0254	AR-C - RC Walls - Backfill	12	14-Dec-15	0%	12	30-Dec-15	04-May-16	19-May-16	109	0	0%
Viaduct D											
Milestones - Land Foundation											
GFXX454A1	D13 (D2d) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX461A1	D10 (D3b) - Completion of piling works	0		0%	0	21-Sep-15		15-Jan-19	984	0	0%
GFXX461B1	D11 (D3a) - Completion of piling works	0		0%	0	21-Sep-15		08-May-15	-113	0	0%
GFXX461C1	D12 (D2e) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
Bridge D3											
Pier D1 (D4f)											
Pier Works											
SD4F372	D1 (D4f) - Type 4B-Bearing Plinth	6	21-Aug-15 A	100%	0	25-Aug-15 A					100%
Pier Head Segments											
SD4F0370	D1 (D4f) - Pier Head Segment - Temporary Platform	6	21-Sep-15	0%	6	26-Sep-15	20-May-15	28-May-15	-89	137	0%
Pier D2 (D4e)											
Pier Works											
SD4E0340	D2 (D4e) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	18-Aug-15 A	100%	0	02-Sep-15 A					100%
Pier D3 (D4d)											
Pier Works											
SD4D0340	D3 (D4d) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	09-Aug-15 A	90%	1	21-Sep-15	05-Dec-15	07-Dec-15	61	0	100%
Pier Head Segments											
SD4D0370	D3 (D4d) - Pier Head Segment - Temporary Platform	6	21-Sep-15	0%	6	29-Sep-15	07-Dec-15	14-Dec-15	61	39	0%
SD4D0372	D3 (D4d) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	14-Dec-15	16-Dec-15	21	0	0%
SD4D0374	D3 (D4d) - Pier Head Segment Diaphragm - Rebar	18	21-Nov-15	0%	18	11-Dec-15	16-Dec-15	08-Jan-16	21	0	0%
SD4D0376	D3 (D4d) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	11-Dec-15	0%	8	21-Dec-15	09-Jan-16	18-Jan-16	21	0	0%
Pier D4 (D4c)											
Pier Works											
SD4C0260	D4 (D4c) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	19-Aug-15 A	100%	0	26-Aug-15 A					100%
SD4C0280	D4 (D4c) - Type 4B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	27-Aug-15 A	100%	0	01-Sep-15 A					100%
SD4C0300	D4 (D4c) - Type 4B Pier Head Scaffolding	4	02-Sep-15 A	100%	0	09-Sep-15 A					100%
SD4C0310	D4 (D4c) - Type 4B Pier Head Rebarwork, Formwork & Prep	9	10-Sep-15 A	50%	5	25-Sep-15	08-Apr-15	13-Apr-15	-121	0	50%
SD4C0330	D4 (D4c) - Type 4B Pier Head Concreting	1	25-Sep-15	0%	1	26-Sep-15	14-Apr-15	14-Apr-15	-121	0	0%
SD4C0340	D4 (D4c) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	26-Sep-15	0%	6	06-Oct-15	16-Apr-15	22-Apr-15	-121	0	0%
Pier Head Segments											
SD4C0370	D4 (D4c) - Pier Head Segment - Temporary Platform	6	06-Oct-15	0%	6	13-Oct-15	24-Apr-15	30-Apr-15	-121	29	0%
SD4C0372	D4 (D4c) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	02-May-15	04-May-15	-149	0	0%
SD4C0374	D4 (D4c) - Pier Head Segment Diaphragm - Rebar	12	21-Nov-15	0%	12	04-Dec-15	05-May-15	19-May-15	-149	0	0%
SD4C0376	D4 (D4c) - Pier Head Segment Diaphragm - Formwork & Prep for Concret	8	05-Dec-15	0%	8	14-Dec-15	20-May-15	30-May-15	-149	0	0%
SD4C0378	D4 (D4c) - Pier Head Segment Diaphragm - Concreting	2	15-Dec-15	0%	2	16-Dec-15	01-Jun-15	02-Jun-15	-149	0	0%
SD4C0380	D4 (D4c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Dec-15	0%	6	23-Dec-15	04-Jun-15	12-Jun-15	-149	0	0%
Pier D5 (D4b)											
Pier Works											
SD4B0210	D5 (D4b) - Type 4B Pier Scaffolding (2nd Lift)	1	19-Aug-15 A	100%	0	22-Aug-15 A					100%
SD4B0220	D5 (D4b) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	24-Aug-15 A	100%	0	10-Sep-15 A					100%
SD4B0240	D5 (D4b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	11-Sep-15 A	100%	0	16-Sep-15 A					100%
SD4B0250	D5 (D4b) - Type 4B Pier Scaffolding (3rd Lift)	2	16-Sep-15 A	100%	0	19-Sep-15 A					100%
SD4B0260	D5 (D4b) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	21-Sep-15 A	10%	5	25-Sep-15	25-Mar-15	30-Mar-15	-129	0	10%
SD4B0280	D5 (D4b) - Type 4B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	25-Sep-15	0%	3	30-Sep-15	31-Mar-15	02-Apr-15	-129	0	0%
SD4B0300	D5 (D4b) - Type 4B Pier Head Scaffolding	4	30-Sep-15	0%	4	06-Oct-15	08-Apr-15	11-Apr-15	-129	0	0%
SD4B0310	D5 (D4b) - Type 4B Pier Head Rebarwork, Formwork & Prep	9	06-Oct-15	0%	9	17-Oct-15	13-Apr-15	24-Apr-15	-129	0	0%
SD4B0330	D5 (D4b) - Type 4B Pier Head Concreting	1	17-Oct-15	0%	1	19-Oct-15	25-Apr-15	25-Apr-15	-129	0	0%
SD4B0340	D5 (D4b) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	19-Oct-15	0%	6	27-Oct-15	27-Apr-15	04-May-15	-129	0	0%
Pier Head Segments											
SD4B0370	D5 (D4b) - Pier Head Segment - Temporary Platform	6	27-Oct-15	0%	6	04-Nov-15	05-May-15	11-May-15	-129	13	0%
SD4B0372	D5 (D4b) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	13-May-15	14-May-15	-141	0	0%
SD4B0374	D5 (D4b) - Pier Head Segment Diaphragm - Rebar	12	21-Nov-15	0%	12	04-Dec-15	15-May-15	30-May-15	-141	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

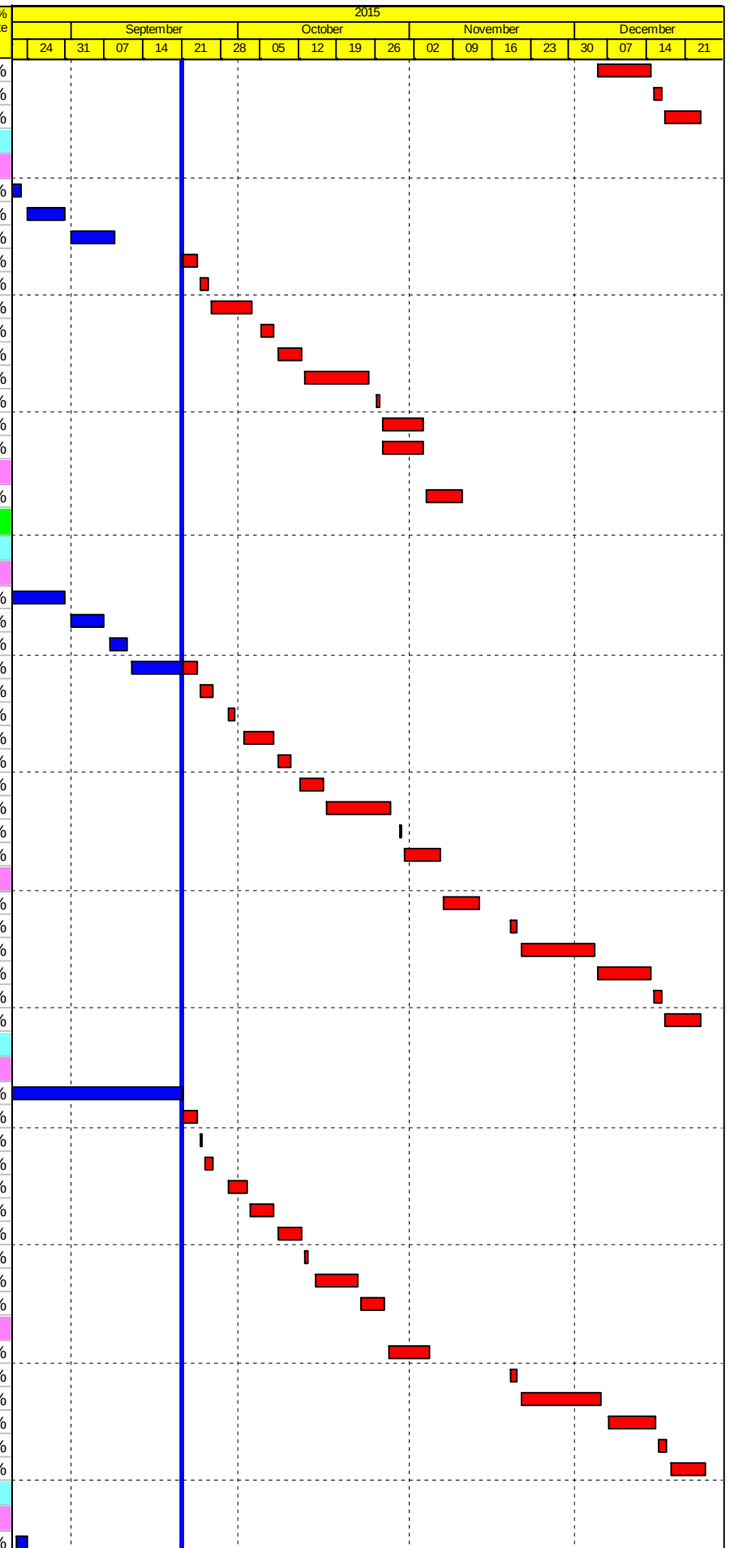
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 15 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SD4B0376	D5 (D4b) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	05-Dec-15	0%	8	14-Dec-15	01-Jun-15	12-Jun-15	-141	0	0%
SD4B0378	D5 (D4b) - Pier Head Segment Diaphragm - Concreting	2	15-Dec-15	0%	2	16-Dec-15	13-Jun-15	15-Jun-15	-141	0	0%
SD4B0380	D5 (D4b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Dec-15	0%	6	23-Dec-15	16-Jun-15	26-Jun-15	-141	0	0%
Pier D6 (D4a)											
Pier Works											
SD4A0200	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (1st Lift	3	14-Aug-15 A	100%	0	23-Aug-15 A					100%
SD4A0210	D6 (D4a) - Type 4B-MJ Pier Scaffolding (2nd Lift)	1	24-Aug-15 A	100%	0	31-Aug-15 A					100%
SD4A0220	D6 (D4a) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (2nd Lift)	5	01-Sep-15 A	100%	0	09-Sep-15 A					100%
SD4A0240	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (2nd Li	3	21-Sep-15 A	0%	3	23-Sep-15	22-May-15	26-May-15	-88	0	0%
SD4A0250	D6 (D4a) - Type 4B-MJ Pier Scaffolding (3rd Lift)	2	24-Sep-15	0%	2	25-Sep-15	27-May-15	28-May-15	-88	0	0%
SD4A0260	D6 (D4a) - Type 4B-MJ Pier Rebarwork, Formwork & Prep (3rd Lift)	5	26-Sep-15	0%	5	03-Oct-15	29-May-15	04-Jun-15	-88	0	0%
SD4A0280	D6 (D4a) - Type 4B MJ Pier Concreting, Curing & Striking, CJ prep (3rd Lif	3	05-Oct-15	0%	3	07-Oct-15	05-Jun-15	08-Jun-15	-88	0	0%
SD4A0300	D6 (D4a) - Type 4B-MJ Pier Head Scaffolding	4	08-Oct-15	0%	4	12-Oct-15	10-Jun-15	15-Jun-15	-88	0	0%
SD4A0310	D6 (D4a) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	9	13-Oct-15	0%	9	24-Oct-15	16-Jun-15	30-Jun-15	-88	0	0%
SD4A0330	D6 (D4a) - Type 4B-MJ Pier Head Concreting	1	26-Oct-15	0%	1	26-Oct-15	02-Jul-15	02-Jul-15	-88	0	0%
SD4A0340	D6 (D4a) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Scaffe	6	27-Oct-15	0%	6	03-Nov-15	03-Jul-15	09-Jul-15	-88	0	0%
SD4A372	D6 (D4a) - Type 4B-Bearing Plinth	6	27-Oct-15	0%	6	03-Nov-15	03-Jul-15	09-Jul-15	-88	0	0%
Pier Head Segments											
SD4A0370	D6 (D4a) - Pier Head Segment - Temporary Platform	6	04-Nov-15	0%	6	10-Nov-15	10-Jul-15	17-Jul-15	-88	104	0%
Bridge D2											
Pier D7 (D3e)											
Pier Works											
SD3E0180	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (1st Lift)	5	17-Aug-15 A	100%	0	31-Aug-15 A					100%
SD3E0200	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (1st Lift)	3	01-Sep-15 A	100%	0	07-Sep-15 A					100%
SD3E0210	D7 (D3e) - Type 4B Pier Scaffolding (2nd Lift)	1	08-Sep-15 A	100%	0	11-Sep-15 A					100%
SD3E0220	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	12-Sep-15 A	40%	3	23-Sep-15	10-Apr-15	13-Apr-15	-119	0	40%
SD3E0240	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift)	3	24-Sep-15	0%	3	26-Sep-15	14-Apr-15	17-Apr-15	-119	0	0%
SD3E0250	D7 (D3e) - Type 4B Pier Scaffolding (3rd Lift)	2	29-Sep-15	0%	2	30-Sep-15	18-Apr-15	20-Apr-15	-119	0	0%
SD3E0260	D7 (D3e) - Type 4B Pier Rebarwork, Formwork & Prep (3rd Lift)	5	02-Oct-15	0%	5	07-Oct-15	21-Apr-15	27-Apr-15	-119	0	0%
SD3E0280	D7 (D3e) - Type 4B Pier Concreting, Curing & Striking, CJ prep (3rd Lift)	3	08-Oct-15	0%	3	10-Oct-15	28-Apr-15	30-Apr-15	-119	0	0%
SD3E0300	D7 (D3e) - Type 4B Pier Head Scaffolding	4	12-Oct-15	0%	4	16-Oct-15	02-May-15	06-May-15	-119	0	0%
SD3E0310	D7 (D3e) - Type 4B Pier Head Rebarwork, Formwork & Prep	9	17-Oct-15	0%	9	28-Oct-15	07-May-15	18-May-15	-119	0	0%
SD3E0330	D7 (D3e) - Type 4B Pier Head Concreting	1	30-Oct-15	0%	1	30-Oct-15	19-May-15	19-May-15	-119	0	0%
SD3E0340	D7 (D3e) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	31-Oct-15	0%	6	06-Nov-15	20-May-15	28-May-15	-119	0	0%
Pier Head Segments											
SD3E0370	D7 (D3e) - Pier Head Segment - Temporary Platform	6	07-Nov-15	0%	6	13-Nov-15	29-May-15	05-Jun-15	-119	4	0%
SD3E0372	D7 (D3e) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	06-Jun-15	08-Jun-15	-123	0	0%
SD3E0374	D7 (D3e) - Pier Head Segment Diaphragm - Rebar	12	21-Nov-15	0%	12	04-Dec-15	10-Jun-15	29-Jun-15	-123	0	0%
SD3E0376	D7 (D3e) - Pier Head Segment Diaphragm - Formwork & Prep for Concre	8	05-Dec-15	0%	8	14-Dec-15	30-Jun-15	09-Jul-15	-123	0	0%
SD3E0378	D7 (D3e) - Pier Head Segment Diaphragm - Concreting	2	15-Dec-15	0%	2	16-Dec-15	10-Jul-15	11-Jul-15	-123	0	0%
SD3E0380	D7 (D3e) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Dec-15	0%	6	23-Dec-15	13-Jul-15	20-Jul-15	-123	0	0%
Pier D8 (D3d)											
Pier Works											
SD3D0240	D8 (D3d) - Type 5B Pier Rebarwork (3rd Lift)	3	20-Aug-15 A	100%	0	21-Sep-15	06-May-15	06-May-15	-99	0	100%
SD3D0250	D8 (D3d) - Type 5B Pier Formwork & Prep for Concreting (3rd Lift)	3	21-Sep-15	0%	3	23-Sep-15	07-May-15	09-May-15	-99	0	0%
SD3D0260	D8 (D3d) - Type 5B Pier Concreting (3rd Lift)	1	24-Sep-15	0%	1	24-Sep-15	11-May-15	11-May-15	-99	0	0%
SD3D0262	D8 (D3d) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	25-Sep-15	0%	2	26-Sep-15	13-May-15	14-May-15	-99	0	0%
SD3D0270	D8 (D3d) - Type 5B Pier Head Scaffolding	3	29-Sep-15	0%	3	02-Oct-15	15-May-15	18-May-15	-99	0	0%
SD3D0280	D8 (D3d) - Type 5B Pier Head Rebarwork	4	03-Oct-15	0%	4	07-Oct-15	19-May-15	23-May-15	-99	0	0%
SD3D0290	D8 (D3d) - Type 5B Pier Head Formwork & Prep for Concreting	4	08-Oct-15	0%	4	12-Oct-15	26-May-15	29-May-15	-99	0	0%
SD3D0300	D8 (D3d) - Type 5B Pier Head Concreting	1	13-Oct-15	0%	1	13-Oct-15	30-May-15	30-May-15	-99	0	0%
SD3D0310	D8 (D3d) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffoldir	6	15-Oct-15	0%	6	22-Oct-15	01-Jun-15	08-Jun-15	-99	0	0%
SD3D0320	D8 (D3d) - Type 5B Pier Backfilling Works	4	23-Oct-15	0%	4	27-Oct-15	10-Jun-15	15-Jun-15	-99	0	0%
Pier Head Segments											
SD3D0370	D8 (D3d) - Pier Head Segment - Temporary Platform	6	28-Oct-15	0%	6	04-Nov-15	16-Jun-15	26-Jun-15	-99	12	0%
SD3D0372	D8 (D3d) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	27-Jun-15	29-Jun-15	-111	0	0%
SD3D0374	D8 (D3d) - Pier Head Segment Diaphragm - Rebar	13	21-Nov-15	0%	13	05-Dec-15	30-Jun-15	15-Jul-15	-111	0	0%
SD3D0376	D8 (D3d) - Pier Head Segment Diaphragm - Formwork	8	07-Dec-15	0%	8	15-Dec-15	17-Jul-15	25-Jul-15	-111	0	0%
SD3D0378	D8 (D3d) - Pier Head Segment Diaphragm - Concreting	2	16-Dec-15	0%	2	17-Dec-15	27-Jul-15	28-Jul-15	-111	0	0%
SD3D0380	D8 (D3d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	18-Dec-15	0%	6	24-Dec-15	30-Jul-15	05-Aug-15	-111	0	0%
Pier D9 (D3c)											
Pier Works											
SD3C0210	D9 (D3c) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	3	22-Aug-15 A	100%	0	24-Aug-15 A					100%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

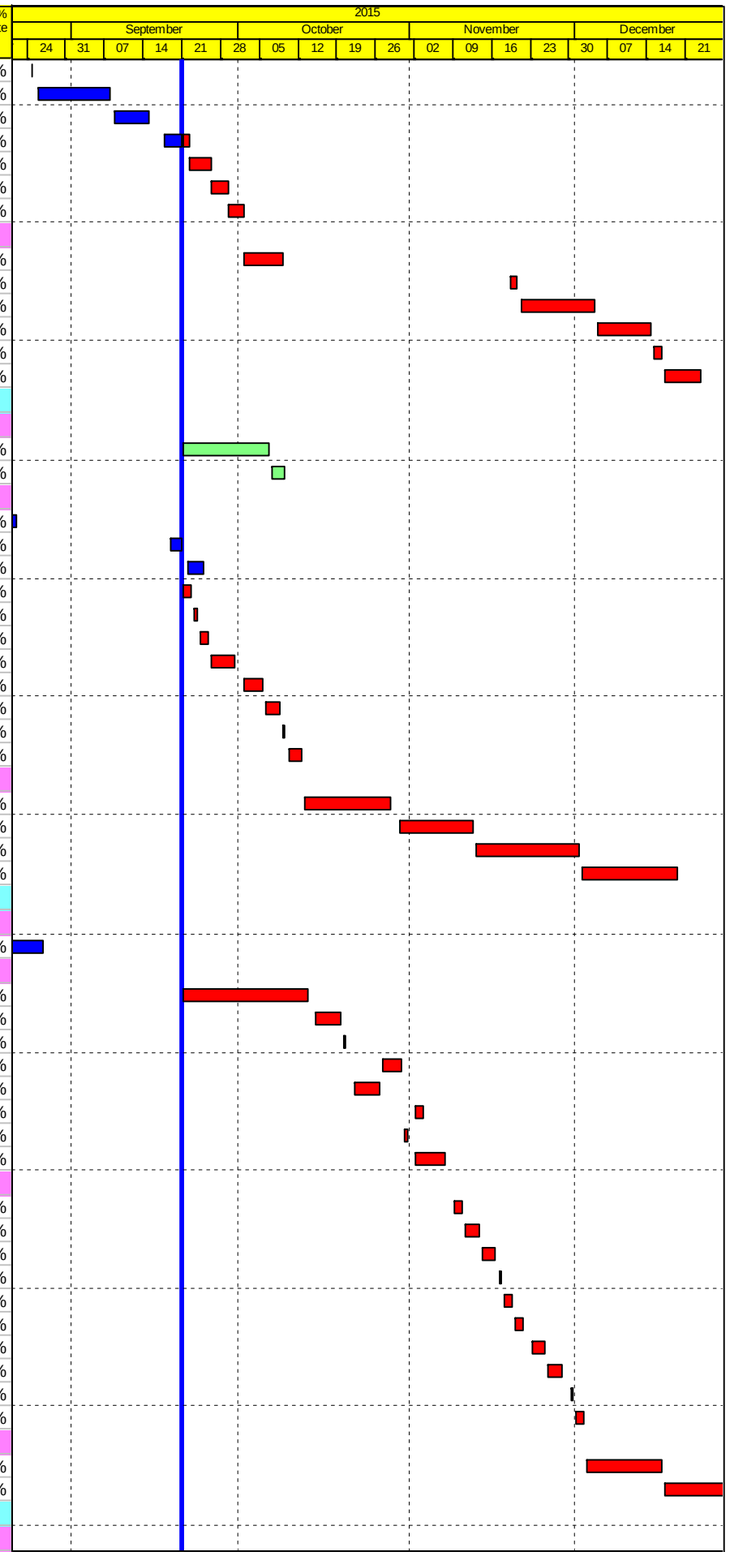
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 16 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SD3C0220	D9 (D3c) - Type 5B Pier Concreting (2nd Lift)	1	25-Aug-15 A	100%	0	25-Aug-15 A					100%
SD3C0222	D9 (D3c) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	26-Aug-15 A	100%	0	08-Sep-15 A					100%
SD3C0230	D9 (D3c) - Type 5B Pier head Scaffolding	3	09-Sep-15 A	100%	0	15-Sep-15 A					100%
SD3C0240	D9 (D3c) - Type 5B Pier Head Rebarwork	4	18-Sep-15 A	70%	1	22-Sep-15	06-Jul-15	07-Jul-15	-58	0	70%
SD3C0250	D9 (D3c) - Type 5B Pier Head Formwork & Prep for Concreting	4	22-Sep-15	0%	4	26-Sep-15	08-Jul-15	11-Jul-15	-58	0	0%
SD3C0260	D9 (D3c) - Type 5B Pier Head Concreting	1	26-Sep-15	0%	1	29-Sep-15	13-Jul-15	13-Jul-15	-58	0	0%
SD3C0262	D9 (D3c) - Type 5B Pier Head Curing & Striking of Forms incl. CJ prep	2	29-Sep-15	0%	2	02-Oct-15	14-Jul-15	15-Jul-15	-58	0	0%
Pier Head Segments											
SD3C0370	D9 (D3c) - Pier Head Segment - Temporary Platform	6	02-Oct-15	0%	6	09-Oct-15	17-Jul-15	23-Jul-15	-58	32	0%
SD3C0372	D9 (D3c) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	24-Jul-15	25-Jul-15	-90	0	0%
SD3C0374	D9 (D3c) - Pier Head Segment Diaphragm - Rebar	12	21-Nov-15	0%	12	04-Dec-15	27-Jul-15	10-Aug-15	-90	0	0%
SD3C0376	D9 (D3c) - Pier Head Segment Diaphragm - Formwork	8	05-Dec-15	0%	8	14-Dec-15	12-Aug-15	21-Aug-15	-90	0	0%
SD3C0378	D9 (D3c) - Pier Head Segment Diaphragm - Concreting	2	15-Dec-15	0%	2	16-Dec-15	22-Aug-15	24-Aug-15	-90	0	0%
SD3C0380	D9 (D3c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Dec-15	0%	6	23-Dec-15	25-Aug-15	31-Aug-15	-90	0	0%
Pier D10 (D3b)											
Pile Cap Works											
SD3BR090	D10B (D3b-R) - Pile cap Excavation / ELS (incl. sheet piling)	12	21-Sep-15	0%	12	06-Oct-15	16-Jan-19	29-Jan-19	951	0	0%
SD3BR092	D10B (D3b-R) - Pile cap Pile breakdown to cut-off etc	3	07-Oct-15	0%	3	09-Oct-15	30-Jan-19	01-Feb-19	951	951	0%
Pier Works											
SD3BR182	D10B (D3b-R) - Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	21-Aug-15 A	100%	0	22-Aug-15 A					100%
SD3BR190	D10B (D3b-R) - Pier Scaffolding (2nd Lift)	2	19-Sep-15 A	100%	0	21-Sep-15 A					100%
SD3BR200	D10B (D3b-R) - Pier Rebarwork (2nd Lift)	3	22-Sep-15 A	100%	0	25-Sep-15 A					100%
SD3BR210	D10B (D3b-R) - Pier Formwork & Prep for Concreting (2nd Lift)	2	21-Sep-15	0%	2	22-Sep-15	24-Jun-15	26-Jun-15	-67	0	0%
SD3BR220	D10B (D3b-R) - Pier Concreting (2nd Lift)	1	23-Sep-15	0%	1	23-Sep-15	27-Jun-15	27-Jun-15	-67	0	0%
SD3BR222	D10B (D3b-R) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	24-Sep-15	0%	2	25-Sep-15	29-Jun-15	02-Jul-15	-66	0	0%
SD3BR230	D10B (D3b-R) - Pier Scaffolding (3rd Lift)	3	26-Sep-15	0%	3	30-Sep-15	03-Jul-15	06-Jul-15	-66	0	0%
SD3BR240	D10B (D3b-R) - Pier Rebarwork (3rd Lift)	3	02-Oct-15	0%	3	05-Oct-15	07-Jul-15	09-Jul-15	-66	0	0%
SD3BR250	D10B (D3b-R) - Pier Formwork & Prep for Concreting (3rd Lift)	3	06-Oct-15	0%	3	08-Oct-15	10-Jul-15	13-Jul-15	-66	0	0%
SD3BR260	D10B (D3b-R) - Pier Concreting (3rd Lift)	1	09-Oct-15	0%	1	09-Oct-15	14-Jul-15	14-Jul-15	-66	0	0%
SD3BR262	D10B (D3b-R) - Pier Curing & Striking of Forms incl. CJ prep (3rd Lift)	2	10-Oct-15	0%	2	12-Oct-15	15-Jul-15	17-Jul-15	-66	0	0%
Portal											
SD3BR280	D10 (D3b) - Portal Beam Scaffolding	12	13-Oct-15	0%	12	28-Oct-15	18-Jul-15	01-Aug-15	-66	0	0%
SD3BR290	D10 (D3b) - Portal Beam Soffit Formwork	12	30-Oct-15	0%	12	12-Nov-15	03-Aug-15	17-Aug-15	-66	0	0%
SD3BR300	D10 (D3b) - Portal Beam Rebarwork & Inserts	16	13-Nov-15	0%	16	01-Dec-15	18-Aug-15	07-Sep-15	-66	0	0%
SD3BR305	D10 (D3b) - Portal Beam Side Formwork & Prep for Concreting	16	02-Dec-15	0%	16	19-Dec-15	08-Sep-15	29-Sep-15	-66	0	0%
Pier D11 (D3a)											
Socketted H-Pile Installation - D11 (D3a)											
GFXX461-7	D11B (D3a) - Installation of SH Pile (8 nr)	90	09-Apr-15 A	100%	0	27-Aug-15 A					100%
Pile Cap Works											
SD3AR090	D11B (D3a-R) - Pile cap Excavation / ELS (incl. sheet piling)	18	21-Sep-15	0%	18	13-Oct-15	08-May-15	02-Jun-15	-98	0	0%
SD3AR092	D11B (D3a-R) - Pile cap Pile breakdown to cut-off etc	4	15-Oct-15	0%	4	19-Oct-15	02-Jun-15	08-Jun-15	-98	0	0%
SD3AR100	D11B (D3a-R) - Pile cap Blinding	1	20-Oct-15	0%	1	20-Oct-15	08-Jun-15	10-Jun-15	-98	0	0%
SD3AR110	D11B (D3a-R) - Pile cap Formwork	3	27-Oct-15	0%	3	30-Oct-15	16-Jun-15	22-Jun-15	-98	0	0%
SD3AR120	D11B (D3a-R) - Pile cap Rebarwork	4	22-Oct-15	0%	4	26-Oct-15	10-Jun-15	16-Jun-15	-98	0	0%
SD3AR122	D11B (D3a-R) - Pile cap Kicker Formwork	2	02-Nov-15	0%	2	03-Nov-15	02-Jul-15	04-Jul-15	-93	4	0%
SD3AR130	D11B (D3a-R) - Pile cap Concreting	1	31-Oct-15	0%	1	31-Oct-15	22-Jun-15	24-Jun-15	-98	0	0%
SD3AR140	D11B (D3a-R) - Pile cap Curing & Striking of Forms incl. CJ prep	6	02-Nov-15	0%	6	07-Nov-15	24-Jun-15	04-Jul-15	-97	0	0%
Pier Works											
SD3AR150	D11B (D3a-R) - Pier Scaffolding (1st Lift)	2	09-Nov-15	0%	2	10-Nov-15	04-Jul-15	07-Jul-15	-97	0	0%
SD3AR160	D11B (D3a-R) - Pier Rebarwork (1st Lift)	3	11-Nov-15	0%	3	13-Nov-15	07-Jul-15	10-Jul-15	-97	0	0%
SD3AR170	D11B (D3a-R) - Pier Formwork & Prep for Concreting (1st Lift)	2	14-Nov-15	0%	2	16-Nov-15	10-Jul-15	13-Jul-15	-97	0	0%
SD3AR180	D11B (D3a-R) - Pier Concreting (1st Lift)	1	17-Nov-15	0%	1	17-Nov-15	13-Jul-15	14-Jul-15	-97	0	0%
SD3AR182	D11B (D3a-R) - Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	18-Nov-15	0%	2	19-Nov-15	14-Jul-15	17-Jul-15	-97	0	0%
SD3AR190	D11B (D3a-R) - Pier Scaffolding (2nd Lift)	2	20-Nov-15	0%	2	21-Nov-15	17-Jul-15	20-Jul-15	-97	0	0%
SD3AR200	D11B (D3a-R) - Pier Rebarwork (2nd Lift)	3	23-Nov-15	0%	3	25-Nov-15	20-Jul-15	23-Jul-15	-97	0	0%
SD3AR210	D11B (D3a-R) - Pier Formwork & Prep for Concreting (2nd Lift)	3	26-Nov-15	0%	3	28-Nov-15	23-Jul-15	27-Jul-15	-97	0	0%
SD3AR220	D11B (D3a-R) - Pier Concreting (2nd Lift)	1	30-Nov-15	0%	1	30-Nov-15	27-Jul-15	28-Jul-15	-97	0	0%
SD3AR222	D11B (D3a-R) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	01-Dec-15	0%	2	02-Dec-15	28-Jul-15	01-Aug-15	-95	0	0%
Portal											
SD3AR280	D11 (D3a) - Portal Beam Scaffolding	12	03-Dec-15	0%	12	16-Dec-15	03-Aug-15	17-Aug-15	-95	0	0%
SD3AR290	D11 (D3a) - Portal Beam Soffit Formwork	12	17-Dec-15	0%	12	02-Jan-16	18-Aug-15	01-Sep-15	-95	0	0%
Pier D12 (D2e)											
Pier Works											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

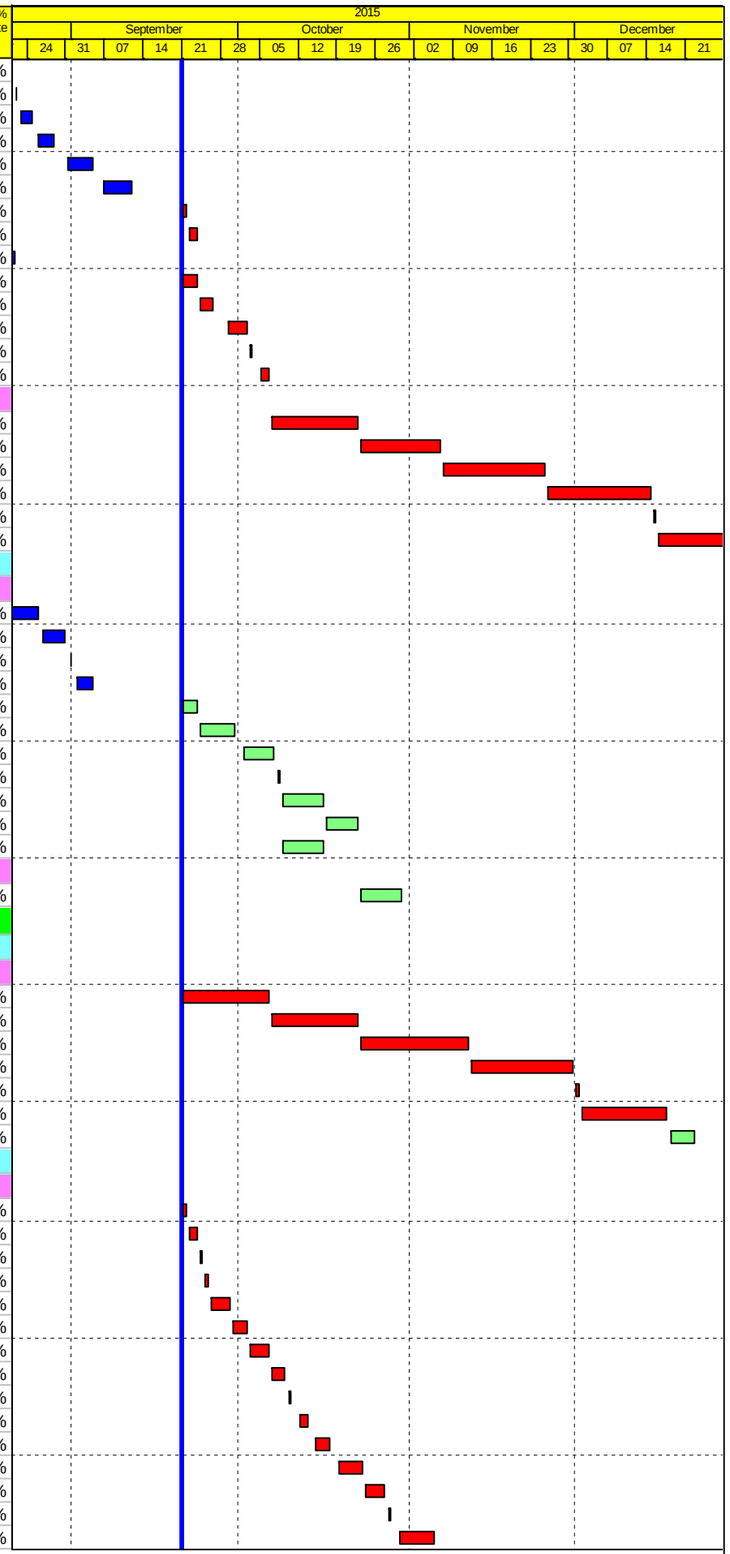
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 17 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SD2EL170	D12A (D2e-L) - Pier Formwork & Prep for Concreting (1st Lift)	2	20-Aug-15 A	100%	0	21-Aug-15 A					100%
SD2EL180	D12A (D2e-L) - Pier Concreting (1st Lift)	1	22-Aug-15 A	100%	0	22-Aug-15 A					100%
SD2EL182	D12A (D2e-L) - Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	23-Aug-15 A	100%	0	25-Aug-15 A					100%
SD2EL190	D12A (D2e-L) - Pier Scaffolding (2nd Lift)	3	26-Aug-15 A	100%	0	29-Aug-15 A					100%
SD2EL200	D12A (D2e-L) - Pier Rebarwork (2nd Lift)	3	31-Aug-15 A	100%	0	05-Sep-15 A					100%
SD2EL210	D12A (D2e-L) - Pier Formwork & Prep for Concreting (2nd Lift)	3	07-Sep-15 A	100%	0	12-Sep-15 A					100%
SD2EL220	D12A (D2e-L) - Pier Concreting (2nd Lift)	1	21-Sep-15	0%	1	21-Sep-15	13-Aug-15	13-Aug-15	-29	0	0%
SD2EL222	D12A (D2e-L) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	22-Sep-15	0%	2	23-Sep-15	14-Aug-15	15-Aug-15	-29	9	0%
SD2ER182	D12B (D2e-R) - Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	19-Aug-15 A	100%	0	21-Aug-15 A					100%
SD2ER190	D12B (D2e-R) - Pier Scaffolding (2nd Lift)	3	21-Sep-15	0%	3	23-Sep-15	01-Aug-15	04-Aug-15	-38	0	0%
SD2ER200	D12B (D2e-R) - Pier Rebarwork (2nd Lift)	3	24-Sep-15	0%	3	26-Sep-15	05-Aug-15	07-Aug-15	-38	0	0%
SD2ER210	D12B (D2e-R) - Pier Formwork & Prep for	3	29-Sep-15	0%	3	02-Oct-15	08-Aug-15	12-Aug-15	-38	0	0%
SD2ER220	D12B (D2e-R) - Pier Concreting (2nd Lift)	1	03-Oct-15	0%	1	03-Oct-15	13-Aug-15	13-Aug-15	-38	0	0%
SD2ER222	D12B (D2e-R) - Pier Curing & Striking of Forms incl. CJ prep (2nd Lift)	2	05-Oct-15	0%	2	06-Oct-15	14-Aug-15	15-Aug-15	-38	0	0%
Portal											
SD2ER280	D12 (D2e) - Portal Beam Scaffolding	12	07-Oct-15	0%	12	22-Oct-15	17-Aug-15	31-Aug-15	-38	0	0%
SD2ER290	D12 (D2e) - Portal Beam Soffit Formwork	12	23-Oct-15	0%	12	06-Nov-15	01-Sep-15	16-Sep-15	-38	0	0%
SD2ER300	D12 (D2e) - Portal Beam Rebarwork & Inserts	16	07-Nov-15	0%	16	25-Nov-15	18-Sep-15	08-Oct-15	-38	0	0%
SD2ER305	D12 (D2e) - Portal Beam Side Formwork & Prep for Concreting	16	26-Nov-15	0%	16	14-Dec-15	09-Oct-15	30-Oct-15	-38	0	0%
SD2ER310	D12 (D2e) - Portal Beam Concreting	1	15-Dec-15	0%	1	15-Dec-15	31-Oct-15	31-Oct-15	-38	0	0%
SD2ER320	D12 (D2e) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	16-Dec-15	0%	14	04-Jan-16	02-Nov-15	17-Nov-15	-38	0	0%
Pier D13 (D2d)											
Pier Works											
SD2D0160	D13 (D2d) - Type 5B-MJ Pier Rebarwork (1st Lift)	3	20-Aug-15 A	100%	0	26-Aug-15 A					100%
SD2D0170	D13 (D2d) - Type 5B-MJ Pier Formwork & Prep for Concreting (1st Lift)	2	27-Aug-15 A	100%	0	31-Aug-15 A					100%
SD2D0180	D13 (D2d) - Type 5B-MJ Pier Concreting (1st Lift)	1	01-Sep-15 A	100%	0	01-Sep-15 A					100%
SD2D0182	D13 (D2d) - Type 5B-MJ Pier Curing & Striking of Forms incl. CJ prep (1st	2	02-Sep-15 A	100%	0	05-Sep-15 A					100%
SD2D0300	D13 (D2d) - Type 5B-MJ Pier Head Scaffolding	3	21-Sep-15	0%	3	23-Sep-15	17-Oct-15	20-Oct-15	20	0	0%
SD2D0310	D13 (D2d) - Type 5B-MJ Pier Head Rebarwork	5	24-Sep-15	0%	5	30-Sep-15	22-Oct-15	27-Oct-15	20	0	0%
SD2D0320	D13 (D2d) - Type 5B-MJ Pier Head Formwork & Prep for Concreting	5	02-Oct-15	0%	5	07-Oct-15	28-Oct-15	03-Nov-15	20	0	0%
SD2D0330	D13 (D2d) - Type 5B-MJ Pier Head Concreting	1	08-Oct-15	0%	1	08-Oct-15	04-Nov-15	04-Nov-15	20	0	0%
SD2D0340	D13 (D2d) - Type 5B-MJ Pier Head Curing/Striking of Forms/Remove Scaf	6	09-Oct-15	0%	6	16-Oct-15	05-Nov-15	11-Nov-15	20	0	0%
SD2D0360	D13 (D2d) - Type 5B-MJ Pier Backfilling Works	4	17-Oct-15	0%	4	22-Oct-15	12-Nov-15	16-Nov-15	20	0	0%
SD2D0380	D13 (D2d) - Type 5B-Bearing Plinth	6	09-Oct-15	0%	6	16-Oct-15	05-Nov-15	11-Nov-15	20	0	0%
Pier Head Segments											
SD2D0370	D13 (D2d) - Pier Head Segment - Temporary Platform	6	23-Oct-15	0%	6	30-Oct-15	17-Nov-15	23-Nov-15	20	113	0%
Bridge D1											
Pier D14 (D2c)											
Portal											
SD2CR280	D14 (D2c) - Portal Beam Scaffolding	12	21-Sep-15	0%	12	06-Oct-15	11-Sep-15	25-Sep-15	-7	0	0%
SD2CR290	D14 (D2c) - Portal Beam Soffit Formwork	12	07-Oct-15	0%	12	22-Oct-15	26-Sep-15	12-Oct-15	-7	0	0%
SD2CR300	D14 (D2c) - Portal Beam Rebarwork & Inserts	16	23-Oct-15	0%	16	11-Nov-15	13-Oct-15	03-Nov-15	-7	0	0%
SD2CR305	D14 (D2c) - Portal Beam Side Formwork & Prep for Concreting	16	12-Nov-15	0%	16	30-Nov-15	04-Nov-15	21-Nov-15	-7	0	0%
SD2CR310	D14 (D2c) - Portal Beam Concreting	1	01-Dec-15	0%	1	01-Dec-15	23-Nov-15	23-Nov-15	-7	0	0%
SD2CR320	D14 (D2c) - Pier Head Curing/Striking of Forms/Remove Scaffolding	14	02-Dec-15	0%	14	17-Dec-15	24-Nov-15	09-Dec-15	-7	0	0%
SD2CR325	D14 (D2c) - Pier Backfilling Works	4	18-Dec-15	0%	4	22-Dec-15	25-Jan-16	28-Jan-16	29	51	0%
Pier D15 (D2b)											
Pier Works											
SD2B0150	D15 (D2b) - Type 5B Pier Scaffolding (1st Lift)	1	21-Sep-15	0%	1	21-Sep-15	18-Aug-15	18-Aug-15	-25	0	0%
SD2B0160	D15 (D2b) - Type 5B Pier Rebarwork (1st Lift)	2	22-Sep-15	0%	2	23-Sep-15	19-Aug-15	21-Aug-15	-25	0	0%
SD2B0170	D15 (D2b) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	1	24-Sep-15	0%	1	24-Sep-15	22-Aug-15	22-Aug-15	-25	0	0%
SD2B0180	D15 (D2b) - Type 5B Pier Concreting (1st Lift)	1	25-Sep-15	0%	1	25-Sep-15	24-Aug-15	24-Aug-15	-25	0	0%
SD2B0182	D15 (D2b) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	26-Sep-15	0%	2	29-Sep-15	25-Aug-15	26-Aug-15	-25	0	0%
SD2B0190	D15 (D2b) - Type 5B Pier Scaffolding (2nd Lift)	2	30-Sep-15	0%	2	02-Oct-15	27-Aug-15	28-Aug-15	-25	0	0%
SD2B0200	D15 (D2b) - Type 5B Pier Rebarwork (2nd Lift)	3	03-Oct-15	0%	3	06-Oct-15	29-Aug-15	01-Sep-15	-25	0	0%
SD2B0210	D15 (D2b) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	3	07-Oct-15	0%	3	09-Oct-15	02-Sep-15	05-Sep-15	-25	0	0%
SD2B0220	D15 (D2b) - Type 5B Pier Concreting (2nd Lift)	1	10-Oct-15	0%	1	10-Oct-15	07-Sep-15	07-Sep-15	-25	0	0%
SD2B0310	D15 (D2b) - Type 5B Pier Curing/Striking of Forms/Remove Scaffolding (2l	2	12-Oct-15	0%	2	13-Oct-15	08-Sep-15	10-Sep-15	-25	0	0%
SD2B0312	D15 (D2b) - Type 5B Pier Head Scaffolding	3	15-Oct-15	0%	3	17-Oct-15	11-Sep-15	14-Sep-15	-25	0	0%
SD2B0314	D15 (D2b) - Type 5B Pier Head Rebarwork	4	19-Oct-15	0%	4	23-Oct-15	15-Sep-15	19-Sep-15	-25	0	0%
SD2B0316	D15 (D2b) - Type 5B Pier Head Formwork & Prep for Concreting	3	24-Oct-15	0%	3	27-Oct-15	21-Sep-15	23-Sep-15	-25	0	0%
SD2B0318	D15 (D2b) - Type 5B Pier Head Concreting	1	28-Oct-15	0%	1	28-Oct-15	24-Sep-15	24-Sep-15	-25	0	0%
SD2B0320	D15 (D2b) - Type 5B Pier Head Curing & Striking of Forms incl. CJ prep	6	30-Oct-15	0%	6	05-Nov-15	25-Sep-15	03-Oct-15	-25	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

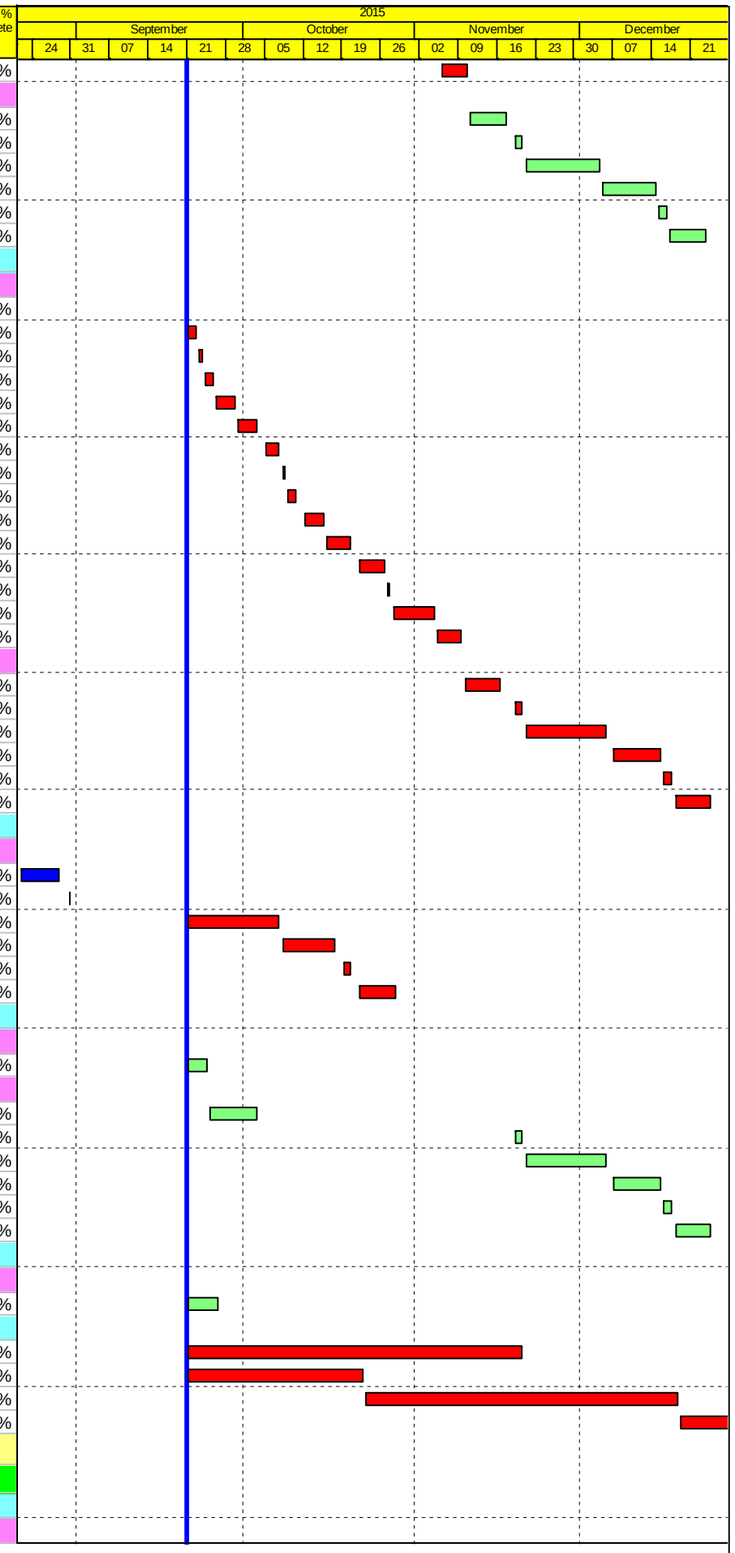
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 18 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SD2B0322	D15 (D2b) - Type 5B Pier Backfilling Works	4	06-Nov-15	0%	4	10-Nov-15	05-Oct-15	08-Oct-15	-25	0	0%
Pier Head Segments											
SD2B0370	D15 (D2b) - Pier Head Segment - Temporary Platform	6	11-Nov-15	0%	6	17-Nov-15	17-Nov-15	23-Nov-15	5	1	0%
SD2B0372	D15 (D2b) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	24-Nov-15	25-Nov-15	4	0	0%
SD2B0374	D15 (D2b) - Pier Head Segment Diaphragm - Rebar	12	21-Nov-15	0%	12	04-Dec-15	26-Nov-15	09-Dec-15	4	0	0%
SD2B0376	D15 (D2b) - Pier Head Segment Diaphragm - Formwork	8	05-Dec-15	0%	8	14-Dec-15	10-Dec-15	18-Dec-15	4	0	0%
SD2B0378	D15 (D2b) - Pier Head Segment Diaphragm - Concreting	2	15-Dec-15	0%	2	16-Dec-15	19-Dec-15	21-Dec-15	4	0	0%
SD2B0380	D15 (D2b) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Dec-15	0%	6	23-Dec-15	22-Dec-15	30-Dec-15	4	0	0%
Pier D16 (D2a)											
Pier Works											
SD2A0160	D16 (D2a) - Type 5B Pier Rebarwork (1st Lift)	3	21-Aug-15 A	100%	0	21-Aug-15 A					100%
SD2A0170	D16 (D2a) - Type 5B Pier Formwork & Prep for Concreting (1st Lift)	2	21-Sep-15	0%	2	22-Sep-15	03-Jul-15	04-Jul-15	-61	0	0%
SD2A0180	D16 (D2a) - Type 5B Pier Concreting (1st Lift)	1	23-Sep-15	0%	1	23-Sep-15	06-Jul-15	06-Jul-15	-61	0	0%
SD2A0182	D16 (D2a) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (1st Lift)	2	24-Sep-15	0%	2	25-Sep-15	07-Jul-15	08-Jul-15	-61	0	0%
SD2A0190	D16 (D2a) - Type 5B Pier Scaffolding (2nd Lift)	2	26-Sep-15	0%	2	29-Sep-15	09-Jul-15	10-Jul-15	-61	0	0%
SD2A0200	D16 (D2a) - Type 5B Pier Rebarwork (2nd Lift)	3	30-Sep-15	0%	3	03-Oct-15	11-Jul-15	14-Jul-15	-61	0	0%
SD2A0210	D16 (D2a) - Type 5B Pier Formwork & Prep for Concreting (2nd Lift)	3	05-Oct-15	0%	3	07-Oct-15	15-Jul-15	18-Jul-15	-61	0	0%
SD2A0220	D16 (D2a) - Type 5B Pier Concreting (2nd Lift)	1	08-Oct-15	0%	1	08-Oct-15	20-Jul-15	20-Jul-15	-61	0	0%
SD2A0222	D16 (D2a) - Type 5B Pier Curing & Striking of Forms incl. CJ prep (2nd Lift	2	09-Oct-15	0%	2	10-Oct-15	21-Jul-15	22-Jul-15	-61	0	0%
SD2A0230	D16 (D2a) - Type 5B Pier Head Scaffolding	3	12-Oct-15	0%	3	15-Oct-15	23-Jul-15	25-Jul-15	-61	0	0%
SD2A0240	D16 (D2a) - Type 5B Pier Head Rebarwork	4	16-Oct-15	0%	4	20-Oct-15	27-Jul-15	31-Jul-15	-61	0	0%
SD2A0250	D16 (D2a) - Type 5B Pier Head Formwork & Prep for Concreting	4	22-Oct-15	0%	4	26-Oct-15	01-Aug-15	05-Aug-15	-61	0	0%
SD2A0260	D16 (D2a) - Type 5B Pier Head Concreting	1	27-Oct-15	0%	1	27-Oct-15	06-Aug-15	06-Aug-15	-61	0	0%
SD2A0310	D16 (D2a) - Type 5B Pier Head Curing/Striking of Forms/Remove Scaffold	6	28-Oct-15	0%	6	04-Nov-15	07-Aug-15	14-Aug-15	-61	0	0%
SD2A0320	D16 (D2a) - Type 5B Pier Backfilling Works	4	05-Nov-15	0%	4	09-Nov-15	15-Aug-15	19-Aug-15	-61	0	0%
Pier Head Segments											
SD2A0370	D16 (D2a) - Pier Head Segment - Temporary Platform	6	10-Nov-15	0%	6	16-Nov-15	21-Aug-15	27-Aug-15	-61	2	0%
SD2A0372	D16 (D2a) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	28-Aug-15	29-Aug-15	-63	0	0%
SD2A0374	D16 (D2a) - Pier Head Segment Diaphragm - Rebar	13	21-Nov-15	0%	13	05-Dec-15	31-Aug-15	16-Sep-15	-63	0	0%
SD2A0376	D16 (D2a) - Pier Head Segment Diaphragm - Formwork	8	07-Dec-15	0%	8	15-Dec-15	18-Sep-15	26-Sep-15	-63	0	0%
SD2A0378	D16 (D2a) - Pier Head Segment Diaphragm - Concreting	2	16-Dec-15	0%	2	17-Dec-15	29-Sep-15	30-Sep-15	-63	0	0%
SD2A0380	D16 (D2a) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	18-Dec-15	0%	6	24-Dec-15	02-Oct-15	08-Oct-15	-63	0	0%
Pier D17 (D1d)											
Pier Head Segments											
SD1D0370	D17 (D1d) - Pier Head Segment - Temporary Platform	6	22-Aug-15 A	100%	0	29-Aug-15 A					100%
SD1D0372	D17 (D1d) - Pier Head Segment Lift & Fix (1 seg)	2	31-Aug-15 A	100%	0	31-Aug-15 A					100%
SD1D0374	D17 (D1d) - Pier Head Segment Diaphragm - Rebar	13	21-Sep-15	0%	13	07-Oct-15	31-Aug-15	16-Sep-15	-15	0	0%
SD1D0376	D17 (D1d) - Pier Head Segment Diaphragm - Formwork	8	08-Oct-15	0%	8	17-Oct-15	18-Sep-15	26-Sep-15	-15	0	0%
SD1D0378	D17 (D1d) - Pier Head Segment Diaphragm - Concreting	2	19-Oct-15	0%	2	20-Oct-15	29-Sep-15	30-Sep-15	-15	0	0%
SD1D0380	D17 (D1d) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	22-Oct-15	0%	6	28-Oct-15	02-Oct-15	08-Oct-15	-15	0	0%
Pier D18 (D1c)											
Pier Works											
SD1C0320	D18 (D1c) - Type 5B-B Pier Backfilling Works	4	21-Sep-15	0%	4	24-Sep-15	21-Nov-15	25-Nov-15	48	0	0%
Pier Head Segments											
SD1C0370	D18 (D1c) - Pier Head Segment - Temporary Platform	6	25-Sep-15	0%	6	03-Oct-15	26-Nov-15	02-Dec-15	48	36	0%
SD1C0372	D18 (D1c) - Pier Head Segment Lift & Fix (1 seg)	2	19-Nov-15	0%	2	20-Nov-15	03-Dec-15	04-Dec-15	12	0	0%
SD1C0374	D18 (D1c) - Pier Head Segment Diaphragm - Rebar	13	21-Nov-15	0%	13	05-Dec-15	05-Dec-15	19-Dec-15	12	0	0%
SD1C0376	D18 (D1c) - Pier Head Segment Diaphragm - Formwork	8	07-Dec-15	0%	8	15-Dec-15	21-Dec-15	31-Dec-15	12	0	0%
SD1C0378	D18 (D1c) - Pier Head Segment Diaphragm - Concreting	2	16-Dec-15	0%	2	17-Dec-15	02-Jan-16	04-Jan-16	12	0	0%
SD1C0380	D18 (D1c) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	18-Dec-15	0%	6	24-Dec-15	05-Jan-16	11-Jan-16	12	0	0%
Pier D19 (D1b) & Abutment D											
Pier Head Segments											
SD1B0370	D19 (D1b) - Pier Head Segment - Temporary Platform	6	21-Sep-15	0%	6	26-Sep-15	28-Oct-15	04-Nov-15	28	137	0%
Abutment & Approach Ramp D											
SD1B0200	Abutment D - Walls & Staircase	48	21-Sep-15	0%	48	20-Nov-15	25-Apr-15	04-Jul-15	-108	0	0%
SD1B0250	AR-D - RE Walls - Erect MTR boundary fence, Excavation/formation/drain	24	21-Sep-15	0%	24	22-Oct-15	25-Apr-15	28-May-15	-108	0	0%
SD1B0260	AR-D - RE Walls - Upper layers with backfill in stages	48	23-Oct-15	0%	48	18-Dec-15	28-May-15	04-Aug-15	-108	0	0%
SD1B0280	AR-D - RC Walls - Side Walls	48	19-Dec-15	0%	48	19-Feb-16	10-Aug-15	12-Oct-15	-103	0	0%
Viaduct E											
Viaduct E1											
Bridge E1 - Piling & Substructure											
E1A, E1B, E1C & E1D (E1a1-2-3-4)											



Actual Work
Planned Bar
Critical Bar
Milestone

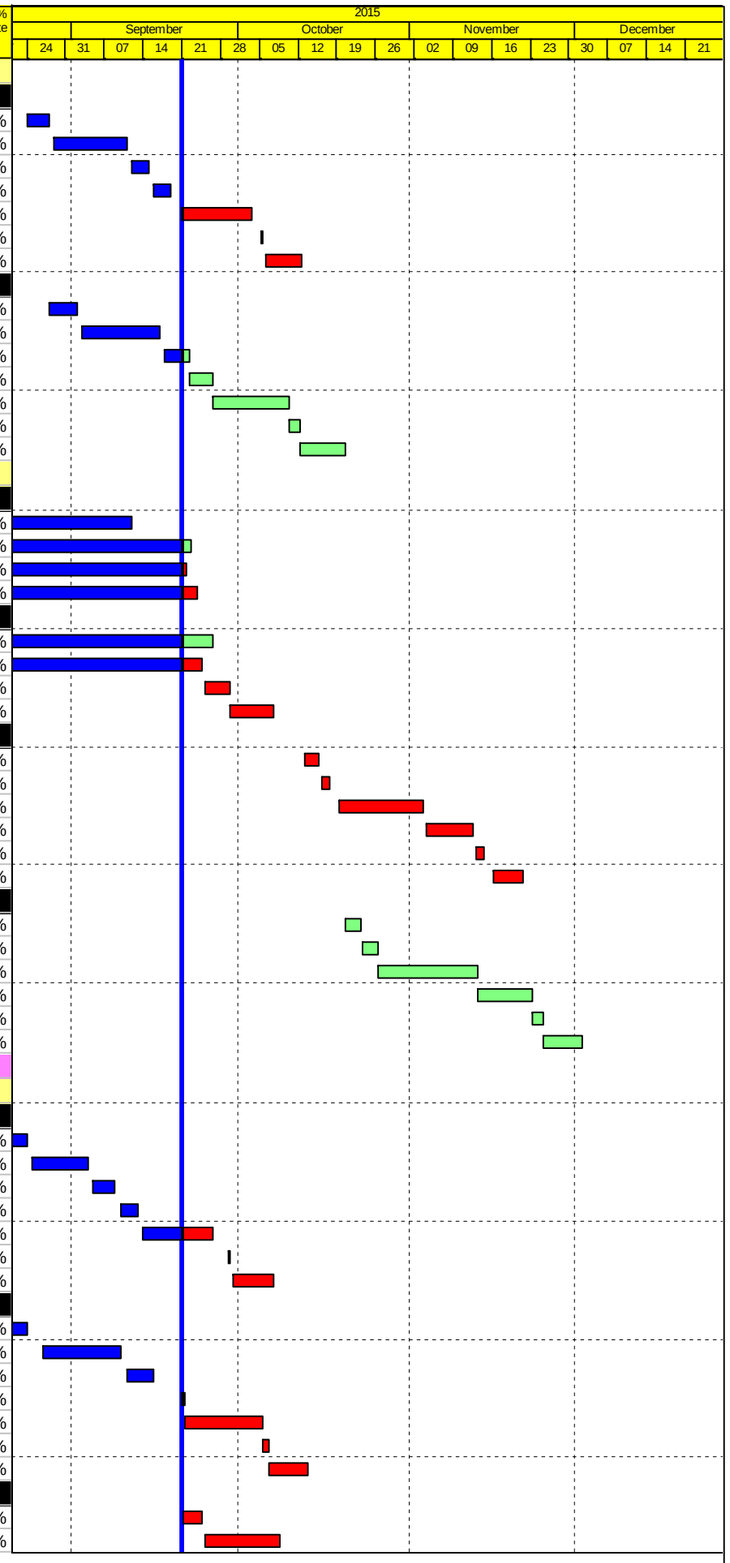
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 19 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Pier Works - E1A, E1B, E1C & E1D											
Pier Works - E1C (E1a2)											
SE1A2210	E1C (E1a2) - Type 4B Pier Scaffolding (2nd Lift)	2	24-Aug-15 A	100%	0	28-Aug-15 A					100%
SE1A2220	E1C (E1a2) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	29-Aug-15 A	100%	0	11-Sep-15 A					100%
SE1A2240	E1C (E1a2) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift	3	12-Sep-15 A	100%	0	15-Sep-15 A					100%
SE1A2300	E1C (E1a2) - Type 4B Pier Head Scaffolding	4	16-Sep-15 A	100%	0	19-Sep-15 A					100%
SE1A2310	E1C (E1a2) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	21-Sep-15 A	0%	10	03-Oct-15	05-Mar-15	17-Mar-15	-146	0	0%
SE1A2330	E1C (E1a2) - Type 4B Pier Head Concreting	1	05-Oct-15	0%	1	05-Oct-15	17-Mar-15	18-Mar-15	-146	0	0%
SE1A2340	E1C (E1a2) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffol	6	06-Oct-15	0%	6	12-Oct-15	18-Mar-15	25-Mar-15	-146	0	0%
Pier Works - E1D (E1a1)											
SE1A1210	E1D (E1a1) - Type 4B Pier Scaffolding (2nd Lift)	2	28-Aug-15 A	100%	0	02-Sep-15 A					100%
SE1A1220	E1D (E1a1) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	5	03-Sep-15 A	100%	0	17-Sep-15 A					100%
SE1A1240	E1D (E1a1) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift	3	18-Sep-15 A	50%	2	22-Sep-15	09-Mar-16	11-Mar-16	136	0	50%
SE1A1300	E1D (E1a1) - Type 4B Pier Head Scaffolding	4	22-Sep-15	0%	4	26-Sep-15	11-Mar-16	16-Mar-16	136	0	0%
SE1A1310	E1D (E1a1) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	26-Sep-15	0%	10	10-Oct-15	16-Mar-16	31-Mar-16	136	0	0%
SE1A1330	E1D (E1a1) - Type 4B Pier Head Concreting	1	10-Oct-15	0%	1	12-Oct-15	31-Mar-16	01-Apr-16	136	0	0%
SE1A1340	E1D (E1a1) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffol	6	12-Oct-15	0%	6	20-Oct-15	01-Apr-16	09-Apr-16	136	0	0%
Pier Head Segments - E1A, E1B, E1C & E1D											
Pier Head Segments - E1A (E1a4)											
SE1A4374	E1A (E1a4) - Pier Head Segment Diaphragm - Rebar	13	29-Jul-15 A	100%	0	12-Sep-15 A					100%
SE1A4376	E1A (E1a4) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	05-Aug-15 A	75%	2	22-Sep-15	31-Jan-19	01-Feb-19	964	964	75%
SE1A4378	E1A (E1a4) - Pier Head Segment Diaphragm - Concreting	2	10-Aug-15 A	50%	1	21-Sep-15	26-Jan-15	26-Jan-15	-176	2	50%
SE1A4380	E1A (E1a4) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	11-Aug-15 A	50%	3	23-Sep-15	23-Jan-15	26-Jan-15	-178	0	50%
Pier Head Segments - E1B (E1a3)											
SE1A3374	E1B (E1a3) - Pier Head Segment Diaphragm - Rebar	12	10-Aug-15 A	50%	6	26-Sep-15	26-Jan-19	01-Feb-19	960	960	50%
SE1A3376	E1B (E1a3) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	21-Aug-15 A	50%	4	24-Sep-15	14-May-15	19-May-15	-94	0	50%
SE1A3378	E1B (E1a3) - Pier Head Segment Diaphragm - Concreting	3	25-Sep-15	0%	3	29-Sep-15	19-May-15	22-May-15	-94	0	0%
SE1A3380	E1B (E1a3) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	29-Sep-15	0%	6	07-Oct-15	23-May-15	30-May-15	-94	0	0%
Pier Head Segments - E1C (E1a2)											
SE1A2370	E1C (E1a2) - Pier Head Segment - Temporary Platform	2	13-Oct-15	0%	2	15-Oct-15	25-Mar-15	27-Mar-15	-146	0	0%
SE1A2372	E1C (E1a2) - Pier Head Segment Lift & Fix (1 seg)	2	16-Oct-15	0%	2	17-Oct-15	27-Mar-15	30-Mar-15	-146	0	0%
SE1A2374	E1C (E1a2) - Pier Head Segment Diaphragm - Rebar	12	19-Oct-15	0%	12	03-Nov-15	30-Mar-15	18-Apr-15	-146	0	0%
SE1A2376	E1C (E1a2) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	04-Nov-15	0%	8	12-Nov-15	18-Apr-15	29-Apr-15	-145	0	0%
SE1A2378	E1C (E1a2) - Pier Head Segment Diaphragm - Concreting	2	13-Nov-15	0%	2	14-Nov-15	30-Apr-15	02-May-15	-145	0	0%
SE1A2380	E1C (E1a2) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	16-Nov-15	0%	6	21-Nov-15	04-May-15	09-May-15	-145	0	0%
Pier Head Segments - E1D (E1a1)											
SE1A1370	E1D (E1a1) - Pier Head Segment - Temporary Platform	2	20-Oct-15	0%	2	23-Oct-15	09-Apr-16	12-Apr-16	136	0	0%
SE1A1372	E1D (E1a1) - Pier Head Segment Lift & Fix (1 seg)	2	23-Oct-15	0%	2	26-Oct-15	12-Apr-16	15-Apr-16	136	0	0%
SE1A1374	E1D (E1a1) - Pier Head Segment Diaphragm - Rebar	15	26-Oct-15	0%	15	13-Nov-15	15-Apr-16	04-May-16	136	0	0%
SE1A1376	E1D (E1a1) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	13-Nov-15	0%	8	23-Nov-15	05-May-16	13-May-16	136	0	0%
SE1A1378	E1D (E1a1) - Pier Head Segment Diaphragm - Concreting	2	23-Nov-15	0%	2	25-Nov-15	16-May-16	18-May-16	136	0	0%
SE1A1380	E1D (E1a1) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	25-Nov-15	0%	6	02-Dec-15	19-May-16	25-May-16	136	0	0%
E2A, E2B, E2C & E2D (E1b1-2-3-4)											
Pier Works - E2A, E2B, E2C & E2D											
Pier Works - E2B (E1b3)											
SE1B3210	E2B (E1b3) - Type 4B Pier Scaffolding (2nd Lift)	1	21-Aug-15 A	100%	0	24-Aug-15 A					100%
SE1B3220	E2B (E1b3) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	4	25-Aug-15 A	100%	0	04-Sep-15 A					100%
SE1B3240	E2B (E1b3) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift	3	05-Sep-15 A	100%	0	09-Sep-15 A					100%
SE1B3300	E2B (E1b3) - Type 4B Pier Head Scaffolding	3	10-Sep-15 A	100%	0	13-Sep-15 A					100%
SE1B3310	E2B (E1b3) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	14-Sep-15 A	40%	6	26-Sep-15	16-Jan-15	23-Jan-15	-184	0	40%
SE1B3330	E2B (E1b3) - Type 4B Pier Head Concreting	1	29-Sep-15	0%	1	29-Sep-15	23-Jan-15	24-Jan-15	-184	0	0%
SE1B3340	E2B (E1b3) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffol	6	30-Sep-15	0%	6	07-Oct-15	24-Jan-15	31-Jan-15	-184	0	0%
Pier Works - E2C (E1b1)											
SE1B1212	E2C (E1b1) - Type 4B Pier Scaffolding (2nd Lift)	1	21-Aug-15 A	100%	0	24-Aug-15 A					100%
SE1B1220	E2C (E1b1) - Type 4B Pier Rebarwork, Formwork & Prep (2nd Lift)	4	27-Aug-15 A	100%	0	10-Sep-15 A					100%
SE1B1240	E2C (E1b1) - Type 4B Pier Concreting, Curing & Striking, CJ prep (2nd Lift	3	11-Sep-15 A	100%	0	16-Sep-15 A					100%
SE1B1300	E2C (E1b1) - Type 4B Pier Head Scaffolding	3	21-Sep-15 A	70%	1	21-Sep-15	04-Feb-15	04-Feb-15	-168	0	70%
SE1B1310	E2C (E1b1) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	21-Sep-15	0%	10	05-Oct-15	05-Feb-15	16-Feb-15	-168	0	0%
SE1B1330	E2C (E1b1) - Type 4B Pier Head Concreting	1	05-Oct-15	0%	1	06-Oct-15	17-Feb-15	17-Feb-15	-168	0	0%
SE1B1340	E2C (E1b1) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffol	6	06-Oct-15	0%	6	13-Oct-15	18-Feb-15	27-Feb-15	-168	0	0%
Pier Works - E2D (E1b2)											
SE1B2300	E2D (E1b2) - Type 4B Pier Head Scaffolding	4	21-Sep-15	0%	4	24-Sep-15	16-Mar-15	19-Mar-15	-137	0	0%
SE1B2310	E2D (E1b2) - Type 4B Pier Head Rebarwork, Formwork & Prep	10	25-Sep-15	0%	10	08-Oct-15	20-Mar-15	31-Mar-15	-137	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection

3-Month Rolling Programme (Page 20 of 32 Pages)

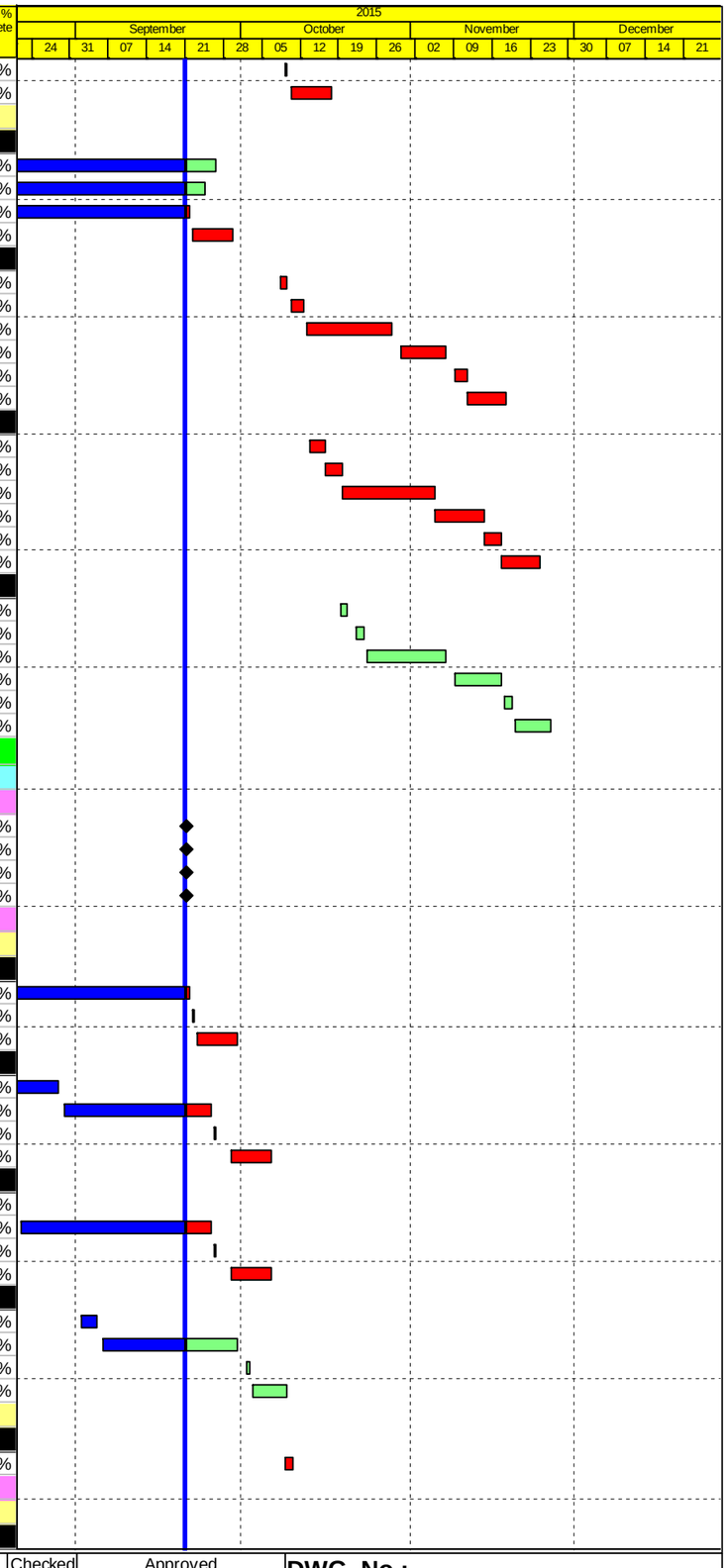
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SE1B2330	E2D (E1b2) - Type 4B Pier Head Concreting	1	09-Oct-15	0%	1	09-Oct-15	01-Apr-15	01-Apr-15	-137	0	0%
SE1B2340	E2D (E1b2) - Type 4B Pier Head Curing/Striking of Forms/Remove Scaffol	6	10-Oct-15	0%	6	17-Oct-15	02-Apr-15	13-Apr-15	-137	0	0%
Pier Head Segments - E2A, E2B, E2C & E2D											
Pier Head Segments - E2A (E1b4)											
SE1B4374	E2A (E1b4) - Pier Head Segment Diaphragm - Rebar	12	06-Aug-15 A	50%	6	26-Sep-15	26-Jan-19	01-Feb-19	960	960	50%
SE1B4376	E2A (E1b4) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	12-Aug-15 A	50%	4	24-Sep-15	29-Jan-19	01-Feb-19	962	962	50%
SE1B4378	E2A (E1b4) - Pier Head Segment Diaphragm - Concreting	2	14-Aug-15 A	50%	1	21-Sep-15	09-Feb-15	09-Feb-15	-164	0	50%
SE1B4380	E2A (E1b4) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	22-Sep-15	0%	6	29-Sep-15	10-Feb-15	16-Feb-15	-164	0	0%
Pier Head Segments - E2B (E1b3)											
SE1B3370	E2B (E1b3) - Pier Head Segment - Temporary Platform	2	08-Oct-15	0%	2	09-Oct-15	31-Jan-15	03-Feb-15	-184	0	0%
SE1B3372	E2B (E1b3) - Pier Head Segment Lift & Fix (1 seg)	2	10-Oct-15	0%	2	12-Oct-15	03-Feb-15	05-Feb-15	-184	0	0%
SE1B3374	E2B (E1b3) - Pier Head Segment Diaphragm - Rebar	12	13-Oct-15	0%	12	28-Oct-15	05-Feb-15	23-Feb-15	-184	0	0%
SE1B3376	E2B (E1b3) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	30-Oct-15	0%	8	07-Nov-15	23-Feb-15	06-Mar-15	-182	0	0%
SE1B3378	E2B (E1b3) - Pier Head Segment Diaphragm - Concreting	3	09-Nov-15	0%	3	11-Nov-15	06-Mar-15	09-Mar-15	-182	0	0%
SE1B3380	E2B (E1b3) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	11-Nov-15	0%	6	18-Nov-15	10-Mar-15	16-Mar-15	-182	0	0%
Pier Head Segments - E2C (E1b2)											
SE1B2370	E2C (E1b2) - Pier Head Segment - Temporary Platform	2	13-Oct-15	0%	2	16-Oct-15	28-Feb-15	02-Mar-15	-168	0	0%
SE1B2372	E2C (E1b2) - Pier Head Segment Lift & Fix (1 seg)	2	16-Oct-15	0%	2	19-Oct-15	03-Mar-15	04-Mar-15	-168	0	0%
SE1B2374	E2C (E1b2) - Pier Head Segment Diaphragm - Rebar	13	19-Oct-15	0%	13	05-Nov-15	05-Mar-15	19-Mar-15	-168	0	0%
SE1B2376	E2C (E1b2) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	05-Nov-15	0%	8	14-Nov-15	20-Mar-15	28-Mar-15	-168	0	0%
SE1B2378	E2C (E1b2) - Pier Head Segment Diaphragm - Concreting	2	14-Nov-15	0%	2	17-Nov-15	30-Mar-15	31-Mar-15	-168	0	0%
SE1B2380	E2C (E1b2) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	17-Nov-15	0%	6	24-Nov-15	01-Apr-15	13-Apr-15	-167	0	0%
Pier Head Segments - E2D (E1b1)											
SE1B1370	E2D (E1b1) - Pier Head Segment - Temporary Platform	2	19-Oct-15	0%	2	20-Oct-15	17-Mar-16	18-Mar-16	121	0	0%
SE1B1372	E2D (E1b1) - Pier Head Segment Lift & Fix (1 seg)	2	22-Oct-15	0%	2	23-Oct-15	19-Mar-16	22-Mar-16	122	0	0%
SE1B1374	E2D (E1b1) - Pier Head Segment Diaphragm - Rebar	12	24-Oct-15	0%	12	07-Nov-15	23-Mar-16	09-Apr-16	122	0	0%
SE1B1376	E2D (E1b1) - Pier Head Segment Diaphragm - Formwork & Prep for Conc	8	09-Nov-15	0%	8	17-Nov-15	11-Apr-16	21-Apr-16	122	0	0%
SE1B1378	E2D (E1b1) - Pier Head Segment Diaphragm - Concreting	2	18-Nov-15	0%	2	19-Nov-15	22-Apr-16	23-Apr-16	122	0	0%
SE1B1380	E2D (E1b1) - Pier Head Segment Diaphragm - Curing & Striking of Forms	6	20-Nov-15	0%	6	26-Nov-15	25-Apr-16	30-Apr-16	122	0	0%
Viaduct E2											
Bridge E2 - Piling & Substructure											
Milestones											
GFXX077-1	E5 (E2c) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX077-2	E6 (E2d) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX077-3	E7 (E2e) - Completion of piling works	0		0%	0	21-Sep-15		12-Aug-15	-33	0	0%
GFXX077-4	E8 (E2f) - Completion of piling works	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
E3A,E3B, E3C & E3D (E2a - 1/2/3/4)											
Pier Works - E3A,E3B, E3C & E3D											
Pier Works - E3A (E2a4)											
SE2A4310	E3A (E2a4) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	10	11-Aug-15 A	90%	1	21-Sep-15	22-Jan-15	22-Jan-15	-179	0	90%
SE2A4330	E3A (E2a4) - Type 4B-MJ Pier Head Concreting	1	22-Sep-15	0%	1	22-Sep-15	23-Jan-15	23-Jan-15	-179	0	0%
SE2A4340	E3A (E2a4) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Sca	6	23-Sep-15	0%	6	30-Sep-15	24-Jan-15	30-Jan-15	-179	0	0%
Pier Works - E3B (E2a3)											
SE2A3300	E3B (E2a3) - Type 4B-MJ Pier Head Scaffolding	4	29-Jul-15 A	100%	0	29-Aug-15 A					100%
SE2A3310	E3B (E2a3) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	10	30-Aug-15 A	50%	5	25-Sep-15	10-Feb-15	14-Feb-15	-163	0	50%
SE2A3330	E3B (E2a3) - Type 4B-MJ Pier Head Concreting	1	26-Sep-15	0%	1	26-Sep-15	16-Feb-15	16-Feb-15	-163	0	0%
SE2A3340	E3B (E2a3) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Sca	6	29-Sep-15	0%	6	06-Oct-15	17-Feb-15	26-Feb-15	-163	0	0%
Pier Works - E3C (E2a2)											
SE2A2300	E3C (E2a2) - Type 4B-MJ Pier Head Scaffolding	4	17-Aug-15 A	100%	0	21-Aug-15 A					100%
SE2A2310	E3C (E2a2) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	10	22-Aug-15 A	50%	5	25-Sep-15	06-Mar-15	11-Mar-15	-145	0	50%
SE2A2330	E3C (E2a2) - Type 4B-MJ Pier Head Concreting	1	26-Sep-15	0%	1	26-Sep-15	12-Mar-15	12-Mar-15	-145	0	0%
SE2A2340	E3C (E2a2) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Sca	6	29-Sep-15	0%	6	06-Oct-15	13-Mar-15	19-Mar-15	-145	0	0%
Pier Works - E3D (E2a1)											
SE2A1300	E3D (E2a1) - Type 4B-MJ Pier Head Scaffolding	4	02-Sep-15 A	100%	0	05-Sep-15 A					100%
SE2A1310	E3D (E2a1) - Type 4B-MJ Pier Head Rebarwork, Formwork & Prep	10	06-Sep-15 A	20%	8	30-Sep-15	07-Mar-16	15-Mar-16	133	0	20%
SE2A1330	E3D (E2a1) - Type 4B-MJ Pier Head Concreting	1	02-Oct-15	0%	1	02-Oct-15	16-Mar-16	16-Mar-16	133	0	0%
SE2A1340	E3D (E2a1) - Type 4B-MJ Pier Head Curing/Striking of Forms/Remove Sca	6	03-Oct-15	0%	6	09-Oct-15	17-Mar-16	23-Mar-16	133	0	0%
Pier Head Segements - E3A,E3B, E3C & E3D											
Pier Head Segment - E3A (E2a4)											
SE2A4370	E3A (E2a4) - Pier Head Segment - Temporary Platform	2	09-Oct-15	0%	2	10-Oct-15	31-Jan-15	02-Feb-15	-185	94	0%
E4A & E4B (E2b - 1/2)											
Pier Works - E4A & E4B											
Pier Works - E4A (E2b2)											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

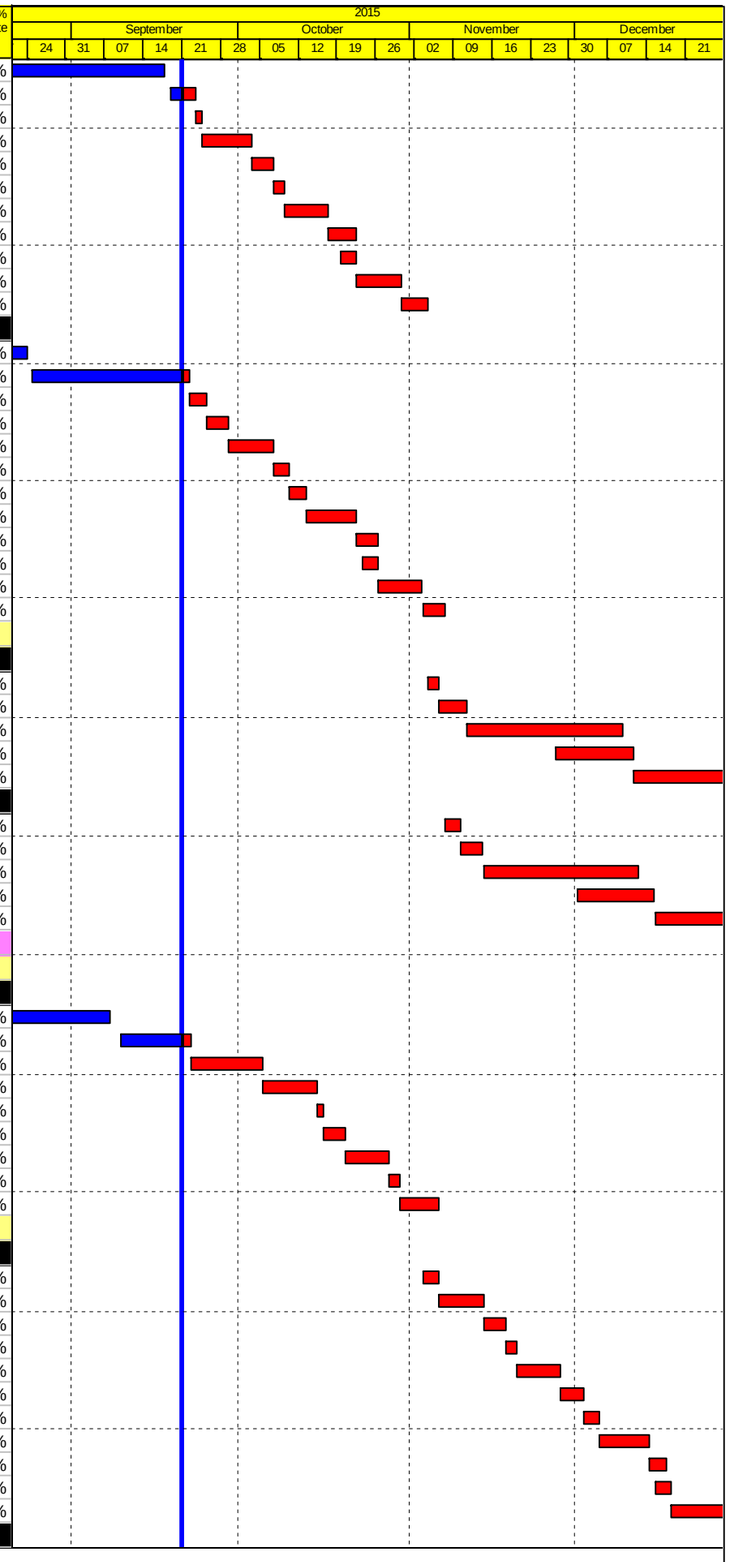
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 21 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SE2B2030	E4A (E2b2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	29-Jul-15 A	100%	0	18-Sep-15 A					100%
SE2B2050	E4A (E2b2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	19-Sep-15 A	10%	3	23-Sep-15	18-Feb-15	24-Feb-15	-156	0	10%
SE2B2070	E4A (E2b2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	1	23-Sep-15	0%	1	24-Sep-15	25-Feb-15	25-Feb-15	-156	0	0%
SE2B2080	E4A (E2b2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	24-Sep-15	0%	6	03-Oct-15	26-Feb-15	04-Mar-15	-156	0	0%
SE2B2100	E4A (E2b2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	03-Oct-15	0%	3	07-Oct-15	05-Mar-15	07-Mar-15	-156	0	0%
SE2B2120	E4A (E2b2) - Seagull Pier Falsework & Scaffolding (3rd wall pour)	2	07-Oct-15	0%	2	09-Oct-15	09-Mar-15	10-Mar-15	-156	0	0%
SE2B2140	E4A (E2b2) - Seagull Pier Rebar Fixing, Formwork & Prep (3rd wall pour)	6	09-Oct-15	0%	6	17-Oct-15	11-Mar-15	17-Mar-15	-156	0	0%
SE2B2160	E4A (E2b2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (3rd wall	3	17-Oct-15	0%	3	22-Oct-15	18-Mar-15	20-Mar-15	-156	0	0%
SE2B2300	E4A (E2b2) - Seagull Pier Falsework & Scaffolding (top slab, 4th pour)	2	19-Oct-15	0%	2	22-Oct-15	19-Mar-15	20-Mar-15	-156	0	0%
SE2B2320	E4A (E2b2) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 4th pc	6	22-Oct-15	0%	6	30-Oct-15	21-Mar-15	27-Mar-15	-156	0	0%
SE2B2340	E4A (E2b2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (top slab,	4	30-Oct-15	0%	4	04-Nov-15	28-Mar-15	01-Apr-15	-156	0	0%
Pier Works - E4B (E2b1)											
SE2B1020	E4B (E2b1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	3	17-Aug-15 A	100%	0	24-Aug-15 A					100%
SE2B1030	E4B (E2b1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	25-Aug-15 A	75%	2	22-Sep-15	08-Apr-15	09-Apr-15	-121	0	75%
SE2B1050	E4B (E2b1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	22-Sep-15	0%	3	25-Sep-15	10-Apr-15	13-Apr-15	-121	0	0%
SE2B1180	E4B (E2b1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	2	25-Sep-15	0%	2	29-Sep-15	14-Apr-15	16-Apr-15	-121	0	0%
SE2B1200	E4B (E2b1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	29-Sep-15	0%	6	07-Oct-15	17-Apr-15	24-Apr-15	-121	0	0%
SE2B1220	E4B (E2b1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	07-Oct-15	0%	3	10-Oct-15	25-Apr-15	28-Apr-15	-121	0	0%
SE2B1240	E4B (E2b1) - Seagull Pier Falsework & Scaffolding (3rd wall pour)	2	10-Oct-15	0%	2	13-Oct-15	29-Apr-15	30-Apr-15	-121	0	0%
SE2B1260	E4B (E2b1) - Seagull Pier Rebar Fixing, Formwork & Prep (3rd wall pour)	6	13-Oct-15	0%	6	22-Oct-15	02-May-15	08-May-15	-121	0	0%
SE2B1280	E4B (E2b1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (3rd wall	3	22-Oct-15	0%	3	26-Oct-15	09-May-15	13-May-15	-121	0	0%
SE2B1300	E4B (E2b1) - Seagull Pier Falsework & Scaffolding (top slab, 4th pour)	2	23-Oct-15	0%	2	26-Oct-15	11-May-15	13-May-15	-121	0	0%
SE2B1320	E4B (E2b1) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 4th pc	6	26-Oct-15	0%	6	03-Nov-15	14-May-15	20-May-15	-121	0	0%
SE2B1340	E4B (E2b1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (top slab,	4	03-Nov-15	0%	4	07-Nov-15	22-May-15	27-May-15	-121	0	0%
Pier Head Segements - E4A & E4B											
Pier head Segment - E4A (E2b2)											
SE2B2262	E4A (E2b2) - Pier Head Segment - Temporary Platform	2	04-Nov-15	0%	2	06-Nov-15	02-Apr-15	08-Apr-15	-156	0	0%
SE2B2264	E4A (E2b2) - Pier Head Segment Lift & Fix (4 seg)	4	06-Nov-15	0%	4	11-Nov-15	09-Apr-15	14-Apr-15	-155	0	0%
SE2B2266	E4A (E2b2) - Pier Head Segment Diaphragm Works	24	11-Nov-15	0%	24	09-Dec-15	16-Apr-15	16-May-15	-155	0	0%
SE2B2360	E4A (E2b2) - Precast Deck Segment Falsework Erection & Temp. Tie	12	27-Nov-15	0%	12	11-Dec-15	05-May-15	19-May-15	-155	0	0%
SE2B2370	E4A (E2b2) - Precast Deck Segment Infill Erection & Adjustment (4 seg)	12	11-Dec-15	0%	12	28-Dec-15	20-May-15	05-Jun-15	-155	0	0%
Pier head Segment - E4B (E2b1)											
SE2B1162	E4B (E2b1) - Pier Head Segment - Temporary Platform	2	07-Nov-15	0%	2	10-Nov-15	28-May-15	29-May-15	-121	0	0%
SE2B1164	E4B (E2b1) - Pier Head Segment Lift & Fix (4 seg)	4	10-Nov-15	0%	4	14-Nov-15	30-May-15	05-Jun-15	-120	0	0%
SE2B1166	E4B (E2b1) - Pier Head Segment Diaphragm Works	24	14-Nov-15	0%	24	12-Dec-15	06-Jun-15	11-Jul-15	-120	0	0%
SE2B1360	E4B (E2b1) - Precast Deck Segment Falsework Erection & Temp. Tie	12	01-Dec-15	0%	12	15-Dec-15	30-Jun-15	14-Jul-15	-120	0	0%
SE2B1370	E4B (E2b1) - Precast Deck Segment Infill Erection & Adjustment (4 seg)	12	15-Dec-15	0%	12	31-Dec-15	15-Jul-15	30-Jul-15	-120	0	0%
E5A & E5B (E2c - 1/2)											
Pile Cap Works - E5A & E5B											
Pile Cap Works											
SE2C010	E5 (E2c1/2) - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Concrete	2	21-Aug-15 A	100%	0	08-Sep-15 A					100%
SE2C011	E5 (E2c1/2) - Marine Pile Cap - Dewater precast shell / Remove Lifting Fra	2	10-Sep-15 A	20%	2	22-Sep-15	02-Jul-15	03-Jul-15	-62	0	20%
SE2C012	E5 (E2c1/2) - Marine Pile Cap - Pile cut down 4nr	9	22-Sep-15	0%	9	05-Oct-15	04-Jul-15	14-Jul-15	-62	0	0%
SE2C013	E5 (E2c1/2) - Marine Pile Cap - Rebar fixing (1st pour)	8	05-Oct-15	0%	8	15-Oct-15	15-Jul-15	24-Jul-15	-62	0	0%
SE2C014	E5 (E2c1/2) - Marine Pile Cap - Concreting (First pour)	1	15-Oct-15	0%	1	16-Oct-15	25-Jul-15	25-Jul-15	-62	0	0%
SE2C015	E5 (E2c1/2) - Marine Pile Cap - CJ preparation	3	16-Oct-15	0%	3	20-Oct-15	27-Jul-15	30-Jul-15	-62	0	0%
SE2C016	E5 (E2c1/2) - Marine Pile Cap - Rebar fixing (Final pour)	6	20-Oct-15	0%	6	28-Oct-15	31-Jul-15	06-Aug-15	-62	0	0%
SE2C016	E5 (E2c1/2) - Marine Pile Cap - Concreting (Final pour)	1	28-Oct-15	0%	1	30-Oct-15	07-Aug-15	07-Aug-15	-62	0	0%
SE2C016	E5 (E2c1/2) - Marine Pile Cap - Curing incl. CJ preparation	6	30-Oct-15	0%	6	06-Nov-15	08-Aug-15	15-Aug-15	-62	0	0%
Pier Works - E5A & E5B											
Pier Works - E5A (E2c2)											
SE2C202	E5A (E2c2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	3	03-Nov-15	0%	3	06-Nov-15	13-Aug-15	15-Aug-15	-62	0	0%
SE2C203	E5A (E2c2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	06-Nov-15	0%	7	14-Nov-15	17-Aug-15	25-Aug-15	-62	0	0%
SE2C205	E5A (E2c2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall p	3	14-Nov-15	0%	3	18-Nov-15	28-Aug-15	31-Aug-15	-60	0	0%
SE2C207	E5A (E2c2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	2	18-Nov-15	0%	2	20-Nov-15	01-Sep-15	02-Sep-15	-60	0	0%
SE2C208	E5A (E2c2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slab	7	20-Nov-15	0%	7	28-Nov-15	04-Sep-15	12-Sep-15	-60	0	0%
SE2C210	E5A (E2c2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	28-Nov-15	0%	3	02-Dec-15	14-Sep-15	16-Sep-15	-60	0	0%
SE2C212	E5A (E2c2) - Seagull Pier Falsework & Scaffolding (3rd wall pour)	3	02-Dec-15	0%	3	05-Dec-15	18-Sep-15	21-Sep-15	-60	0	0%
SE2C214	E5A (E2c2) - Seagull Pier Rebar Fixing, Formwork & Prep (3rd wall pour)	7	05-Dec-15	0%	7	14-Dec-15	22-Sep-15	30-Sep-15	-60	0	0%
SE2C216	E5A (E2c2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (3rd wall	3	14-Dec-15	0%	3	17-Dec-15	02-Oct-15	05-Oct-15	-60	0	0%
SE2C230	E5A (E2c2) - Seagull Pier Falsework & Scaffolding (top slab, 4th pour)	3	15-Dec-15	0%	3	18-Dec-15	03-Oct-15	06-Oct-15	-60	0	0%
SE2C232	E5A (E2c2) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 4th pc	7	18-Dec-15	0%	7	29-Dec-15	07-Oct-15	15-Oct-15	-60	0	0%
Pier Works - E5B (E2c1)											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

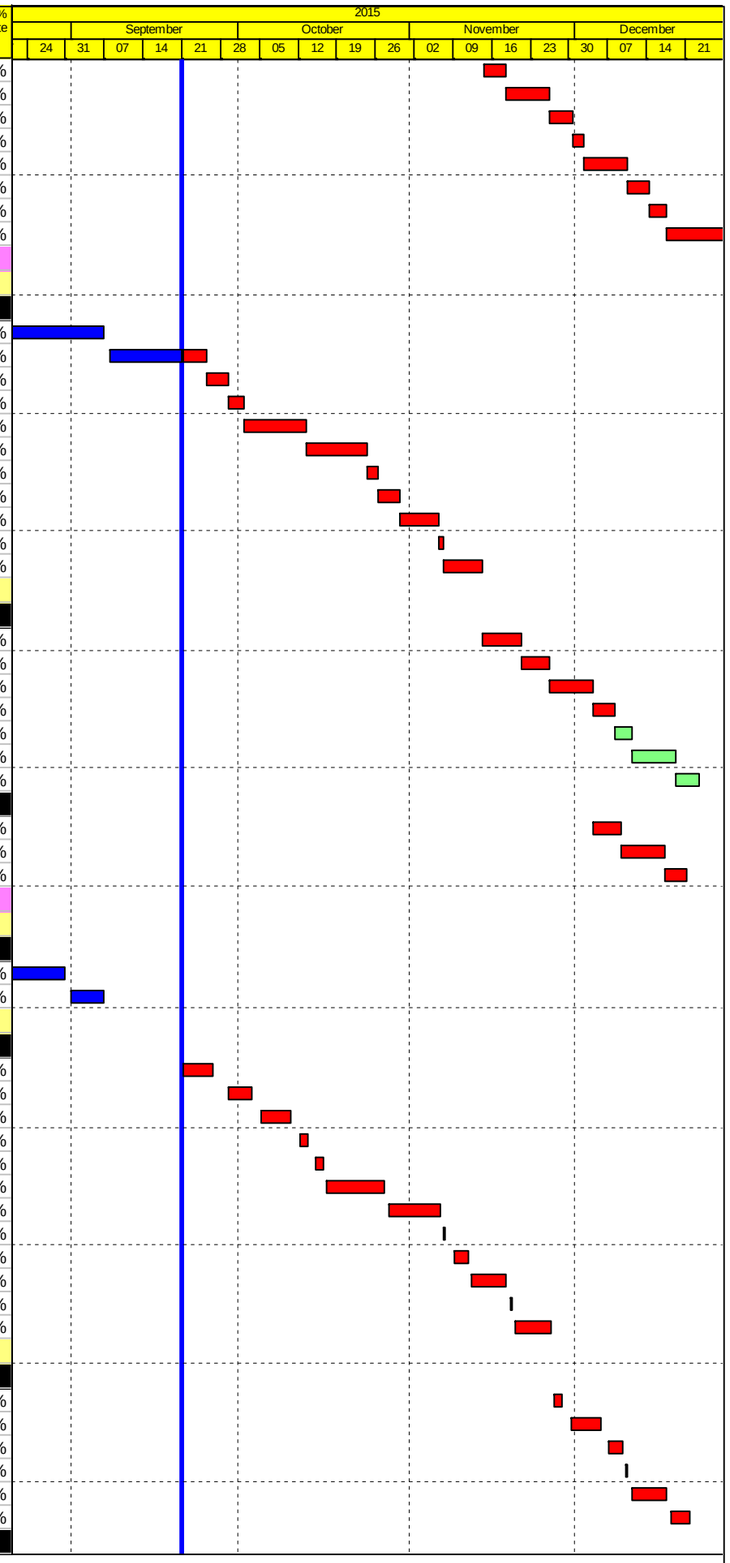
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 22 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SE2C102	E5B (E2c1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	3	14-Nov-15	0%	3	18-Nov-15	26-Aug-15	28-Aug-15	-62	0	0%
SE2C103	E5B (E2c1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	18-Nov-15	0%	7	26-Nov-15	29-Aug-15	07-Sep-15	-62	0	0%
SE2C105	E5B (E2c1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	26-Nov-15	0%	3	30-Nov-15	08-Sep-15	11-Sep-15	-62	0	0%
SE2C107	E5B (E2c1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	2	30-Nov-15	0%	2	02-Dec-15	12-Sep-15	14-Sep-15	-62	0	0%
SE2C108	E5B (E2c1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	7	02-Dec-15	0%	7	10-Dec-15	15-Sep-15	23-Sep-15	-62	0	0%
SE2C110	E5B (E2c1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	10-Dec-15	0%	3	14-Dec-15	24-Sep-15	26-Sep-15	-62	0	0%
SE2C112	E5B (E2c1) - Seagull Pier Falsework & Scaffolding (3rd wall pour)	3	14-Dec-15	0%	3	17-Dec-15	29-Sep-15	02-Oct-15	-62	0	0%
SE2C114	E5B (E2c1) - Seagull Pier Rebar Fixing, Formwork & Prep (3rd wall pour)	7	17-Dec-15	0%	7	28-Dec-15	03-Oct-15	10-Oct-15	-62	0	0%
E6A & E6B (E2d - 1/2)											
Pile Cap Works - E6A & E6B											
Pile Cap Works											
SE2D008	E6 (E2d1/2) - Marine Pile Cap - Install precast shell in position (3 units)	4	11-Aug-15 A	100%	0	07-Sep-15 A					100%
SE2D009	E6 (E2d1/2) - Marine Pile Cap - Inst.Access & make Watertight	6	08-Sep-15 A	30%	4	25-Sep-15	15-Sep-15	21-Sep-15	-3	0	30%
SE2D010	E6 (E2d1/2) - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Concrete	2	25-Sep-15	0%	2	29-Sep-15	22-Sep-15	23-Sep-15	-3	0	0%
SE2D011	E6 (E2d1/2) - Marine Pile Cap - Dewater precast shell / Remove Lifting Fra	2	29-Sep-15	0%	2	02-Oct-15	24-Sep-15	25-Sep-15	-3	0	0%
SE2D012	E6 (E2d1/2) - Marine Pile Cap - Pile cut down 4nr	9	02-Oct-15	0%	9	13-Oct-15	26-Sep-15	08-Oct-15	-3	0	0%
SE2D013	E6 (E2d1/2) - Marine Pile Cap - Rebar fixing (1st pour)	8	13-Oct-15	0%	8	24-Oct-15	09-Oct-15	19-Oct-15	-3	0	0%
SE2D014	E6 (E2d1/2) - Marine Pile Cap - Concreting (First pour)	1	24-Oct-15	0%	1	26-Oct-15	20-Oct-15	20-Oct-15	-3	0	0%
SE2D015	E6 (E2d1/2) - Marine Pile Cap - CJ preparation	3	26-Oct-15	0%	3	30-Oct-15	22-Oct-15	24-Oct-15	-3	0	0%
SE2D016	E6 (E2d1/2) - Marine Pile Cap - Rebar fixing (Final pour)	6	30-Oct-15	0%	6	06-Nov-15	26-Oct-15	02-Nov-15	-3	0	0%
SE2D016	E6 (E2d1/2) - Marine Pile Cap - Concreting (Final pour)	1	06-Nov-15	0%	1	07-Nov-15	03-Nov-15	03-Nov-15	-3	0	0%
SE2D016	E6 (E2d1/2) - Marine Pile Cap - Curing incl. CJ preparation	6	07-Nov-15	0%	6	14-Nov-15	04-Nov-15	10-Nov-15	-3	0	0%
Pier Works - E6A & E6B											
Pier Works - E6A (E2d2)											
SE2D201	E6A (E2d2) - Seagull Pier Temp. Support Platform	6	14-Nov-15	0%	6	21-Nov-15	11-Nov-15	17-Nov-15	-3	0	0%
SE2D202	E6A (E2d2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	21-Nov-15	0%	4	26-Nov-15	18-Nov-15	21-Nov-15	-3	0	0%
SE2D203	E6A (E2d2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	26-Nov-15	0%	7	04-Dec-15	23-Nov-15	30-Nov-15	-3	0	0%
SE2D205	E6A (E2d2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	04-Dec-15	0%	3	08-Dec-15	01-Dec-15	03-Dec-15	-3	0	0%
SE2D207	E6A (E2d2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	3	08-Dec-15	0%	3	11-Dec-15	15-Dec-15	17-Dec-15	6	0	0%
SE2D208	E6A (E2d2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	7	11-Dec-15	0%	7	19-Dec-15	18-Dec-15	28-Dec-15	6	0	0%
SE2D210	E6A (E2d2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	19-Dec-15	0%	3	23-Dec-15	29-Dec-15	31-Dec-15	6	0	0%
Pier Works - E6B (E2d1)											
SE2D102	E6B (E2d1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	04-Dec-15	0%	4	09-Dec-15	01-Dec-15	04-Dec-15	-3	0	0%
SE2D103	E6B (E2d1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	09-Dec-15	0%	7	17-Dec-15	05-Dec-15	12-Dec-15	-3	0	0%
SE2D105	E6B (E2d1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	17-Dec-15	0%	3	21-Dec-15	14-Dec-15	16-Dec-15	-3	0	0%
E7A & E7B (E2e - 1/2)											
Foundation Works - E7A & E7B											
Foundation Works											
GFXX058	E7 (E2e) - Sonic & Interface Coring	12	10-Jun-15 A	100%	0	31-Aug-15 A					100%
GFXX059	E7 (E2e) - Dismantle Temporary Removable Piling Platform	6	01-Sep-15 A	100%	0	07-Sep-15 A					100%
Pile Cap Works - E7A & E7B											
Pile Cap Works											
SE2E0070	E7 (E2e1/2) - Marine Pile Cap - Inst.Floating Seal & Casing Head Steelwor	6	21-Sep-15	0%	6	26-Sep-15	13-Aug-15	19-Aug-15	-29	0	0%
SE2E0080	E7 (E2e1/2) - Marine Pile Cap - Install precast shell in position (3 units)	4	29-Sep-15	0%	4	03-Oct-15	21-Aug-15	25-Aug-15	-29	0	0%
SE2E0090	E7 (E2e1/2) - Marine Pile Cap - Inst.Access & make Watertight	6	05-Oct-15	0%	6	10-Oct-15	26-Aug-15	01-Sep-15	-29	0	0%
SE2E0100	E7 (E2e1/2) - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Concrete	2	12-Oct-15	0%	2	13-Oct-15	02-Sep-15	04-Sep-15	-29	0	0%
SE2E0110	E7 (E2e1/2) - Marine Pile Cap - Dewater precast shell / Remove Lifting Fra	2	15-Oct-15	0%	2	16-Oct-15	05-Sep-15	07-Sep-15	-29	0	0%
SE2E0120	E7 (E2e1/2) - Marine Pile Cap - Pile cut down 4nr	8	17-Oct-15	0%	8	27-Oct-15	08-Sep-15	18-Sep-15	-29	0	0%
SE2E0130	E7 (E2e1/2) - Marine Pile Cap - Rebar fixing (1st pour)	8	28-Oct-15	0%	8	06-Nov-15	19-Sep-15	29-Sep-15	-29	0	0%
SE2E0140	E7 (E2e1/2) - Marine Pile Cap - Concreting (First pour)	1	07-Nov-15	0%	1	07-Nov-15	30-Sep-15	30-Sep-15	-29	0	0%
SE2E0150	E7 (E2e1/2) - Marine Pile Cap - CJ preparation	3	09-Nov-15	0%	3	11-Nov-15	02-Oct-15	05-Oct-15	-29	0	0%
SE2E0160	E7 (E2e1/2) - Marine Pile Cap - Rebar fixing (Final pour)	6	12-Nov-15	0%	6	18-Nov-15	06-Oct-15	12-Oct-15	-29	0	0%
SE2E0162	E7 (E2e1/2) - Marine Pile Cap - Concreting (Final pour)	1	19-Nov-15	0%	1	19-Nov-15	13-Oct-15	13-Oct-15	-29	0	0%
SE2E0164	E7 (E2e1/2) - Marine Pile Cap - Curing incl. CJ preparation	6	20-Nov-15	0%	6	26-Nov-15	15-Oct-15	22-Oct-15	-29	0	0%
Pier Works - E7A & E7B											
Pier Works - E7A (E2e2)											
SE2E2020	E7A (E2e2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	2	27-Nov-15	0%	2	28-Nov-15	23-Oct-15	24-Oct-15	-29	0	0%
SE2E2030	E7A (E2e2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	30-Nov-15	0%	6	05-Dec-15	26-Oct-15	02-Nov-15	-29	0	0%
SE2E2050	E7A (E2e2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	07-Dec-15	0%	3	09-Dec-15	03-Nov-15	05-Nov-15	-29	0	0%
SE2E2070	E7A (E2e2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	1	10-Dec-15	0%	1	10-Dec-15	06-Nov-15	06-Nov-15	-29	0	0%
SE2E2080	E7A (E2e2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	11-Dec-15	0%	6	17-Dec-15	07-Nov-15	13-Nov-15	-29	0	0%
SE2E2100	E7A (E2e2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	18-Dec-15	0%	3	21-Dec-15	14-Nov-15	17-Nov-15	-29	0	0%
Pier Works - E7B (E2e1)											



Actual Work
Planned Bar
Critical Bar
Milestone

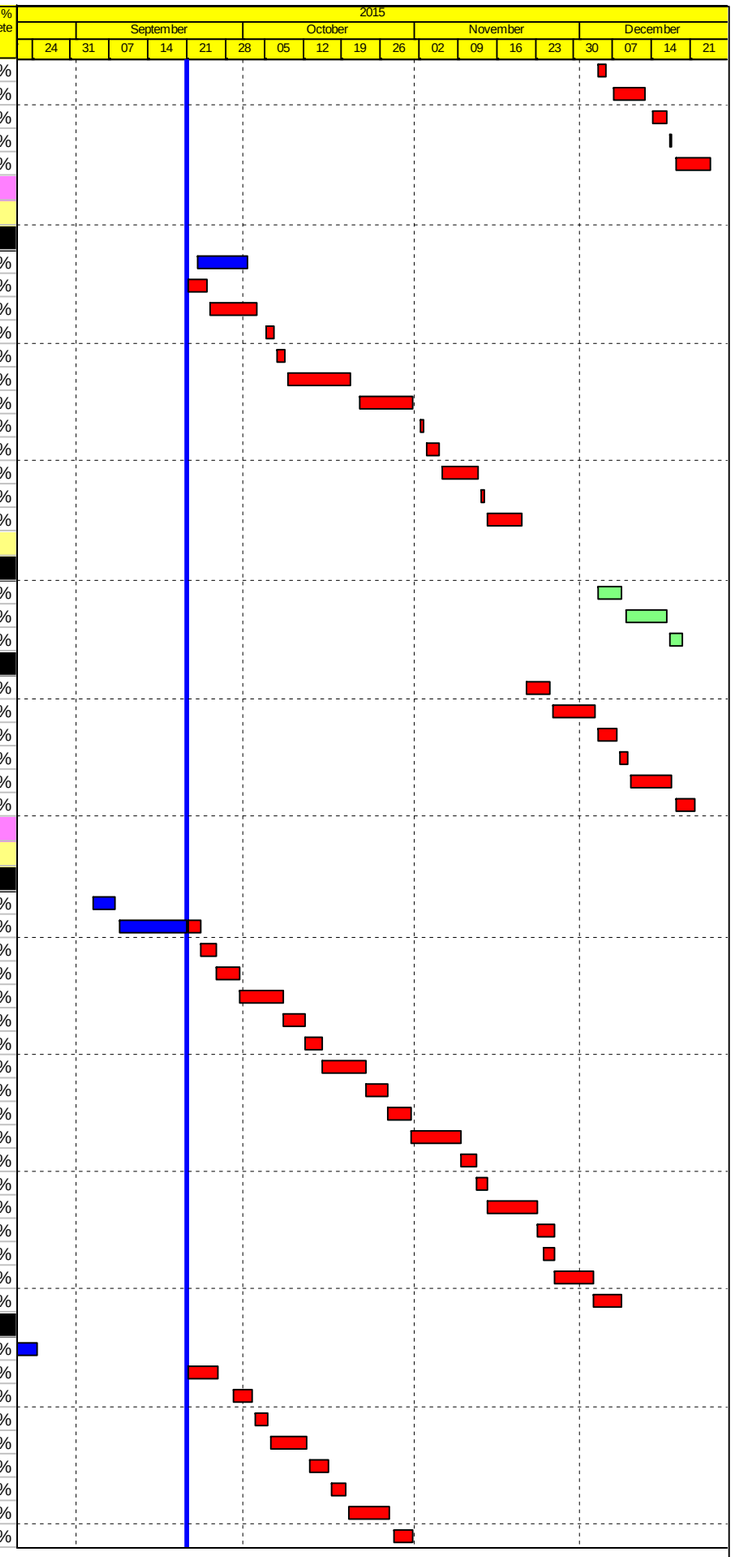
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 23 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SE2E1020	E7B (E2e1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	2	04-Dec-15	0%	2	05-Dec-15	07-Nov-15	09-Nov-15	-23	0	0%
SE2E1030	E7B (E2e1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	07-Dec-15	0%	6	12-Dec-15	10-Nov-15	16-Nov-15	-23	0	0%
SE2E1050	E7B (E2e1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	14-Dec-15	0%	3	16-Dec-15	17-Nov-15	19-Nov-15	-23	0	0%
SE2E1070	E7B (E2e1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd p	1	17-Dec-15	0%	1	17-Dec-15	20-Nov-15	20-Nov-15	-23	0	0%
SE2E1080	E7B (E2e1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	18-Dec-15	0%	6	24-Dec-15	21-Nov-15	27-Nov-15	-23	0	0%
E8A & E8B (E2f - 1/2)											
Pile Cap Works - E8A & E8B											
Pile Cap Works											
SE2F0070	E8 (E2f1/2) - Marine Pile Cap - Inst.Floating Seal & Casing Head Steelwor	6	23-Sep-15 A	100%	0	02-Oct-15 A					100%
SE2F0080	E8 (E2f1/2) - Marine Pile Cap - Install precast shell in position (3 units)	4	21-Sep-15	0%	4	24-Sep-15	18-Sep-15	22-Sep-15	-2	0	0%
SE2F0090	E8 (E2f1/2) - Marine Pile Cap - Inst.Access & make Watertight	6	25-Sep-15	0%	6	03-Oct-15	23-Sep-15	30-Sep-15	-2	0	0%
SE2F0100	E8 (E2f1/2) - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Concrete	2	05-Oct-15	0%	2	06-Oct-15	02-Oct-15	03-Oct-15	-2	0	0%
SE2F0110	E8 (E2f1/2) - Marine Pile Cap - Dewater precast shell / Remove Lifting Fra	2	07-Oct-15	0%	2	08-Oct-15	05-Oct-15	06-Oct-15	-2	0	0%
SE2F0120	E8 (E2f1/2) - Marine Pile Cap - Pile cut down 4nr	9	09-Oct-15	0%	9	20-Oct-15	07-Oct-15	17-Oct-15	-2	0	0%
SE2F0130	E8 (E2f1/2) - Marine Pile Cap - Rebar fixing (1st pour)	8	22-Oct-15	0%	8	31-Oct-15	19-Oct-15	28-Oct-15	-2	0	0%
SE2F0140	E8 (E2f1/2) - Marine Pile Cap - Concreting (First pour)	1	02-Nov-15	0%	1	02-Nov-15	30-Oct-15	30-Oct-15	-2	0	0%
SE2F0150	E8 (E2f1/2) - Marine Pile Cap - CJ preparation	3	03-Nov-15	0%	3	05-Nov-15	31-Oct-15	03-Nov-15	-2	0	0%
SE2F0160	E8 (E2f1/2) - Marine Pile Cap - Rebar fixing (Final pour)	6	06-Nov-15	0%	6	12-Nov-15	04-Nov-15	10-Nov-15	-2	0	0%
SE2F0162	E8 (E2f1/2) - Marine Pile Cap - Concreting (Final pour)	1	13-Nov-15	0%	1	13-Nov-15	11-Nov-15	11-Nov-15	-2	0	0%
SE2F0164	E8 (E2f1/2) - Marine Pile Cap - Curing incl. CJ preparation	6	14-Nov-15	0%	6	20-Nov-15	12-Nov-15	18-Nov-15	-2	0	0%
Pier Works - E8A & E8B											
Pier Works - E8A (E2f2)											
SE2F2020	E8A (E2f2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	04-Dec-15	0%	4	08-Dec-15	04-Jan-16	07-Jan-16	23	0	0%
SE2F2030	E8A (E2f2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	09-Dec-15	0%	7	16-Dec-15	08-Jan-16	15-Jan-16	23	0	0%
SE2F2050	E8A (E2f2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall p	3	17-Dec-15	0%	3	19-Dec-15	16-Jan-16	19-Jan-16	23	0	0%
Pier Works - E8B (E2f1)											
SE2F1020	E8B (E2f1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	21-Nov-15	0%	4	25-Nov-15	19-Nov-15	23-Nov-15	-2	0	0%
SE2F1030	E8B (E2f1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	7	26-Nov-15	0%	7	03-Dec-15	24-Nov-15	01-Dec-15	-2	0	0%
SE2F1050	E8B (E2f1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall p	3	04-Dec-15	0%	3	07-Dec-15	02-Dec-15	04-Dec-15	-2	0	0%
SE2F1070	E8B (E2f1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 2nd pc	2	08-Dec-15	0%	2	09-Dec-15	05-Dec-15	07-Dec-15	-2	0	0%
SE2F1080	E8B (E2f1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slab	7	10-Dec-15	0%	7	17-Dec-15	08-Dec-15	15-Dec-15	-2	0	0%
SE2F1100	E8B (E2f1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	18-Dec-15	0%	3	21-Dec-15	16-Dec-15	18-Dec-15	-2	0	0%
E9A & E9B (E2g - 1/2)											
Pier Works - E9A & E9B											
Pier Works - E9A (E2g2)											
SE2G20	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	04-Sep-15 A	100%	0	08-Sep-15 A					100%
SE2G20	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	09-Sep-15 A	60%	2	23-Sep-15	08-Jul-15	10-Jul-15	-56	0	60%
SE2G20	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	23-Sep-15	0%	3	26-Sep-15	11-Jul-15	14-Jul-15	-56	0	0%
SE2G20	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (2nd wall pour)	2	26-Sep-15	0%	2	30-Sep-15	15-Jul-15	17-Jul-15	-56	0	0%
SE2G20	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (2nd wall pour)	6	30-Sep-15	0%	6	08-Oct-15	18-Jul-15	24-Jul-15	-56	0	0%
SE2G21	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (2nd wall	3	08-Oct-15	0%	3	12-Oct-15	25-Jul-15	28-Jul-15	-56	0	0%
SE2G21	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 3rd pc	2	12-Oct-15	0%	2	15-Oct-15	30-Jul-15	31-Jul-15	-56	0	0%
SE2G21	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	15-Oct-15	0%	6	23-Oct-15	01-Aug-15	07-Aug-15	-56	0	0%
SE2G21	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	23-Oct-15	0%	3	27-Oct-15	08-Aug-15	12-Aug-15	-56	0	0%
SE2G21	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (4th wall pour)	3	27-Oct-15	0%	3	31-Oct-15	13-Aug-15	15-Aug-15	-56	0	0%
SE2G22	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (4th wall pour)	7	31-Oct-15	0%	7	09-Nov-15	17-Aug-15	25-Aug-15	-56	0	0%
SE2G22	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (4th wall	3	09-Nov-15	0%	3	12-Nov-15	26-Aug-15	28-Aug-15	-56	0	0%
SE2G22	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (5th wall pour)	2	12-Nov-15	0%	2	14-Nov-15	29-Aug-15	31-Aug-15	-56	0	0%
SE2G22	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (5th wall pour)	7	14-Nov-15	0%	7	23-Nov-15	01-Sep-15	10-Sep-15	-56	0	0%
SE2G22	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (5th wall	3	23-Nov-15	0%	3	26-Nov-15	11-Sep-15	14-Sep-15	-56	0	0%
SE2G23	E9A (E2g2) - Seagull Pier Falsework & Scaffolding (top slab, 6th pour)	2	24-Nov-15	0%	2	26-Nov-15	12-Sep-15	14-Sep-15	-56	0	0%
SE2G23	E9A (E2g2) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 6th pc	6	26-Nov-15	0%	6	03-Dec-15	15-Sep-15	22-Sep-15	-56	0	0%
SE2G23	E9A (E2g2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (top slab,	4	03-Dec-15	0%	4	08-Dec-15	23-Sep-15	26-Sep-15	-56	0	0%
Pier Works - E9B (E2g1)											
SE2G10	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	21-Aug-15 A	100%	0	25-Aug-15 A					100%
SE2G10	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	21-Sep-15	0%	6	26-Sep-15	23-Mar-15	28-Mar-15	-131	0	0%
SE2G10	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wall	3	29-Sep-15	0%	3	02-Oct-15	30-Mar-15	01-Apr-15	-131	0	0%
SE2G10	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (2nd wall pour)	2	03-Oct-15	0%	2	05-Oct-15	02-Apr-15	08-Apr-15	-131	0	0%
SE2G10	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (2nd wall pour)	6	06-Oct-15	0%	6	12-Oct-15	09-Apr-15	16-Apr-15	-131	0	0%
SE2G11	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (2nd wall	3	13-Oct-15	0%	3	16-Oct-15	17-Apr-15	20-Apr-15	-131	0	0%
SE2G11	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 3rd pc	2	17-Oct-15	0%	2	19-Oct-15	21-Apr-15	22-Apr-15	-131	0	0%
SE2G11	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm slat	6	20-Oct-15	0%	6	27-Oct-15	24-Apr-15	30-Apr-15	-131	0	0%
SE2G11	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphrag	3	28-Oct-15	0%	3	31-Oct-15	02-May-15	05-May-15	-131	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

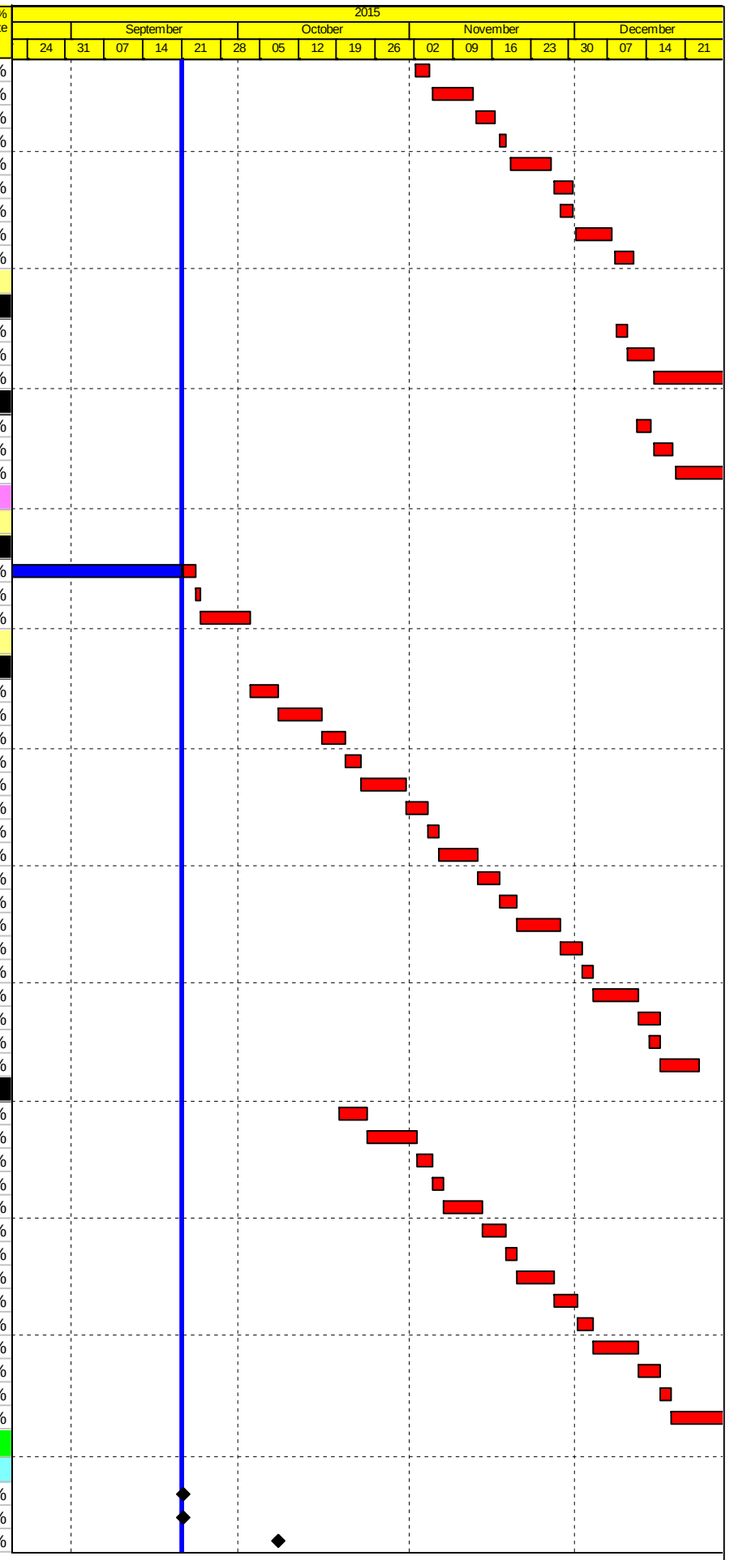
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 24 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
SE2G118	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (4th wall pour)	3	02-Nov-15	0%	3	04-Nov-15	06-May-15	08-May-15	-131	0	0%
SE2G120	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (4th wall pour)	7	05-Nov-15	0%	7	12-Nov-15	09-May-15	18-May-15	-131	0	0%
SE2G122	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (4th wall	3	13-Nov-15	0%	3	16-Nov-15	19-May-15	22-May-15	-131	0	0%
SE2G124	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (5th wall pour)	2	17-Nov-15	0%	2	18-Nov-15	23-May-15	26-May-15	-131	0	0%
SE2G126	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (5th wall pour)	7	19-Nov-15	0%	7	26-Nov-15	27-May-15	04-Jun-15	-131	0	0%
SE2G128	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (5th wall	3	27-Nov-15	0%	3	30-Nov-15	05-Jun-15	08-Jun-15	-131	0	0%
SE2G130	E9B (E2g1) - Seagull Pier Falsework & Scaffolding (top slab, 6th pour)	2	28-Nov-15	0%	2	30-Nov-15	06-Jun-15	08-Jun-15	-131	0	0%
SE2G132	E9B (E2g1) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 6th pc	6	01-Dec-15	0%	6	07-Dec-15	10-Jun-15	18-Jun-15	-131	0	0%
SE2G134	E9B (E2g1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (top slab,	4	08-Dec-15	0%	4	11-Dec-15	19-Jun-15	26-Jun-15	-131	0	0%
Pier head Segment - E9A & E9B											
Pier head Segment - E9A (E2g2)											
SE2G220	E9A (E2g2) - Pier Head Segment - Temporary Platform	2	08-Dec-15	0%	2	10-Dec-15	29-Sep-15	30-Sep-15	-56	0	0%
SE2G220	E9A (E2g2) - Pier Head Segment Lift & Fix (4 seg)	4	10-Dec-15	0%	4	15-Dec-15	02-Oct-15	07-Oct-15	-55	0	0%
SE2G220	E9A (E2g2) - Pier Head Segment Diaphragm Works	30	15-Dec-15	0%	30	22-Jan-16	08-Oct-15	14-Nov-15	-55	0	0%
Pier head Segment - E9B (E2g1)											
SE2G116	E9B (E2g1) - Pier Head Segment - Temporary Platform	2	12-Dec-15	0%	2	14-Dec-15	27-Jun-15	29-Jun-15	-131	0	0%
SE2G116	E9B (E2g1) - Pier Head Segment Lift & Fix (4 seg)	4	15-Dec-15	0%	4	18-Dec-15	30-Jun-15	08-Jul-15	-128	0	0%
SE2G116	E9B (E2g1) - Pier Head Segment Diaphragm Works	30	19-Dec-15	0%	30	26-Jan-16	09-Jul-15	15-Aug-15	-128	0	0%
E10A & E10B (E2h - 1/2)											
Pile Cap Works - E10A & E10B											
Pile Cap Works											
SE2H016	E10 (E2h1/2) - Marine Pile Cap - Rebar fixing (Final pour)	6	18-Aug-15 A	60%	2	23-Sep-15	13-Jul-15	15-Jul-15	-52	0	60%
SE2H016	E10 (E2h1/2) - Marine Pile Cap - Concreting (Final pour)	1	23-Sep-15	0%	1	24-Sep-15	17-Jul-15	17-Jul-15	-52	0	0%
SE2H016	E10 (E2h1/2) - Marine Pile Cap - Curing incl. CJ preparation	6	24-Sep-15	0%	6	03-Oct-15	18-Jul-15	24-Jul-15	-52	0	0%
Pier Works - E10A & E10B											
Pier Works - E10A (E2h2)											
SE2H202	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	03-Oct-15	0%	4	08-Oct-15	28-Jul-15	01-Aug-15	-50	0	0%
SE2H203	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	08-Oct-15	0%	6	16-Oct-15	03-Aug-15	08-Aug-15	-50	0	0%
SE2H205	E10A (E2h2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wal	3	16-Oct-15	0%	3	20-Oct-15	10-Aug-15	13-Aug-15	-50	0	0%
SE2H207	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (2nd wall pour)	2	20-Oct-15	0%	2	23-Oct-15	22-Sep-15	23-Sep-15	-21	0	0%
SE2H208	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (2nd wall pour	6	23-Oct-15	0%	6	31-Oct-15	24-Sep-15	02-Oct-15	-21	0	0%
SE2H210	E10A (E2h2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (2nd wa	3	31-Oct-15	0%	3	04-Nov-15	03-Oct-15	06-Oct-15	-21	0	0%
SE2H212	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 3rd p	2	04-Nov-15	0%	2	06-Nov-15	07-Oct-15	08-Oct-15	-21	0	0%
SE2H214	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm sla	6	06-Nov-15	0%	6	13-Nov-15	09-Oct-15	16-Oct-15	-21	0	0%
SE2H216	E10A (E2h2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphra	3	13-Nov-15	0%	3	17-Nov-15	17-Oct-15	20-Oct-15	-21	0	0%
SE2H218	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (4th wall pour)	3	17-Nov-15	0%	3	20-Nov-15	22-Oct-15	24-Oct-15	-21	0	0%
SE2H220	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (4th wall pour)	7	20-Nov-15	0%	7	28-Nov-15	26-Oct-15	03-Nov-15	-21	0	0%
SE2H222	E10A (E2h2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (4th wal	3	28-Nov-15	0%	3	02-Dec-15	04-Nov-15	06-Nov-15	-21	0	0%
SE2H224	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (5th wall pour)	2	02-Dec-15	0%	2	04-Dec-15	07-Nov-15	09-Nov-15	-21	0	0%
SE2H226	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (5th wall pour)	7	04-Dec-15	0%	7	12-Dec-15	10-Nov-15	17-Nov-15	-21	0	0%
SE2H228	E10A (E2h2) - Seagull Pier Concreting, Curing & Striking, CJ Prep (5th wal	3	12-Dec-15	0%	3	16-Dec-15	18-Nov-15	20-Nov-15	-21	0	0%
SE2H230	E10A (E2h2) - Seagull Pier Falsework & Scaffolding (top slab, 6th pour)	2	14-Dec-15	0%	2	16-Dec-15	19-Nov-15	20-Nov-15	-21	0	0%
SE2H232	E10A (E2h2) - Seagull Pier Rebar Fixing, Formwork & Prep (top slab, 6th p	6	16-Dec-15	0%	6	23-Dec-15	21-Nov-15	27-Nov-15	-21	0	0%
Pier Works - E10B (E2h1)											
SE2H102	E10B (E2h1) - Seagull Pier Falsework & Scaffolding (1st wall pour)	4	19-Oct-15	0%	4	24-Oct-15	10-Aug-15	14-Aug-15	-52	0	0%
SE2H103	E10B (E2h1) - Seagull Pier Rebar Fixing, Formwork & Prep (1st wall pour)	6	24-Oct-15	0%	6	02-Nov-15	15-Aug-15	22-Aug-15	-52	0	0%
SE2H105	E10B (E2h1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (1st wal	3	02-Nov-15	0%	3	05-Nov-15	24-Aug-15	26-Aug-15	-52	0	0%
SE2H107	E10B (E2h1) - Seagull Pier Falsework & Scaffolding (2nd wall pour)	2	05-Nov-15	0%	2	07-Nov-15	27-Aug-15	28-Aug-15	-52	0	0%
SE2H108	E10B (E2h1) - Seagull Pier Rebar Fixing, Formwork & Prep (2nd wall pour	6	07-Nov-15	0%	6	14-Nov-15	29-Aug-15	05-Sep-15	-52	0	0%
SE2H110	E10B (E2h1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (2nd wa	3	14-Nov-15	0%	3	18-Nov-15	07-Sep-15	10-Sep-15	-52	0	0%
SE2H112	E10B (E2h1) - Seagull Pier Falsework & Scaffolding (diaphragm slab, 3rd p	2	18-Nov-15	0%	2	20-Nov-15	11-Sep-15	12-Sep-15	-52	0	0%
SE2H114	E10B (E2h1) - Seagull Pier Rebar Fixing, Formwork & Prep (diaphragm sla	6	20-Nov-15	0%	6	27-Nov-15	14-Sep-15	21-Sep-15	-52	0	0%
SE2H116	E10B (E2h1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (diaphra	3	27-Nov-15	0%	3	01-Dec-15	22-Sep-15	24-Sep-15	-52	0	0%
SE2H118	E10B (E2h1) - Seagull Pier Falsework & Scaffolding (4th wall pour)	3	01-Dec-15	0%	3	04-Dec-15	25-Sep-15	29-Sep-15	-52	0	0%
SE2H120	E10B (E2h1) - Seagull Pier Rebar Fixing, Formwork & Prep (4th wall pour)	7	04-Dec-15	0%	7	12-Dec-15	30-Sep-15	08-Oct-15	-52	0	0%
SE2H122	E10B (E2h1) - Seagull Pier Concreting, Curing & Striking, CJ Prep (4th wa	3	12-Dec-15	0%	3	16-Dec-15	09-Oct-15	12-Oct-15	-52	0	0%
SE2H124	E10B (E2h1) - Seagull Pier Falsework & Scaffolding (5th wall pour)	2	16-Dec-15	0%	2	18-Dec-15	13-Oct-15	15-Oct-15	-52	0	0%
SE2H126	E10B (E2h1) - Seagull Pier Rebar Fixing, Formwork & Prep (5th wall pour)	7	18-Dec-15	0%	7	29-Dec-15	16-Oct-15	24-Oct-15	-52	0	0%
Viaduct E5, E6, E7 & E8											
Milestones - Marine Foundation											
GFXX105	Piling Works Completion of E5E6a/E7E8a in Bridge E5 - E8	0		0%	0	21-Sep-15		01-Feb-19	999	999	0%
GFXX106	Piling Works Completion of E5b/E6b, E7b/E8b, Dolphin E5b & E8b in Bridg	0		0%	0	21-Sep-15		09-Jul-15	-62	3	0%
GFXX107	Piling Works Completion of E5c/E6c, Dolphin E5c in Bridge E5 - E8	0		0%	0	08-Oct-15		16-Apr-15	-143	91	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

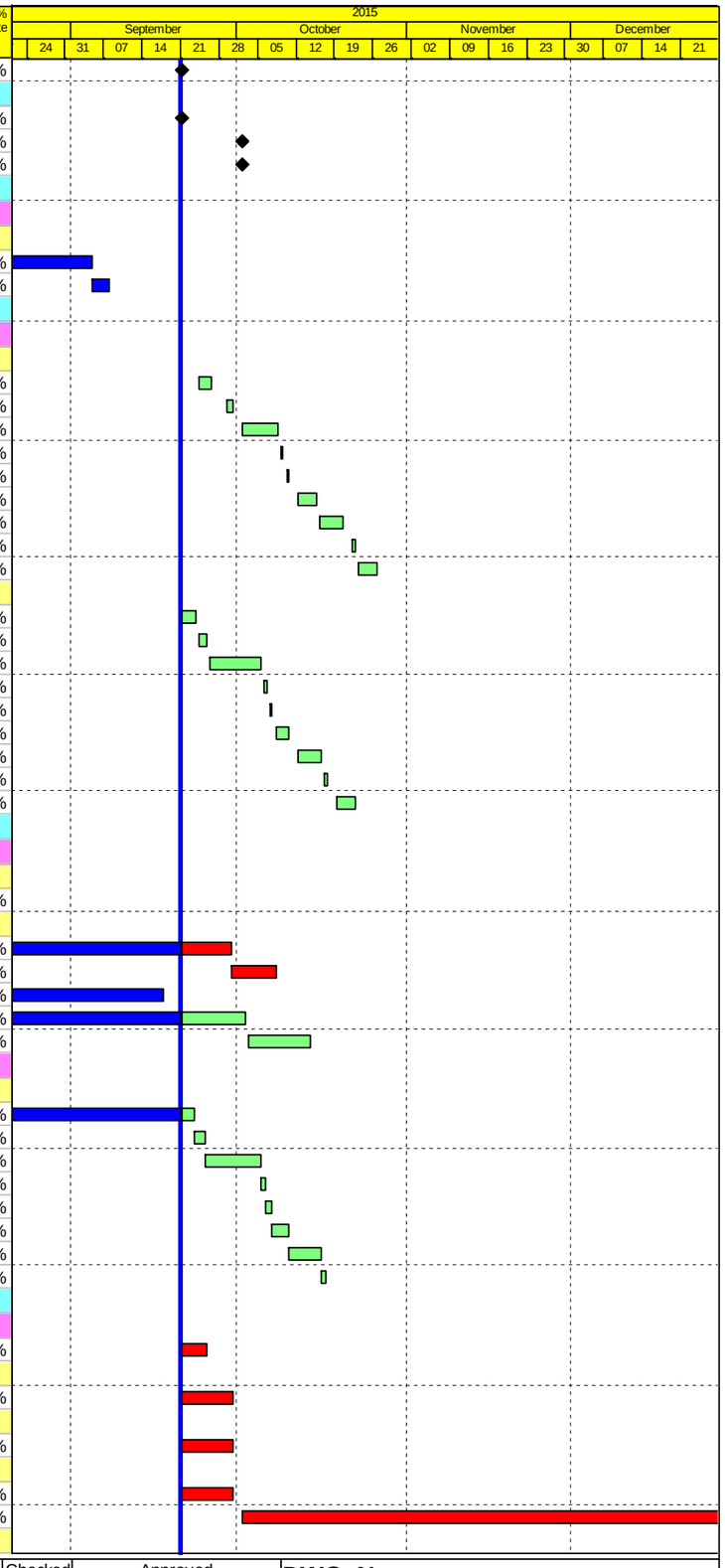
Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 25 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
GFXX108	Piling Works Completion of E7c/E8c, Dolphin E8c in Bridge E7 - E8	0		0%	0	21-Sep-15		12-Oct-15	17	104	0%
Milestones - Land Foundation											
GFXX012	Land Access to BCF (Available in Month 23)	0	21-Sep-15	0%	0		26-Nov-14		-299	0	0%
GFXX546-1	E14D (E5d) - Start date for piling	0	02-Oct-15	0%	0		07-Jul-15		-72	108	0%
GFXX547-1	E14C (E6d) - Start date for piling	0	02-Oct-15	0%	0		16-Oct-15		12	95	0%
E11A & E11B (E5E6a/E7E8a)											
Pile Cap Works - E11A & E11B											
Pile Cap Works											
SE5A0100	E11 (E5E6/E7E8a) - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Cor	2	21-Aug-15 A	100%	0	05-Sep-15 A					100%
SE5A0110	E11 (E5E6/E7E8a) - Marine Pile Cap - Dewater precast shell / Remove Lifl	2	05-Sep-15 A	100%	0	08-Sep-15 A					100%
E12A, E12B, E12C & E12D (E8b/E7b/E6b/E5b)											
Pile Cap Works - E12A, E12B, E12C & E12D											
Pile Cap Works - Dolphin E12A (E8b)											
SE8BD070	E12A (E8b) Dolphin - Marine Pile Cap - Inst.prefab.collar frame to perm.ca	3	24-Sep-15	0%	3	26-Sep-15	07-Nov-16	09-Nov-16	311	0	0%
SE8BD080	E12A (E8b) Dolphin - Marine Pile Cap - Install precast shell in position	2	29-Sep-15	0%	2	30-Sep-15	10-Nov-16	11-Nov-16	311	0	0%
SE8BD090	E12A (E8b) Dolphin - Marine Pile Cap - Temp fixings to casings	6	02-Oct-15	0%	6	08-Oct-15	12-Nov-16	18-Nov-16	311	0	0%
SE8BD100	E12A (E8b) Dolphin - Marine Pile Cap - Tremie concrete at pedestal	1	09-Oct-15	0%	1	09-Oct-15	19-Nov-16	19-Nov-16	311	0	0%
SE8BD120	E12A (E8b) Dolphin - Marine Pile Cap - Dewatering inside precast shell	1	10-Oct-15	0%	1	10-Oct-15	21-Nov-16	21-Nov-16	311	0	0%
SE8BD130	E12A (E8b)- Dolphin - Marine Pile Cap - Trimming of pile & casing	3	12-Oct-15	0%	3	15-Oct-15	22-Nov-16	24-Nov-16	311	0	0%
SE8BD140	E12A (E8b) - Dolphin - Marine Pile Cap - Rebar fixing, installation of cast in	4	16-Oct-15	0%	4	20-Oct-15	25-Nov-16	29-Nov-16	311	0	0%
SE8BD150	E12A (E8b) - Dolphin - Marine Pile Cap - Concreting	1	22-Oct-15	0%	1	22-Oct-15	30-Nov-16	30-Nov-16	311	0	0%
SE8BD160	E12A (E8b) - Dolphin - Marine Pile Cap - Construction joint preparation	3	23-Oct-15	0%	3	26-Oct-15	01-Dec-16	03-Dec-16	311	531	0%
Pile Cap Works - Dolphin E12B (E5b)											
SE5BD070	E12B (E5b) Dolphin - Marine Pile Cap - Inst.prefab.collar frame to permani	3	21-Sep-15	0%	3	23-Sep-15	03-Nov-16	05-Nov-16	311	0	0%
SE5BD080	E12B (E5b) Dolphin - Marine Pile Cap - Install precast shell in position	2	24-Sep-15	0%	2	25-Sep-15	10-Nov-16	11-Nov-16	314	0	0%
SE5BD090	E12B (E5b) Dolphin - Marine Pile Cap - Temp fixings to casings	6	26-Sep-15	0%	6	05-Oct-15	12-Nov-16	18-Nov-16	314	0	0%
SE5BD100	E12B (E5b) Dolphin - Marine Pile Cap - Tremie concrete at pedestal	1	06-Oct-15	0%	1	06-Oct-15	19-Nov-16	19-Nov-16	314	0	0%
SE5BD120	E12B (E5b) Dolphin - Marine Pile Cap - Dewatering inside precast shell	1	07-Oct-15	0%	1	07-Oct-15	21-Nov-16	21-Nov-16	314	0	0%
SE5BD130	E12B (E5b) Dolphin - Marine Pile Cap - Trimming of pile & casing	3	08-Oct-15	0%	3	10-Oct-15	22-Nov-16	24-Nov-16	314	0	0%
SE5BD140	E12B (E5b) Dolphin - Marine Pile Cap - Rebar fixing, installation of cast ins	4	12-Oct-15	0%	4	16-Oct-15	25-Nov-16	29-Nov-16	314	0	0%
SE5BD150	E12B (E5b) Dolphin - Marine Pile Cap - Concreting	1	17-Oct-15	0%	1	17-Oct-15	30-Nov-16	30-Nov-16	314	0	0%
SE5BD160	E12B (E5b) Dolphin - Marine Pile Cap - Construction joint preparation & Cc	3	19-Oct-15	0%	3	22-Oct-15	01-Dec-16	03-Dec-16	314	3	0%
E13A, E13B, E13C & E13D (E8c/E7c/E6c/E5c)											
Foundation Works - E13											
Foundation Works - E13A (E8c) & E13B (E7c)											
GFXX103	E13A/B (E8c/E7c) - Sonic & Interface Coring	12	22-May-15 A	100%	0	21-Aug-15 A					100%
Foundation Works - E13C (E6c) & E13D (E5c)											
GFXX097	E13C/D (E6c/E5c) - Sonic & Interface Coring	12	13-May-15 A	40%	7	30-Sep-15	27-Mar-15	09-Apr-15	-143	0	40%
GFXX098	E13C/D (E6c/E5c) - Dismantle Temporary Removable Piling Platform	6	30-Sep-15	0%	6	08-Oct-15	10-Apr-15	16-Apr-15	-143	0	0%
GFXX637	E13C/D (E6c/E5c) - Dolphin - Bored Piles (2.20m dia x 3nr))	40	10-Jul-14 A	100%	0	18-Sep-15 A					100%
GFXX639	E13C/D (E6c/E5c) - Dolphin - Sonic & Interface Coring	12	07-Jul-15 A	25%	9	02-Oct-15	15-Oct-16	25-Oct-16	315	0	25%
GFXX641	E13C/D (E6c/E5c) - Dolphin - Dismantle Temporary Removable Piling Platl	10	03-Oct-15	0%	10	14-Oct-15	26-Oct-16	05-Nov-16	315	91	0%
Pier- E13A & E13B											
Pile Cap Works Dolphin											
SE8CD070	E13A (E8c) Dolphin - Marine Pile Cap - Inst.Floating Seal & Casing Head S	3	13-Aug-15 A	10%	3	23-Sep-15	07-Nov-16	09-Nov-16	314	0	10%
SE8CD080	E13A (E8c) Dolphin - Marine Pile Cap - Install precast shell in position	2	23-Sep-15	0%	2	25-Sep-15	10-Nov-16	11-Nov-16	314	0	0%
SE8CD090	E13A (E8c) Dolphin - Marine Pile Cap - Inst.Access & make Watertight	6	25-Sep-15	0%	6	05-Oct-15	12-Nov-16	18-Nov-16	314	0	0%
SE8CD100	E13A (E8c) Dolphin - Marine Pile Cap - Weld Fin Plates / Plug Rebar & Co	1	05-Oct-15	0%	1	06-Oct-15	19-Nov-16	19-Nov-16	314	0	0%
SE8CD120	E13A (E8c) Dolphin - Marine Pile Cap - Dewater precast shell / Remove Lil	1	06-Oct-15	0%	1	07-Oct-15	21-Nov-16	21-Nov-16	314	0	0%
SE8CD130	E13A (E8c) Dolphin - Marine Pile Cap - Pile cut down 3nr	3	07-Oct-15	0%	3	10-Oct-15	22-Nov-16	24-Nov-16	314	0	0%
SE8CD140	E13A (E8c) Dolphin - Marine Pile Cap - Rebar fixing, inst.inserts	4	10-Oct-15	0%	4	16-Oct-15	25-Nov-16	29-Nov-16	314	0	0%
SE8CD150	E13A (E8c) Dolphin - Marine Pile Cap - Concreting	1	16-Oct-15	0%	1	17-Oct-15	30-Nov-16	30-Nov-16	314	108	0%
E14A, E14B, E14C & E14D (E8d/E7d/E6d/E5d)											
Foundation Works - E14											
GFXX545	Mobilization & Assembling Bored Pile Plant & Equipment for Viaducts in HKI	5	21-Sep-15	0%	5	25-Sep-15	26-Nov-14	01-Dec-14	-242	0	0%
Foundation Works - E14A (E8d)											
GFXX544	E14A (E8d) - Confirm Rockhead levels	8	21-Sep-15	0%	8	30-Sep-15	02-Apr-15	16-Apr-15	-122	106	0%
Foundation Works - E14B (E7d)											
GFXX544	E14B (E7d) - Confirm Rockhead levels	8	21-Sep-15	0%	8	30-Sep-15	10-Jun-15	22-Jun-15	-75	93	0%
Foundation Works - E14C (E6d)											
GFXX544	E14C (E6d) - Confirm Rockhead levels	8	21-Sep-15	0%	8	30-Sep-15	04-Feb-15	12-Feb-15	-168	0	0%
GFXX547	E14C (E6d) - Bored Piles (2.20m dia. x 3 nos)	93	02-Oct-15	0%	93	25-Jan-16	13-Feb-15	22-Jun-15	-168	0	0%
Foundation Works - E14D (E5d)											



Actual Work
Planned Bar
Critical Bar
Milestone

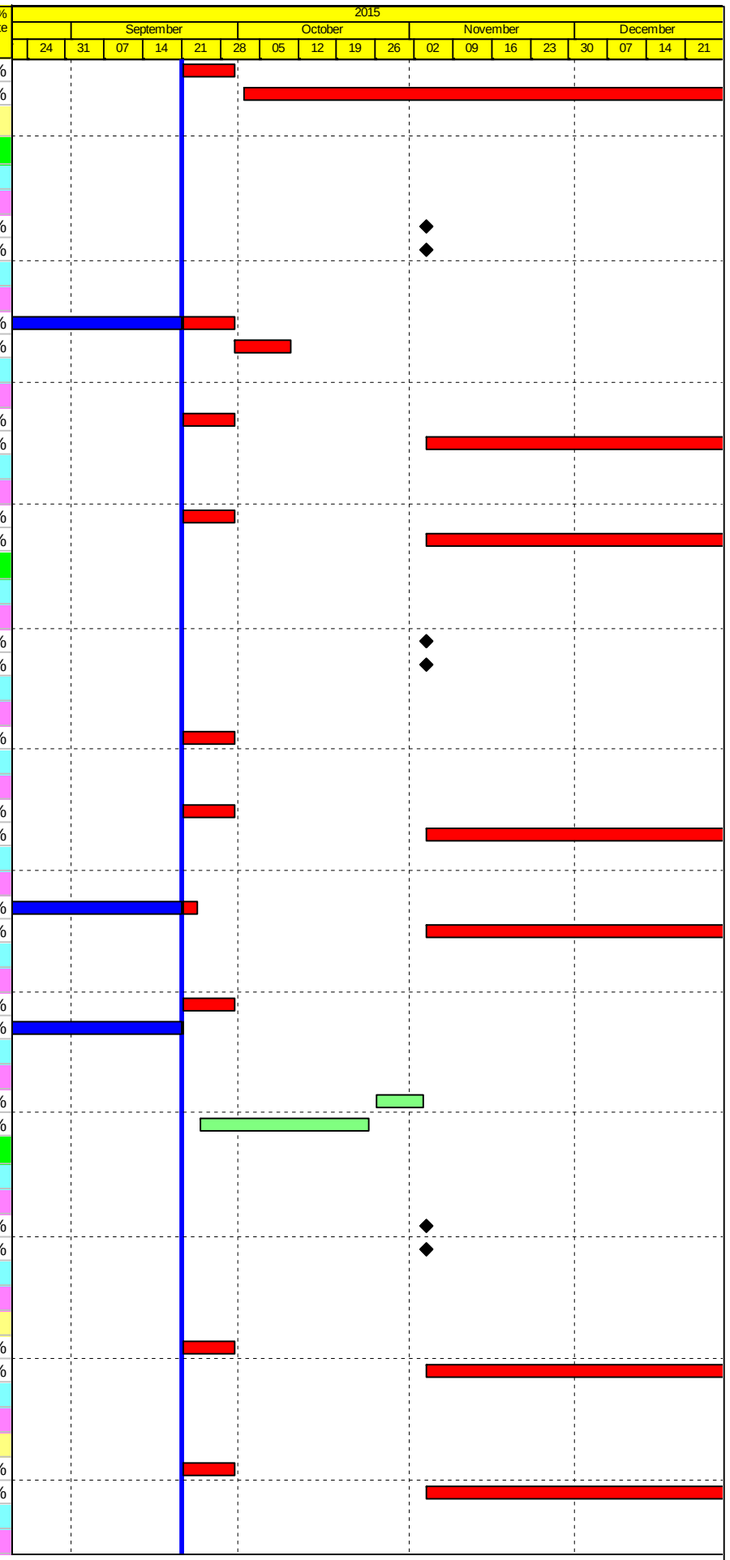
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 26 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
GFXX544	E14D (E5d) - Confirm Rockhead levels	8	21-Sep-15	0%	8	30-Sep-15	22-Nov-14	01-Dec-14	-228	0	0%
GFXX546	E14D (E5d) - Bored Piles (2.20m dia. x 4 nos)	106	02-Oct-15	0%	106	12-Feb-16	02-Dec-14	16-Apr-15	-228	0	0%
Viaduct F											
Viaduct F1											
General F1											
Milestones											
GFXX553-8	F2 (F1c) - Start date for piling	0	04-Nov-15	0%	0		15-Apr-15		-167	74	0%
GFXX553-9	F3 (F1d) - Start date for piling	0	04-Nov-15	0%	0		22-Aug-15		-60	84	0%
F1 (F1b)											
Foundation Works											
GFXX553-1	F1 (F1b) - Pre-drilling for Piles (3 nos)	24	29-Apr-15 A	66.7%	8	30-Sep-15	29-Jun-15	08-Jul-15	-71	0	66.7%
GFXX553-4	F1 (F1b) - Confirm Rockhead Levels	8	30-Sep-15	0%	8	10-Oct-15	09-Jul-15	17-Jul-15	-71	103	0%
F2 (F1c)											
Foundation Works											
GFXX553-5	F2 (F1c) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	31-Dec-14	09-Jan-15	-214	27	0%
GFXX556	F2 (F1c) - Bored Piles (1.80m dia. x 3 nos)	74	04-Nov-15	0%	74	01-Feb-16	10-Jan-15	14-Apr-15	-241	0	0%
F3 (F1d)											
Foundation Works											
GFXX553-6	F3 (F1d) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	24-Mar-15	01-Apr-15	-147	27	0%
GFXX557	F3 (F1d) - Bored Piles (1.80m dia. x 3 nos)	84	04-Nov-15	0%	84	16-Feb-16	02-Apr-15	17-Jul-15	-174	0	0%
Viaduct F2											
General F2											
Milestones											
GFXX561-	F6 (F2d) - Start date for piling	0	04-Nov-15	0%	0		30-Jun-15		-105	72	0%
GFXX561-9	F5 (F2c) - Start date for piling	0	04-Nov-15	0%	0		10-Sep-15		-44	72	0%
F4 (F2b)											
Foundation Works											
GFXX561-6	F4 (F2b) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	12-Jun-15	22-Jun-15	-84	99	0%
F5 (F2c)											
Foundation Works											
GFXX561-8	F5 (F2c) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	13-Mar-15	21-Mar-15	-156	27	0%
GFXX564	F5 (F2c) - Bored Piles (1.80m dia. x 3 nos)	72	04-Nov-15	0%	72	29-Jan-16	23-Mar-15	22-Jun-15	-183	0	0%
F6 (F2d)											
Foundation Works											
GFXX561-	F6 (F2d) - Confirm Rockhead Levels	8	15-Apr-15 A	62.5%	3	23-Sep-15	26-Mar-15	30-Mar-15	-145	32	0%
GFXX565	F6 (F2d) - Bored Piles (1.80m dia. x 3 nos)	72	04-Nov-15	0%	72	29-Jan-16	30-Mar-15	30-Jun-15	-177	0	0%
F7 (F2e)											
Foundation Works											
GFXX561-	F7 (F2e) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	21-Aug-15	29-Aug-15	-26	201	0%
GFXX561-4	F7 (F2e) - Pre-drilling for Piles (3 nos)	24	21-May-15 A	100%	0	21-Sep-15	20-Aug-15	20-Aug-15	-26	0	100%
F8 (F2f) & Abutment											
Foundation Works											
GFXX561-	F8 (F2f) - Confirm Rockhead Levels	8	26-Oct-15	0%	8	03-Nov-15	26-Feb-16	05-Mar-16	100	165	0%
GFXX561-5	F8 (F2f) - Pre-drilling for Piles (2 nos)	24	24-Sep-15	0%	24	24-Oct-15	26-Jan-16	25-Feb-16	100	0	0%
Viaduct F3											
General F3											
Milestones											
GFXX571-6	F9 (F3d) - Start date for piling	0	04-Nov-15	0%	0		21-Aug-15		-61	84	0%
GFXX571-8	F10 (F3c) - Start date for piling	0	04-Nov-15	0%	0		26-Oct-15		-8	72	0%
F9 (F3d-1/F3d-2)											
Foundation Works - F9 (F3d-1/F3d-2)											
Foundation Works											
GFXX571	F9 (F3d) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	17-Jan-15	26-Jan-15	-200	27	0%
GFXX575	F9 (F3d) - Bored Piles (1.80m dia. x 4 nos)	84	04-Nov-15	0%	84	16-Feb-16	27-Jan-15	13-May-15	-227	0	0%
F10 (F3c-1/F3c-2)											
Foundation Works - Pier F10											
Foundation Works											
GFXX571	F10 (F3c) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	21-Jul-15	30-Jul-15	-53	27	0%
GFXX574	F10 (F3c) - Bored Piles (1.80m dia. x 4 nos)	72	04-Nov-15	0%	72	29-Jan-16	30-Jul-15	26-Oct-15	-80	0	0%
F11 (F3b-1/F3b-2)											
Foundation Works - Pier F11 (F3b-1/F3b-2)											



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection

3-Month Rolling Programme (Page 27 of 32 Pages)

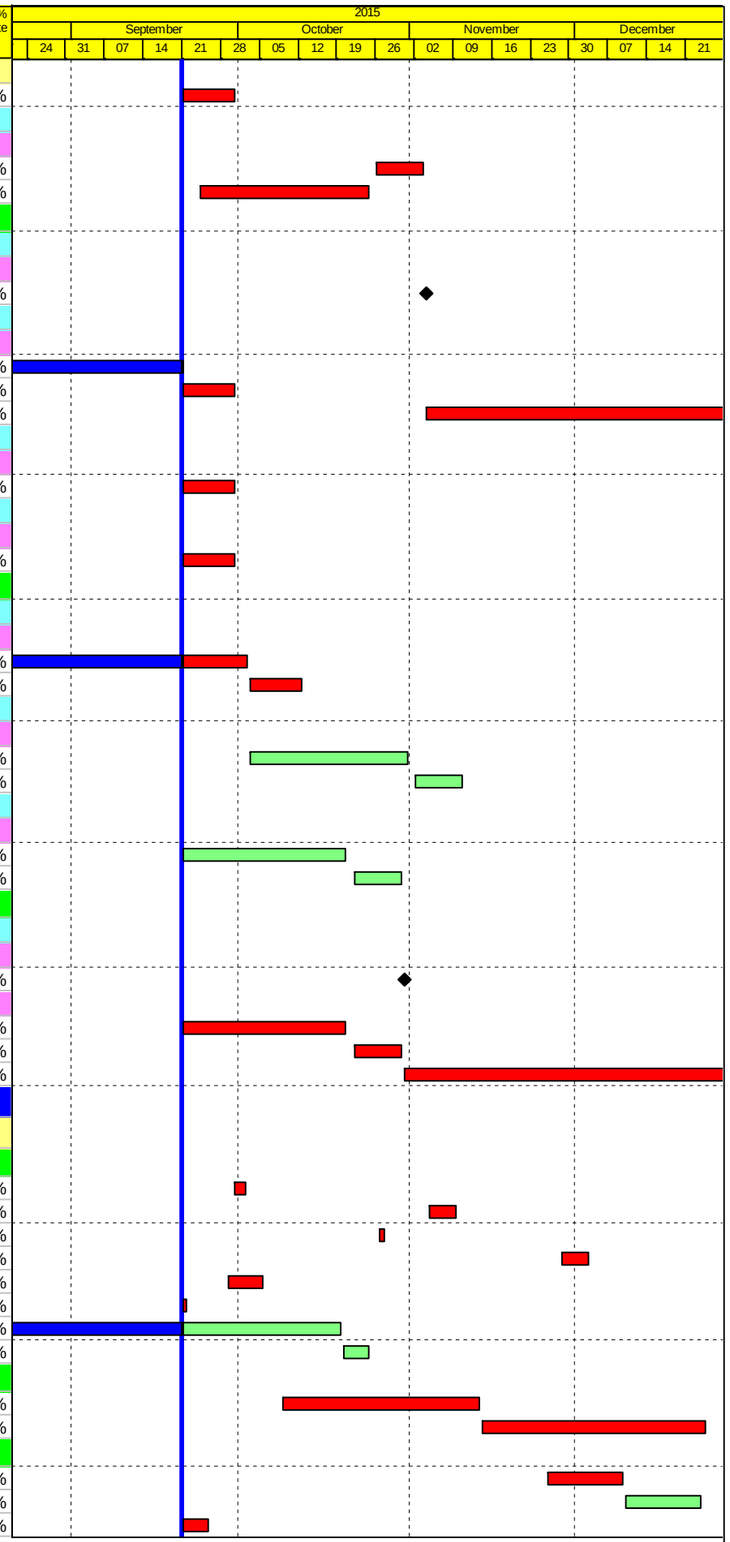
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Foundation Works											
GFXX571	F11 (F3b) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	26-Aug-15	03-Sep-15	-22	220	0%
F12 (F3a) & Abutment											
Foundation Works											
GFXX571-	F12 (F3a) - Confirm Rockhead Levels	8	26-Oct-15	0%	8	03-Nov-15	25-Sep-15	07-Oct-15	-23	144	0%
GFXX571-4	F12 (F3a) - Pre-drilling for Piles (2 nos)	24	24-Sep-15	0%	24	24-Oct-15	28-Aug-15	25-Sep-15	-23	0	0%
Viaduct F5											
General F5											
Milestones											
GFXX586-5	F13 (F5d) - Start date for piling	0	04-Nov-15	0%	0		14-Jan-16		58	84	0%
F13 (F5d)											
Foundation Works											
GFXX586-1	F13 (F5d) - Pre-drilling for Piles (3 nos)	24	04-Jun-15 A	100%	0	21-Sep-15	19-Mar-15	19-Mar-15	-150	0	100%
GFXX586-4	F13 (F5d) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	20-Mar-15	28-Mar-15	-150	27	0%
GFXX589	F13 (F5d) - Bored Piles (1.80m dia. x 3 nos)	84	04-Nov-15	0%	84	16-Feb-16	30-Mar-15	14-Jul-15	-177	0	0%
F14 (F5c)											
Foundation Works											
GFXX586-6	F14 (F5c) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	17-Jul-15	27-Jul-15	-56	99	0%
F15 (F5b)											
Foundation Works											
GFXX586-8	F15 (F5b) - Confirm Rockhead Levels	8	21-Sep-15	0%	8	30-Sep-15	05-May-15	13-May-15	-116	111	0%
Viaduct F4											
F16 (F4a/F5a)											
Foundation Works											
GFXX579-1	F16 (F4a/F5a) - Pre-drilling for Piles (8 nos)	24	14-May-15 A	62.5%	9	02-Oct-15	24-Jun-15	04-Jul-15	-75	0	62.5%
GFXX579-4	F16 (F4a/F5a) - Confirm Rockhead Levels	8	03-Oct-15	0%	8	12-Oct-15	06-Jul-15	14-Jul-15	-75	102	0%
F17 (F4b)											
Foundation Works											
GFXX579-2	F17 (F4b) - Pre-drilling for Piles (3 nos)	24	03-Oct-15	0%	24	31-Oct-15	16-Nov-15	12-Dec-15	36	0	0%
GFXX579-6	F17 (F4b) - Confirm Rockhead Levels	8	02-Nov-15	0%	8	10-Nov-15	14-Dec-15	22-Dec-15	36	171	0%
F18 (F4c) & Abutment											
Foundation Works											
GFXX579-3	F18 (F4c) - Pre-drilling for Piles (2 nos)	24	21-Sep-15	0%	24	20-Oct-15	03-Dec-15	02-Jan-16	60	0	0%
GFXX579-7	F18 (F4c) - Confirm Rockhead Levels	8	22-Oct-15	0%	8	30-Oct-15	04-Jan-16	12-Jan-16	60	237	0%
Approach Ramp F											
Approach Ramp Land Foundation - HKBCF											
Milestones											
GFXX611	AR-F - Start date for piling	0	31-Oct-15	0%	0		12-Jul-15		-111	53	0%
Approach Ramp F Piling											
GFXX593	AR-F - Pre-drilling for Piles (25 nos)	24	21-Sep-15	0%	24	20-Oct-15	14-Apr-15	12-May-15	-133	0	0%
GFXX594	AR-F - Confirm Rockhead Levels	8	22-Oct-15	0%	8	30-Oct-15	13-May-15	21-May-15	-133	0	0%
GFXX595	AR-F - Bored Piles (25 nos.)	218	31-Oct-15	0%	218	27-Jul-16	22-May-15	13-Feb-16	-133	0	0%
SUPERSTRUCTURE											
Assembling, relocation and dismantle of lifting equipment											
Launching Gantry 1											
FR000008-T	Viaduct B2 - Launching LG1 B7 to B8	1	30-Sep-15	0%	1	02-Oct-15	14-Feb-15	14-Feb-15	-167	0	0%
FR000010-T	Viaduct B2 - Launching LG1 B6 to B9	4	04-Nov-15	0%	4	09-Nov-15	20-Mar-15	24-Mar-15	-167	0	0%
FR000011-T	Viaduct B2 - Launching LG1 B8 to B6	1	26-Oct-15	0%	1	27-Oct-15	12-Mar-15	12-Mar-15	-167	0	0%
FR000012-T	Viaduct B2 - Launching LG1 B9 to B10	4	28-Nov-15	0%	4	03-Dec-15	20-Apr-15	24-Apr-15	-167	0	0%
FR000023	Viaduct B3 - Launching LG1 Over Piers to B07 (B2f) - LG1	5	29-Sep-15	0%	5	05-Oct-15	29-Nov-14	04-Dec-14	-228	31	0%
FR001130-T	Viaduct B3 - Launching LG1 B2 to B1	1	21-Sep-15	0%	1	21-Sep-15	22-Nov-14	22-Nov-14	-228	0	0%
PR20130-1	Assembly of Launching Gantry LG1 onto Pier B1/B2 (incl.Load Test)	32	13-Mar-15 A	31.25%	22	19-Oct-15	03-Jan-19	28-Jan-19	916	0	0%
PR20140	Viaduct B3 - Learning Curve Gantry LG1	4	20-Oct-15	0%	4	24-Oct-15	29-Jan-19	01-Feb-19	972	972	0%
Launching Gantry 2											
FR000099	Assembly of Launching Gantry LG2 on Temp.Loading Platform	30	09-Oct-15	0%	30	13-Nov-15	31-Oct-14	04-Dec-14	-278	0	0%
FR100099-1	Assembly Launching Gantry LG2 onto Pier B1/ B2 (incl. Load Test)	35	14-Nov-15	0%	35	24-Dec-15	05-Dec-14	17-Jan-15	-260	0	0%
Adjustable Lifting Frame 1&2											
FR000157	Viaduct B3 - Pier B4 - Assemble / Load Test Lifting Frame ALF 1/2	12	26-Nov-15	0%	12	09-Dec-15	06-Jul-15	18-Jul-15	-119	0	0%
FR100024	Viaduct B3 - Learning Curve Lifting Frame ALF 1/2	12	10-Dec-15	0%	12	23-Dec-15	17-Jun-16	30-Jun-16	150	0	0%
FR100024-03	Relocate ALF1/2 from Pier B5 to E4-A	5	21-Sep-15	0%	5	25-Sep-15	28-Jul-15	01-Aug-15	-46	117	0%



Actual Work
Planned Bar
Critical Bar
Milestone

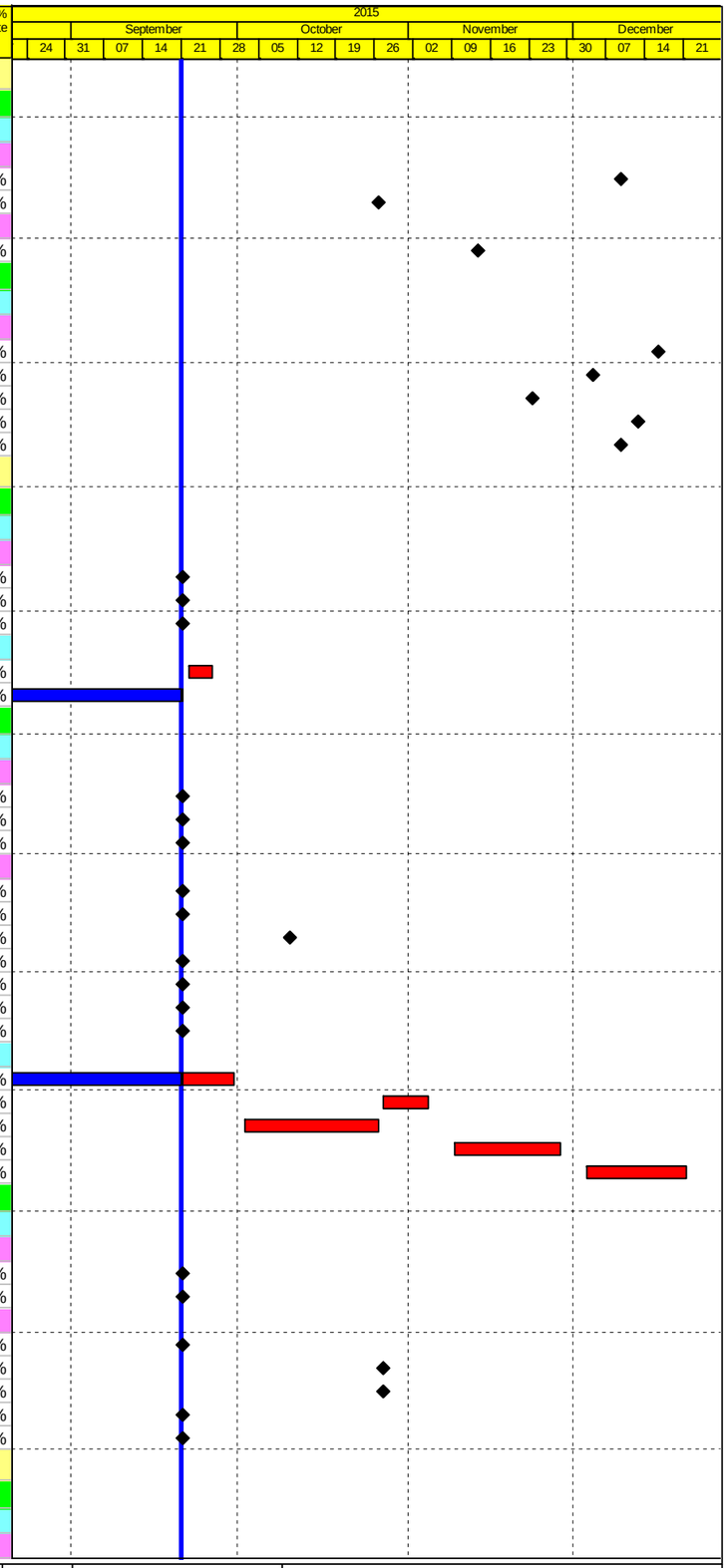
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 28 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
Viaduct A Superstructure											
Bridge A2 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
A200010-1	Pier A6 (A1f) ready for Viaduct A2 PH segment erection	0		0%	0	09-Dec-15		16-Jun-16	143	45	0%
A200060-1	Pier A1 (A2e) ready for Viaduct A2 PH segment erection	0		0%	0	26-Oct-15		12-May-16	157	0	0%
Milestones Ready for Deck Segment Erection											
A200060	Pier A1 (A2e) ready for Viaduct A2 deck segment erection	0		0%	0	13-Nov-15		03-Jun-16	157	416	0%
Bridge A1 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
A100020-1	Pier A10 (A1b) ready for Viaduct A1 PH segment erection	0		0%	0	16-Dec-15		03-Aug-16	172	0	0%
A100030-1	Pier A9 (A1c) ready for Viaduct A1 PH segment erection	0		0%	0	04-Dec-15		31-May-16	137	0	0%
A100040-1	Pier A8 (A1d) ready for Viaduct A1 PH segment erection	0		0%	0	23-Nov-15		20-May-16	139	0	0%
A100050-1	Pier A7 (A1e) ready for Viaduct A1 PH segment erection	0		0%	0	12-Dec-15		19-Apr-16	99	42	0%
A100060-1	Pier A6 (A1f) ready for Viaduct A1 PH segment erection	0		0%	0	09-Dec-15		16-Jun-16	143	45	0%
Viaduct B Superstructure											
Bridge B3 Superstructure											
Milestones											
Milestones Ready for Deck Segment Erection											
B300010	Pier B6 (B3a) ready for Viaduct B3 deck segment erection	0		0%	0	21-Sep-15		12-Mar-15	-140	28	0%
B300020	Pier B5 (B3b) ready for Viaduct B3 deck segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
B300030	Pier B4 (B3c) ready for Viaduct B3 deck segment erection	0		0%	0	21-Sep-15		30-Jun-16	216	76	0%
Deck installation											
FR000025	Viaduct B3 - End Span at Pier B1 (B3f) (up) (7 seg) - LG1	5	22-Sep-15	0%	5	26-Sep-15	24-Nov-14	28-Nov-14	-228	0	0%
FR001156	Viaduct B3 - Cantilever at Pier B5 (B3b) (12 seg) ALF 1/2	8	20-May-15 A	100%	0	21-Sep-15	27-Jul-15	27-Jul-15	-41	0	100%
Bridge B2 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
B200010-1	Pier B12 (B2a) ready for Viaduct B2 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
B200030-1	Pier B10 (B2c) ready for Viaduct B2 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
B200040-1	Pier B9 (B2d) ready for Viaduct B2 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
Milestones Ready for Deck Segment Erection											
B200010	Pier B12 (B2a) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		01-Jun-15	-81	87	0%
B200020	Pier B11 (B2b) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		18-May-15	-91	77	0%
B200030	Pier B10 (B2c) ready for Viaduct B2 deck segment erection	0		0%	0	10-Oct-15		24-Apr-15	-125	43	0%
B200040	Pier B9 (B2d) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		24-Mar-15	-130	38	0%
B200050	Pier B8 (B2e) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		14-Feb-15	-159	9	0%
B200060	Pier B7 (B2f) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
B200070	Pier B6 (B3a) ready for Viaduct B2 deck segment erection	0		0%	0	21-Sep-15		12-Mar-15	-140	28	0%
Deck installation											
FR000008	Viaduct B2 - Cantilever at Pier B7 (B2f) (16 seg) - LG1	9	09-Jun-15 A	12.5%	8	30-Sep-15	05-Feb-15	13-Feb-15	-167	0	12.5%
FR000010	Viaduct B2 - End Span at Pier B6 (B3a) (up) (6 seg) - LG1	6	27-Oct-15	0%	6	04-Nov-15	13-Mar-15	19-Mar-15	-167	0	0%
FR000011	Viaduct B2 - Cantilever at Pier B8 (B2e) (20 seg) - MTR Crossing - LG1	18	02-Oct-15	0%	18	26-Oct-15	16-Feb-15	11-Mar-15	-167	0	0%
FR000012	Viaduct B2 - Cantilever at Pier B9 (B2d) (20 seg) - MTR Crossing - LG1	17	09-Nov-15	0%	17	28-Nov-15	25-Mar-15	18-Apr-15	-167	0	0%
FR000013	Viaduct B2 - Cantilever at Pier B10 (B2c) (18 seg) - HWay Crossing - LG1	15	03-Dec-15	0%	15	21-Dec-15	25-Apr-15	14-May-15	-167	0	0%
Bridge B1 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
B100060-1	Pier B13 (B1g) ready for Viaduct B1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
B100070-1	Pier B12 (B2a) ready for Viaduct B1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
Milestones Ready for Deck Segment Erection											
B100030	Pier B16 (B1d) ready for Viaduct B1 deck segment erection	0		0%	0	21-Sep-15		17-Sep-16	277	434	0%
B100040	Pier B15 (B1e) ready for Viaduct B1 deck segment erection	0		0%	0	27-Oct-15		08-Aug-15	-60	108	0%
B100050	Pier B14 (B1f) ready for Viaduct B1 deck segment erection	0		0%	0	27-Oct-15		18-Jul-15	-77	91	0%
B100060	Pier B13 (B1g) ready for Viaduct B1 deck segment erection	0		0%	0	21-Sep-15		13-Jun-15	-73	95	0%
B100070	Pier B12 (B2a) ready for Viaduct B1 deck segment erection	0		0%	0	21-Sep-15		07-Jul-15	-58	110	0%
Viaduct C Superstructure											
Bridge C4 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											



Actual Work
Planned Bar
Critical Bar
Milestone

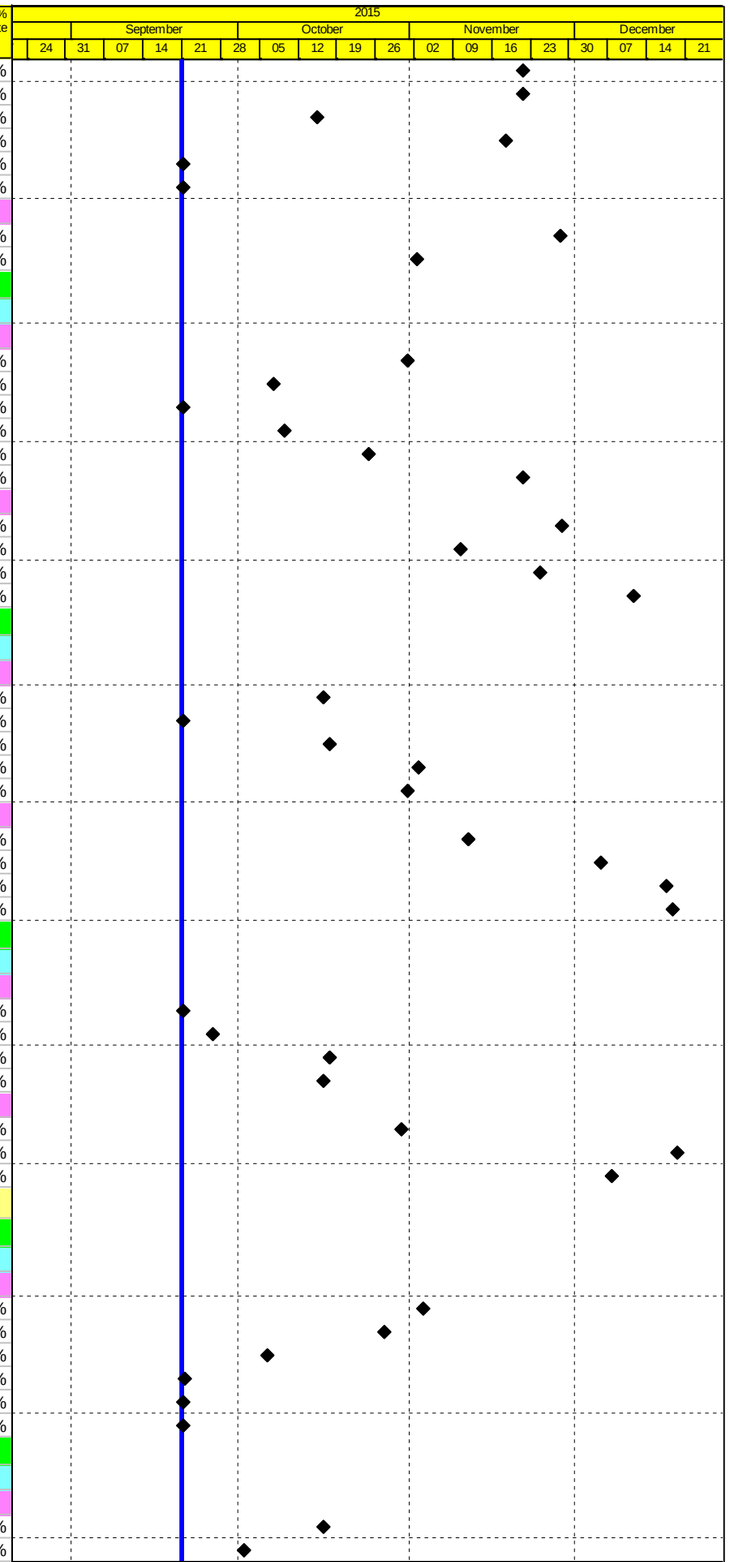
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 29 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
C400010-1	Pier C6 (C3f) ready for Viaduct C4 PH segment erection	0		0%	0	21-Nov-15		29-May-15	-132	0	0%
C400020-1	Pier C5 (C4a) ready for Viaduct C4 PH segment erection	0		0%	0	21-Nov-15		30-Apr-15	-154	0	0%
C400030-1	Pier C4 (C4b) ready for Viaduct C4 PH segment erection	0		0%	0	15-Oct-15		30-Apr-15	-123	0	0%
C400040-1	Pier C3 (C4c) ready for Viaduct C4 PH segment erection	0		0%	0	18-Nov-15		05-Nov-15	-11	0	0%
C400050-1	Pier C2 (C4d) ready for Viaduct C4 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
C400060-1	Pier C1 (C4e) ready for Viaduct C4 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
Milestones Ready for Deck Segment Erection											
C400030	Pier C4 (C4b) ready for Viaduct C4 deck segment erection	0		0%	0	28-Nov-15		29-Dec-15	25	142	0%
C400050	Pier C2 (C4d) ready for Viaduct C4 deck segment erection	0		0%	0	02-Nov-15		08-Dec-15	32	140	0%
Bridge C3 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
C300010-1	Pier C11 (C3a) ready for Viaduct C3 PH segment erection	0		0%	0	31-Oct-15		11-Apr-16	129	0	0%
C300020-1	Pier C10 (C3b) ready for Viaduct C3 PH segment erection	0		0%	0	07-Oct-15		03-Mar-16	117	0	0%
C300030-1	Pier C9 (C3c) ready for Viaduct C3 PH segment erection	0		0%	0	21-Sep-15		12-Feb-16	114	2	0%
C300040-1	Pier C8 (C3d) ready for Viaduct C3 PH segment erection	0		0%	0	09-Oct-15		09-Jan-16	73	0	0%
C300050-1	Pier C7 (C3e) ready for Viaduct C3 PH segment erection	0		0%	0	24-Oct-15		02-Dec-15	32	0	0%
C300060-1	Pier C6 (C3f) ready for Viaduct C3 PH segment erection	0		0%	0	21-Nov-15		29-May-15	-132	0	0%
Milestones Ready for Deck Segment Erection											
C300020	Pier C10 (C3b) ready for Viaduct C3 deck segment erection	0		0%	0	28-Nov-15		27-Apr-16	117	230	0%
C300030	Pier C9 (C3c) ready for Viaduct C3 deck segment erection	0		0%	0	10-Nov-15		29-Mar-16	112	227	0%
C300040	Pier C8 (C3d) ready for Viaduct C3 deck segment erection	0		0%	0	24-Nov-15		24-Feb-16	73	190	0%
C300050	Pier C7 (C3e) ready for Viaduct C3 deck segment erection	0		0%	0	11-Dec-15		21-Jan-16	32	149	0%
Bridge C2 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
C200010-1	Pier C16 (C2b) ready for Viaduct C2 PH segment erection	0		0%	0	16-Oct-15		19-May-16	168	0	0%
C200020-1	Pier C15 (C2c) ready for Viaduct C2 PH segment erection	0		0%	0	21-Sep-15		13-Apr-16	162	0	0%
C200030-1	Pier C14 (C2d) ready for Viaduct C2 PH segment erection	0		0%	0	17-Oct-15		06-Apr-16	135	0	0%
C200050-1	Pier C12 (C2f) ready for Viaduct C2 PH segment erection	0		0%	0	02-Nov-15		16-Mar-16	110	0	0%
C200060-1	Pier C11 (C3a) ready for Viaduct C2 PH segment erection	0		0%	0	31-Oct-15		11-Apr-16	129	0	0%
Milestones Ready for Deck Segment Erection											
C200020	Pier C15 (C2c) ready for Viaduct C2 deck segment erection	0		0%	0	11-Nov-15		08-Jun-16	162	273	0%
C200030	Pier C14 (C2d) ready for Viaduct C2 deck segment erection	0		0%	0	05-Dec-15		30-May-16	135	246	0%
C200040	Pier C13 (C2e) ready for Viaduct C2 deck segment erection	0		0%	0	17-Dec-15		20-May-16	118	230	0%
C200050	Pier C12 (C2f) ready for Viaduct C2 deck segment erection	0		0%	0	18-Dec-15		10-May-16	110	223	0%
Bridge C1 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
C100010-1	Pier C20 (C1c) ready for Viaduct C1 PH segment erection	0		0%	0	21-Sep-15		18-Mar-16	144	0	0%
C100020-1	Pier C19 (C1d) ready for Viaduct C1 PH segment erection	0		0%	0	26-Sep-15		14-Jan-16	86	0	0%
C100040-1	Pier C17 (C2a) ready for Viaduct C1 PH segment erection	0		0%	0	17-Oct-15		23-Mar-16	127	0	0%
C100050-1	Pier C16 (C2b) ready for Viaduct C1 PH segment erection	0		0%	0	16-Oct-15		19-May-16	168	0	0%
Milestones Ready for Deck Segment Erection											
C100020	Pier C19 (C1d) ready for Viaduct C1 deck segment erection	0		0%	0	30-Oct-15		07-Mar-16	104	213	0%
C100030	Pier C18 (C1e) ready for Viaduct C1 deck segment erection	0		0%	0	19-Dec-15		18-Apr-16	92	198	0%
C100040	Pier C17 (C2a) ready for Viaduct C1 deck segment erection	0		0%	0	07-Dec-15		23-May-16	129	234	0%
Viaduct D Superstructure											
Bridge D3 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
D300010-1	Pier D6 (D4a) ready for Viaduct D3 PH segment erection	0		0%	0	03-Nov-15		09-Jul-15	-89	0	0%
D300020-1	Pier D5 (D4b) ready for Viaduct D3 PH segment erection	0		0%	0	27-Oct-15		04-May-15	-130	0	0%
D300030-1	Pier D4 (D4c) ready for Viaduct D3 PH segment erection	0		0%	0	06-Oct-15		22-Apr-15	-122	0	0%
D300040-1	Pier D3 (D4d) ready for Viaduct D3 PH segment erection	0		0%	0	21-Sep-15		07-Dec-15	61	0	0%
D300050-1	Pier D2 (D4e) ready for Viaduct D3 PH segment erection	0		0%	0	21-Sep-15		22-Dec-15	75	152	0%
D300060-1	Pier D1 (D4f) ready for Viaduct D3 PH segment erection	0		0%	0	21-Sep-15		19-May-15	-90	0	0%
Bridge D2 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
D200010-1	Pier D13 (D2d) ready for Viaduct D2 PH segment erection	0		0%	0	16-Oct-15		11-Nov-15	20	0	0%
D200050-1	Pier D9 (D3c) ready for Viaduct D2 PH segment erection	0		0%	0	02-Oct-15		15-Jul-15	-59	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

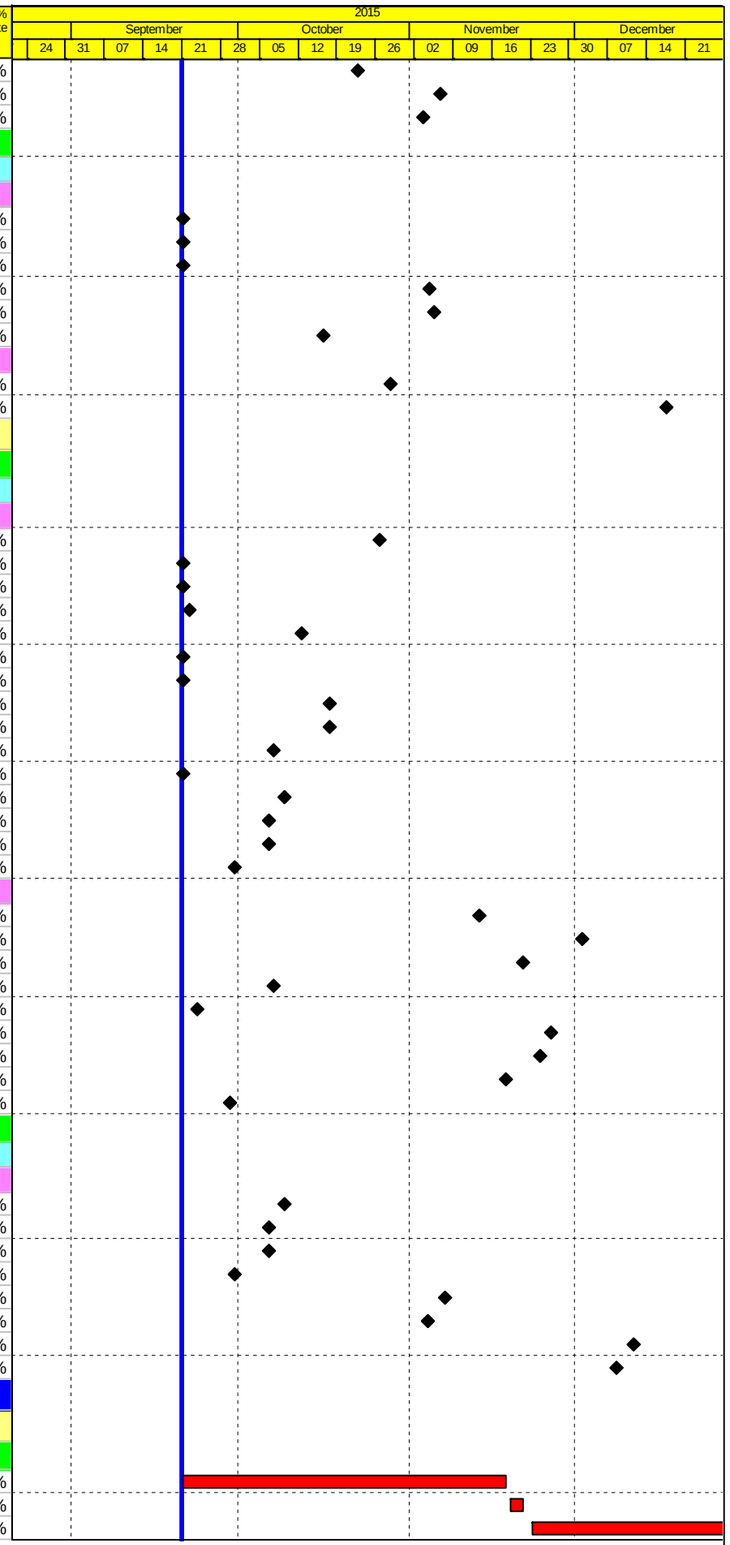
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 30 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
D200060-1	Pier D8 (D3d) ready for Viaduct D2 PH segment erection	0		0%	0	22-Oct-15		08-Jun-15	-100	0	0%
D200070-1	Pier D7 (D3e) ready for Viaduct D2 PH segment erection	0		0%	0	06-Nov-15		28-May-15	-120	0	0%
D200080-1	Pier D6 (D4a) ready for Viaduct D2 PH segment erection	0		0%	0	03-Nov-15		09-Jul-15	-89	0	0%
Bridge D1 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
D100010-1	Pier D19 (D1b) ready for Viaduct D1 PH segment erection	0		0%	0	21-Sep-15		27-Oct-15	28	0	0%
D100020-1	Pier D18 (D1c) ready for Viaduct D1 PH segment erection	0		0%	0	21-Sep-15		25-Nov-15	52	4	0%
D100030-1	Pier D17 (D1d) ready for Viaduct D1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
D100040-1	Pier D16 (D2a) ready for Viaduct D1 PH segment erection	0		0%	0	04-Nov-15		14-Aug-15	-62	0	0%
D100050-1	Pier D15 (D2b) ready for Viaduct D1 PH segment erection	0		0%	0	05-Nov-15		03-Oct-15	-25	0	0%
D100070-1	Pier D13 (D2d) ready for Viaduct D1 PH segment erection	0		0%	0	16-Oct-15		11-Nov-15	20	0	0%
Milestones Ready for Deck Segment Erection											
D100030	Pier D17 (D1d) ready for Viaduct D1 deck segment erection	0		0%	0	28-Oct-15		30-Jan-16	77	186	0%
D100060	Pier D14 (D2c) ready for Viaduct D1 deck segment erection	0		0%	0	17-Dec-15		09-Dec-15	-7	264	0%
Viaduct E											
Bridge E1 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
E100010-1	Pier A1 (A2e) ready for Viaduct E1 PH segment erection	0		0%	0	26-Oct-15		12-May-16	157	0	0%
E100020-1	Pier C1 (C4e) ready for Viaduct E1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
E100030-1	Pier D1 (D4f) ready for Viaduct E1 PH segment erection	0		0%	0	21-Sep-15		19-May-15	-90	0	0%
E100050-1	Pier E1D (E1a1) ready for Viaduct E1 PH segment erection	0		0%	0	22-Sep-15		11-Mar-16	136	0	0%
E100060-1	Pier E1C (E1a2) ready for Viaduct E1 PH segment erection	0		0%	0	12-Oct-15		25-Mar-15	-147	0	0%
E100070-1	Pier E1B (E1a3) ready for Viaduct E1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
E100080-1	Pier E1A (E1a4) ready for Viaduct E1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
E100090-1	Pier E2D (E1b1) ready for Viaduct E1 PH segment erection	0		0%	0	17-Oct-15		16-Mar-16	121	0	0%
E100100-1	Pier E2C (E1b2) ready for Viaduct E1 PH segment erection	0		0%	0	17-Oct-15		13-Apr-15	-138	140	0%
E100110-1	Pier E2B (E1b3) ready for Viaduct E1 PH segment erection	0		0%	0	07-Oct-15		31-Jan-15	-185	0	0%
E100120-1	Pier E2A (E1b4) ready for Viaduct E1 PH segment erection	0		0%	0	21-Sep-15		01-Feb-19	942	942	0%
E100130-1	Pier E3D (E2a1) ready for Viaduct E1 PH segment erection	0		0%	0	09-Oct-15		23-Mar-16	133	126	0%
E100140-1	Pier E3C (E2a2) ready for Viaduct E1 PH segment erection	0		0%	0	06-Oct-15		19-Mar-15	-146	118	0%
E100150-1	Pier E3B (E2a3) ready for Viaduct E1 PH segment erection	0		0%	0	06-Oct-15		26-Feb-15	-164	107	0%
E100160-1	Pier E3A (E2a4) ready for Viaduct E1 PH segment erection	0		0%	0	30-Sep-15		30-Jan-15	-180	6	0%
Milestones Ready for Deck Segment Erection											
E100010	Pier A1 (A2e) ready for Viaduct E1 deck segment erection	0		0%	0	13-Nov-15		03-Jun-16	157	416	0%
E100050	Pier E1D (E1a1) ready for Viaduct E1 deck segment erection	0		0%	0	02-Dec-15		25-May-16	136	405	0%
E100060	Pier E1C (E1a2) ready for Viaduct E1 deck segment erection	0		0%	0	21-Nov-15		09-May-15	-146	132	0%
E100070	Pier E1B (E1a3) ready for Viaduct E1 deck segment erection	0		0%	0	07-Oct-15		30-May-15	-95	183	0%
E100080	Pier E1A (E1a4) ready for Viaduct E1 deck segment erection	0		0%	0	23-Sep-15		26-Jan-15	-179	81	0%
E100090	Pier E2D (E1b1) ready for Viaduct E1 deck segment erection	0		0%	0	26-Nov-15		30-Apr-16	122	394	0%
E100100	Pier E2C (E1b2) ready for Viaduct E1 deck segment erection	0		0%	0	24-Nov-15		13-Apr-15	-168	110	0%
E100110	Pier E2B (E1b3) ready for Viaduct E1 deck segment erection	0		0%	0	18-Nov-15		16-Mar-15	-183	95	0%
E100120	Pier E2A (E1b4) ready for Viaduct E1 deck segment erection	0		0%	0	29-Sep-15		16-Feb-15	-165	95	0%
Bridge E2 Superstructure											
Milestones											
Milestones Ready for PH Segment Erection											
E200010-1	Pier E3D (E2a1) ready for Viaduct E2 PH segment erection	0		0%	0	09-Oct-15		23-Mar-16	133	126	0%
E200020-1	Pier E3C (E2a2) ready for Viaduct E2 PH segment erection	0		0%	0	06-Oct-15		19-Mar-15	-146	118	0%
E200030-1	Pier E3B (E2a3) ready for Viaduct E2 PH segment erection	0		0%	0	06-Oct-15		26-Feb-15	-164	107	0%
E200040-1	Pier E3A (E2a4) ready for Viaduct E2 PH segment erection	0		0%	0	30-Sep-15		30-Jan-15	-180	6	0%
E200050-1	Pier E4B (E2b1) ready for Viaduct E2 PH segment erection	0		0%	0	07-Nov-15		29-May-15	-120	2	0%
E200060-1	Pier E4A (E2b2) ready for Viaduct E2 PH segment erection	0		0%	0	04-Nov-15		08-Apr-15	-155	2	0%
E200150-1	Pier E9B (E2g1) ready for Viaduct E2 PH segment erection	0		0%	0	11-Dec-15		26-Jun-15	-132	0	0%
E200160-1	Pier E9A (E2g2) ready for Viaduct E2 PH segment erection	0		0%	0	08-Dec-15		26-Sep-15	-56	0	0%
At-Grade Roadworks & Other Works along NLH											
Viaduct A Slope Works											
Slope 9SE-B/FR8											
GFXX485	9SE-B/FR8 - Protective Fencing	46	21-Sep-15	0%	46	18-Nov-15	10-Sep-15	09-Nov-15	-8	0	0%
GFXX490	9SE-B/FR8 - Mobilization for Mini Pile	3	19-Nov-15	0%	3	21-Nov-15	10-Nov-15	12-Nov-15	-8	0	0%
GFXX491	9SE-B/FR8 - Installation of Mini Pile (118 No.)	148	23-Nov-15	0%	148	31-May-16	13-Nov-15	20-May-16	-8	0	0%



Actual Work
Planned Bar
Critical Bar
Milestone

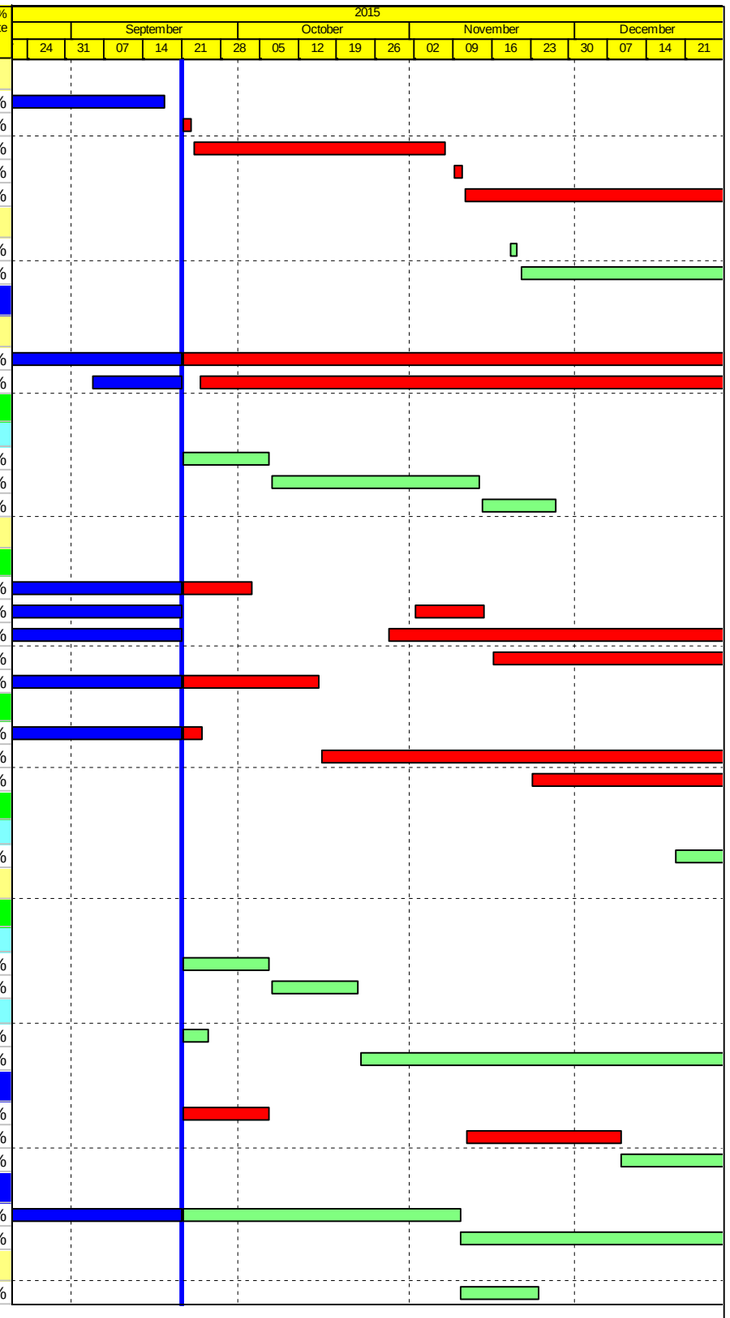
Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 31 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:
J3518/GCL/PGM/3MRP-M28

Activity ID	Activity Name	Orig. Durn.	Act. Start / FC Early Start	Duration % Complete	Rem. Durn.	Act. Finish / FC Early Finish	Late Start	Late Finish	Total Float	Free Float	Physical % Complete
At-Grade Roadworks along NLH Westbound											
RW10003	NLH W/B (Viaduct C) - Gantry Footing (GT326, GT327, GT328) - Verge (	54	05-May-15 A	100%	0	18-Sep-15 A					100%
RW10005	NLH W/B (Viaduct C) - Implement TTM - Verge for Gantry Footings (GT3	2	21-Sep-15*	0%	2	22-Sep-15	10-Aug-15	12-Aug-15	-31	0	0%
RW10007	NLH W/B (Viaduct C) - Gantry Footing (GT324, GT325) - Verge (KD3)	35	23-Sep-15	0%	35	07-Nov-15	13-Aug-15	26-Sep-15	-31	0	0%
RW10009	NLH W/B (Viaduct C) - Implement TTM - Median for Gantry Footings (GT:	2	09-Nov-15	0%	2	10-Nov-15	29-Sep-15	30-Sep-15	-31	0	0%
RW10009A	NLH W/B (Viaduct C) - Gantry Footing (GT326, GT327, GT328) - Median	72	11-Nov-15	0%	72	05-Feb-16	02-Oct-15	30-Dec-15	-31	0	0%
At-Grade Roadworks along NLH Eastbound											
RW21000	NLH E/B (Viaduct A) - Implement TTM - Verge for Slope Works & Gantry F	2	19-Nov-15	0%	2	20-Nov-15	12-Mar-16	14-Mar-16	92	0	0%
RW21001	NLH E/B (Viaduct A) - Gantry Footing (GT319, GT320) - Verge (KD5)	36	21-Nov-15	0%	36	05-Jan-16	15-Mar-16	03-May-16	92	0	0%
At-Grade Roadworks and Other Works along Cheung Tung Road											
Re-alignment of Cheung Tung Road adjacent to Viaduct B											
RW50020	CTR Re-alignment adj. to Via.B - Diversion of utilities (Gas, DN1000, powe	177	12-Jan-15 A	40.11%	106	30-Jan-16	27-Apr-15	18-Sep-15	-107	0	70%
RW50020A	CTR Re-alignment adj. to Via.B - Additional(gas, DN1000, telecom) utilities	114	05-Sep-15 A	10%	103	30-Jan-16	02-Jun-15	20-Oct-15	-83	24	10%
Viaduct B Slope Works											
Slope 9SE-B/F85											
SWVB4030	9SE-B/F85 - Form UC	12	21-Sep-15	0%	12	06-Oct-15	26-Sep-15	12-Oct-15	5	0	0%
SWVB4035	9SE-B/F85 - Install Geo. Instru. & Baseline Monitoring	30	07-Oct-15	0%	30	13-Nov-15	13-Oct-15	19-Nov-15	5	0	0%
SWVB4040	9SE-B/F85 - Hydroseeding	12	14-Nov-15	0%	12	27-Nov-15	20-Nov-15	03-Dec-15	5	112	0%
Re-alignment of Cheung Tung Road adjacent to Viaduct C											
West Portion											
RW61000	Realign CTR (West of Abut. C) - Site Clearance	42	03-Sep-14 A	76.19%	10	03-Oct-15	11-Apr-15	24-Apr-15	-118	9	100%
RW61010	Realign CTR (West of Abut. C) - Road drainage works	60	15-Jan-15 A	80%	12	14-Nov-15	27-Aug-15	11-Sep-15	-49	0	80%
RW61020	Realign CTR (West of Abut. C) - Utilily diversion	90	24-Mar-15 A	30%	63	13-Jan-16	12-Sep-15	01-Dec-15	-34	887	30%
RW61030	Realign CTR (West of Abut. C) - Sub-base work	48	16-Nov-15	0%	48	13-Jan-16	12-Sep-15	13-Nov-15	-49	0	0%
RW61082	Realign CTR (West of Abut. C) - Road formation	48	20-Nov-14 A	60.42%	19	15-Oct-15	27-Mar-15	24-Apr-15	-127	0	30%
East Portion											
RW60000	Realign CTR (East of Abut. C) - Site Clearance	48	23-Feb-15 A	91.67%	4	24-Sep-15	20-Apr-15	24-Apr-15	-112	15	0%
RW60005	Realign CTR (East of Abut. C) - Road formation	66	16-Oct-15	0%	66	06-Jan-16	25-Apr-15	25-Jul-15	-127	0	0%
RW60010	Realign CTR (East of Abut. C) - Road drainage works	60	23-Nov-15	0%	60	03-Feb-16	05-Jun-15	26-Aug-15	-127	0	0%
Viaduct C Slope Works											
Slope 10NW-C/F15											
SWVC6000	10NW-C/F15 - Slope works	24	19-Dec-15	0%	24	19-Jan-16	27-Aug-16	26-Sep-16	188	0	0%
Natural Terrain Hazard Mitigation Works											
NTHM Works - West Portion											
Check Dam no. 2 (CD2)											
GFXX510	CD2 - Selection of load test	12	21-Sep-15	0%	12	06-Oct-15	09-Dec-15	22-Dec-15	63	0	0%
GFXX511	CD2 - Loading Test	12	07-Oct-15	0%	12	22-Oct-15	23-Dec-15	08-Jan-16	63	0	0%
Check Dam no. 3 (CD3)											
GFXX515	CD3 - Mobilization of rig for Tie Back	5	21-Sep-15	0%	5	25-Sep-15	04-Jan-16	08-Jan-16	82	19	0%
GFXX516	CD3 - Installation of Tie Back (30nos.)	67	23-Oct-15	0%	67	13-Jan-16	09-Jan-16	02-Apr-16	63	0	0%
At grade Roadworks and Other Works at Southern Landfall											
RW30005	South Landfall - Initial record survey	12	21-Sep-15	0%	12	06-Oct-15	18-Sep-15	03-Oct-15	-2	28	0%
RW30010	South Landfall - Mobilisation for Portion B Works	24	11-Nov-15	0%	24	09-Dec-15	05-Oct-15	04-Nov-15	-30	0	0%
RW30014	South Landfall - DN300 Fresh water main works installation & connection (I	60	09-Dec-15	0%	60	24-Feb-16	24-Mar-16	18-Jun-16	85	0	0%
Watermains & All Assoc Works from Tung Chung to Southern Landfall											
WM00120	Lay DN450 Fresh Water Main along re-aligned CTR (app. 500 m at 12m/c	48	22-Apr-15 A	20%	38	10-Nov-15	25-May-16	20-Jul-16	193	0	20%
WM00150	Lay DN450 watermain from Tung Chung to realigned CTR (1st 500m - 2 w	50	10-Nov-15	0%	50	11-Jan-16	22-Jul-16	22-Sep-16	193	0	0%
Pressure Testing											
TC00010	Pressure Test DN450 Fresh Water Main along re-aligned CTR (app. 520 n	12	10-Nov-15	0%	12	24-Nov-15	18-Mar-17	31-Mar-17	383	630	0%



Actual Work
Planned Bar
Critical Bar
Milestone

Project ID: J3518DWPrE1-M28
Layout: J3518-DWP-3MRP Submission - M28
Filter: TASK filters: 3-Month Lookahead, No CC Milestones, No Level of Effort.

Tuen Mun - Chek Lap Kok Link - Southern Connection
3-Month Rolling Programme (Page 32 of 32 Pages)
(Progress as of 21-Sep -15)

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

DWG. No.:

J3518/GCL/PGM/3MRP-M28

Appendix C

Environmental Mitigation and Enhancement Measure Implementation Schedules

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

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

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

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

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

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

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
			construction during bored piling						
8.14	6.3,6.5	Avoidance of peak CWD calving season in May and June for driving of metal caissons during bored piling works	Southern marine viaduct/ May and June during bored piling	Contractor	TMEIA		Y		n/a
8.14	6.3,6.5	Specification and implementation of 250m dolphin exclusion zone.	All marine bored piling and temporary staging works areas/Detailed Design/during all marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.5	Specification and deployment of an artificial reef of an area of 3,600 m^2 in an area where fishing activities are prohibited.	Area of prohibited fishing activities/Detailed Design/towards end of construction period	TM-CLKL/ HKBCF Design Consultant/ TM-CLKL/ HKBCF Contractor	TMEIA	Y		Y	n/a To be enforced by AFCD.
8.14	6.3, 6.5	Specification and implementation of marine vessel control specifications	All areas/Detailed Design/during construction works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.14	6.3, 6.5	Design and implementation of acoustic decoupling methods for marine bored piling and the whole lifespan of temporary staging works.	All areas/ Detailed Design/during marine bored piling and temporary staging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.4	Pre-construction phase survey and coral translocation	Tai Ho Wan (donar site) and Yam Tsui Wan (receptor site) /Detailed Design/Prior to construction	Design Consultant/ Contractor	TMEIA	Y	Y		n/a
8.15	6.5	Audit coral translocation success	Yam Tsui Wan (receptor site)/Post translocation	Contractor	TMEIA		Y		**Completed in October 2014**
7.13	6.5	Undertaken gabion wall works in Stream NL1 in the dry season	North Lantau slope works/dry	Contractor	TMEIA		Y		n/a

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

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
10.9	7.6	Recycle/Reuse all felled trees and vegetation, e.g. mulching (CM9)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		n/a No felled trees or vegetation for recycle
10.9	7.6	Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006 (CM10).	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/ L CSD
10.9	7.6	Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a To be implemented by HyD/LCSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and minimise unnecessary light spill (OM3)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement (OM4)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD
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	All areas / throughout construction period	Contractor	TMEIA		Y		✓

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
12.6	8.1	The Contractor should recycle as many C&D materials (this is a waste section) as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: - 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;	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	
		- Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and - Incompatible materials are adequately separated.							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All waste containers shall be in a secure area on hard standing;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to	Site Offices/ throughout	Contractor	TMEIA		Y		✓

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

Notes:

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

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

Status:

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

Appendix D

Summary of Action and Limit Levels

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

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

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

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

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

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

Notes:

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

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

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

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

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

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

Table D4 Action and Limit Levels for Impact Dolphin Monitoring

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

Notes:

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

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

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

Appendix E

EM&A Monitoring Schedules

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

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

HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Marine Water Quality Monitoring (WQM) Schedule (October15)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-Oct	02-Oct	03-Oct
				WQM Mid-Flood 9:18 (07:33 - 11:03) Mid-Ebb 15:09 (13:24 - 15:64)		**(Cancelled due to adverse weather)**
04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct
		WQM Mid-Ebb 7:46 (06:01 - 09:31) Mid-Flood 15:49 (14:04 - 17:34)		WQM Mid-Ebb 10:07 (08:22 - 11:52) Mid-Flood 17:10 (15:25 - 18:22)		WQM Mid-Ebb 11:34 (09:49 - 13:19) Mid-Flood 17:57 (16:12 - 19:42)
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
		WQM Mid-Ebb 13:14 (11:29 - 14:59) Mid-Flood 19:06 (17:21 - 20:51)		WQM Mid-Flood 8:23 (06:38 - 10:08) Mid-Ebb 14:16 (12:31- 16:01)		WQM Mid-Flood 9:47 (08:02 - 11:32) Mid-Ebb 15:29 (13:44 - 17:14)
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
		WQM Mid-Flood 13:21 (11:36 - 15:06) Mid-Ebb 18:33 (17:30 - 19:30)		WQM Mid-Ebb 7:28 (05:43 - 09:13) Mid-Flood 15:31 (13:46 - 17:16)		WQM Mid-Ebb 9:59 (08:14 - 11:44) Mid-Flood 16:52 (15:07 - 18:37)
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
		WQM Mid-Ebb 12:31 (10:46 - 14:16) Mid-Flood 18:31 (16:46 - 20:16)		WQM Mid-Flood 8:24 (06:39 - 10:09) Mid-Ebb 14:08 (12:23 - 15:53)		WQM Mid-Flood 10:15 (08:30 - 12:00) Mid-Ebb 15:41 (13:56 - 17:26)

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov
		WQM Mid-Flood 14:09 (12:24 - 15:54) Mid-Ebb 19:16 (18:40 - 19:50)		**WQM** Mid-Ebb 8:09 (06:24 - 09:54) Mid-Flood 15:46 (14:01 - 17:31)		**WQM** Mid-Ebb 10:16 (08:31 - 12:01) Mid-Flood 16:43 (14:58 - 18:28)
08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov
		WQM Mid-Ebb 12:13 (10:28 - 13:58) Mid-Flood 17:58 (16:13 - 19:43)		**WQM** Mid-Ebb 13:22 (11:37 - 15:07) Mid-Flood 17:58 (16:13 - 19:43)		**WQM** Mid-Flood 9:00 (07:15 - 10:45) Mid-Ebb 14:36 (12:51 - 16:21)
15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov
		WQM Mid-Flood 11:34 (09:49 - 13:19) Mid-Ebb 16:57 (15:12 - 18:42)		**WQM** Mid-Flood 13:54 (12:09 - 15:39) Mid-Ebb 19:53 (18:08 - 21:38)		**WQM** Mid-Ebb 8:17 (06:32 - 10:02) Mid-Flood 15:30 (13:45 - 17:15)
22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov
		WQM Mid-Ebb 11:24 (09:39 - 13:09) Mid-Flood 17:22 (15:37 - 19:07)		**WQM** Mid-Ebb 13:09 (11:24 - 14:54) Mid-Flood 18:35 (16:50 - 20:20)		**WQM** Mid-Flood 9:17 (07:32 - 11:02) Mid-Ebb 14:40 (12:55 - 16:25)
29-Nov	30-Nov					

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

Alternative Noise Monitoring at Pak Mong Village Entrance

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

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 duetoadverse (safety, weather etc) conditions.

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

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

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

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 duetoadverse (safety, weather etc) conditions.

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

Alternative Noise Monitoring at Pak Mong Village Entrance

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

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

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

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

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

Alternative Noise Monitoring at Pak Mong Village Entrance

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

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

Alternative Air Quality Monitoring at WA4 and MTRC Depot Entrance

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

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

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

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

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

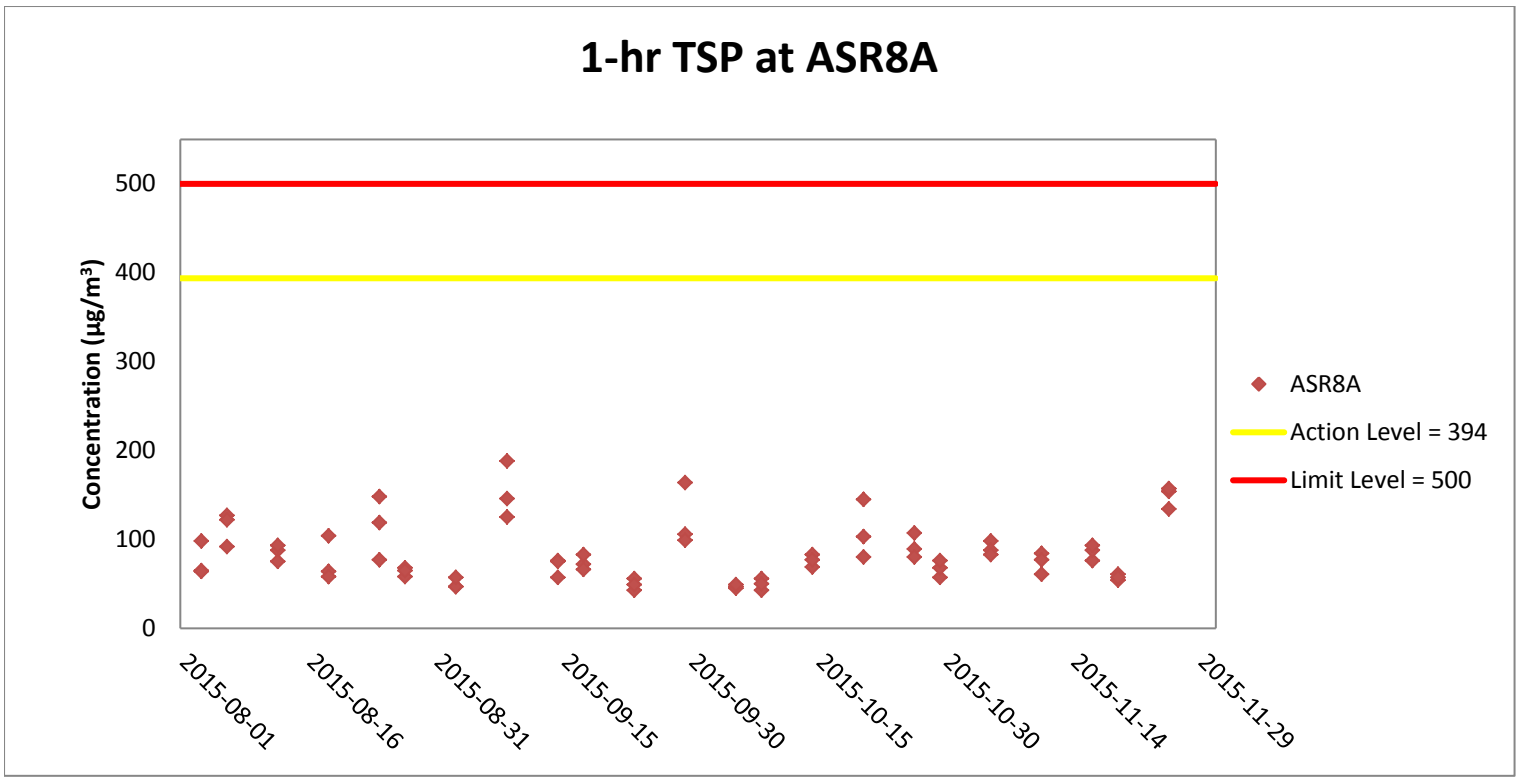
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-Oct	02-Oct	03-Oct
04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct
		Impact Dolphin Monitoring				
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
		Impact Dolphin Monitoring				
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
	Impact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

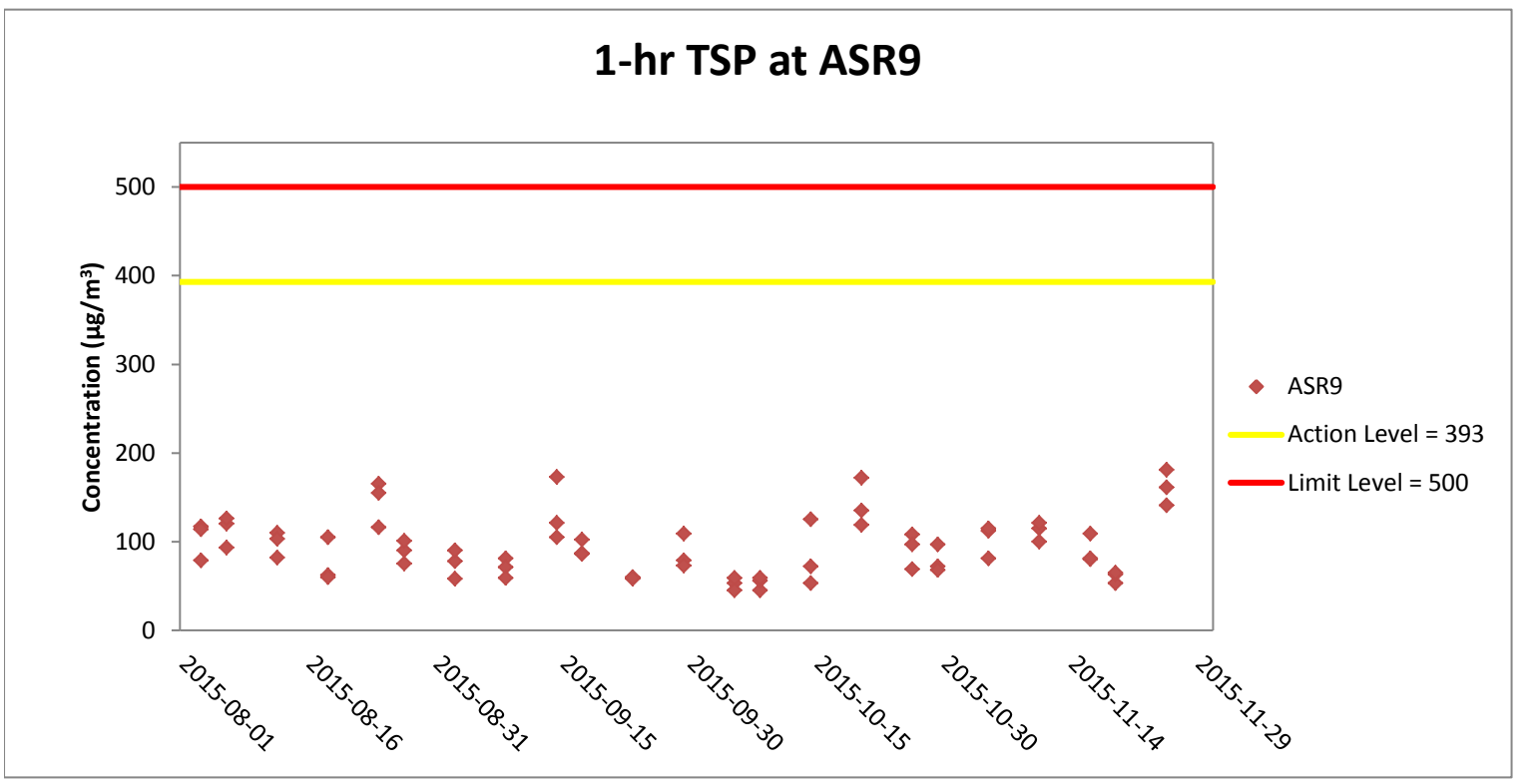
HY/2012/07 Tuen Mun - Chek Lap Kok Link - Southern Connection Viaduct Section
Impact Dolphin Monitoring Survey Schedule (1 to 30 November 2015)

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

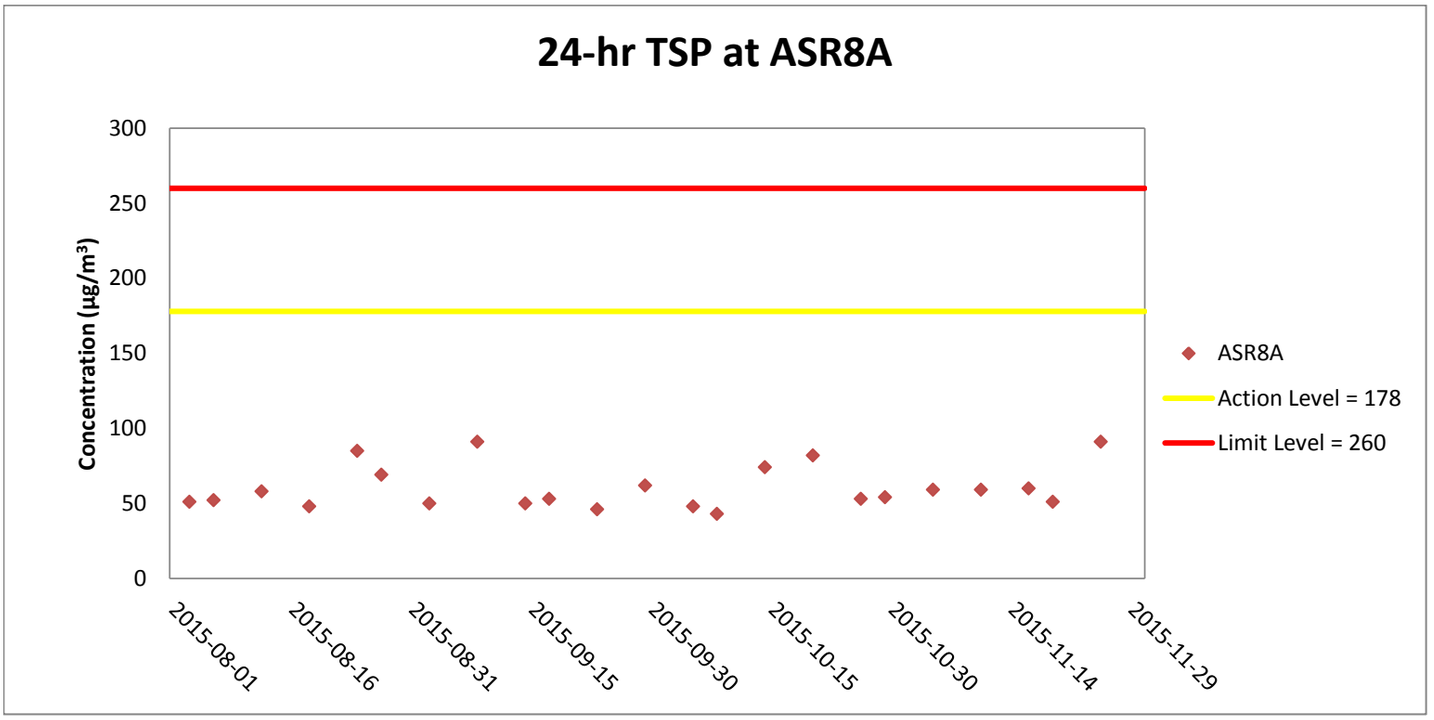
Appendix F

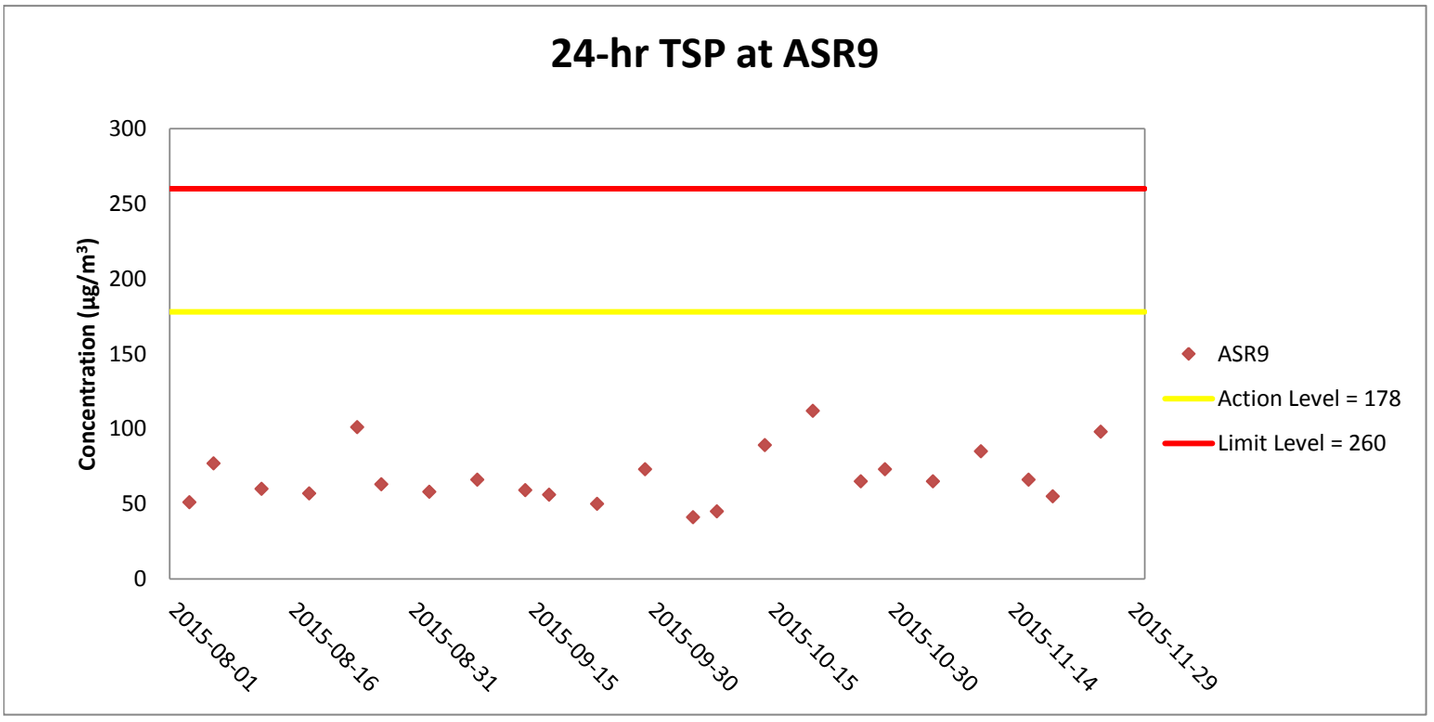
Impact Air Quality Monitoring Graphical Presentation





Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Predrilling at Viaduct F; Construction and installation of pile caps; Pier construction; Re-alignment of Cheung Tung Road; Land piling; Installation of pier head segment; Additional land GI, trial pits & lab testing; Relocation of MTRC fence; and Slope work of Viaducts A, B & C.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry assembly & operation; Marine piling; and Installation of pier head segment.

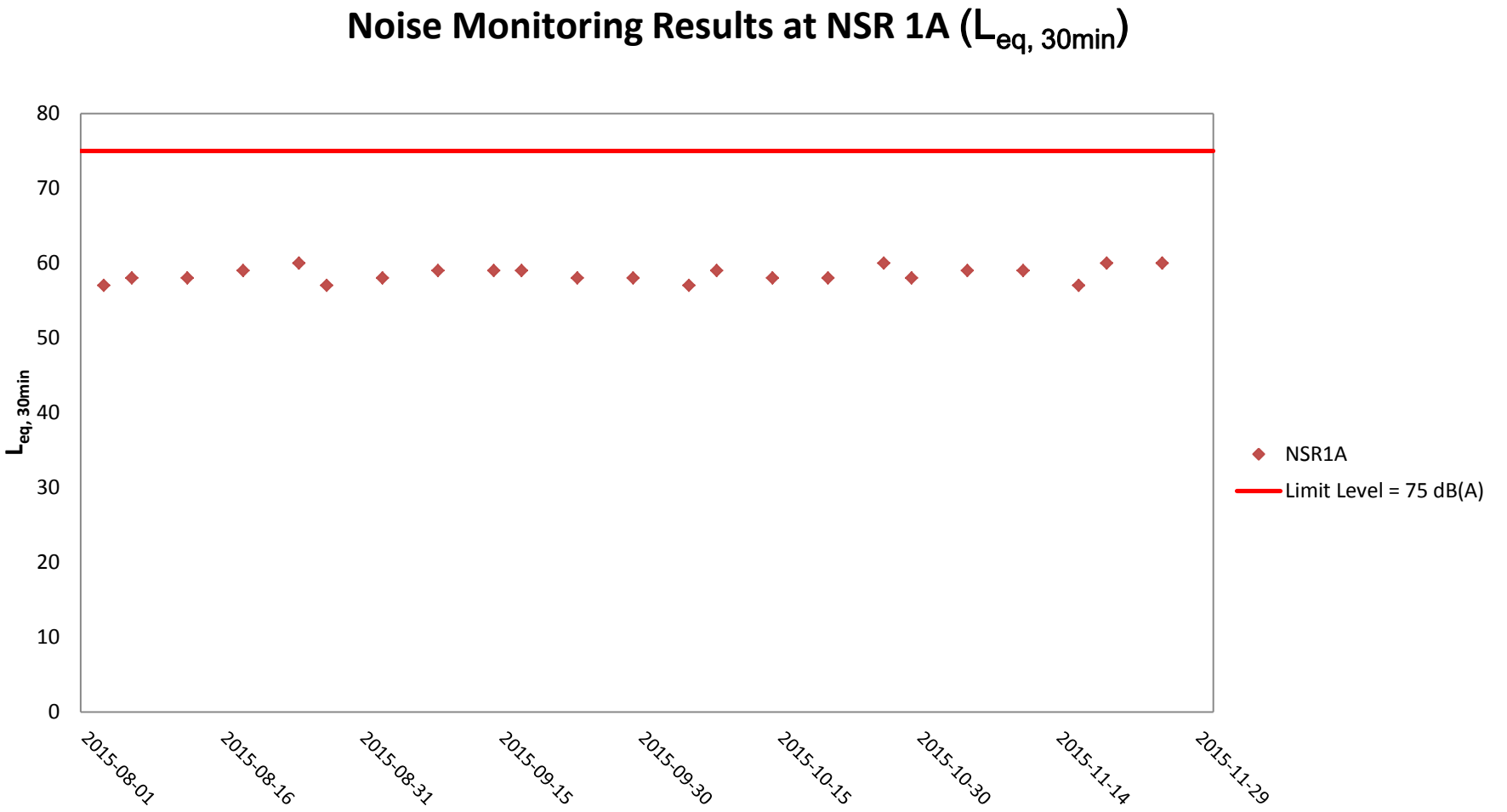




Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Predrilling at Viaduct F; Construction and installation of pile caps; Pier construction; Re-alignment of Cheung Tung Road; Land piling; Installation of pier head segment; Additional land GI, trial pits & lab testing; Relocation of MTRC fence; and Slope work of Viaducts A, B & C.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry assembly & operation; Marine piling; and Installation of pier head segment.

Appendix G

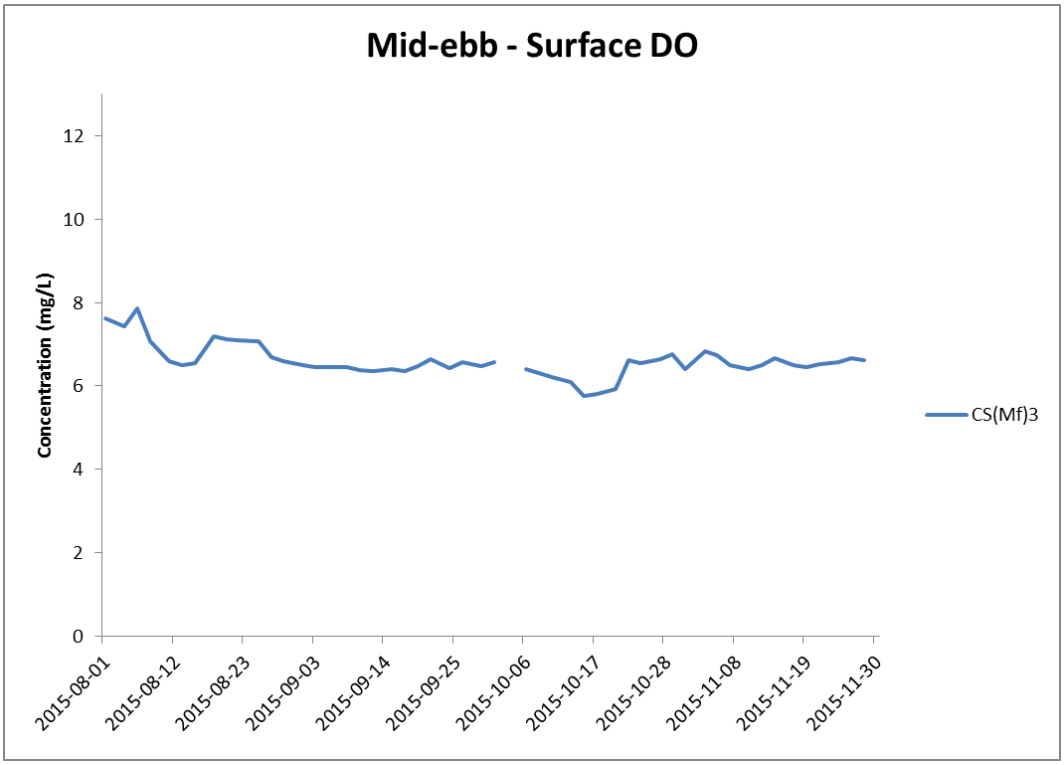
Impact Noise Monitoring Graphical Presentation



Weather condition within the reporting period varied between sunny to rainy.
Major construction works undertaken within the reporting period include Predrilling at Viaduct F; Construction and installation of pile caps; Pier construction; Re-alignment of Cheung Tung Road; Land piling; Installation of pier head segment; Additional land GI, trial pits & lab testing; Relocation of MTRC fence; and Slope work of Viaducts A, B & C.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pier construction; Launching gantry assembly & operation; Marine piling; and Installation of pier head segment.

Appendix H

Impact Water Quality Monitoring Graphical Presentation



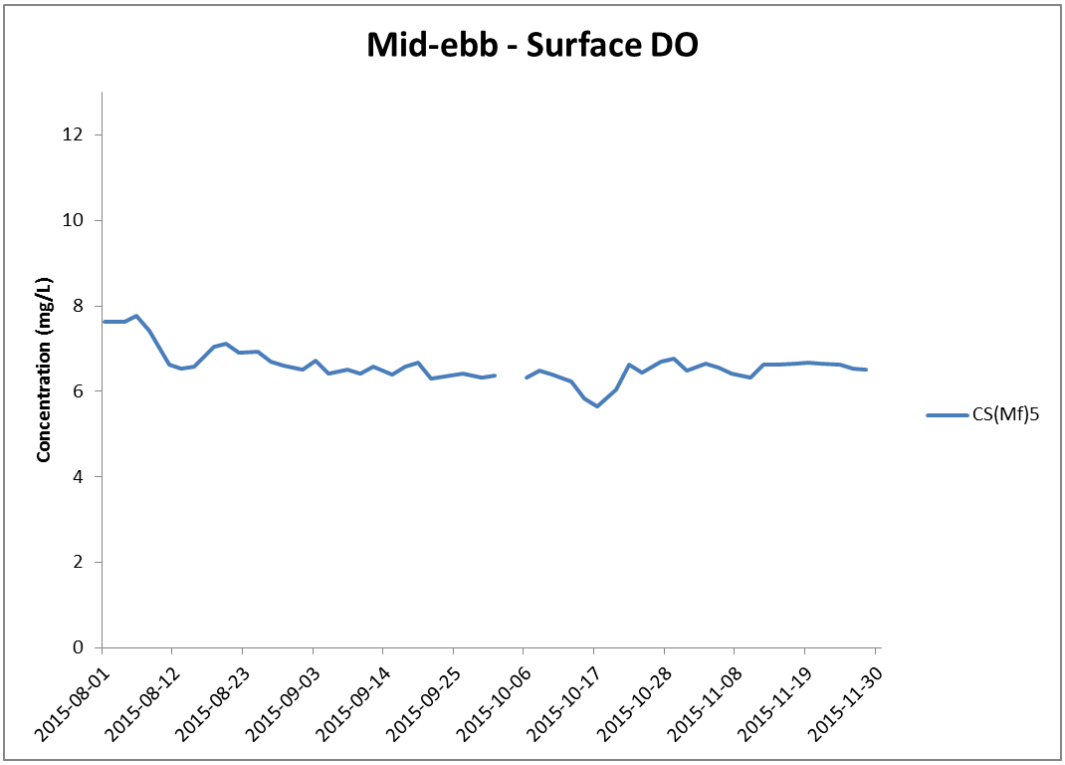
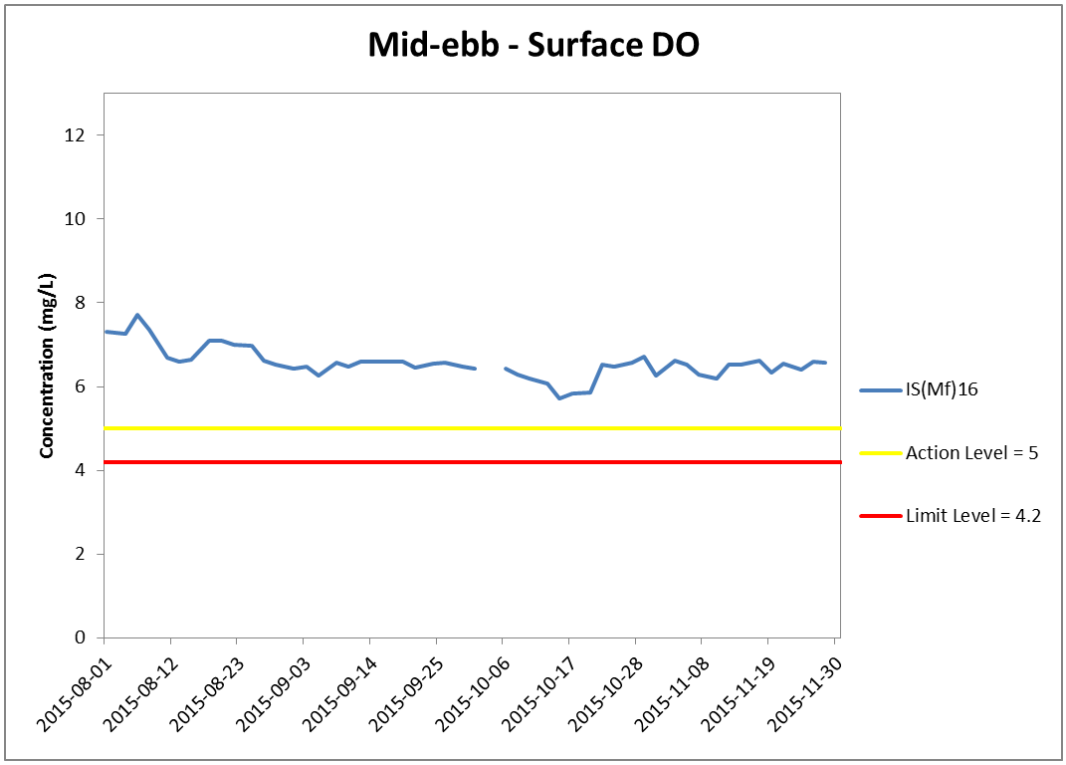


Figure H1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



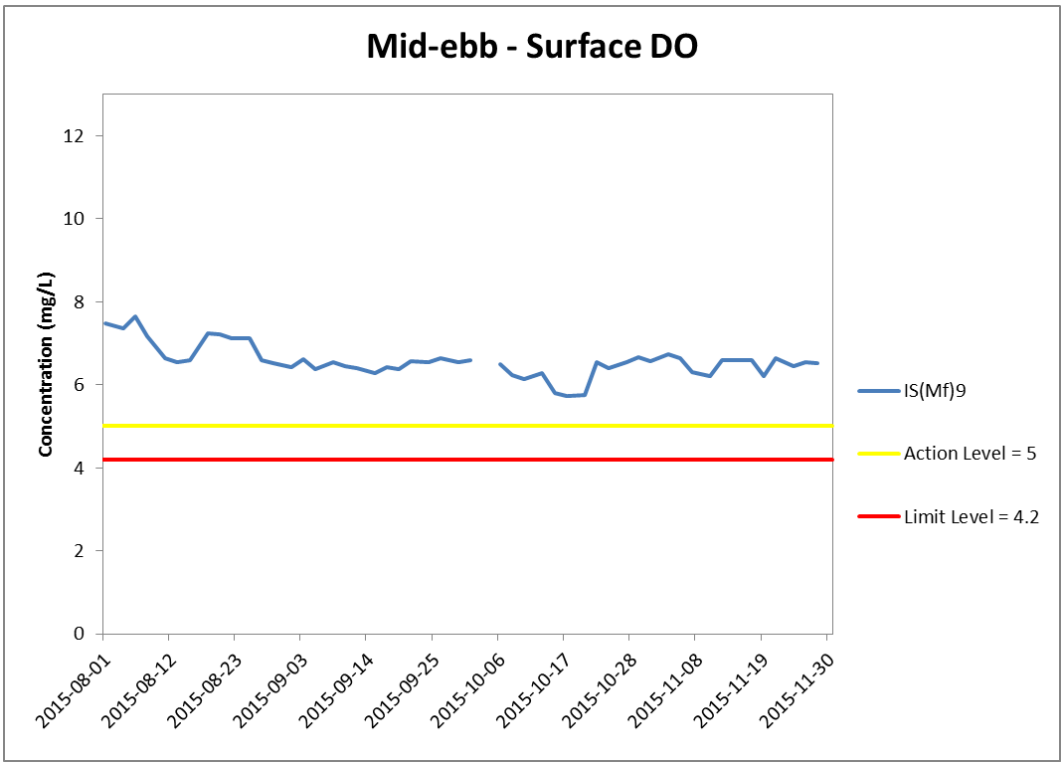
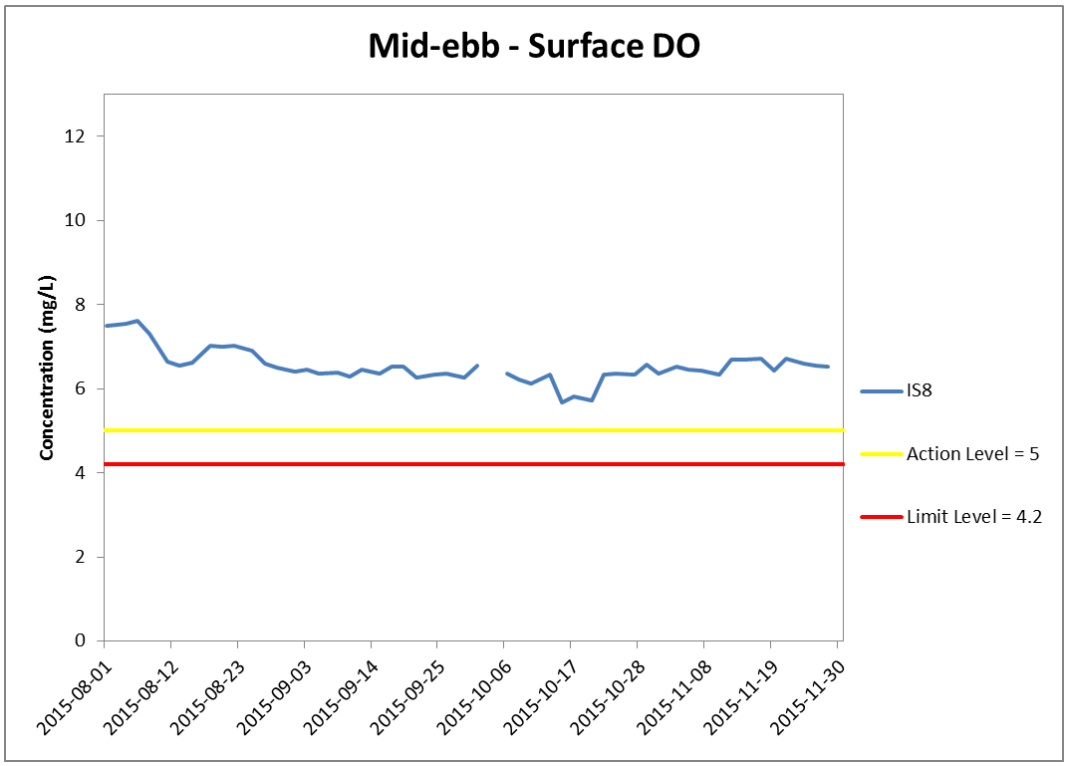


Figure H2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



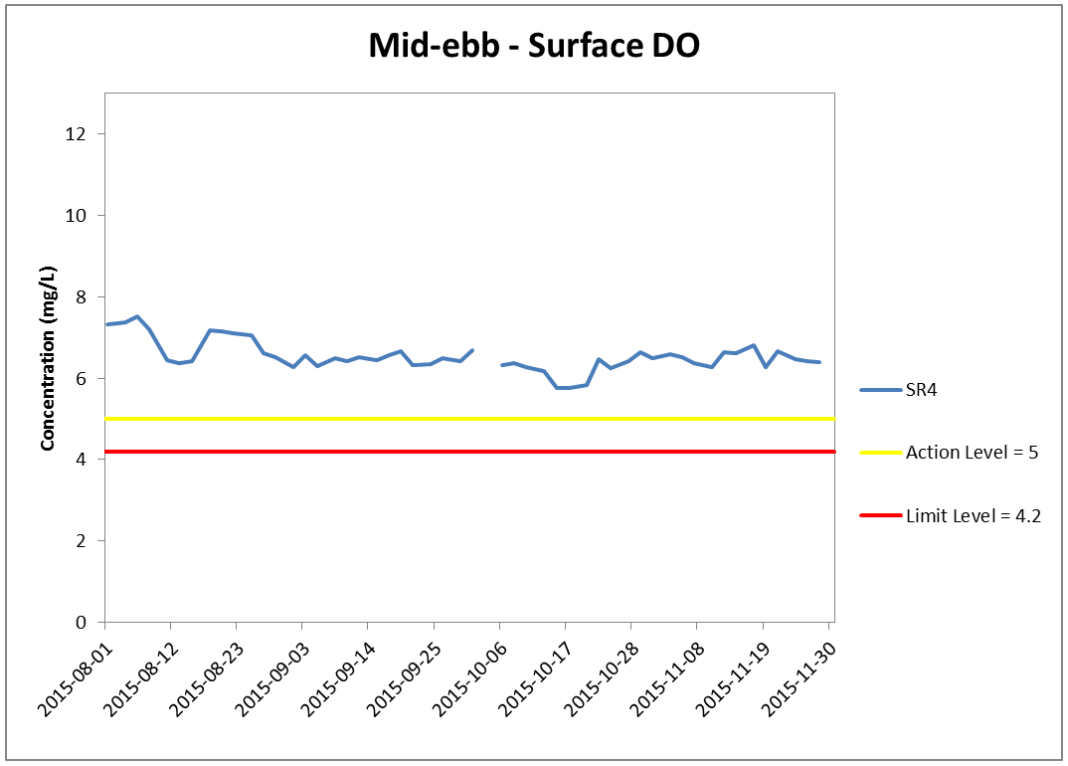


Figure H3 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and

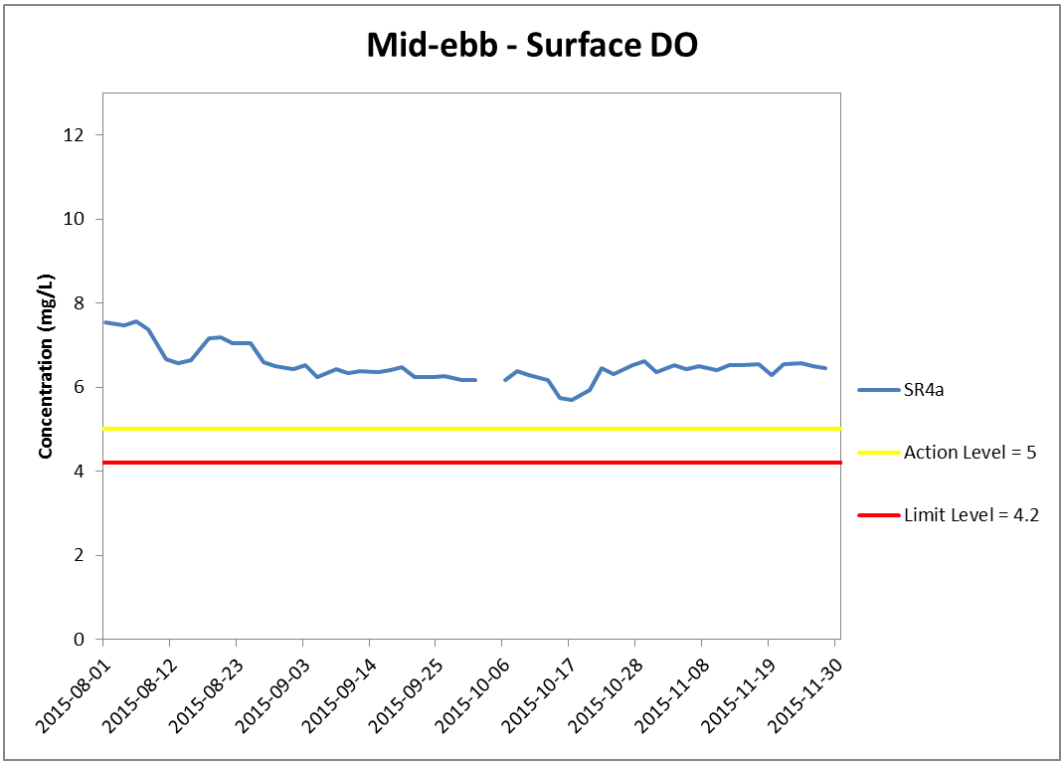
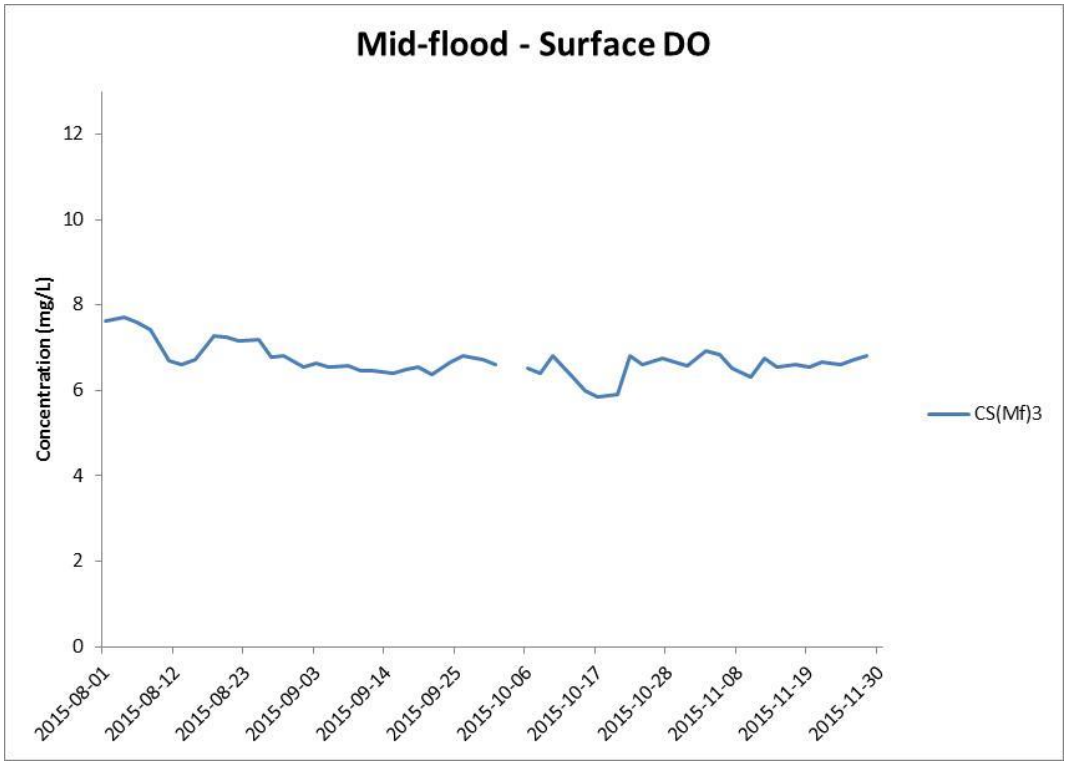


Figure H4 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-ebb tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



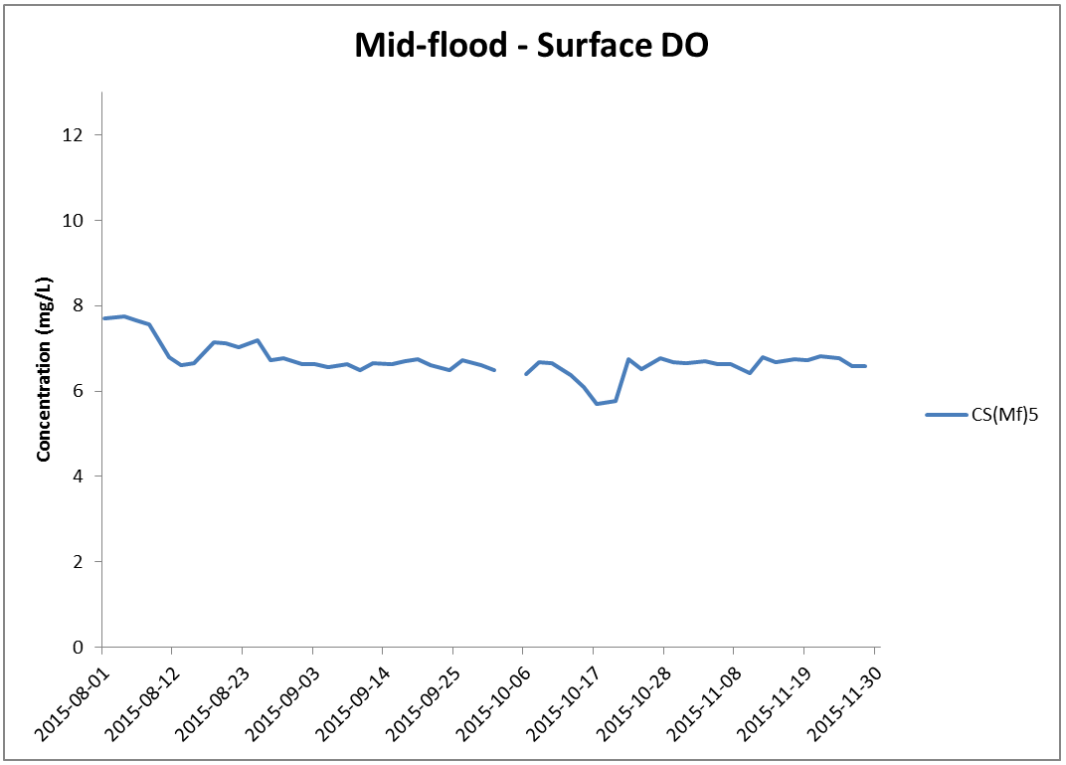
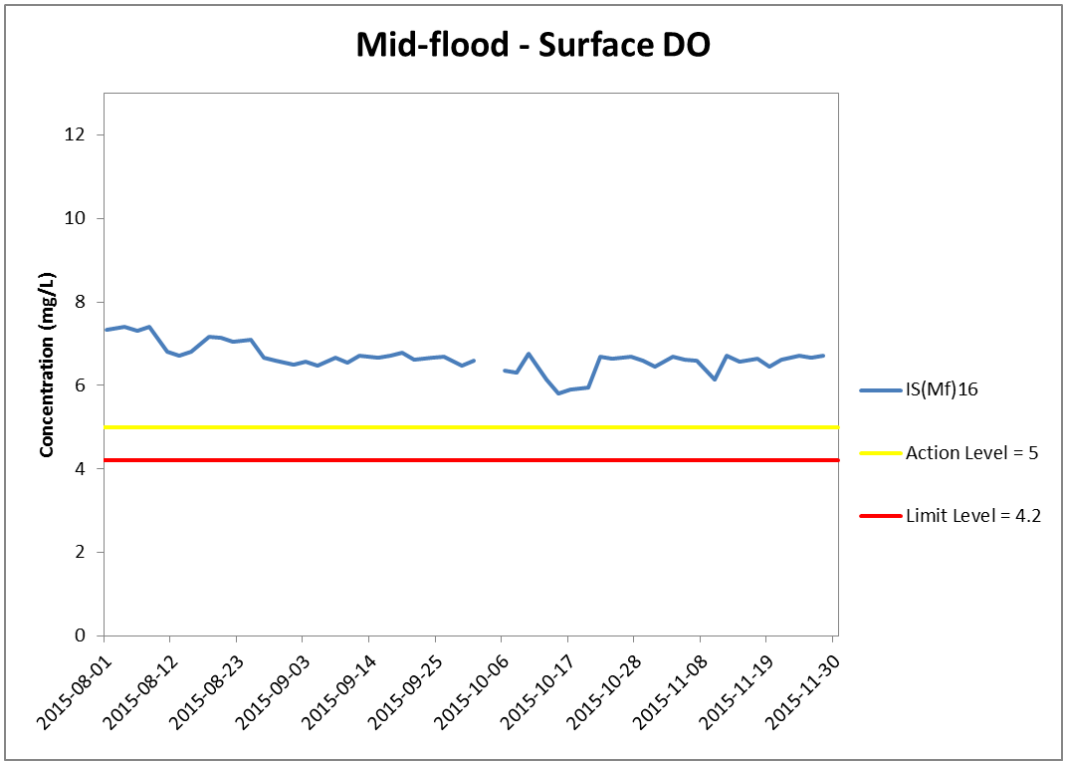


Figure H5 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



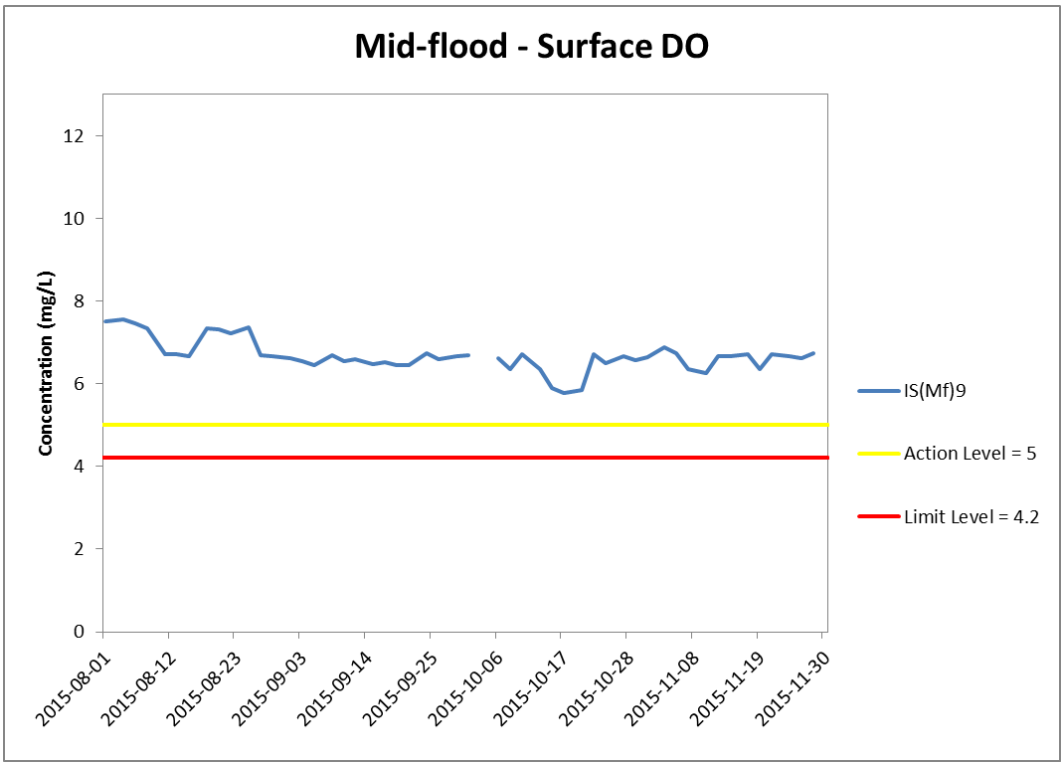
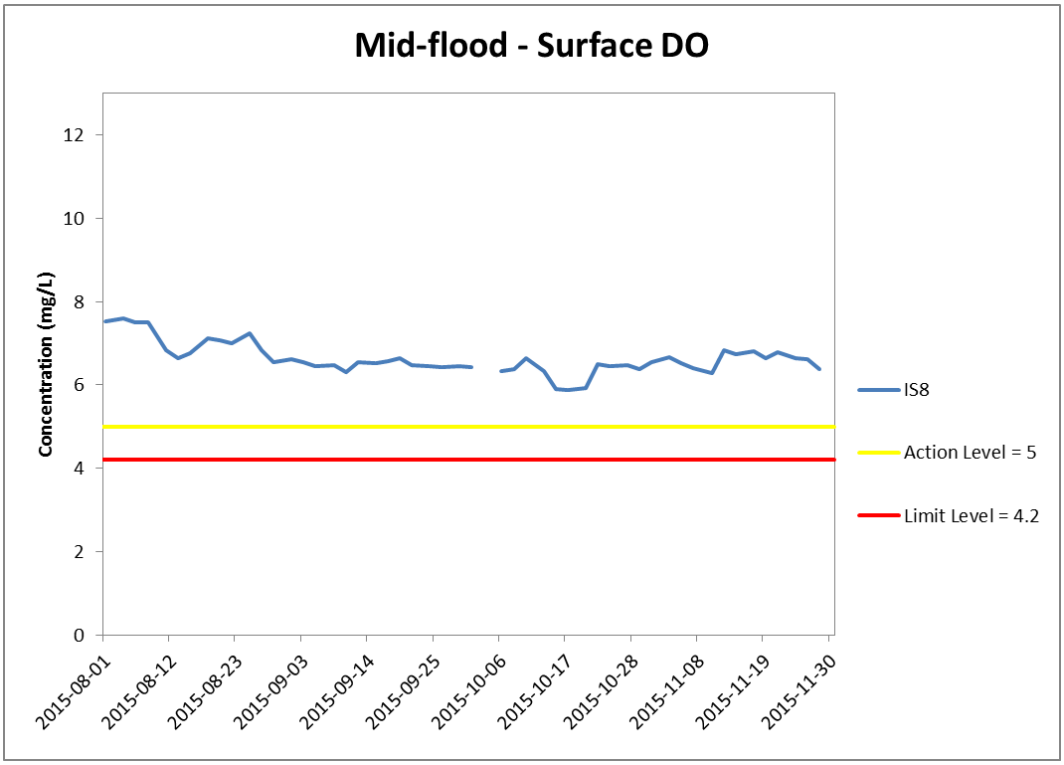


Figure H6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



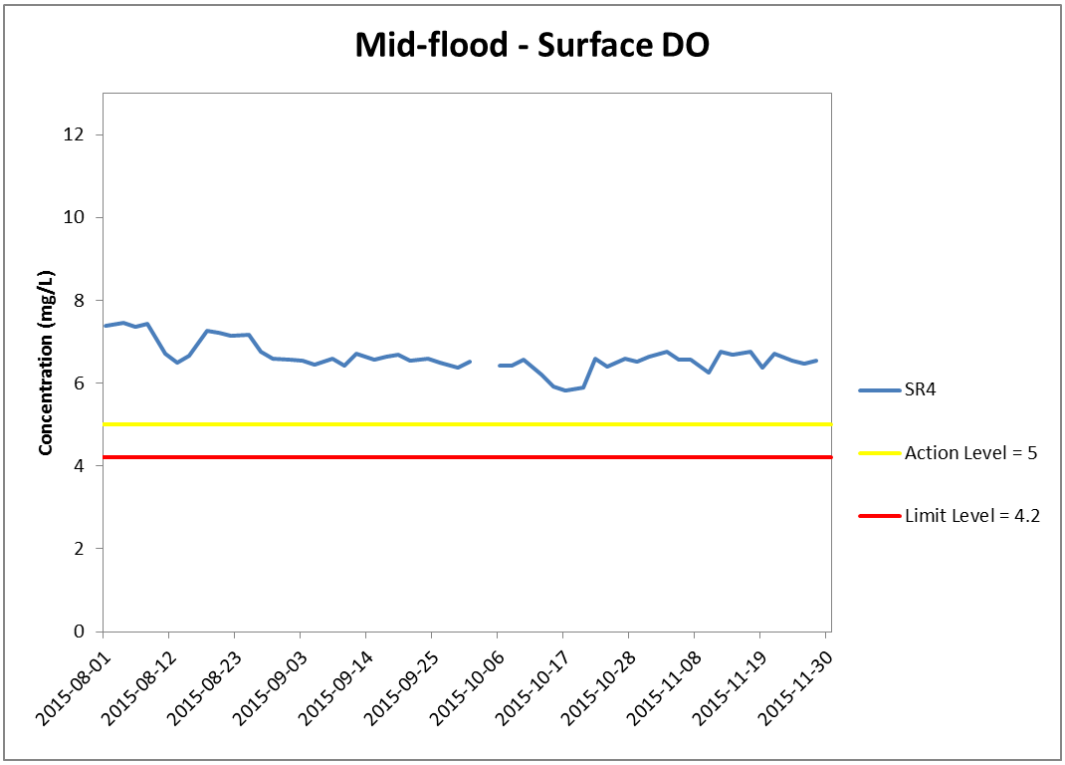


Figure H7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

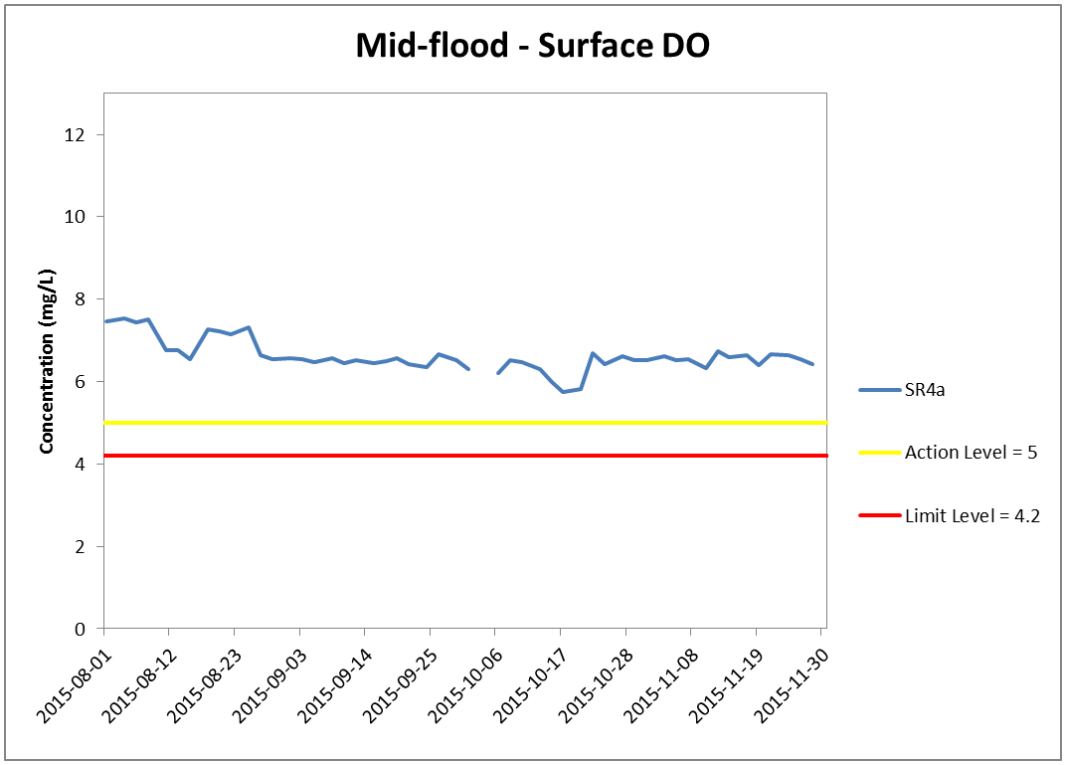
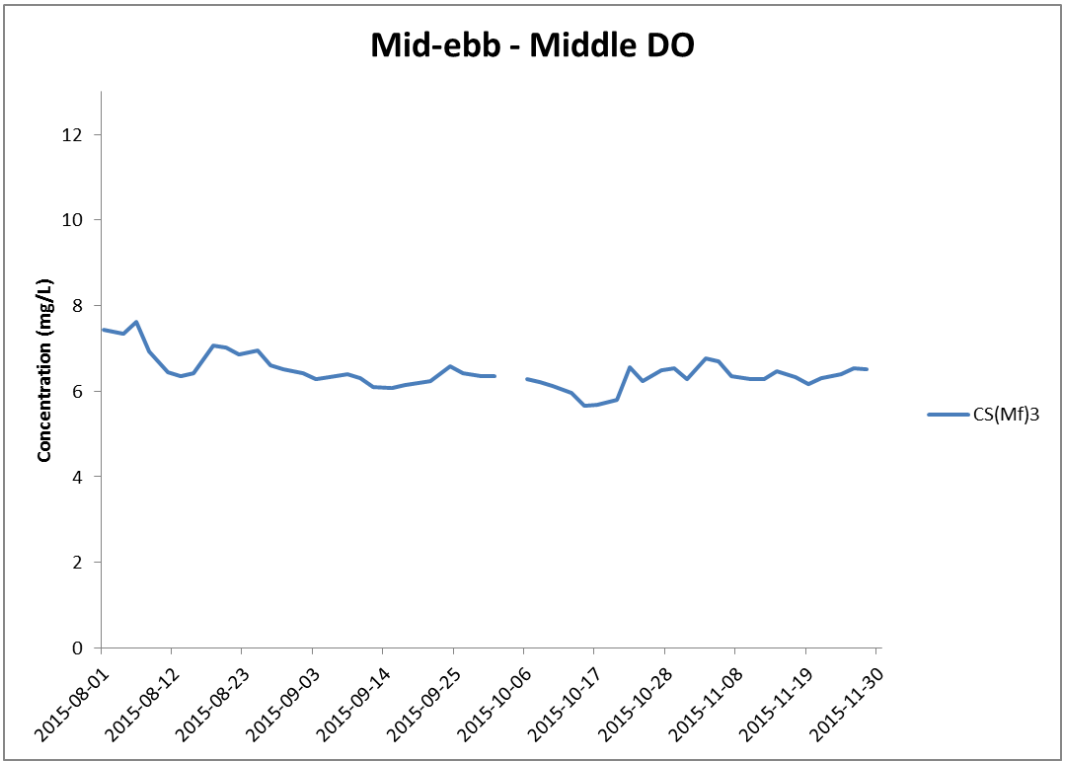


Figure H8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters during mid-flood tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



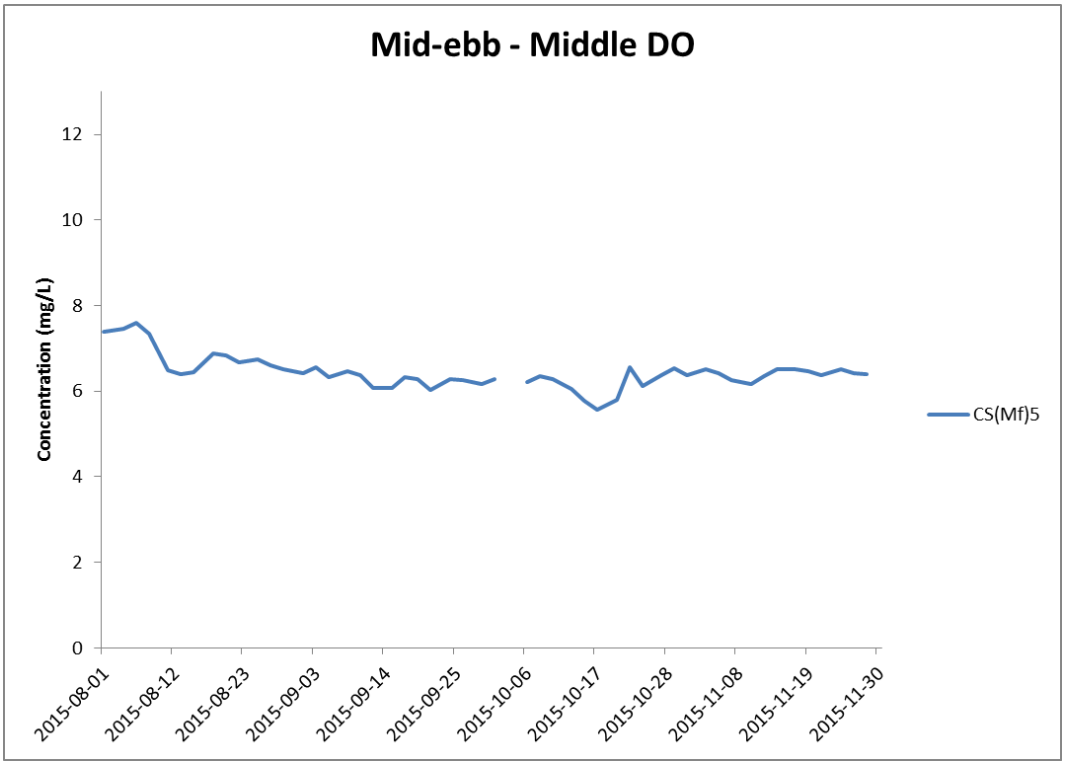


Figure H9 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period. Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

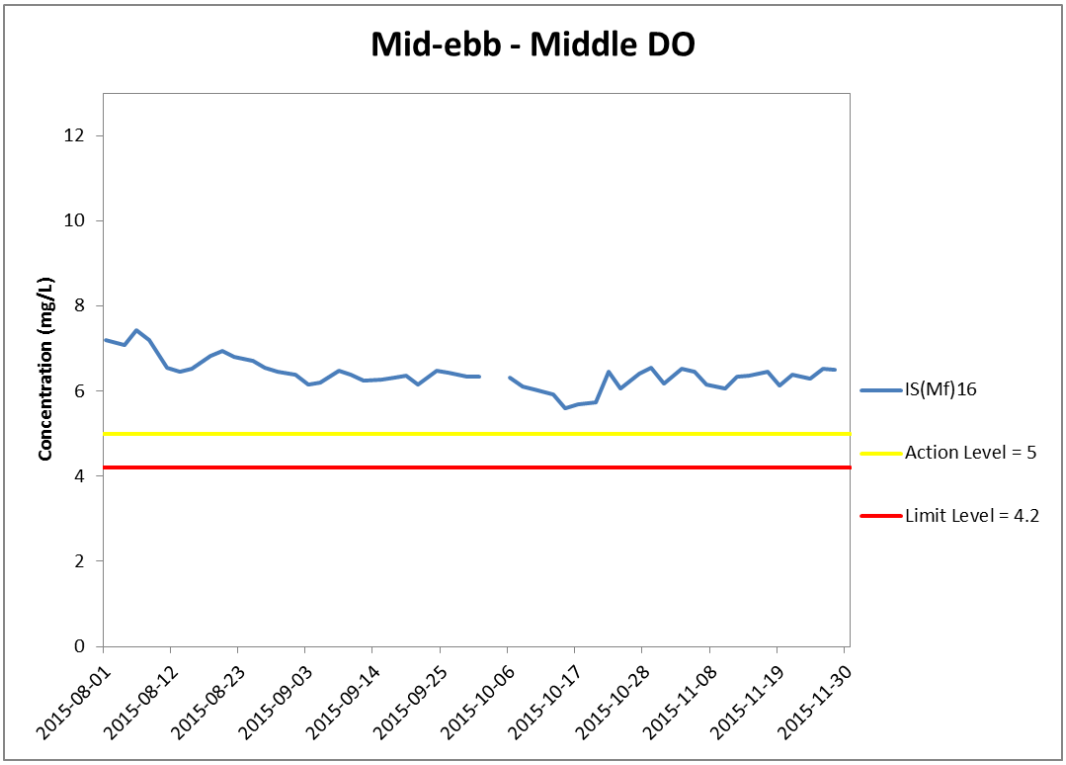
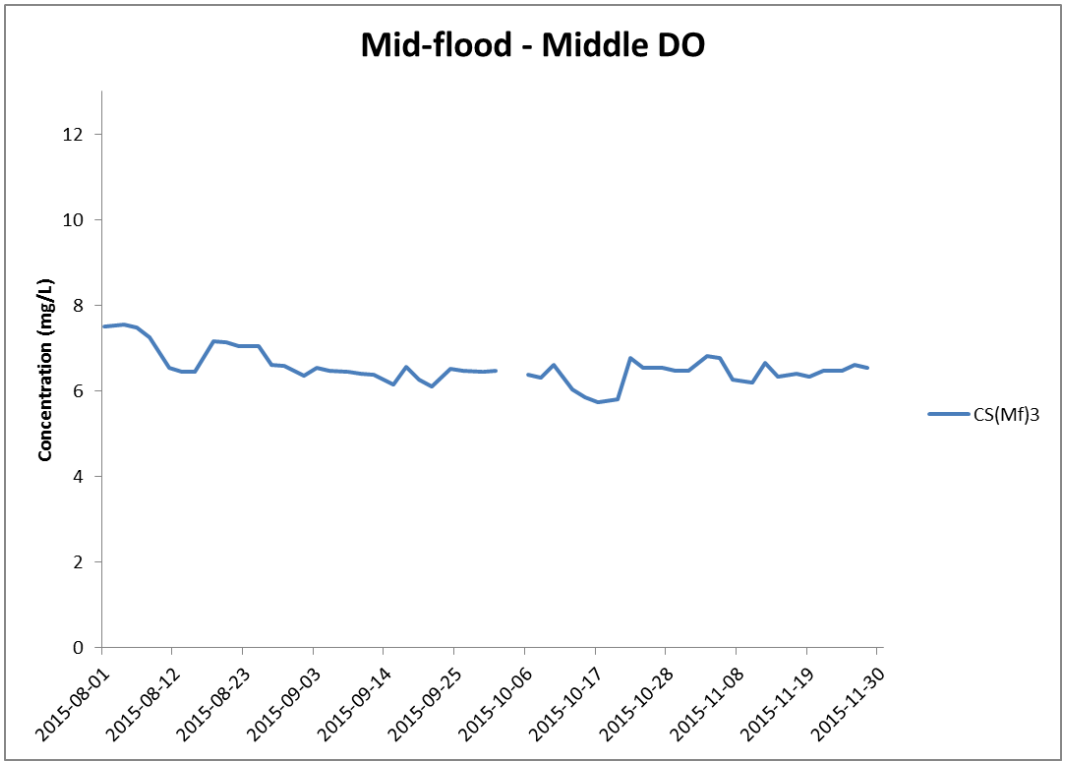


Figure H10 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-ebb tide between 1 August and 30 November 2015 at IS(Mf)16.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



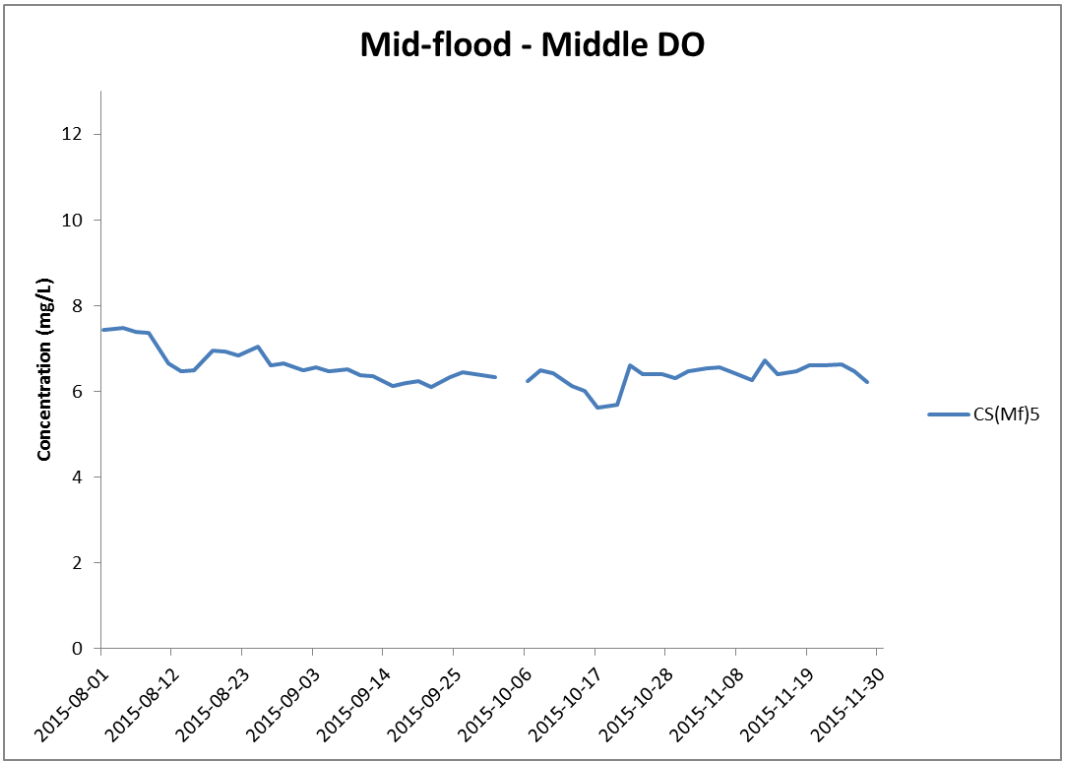


Figure H11 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM

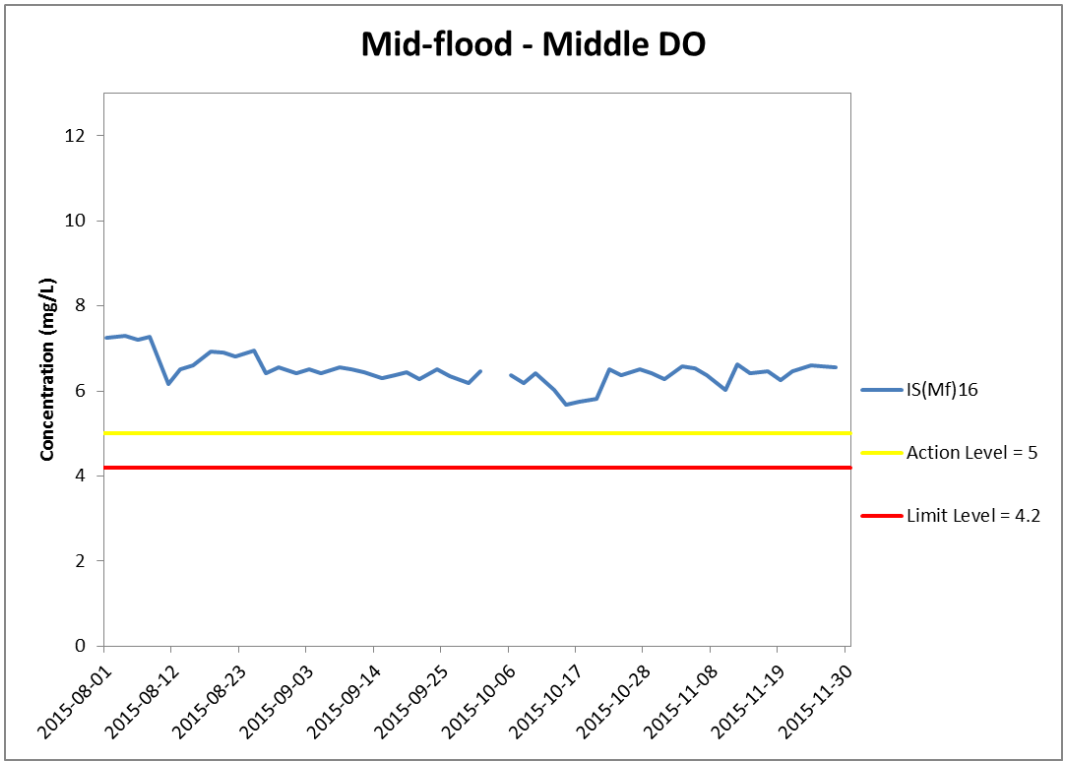
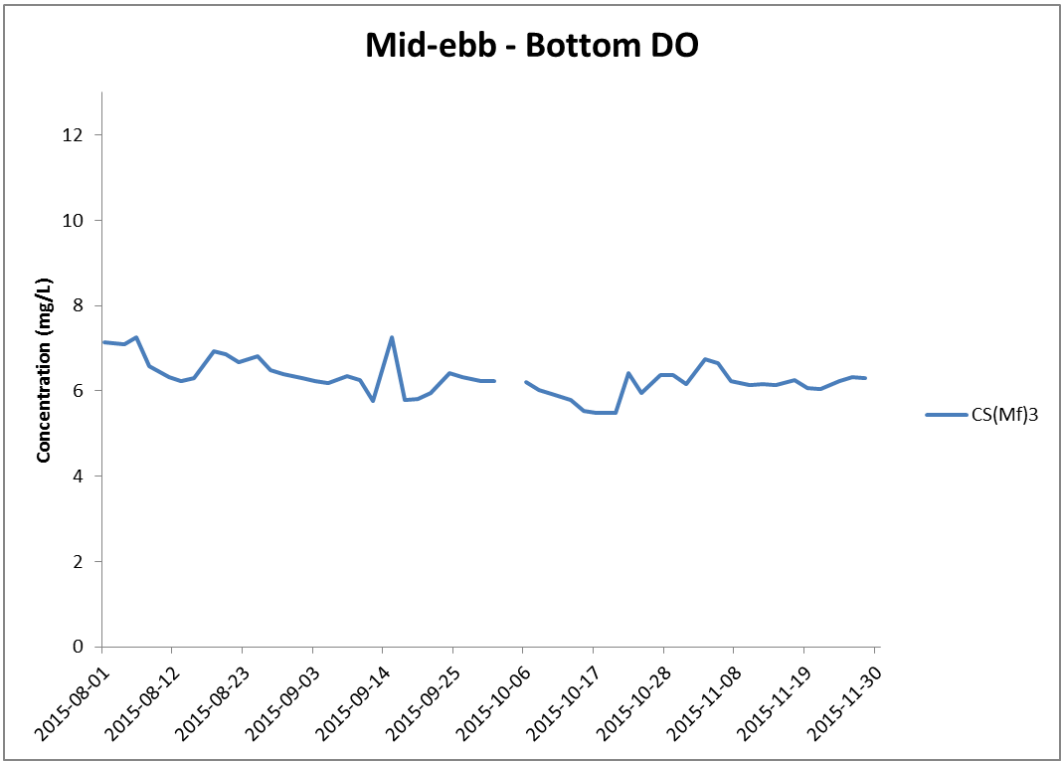


Figure H12 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters during mid-flood tide between 1 August and 30 November 2015 at IS(Mf)16.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



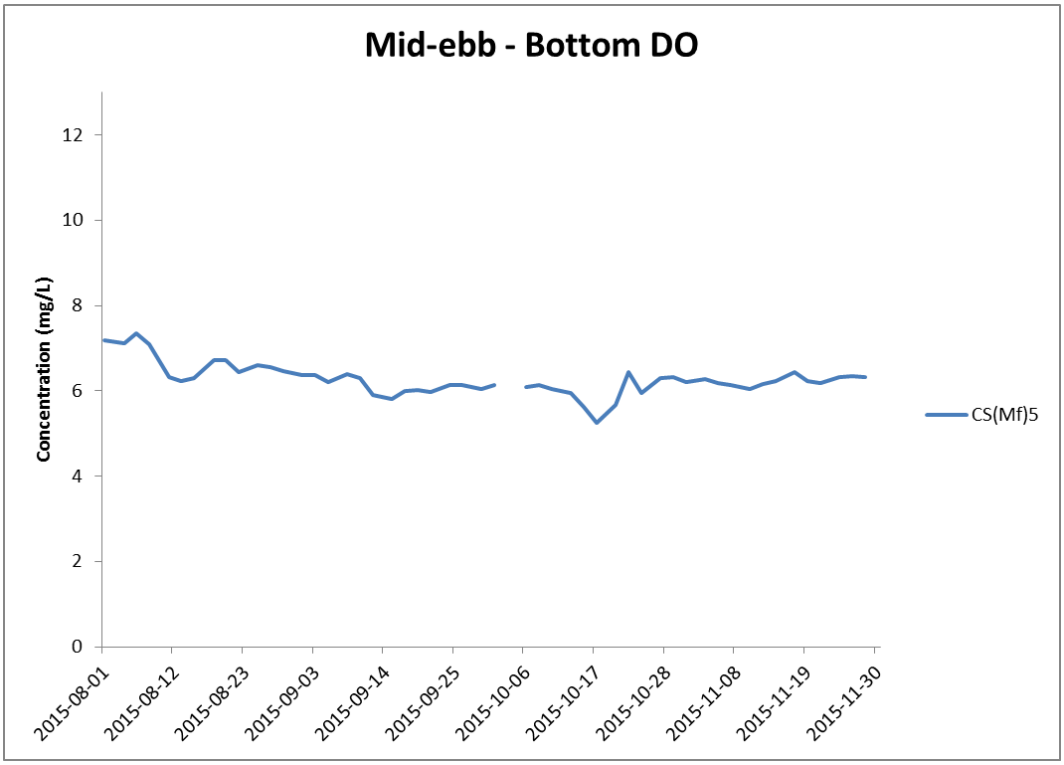
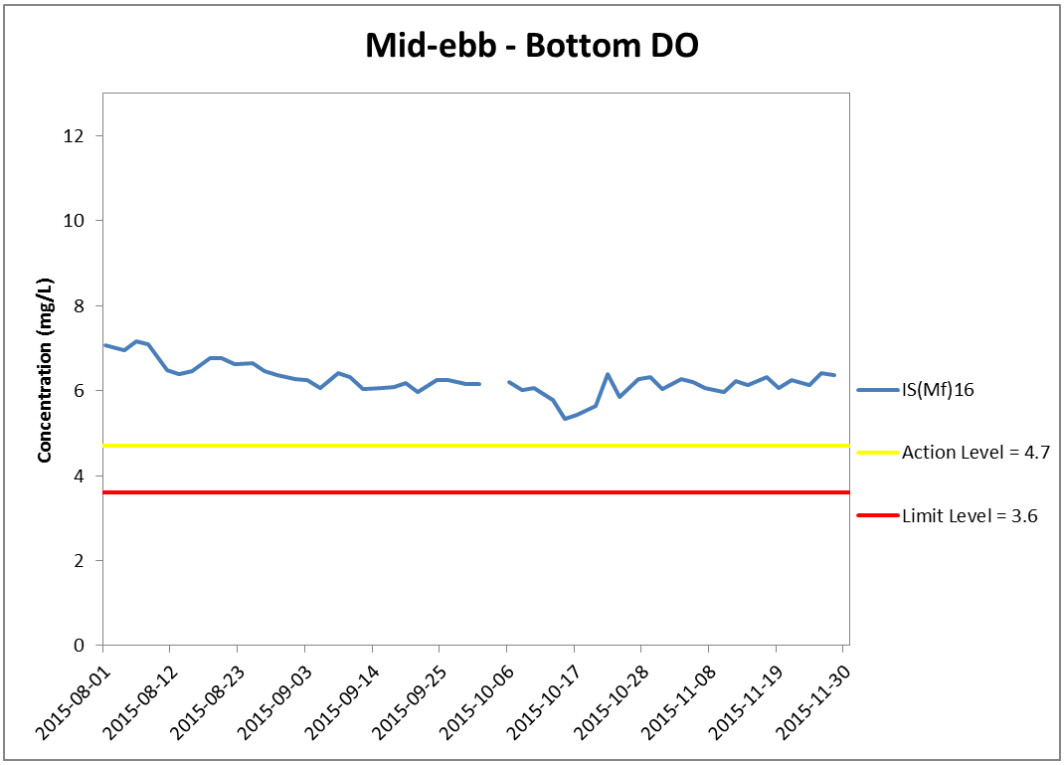


Figure H13 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



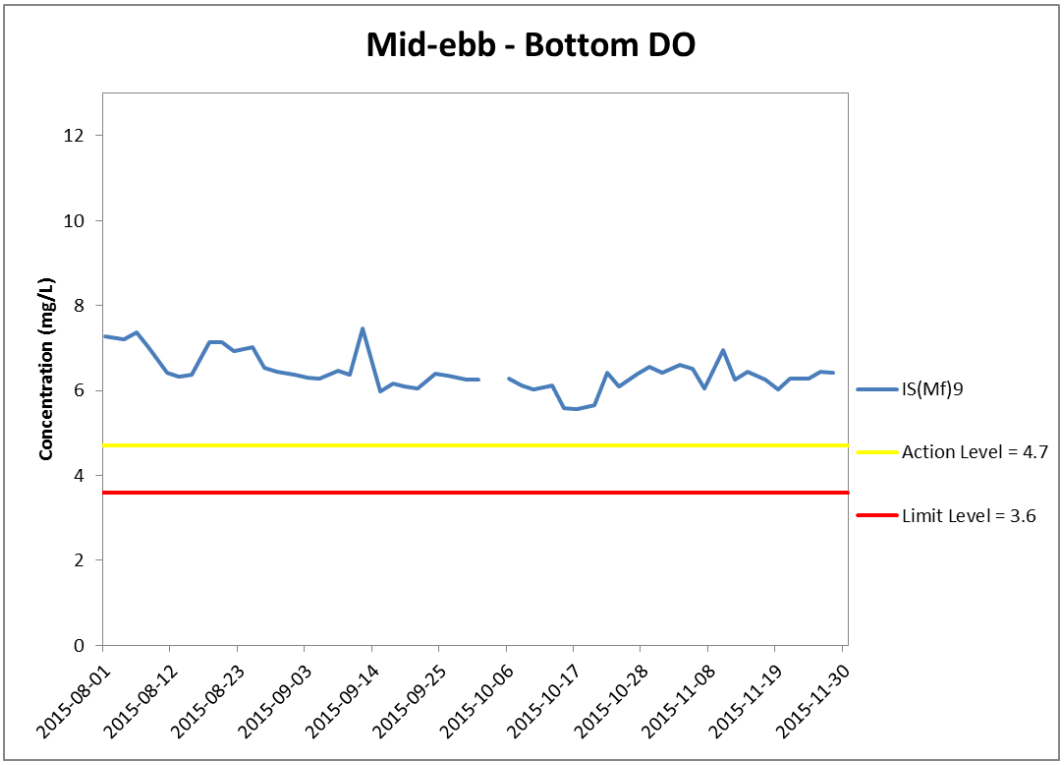
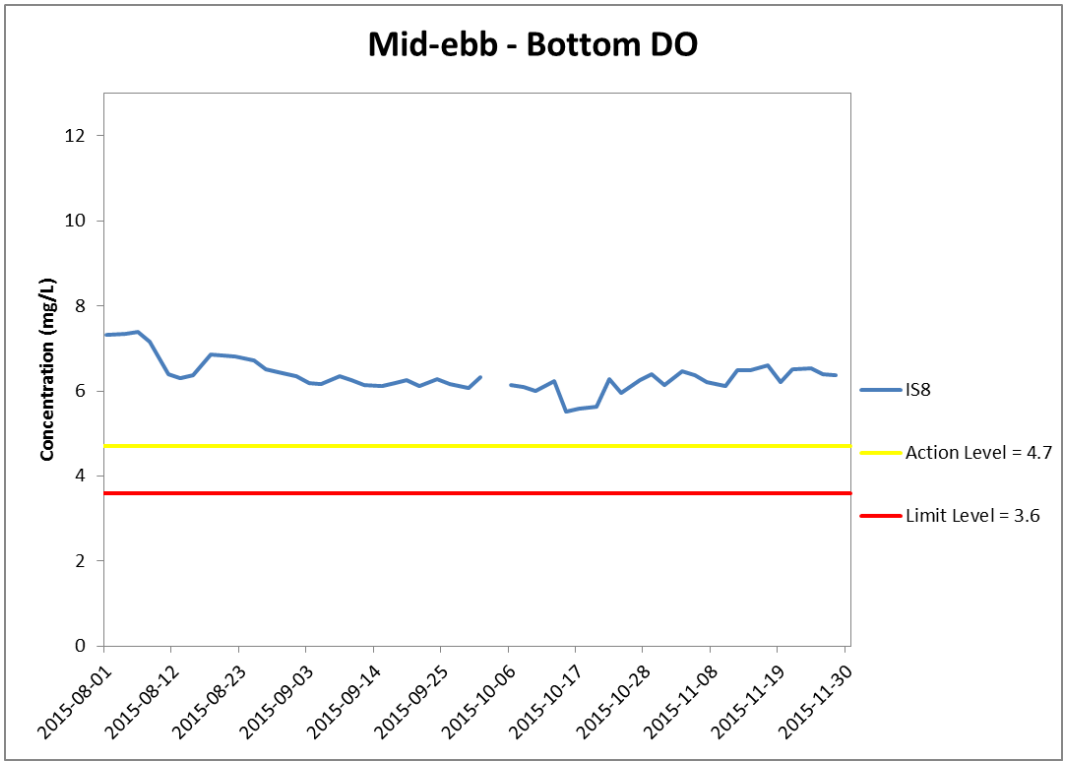


Figure H14 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



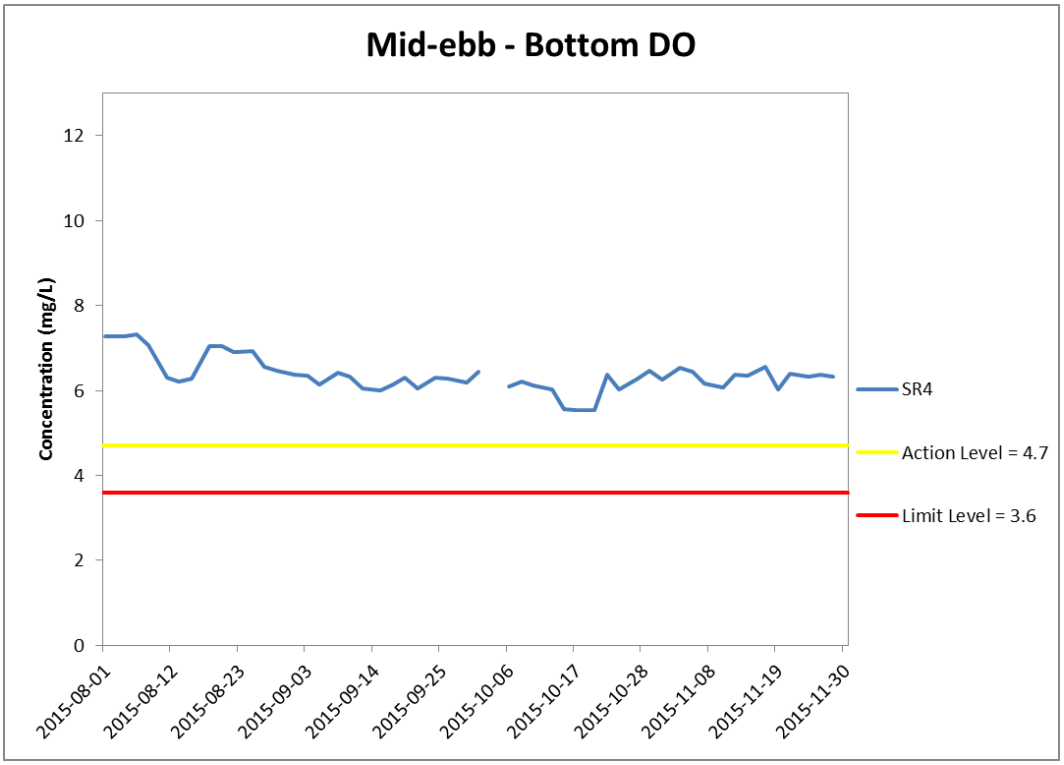


Figure H15 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

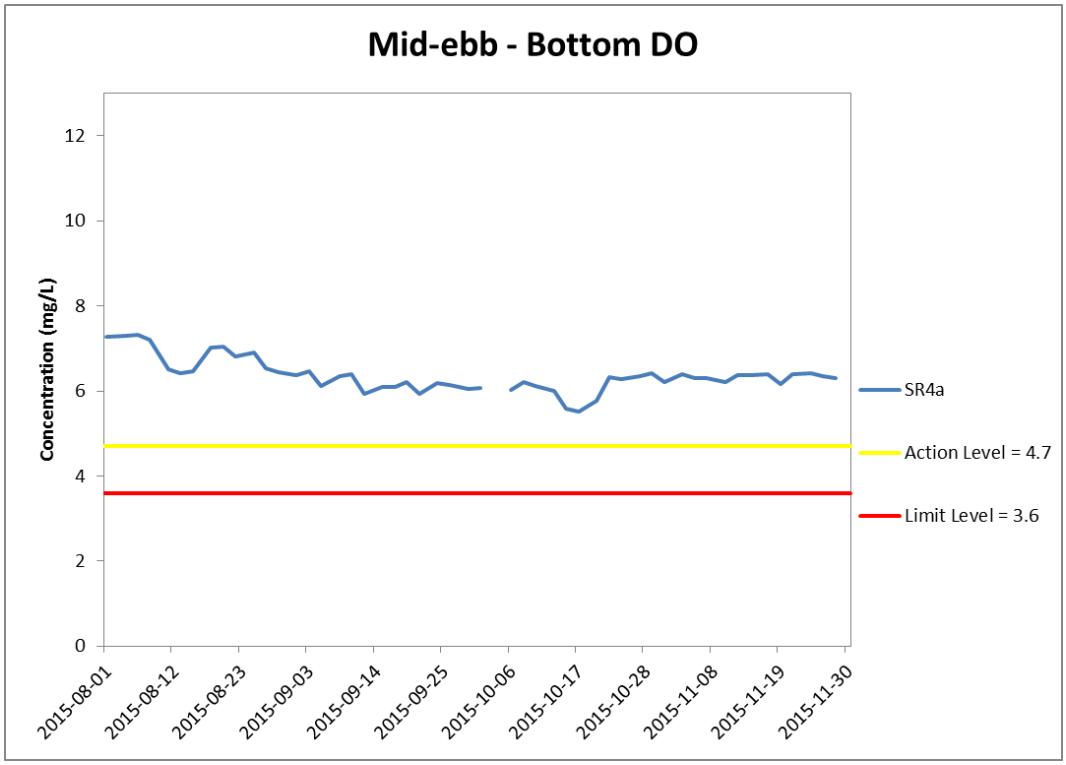
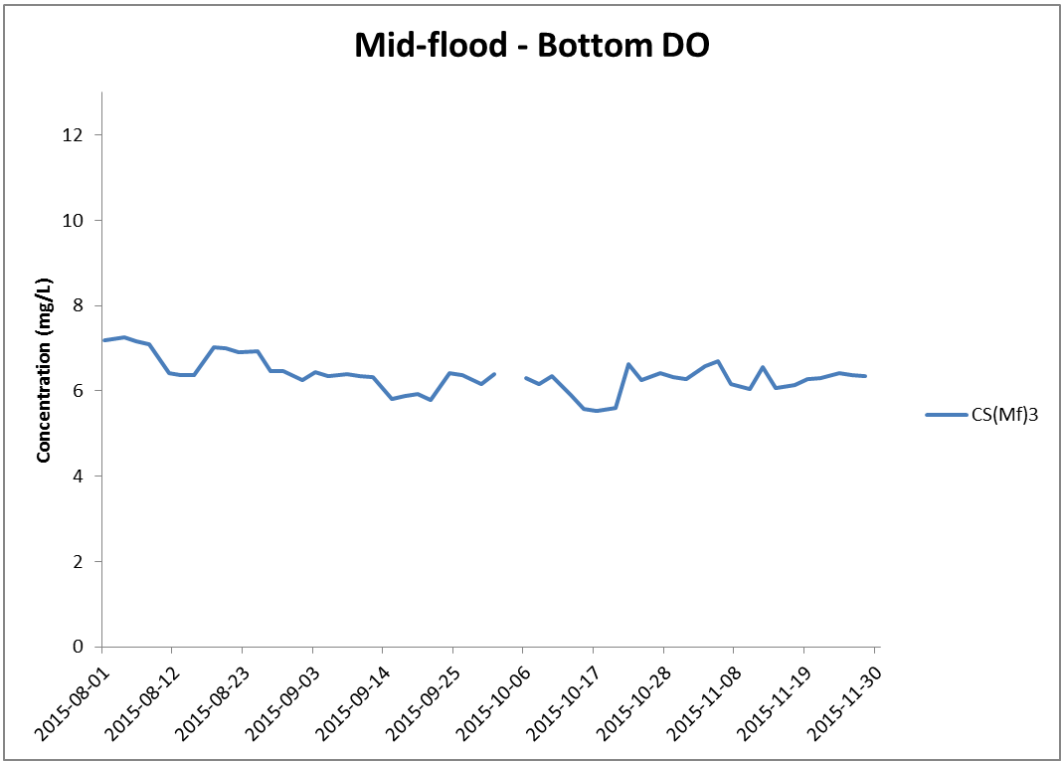


Figure H16 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-ebb tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



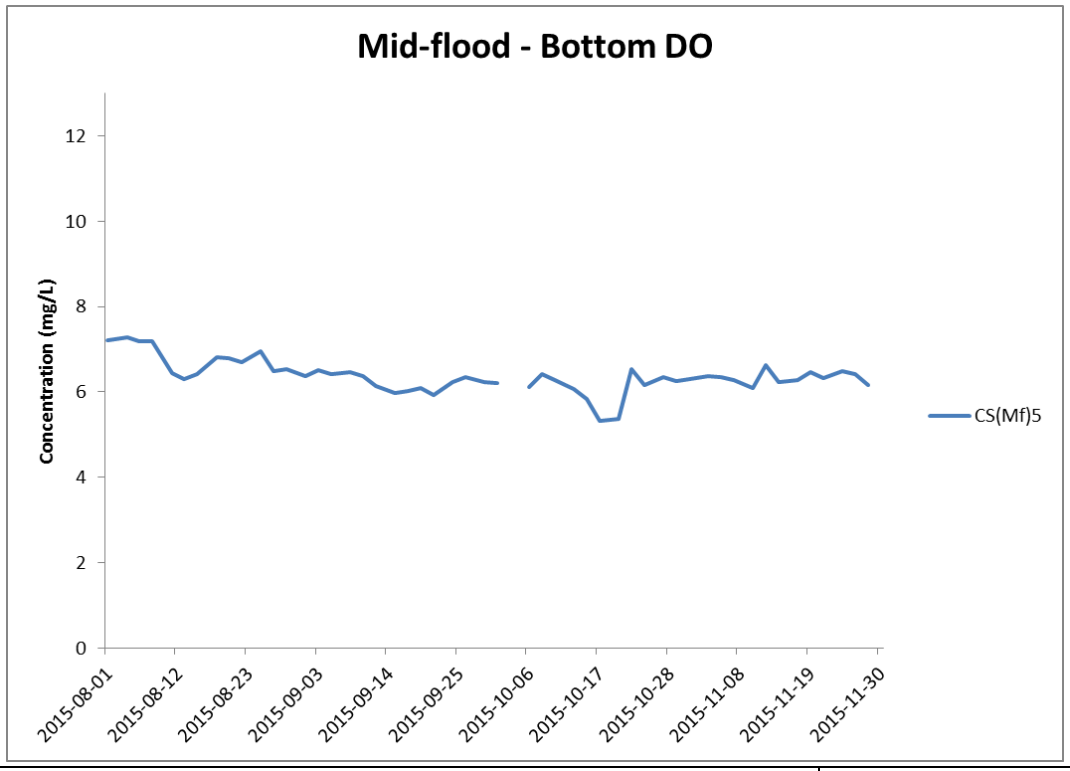
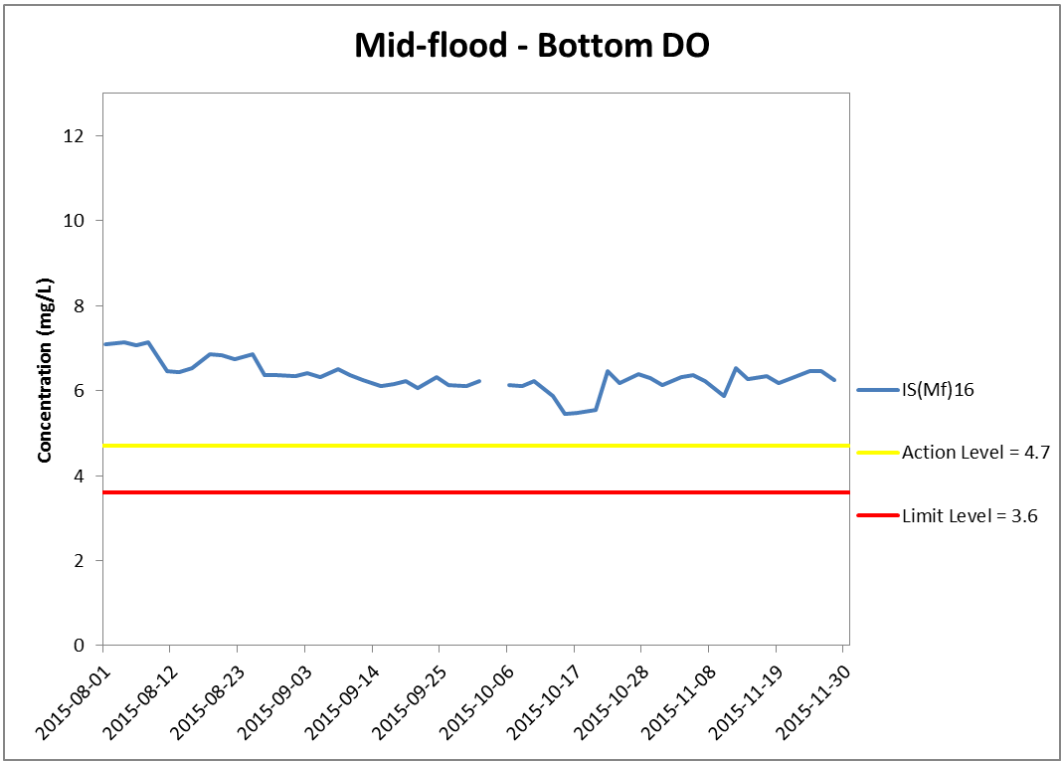


Figure H17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



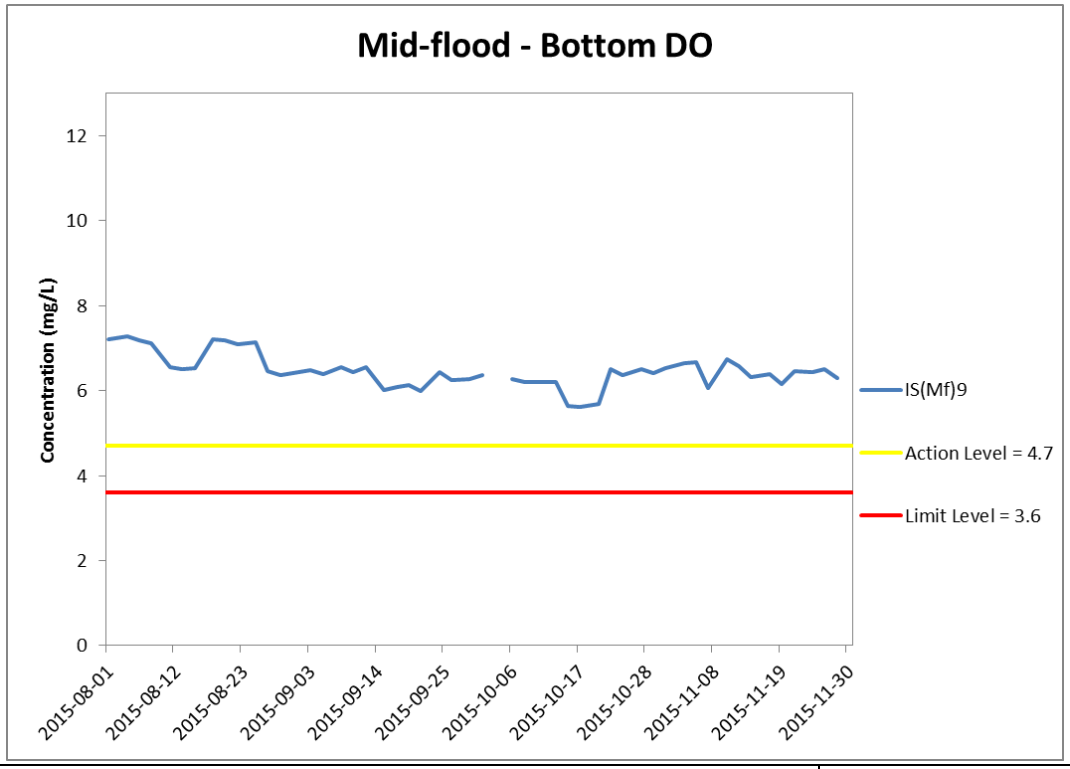
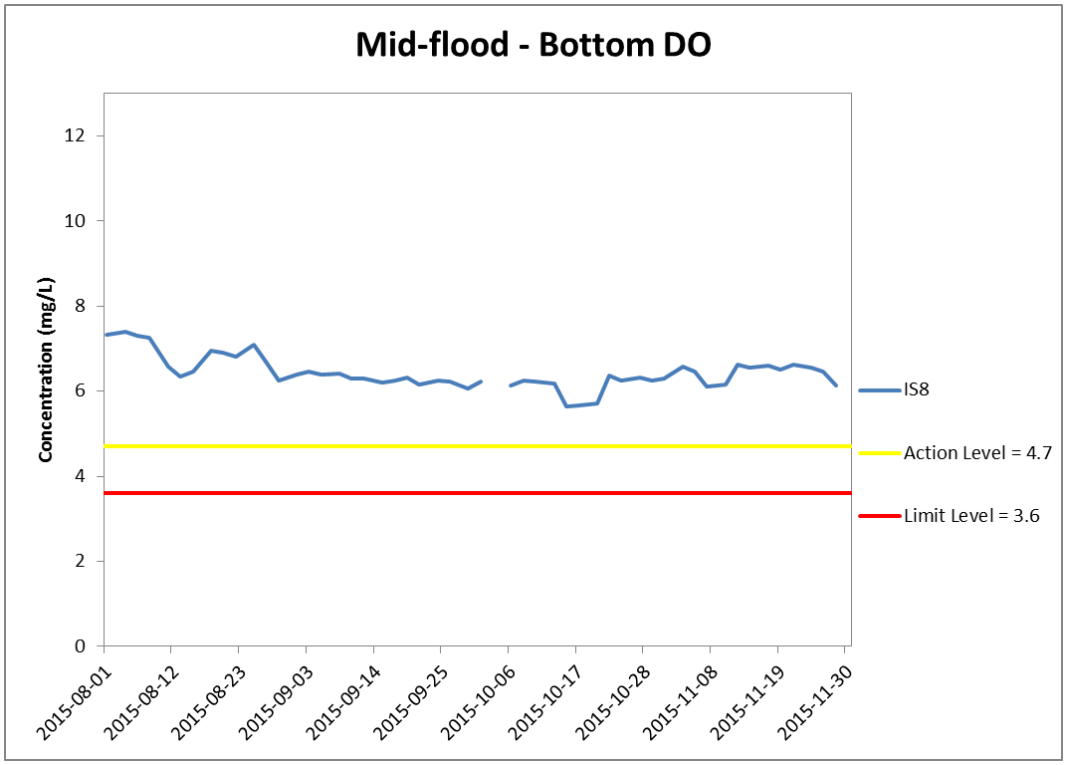


Figure H18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



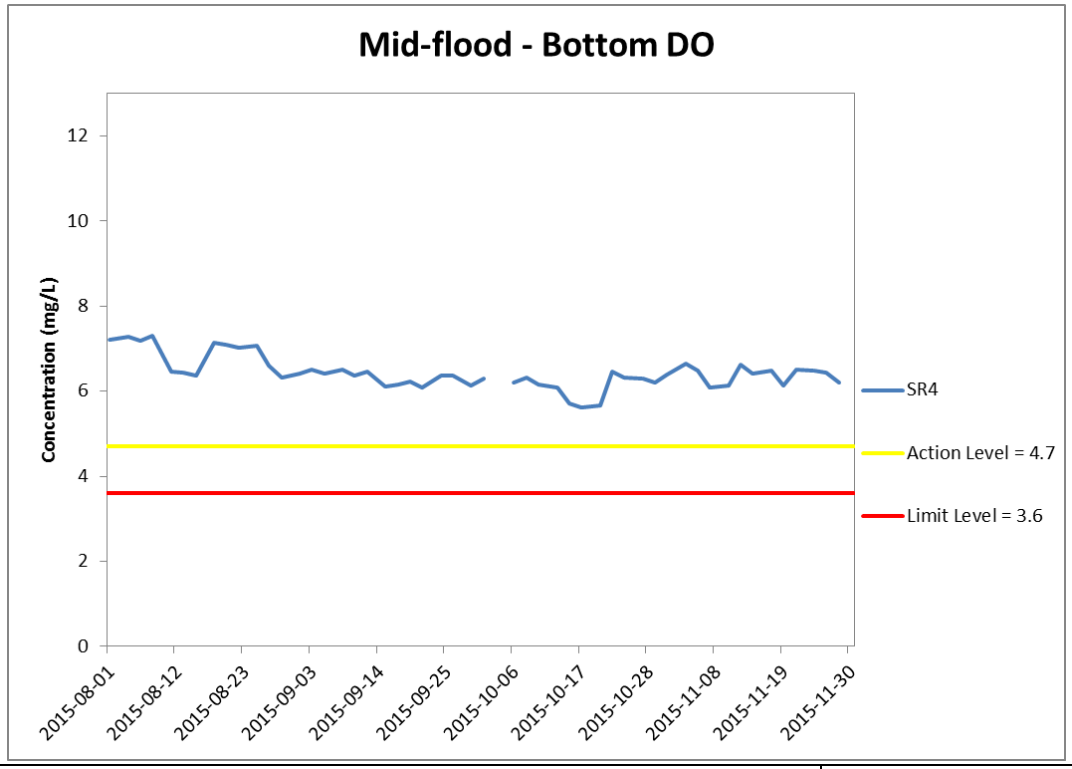


Figure H19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM

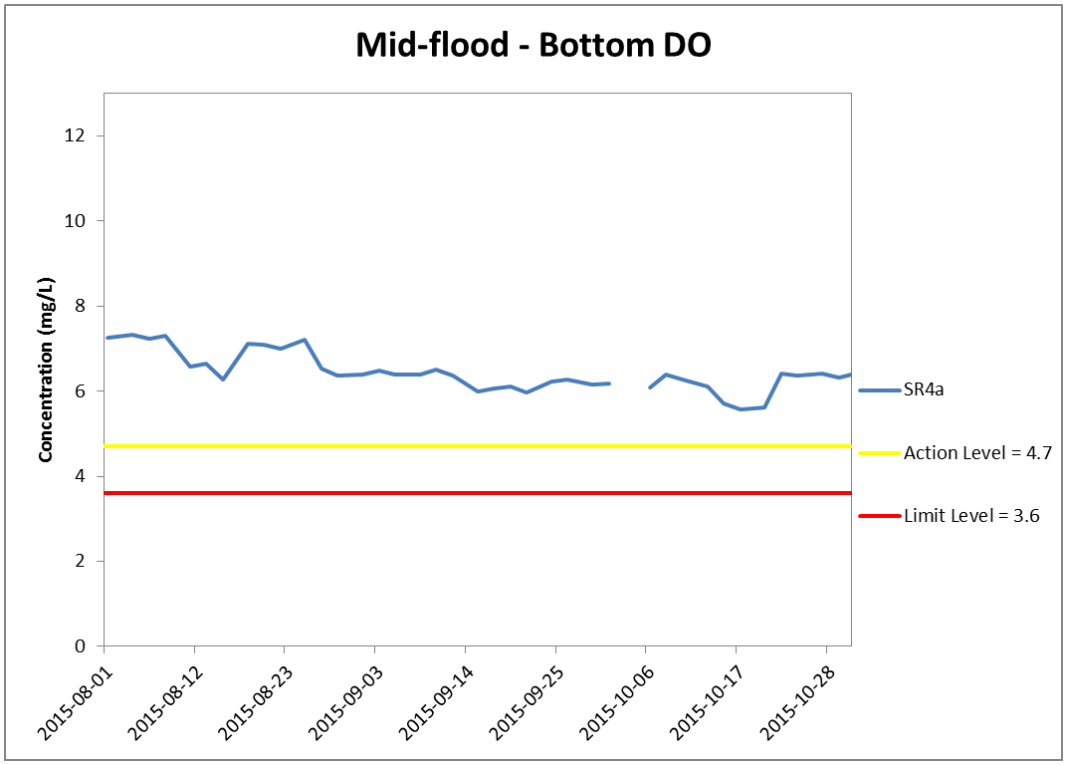
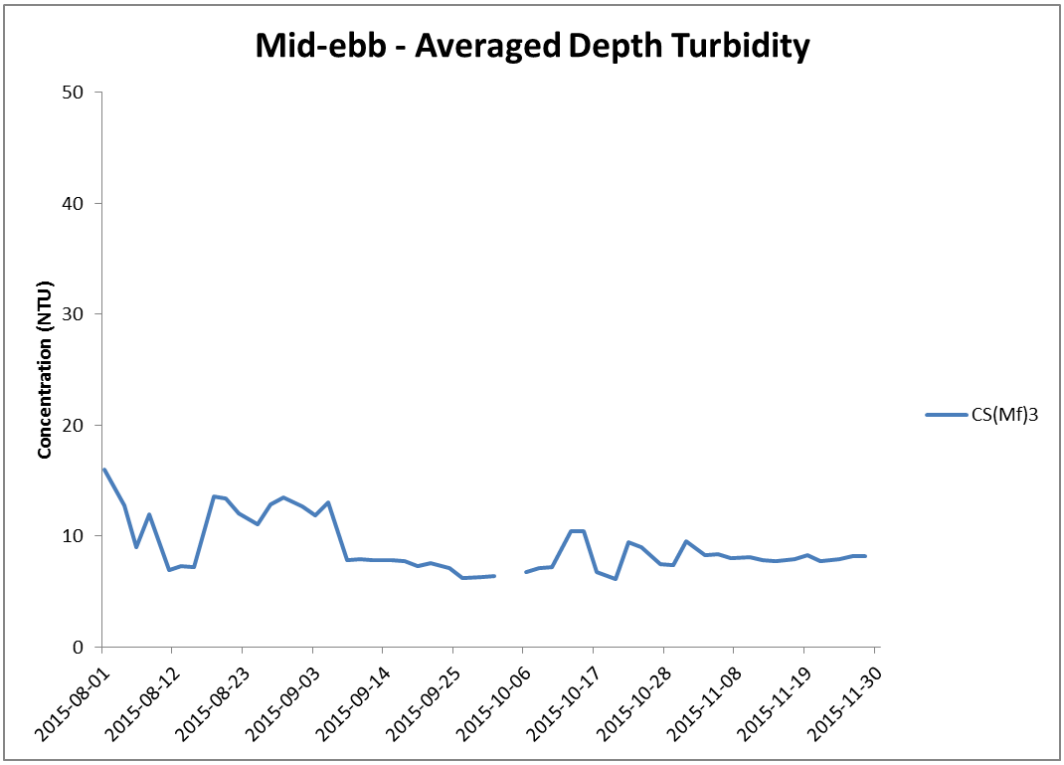


Figure H20 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom waters during mid-flood tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



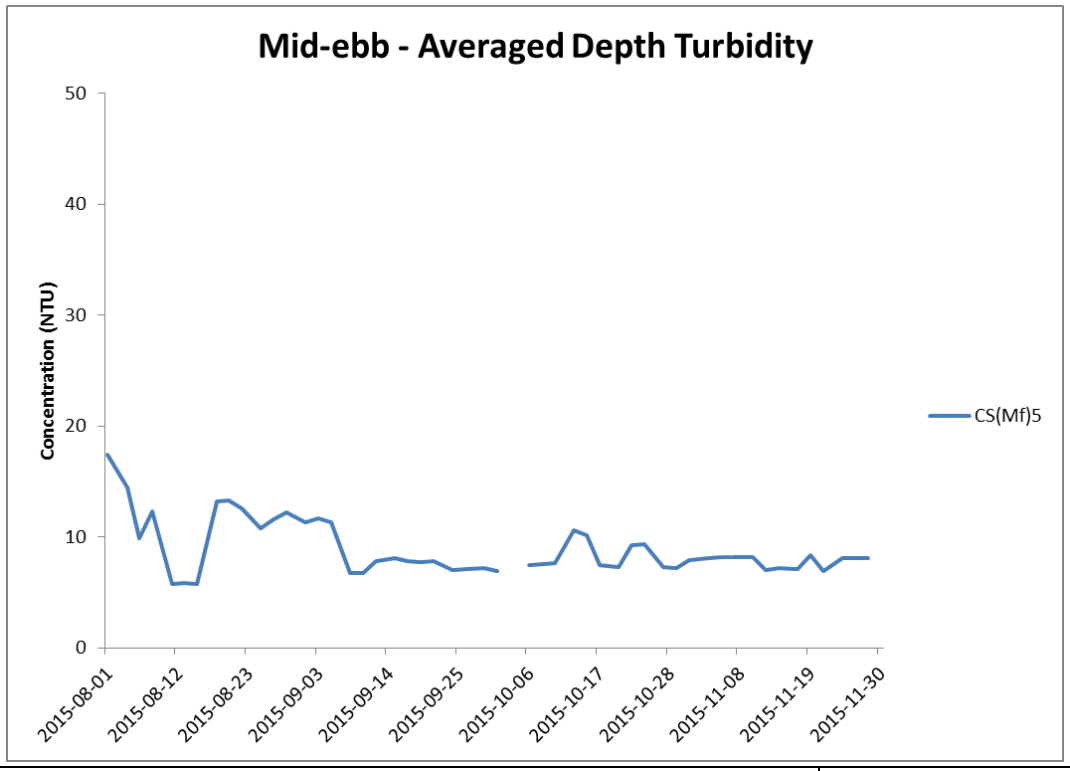
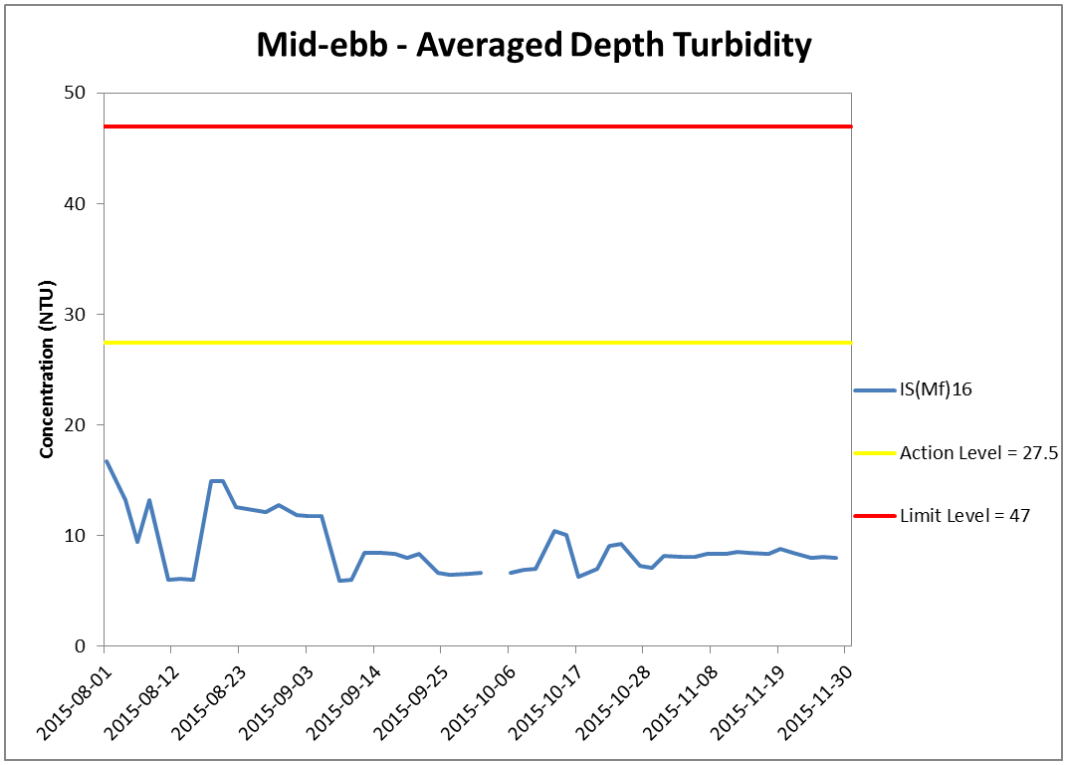


Figure H21 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



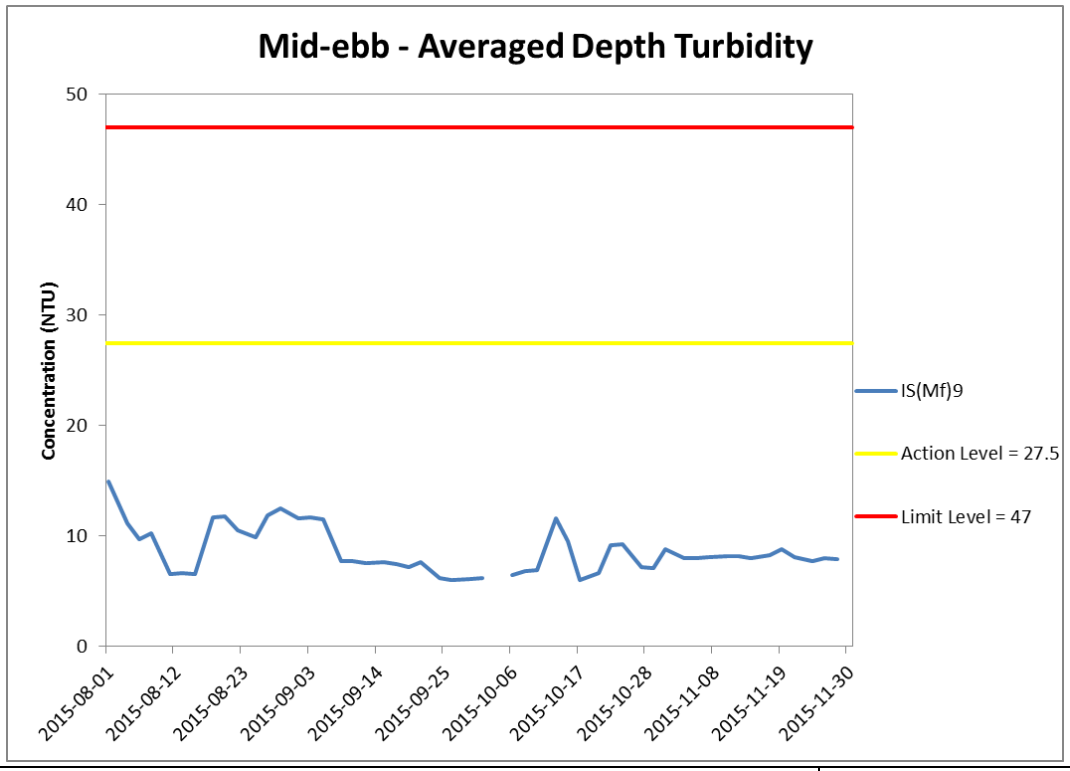
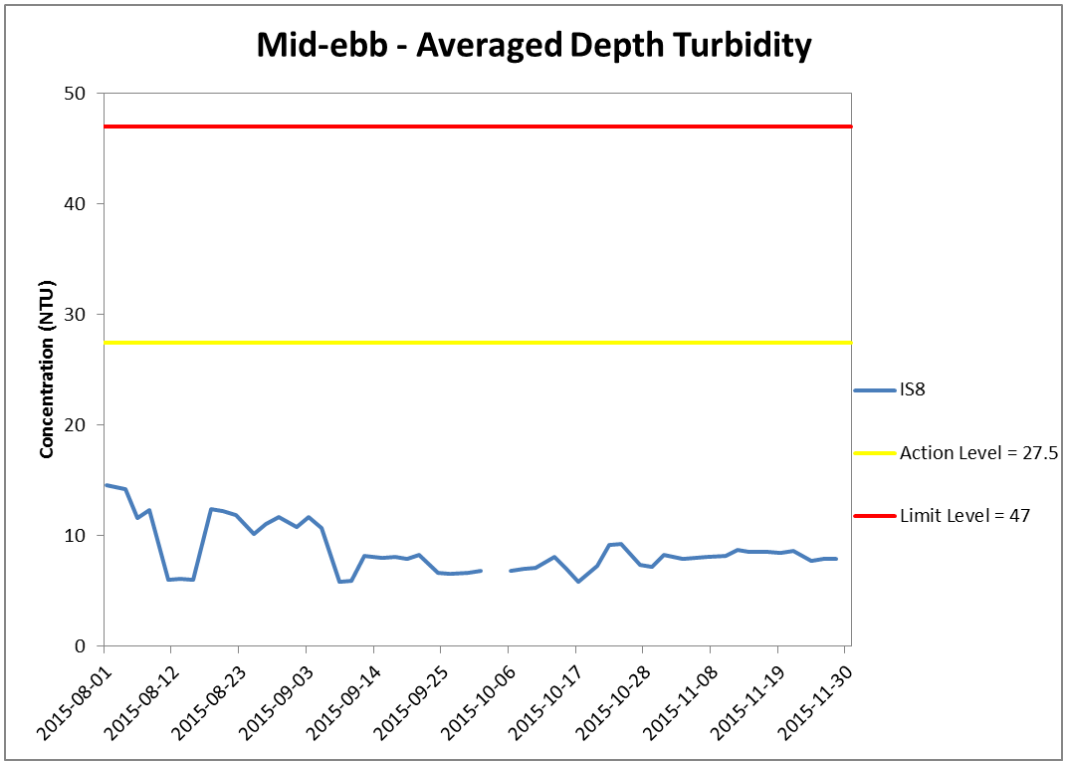


Figure H22 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



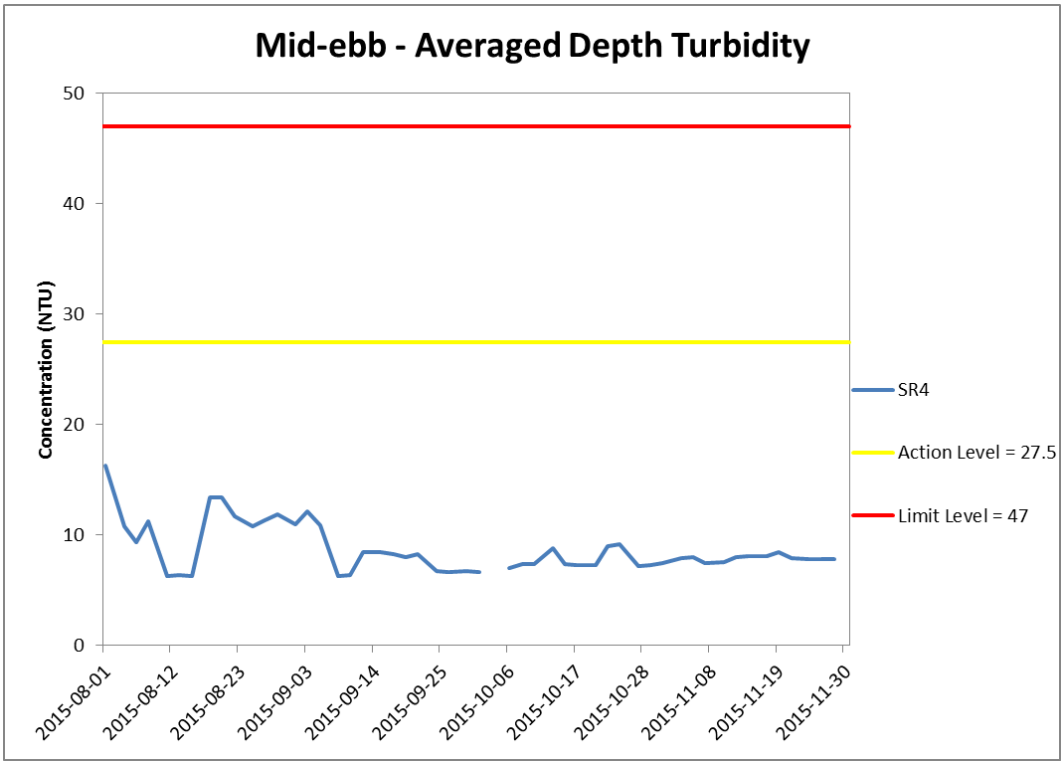


Figure H23 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

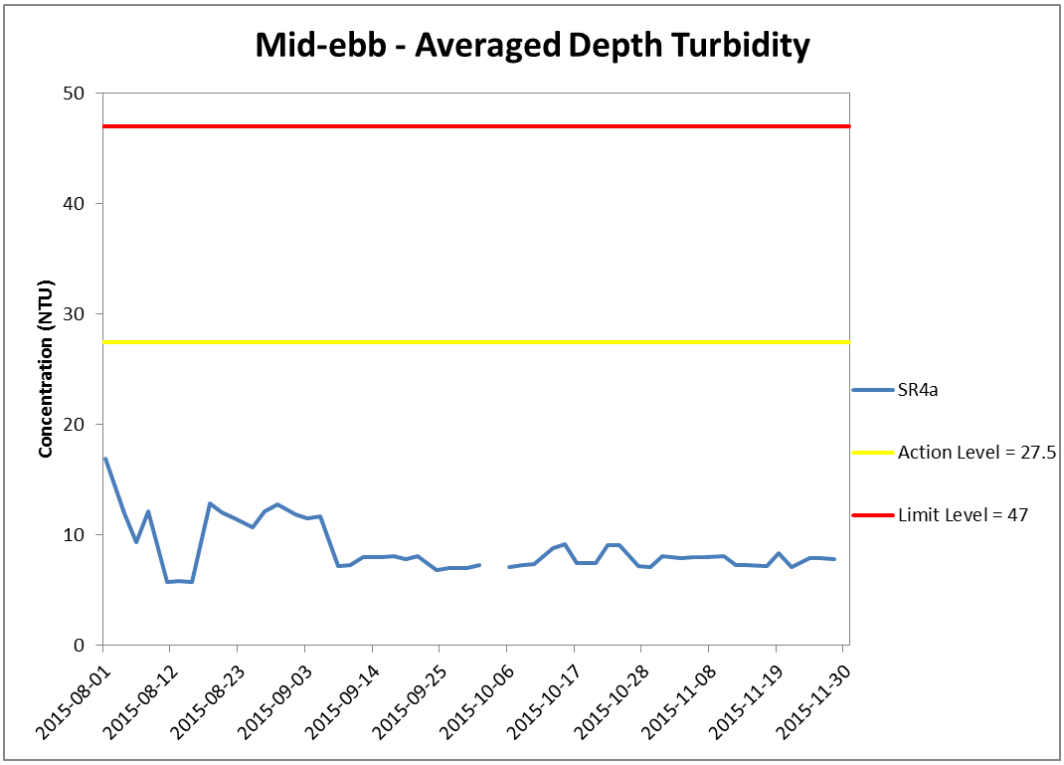
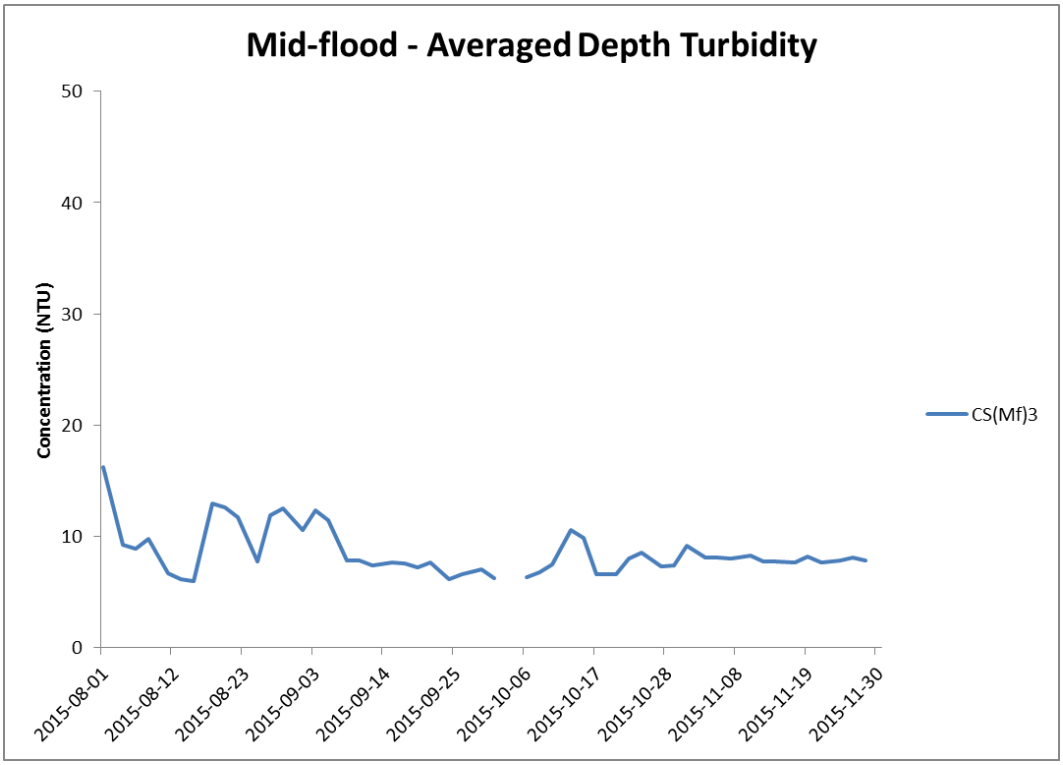


Figure H24 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-ebb tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



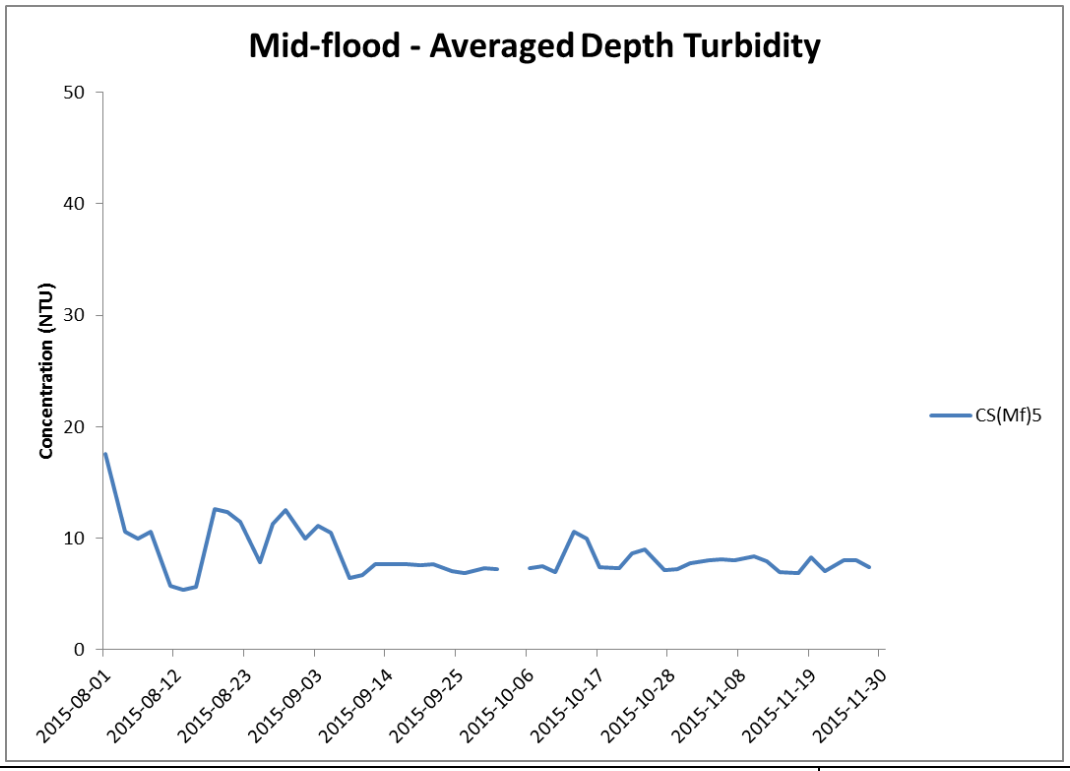
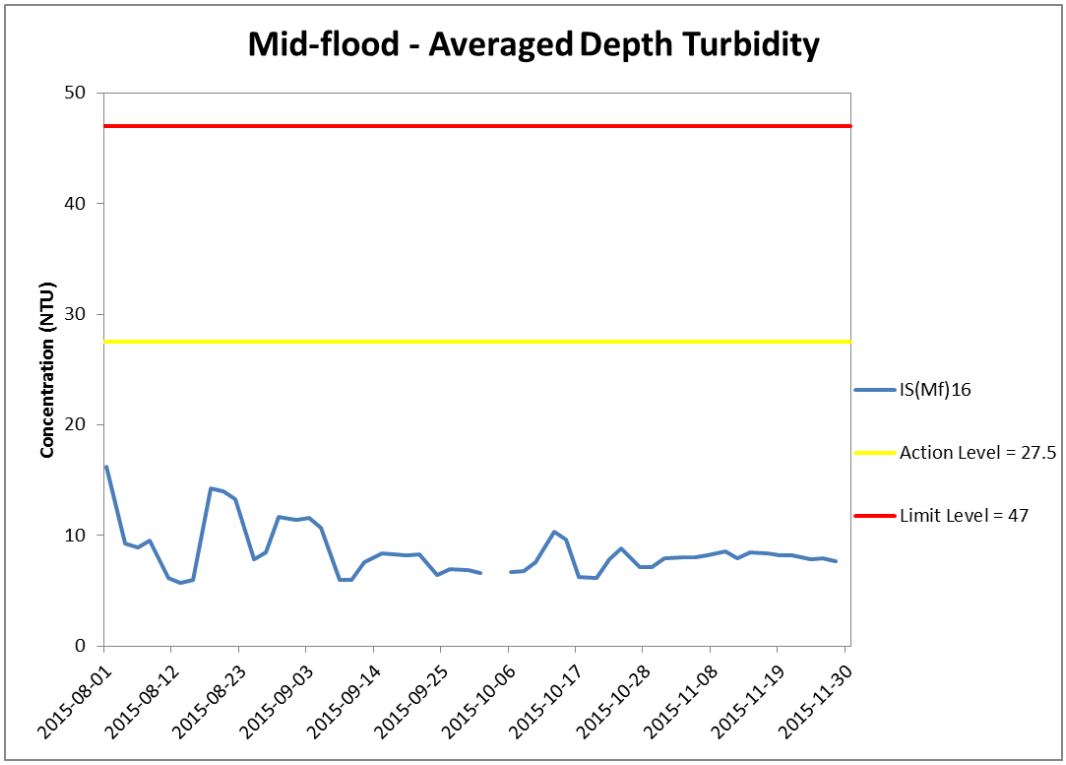


Figure H25 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(MF)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



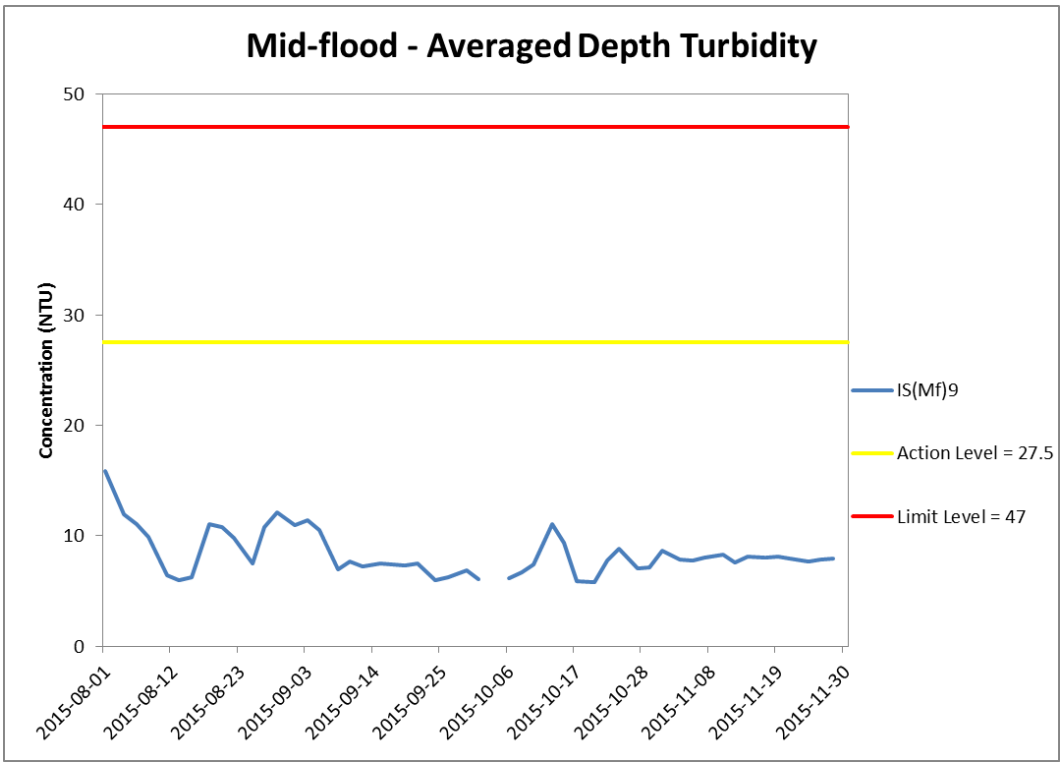
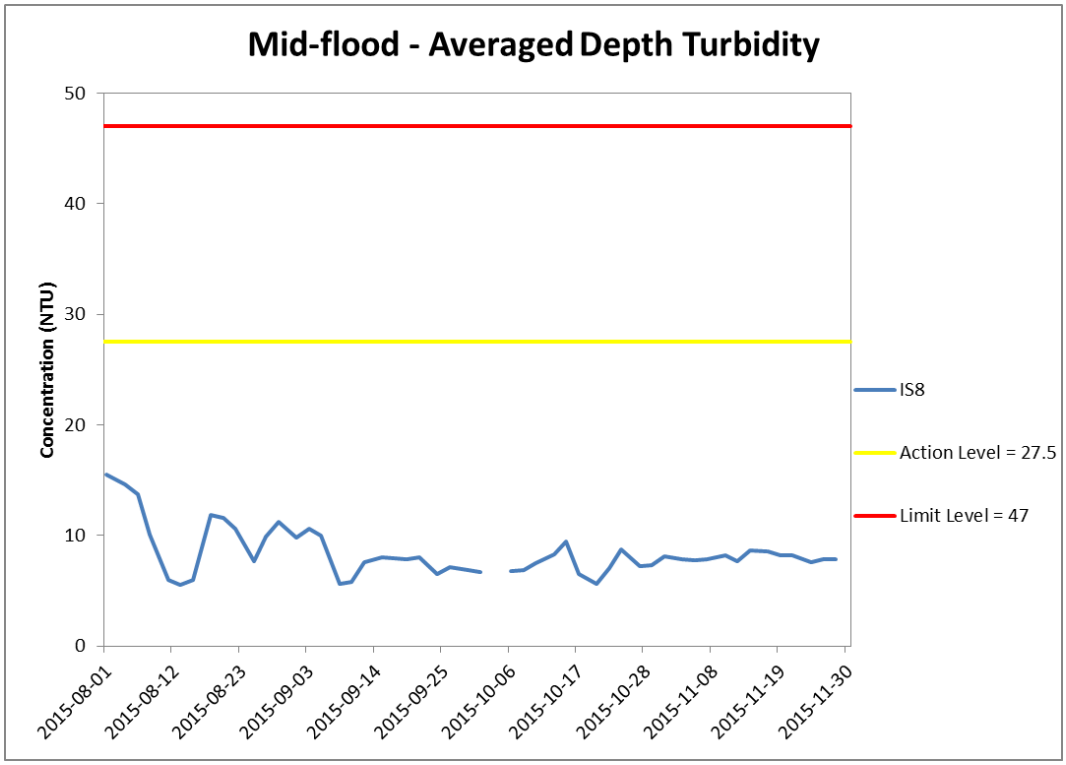


Figure H26 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



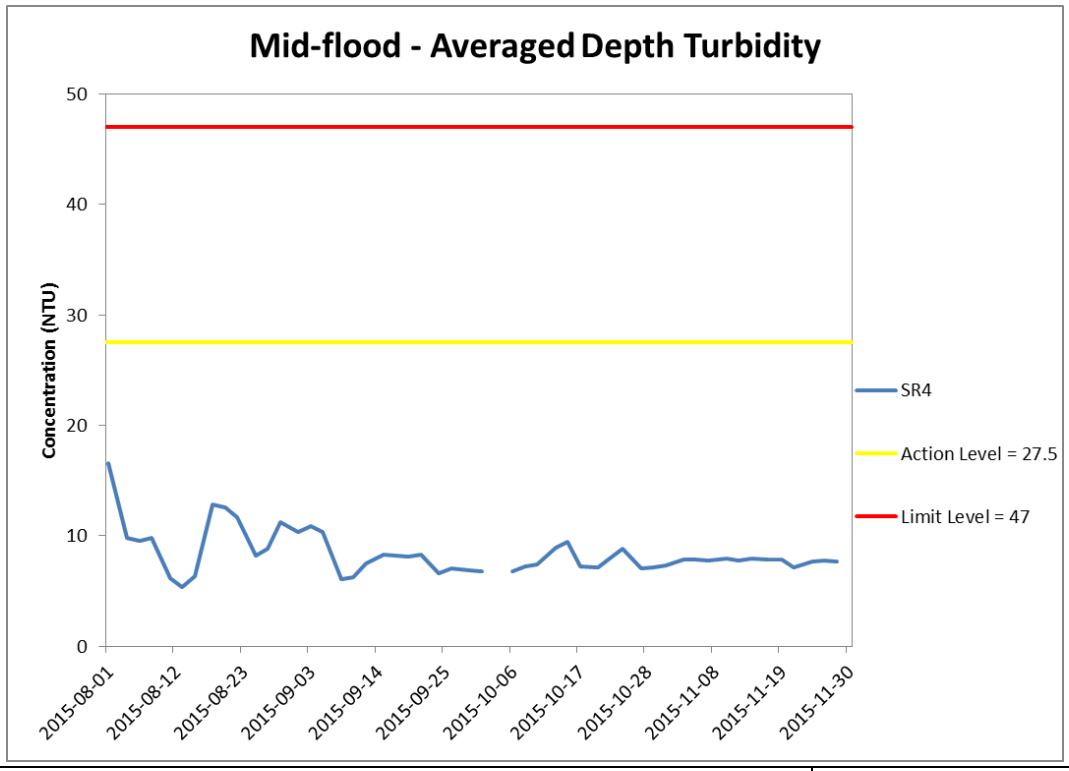


Figure H27 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM

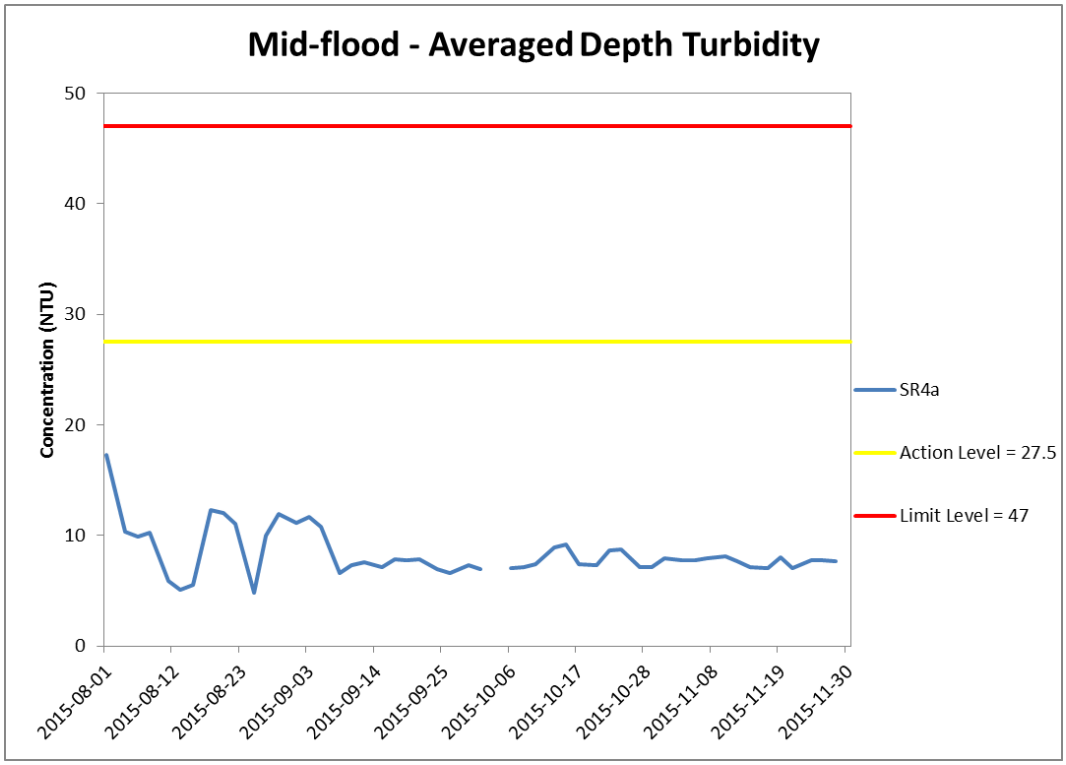
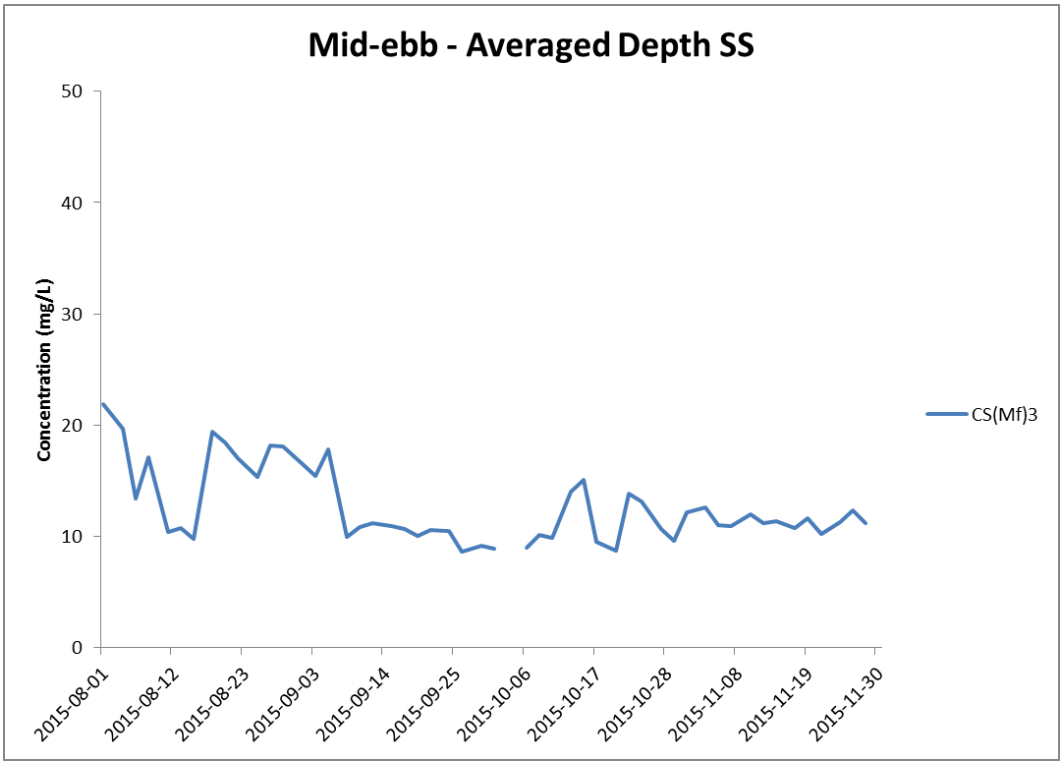


Figure H28 Impact Monitoring – Mean Level of depth-averaged Turbidity (NTU) during mid-flood tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



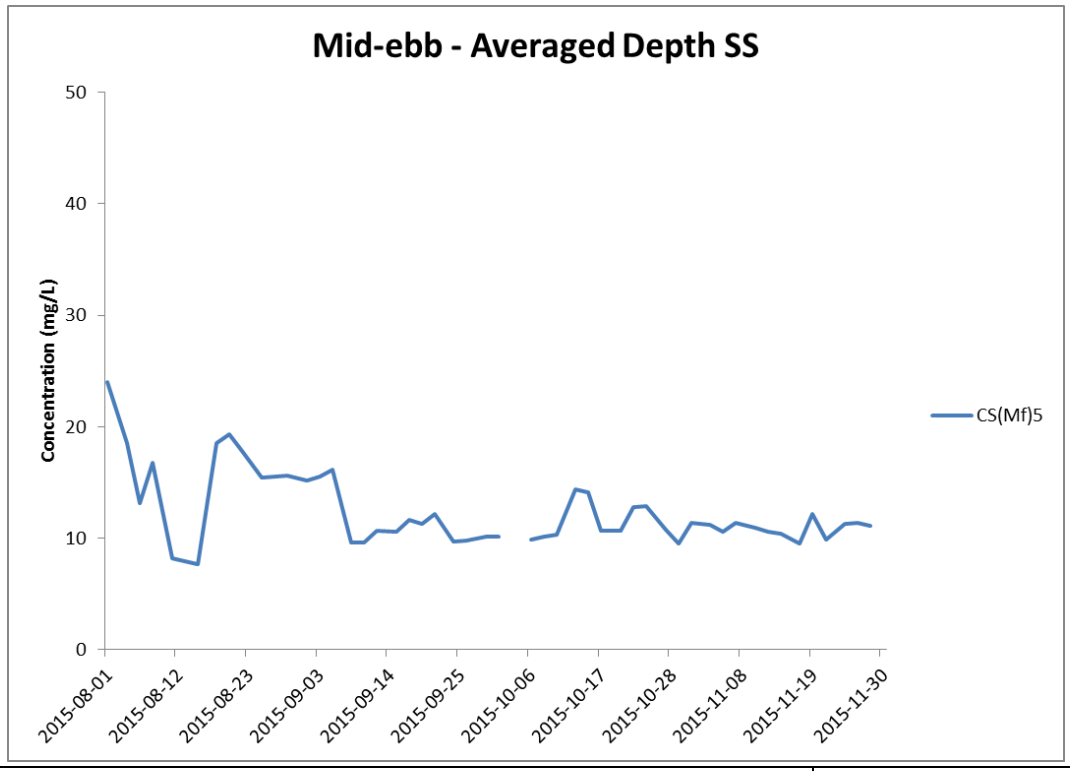
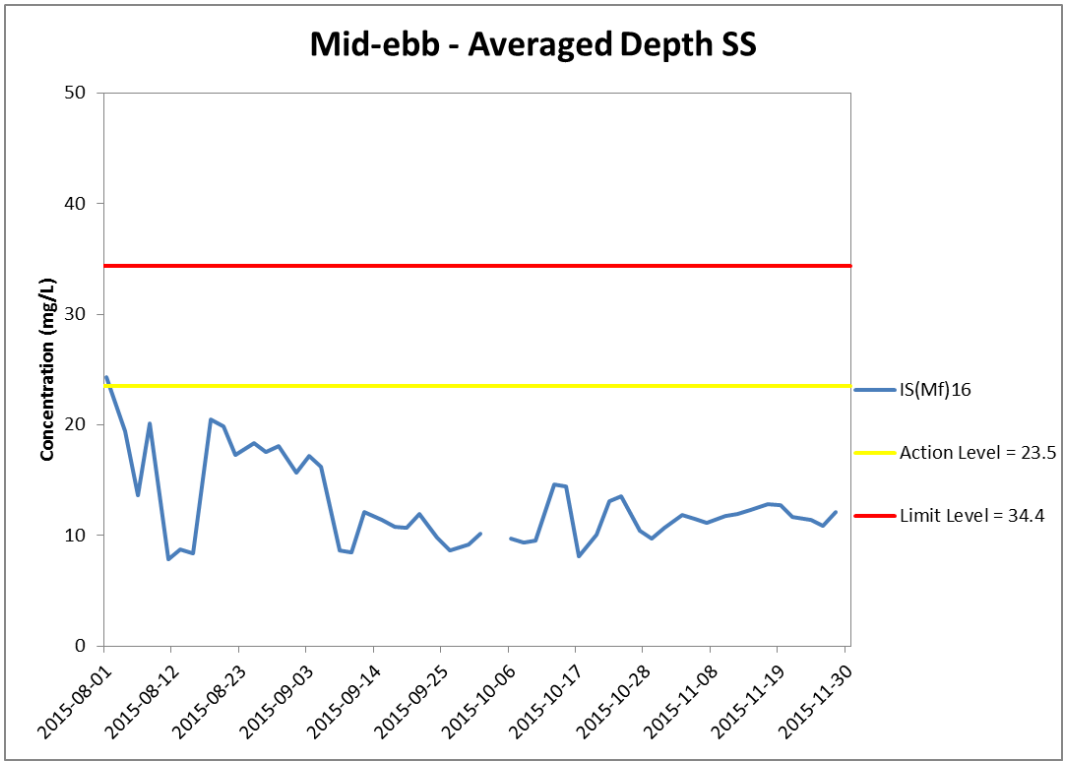


Figure H29 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



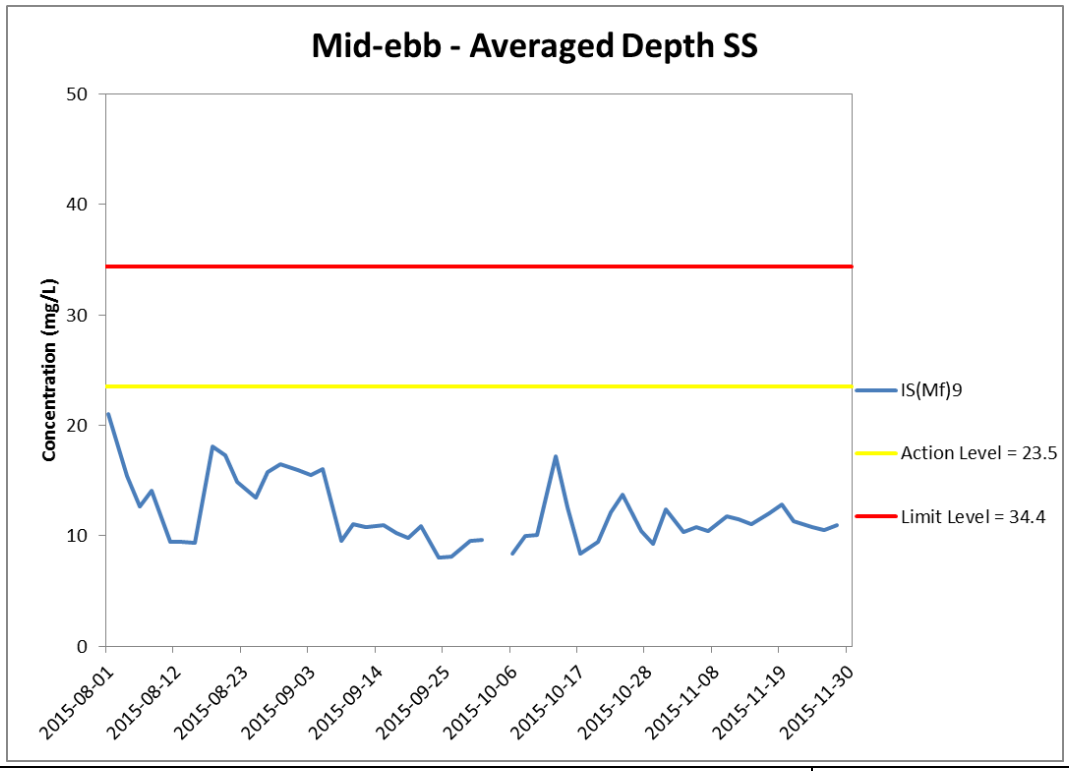
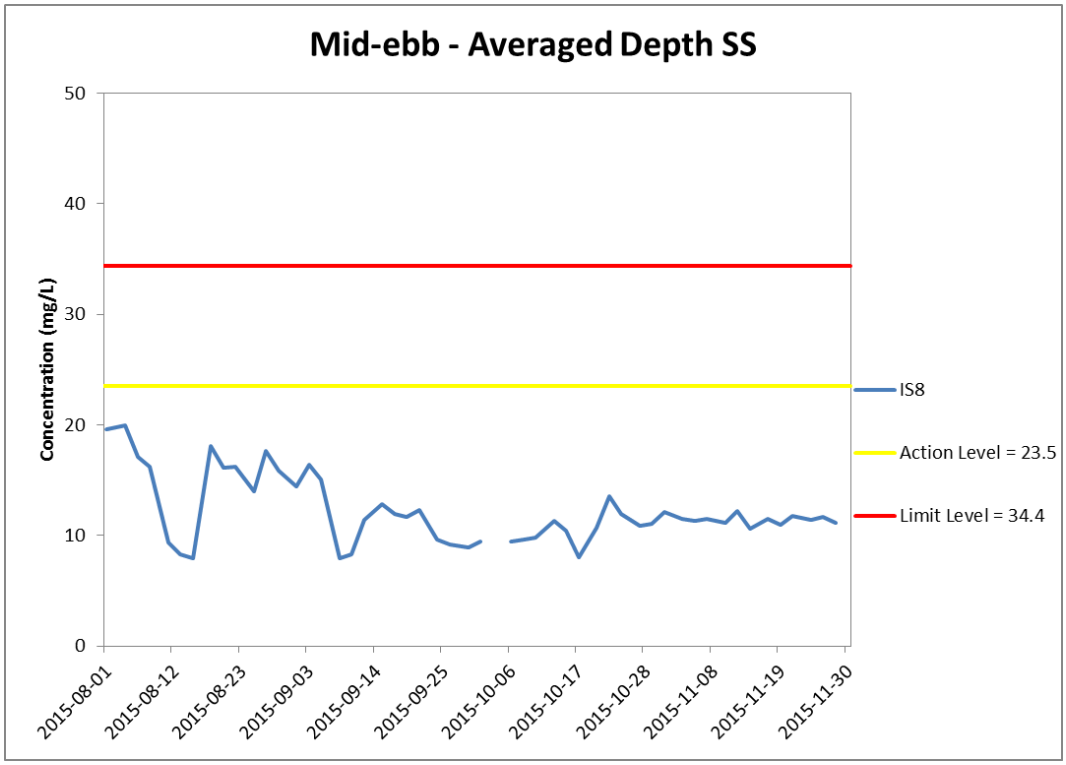


Figure H30 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment). The SS results higher than Action / Limit Levels were not considered as exceedances as the results were not higher than 120% of upstream control station.



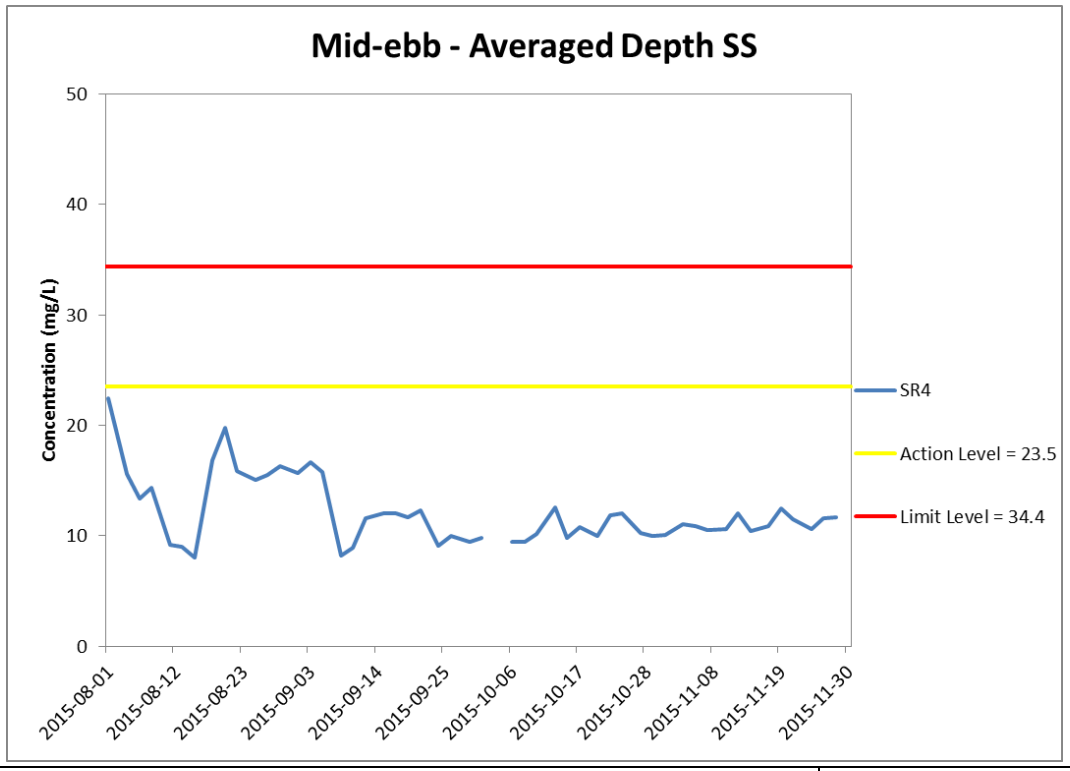


Figure H31 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

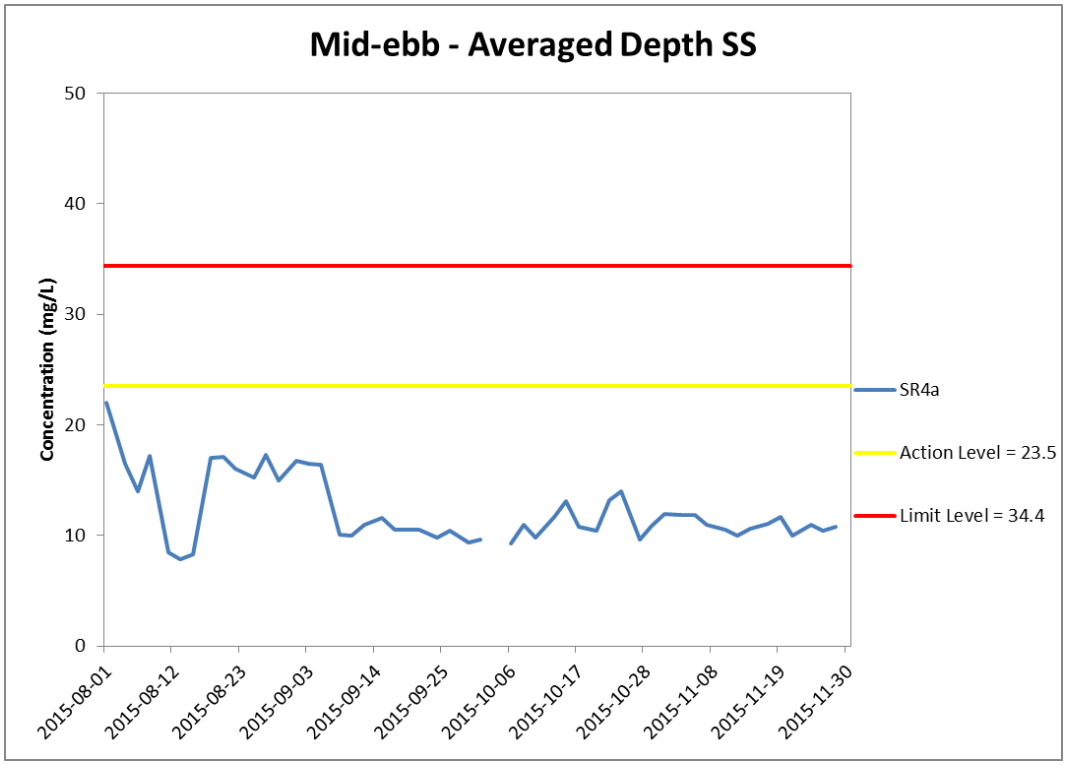
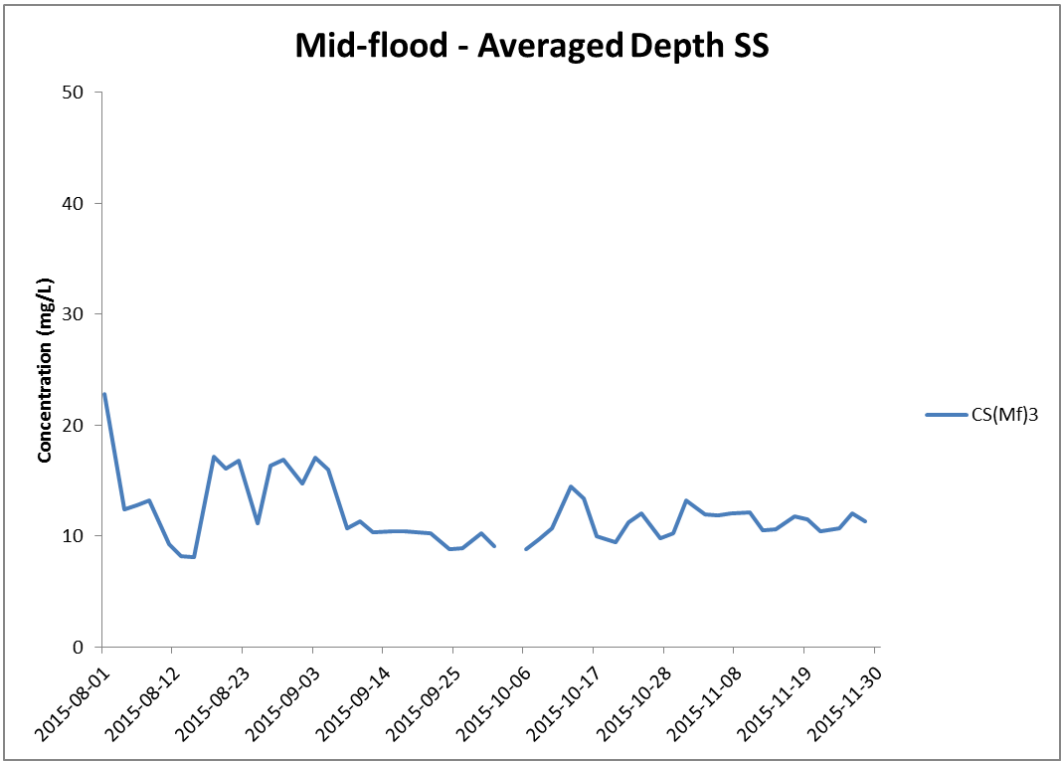


Figure H32 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-ebb tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM



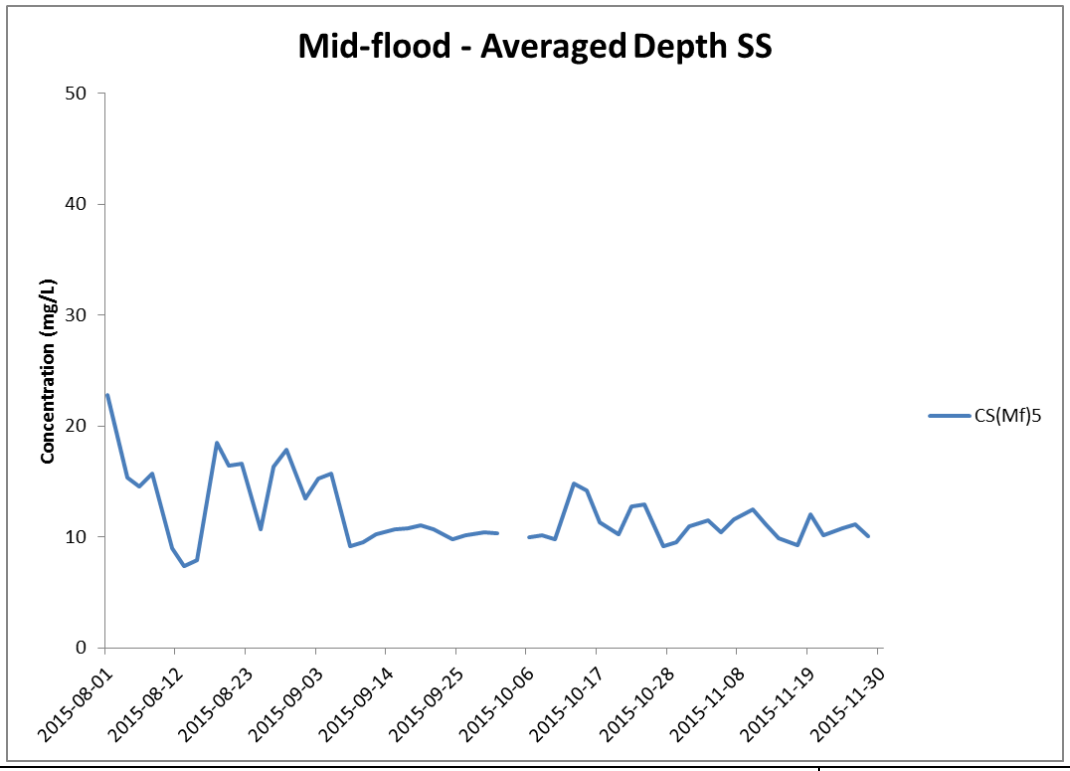
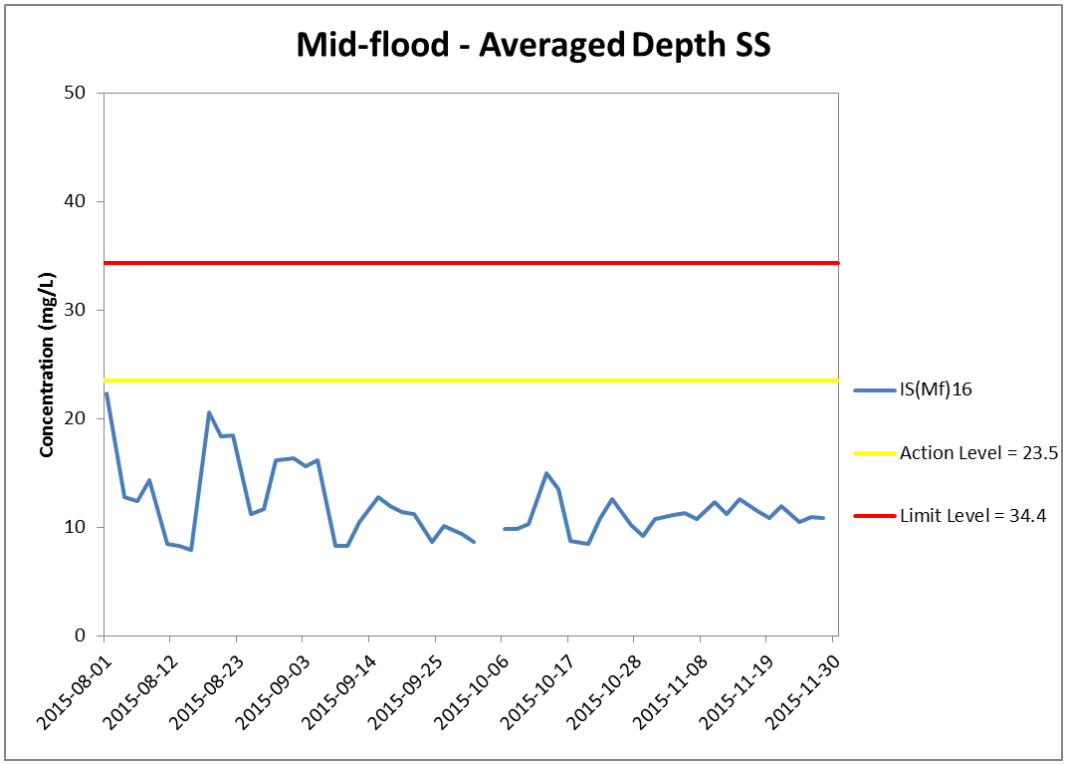


Figure H33 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 August and 30 November 2015 at CS(Mf)3 and CS(Mf)5.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



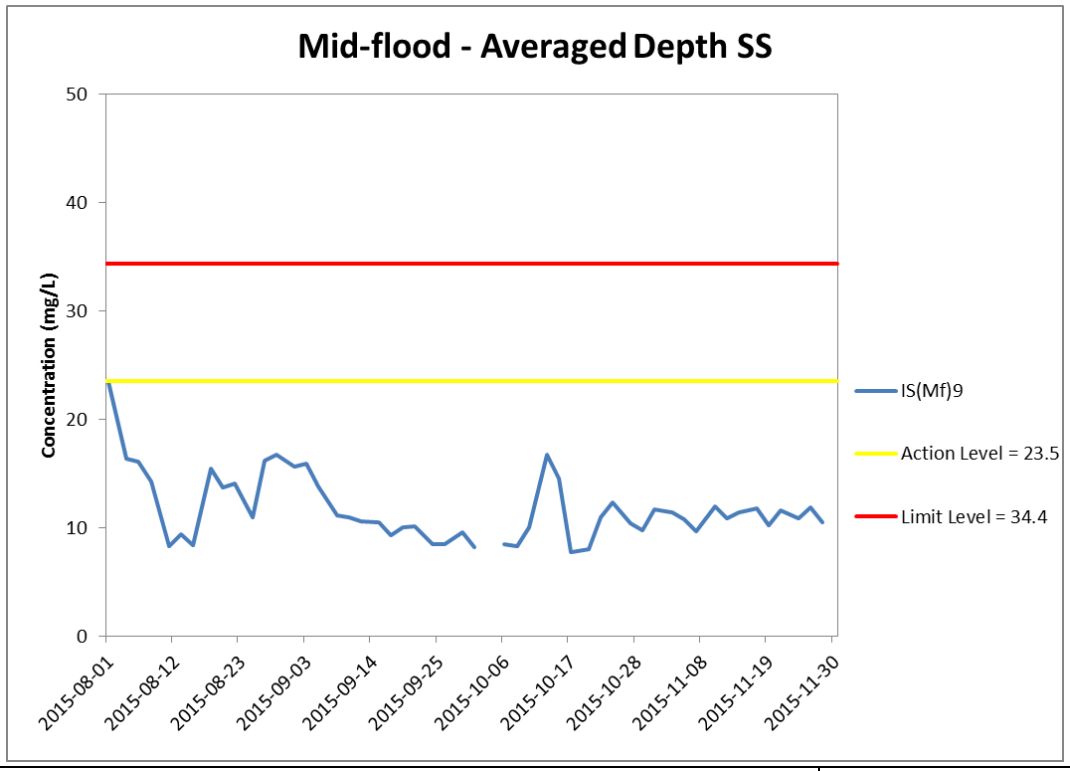
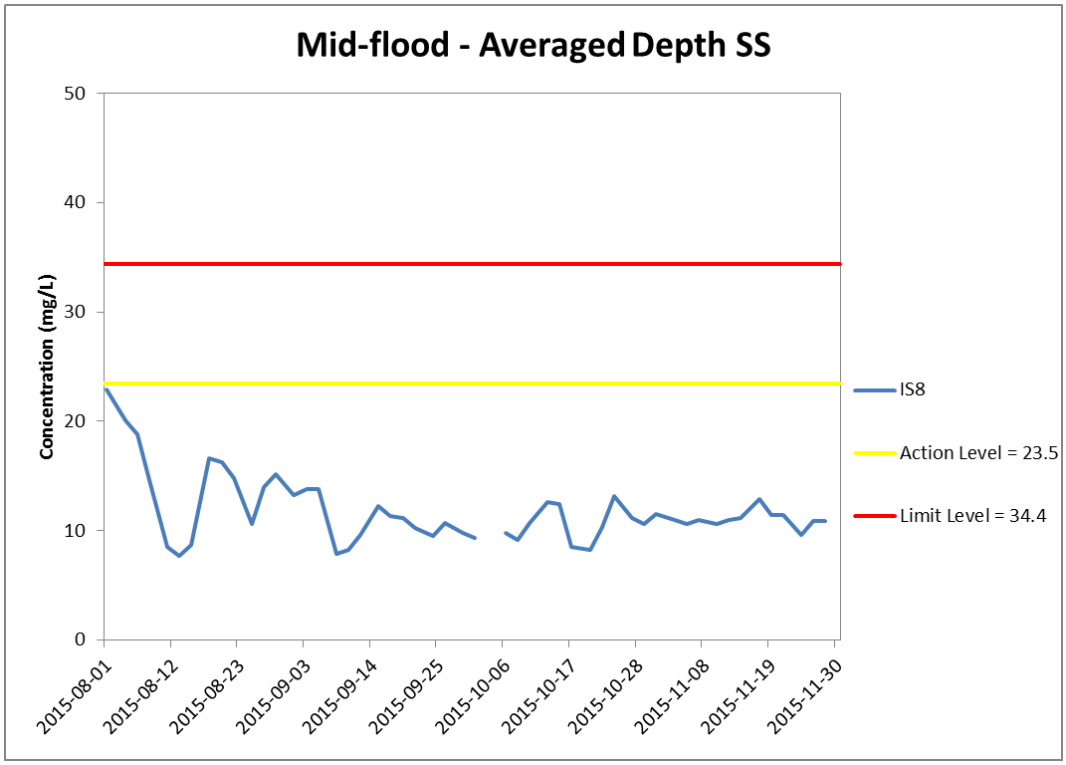


Figure H34 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 August and 30 November 2015 at IS(Mf)16 and IS(Mf)9.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)



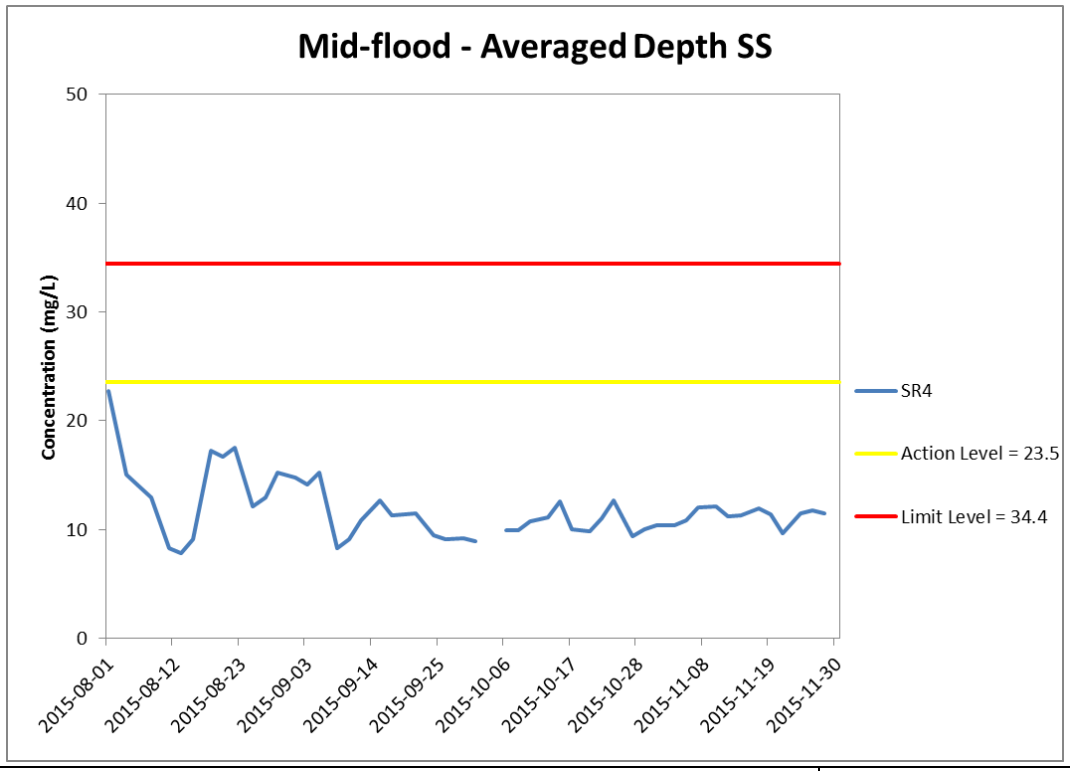


Figure H35 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 August and 30 November 2015 at IS8 and SR4.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM

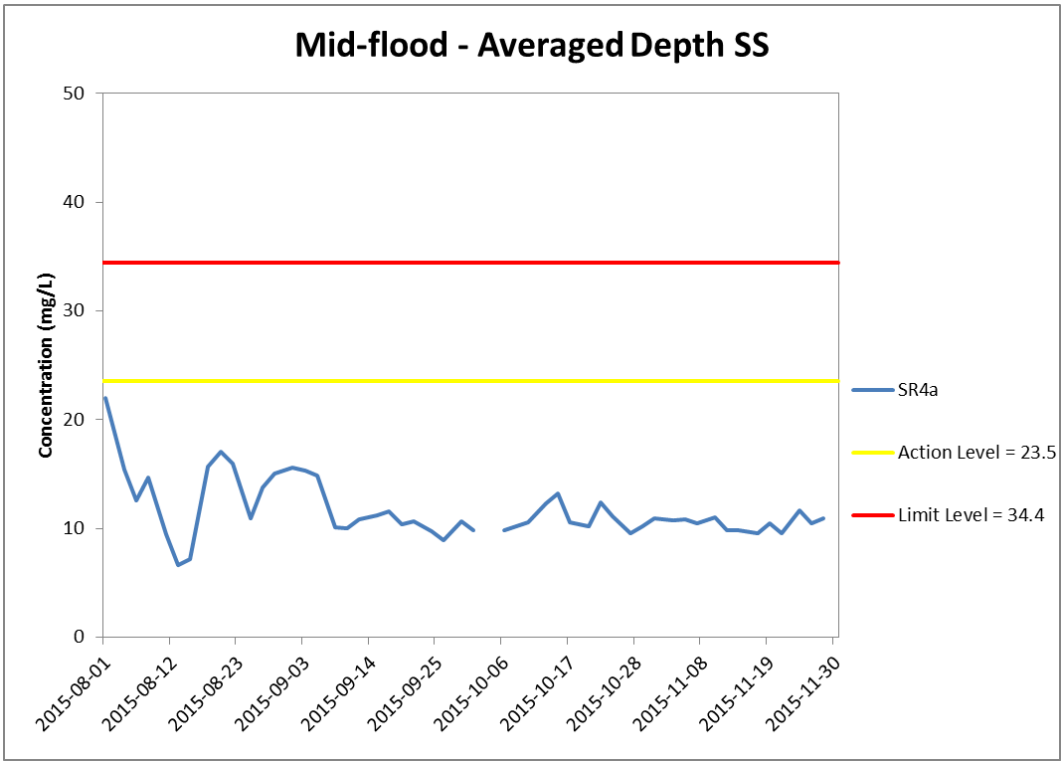


Figure H36 Impact Monitoring – Mean depth-averaged level of Suspended Solids (mg/L) during mid-flood tide between 1 August and 30 November 2015 at SR4a.

WQM was cancelled on 3 October 2015 due to adverse weather. (Weather condition varied between sunny to rainy within the reporting period.
Marine works within the reporting period include Construction and installation of pile caps; Uninstallation of marine piling platform; Pile cap installation; Pier construction; Launching gantry operation and; Installation of deck segment and pier head segment)

Environmental Resources Management

ERM

Appendix I

Impact Dolphin Monitoring Survey Results

CONTRACT NO. HY/2012/07
Hong Kong-Zhuhai-Macao Bridge Tuen Mun – Chek Lap Kok Link (Southern Connection Viaduct Section)
Dolphin Quarterly Monitoring

8th Quarterly Progress Report (September-November 2015)
submitted to Gammon Construction Limited

Submitted by
Samuel K.Y. Hung, Ph.D., Hong Kong Cetacean Research Project

7 January 2016

1. Introduction

1.1. The Tuen Mun-Chek Lap Kok Link (TM-CLKL) comprises a 1.6 km long dual 2-lane viaduct section between the Hong Kong Boundary Crossing Facilities (HKBCF) and the North Lantau Highway and associated roads at Tai Ho. Gammon Construction Limited (hereinafter called the "Contractor") was awarded as the main contractor of "Contract No. HY/2012/07 – Hong Kong-Zhuhai-Macao Bridge Tuen Mun-Chek Lap Kok Link – Southern Connection Viaduct Section".

1.2. According to the updated Environmental Monitoring and Audit (EM&A) Manual (for TM-CLKL), monthly line-transect vessel surveys for Chinese White Dolphin should be conducted to cover the Northwest (NWL) and Northeast Lantau (NEL) survey areas as in AFCD annual marine mammal monitoring programme. However, as such surveys have been undertaken by the HKLR03 and HKBCF projects in the same areas (i.e. NWL and NEL), a combined monitoring approach is recommended by the Highways Department, that the TM-CLKL EM&A project can utilize the monitoring data collected by HKLR03 or HKBCF project to avoid any redundancy in monitoring effort. Such exemption for the dolphin monitoring will end upon the completion of the dolphin monitoring carried out by HKLR03 contract as well as the TM-CLKL Northern Connection Sub-Sea Tunnel Section (HY/2012/08)

1.3. In November 2013, the Director of Hong Kong Cetacean Research Project (HKCRP), Dr. Samuel Hung, has been appointed by Gammon Construction Limited as the dolphin specialist for the TM-CLKL Southern Viaduct Section EM&A project. He is responsible for the dolphin monitoring study, including the data collection on Chinese White Dolphins during the construction phase (i.e. impact period) of the TM-CLKL project in Northwest Lantau (NWL) and Northeast Lantau (NEL) survey areas.

1.4. During the construction period of HKLR, the dolphin specialist would be in charge of

reviewing and collating information collected by HKLR03 dolphin monitoring programme to examine any potential impacts of TM-CLKL construction works on the dolphins.

1.5. From the monitoring results, any changes in dolphin occurrence within the study area will be examined for possible causes, and appropriate actions and additional mitigation measures will be recommended as necessary.

1.6. This report is the eighth quarterly progress report under the TM-CLKL construction phase dolphin monitoring programme submitted to the Gammon Construction Limited, summarizing the results of the surveys findings during the period of September to November 2015, utilizing the survey data collected by HKLR03 project.

2. Monitoring Methodology

2.1. Vessel-based Line-transect Survey

2.1.1. According to the requirement of the updated EM&A manual, dolphin monitoring programme should cover all transect lines in NEL and NWL survey areas (see Figure 1) twice per month throughout the entire construction period. The co-ordinates of all transect lines are shown in Table 1. The coordinates of several starting points have been revised due to the obstruction of the permanent structures in association to the construction works of HKLR and the southern viaduct of TM-CLKL, as well as provision of adequate buffer distance from the Airport Restricted Areas. The EPD issued a memo and confirmed that they had no objection on the revised transect lines on 19 August 2015, and the revised coordinates are in red and marked with an asterisk in Table 1.

Table 1 Co-ordinates of transect lines conducted by HKLR03 project

Line No.		Easting	Northing		Line No.		Easting	Northing
1	Start Point	804671	815456*		13	Start Point	816506	819480
1	End Point	804671	831404		13	End Point	816506	824859
2	Start Point	805475	815913*		14	Start Point	817537	820220
2	End Point	805477	826654		14	End Point	817537	824613
3	Start Point	806464	819435		15	Start Point	818568	820735
3	End Point	806464	822911		15	End Point	818568	824433
4	Start Point	807518	819771		16	Start Point	819532	821420
4	End Point	807518	829230		16	End Point	819532	824209
5	Start Point	808504	820220		17	Start Point	820451	822125
5	End Point	808504	828602		17	End Point	820451	823671
6	Start Point	809490	820466		18	Start Point	821504	822371
6	End Point	809490	825352		18	End Point	821504	823761

7	Start Point	810499	820880*		19	Start Point	822513	823268
7	End Point	810499	824613		19	End Point	822513	824321
8	Start Point	811508	821123*		20	Start Point	823477	823402
8	End Point	811508	824254		20	End Point	823477	824613
9	Start Point	812516	821303*		21	Start Point	805476	827081
9	End Point	812516	824254		21	End Point	805476	830562
10	Start Point	813525	820872		22	Start Point	806464	824033
10	End Point	813525	824657		22	End Point	806464	829598
11	Start Point	814556	818853*		23	Start Point	814559	821739
11	End Point	814556	820992		23	End Point	814559	824768
12	Start Point	815542	818807					
12	End Point	815542	824882					

Note: Co-ordinates in red and marked with asterisk are revised co-ordinates of transect line.

2.1.2. The HKLR03 survey team used standard line-transect methods (Buckland et al. 2001) to conduct the systematic vessel surveys, and followed the same technique of data collection that has been adopted over the last 16 years of marine mammal monitoring surveys in Hong Kong developed by HKCRP (see Hung 2013, 2014). For each monitoring vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) was used to make observations from the flying bridge area.

2.1.3. Two experienced observers (a data recorder and a primary observer) made up the on-effort survey team, and the survey vessel transited different transect lines at a constant speed of 13-15 km per hour. The data recorder searched with unaided eyes and filled out the datasheets, while the primary observer searched for dolphins and porpoises continuously through 7 x 50 *Fujinon* marine binoculars. Both observers searched the sea ahead of the vessel, between 270^{o} and 90^{o} (in relation to the bow, which is defined as 0^{o}). One to two additional experienced observers were available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers were experienced in small cetacean survey techniques and identifying local cetacean species.

2.1.4. During on-effort survey periods, the survey team recorded effort data including time, positions (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance traveled in each series (a continuous period of search effort) with the assistance of a handheld GPS (*Garmin eTrex Legend*).

2.1.5. Data including time, position and vessel speed were also automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.

2.1.6. When dolphins were sighted, the survey team would end the survey effort, and immediately record the initial sighting distance and angle of the dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel was

diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, and behavioural observations. The perpendicular distance (PSD) of the dolphin group to the transect line was later calculated from the initial sighting distance and angle.

2.1.7. Survey effort being conducted along the parallel transect lines that were perpendicular to the coastlines (as indicated in Figure 1) was labeled as "primary" survey effort, while the survey effort conducted along the connecting lines between parallel lines was labeled as "secondary" survey effort. According to HKCRP long-term dolphin monitoring data, encounter rates of Chinese white dolphins deduced from effort and sighting data collected along primary and secondary lines were similar in NEL and NWL survey areas. Therefore, both primary and secondary survey effort were presented as on-effort survey effort in this report.

2.2. Photo-identification Work

2.2.1. When a group of Chinese White Dolphins were sighted during the line-transect survey, the HKLR03 survey team would end effort and approach the group slowly from the side and behind to take photographs of them. Every attempt was made to photograph every dolphin in the group, and even photograph both sides of the dolphins, since the colouration and markings on both sides may not be symmetrical.

2.2.2. A professional digital camera (*Canon* EOS 7D or 60D model), equipped with long telephoto lenses (100-400 mm zoom), were available on board for researchers to take sharp, close-up photographs of dolphins as they surfaced. The images were shot at the highest available resolution and stored on Compact Flash memory cards for downloading onto a computer.

2.2.3. All digital images taken in the field were first examined, and those containing potentially identifiable individuals were sorted out. These photographs would then be examined in greater detail, and were carefully compared to the existing Chinese White Dolphin photo-identification catalogue maintained by HKCRP since 1995.

2.2.4. Chinese White Dolphins can be identified by their natural markings, such as nicks, cuts, scars and deformities on their dorsal fin and body, and their unique spotting patterns were also used as secondary identifying features (Jefferson 2000).

2.2.5. All photographs of each individual were then compiled and arranged in chronological order, with data including the date and location first identified (initial sighting), re-sightings, associated dolphins, distinctive features, and age classes entered into a computer database.

2.3. Data Analysis

2.3.1. Distribution Analysis – The line-transect survey data was integrated with the Geographic Information System (GIS) in order to visualize and interpret different spatial and temporal

patterns of dolphin distribution using sighting positions. Location data of dolphin groups were plotted on map layers of Hong Kong using a desktop GIS (ArcView© 3.1) to examine their distribution patterns in details. The dataset was also stratified into different subsets to examine distribution patterns of dolphin groups with different categories of group sizes, young calves and activities.

2.3.2. Encounter rate analysis – Encounter rates of Chinese white dolphins (number of on-effort sightings per 100 km of survey effort, and total number of dolphins sighted on-effort per 100 km of survey effort) were calculated in NEL and NWL survey areas in relation to the amount of survey effort conducted during each month of monitoring survey. Only data collect under Beaufort 3 or below condition would be used for the encounter rate analyses. Dolphin encounter rates were calculated in two ways for comparisons with the HZMB baseline monitoring results as well as to AFCD long-term marine mammal monitoring results.

Firstly, for the comparison with the HZMB baseline monitoring results, the encounter rates were calculated using primary survey effort alone. The average encounter rate of sightings (STG) and average encounter rate of dolphins (ANI) were deduced based on the encounter rates from six events during the present quarter (i.e. six sets of line-transect surveys in North Lantau), which was also compared with the one deduced from the six events during the baseline period (i.e. six sets of line-transect surveys in North Lantau).

Secondly, the encounter rates were calculated using both primary and secondary survey effort collected under Beaufort 3 or below condition as in AFCD long-term monitoring study. The encounter rate of sightings and dolphins were deduced by dividing the total number of on-effort sightings (STG) and total number of dolphins (ANI) by the amount of survey effort for the present quarterly period.

2.3.3. Quantitative grid analysis on habitat use – To conduct quantitative grid analysis of habitat use, positions of on-effort sightings of Chinese White Dolphins collected during the quarterly impact phase monitoring period were plotted onto 1-km^2 grids among NWL and NEL survey areas on GIS. Sighting densities (number of on-effort sightings per km^2) and dolphin densities (total number of dolphins from on-effort sightings per km^2) were then calculated for each 1 km by 1 km grid with the aid of GIS. Sighting density grids and dolphin density grids were then further normalized with the amount of survey effort conducted within each grid. The total amount of survey effort spent on each grid was calculated by examining the survey coverage on each line-transect survey to determine how many times the grid was surveyed during the study period. For example, when the survey boat traversed through a specific grid 50 times, 50 units of survey effort were counted for that grid. With the amount of survey effort calculated for each grid, the sighting density and dolphin density of each grid were then normalized (i.e. divided by the unit of survey effort).

The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort **s**ightings **p**er 100 units of **s**urvey **e**ffort. In addition, the derived unit for actual dolphin density was termed DPSE, representing the number of **d**olphins **p**er 100 units of **s**urvey **e**ffort. Among the 1-km^2 grids that were partially covered by land, the

percentage of sea area was calculated using GIS tools, and their SPSE and DPSE values were adjusted accordingly. The following formulae were used to estimate SPSE and DPSE in each 1-km^2 grid within the study area:

SPSE = ((S / E) x 100) / SA%
DPSE = ((D / E) x 100) / SA%

where S = total number of on-effort sightings
D = total number of dolphins from on-effort sightings
E = total number of units of survey effort
SA% = percentage of sea area

2.3.4. Behavioural analysis – When dolphins were sighted during vessel surveys, their behaviour was observed. Different activities were categorized (i.e. feeding, socializing, traveling, and milling/resting) and recorded on sighting datasheets. This data was then input into a separate database with sighting information, which can be used to determine the distribution of behavioural data with a desktop GIS. Distribution of sightings of dolphins engaged in different activities and behaviours would then be plotted on GIS and carefully examined to identify important areas for different activities of the dolphins.

2.3.5. Ranging pattern analysis – Location data of individual dolphins that occurred during the 3-month impact phase monitoring period were obtained from the dolphin sighting database and photo-identification catalogue. To deduce home ranges for individual dolphins using the fixed kernel methods, the program Animal Movement Analyst Extension, was loaded as an extension with ArcView© 3.1 along with another extension Spatial Analyst 2.0. Using the fixed kernel method, the program calculated kernel density estimates based on all sighting positions, and provided an active interface to display kernel density plots. The kernel estimator then calculated and displayed the overall ranging area at 95% UD level.

3. Monitoring Results

3.1. Summary of survey effort and dolphin sightings

3.1.1. During the period of September to November 2015, six sets of systematic line-transect vessel surveys were conducted under the HKLR03 monitoring works to cover all transect lines in NWL and NEL survey areas twice per month.

3.1.2. From these HKLR03 surveys, a total of 902.25 km of survey effort was collected, with 95.0% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility). Among the two areas, 346.64 km and 555.61 km of survey effort were conducted in NEL and NWL survey areas respectively.

3.1.3. The total survey effort conducted on primary lines was 656.41 km, while the effort on secondary lines was 245.84 km. Survey effort conducted on both primary and secondary lines were considered as on-effort survey data. A summary table of the survey effort is

shown in Appendix I.

3.1.4. During the six sets of HKLR03 monitoring surveys in September-November 2015, a total of 18 groups of 95 Chinese White Dolphins were sighted. All dolphin sightings were made during on-effort search, and all except one dolphin sightings were made on primary lines. In this quarterly period, all dolphin groups were sighted in NWL, while none was sighted at all in NEL. A summary table of the dolphin sightings is shown in Appendix II.

3.2. Distribution

3.2.1. Distribution of dolphin sightings made during HKLR03 monitoring surveys in September to November 2015 is shown in Figure 1. Dolphin sightings made in the present quarter were mostly clustered around Lung Kwu Chau (Figure 1). A few other sightings were also made near Sha Chau and to the west of the airport platform (Figure 1).

3.2.2. Notably, all dolphin groups were sighted far away from the alignment of TMCLKL southern viaduct and northern landfall section, as well as the HKLR03/HKBCF reclamation sites (Figure 1). On the other hand, two sightings with five dolphins were made in the vicinity of the HKLR09 alignment (Figure 1).

3.2.3. Sighting distribution of the present impact phase monitoring period (September to November 2015) was compared to the one during the baseline monitoring period (September to November 2011). In the present quarter, dolphins have disappeared from the NEL region, which was in stark contrast to their frequent occurrence around the Brothers Islands, near Shum Shui Kok and in the vicinity of HKBCF reclamation site during the baseline period (Figure 1). The nearly complete abandonment of NEL region by the dolphins has been consistently recorded in the past monitoring quarters, which has resulted in zero to extremely low dolphin encounter rates in this area.

3.2.4. In NWL survey area, dolphin occurrence was also drastically different between the baseline and impact phase periods. During the present impact monitoring period, fewer dolphins occurred in this survey area than during the baseline period, when many of the dolphin sightings were concentrated between Lung Kwu Chau and Black Point, around Sha Chau, near Pillar Point and to the west of the Chek Lap Kok Airport (Figure 1).

3.2.5. Another comparison in dolphin distribution was made between the three quarterly periods of autumn months in 2013, 2014 and 2015 (Figure 2). Among the three autumn periods, no dolphin was sighted at all in NEL in both 2014 and 2015, while two sightings were made there in 2013 (Figure 2).

3.2.6. On the other hand, dramatic changes in dolphin distribution in NWL waters were also observed in the autumn months during the three-year period (Figure 2). In 2013, dolphins regularly occurred throughout the NWL survey area, with higher concentrations of sightings around Sha Chau, Lung Kwu Chau, near Black Point and Pillar Point. In 2014, dolphins still frequently occurred around Sha Chau and Lung Kwu Chau, but less frequently in the middle portion of the North Lantau region. In 2015, they infrequently occurred in NWL survey area with the only concentration of sightings around Lung Kwu

Chau, while they generally absent for the rest of this area. Similar temporal changes in dolphin distribution were also observed in the spring and summer periods of 2013-15. The temporal trend indicated that dolphin usage in the NWL region has progressively diminished in recent years.

3.3. Encounter rate

3.3.1. During the present quarterly period, the encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data from the primary transect lines under favourable conditions (Beaufort 3 or below) for each set of the HKLR03 surveys in NEL and NWL are shown in Table 2. The average encounter rates deduced from the six sets of HKLR03 surveys were also compared with the ones deduced from the baseline monitoring period (September – November 2011) (Table 3).

3.3.2. To facilitate the comparison with the AFCD long-term monitoring results, the encounter rates were also calculated for the present quarter using both primary and secondary survey effort. The encounter rates of sightings (STG) and dolphins (ANI) in NWL were 3.31 sightings and 17.52 dolphins per 100 km of survey effort respectively, while the encounter rates of sightings (STG) and dolphins (ANI) in NEL were both nil for this quarter.

Table 2. Dolphin encounter rates (sightings per 100 km of survey effort) during September-November 2015

SURVEY AREA	DOLPHIN MONITORING DATES	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
Northeast Lantau	Set 1 (2 & 11 Sep 2015)	0.00	0.00
	Set 2 (17 & 29 Sep 2015)	0.00	0.00
	Set 3 (6 & 13 Oct 2015)	0.00	0.00
	Set 4 (19 & 26 Oct 2015)	0.00	0.00
	Set 5 (2 & 6 Nov 2015)	0.00	0.00
	Set 6 (10 & 16 Nov 2015)	0.00	0.00
Northwest Lantau	Set 1 (2 & 11 Sep 2015)	5.47	51.95
	Set 2 (17 & 29 Sep 2015)	4.01	21.38
	Set 3 (6 & 13 Oct 2015)	5.86	24.91
	Set 4 (19 & 26 Oct 2015)	2.73	10.94
	Set 5 (2 & 6 Nov 2015)	3.84	15.38
	Set 6 (10 & 16 Nov 2015)	1.73	1.73

Table 3. Comparison of average dolphin encounter rates from impact monitoring period (September – November 2015) and baseline monitoring period (September – November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; ± denotes the standard deviation of the 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)	
	September - November 2015	**September - November 2011**	**September - November 2015**	**September - November 2011**
Northeast Lantau	0.0	6.00 ± 5.05	0.0	22.19 ± 26.81
Northwest Lantau	3.94 ± 1.57	9.85 ± 5.85	21.05 ± 17.19	44.66 ± 29.85

Table 4. Comparison of average dolphin encounter rates in Northeast Lantau survey area from all quarters of HKLR03 impact monitoring period and baseline monitoring period (September-November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; the encounter rates in summer months were highlighted in blue; ± denotes the standard deviation of the 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)
September-November 2011 (Baseline)	6.00 ± 5.05	22.19 ± 26.81
December 2012-February 2013 (Impact)	3.14 ± 3.21	6.33 ± 8.64
March-May 2013 (Impact)	0.42 ± 1.03	0.42 ± 1.03
June-August 2013 (Impact)	0.88 ± 1.36	3.91 ± 8.36
September-November 2013 (Impact)	1.01 ± 1.59	3.77 ± 6.49
December 2013-February 2014 (Impact)	0.45 ± 1.10	1.34 ± 3.29
March-May 2014 (Impact)	0.00	0.00
June-August 2014 (Impact)	0.42 ± 1.04	1.69 ± 4.15
September-November 2014 (Impact)	0.00	0.00
December 2014-February 2015 (Impact)	0.00	0.00
March-May 2015 (Impact)	0.00	0.00
June-August 2015 (Impact)	0.44 ± 1.08	0.44 ± 1.08
September-November 2015 (Impact)	0.00	0.00

3.3.3. In NEL, the average dolphin encounter rates (both STG and ANI) in the present three-month impact monitoring period were zero with no sighting made, and such low occurrence of dolphins in NEL have been consistently recorded in the past eleven quarters of HKLR03 monitoring (Table 4). This is a serious concern as the dolphin occurrence in

NEL in the last eleven quarters (0.0-1.0 for ER(STG) and 0.0-3.9 for ER(ANI)) have been exceptionally low when compared to the baseline period (Table 4). Dolphins have almost vacated from NEL waters since January 2014, with only two groups of five dolphins sighted there since then despite consistent and intensive survey effort being conducted in this survey area

3.3.4. Moreover, the average dolphin encounter rates (STG and ANI) in NWL during the present impact phase monitoring period were also much lower (reductions of 60.0% and 52.9% respectively) than the ones recorded in the 3-month baseline period, indicating a dramatic decline in dolphin usage of this survey area as well during the present impact phase period (Table 5).

3.3.5. Even for the same autumn quarters, the dolphin encounter rates in NWL during autumn 2015 were much lower than the ones recorded in autumn 2013 and 2014 (Table 5).

Table 5. Comparison of average dolphin encounter rates in Northwest Lantau survey area from all quarters of impact monitoring period and baseline monitoring period (September-November 2011) (Note: encounter rates deduced from the baseline monitoring period have been recalculated based only on survey effort and on-effort sighting data made along the primary transect lines under favourable conditions; the encounter rates in summer months were highlighted in blue; ± denotes the standard deviation of the 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)
September-November 2011 (Baseline)	9.85 ± 5.85	44.66 ± 29.85
December 2012-February 2013 (Impact)	8.36 ± 5.03	35.90 ± 23.10
March-May 2013 (Impact)	7.75 ± 3.96	24.23 ± 18.05
June-August 2013 (Impact)	6.56 ± 3.68	27.00 ± 18.71
September-November 2013 (Impact)	8.04 ± 1.10	32.48 ± 26.51
December 2013-February 2014 (Impact)	8.21 ± 2.21	32.58 ± 11.21
March-May 2014 (Impact)	6.51 ± 3.34	19.14 ± 7.19
June-August 2014 (Impact)	4.74 ± 3.84	17.52 ± 15.12
September-November 2014 (Impact)	5.10 ± 4.40	20.52 ± 15.10
December 2014-February 2015 (Impact)	2.91 ± 2.69	11.27 ± 15.19
March-May 2015 (Impact)	0.47 ± 0.73	2.36 ± 4.07
June-August 2015 (Impact)	2.53 ± 3.20	9.21 ± 11.57
September-November 2015 (Impact)	3.94 ± 1.57	21.05 ± 17.19

3.3.6. It should be noted that the encounter rates in NWL in the present quarter have slightly rebounded from the exceptionally low level in the previous three quarters (Table 5). Such potential rebound in dolphin occurrence could be an encouraging sign, and should

be continuously monitored in the upcoming monitoring quarters.

3.3.7. As discussed recently in Hung (2015), the dramatic decline in dolphin usage of NEL waters in the past few years (including the declines in abundance, encounter rate and habitat use in NEL, as well as shifts of individual core areas and ranges away from NEL waters) was possibly related to the HZMB construction works that were commenced since 2012. It appeared that such noticeable decline has already extended to NWL waters progressively in 2013-2015.

3.3.8. A two-way ANOVA with repeated measures and unequal sample size was conducted to examine whether there were any significant differences in the average encounter rates between the baseline and impact monitoring periods. The two variables that were examined included the two periods (baseline and impact phases) and two locations (NEL and NWL).

3.3.9. For the comparison between the baseline period and the present quarter (twelfth quarter of the impact phase being assessed), the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.0079 and 0.071 respectively. If the alpha value is set at 0.05, significant differences were detected between the baseline and present quarters in the dolphin encounter rate of STG, but not in the dolphin encounter rate of ANI.

3.3.10. For the comparison between the baseline period and the cumulative quarters in impact phase (i.e. first twelve quarters of the impact phase being assessed), the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.00009 and 0.00003 respectively. Even if the alpha value is set at 0.0001, significant differences were still detected in both the average dolphin encounter rates of STG and ANI (i.e. between the two periods and the locations).

3.3.11. As indicated in both dolphin distribution patterns and encounter rates, dolphin usage has been significantly reduced in both NEL and NWL survey areas during the present quarterly period, and such low occurrence of dolphins has also been consistently documented in previous quarters. This raises serious concern, as the timing of the decline in dolphin usage in North Lantau waters coincided well with the construction schedule of the HZMB-related projects (Hung 2015).

3.3.12. To ensure the continuous usage of North Lantau waters by the dolphins, every possible measure should be implemented by the contractors and relevant authorities of HZMB-related works to minimize all disturbances to the dolphins.

3.4. Group size

3.4.1. Group size of Chinese White Dolphins ranged from one to twelve individuals per group in North Lantau region during September to November 2015. The average dolphin group sizes from these three months were compared with the ones deduced from the baseline period in September to November 2011, as shown in Table 6.

Table 6. Comparison of average dolphin group sizes from impact monitoring period (September – November 2015) and baseline monitoring period (September – November 2011) (Note: ± denotes the standard deviation of the average group size)

	Average Dolphin Group Size	
	September – November 2015	**September – November 2011**
Overall	5.28 ± 3.54 (n = 18)	3.72 ± 3.13 (n = 66)
Northeast Lantau	N/A	3.18 ± 2.16 (n = 17)
Northwest Lantau	5.28 ± 3.54 (n = 18)	3.92 ± 3.40 (n = 49)

3.4.2. The average dolphin group size in NWL waters during September to November 2015 was higher than the ones recorded during the three-month baseline period (Table 6). Seven of the 18 groups were composed of 1-3 individuals only, while five other groups were moderate in size with 4-6 individuals per group. Moreover, six large dolphin groups were sighted during the present quarterly period, including three groups with 7-9 individuals each, and another three groups with 10-12 individuals each.

3.4.3. Distribution of dolphins with larger group sizes (five individuals or more per group and ten individuals per group) during the present quarter is shown in Figure 3, with comparison to the one in baseline period. During the autumn months of 2015, distribution of these large groups of dolphins were all located around Lung Kwu Chau and Sha Chau, with the three exceptionally large groups of dolphins (i.e. with 10 or more individuals) sighted adjacent to Lung Kwu Chau (Figure 3). This distribution pattern was very different from the baseline period, when the larger dolphin groups were distributed more evenly in NWL waters with a few more sighted in NEL waters (Figure 3).

3.4.4. None of the larger dolphin groups were sighted near the TMCLKL alignment during the present monitoring period (Figure 3).

3.5. Habitat use

3.5.1. From September to November 2015, the only area being heavily utilized by Chinese White Dolphins was around and to the north of Lung Kwu Chau, as well as both eastern and western sides of Sha Chau in North Lantau region (Figures 4a and 4b). All grids near TMCLKL alignment as well as HKLR03/HKBCF reclamation sites did not record any presence of dolphins during on-effort search in the present quarterly period, but one grid (F19) in the vicinity of HKLR09 alignment did record moderately high dolphin densities (Figure 4b).

3.5.2. It should be emphasized though that the amount of survey effort collected in each grid during the three-month period was fairly low (6-12 units of survey effort for most grids), and therefore the habitat use pattern derived from the three-month dataset should be treated with caution. A more complete picture of dolphin habitat use pattern should be examined when more survey effort for each grid will be collected throughout the impact phase monitoring programme.

3.5.3. When compared with the habitat use patterns during the baseline period, dolphin usage in NEL and NWL has dramatically diminished in both areas during the present impact monitoring period (Figure 5). During the baseline period, many grids between Siu Mo To and Shum Shui Kok recorded moderately high to high dolphin densities, which was in stark contrast to the complete absence of dolphins there during the present impact phase period (Figure 5).

3.5.4. The density patterns were also very different in NWL between the baseline and impact phase monitoring periods, with higher dolphin usage around Sha Chau, near Black Point, to the west of the airport, as well as between Pillar Point and airport platform during the baseline period. In contrast, only the waters around Lung Kwu Chau and Sha Chau recorded high densities of dolphins during the present impact phase period (Figure 5).

3.6. Mother-calf pairs

3.6.1. During the present quarterly period, two young calves (i.e. unspotted calf or unspotted juvenile) were spotted with their mothers near Lung Kwu Chau

3.6.2. The rare occurrence of young calves in the present quarter was in stark contrast to their regular occurrence in North Lantau waters during the baseline period. This should be of a serious concern, and the occurrence of young calves in North Lantau waters should be closely monitored in the upcoming quarters.

3.7. Activities and associations with fishing boats

3.7.1. Four of the 18 dolphin groups were engaged in feeding activities, while two other dolphin groups were engaged in socializing activities. None of the dolphin groups were engaged in traveling or milling/resting activity during the three-month study period.

3.7.2. The percentages of sightings associated with feeding activities (22.2%) and socializing activities (11.1%) during the present impact phase period were both higher than the ones recorded during the baseline period (11.6% and 5.4% respectively). However, it should be noted the sample sizes on total numbers of dolphin sightings were very different between the two periods.

3.7.3. Distribution of dolphins engaged in various activities during the present three-month period and baseline period is shown in Figure 6. The four dolphin groups engaged in feeding activities were sighted near Lung Kwu Chau and Sha Chau as well as to the north of Lung Kwu Chau (Figure 6). The two groups engaged in socializing activities were both located to the west of Lung Kwu Chau.

3.7.4. When compared to the baseline period, distribution of various dolphin activities during the present impact phase monitoring period was drastically different with a much more restricted area of occurrences.

3.7.5. As consistently recorded in the past monitoring quarters, none of the 18 dolphin groups was found to be associated with operating fishing vessels in North Lantau waters during the present impact phase period.

3.8. Summary of photo-identification works

3.8.1. From September to November 2015, over 2,500 digital photographs of Chinese White Dolphins were taken during the HKLR03 impact phase monitoring surveys for the photo-identification work.

3.8.2. In total, 34 individuals sighted 65 times altogether were identified (see summary table in Appendix III and photographs of identified individuals in Appendix IV). All of these re-sightings were made in NWL.

3.8.3. The majority of identified individuals were sighted only once or twice during the three-month period, with the exception of two individuals (NL46 and NL210) being 3-4 times and another three individuals (NL48, NL202 and NL286) being sighted 5-6 times.

3.8.4. Notably, eight of these 34 individuals (NL33, NL123, NL284, NL285, WL05, WL79, WL241 and WL243) were also sighted in West Lantau waters during the HKLR09 monitoring surveys from September to November 2015, implying that they have moved across the HKLR09 bridge alignment during the same three-month period.

3.9. Individual range use

3.9.1. Ranging patterns of the 34 individuals identified during the three-month study period were determined by fixed kernel method, and are shown in Appendix V.

3.9.2. All identified dolphins sighted in the present quarter were utilizing NWL waters only, but have completely avoided NEL waters where many of them have utilized as their core areas in the past (Appendix V). This is in contrary to the extensive movements between NEL and NWL survey areas observed in the earlier impact monitoring quarters as well as the baseline period.

3.9.3. Notably, several individuals (NL33, NL123, NL284, NL285 and WL05) consistently utilized both NWL and NEL waters in the past have extended their range use to WL waters (and even SWL waters in the case of NL33) during the present quarter. In the upcoming quarters, individual range use and movements should be continuously monitored to examine whether there has been any consistent shifts of individual home ranges from North Lantau to West or Southwest Lantau, as such shift could possibly be related to the HZMB-related construction works (see Hung 2015).

4. Conclusion

4.1. During this quarter of dolphin monitoring, no adverse impact from the activities of the TMCLKL construction project on Chinese White Dolphins was noticeable from general observations.

4.2. Although the dolphins infrequently occurred along the alignment of TMCLKL southern connection viaduct in the past and during the baseline monitoring period, it is apparent

that dolphin usage has been significantly reduced in NEL, and many individuals have shifted away from the important habitat around the Brothers Islands.

4.3. It is critical to monitor the dolphin usage in North Lantau region in the upcoming quarters, to determine whether the dolphins are continuously affected by the various construction activities in relation to the HZMB-related works, and whether suitable mitigation measure can be applied to revert the situation.

5. References

- Buckland, S. T., Anderson, D. R., Burnham, K. P., Laake, J. L., Borchers, D. L., and Thomas, L. 2001. Introduction to distance sampling: estimating abundance of biological populations. Oxford University Press, London.

- Hung, S. K. 2013. Monitoring of Marine Mammals in Hong Kong waters: final report (2012-13). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department, 168 pp.

- Hung, S. K. 2014. Monitoring of marine mammals in Hong Kong waters – data collection: final report (2013-14). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department of Hong Kong SAR Government, 231 pp.

- Hung, S. K. 2015. Monitoring of marine mammals in Hong Kong waters – data collection: final report (2014-15). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department of Hong Kong SAR Government, 198 pp.

- Jefferson, T. A. 2000. Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters. Wildlife Monographs 144:1-65.

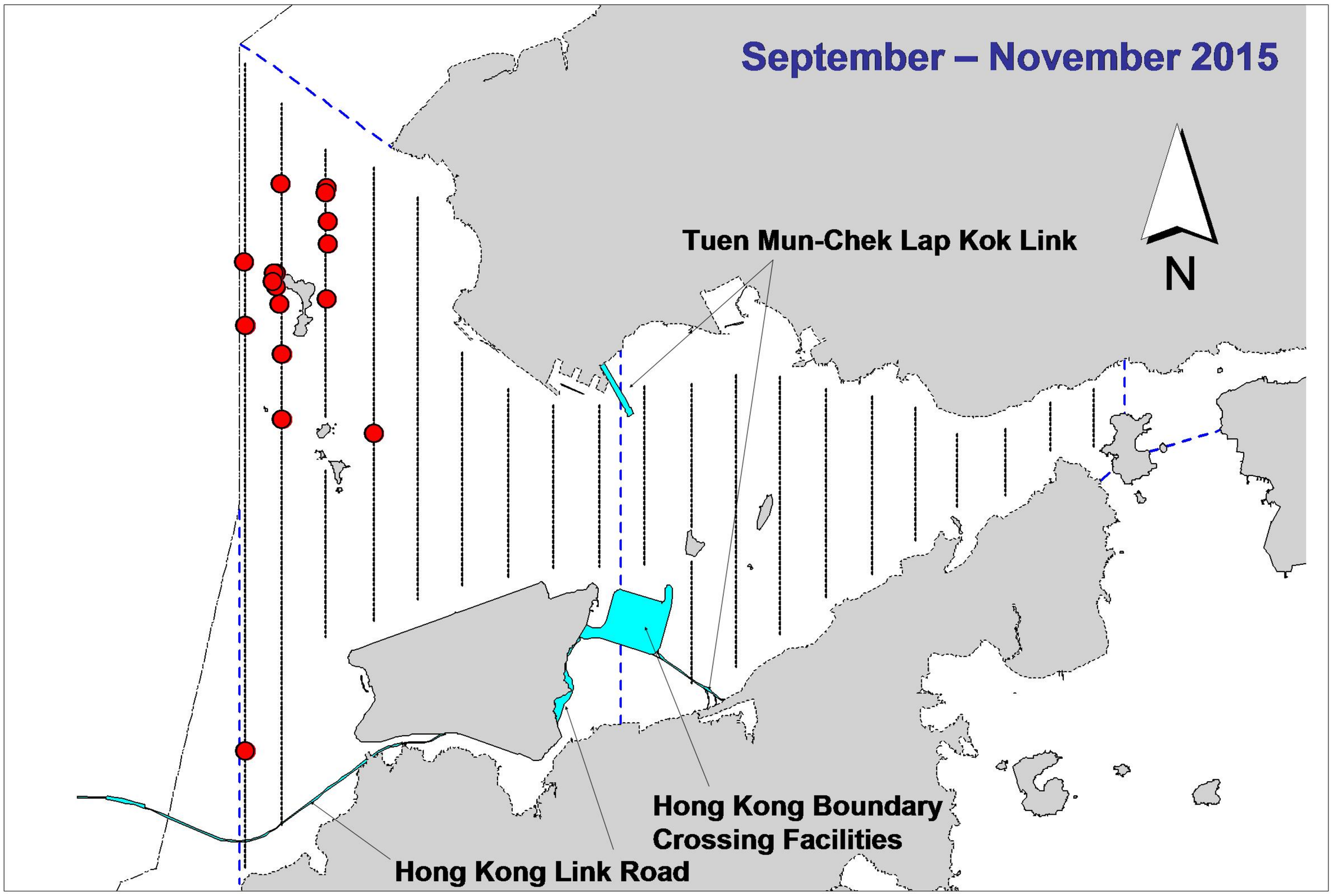


Figure 1. Distribution of Chinese white dolphin sighting in Northwest and Northeast Lantau during HKLR03 impact phase (top) and baseline monitoring surveys (bottom)

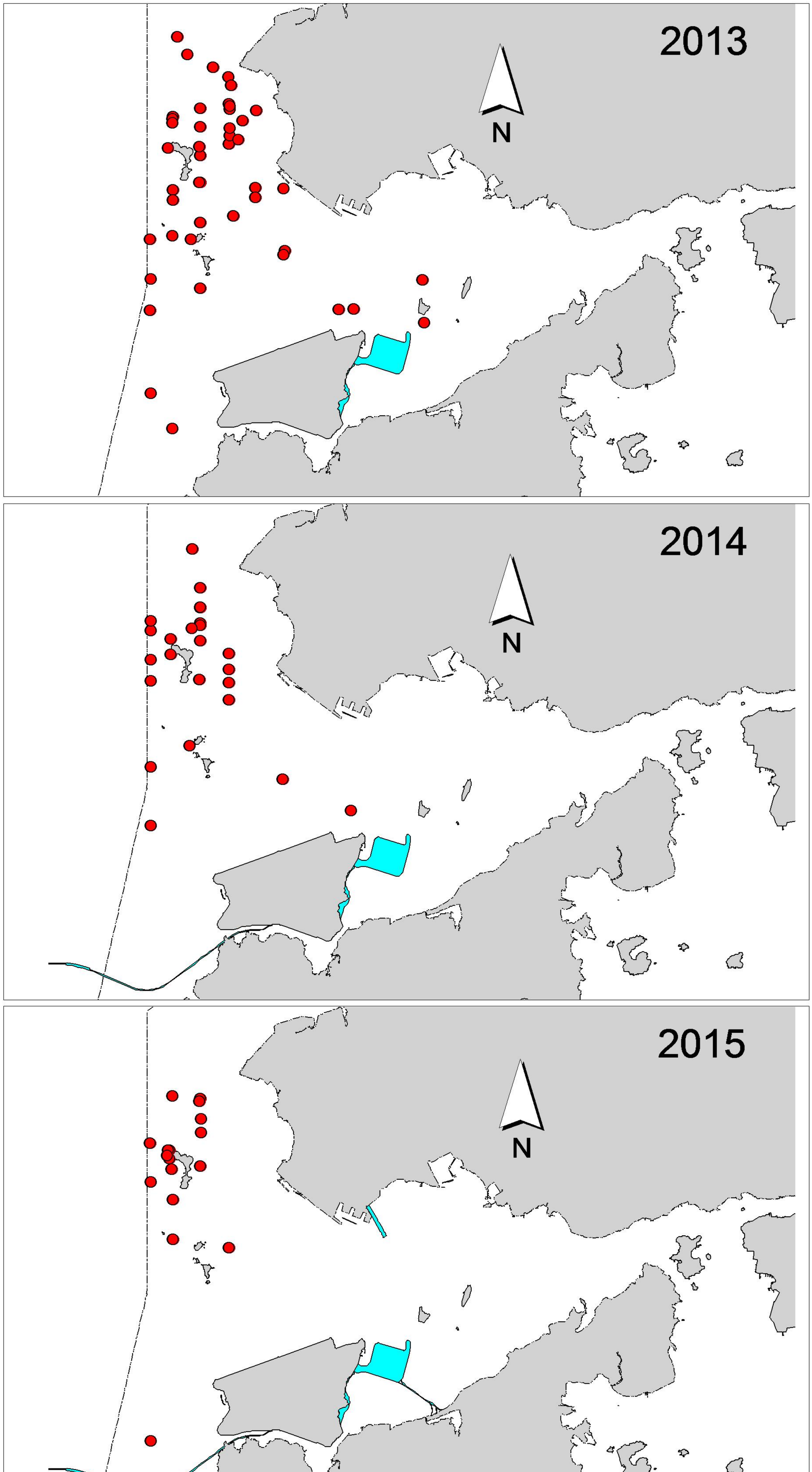


Figure 2. Distribution of Chinese white dolphin sightings in Northwest and Northeast Lantau during the same autumn quarters (June-August) of HKLR03 impact phase in 2013-15

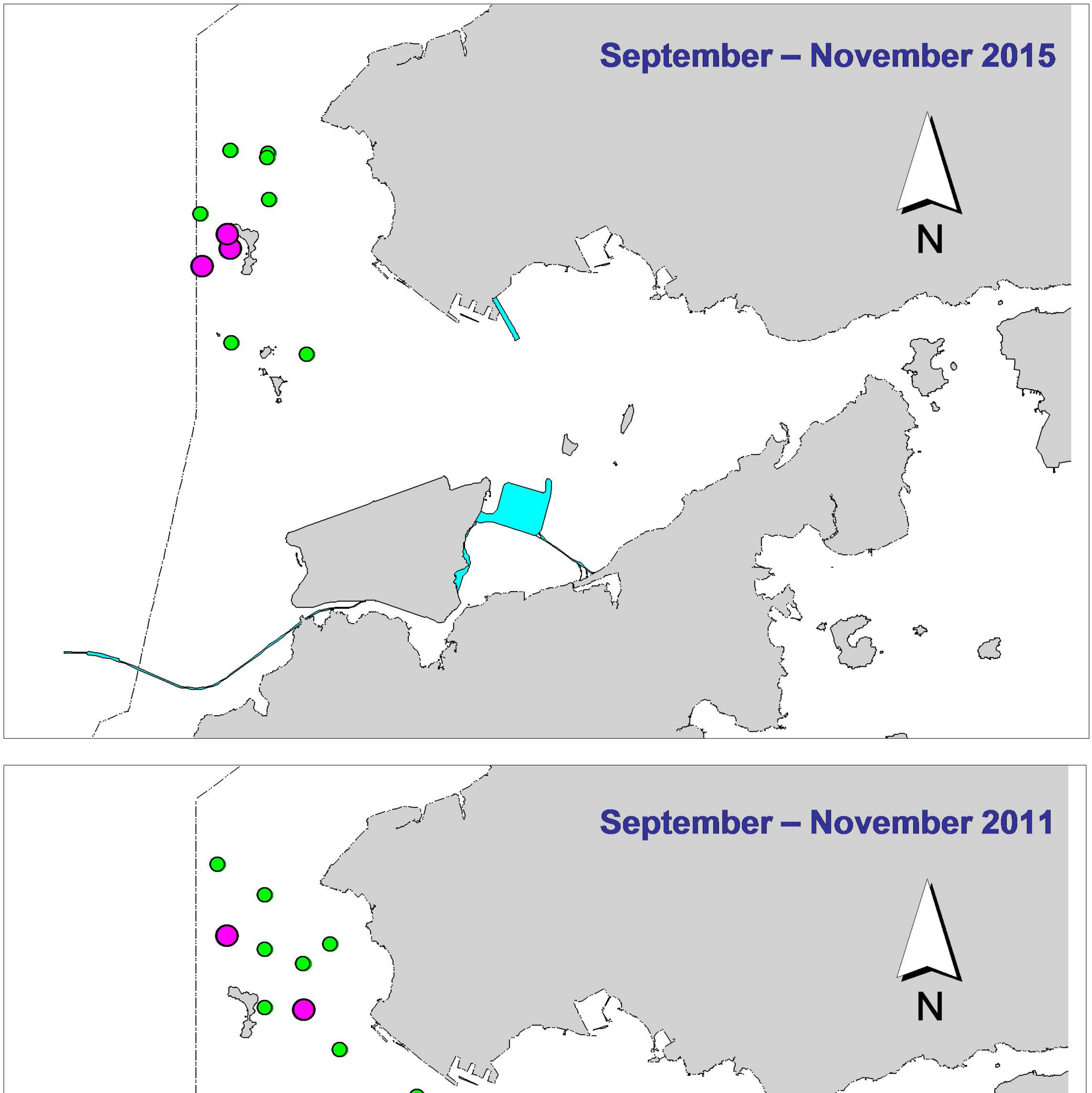


Figure 3. Distribution of Chinese white dolphins with larger group sizes during HKLR03 impact phase (top) and baseline monitoring surveys (bottom) (green dots: group sizes of 5 or more; purple dots: group sizes of 10 or more)

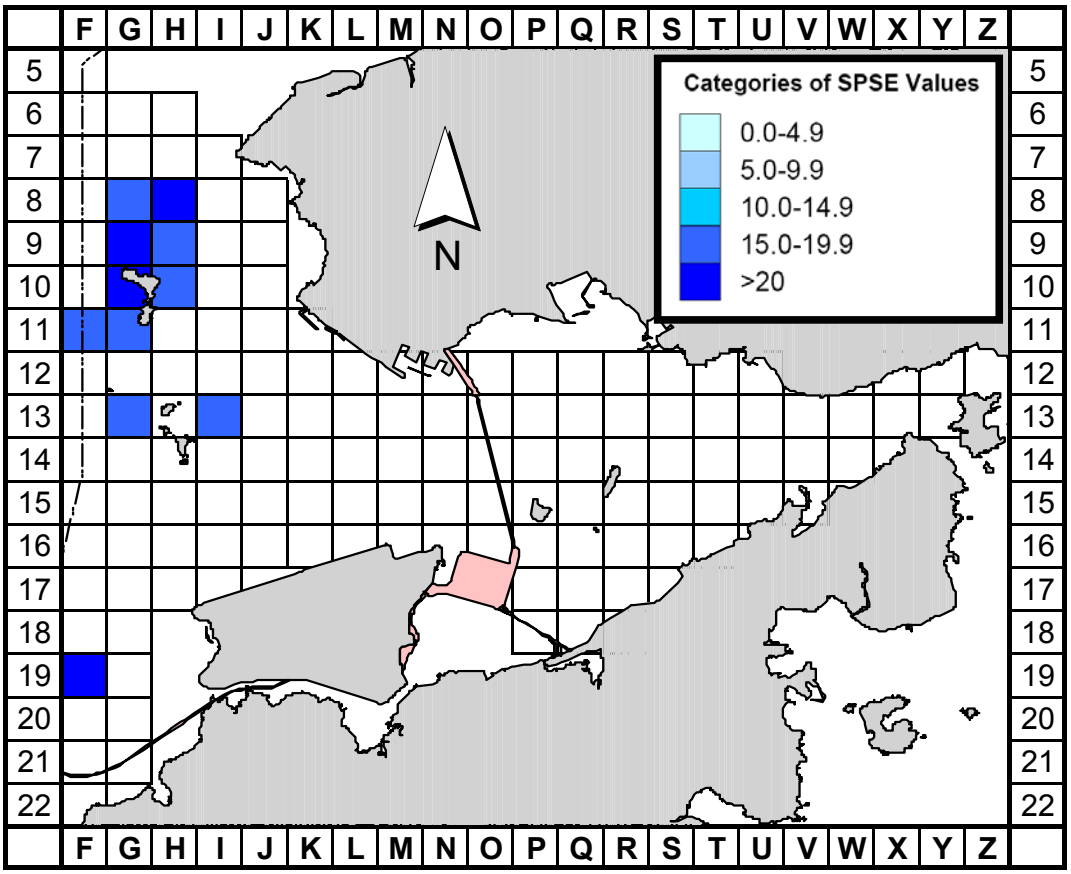


Figure 4a. Sighting density of Chinese white dolphins with corrected survey effort per km^2 in Northeast and Northwest Lantau survey areas, using data collected during HKLR03 impact monitoring period monitoring period (Sep-Nov 15) (SPSE = no. of on-effort sightings per 100 units of survey effort)

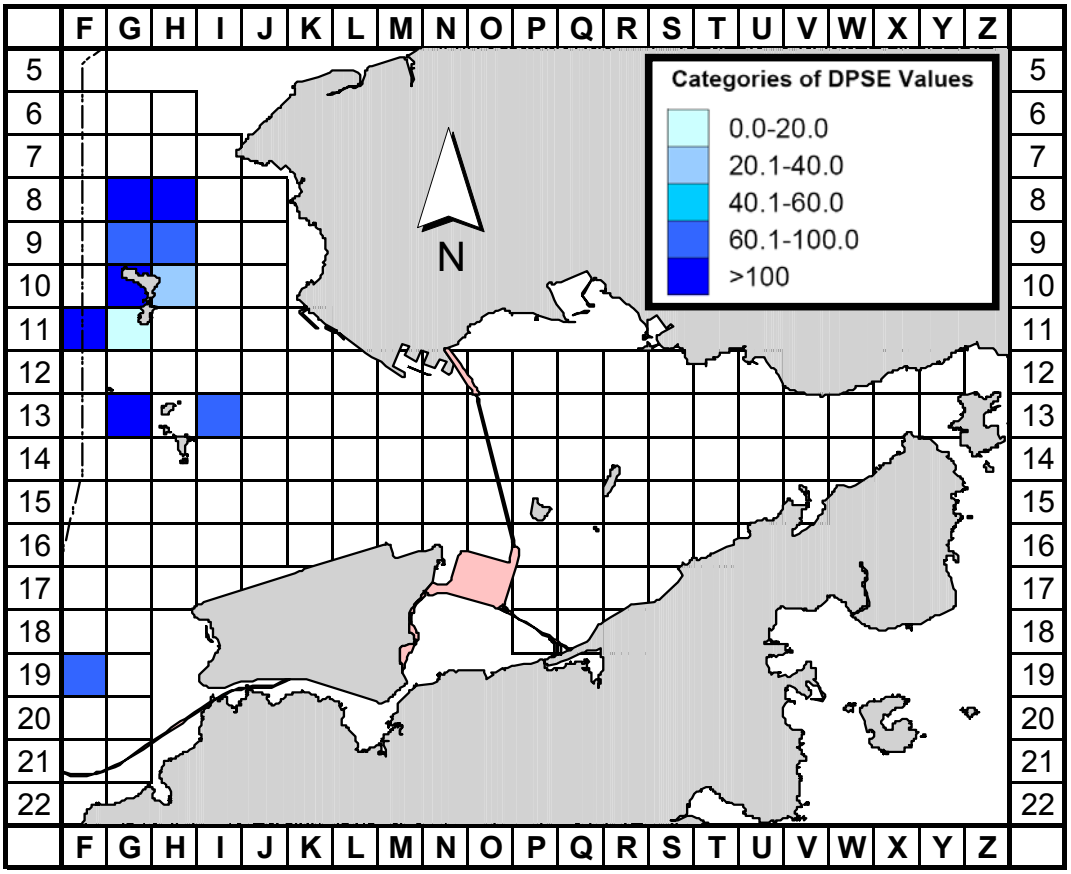


Figure 4b. Density of Chinese white dolphins with corrected survey effort per km^2 in Northeast and Northwest Lantau survey areas, using data collected during HKLR03 impact monitoring period (Sep-Nov 15) (DPSE = no. of dolphins per 100 units of survey effort)

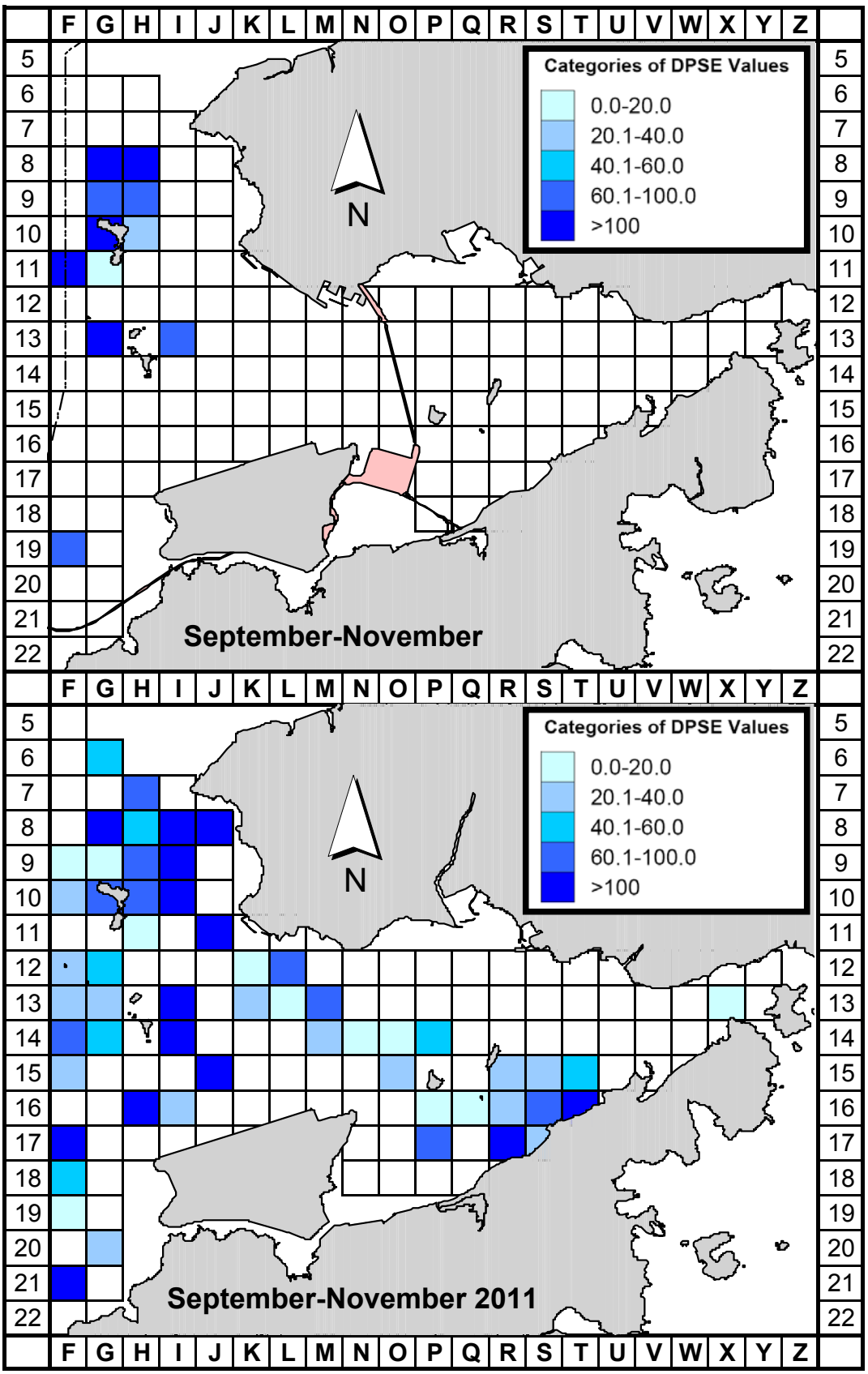


Figure 5. Comparison of density of Chinese white dolphins with corrected survey effort per km^2 in Northwest and Northeast Lantau survey area between the impact monitoring period September-November 2015) and baseline monitoring period (September-November 2011)
(DPSE = no. of dolphins per 100 units of survey effort)

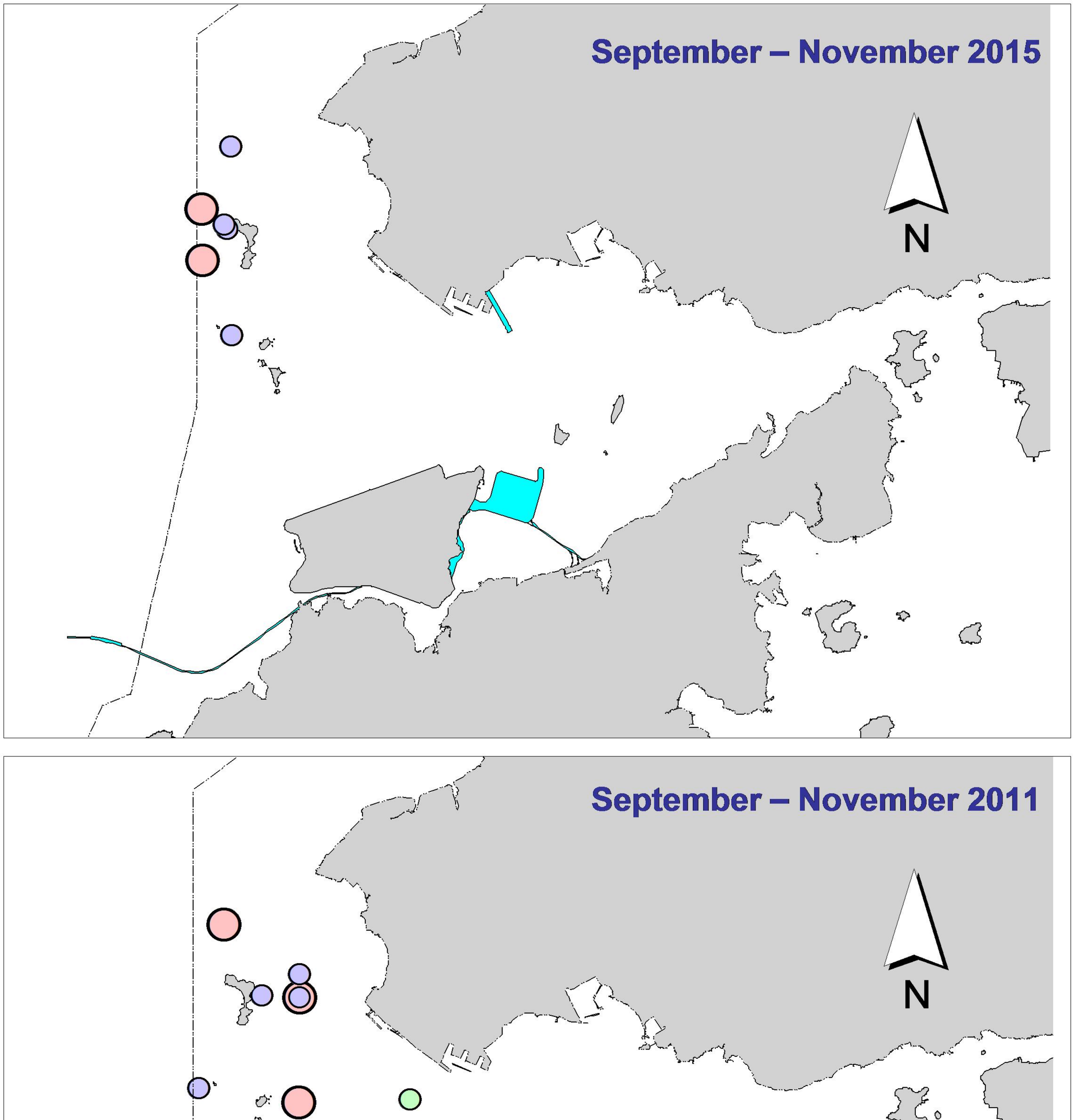


Figure 6. Distribution of Chinese white dolphins engaged in feeding (purple dots), socializing (pink dots) and traveling (green dots) activities during HKLR03 impact phase (top) and baseline monitoring surveys (bottom)

Appendix I. HKLR03 Survey Effort Database (September-November 2015)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
2-Sep-15	NW LANTAU	2	1.92	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NW LANTAU	3	30.24	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NW LANTAU	3	6.89	AUTUMN	STANDARD31516	HKLR	S
2-Sep-15	NE LANTAU	2	11.59	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NE LANTAU	3	7.98	AUTUMN	STANDARD31516	HKLR	P
2-Sep-15	NE LANTAU	2	8.83	AUTUMN	STANDARD31516	HKLR	S
2-Sep-15	NE LANTAU	3	2.00	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NW LANTAU	2	30.26	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NW LANTAU	3	10.73	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NW LANTAU	2	4.41	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NW LANTAU	3	8.40	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NE LANTAU	2	7.75	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NE LANTAU	3	8.95	AUTUMN	STANDARD31516	HKLR	P
11-Sep-15	NE LANTAU	2	7.97	AUTUMN	STANDARD31516	HKLR	S
11-Sep-15	NE LANTAU	3	2.11	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NE LANTAU	2	9.43	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NE LANTAU	3	10.80	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NE LANTAU	2	5.51	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NE LANTAU	3	5.22	AUTUMN	STANDARD31516	HKLR	S
17-Sep-15	NW LANTAU	2	4.70	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NW LANTAU	3	28.06	AUTUMN	STANDARD31516	HKLR	P
17-Sep-15	NW LANTAU	3	7.34	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NE LANTAU	2	3.00	AUTUMN	STANDARD31516	HKLR	P
29-Sep-15	NE LANTAU	3	12.12	AUTUMN	STANDARD31516	HKLR	P
29-Sep-15	NE LANTAU	4	1.90	AUTUMN	STANDARD31516	HKLR	P
29-Sep-15	NE LANTAU	2	3.06	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NE LANTAU	3	6.02	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NE LANTAU	4	1.10	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NW LANTAU	2	25.66	AUTUMN	STANDARD31516	HKLR	P
29-Sep-15	NW LANTAU	3	16.42	AUTUMN	STANDARD31516	HKLR	P
29-Sep-15	NW LANTAU	2	1.60	AUTUMN	STANDARD31516	HKLR	S
29-Sep-15	NW LANTAU	3	11.49	AUTUMN	STANDARD31516	HKLR	S
6-Oct-15	NW LANTAU	2	10.62	AUTUMN	STANDARD31516	HKLR	P
6-Oct-15	NW LANTAU	3	18.78	AUTUMN	STANDARD31516	HKLR	P
6-Oct-15	NW LANTAU	2	0.59	AUTUMN	STANDARD31516	HKLR	S
6-Oct-15	NW LANTAU	3	7.02	AUTUMN	STANDARD31516	HKLR	S
6-Oct-15	NE LANTAU	2	20.01	AUTUMN	STANDARD31516	HKLR	P
6-Oct-15	NE LANTAU	3	10.79	AUTUMN	STANDARD31516	HKLR	S
13-Oct-15	NW LANTAU	2	23.12	AUTUMN	STANDARD31516	HKLR	P
13-Oct-15	NW LANTAU	3	15.72	AUTUMN	STANDARD31516	HKLR	P
13-Oct-15	NW LANTAU	2	8.61	AUTUMN	STANDARD31516	HKLR	S
13-Oct-15	NW LANTAU	3	4.20	AUTUMN	STANDARD31516	HKLR	S
13-Oct-15	NE LANTAU	2	7.15	AUTUMN	STANDARD31516	HKLR	P
13-Oct-15	NE LANTAU	3	9.80	AUTUMN	STANDARD31516	HKLR	P
13-Oct-15	NE LANTAU	2	4.56	AUTUMN	STANDARD31516	HKLR	S
13-Oct-15	NE LANTAU	3	5.59	AUTUMN	STANDARD31516	HKLR	S
19-Oct-15	NE LANTAU	2	14.52	AUTUMN	STANDARD31516	HKLR	P
19-Oct-15	NE LANTAU	3	2.90	AUTUMN	STANDARD31516	HKLR	P
19-Oct-15	NE LANTAU	1	2.10	AUTUMN	STANDARD31516	HKLR	S
19-Oct-15	NE LANTAU	2	7.68	AUTUMN	STANDARD31516	HKLR	S

Appendix I. (cont'd)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
19-Oct-15	NW LANTAU	2	14.07	AUTUMN	STANDARD31516	HKLR	P
19-Oct-15	NW LANTAU	3	27.17	AUTUMN	STANDARD31516	HKLR	P
19-Oct-15	NW LANTAU	2	6.61	AUTUMN	STANDARD31516	HKLR	S
19-Oct-15	NW LANTAU	3	6.25	AUTUMN	STANDARD31516	HKLR	S
26-Oct-15	NE LANTAU	2	10.41	AUTUMN	STANDARD31516	HKLR	P
26-Oct-15	NE LANTAU	3	10.00	AUTUMN	STANDARD31516	HKLR	P
26-Oct-15	NE LANTAU	2	8.99	AUTUMN	STANDARD31516	HKLR	S
26-Oct-15	NE LANTAU	3	1.60	AUTUMN	STANDARD31516	HKLR	S
26-Oct-15	NW LANTAU	2	1.22	AUTUMN	STANDARD31516	HKLR	P
26-Oct-15	NW LANTAU	3	30.67	AUTUMN	STANDARD31516	HKLR	P
26-Oct-15	NW LANTAU	2	0.10	AUTUMN	STANDARD31516	HKLR	S
26-Oct-15	NW LANTAU	3	7.51	AUTUMN	STANDARD31516	HKLR	S
2-Nov-15	NW LANTAU	2	6.50	AUTUMN	STANDARD31516	HKLR	P
2-Nov-15	NW LANTAU	3	27.18	AUTUMN	STANDARD31516	HKLR	P
2-Nov-15	NW LANTAU	4	7.13	AUTUMN	STANDARD31516	HKLR	P
2-Nov-15	NW LANTAU	2	2.30	AUTUMN	STANDARD31516	HKLR	S
2-Nov-15	NW LANTAU	3	7.55	AUTUMN	STANDARD31516	HKLR	S
2-Nov-15	NW LANTAU	4	2.74	AUTUMN	STANDARD31516	HKLR	S
2-Nov-15	NE LANTAU	2	14.92	AUTUMN	STANDARD31516	HKLR	P
2-Nov-15	NE LANTAU	3	1.70	AUTUMN	STANDARD31516	HKLR	P
2-Nov-15	NE LANTAU	2	7.98	AUTUMN	STANDARD31516	HKLR	S
2-Nov-15	NE LANTAU	3	2.40	AUTUMN	STANDARD31516	HKLR	S
6-Nov-15	NW LANTAU	3	18.35	AUTUMN	STANDARD31516	HKLR	P
6-Nov-15	NW LANTAU	4	13.86	AUTUMN	STANDARD31516	HKLR	P
6-Nov-15	NW LANTAU	3	6.79	AUTUMN	STANDARD31516	HKLR	S
6-Nov-15	NE LANTAU	2	5.90	AUTUMN	STANDARD31516	HKLR	P
6-Nov-15	NE LANTAU	3	14.15	AUTUMN	STANDARD31516	HKLR	P
6-Nov-15	NE LANTAU	2	6.70	AUTUMN	STANDARD31516	HKLR	S
6-Nov-15	NE LANTAU	3	3.95	AUTUMN	STANDARD31516	HKLR	S
10-Nov-15	NW LANTAU	2	2.44	AUTUMN	STANDARD31516	HKLR	P
10-Nov-15	NW LANTAU	3	27.80	AUTUMN	STANDARD31516	HKLR	P
10-Nov-15	NW LANTAU	4	0.98	AUTUMN	STANDARD31516	HKLR	P
10-Nov-15	NW LANTAU	2	0.28	AUTUMN	STANDARD31516	HKLR	S
10-Nov-15	NW LANTAU	3	6.23	AUTUMN	STANDARD31516	HKLR	S
10-Nov-15	NW LANTAU	4	1.30	AUTUMN	STANDARD31516	HKLR	S
10-Nov-15	NE LANTAU	2	9.09	AUTUMN	STANDARD31516	HKLR	P
10-Nov-15	NE LANTAU	3	10.38	AUTUMN	STANDARD31516	HKLR	P
10-Nov-15	NE LANTAU	2	8.03	AUTUMN	STANDARD31516	HKLR	S
10-Nov-15	NE LANTAU	3	2.70	AUTUMN	STANDARD31516	HKLR	S
16-Nov-15	NE LANTAU	2	5.26	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NE LANTAU	3	12.22	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NE LANTAU	2	7.72	AUTUMN	STANDARD31516	HKLR	S
16-Nov-15	NE LANTAU	3	2.10	AUTUMN	STANDARD31516	HKLR	S
16-Nov-15	NW LANTAU	2	6.48	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NW LANTAU	3	21.03	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NW LANTAU	4	9.27	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NW LANTAU	5	4.10	AUTUMN	STANDARD31516	HKLR	P
16-Nov-15	NW LANTAU	2	2.53	AUTUMN	STANDARD31516	HKLR	S
16-Nov-15	NW LANTAU	3	7.79	AUTUMN	STANDARD31516	HKLR	S
16-Nov-15	NW LANTAU	4	2.60	AUTUMN	STANDARD31516	HKLR	S

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

(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
02-Sep-15	1	1045	8	NW LANTAU	3	629	ON	HKLR	823950	805482	AUTUMN	NONE	P
02-Sep-15	2	1122	12	NW LANTAU	2	240	ON	HKLR	826365	805436	AUTUMN	NONE	P
02-Sep-15	3	1143	12	NW LANTAU	2	75	ON	HKLR	826741	805344	AUTUMN	NONE	P
11-Sep-15	1	1155	6	NW LANTAU	2	349	ON	HKLR	828788	806460	AUTUMN	NONE	P
17-Sep-15	1	1411	7	NW LANTAU	3	134	ON	HKLR	828867	805462	AUTUMN	PURSE-SEINE	P
29-Sep-15	1	1445	5	NW LANTAU	2	430	ON	HKLR	827625	806489	AUTUMN	NONE	P
29-Sep-15	2	1512	4	NW LANTAU	2	281	ON	HKLR	828090	806500	AUTUMN	NONE	P
06-Oct-15	1	1113	2	NW LANTAU	2	72	ON	HKLR	827029	805334	AUTUMN	NONE	P
13-Oct-15	1	1025	2	NW LANTAU	3	195	ON	HKLR	817031	804665	AUTUMN	NONE	P
13-Oct-15	2	1036	3	NW LANTAU	3	102	ON	HKLR	817020	804675	AUTUMN	NONE	P
13-Oct-15	3	1123	10	NW LANTAU	2	745	ON	HKLR	825923	804673	AUTUMN	NONE	P
19-Oct-15	1	1407	2	NW LANTAU	3	14	ON	HKLR	826473	806476	AUTUMN	NONE	P
26-Oct-15	1	1326	6	NW LANTAU	3	73	ON	HKLR	823681	807511	AUTUMN	NONE	P
26-Oct-15	2	1444	2	NW LANTAU	2	107	ON	HKLR	827007	805303	AUTUMN	NONE	S
02-Nov-15	1	1143	7	NW LANTAU	2	181	ON	HKLR	828699	806450	AUTUMN	NONE	P
06-Nov-15	1	1106	1	NW LANTAU	3	77	ON	HKLR	826830	805262	AUTUMN	NONE	P
10-Nov-15	1	1042	1	NW LANTAU	3	465	ON	HKLR	825312	805475	AUTUMN	NONE	P
16-Nov-15	1	1455	5	NW LANTAU	5	662	ON	HKLR	827241	804645	AUTUMN	NONE	P

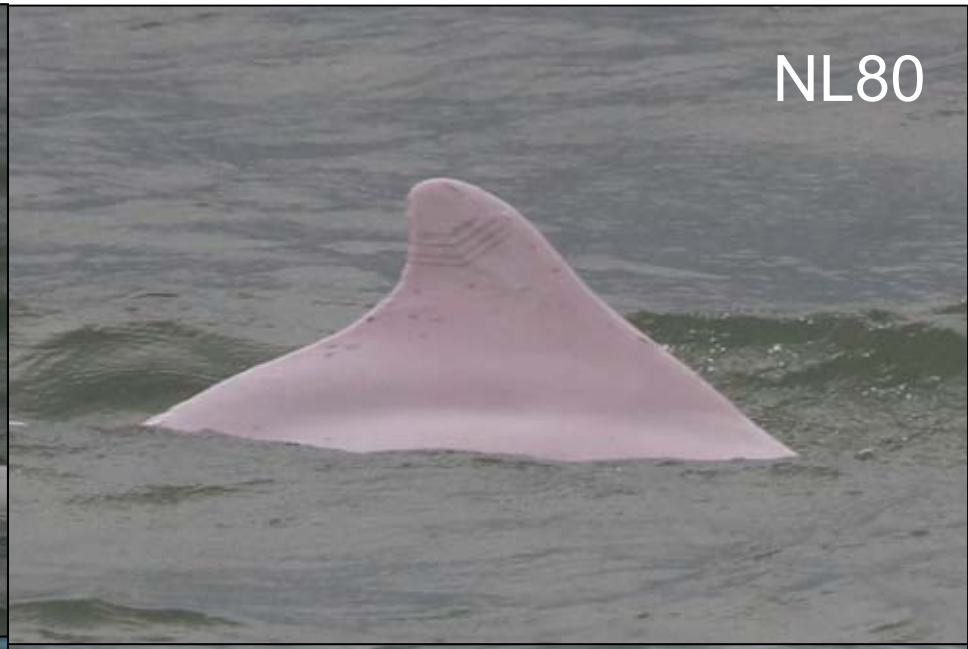
Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in September-November 2015

ID#	DATE	STG#	AREA
CH34	29/09/15	1	NW LANTAU
	19/10/15	1	NW LANTAU
CH84	02/09/15	3	NW LANTAU
NL33	13/10/15	1	NW LANTAU
	26/10/15	1	NW LANTAU
NL46	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
	10/11/15	1	NW LANTAU
NL48	02/09/15	1	NW LANTAU
	11/09/15	1	NW LANTAU
	17/09/15	1	NW LANTAU
	02/11/15	1	NW LANTAU
	16/11/15	1	NW LANTAU
NL80	02/09/15	2	NW LANTAU
NL98	02/11/15	1	NW LANTAU
NL104	13/10/15	3	NW LANTAU
NL123	17/09/15	1	NW LANTAU
	02/11/15	1	NW LANTAU
NL136	29/09/15	1	NW LANTAU
	02/11/15	1	NW LANTAU
NL150	02/09/15	2	NW LANTAU
NL165	02/09/15	1	NW LANTAU
NL182	17/09/15	1	NW LANTAU
	02/11/15	1	NW LANTAU
NL202	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
	29/09/15	2	NW LANTAU
	13/10/15	3	NW LANTAU
	26/10/15	2	NW LANTAU
	16/11/15	1	NW LANTAU
NL203	02/09/15	3	NW LANTAU
NL210	02/09/15	2	NW LANTAU
	13/10/15	3	NW LANTAU
	02/11/15	1	NW LANTAU
	16/11/15	1	NW LANTAU
NL214	13/10/15	3	NW LANTAU
NL220	19/10/15	1	NW LANTAU
	26/10/15	1	NW LANTAU
NL233	02/09/15	2	NW LANTAU

ID#	DATE	STG#	AREA
NL261	02/09/15	1	NW LANTAU
	26/10/15	1	NW LANTAU
NL272	26/10/15	1	NW LANTAU
NL284	13/10/15	3	NW LANTAU
	26/10/15	1	NW LANTAU
NL285	02/09/15	1	NW LANTAU
	11/09/15	1	NW LANTAU
NL286	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
	06/10/15	1	NW LANTAU
	13/10/15	3	NW LANTAU
	26/10/15	2	NW LANTAU
	16/11/15	1	NW LANTAU
NL297	02/09/15	3	NW LANTAU
NL302	02/09/15	3	NW LANTAU
	11/09/15	1	NW LANTAU
NL308	02/09/15	2	NW LANTAU
NL319	29/09/15	2	NW LANTAU
SL47	13/10/15	2	NW LANTAU
WL05	02/09/15	1	NW LANTAU
	29/09/15	2	NW LANTAU
WL17	02/09/15	2	NW LANTAU
	17/09/15	1	NW LANTAU
WL79	13/10/15	3	NW LANTAU
WL241	13/10/15	2	NW LANTAU
WL243	13/10/15	2	NW LANTAU

Appendix IV. Thirty-four individual dolphins that were identified during September-November 2015 under HKLR03 impact phase monitoring surveys

Appendix IV. (cont'd)



Appendix IV. (cont'd)

Appendix IV. (cont'd)

Appendix IV. (cont'd)

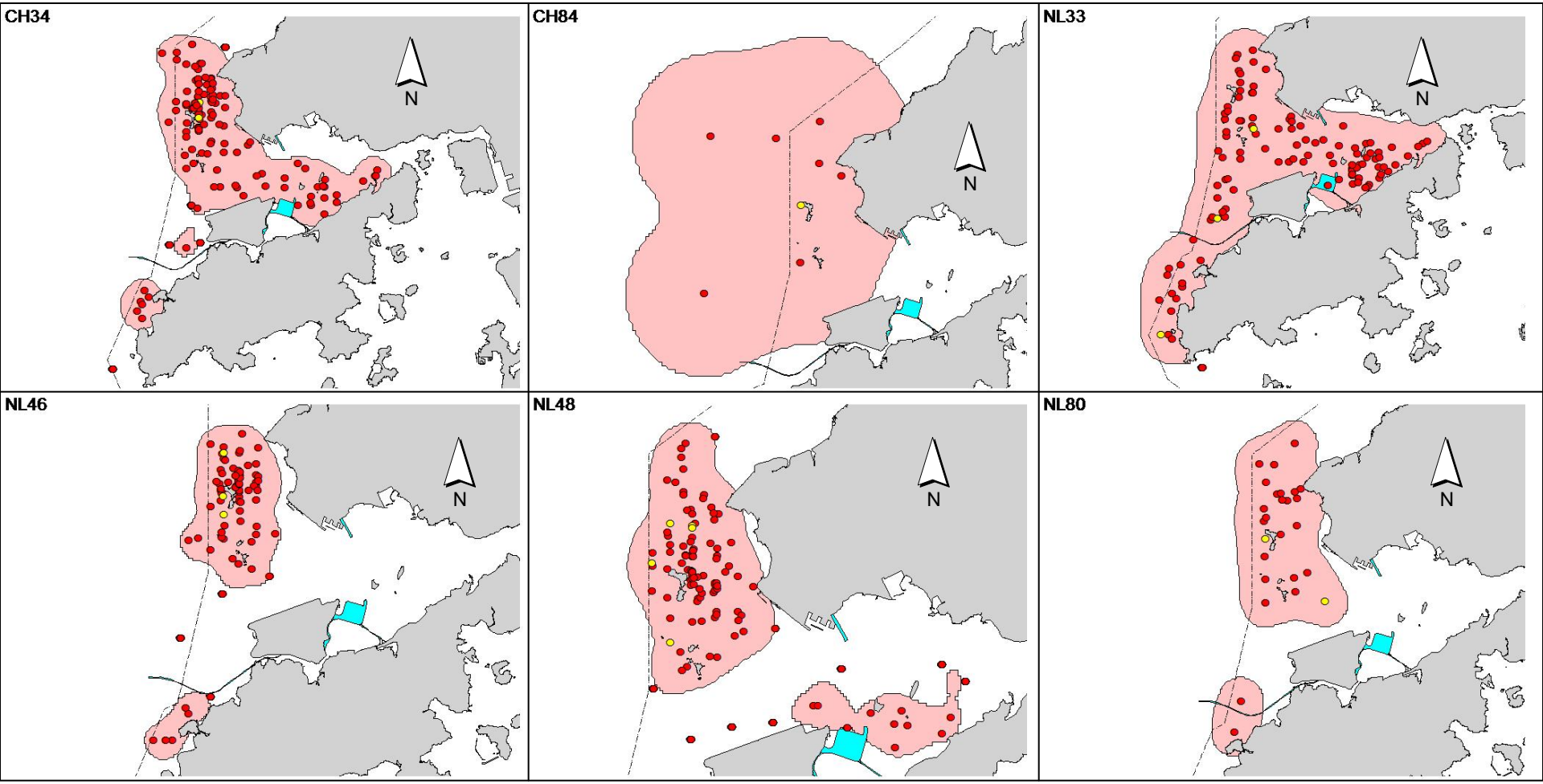
Appendix IV. (cont'd)

Appendix IV. (cont'd)

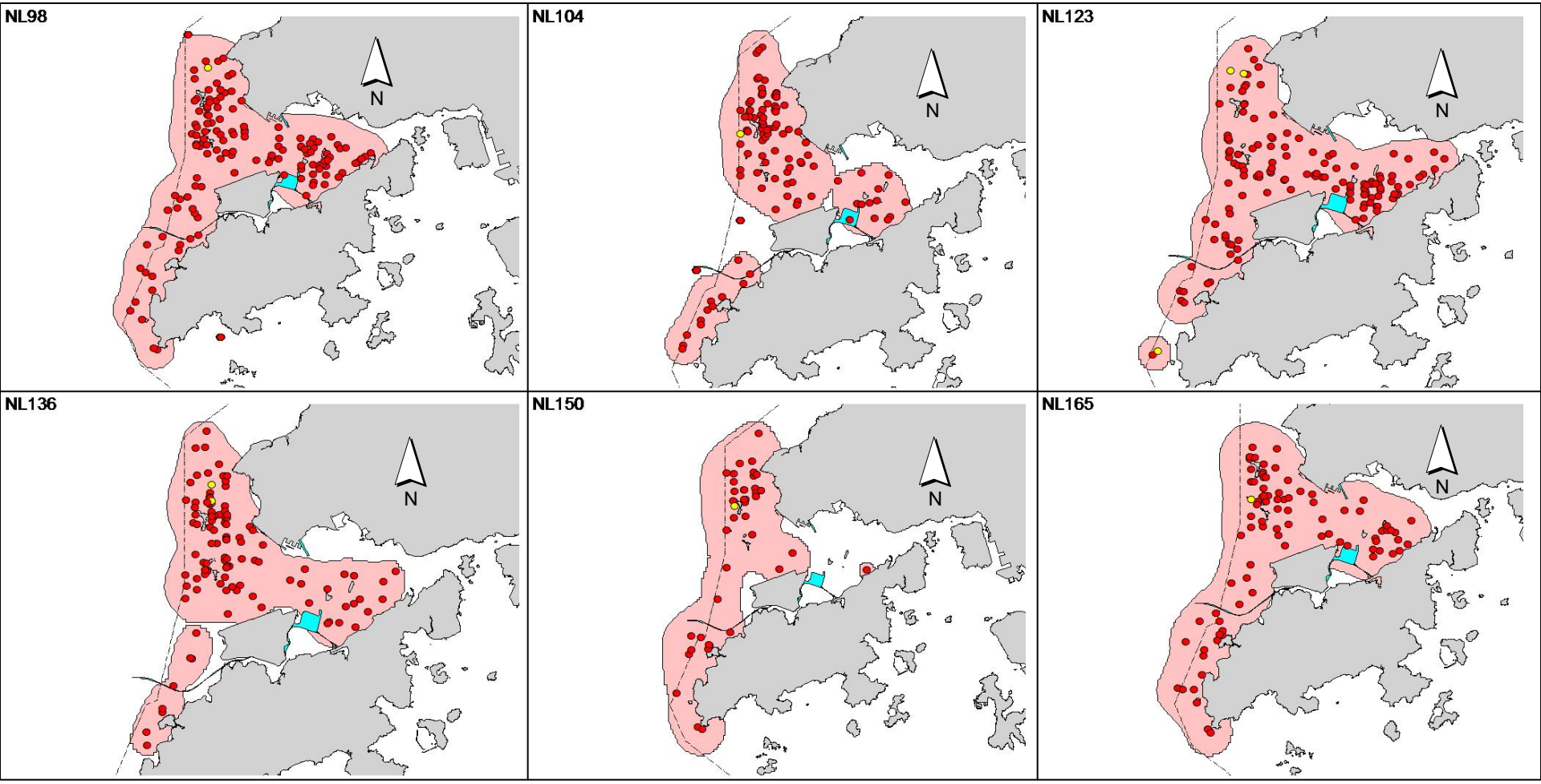
Appendix IV. (cont'd)

Appendix IV. (cont'd)

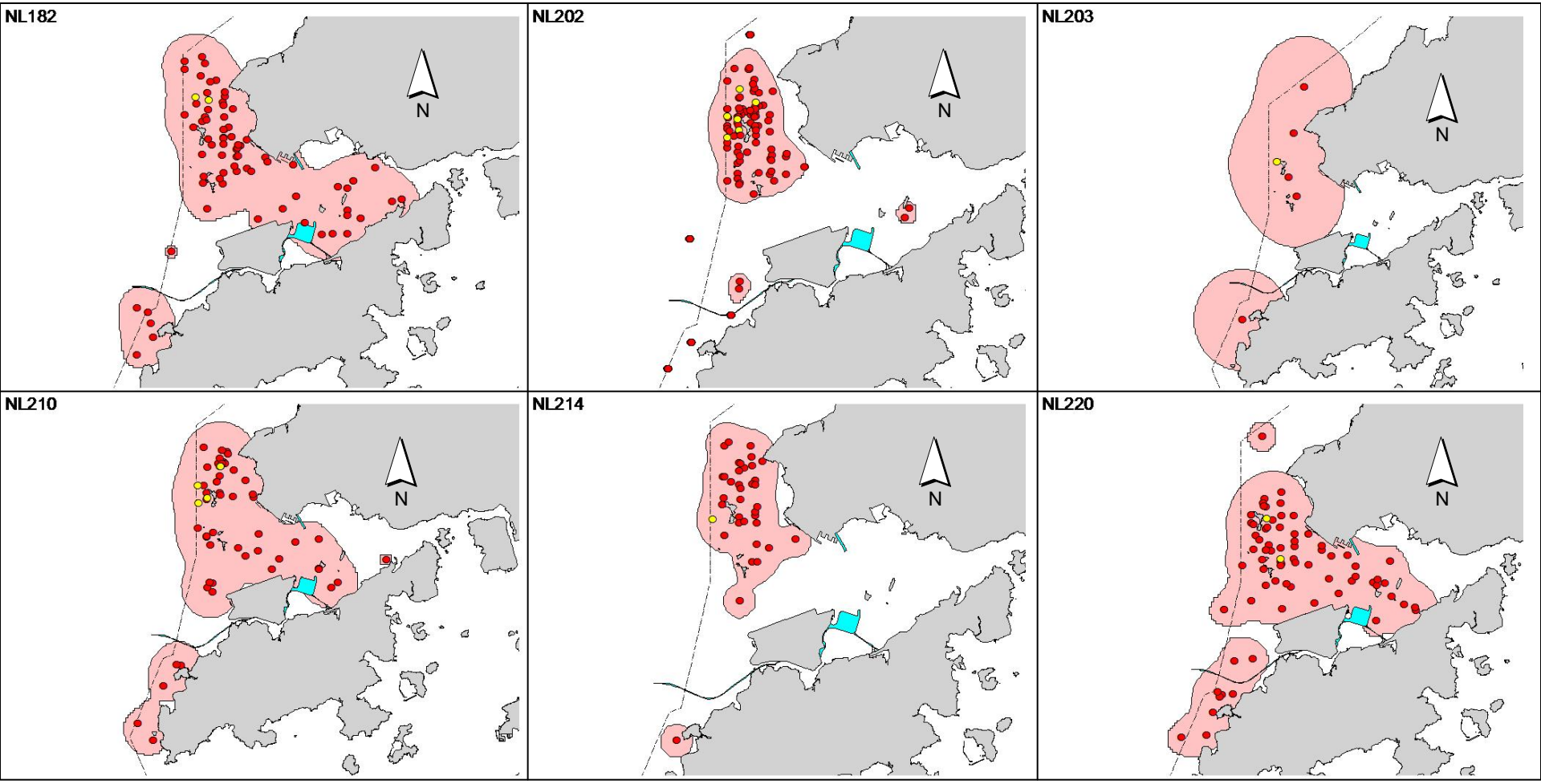
Appendix V. Ranging patterns (95% kernel ranges) of 34 individual dolphins that were sighted during HKLR03 impact phase monitoring period (note: yellow dots indicates sightings made in September-November 2015)



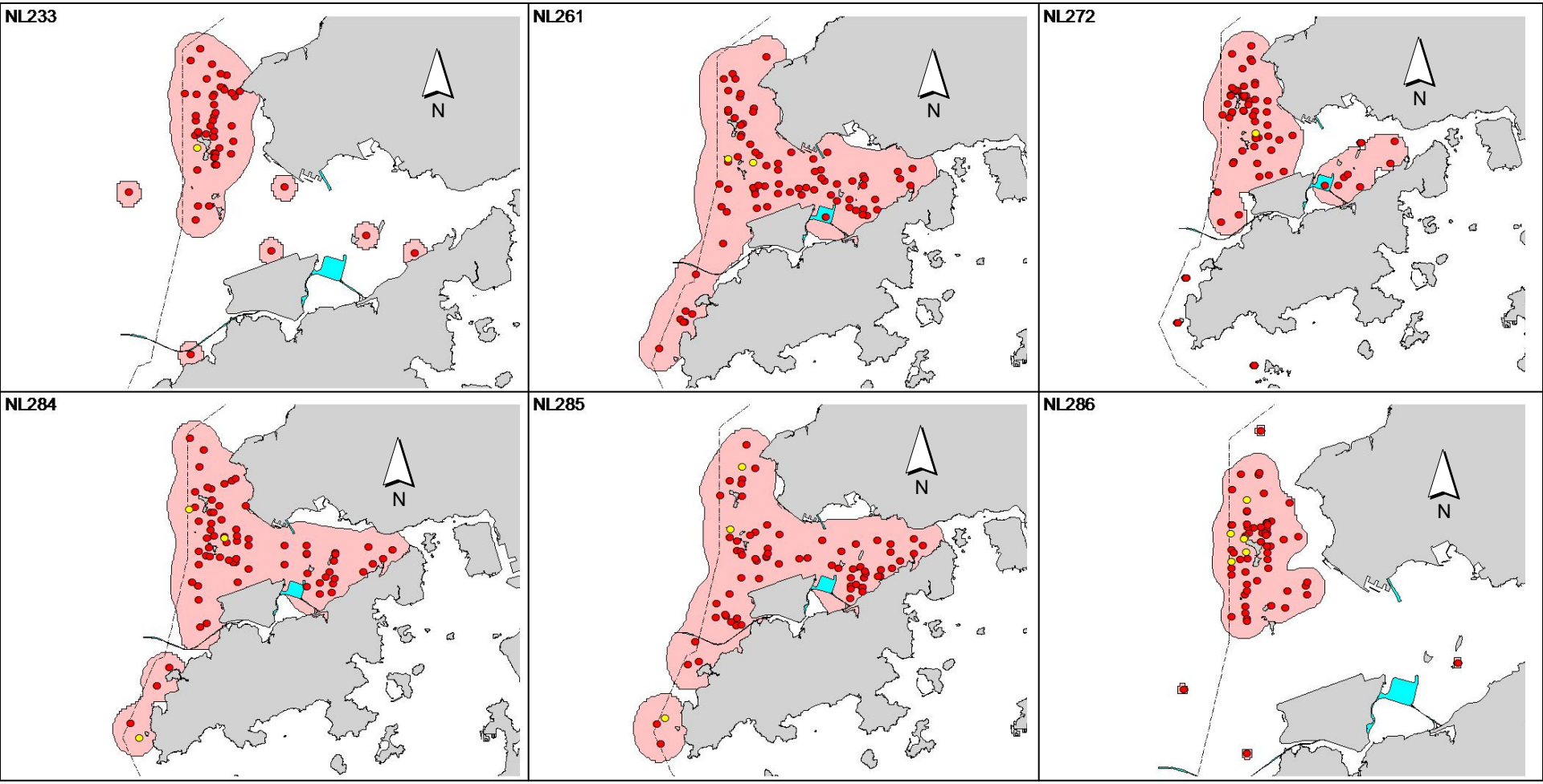
Appendix V. (cont'd)



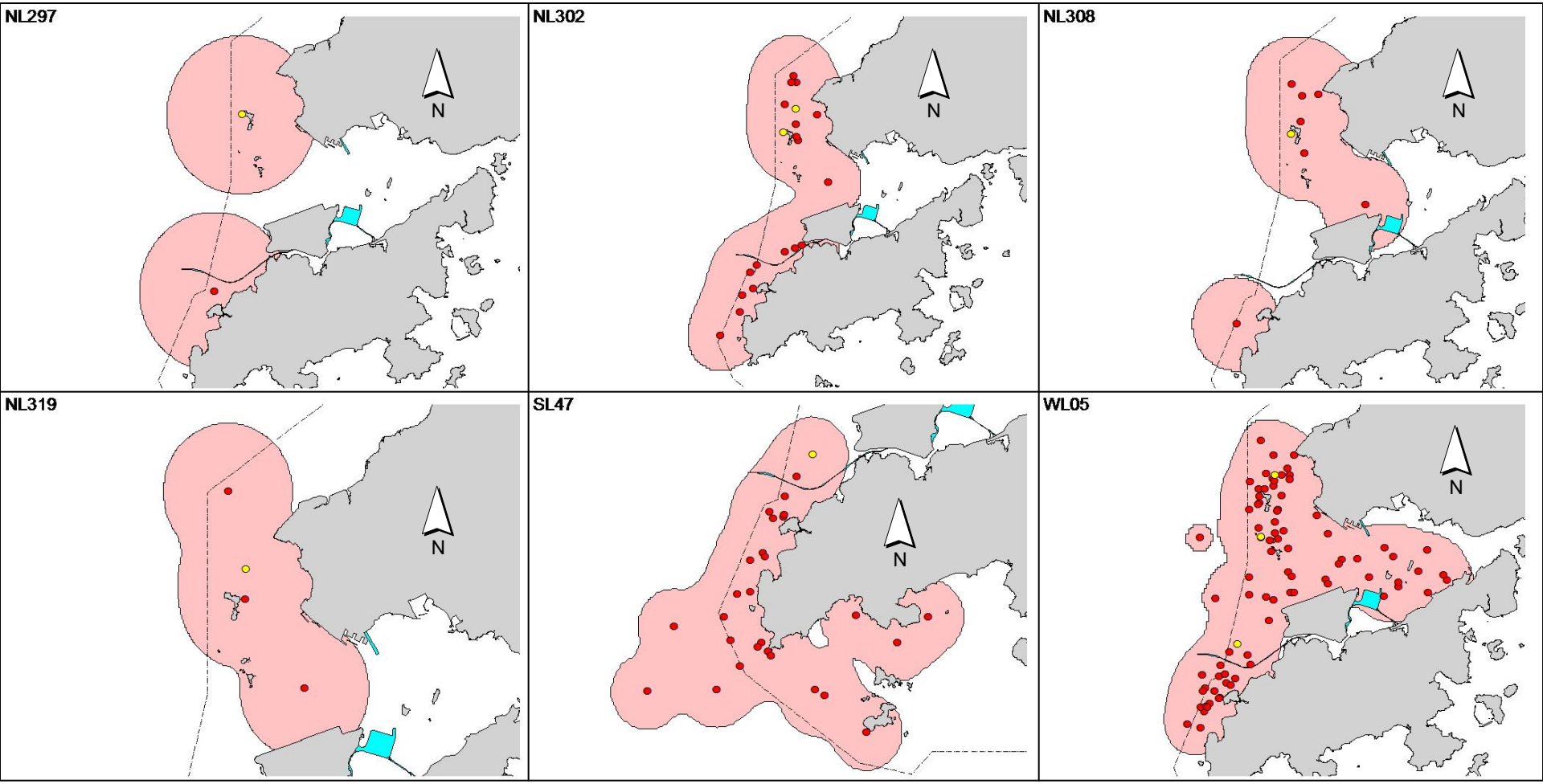
Appendix V. (cont'd)



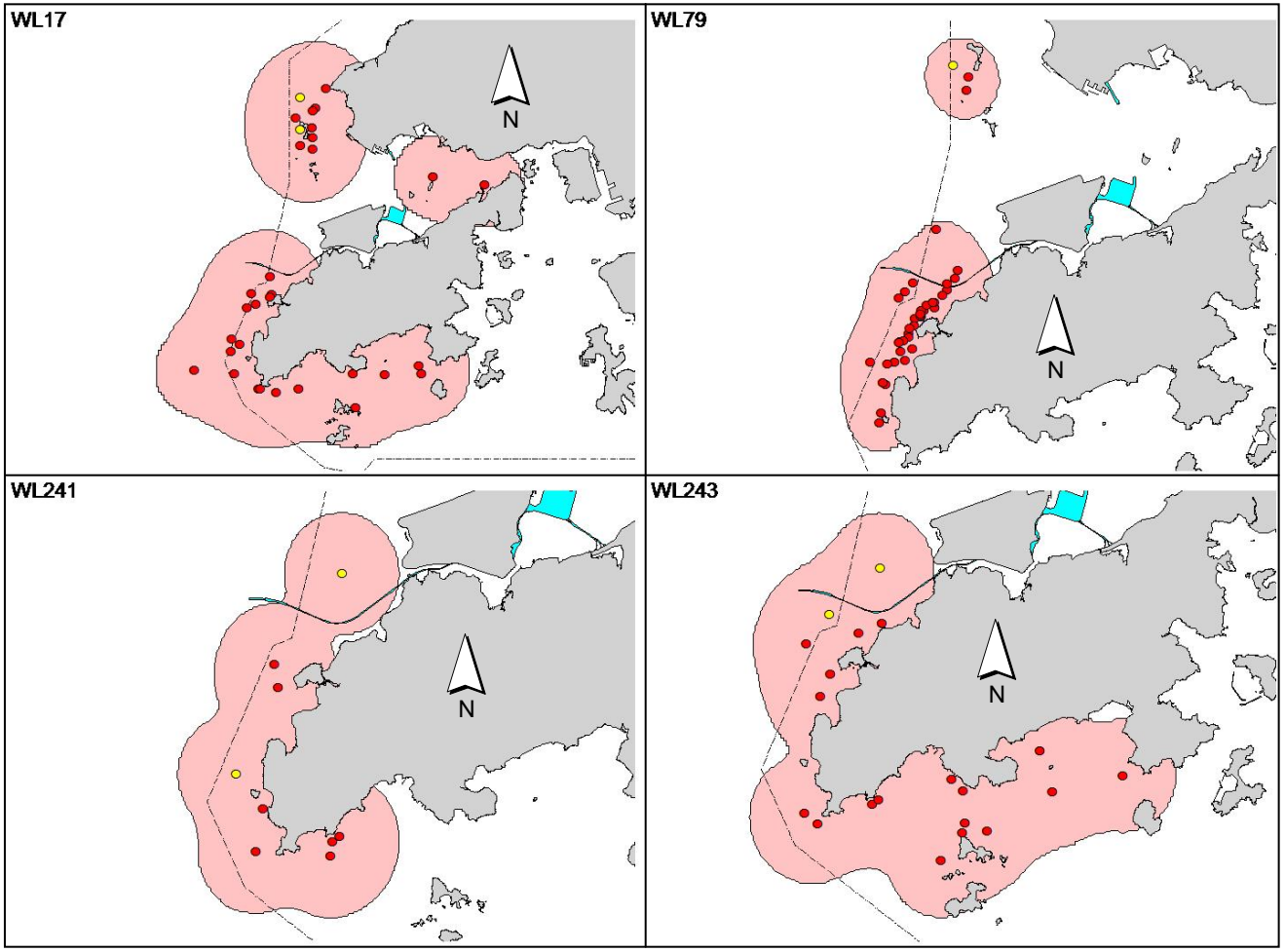
Appendix V. (cont'd)



Appendix V. (cont'd)



Appendix V. (cont'd)



Appendix J

Event Action Plan

Appendix J1 Event/ Action Plan for Air Quality

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

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

	the SOR informed of the results.
	8. If exceedance stops cease additional monitoring.

Appendix J2 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 J3 Event/ Action Plan for Water Quality

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

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

Appendix J4 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 J5 Event and Action Plan on Dolphin Acoustic Behaviour

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

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

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

Appendix K

Quarterly Summary of Waste Flow Table

Contract No. : HY/2012/07
Tuen Mun Chek Lap Kok Link – Southern Connection Viaduct Section
Monthly Summary Waste Flow Table for 2015 (Year)

Month\Material	Actual Quantities of Inert C&D Materials Generation						Actual Quantities of C&D wastes Generation						Actual Quantities of Recyclables Generation			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fills	Imported Fill	Marine Sediment, Cat. L	Marine Sediment, Cat. Mp	Marine Sediment, Cat. Mf	Marine Sediment, Cat. H	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000m^3)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	13.578	0.081	0.990	-	12.474	0.115	0.178	0.229	0.258	-	-	132.170	-	61.380	0.091	-
Feb	6.233	0.148	0.461	-	5.759	0.014	0.801	0.110	0.223	-	0.400	141.020	-	73.690	0.112	-
Mar	10.149	0.220	0.473	-	9.600	0.077	0.618	0.073	0.149	-	-	120.940	-	9.140	0.203	-
Apr	9.986	0.410	2.261	-	7.694	0.032	-	-	-	-	-	133.630	-	2.740	0.105	-
May	8.870	0.177	0.779	-	8.091	-	0.550	-	-	-	-	107.920	-	13.070	0.042	-
Jun	8.627	0.132	1.462	-	7.166	-	0.324	0.118	0.169	-	0.017	89.930	-	2.000	0.119	-
SUB-TOTAL	**57.444**	**1.168**	**6.424**	**-**	**50.782**	**0.238**	**2.471**	**0.530**	**0.799**	**-**	**0.417**	**725.610**	**-**	**162.020**	**0.672**	**-**
Jul	4.520	0.137	2.121	-	2.322	0.078	-	-	-	-	1.400	111.570	-	-	0.105	-
Aug	1.617	0.203	0.352	-	1.265	-	-	-	-	-	1.200	87.760	-	-	0.133	-
Sep	4.148	0.160	0.623	-	3.525	-	-	-	-	-	0.600	66.680	-	-	0.105	-
Oct	2.286	0.317	0.651	-	1.635	-	-	-	-	-	-	102.080	-	-	0.084	-
Nov	0.929	0.241	0.725	-	0.204	-	-	-	-	-	2.000	64.740	-	-	0.098	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	**70.944**	**2.228**	**10.896**	**-**	**59.732**	**0.316**	**2.471**	**0.530**	**0.799**	**-**	**5.617**	**1,158.440**	**-**	**162.020**	**1.197**	**-**

Notes :

1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

3 - Broken concrete for recycling into aggregates.

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

5 - 'Disposed as Public Fills' and 'Reused in the Contract' include 'Hard Rock and Large Broken Concrete'.

Appendix L

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

Appendix L1 Cumulative Statistics on Exceedances

		Total No. recorded in this quarter	**Total No. recorded since project commencement**
1-Hr TSP	Action	0	0
	Limit	0	0
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	0	2
	Limit	0	0
Impact Dolphin Monitoring	Action	2	9
	Limit	0	3

Appendix L2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	**Cumulative Statistics**		
	Complaints	Notifications of Summons	Successful Prosecutions
This quarter	1	0	0
Total No. received since project commencement	4	0	0

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

ENVIRONMENTAL COMPLAINT/ ENQUIRY FORM

Complaint/ ~~Enquiry~~ Received*
Date: 8 October 2015
Time: Undisclosed
From: Environmental Protection Department (EPD)
Via: Email
Complainant/ ~~**Enquirer**~~*:
Name: Mui Wo Rural Committee
Tel: 29848473
Address: 45 Mui Wo Rural Committee Road, Mui Wo, Lantau Island, Hong Kong
Media: ~~Dust~~ Noise ~~Water Quality~~ ~~Other~~
Description: A letter dated 5 October 2015 from Mui Wo Rural Committee (the Committee) was forwarded from EPD on 8 October 2015. Pak Mong Village representatives complained the potential disturbance from night-time works of this Contract between 31 August 2015 and 26 February 2016 through the Committee.

Investigation Report & Response

The Construction Noise Permit (CNP) for night-time works (CNP no. GW-RS0911-15) and night-time working record were reviewed immediately upon receiving the complaint. With reference to the night-time working records provided by the Contractor, night-time works were carried out for 12 times from 31 August 2015 to 5 October 2015 under the condition of the aforementioned CNP. In these events of night-time works, PMEs within the project works boundary were operated in accordance with the conditions stipulated in the CNP. Based on the above, the night-time works are considered complying with the corresponding requirements stated in the CNP and thus no unacceptable noise nuisance is anticipated.

The Contractor replied the Committee to explain the reasons and situations of night-time works on 20 October 2015 (*Annex A*).

Night-time works were carried out at Pier B9 during night-time between 28 and 29 October 2015. A joint inspection among the representatives from EPD, HyD, SOR, Contractor and ET was held at the same night (From 12am to 3am of 29 October 2015) to investigate the potential noise nuisance. A location in the proximity of Pier B9 at Pak Mong Village (the identified noise sensitive receiver nearby Pier B9) was visited, where was considered having the least obstruction between Pier B9 and Pak Mong Village (*Annex B*). Lifting works was undertaken at Pier B9 in the course of inspection. Only slight noise was emitted from hammering, communication between workmen and tools handling, and these works were carried out in compliance with the conditions stated in the CNP. During the inspection, aircraft and road traffic were found to be the major source of noise nuisance during inspection.

Overall, the lifting works and corresponding construction activities were undertaken in compliance with conditions of CNP. Intermittent noise nuisance was associated by aircraft and road traffic.

Mitigation Measures and Follow-Up Actions Recommended to Contractor

The Contractor is reminded to strictly follow CNP conditions when undertaking night-time works. Upon joint site inspection for night-time works, the Contractor is recommended to provide training to the workmen to minimize noise emission from night-time works. The workmen are reminded to:

- Avoid shouting during communication;
- Handle tools carefully to minimize noise.

Date of File Closed : 11 November 2015

Approved and Filed by:

(Jovy Tam, ET Leader)
Date: 11 November 2015

Annex A

Reply letter from the Contractor to complainant

Gammon

Gammon Construction Limited
28/F Devon House
TaiKoo Place 979 King's Road
Hong Kong

金門建築有限公司
香港英皇道979號太古坊
德宏大廈廿八樓

Tel 電話 (852) 2516 8823
Fax 傳真 (852) 2516 6260
www.gammonconstruction.com

信函檔案: J3518/302.4/D06257
來函檔案: MWRC/2PM/2015/0008

2015年10月20日

梅窩鄉事委員會
香港大嶼山
梅窩鄉事會路45號

(郵寄及傳真：2984 9089)

致 主席 黃文漢 先生
副主席 鄒長福 先生
副主席 李國強 先生

敬啟者：

合約編號: HY/2012/07
屯門至赤鱲角連接路-南面連接路高架道路段
回覆：反對晚上工程

本月5日來函收悉，信中提出反對晚上工程影響白芒村村民。我司現回覆如下：

上述項目工程主要都是在日間進行，但如工程可能會影響機場鐵路，北大嶼山公路及翔東路的往來交通及安全，香港鐵路有限公司和交通管理聯絡小組在考慮到公眾的安全及對交通往來的影響，此部份工程祇批準在夜間鐵路停駛及道路交通低流量期間進行。

儘管如此，香港法例已有嚴謹管制限制時間內（包括夜間和假日）的建築噪音要求。為配合夜間工程及在環保署發出的建築噪音許可證的規範下，我司已使用最少機械，希望對附近民居的滋擾減至最低，事前亦派發通告告之附近民居。再者，監察工程的顧問公司亦派員在施工現場監工，以確保我司進行工程期間沒有違反建築噪音許可證內的條款。

安全 SAFETY
卓越 EXCELLENCE
誠信 INTEGRITY

(見下頁)

Gammon

信函檔案: J3518/302.4/D06257
梅窩鄉事委員會
2015年10月20日

我司在今年7月期間曾在翔東路近白芒村的位置進行夜間工程，工程在符合建築噪音許可證的條款下順利完成。希望 貴會能代表我司向村民解釋夜間工程實屬在無其它更好的選擇及符合法例要求下進行，應該是減低對附近居民和道路使用者的影響中作出的一個平衡選擇。在此再三希望白芒村村民能諒解此情況。我司保證會盡快完成工程，讓居民回復往常生活情況。

祝 鈞安

金門建築有限公司

項目董事
譚建輝 謹啟

KFT/BK/RL/in

副本抄送：
環境保護署 高級環境保護主任(區域南)5 譚振強 先生 (傳真:2960 1760)
路政署 一總工程師/新界西北 陳惠忠 先生 (傳真:3188 6614)
艾亦康有限公司 一駐地盤總工程師 葉達莊 先生 (專送)
香港環境資源管理顧問有限公司 一環境小組組長 譚萬鏘 先生 (傳真:2723 5660)
安博香港有限公司 一環境監察辦事處獨立環境查核人 曾繁昌 先生 (傳真:3465 2899)

Annex B

Layout of nighttime works and noise sensitive receiver

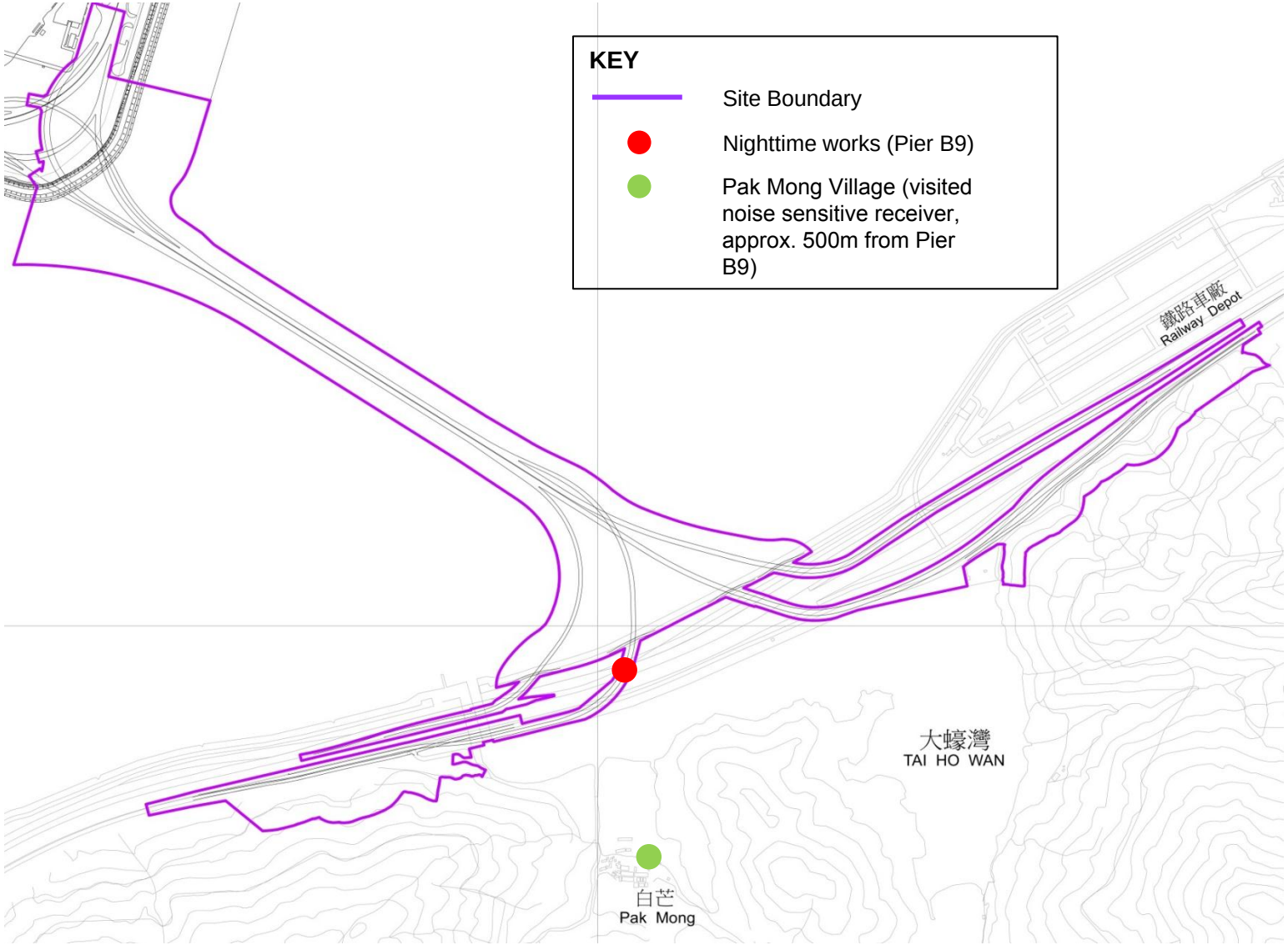


Figure 1

Contract No. HY/2012/07

Sound level measurement at midnight of 28 October 2015

DATE: 30/10/2015

Environmental Resources Management

ERM

Email message

Environmental Resources Management

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

To	ENVIRON - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/07 Tuen Mun–Chek Lap Kok Link–Southern Connection Viaduct Section
Subject	Notification of Exceedance for Impact Dolphin Monitoring
Date	19 January 2016

Dear Sir or Madam,

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

0215660_Sep2015/Nov2015_dolphin_STG&ANI_NEL
0215660_Sep2015/Nov2015_dolphin_STG&ANI_NWL

A total of two action level exceedances were recorded in the quarterly impact dolphin monitoring data between September and November 2015.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

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

Impact Dolphin Monitoring
Notification of Exceedance

Log No.	**0215660_Sep/Nov2015_dolphin_STG&ANI_NEL** **0215660_Sep/Nov2015_dolphin_STG&ANI_NWL** **[Total No. of Exceedance = 2]**	
Date	September 2015 to November 2015 (monitored) 7 January 2016 (results received by ERM)	
Monitoring Area	Northeast Lantau (NEL) and Northwest Lantau (NWL)	
Parameter(s) with Exceedance(s)	Quarterly encounter rate of dolphin sightings (STG) Quarterly encounter rate of total number of dolphins (ANI)	
Action Levels	North Lantau Social cluster	NEL: STG < 4.2 & ANI < 15.5 or NWL: STG < 6.9 & ANI < 31.3
Limit Levels		NEL: STG < 2.4 & ANI < 8.9 and NWL: STG< 3.9 & ANI < 17.9
Recorded Levels	NEL	STG = 0 & ANI = 0
	NWL	STG = 3.94 & ANI = 21.05
	Two Action Level Exceedances were recorded in the quarterly impact dolphin monitoring at NEL and NWL between September and November 2015. The exceedances were reported in the approved *Twenty fifth Monthly EM&A Report* dated 7 December 2015.	
Statistical Analyses	Further to the review of the available and relevant dolphin monitoring data in the EM&A under this Contract, statistical analyses were conducted as follows: • A two-way ANOVA with repeated measures and unequal sample size was conducted using Period (2 levels: baseline vs impact – present impact quarter, September to November 2015) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and present impact monitoring quarter. By setting $\alpha = 0.05$ as the significance level in the statistical tests, significant difference in STG ($p = 0.0079$) was detected between Periods but not in ANI ($p = 0.071$). • A two-way ANOVA with repeated measures and unequal sample size was conducted using Cumulative Period (2 levels: baseline vs impact – cumulative quarters, December 2012 to November 2015) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and cumulative impact monitoring quarter. By setting $\alpha = 0.0001$ as the significance level in the statistical tests, significant difference in STG ($p = 0.00009$) and in ANI ($p = 0.00003$) between Cumulative Period and Location were detected. * Note: The commencement date under *Contract No. HY/2012/07* is 31 October 2013.	
Works Undertaken (in the monitoring quarter)	In the quarter between September 2015 and November 2015, the major marine works under *Contract No. HY/2012/07* included: • Construction and installation of pile caps; • Uninstallation of marine piling platform; • Marine piling; • Pier construction; • Launching gantry operation; and • Installation of deck segment and pier head segment.	

Possible Reason for Action or Limit Level Exceedance(s)	The potential factors that may have contributed to the observed exceedance are reviewed below: • Blocking of CWD travelling corridor: The *Monitoring of Marine Mammals in Hong Kong Waters (2014 – 15)* (1) reported that dolphin usage and traveling activities to the northern side of the airport (dolphin traveling corridor) are affected by frequent high-speed ferry traffic from Sky Pier (not related to this Contract), which is likely a major factor resulting in the decrease in dolphin abundances in North Lantau. • Marine works of the Contract: As per the findings from the EIA report (*Section 8.11.9*), the major influences on the Chinese White Dolphin (CWD) *Sousa chinensis* under this Contract are marine traffics and bored piling works. The Contractor has implemented the marine traffic control as per the requirements in the *EP-354/2009/D* and the updated *EM&A Manual*. Likewise, the bored piling works were undertaken within a metal casing as described in the EP and the approved EIA Report. After reviewing of the bored piling records, the bored piling working rates in this quarter are within the allowable working rate described in the EP (*Clause 3.11*), in which construction works were not undertaken at more than 15 piers sites from September to November 2015. During this quarter of dolphin monitoring, no unacceptable impact on CWD due to the activities under this Contract was observed. • Impact on water quality: According to the findings in the water quality monitoring results at the impact monitoring stations between September and November 2015, there was no exceedance on WQM. Depth-averaged SS at all monitoring stations were well below the corresponding ambient levels. Overall, the WQM results imply that no unacceptable impact on water quality was associated with the marine works under this Contract, and thus no indirect impacts on marine habitat quality due to change in water quality is observed in this Contract. In view of the above, marine ecological mitigation measures were considered properly implemented, and thus no unacceptable impact on CWD or its habitat was associated with this Contract in this quarter from September to November 2015.

(1) Hung SKY (2015). Prepared for AFCD. Available from: http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

Actions Taken / To Be Taken	With reference to the site inspection records in this quarter, the respective marine ecological mitigation measures have been implemented properly by the Contractor throughout the marine works period, including: 1. 250m dolphin exclusion zone; 2. Acoustic decoupling plan; 3. Training to workers; 4. Offsite vessel routing control in accordance with Regular Marine Travel Routes Plan, especially routing to typhoon shelters under adverse weather (e.g. Tropical cyclone signal No.3 or above); and 5. Vessels speed limited at 5 knots and 10 knots within marine park boundary and site boundary respectively. No immediate additional action is considered necessary. The ET will monitor for future trends in exceedance(s). A joint team meeting was held on 15 January 2016 for discussion on CWD trend, with attendance of ENPO, HyD, Representatives of Resident Site Staff (RSS), Representatives of Environmental Team (ET) for Contract No. HY/2010/02, HY2011/03, HY/2012/07 and HY/2012/08, and Representatives of Main Contractor for Contract No. HY/2012/08. The discussion/recommendation as recorded in the minutes of the meeting, which might be relevant to this Contract are summarized below. It was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified or separate from the other stress factors. It was reminded that the ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractor to ensure the relevant measures are fully implemented. The participants were requested by ENPO to collect and report the marine traffic statistics. It was recommended that the marine works of HZMB projects should be completed as soon as possible so as to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible. Further protection measures (e.g. speed limit control) should be carried out as soon as possible to minimize the disturbance to the proposed Brothers Marine Park (BMP). The Marine Travel Route Plan for this Project should be updated once the boundary of BMP is gazetted.
Remarks	The results of impact water quality and impact dolphin monitoring, the status of implemented marine ecological mitigation measures are documented in the approved *Twenty third* to *Twenty fifth Monthly EM&A Reports*. Comparison on water quality between impact and baseline periods will be elaborated in the *8th Quarterly EM&A Report*.