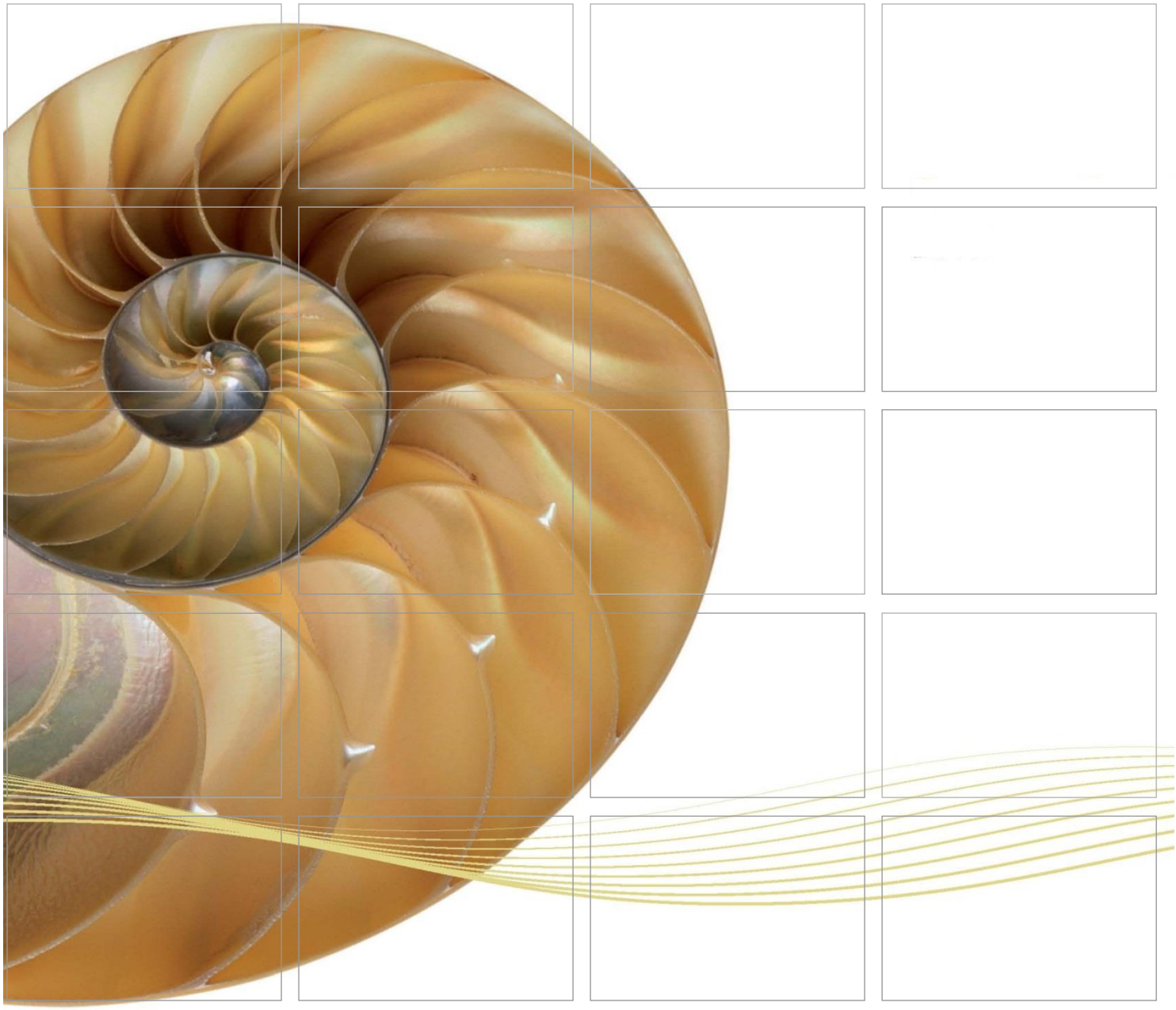
Report



Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section

Fiftieth Monthly Environmental Monitoring & Audit (EM&A) Report

11 January 2018

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

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The business of sustainability

RAMBOLL

Ref.: HYDHZMBEEM00_0_6166L.18 15 January 2018

AECOM By Fax (2293 6300) and By Post
Supervising Officer Representative's Office
No.8 Mong Fat Street, Tuen Mun,
New Territories, Hong Kong

Attention: Messrs. Andy Westmoreland / Roger Man

Dear Sirs,

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/2012/08 TM-CLKL Northern Connection Sub-sea Tunnel Section
50th Monthly EM&A Report for December 2017 (EP-354/2009/D)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report (Dec. 2017) (ET's ref.: "0212330_50th Monthly EM&A_20170111.doc" dated 11 Jan. 2018) certified by the ET Leader and provided to us via e-mail on 15 Jan. 2018.

Please be informed that we have no adverse comments on the captioned Report. We write to verify the captioned submission in accordance with Condition 4.4 of EP-354/2009/D.

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

Yours sincerely,

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

c.c. HyD – Mr. Stephen Chan (By Fax: 3188 6614)
HyD – Mr. Vico Cheung (By Fax: 3188 6614)
AECOM – Mr. Conrad Ng (By Fax: 3922 9797)
ERM – Mr. Jovy Tam (By Fax: 2723 5660)
Dragages – Bouygues JV - Mr. C. F. Kwong (By Fax: 2293 7499)

Internal: DY, YH, ENPO Site

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

Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section

Fiftieth Monthly Environmental Monitoring & Audit (EM&A) Report

Document Code: 0212330_50th Monthly EM&A_20170111.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:
DBJV	0212330
Summary:	Date: 11 January 2018
This document presents the Fiftieth Monthly EM&A Report for Tuen Mun – Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section.	Approved by:  *Mr Craig Reid* *Partner*
	Certified by:  *Mr Jovy Tam* *ET Leader*

Revision	Description	By	Checked	Approved	Date
	50th Monthly EM&A Report	VAR	JT	CAR	11/01/18

Distribution

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ISO 9001 : 2008 Certificate No. FS 32515

TABLE OF CONTENTS

Under *Contract No. HY/2012/08*, Dragages – Bouygues Joint Venture (DBJV) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Northern Connection Sub-sea Tunnel 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) in accordance with *Environmental Permit No. EP-354/2009/A*. Ramboll Environ Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO). Subsequent applications for variation of environmental permits (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

The construction phase of the Project commenced on 1 November 2013 and will tentatively be completed by the end of 2018. The impact monitoring of the EM&A programme, including air quality, water quality, marine ecological monitoring and environmental site inspections, were commenced on 1 November 2013.

This is the Fiftieth Monthly EM&A report presenting the EM&A works carried out during the period from 1 to 31 December 2017 for the *Contract No. HY/2012/08 Northern Connection Sub-sea Tunnel Section* (the "Project") in accordance with the Updated EM&A Manual of the TM-CLK Link Project. As informed by the Contractor, major activities in the reporting period included:

Land-based Works

- Box Culvert Extension at Works Area – Portion N-A;
- Construction of North Ventilation Building – Portion N-C;
- Construction of Cross Passage Tympanum – TBM tunnel;
- Cross Passage Lining Installation – TBM Tunnel;
- Excavation of Sub-sea Tunnel – TBM tunnel;
- Corbel Construction – TBM Tunnel;
- Bulk Excavation – Portion S-A;
- CSM treatment, Jet Grouting works and D-wall Construction; and
- Ground Freezing Works – Portion S-A

Marine-based Works

- Seawall Construction and Filling works – Portion N-A; and
- Seawall Enhancement works – Portion N-C

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

24-hour TSP Monitoring	10 sessions
1-hour TSP Monitoring	10 sessions
Water Quality Monitoring	13 sessions
Impact Dolphin Monitoring	2 sessions
Joint Environmental Site Inspection	4 sessions

Implementation of Marine Mammal Exclusion Zone

Daily marine mammal exclusion zone was in effect during the period of dredging, reclamation or marine sheet piling works in open waters under this Contract. No sighting of the Indo-Pacific humpback dolphin Sousa chinensis (i.e. Chinese White Dolphin) was recorded in December 2017 during the exclusion zone monitoring.

Summary of Breaches of Action/Limit Levels

Breaches of Action and Limit Levels for Air Quality

One (1) Action Level of 1-hour TSP and two (2) Limit Level exceedances of 24-hour TSP were recorded on 8 December 2017. Three (3) Action Level exceedances of 1-hour TSP and one (1) Action Level exceedance of 24-hour TSP were recorded on 11 December 2017. One (1) Limit Level exceedance of 24-hour TSP was recorded on 17 December 2017. Two (2) Action Level exceedances of 1-hour TSP were recorded on 20 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 26 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 29 December 2017. Investigation reports of air quality exceedances on 29 November 2017, 8, 11, 17, 20, 26 December 2017 are provided in Appendix L.

Breaches of Action and Limit Levels for Water Quality

Four (4) Action Level exceedances of Suspended Solids (SS) were recorded in the water quality monitoring of this reporting month. Investigation reports of water quality exceedances on 22 November 2017, 6 and 8 December 2017 are provided in Appendix L.

Breaches of Action and Limit Levels for Dolphin Monitoring

Due to monthly variation in dolphin occurrence within the survey area, it would be more appropriate to draw conclusion on whether any unacceptable impacts on dolphins have been detected in relation to the construction activities of this Project in the quarterly EM&A reports, where comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

Summary of Marine Travel Route record

No non-compliance with EIA recommendations, EP conditions and other requirements associated with the marine travel route record of this Contract was recorded in December 2017.

Environmental Complaints, Non-compliance & Summons

No non-compliance with EIA recommendations, EP conditions and other requirements associated with the construction of this Contract was recorded in this reporting period.

No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

Reporting Change

There was no reporting change required in the reporting period.

Upcoming Works for the Next Reporting Month

Works to be undertaken in the next monitoring period of January 2018 include the following:

Land-based Works

- Box Culvert Extension at Works Area – Portion N-A;
- Construction of North Ventilation Building – Portion N-C;
- Construction of Cross Passage Tympanum – TBM tunnel;
- Cross Passage Lining Installation – TBM Tunnel;
- Excavation of Sub-sea Tunnel – TBM tunnel;
- Corbel Construction – TBM Tunnel;
- Bulk Excavation – Portion S-A;
- CSM treatment, Jet Grouting works and D-wall Construction; and
- Ground Freezing Works – Portion S-A

Future Key Issues

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

1 INTRODUCTION

1.1 BACKGROUND

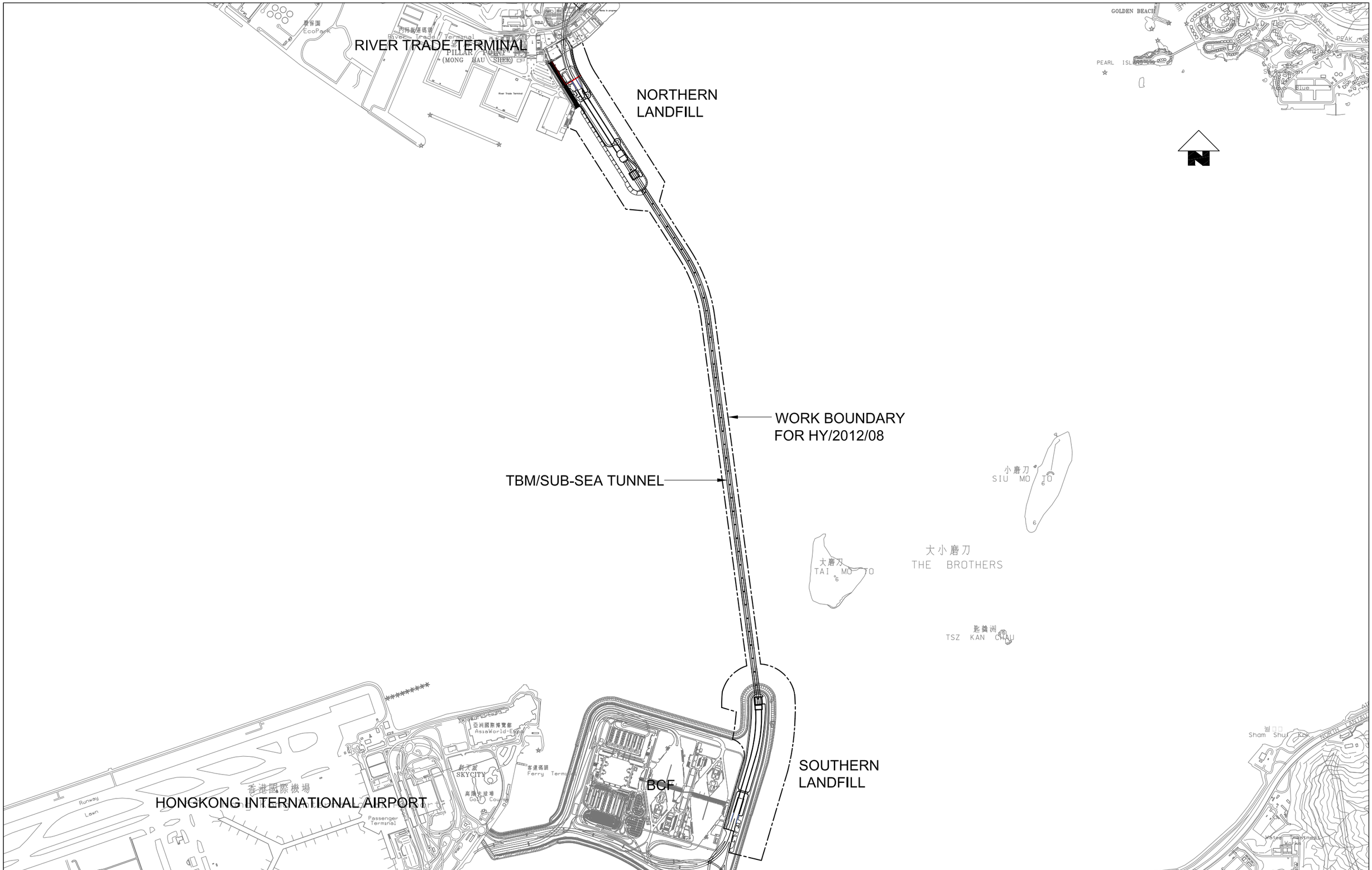
According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated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

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process* (*EIAO-TM*). The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-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 (VEP) (EP-354/2009/A) was issued on 8 December 2010. Subsequent applications for variation of environmental permits (VEPs), *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/2012/08*, Dragages – Bouygues Joint Venture (DBJV) is commissioned by the Highways Department (HyD) to undertake the design and construction of the Northern Connection Sub-sea Tunnel Section of TM-CLKL 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).

Layout of the Contract components is presented in *Figure 1.1*.

The construction phase of the Contract commenced on 1 November 2013 and will tentatively be completed by 2018. The impact monitoring phase of the EM&A programme, including air quality, water quality, marine ecological monitoring and environmental site inspections, were commenced on 1 November 2013.



				Designed By	PKV
				Drawn By	DAI
				Approved By	SPo PP
A	FIRST ISSUE	11SEP13	PKV	Date	11SEP2013
Rev.	Description	Date	Checked		

Main Contractor

香寶嘉 Dragages HongKong

A member of the Bouygues Construction group

BOUYGUES TRAVAUX PUBLICS

Dragages - Bouygues Joint Venture 寶嘉 - 布依格聯營

Client

路政署 HIGHWAYS DEPARTMENT

Contractor's Designer

ARUP Ove Arup & Partners Hong Kong Limited

Project

Contract No. HY/2012/08
Tuen Mun - Chek Lap Kok Link -
Northern Connection Sub-Sea Tunnel Section

Drawing Title

Figure 1.1

Drawing no.	TMCLKL8-DBJ-GEN-DWG-00174
Scale	1:25000 @ A3
CADD Ref.	TMCLKL8-DBJ-GEN-DWG-00174-DFT-A
Issue Status	DFT (DRAFT)
Revision	A

1.2 SCOPE OF REPORT

This is the Fiftieth Monthly EM&A Report under the *Contract No. HY/2012/08 Tuen Mun – Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section*. This report presents a summary of the environmental monitoring and audit works in December 2017.

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
Highways Department	Engr 22/HZMB	Chow Man Lung, Andrew	2762 4110	2762 4110
SOR (AECOM Asia Company Limited)	Chief Resident Engineer	Roger Man	2293 6388	2293 6300
		Andrew Westmoreland	2293 6360	2293 6300
ENPO / IEC (Ramboll Environ Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
	IEC	Dr. F.C. Tsang	3465 2851	3465 2899
Contractor (Dragages – Bouygues Joint Venture)	Environmental Officer	Bryan Lee	2293 7323	2293 7499
	24-hour complaint hotline	Rachel Lam	2293 7330	
ET (ERM-HK)	ET Leader	Jovy Tam	2271 3113	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of this Contract was commenced on 1 November 2013. The construction programme is shown in *Appendix B*.

As per DBJV's information, details of major construction works carried out in this reporting period are summarized in *Table 1.2*.

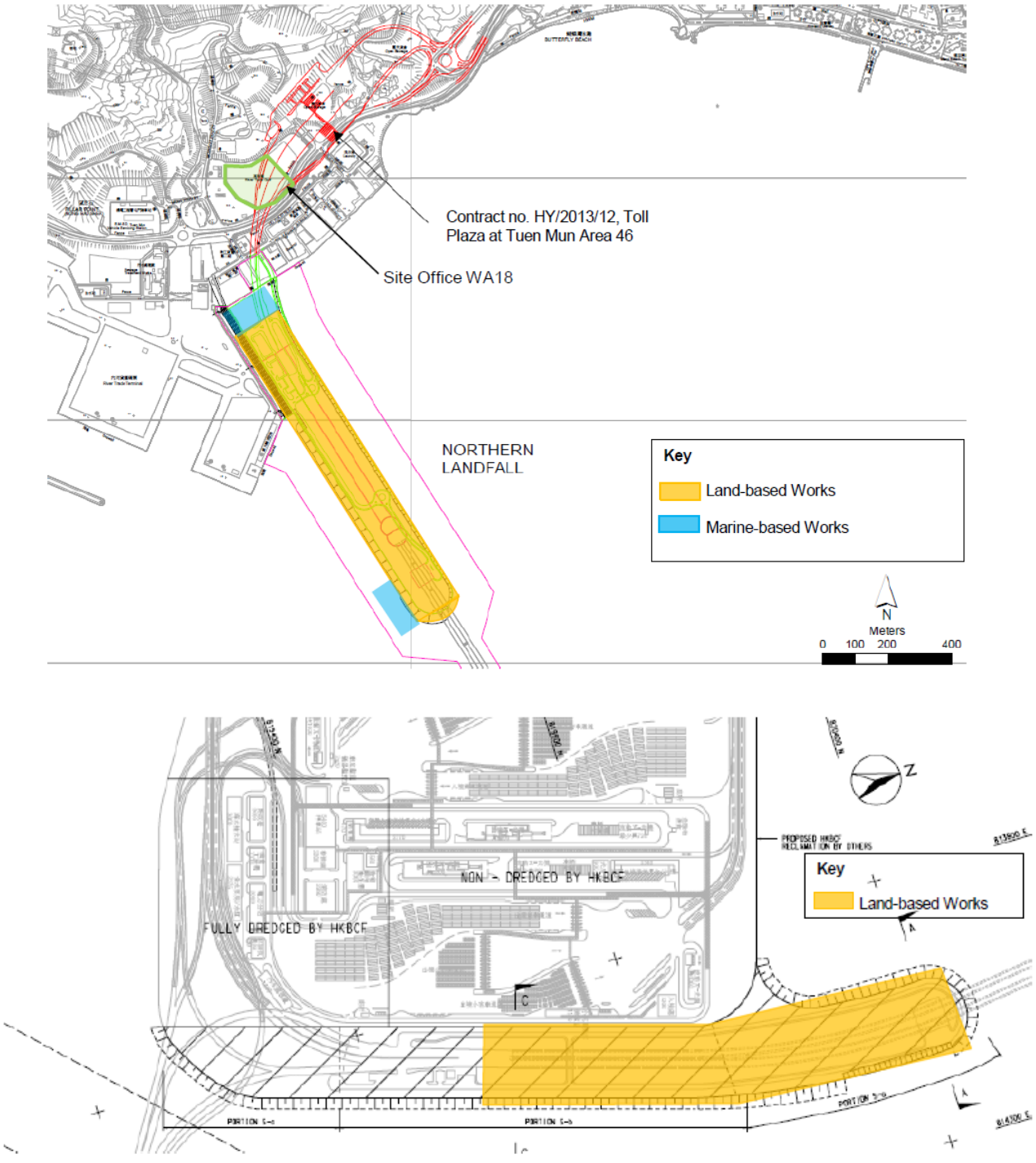
The general layout plan of the site showing the detailed works areas is shown in *Figure 1.2*. The Environmental Sensitive Receivers in the vicinity of the Project are shown in *Figure 1.3*.

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

Table 1.2 Summary of Construction Activities Undertaken during the Reporting Period

Construction Activities Undertaken
Land-based Works
• Box Culvert Extension at Works Area – Portion N-A; • Construction of North Ventilation Building – Portion N-C; • Construction of Cross Passage Tympanum – TBM tunnel; • Cross Passage Lining Installation – TBM Tunnel; • Excavation of Sub-sea Tunnel – TBM tunnel; • Corbel Construction – TBM Tunnel; • Bulk Excavation – Portion S-A; • CSM treatment, Jet Grouting works and D-wall Construction; and • Ground Freezing Works – Portion S-A
Marine-based Works
• Seawall Construction and Filling works – Portion N-A; and • Seawall Enhancement works – Portion N-C

Figure 1.2 Locations of Construction Activities – December 2017



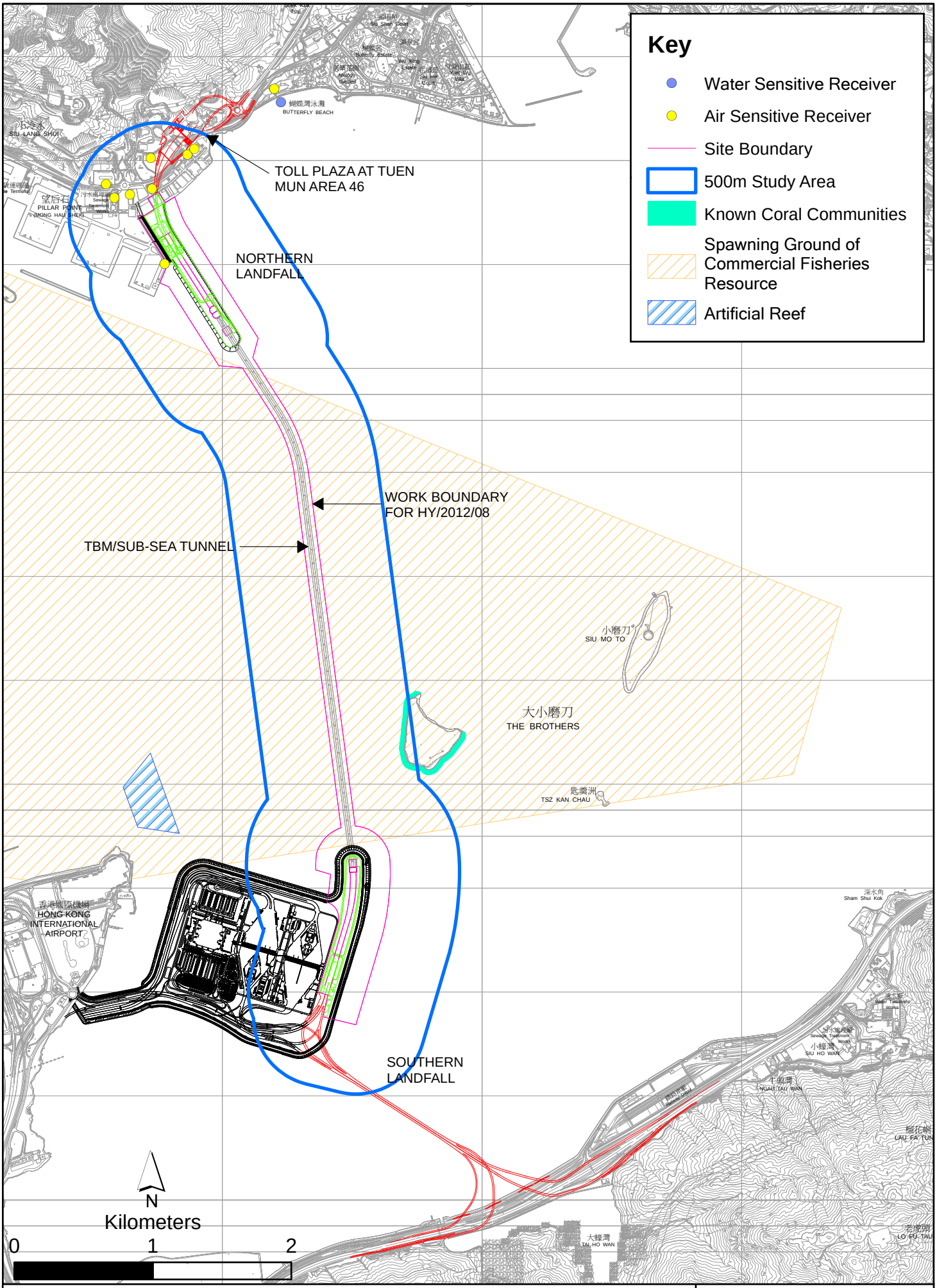


Figure 1.3 Environmental Sensitive Receivers in the vicinity of Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-Sea Tunnel Section

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Date: 15/4/2014

Environmental Resources Management

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

2.1 AIR QUALITY

2.1.1 Monitoring Requirements and Equipment

In accordance with the Updated EM&A Manual and the Enhanced TSP Monitoring Plan, impact 1-hour TSP monitoring was conducted three (3) times every six (6) days and impact 24-hour TSP monitoring was carried out once every six (6) days when the highest dust impact was expected. 1-hr and 24-hr TSP monitoring frequency was increased to three times per day every three days and daily every three days, respectively, as excavation works for launching shaft commenced on 24 October 2014.

High volume samplers (HVSs) were used to carry out the 1-hour and 24-hour TSP monitoring on 2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 December 2017 at the five (5) air quality monitoring stations in accordance with the requirements stipulated in the Updated EM&A Manual (*Figure 2.1*; *Table 2.1*). Wind meter was installed at the rooftop of ASR5 for logging wind speed and wind direction. Details of the equipment deployed are provided in *Table 2.2*. Copies of the calibration certificates for the equipment are presented in *Appendix E*.

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

Monitoring Station	Monitoring Dates	Location	Description	Parameters & Frequency
ASR1	2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 December 2017	Tuen Mun Fireboat Station	Office	TSP monitoring • 1-hour Total Suspended Particulates (1-hour TSP, µg/m³), 3 times in every 6 days • 24-hour Total Suspended Particulates (24-hour TSP, µg/m³), daily for 24-hour in every 6 days Enhanced TSP monitoring (commenced on 24 October 2014) • 1-hour Total Suspended Particulates (1-hour TSP, µg/m³), 3 times in every 3 days • 24-hour Total Suspended Particulates (24-hour TSP, µg/m³), daily for 24-hour in every 3 days
ASR5		Pillar Point Fire Station	Office	
AQMS1		Previous River Trade Golf	Bare ground	
ASR6		Butterfly Beach Laundry	Office	
ASR10		Butterfly Beach Park	Recreational uses	

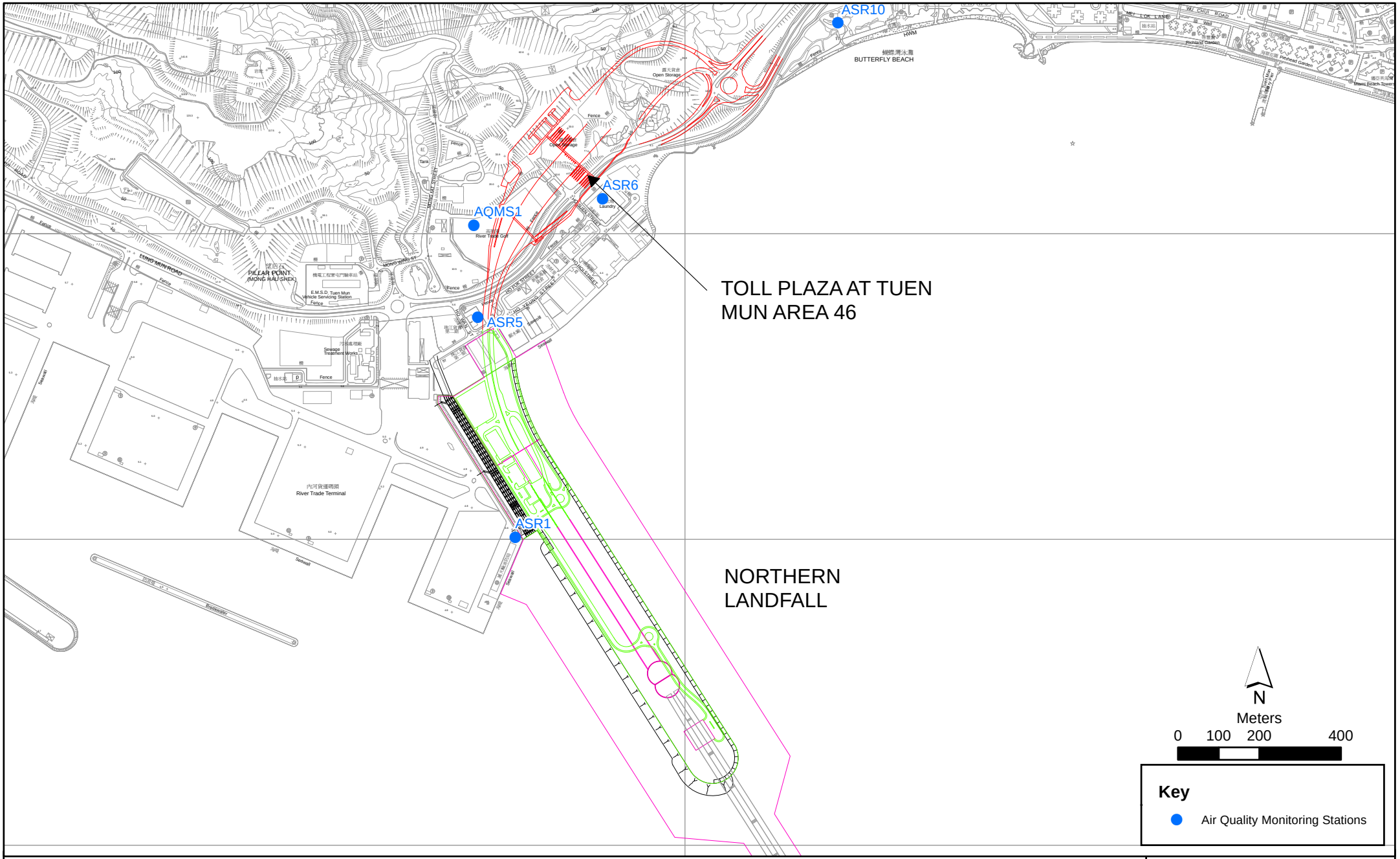

Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring

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Date: 21/2/2014

Environmental Resources Management

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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 Meter	Davis (Model: Vantage Pro 2 (S/N: AS160104014)
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 is provided in *Appendix D*. The Event and Action plan is presented in *Appendix K.*

2.1.3 Monitoring Schedule for the Reporting Month

The schedule for air quality monitoring in December 2017 is provided in *Appendix F.*

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. Detailed impact air quality monitoring results and graphical presentations are presented in *Appendix G.*

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

Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR1	210	82 - 443	331	500
ASR5	202	75 - 417	340	500
AQMS1	117	48 - 167	335	500
ASR6	156	32 - 262	338	500
ASR10	127	46 - 304	337	500

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

Station	Average (μg/m³)	Range (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
ASR1	173	81 - 328	213	260
ASR5	162	84 - 279	238	260
AQMS1	101	59 - 177	213	260
ASR6	120	83 - 161	238	260
ASR10	102	56 - 250	214	260

The weather condition during the monitoring period varied from sunny to cloudy. The major dust sources in the reporting period included construction activities under the Contract as well as nearby traffic emissions.

A total of 10 1-hour TSP and 24-hour TSP monitoring were undertaken in which seven (7) Action Level of 1-hour TSP, one (1) Action Level of 24-hour

TSP and three (3) Limit Level exceedances of 24-hour TSP were recorded in this reporting month.

Meteorological information collected at the ASR5, including wind speed and wind direction, is provided in *Appendix H*.

2.2 WATER QUALITY MONITORING

2.2.1 Monitoring Requirements & Equipment

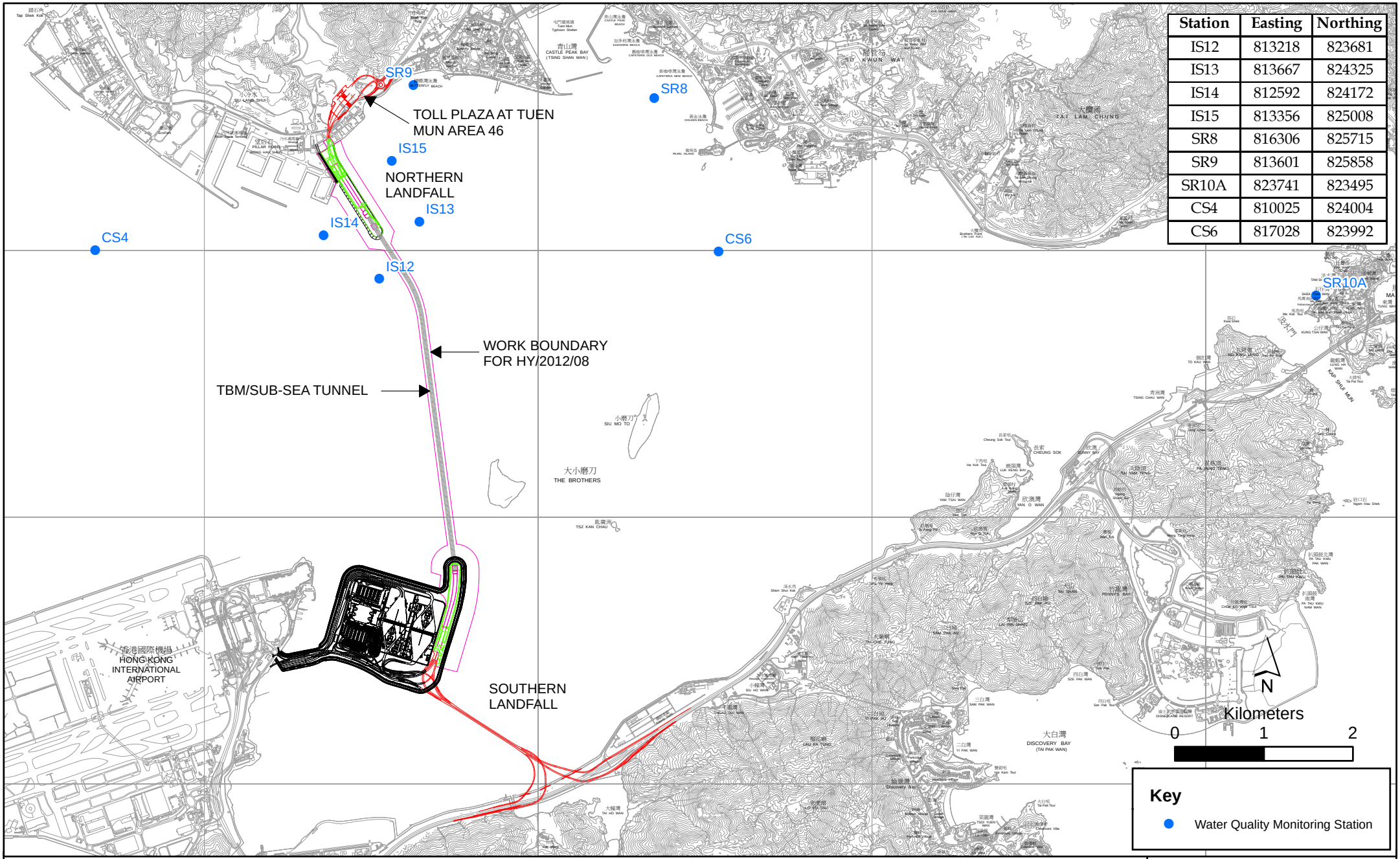
In accordance with the Updated EM&A Manual, impact water quality monitoring was carried out three days per week during the construction period at nine (9) water quality monitoring stations (*Figure 2.2*; *Table 2.5*).

Table 2.5 Locations of Water Quality Monitoring Stations and the Corresponding Monitoring Requirements

Station ID	Type	Coordinates		*Parameters, unit	Depth	Frequency
		Easting	Northing			
IS12	Impact Station	813218	823681	• Temperature(°C)	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.
IS13	Impact Station	813667	824325	• pH(pH unit)		
IS14	Impact Station	812592	824172	• Turbidity (NTU)		
IS15	Impact Station	813356	825008	• Water depth (m)		
CS4	Control / Far Field Station	810025	824004	• Salinity (ppt)		
CS6	Control / Far Field Station	817028	823992	• DO (mg/L and % of saturation)		
SR8	Sensitive receiver (Gazettal beaches in Tuen Mun)	816306	825715	• SS (mg/L)		
SR9	Sensitive receiver (Butterfly Beach)	813601	825858			
SR10A	Sensitive receiver (Ma Wan FCZ)	823741	823495			

*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 2.6 summarizes the equipment used in the impact water quality monitoring programme. Copies of the calibration certificates are attached in *Appendix E*.



Station	Easting	Northing
IS12	813218	823681
IS13	813667	824325
IS14	812592	824172
IS15	813356	825008
SR8	816306	825715
SR9	813601	825858
SR10A	823741	823495
CS4	810025	824004
CS6	817028	823992

Figure 2.2

Water Quality Monitoring Station

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Date: 15/11/2013

Environmental Resources Management

ERM

Table 2.6 Water Quality Monitoring Equipment

Equipment	Model
Multi-Parameters	YSI ProDss 16J101715
Multi-Parameters	YSI ProDss 17E102520
Multi-Parameters	YSI ProDss 16H104234
Multi-Parameters	YSI ProDss 17H105557
Multi-Parameters	YSI 6920 000109DF
Multi-Parameters	YSI 6920V2 00019CB2
Positioning Equipment	Furuno GP-170
Water Depth Detector	Lowrance Mark 5x / Garmin Striker 4

2.2.2 Action & Limit Levels

The Action and Limit levels of water quality impact monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix K*.

2.2.3 Monitoring Schedule for the Reporting Month

The schedule for water quality monitoring in December 2017 is provided in *Appendix F*.

2.2.4 Results and Observations

Impact water quality monitoring was conducted at all designated monitoring stations in the reporting month. Results and graphical presentations of impact water quality monitoring are presented in *Appendix I*.

Since seawall block installation for Phase II reclamation commenced on 1 November 2017, impact water quality monitoring resumed on 1 November 2017. In this reporting period, a total of thirteen (13) monitoring events were undertaken in which Four (4) Action Level exceedances of Suspended Solids (SS) for impact water quality monitoring were recorded.

2.3 DOLPHIN MONITORING

2.3.1 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.

2.3.2 Monitoring Equipment

Table 2.7 summarises the equipment used for the impact dolphin monitoring.

Table 2.7 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 Binocular	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

2.3.3 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.

2.3.4 Monitoring Location

The impact dolphin monitoring was carried out in the NEL and NWL along the line transect as depicted in *Figure 2.3*. The co-ordinates of all transect lines are shown in *Table 2.8* below.

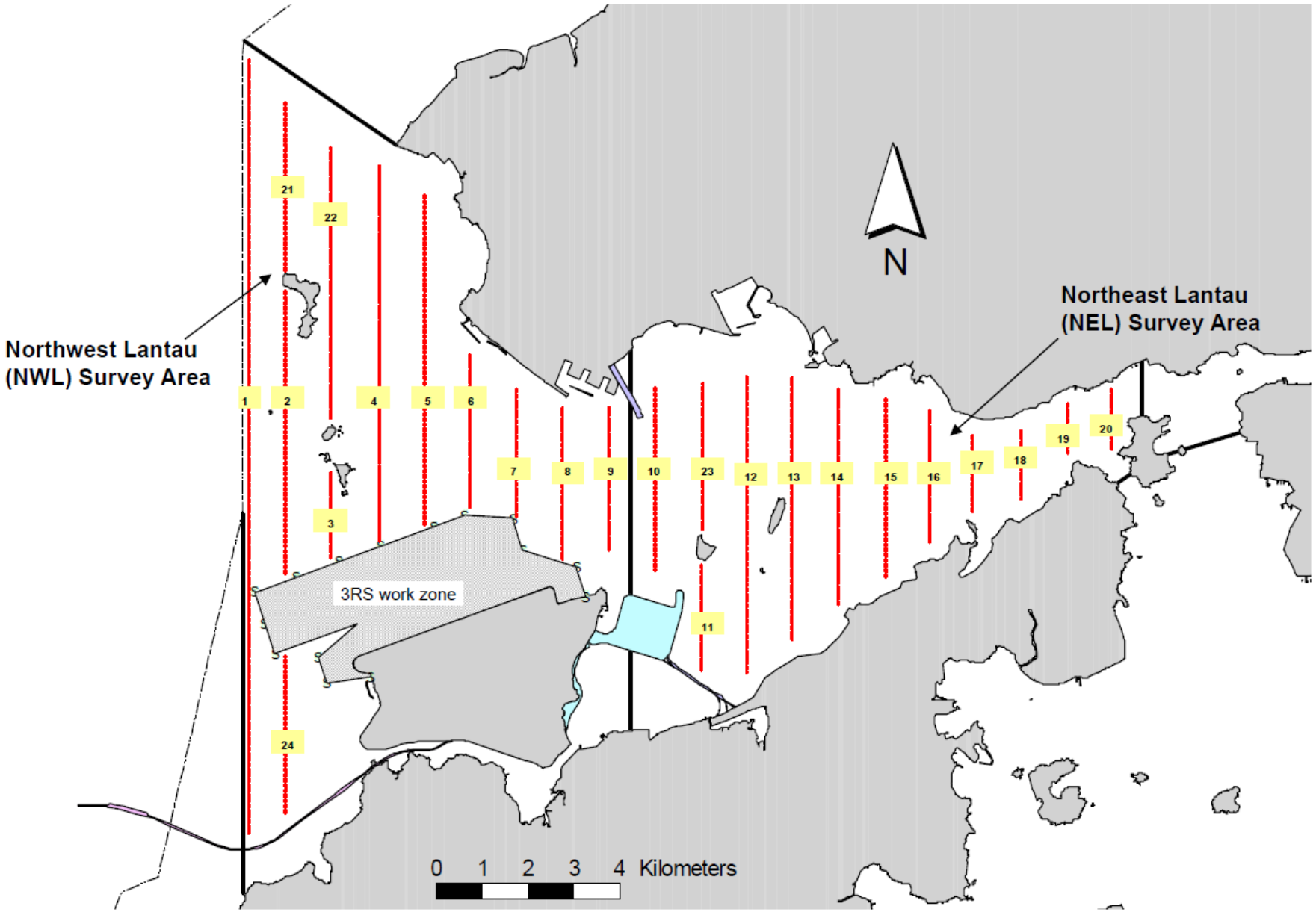

Figure 2.3

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

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Date: 29/11/2013

Environmental Resources Management

ERM

Table 2.8 Impact Dolphin Monitoring Line Transect Co-ordinates

Line No.		Easting	Northing	Line No.		Easting	Northing
1	Start Point	804671	815456	13	Start Point	816506	819480
1	End Point	804671	831404	13	End Point	816506	824859
2	Start Point	805476	820800*	14	Start Point	817537	820220
2	End Point	805476	826654	14	End Point	817537	824613
3	Start Point	806464	821150*	15	Start Point	818568	820735
3	End Point	806464	822911	15	End Point	818568	824433
4	Start Point	807518	821500*	16	Start Point	819532	821420
4	End Point	807518	829230	16	End Point	819532	824209
5	Start Point	808504	821850*	17	Start Point	820451	822125
5	End Point	808504	828602	17	End Point	820451	823671
6	Start Point	809490	822150*	18	Start Point	821504	822371
6	End Point	809490	825352	18	End Point	821504	823761
7	Start Point	810499	822000*	19	Start Point	822513	823268
7	End Point	810499	824613	19	End Point	822513	824321
8	Start Point	811508	821123	20	Start Point	823477	823402
8	End Point	811508	824254	20	End Point	823477	824613
9	Start Point	812516	821303	21	Start Point	805476	827081
9	End Point	812516	824254	21	End Point	805476	830562
10	Start Point	813525	821176	22	Start Point	806464	824033
10	End Point	813525	824657	22	End Point	806464	829598
11	Start Point	814556	818853	23	Start Point	814559	821739
11	End Point	814556	820992	23	End Point	814559	824768
12	Start Point	815542	818807	24*	Start Point	805476*	815900*
12	End Point	815542	824882	24*	End Point	805476*	819100*

Remarks: The coordinates of several starting and ending points have been revised due to the presence of a work zone to the north of the airport platform with intense construction activities in association with the construction of the third runway expansion for the Hong Kong International Airport. Co-ordinates in red and marked with asterisk are revised co-ordinates of transect line.

2.3.5 *Action & Limit Levels*

The Action and Limit levels of impact dolphin monitoring are shown in *Appendix D*. The Event and Action plan is presented in *Appendix K*.

2.3.6 Monitoring Schedule for the Reporting Month

Dolphin monitoring was carried out on 5, 12, 15 and 20 of December 2017. The dolphin monitoring schedule for the reporting month is shown in *Appendix F*.

2.3.7 Results & Observations

A total of 268.23 km of survey effort was collected, with 88.4% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) in December 2017. Among the two areas, 99.20 km and 169.03 km of survey effort were collected from NEL and NWL survey areas, respectively. The total survey effort conducted on primary and secondary lines were 194.97 km and 73.26 km respectively. The survey efforts are summarized in *Appendix J*.

Four groups of 13 Chinese White Dolphins sightings were recorded during the two sets of surveys in December 2017. All dolphin sightings were made in NWL, while none was sighted in NEL. All dolphin sightings were made during on-effort search and were made on primary lines. None of the dolphin groups were associated with any operating fishing vessel.

No dolphin sighting was made in the proximity of the TM-CLKL alignment. The distribution of dolphin sightings during the reporting month is shown in *Figure 2.4*.

Encounter rates of Chinese White Dolphins are deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in December 2017 with the results present in *Tables 2.9* and *2.10*.

Table 2.9 Individual Survey Event Encounter Rates

		Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)	**Encounter rate (ANI)** (no. of dolphins from all on-effort sightings per 100 km of survey effort)
		Primary Lines Only	**Primary Lines Only**
NEL	Set 1: December 5th / 12th	0.0	0.0
	Set 2: December 15th / 20th	0.0	0.0
NWL	Set 1: December 5th / 12th	1.7	8.3
	Set 2: December 15th / 20th	8.4	22.4

Note: Dolphin Encounter Rates are deduced from the Two Sets of Surveys (Two Surveys in Each Set) in December 2017 in Northeast (NEL) and Northwest Lantau (NWL)

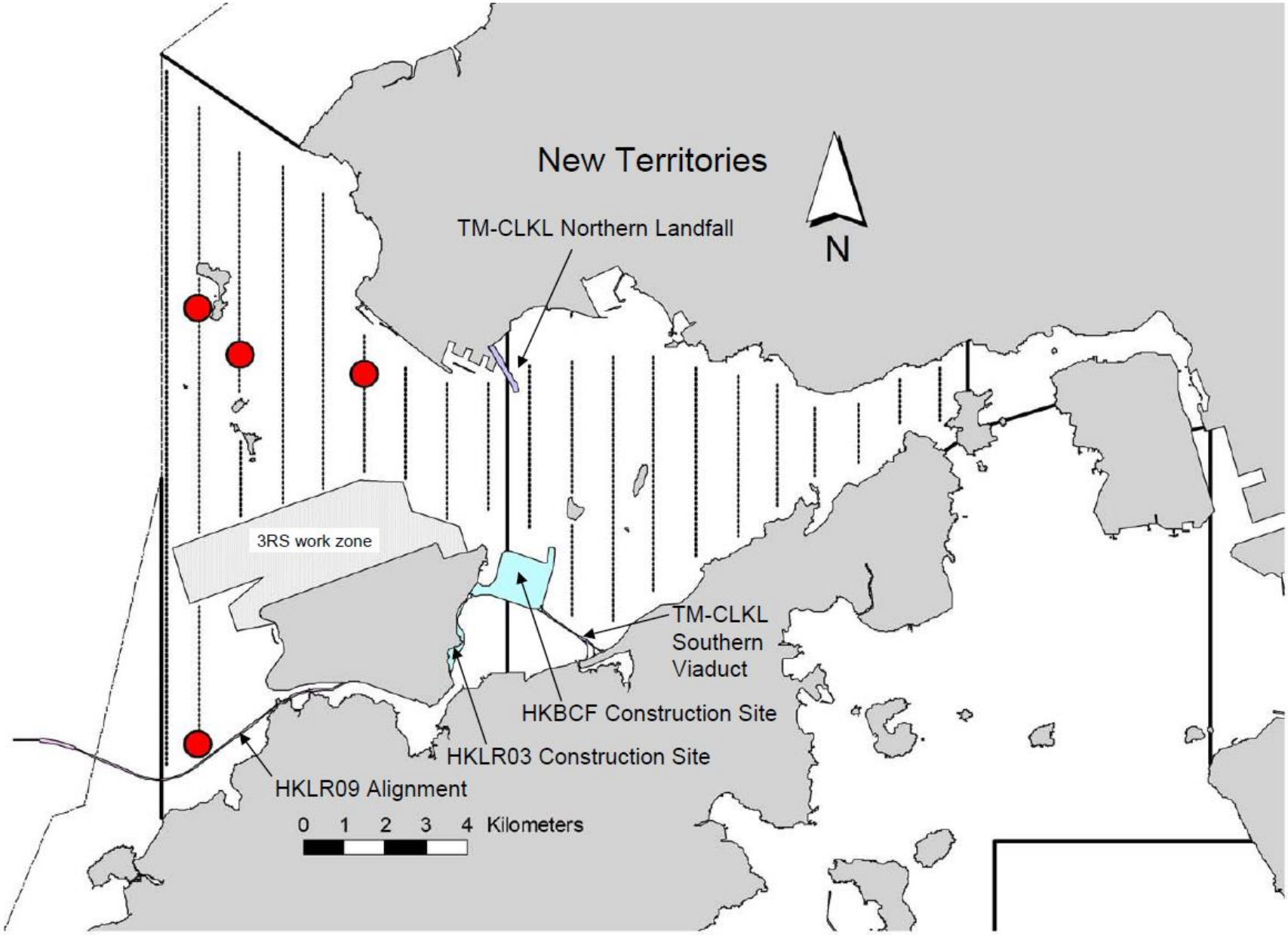

Figure 2.4

HY/2012/08 TM-CLKL Northern Connection Sub-sea Tunnel Section
The distribution of dolphin sightings during the reporting period
(Source: Adopted from HKLR03 Monitoring Survey in December 2017)

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Table 2.10 Monthly Average Encounter Rates

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		Encounter rate (ANI) (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	Both Primary and Secondary Lines	Primary Lines Only	Both Primary and Secondary Lines
Northeast Lantau	0.0	0.0	0.0	0.0
Northwest Lantau	4.2	2.9	13.6	9.4

Note: Overall dolphin encounter rates (sightings per 100 km of survey effort) from all four surveys are conducted in December 2017 on primary lines only as well as both primary lines and secondary lines in Northeast and Northwest Lantau.

Due to monthly variation in dolphin occurrence within the survey area, it would be more appropriate to draw conclusion on whether any unacceptable impacts on dolphins have been detected in relation to the construction activities of this Project in the quarterly EM&A reports, where comparison on distribution, group size and encounter rates of dolphins between the quarterly impact monitoring period and baseline monitoring period will be made.

2.3.8 Implementation of Marine Mammal Exclusion Zone

Daily marine mammal exclusion zone was in effect during the period of dredging, reclamation or marine sheet piling works in open waters under this Contract. No sighting of the Indo-Pacific humpback dolphin Sousa chinensis (i.e. Chinese White Dolphin) was recorded in December 2017 during the exclusion zone monitoring.

2.4 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting month, four (4) site inspections were carried out on 6, 13, 20 and 27 December 2017.

Key observations and recommendations during the site inspections in this reporting period are summarized in *Table 2.11*.

Table 2.11 Specific Observations and Recommendations during the Weekly Site Inspection in this Reporting Month

Inspection Date	Observations	Recommendations/ Remarks
6 December 2017	Works Area – TBM tunnel • Cement bags should be covered with tarpaulin sheets. • Drip tray and proper chemical label should be provided to the chemical containers. Works Area - Portion S-A • Drip tray and proper chemical label should be provided to the chemical containers.	Works Area – TBM tunnel • The Contractor was reminded to cover the cement bags with tarpaulin sheets. • The Contractor was reminded to provide drip tray and proper chemical label to the chemical containers. Works Area - Portion S-A • The Contractor was reminded to provide drip tray and proper chemical label to the chemical containers.
13 December 2017	Works Area –Portion S-B • Drip tray and proper chemical label should be provided to the chemical containers. Works Area - Portion N-C • Drip tray and proper chemical label should be provided to the chemical containers. Works Area –Portion N-B • Proper NRMM label should be displayed on the soil compacter. • Chemical label should be displayed on the chemical container.	Works Area –Portion S-B • The Contractor was reminded to provide drip tray and proper chemical label to the chemical containers. Works Area - Portion N-C • The Contractor was reminded to provide drip tray and proper chemical label to the chemical containers. Works Area –Portion N-B • The Contractor was reminded to display proper NRMM label on the soil compacter. • The Contractor was reminded to display chemical label on the chemical container.
20 December 2017	Works Area – Portion S-B • Chemical waste should be removed or stored in chemical storage area.	Works Area – Portion S-B • The Contractor was reminded to remove or store the chemical waste in chemical storage area.
27 December 2017	Works Area – Portion N-C • Drip tray and proper chemical label should be provided to the oil drums.	Works Area – Portion N-C • The Contractor was reminded to provide drip tray and proper chemical label to the oil drums.

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

2.5 WASTE MANAGEMENT STATUS

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

Wastes generated during this reporting period included mainly construction wastes (inert and non-inert). Reference has been made to the waste flow table prepared by the Contractor (*Appendix M*). The quantities of different types of wastes are summarized in *Table 2.12*.

Table 2.12 Quantities of Different Waste Generated in the Reporting Month

Month/Year	Inert Construction Waste [a] (tonnes)	Inert Construction Waste Re-used (tonnes)	Non-inert Construction Waste [b] (tonnes)	Recyclable Materials [c] (kg)	Chemical Wastes (kg)	Marine Sediment (m^3)	
						Category L	Category M (M_p & M_f)
December 2017	3574	0	121	0	0	0	0

Notes:

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

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

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

2.6 ENVIRONMENTAL LICENSES AND PERMITS

The status of environmental licensing and permit is summarized in *Table 2.13* below.

Table 2.13 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13 March 2015	Throughout the Contract	HyD	Application for VEP on 3 March 2015 to supersede EP-354/2009/C
Construction Dust Notification	363510	19 August 2013	Throughout the Contract	DBJV	Northern Landfall
Construction Dust Notification	403620	10 June 2016	Throughout the Contract	DBJV	Southern Landfall
Chemical Waste Registration	5213-422-D2516-02	18 January 2017	Throughout the Contract	DBJV	Northern Landfall
Chemical Waste Registration	5213-951-D2591-01	25 May 2016	Throughout the Contract	DBJV	Southern Landfall
Construction Waste Disposal Account	7018108	28 August 2013	Throughout the Contract	DBJV	Waste disposal in Contract No. HY/2012/08
Waste Water Discharge License	WT00017707-2013	18 November 2013	30 November 2018	DBJV	For site WA18
Waste Water Discharge License	WT00018433-2014	6 March 2014	31 March 2019	DBJV	N6 Site
Waste Water Discharge License	WT00019248-2014	5 June 2014	30 June 2019	DBJV	For site Portion N6 and Reclamation Area E
Waste Water Discharge License	WT00025944-2016	15 December 2016	31 December 2021	DBJV	Southern Landfall
Marine Dumping Permit	EP/MD/18-098	21 December 2017	20 January 2018	DBJV	Type 1 (Dedicated site) and Type 2 (Confined Marine Disposal)
Construction Noise Permit	GW-RW0538-17	16 October 2017	15 April 2018	DBJV	For Urmston Road in front of Pillar Point
Construction Noise Permit	GW-RW0641-17	16 December 2017	6 December 2018	DBJV	WA23 @ Tsing Yi
Construction Noise Permit	PP-RS0026-17	1 December 2017	29 March 2018	DBJV	Southern Landfall (Percussive Piling)
Construction Noise Permit	GW-RS0878-17	11 October 2017	2 April 2018	DBJV	Southern Landfall

Notes:
HyD = Highways Department
DBJV = Dragages – Bouygues Joint Venture
VEP = Variation of Environmental Permit

2.7 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

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

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

2.8 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

One (1) Action Level of 1-hour TSP and two (2) Limit Level exceedances of 24-hour TSP were recorded on 8 December 2017. Three (3) Action Level exceedances of 1-hour TSP and one (1) Action Level exceedance of 24-hour TSP were recorded on 11 December 2017. One (1) Limit Level exceedance of 24-hour TSP was recorded on 17 December 2017. Two (2) Action Level exceedances of 1-hour TSP were recorded on 20 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 26 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 29 December 2017.

Four (4) Action Level exceedances of Suspended Solids (SS) were recorded in the water quality monitoring of this reporting month.

Cumulative statistics are provided in *Appendix L*.

2.9 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

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

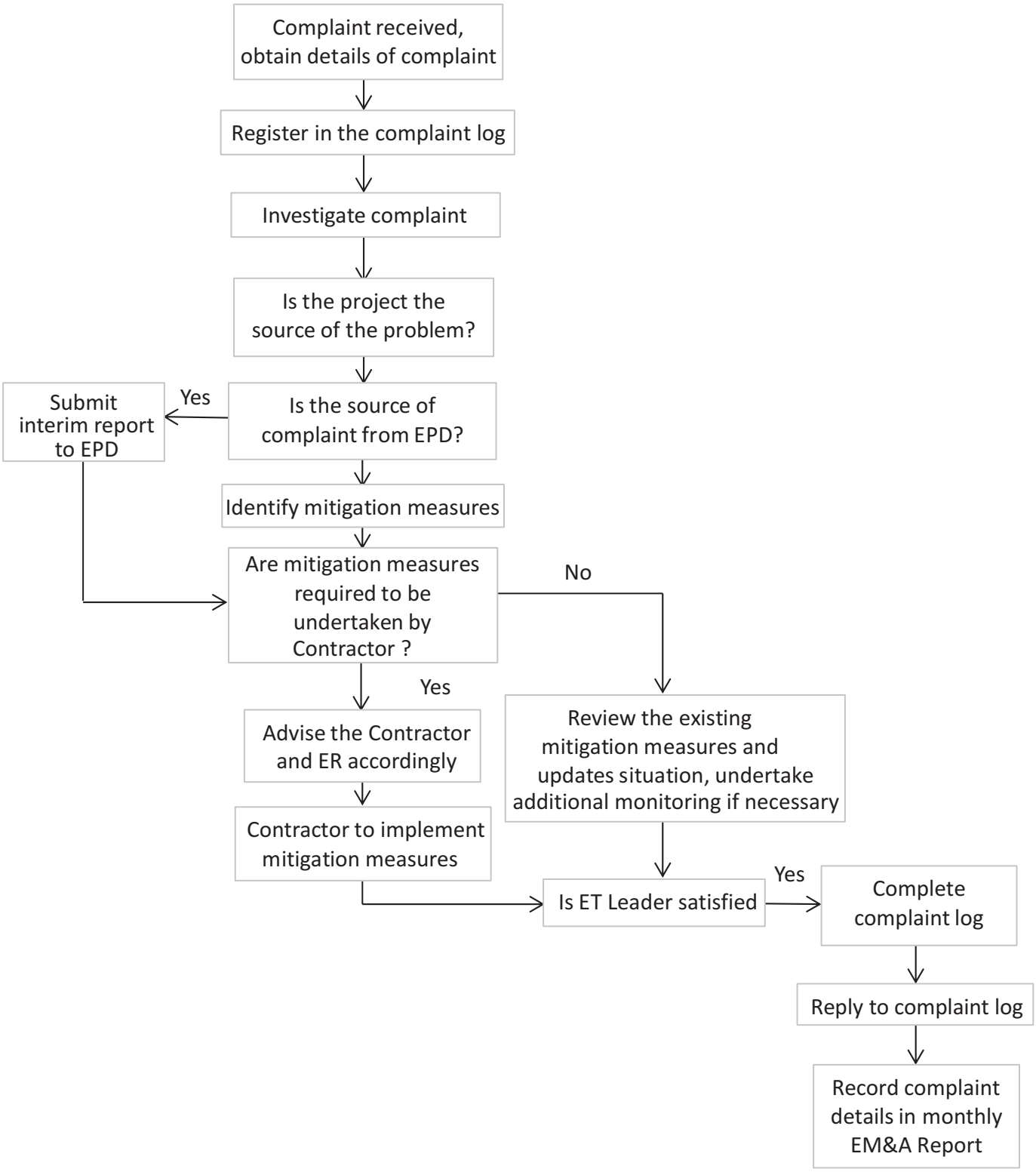

Figure 2.5 Environmental Complaint Handling Procedure

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Environmental Resources Management

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3 FUTURE KEY ISSUES

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING MONTH

As informed by the Contractor, the major works for the Project in December 2017 are summarized in *Table 3.1*.

Table 3.1 Construction Works to Be Undertaken in the Coming Month

Works to be undertaken
Land-based Works
• Box Culvert Extension at Works Area – Portion N-A; • Construction of North Ventilation Building – Portion N-C; • Construction of Cross Passage Tympanum – TBM tunnel; • Cross Passage Lining Installation – TBM Tunnel; • Excavation of Sub-sea Tunnel – TBM tunnel; • Corbel Construction – TBM Tunnel; • Bulk Excavation – Portion S-A; • CSM treatment, Jet Grouting works and D-wall Construction; and • Ground Freezing Works – Portion S-A

3.2 KEY ISSUES FOR THE COMING MONTH

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

3.3 MONITORING SCHEDULE FOR THE COMING MONTH

The tentative schedule for environmental monitoring in January 2018 is provided in *Appendix F*.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This Fiftieth Monthly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 31 December 2017, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/D.

Air quality (including 1-hour TSP and 24-hour TSP), water quality and dolphin monitoring were carried out in this reporting month.

One (1) Action Level of 1-hour TSP and two (2) Limit Level exceedances of 24-hour TSP were recorded on 8 December 2017. Three (3) Action Level exceedances of 1-hour TSP and one (1) Action Level exceedance of 24-hour TSP were recorded on 11 December 2017. One (1) Limit Level exceedance of 24-hour TSP was recorded on 17 December 2017. Two (2) Action Level exceedances of 1-hour TSP were recorded on 20 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 26 December 2017. One (1) Action Level exceedance of 1-hour TSP was recorded on 29 December 2017.

Four (4) Action Level exceedances of Suspended Solids (SS) were recorded in the water quality monitoring of this reporting month.

Four groups of 13 Chinese White Dolphins sightings were recorded during the two sets of surveys in December 2017. All dolphin sightings were made in NWL, while none was sighted in NEL. All dolphin sightings were made during on-effort search and were made on primary lines. None of the dolphin groups were associated with any operating fishing vessel.

Environmental site inspection was carried out four (4) times in December 2017. Remedial actions recommended for the deficiencies identified during the site audits were properly implemented by the Contractor.

No non-compliance event was recorded during the reporting period.

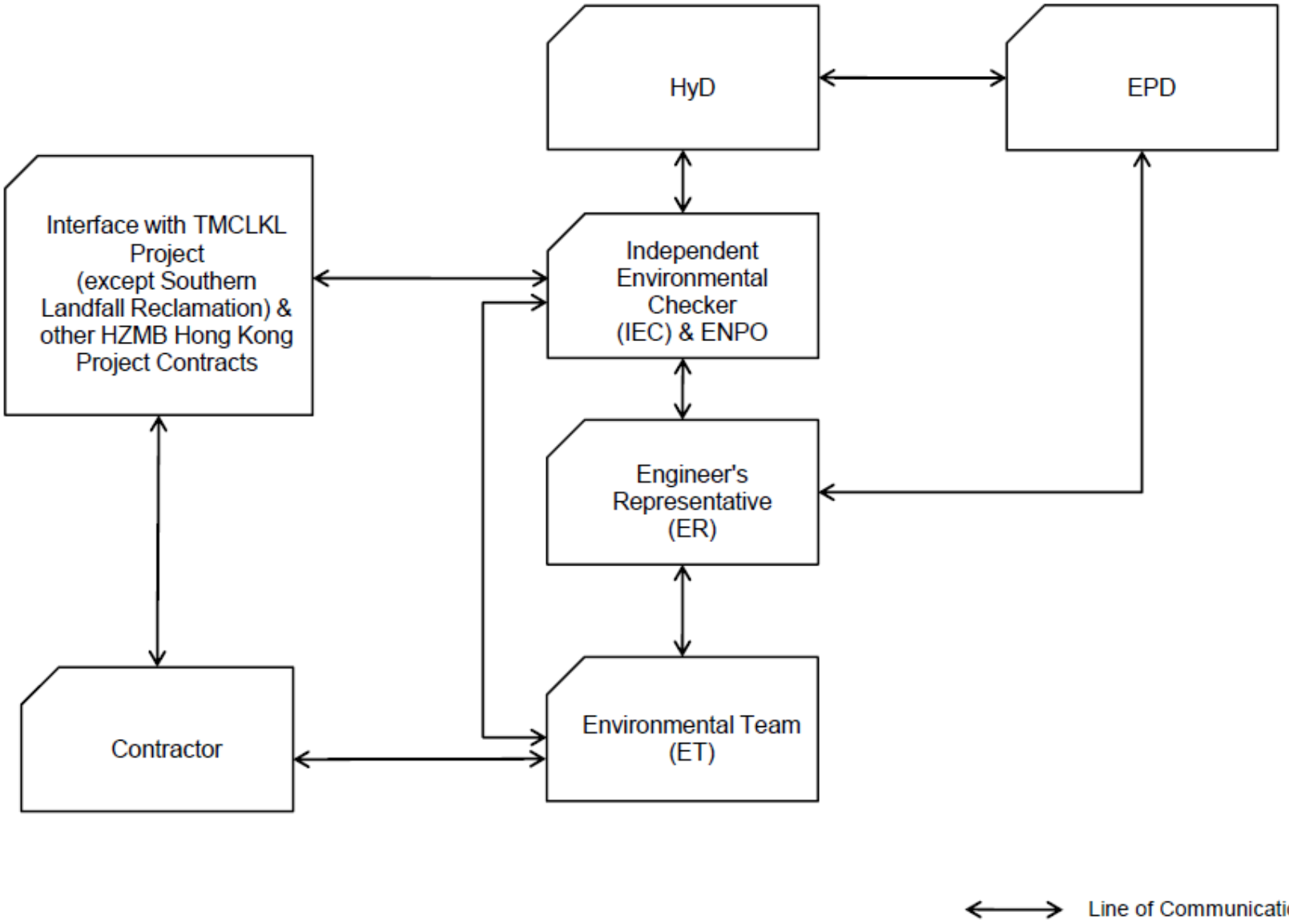
No environmental complaint was received in this reporting period.

No environmental summons was received in this 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/2012/08 Northern Connection Sub-sea Tunnel Section
Project Organization

DATE: 06/03/2013

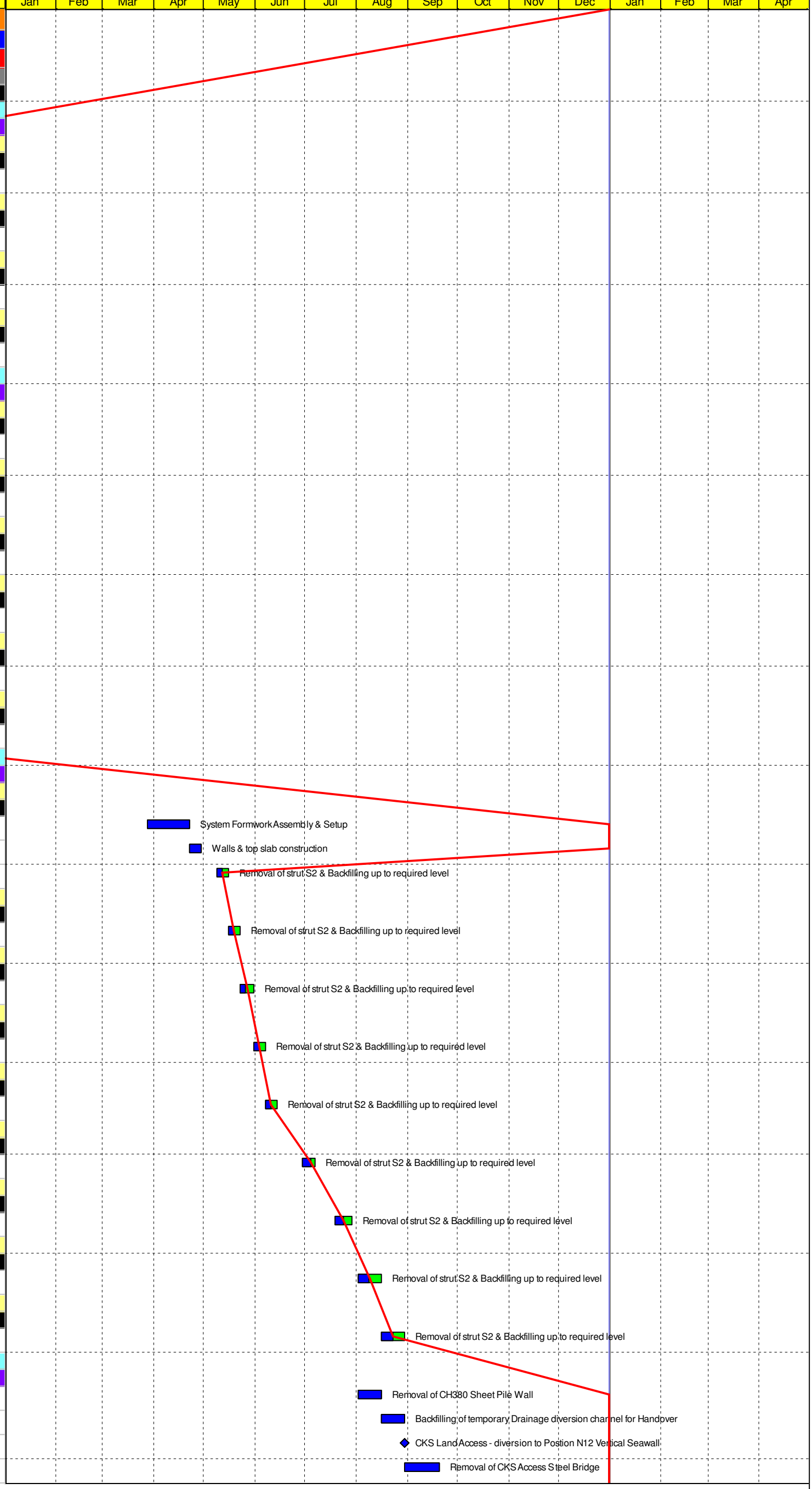
Environmental Resources Management

ERM

Appendix B

Construction Programme

Activity Name	2017 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2018 Jan	Feb	Mar	Apr
TMCLK - Northern Connection Sub-Sea Tunnel																
Construction																
Northern Landfall																
Box Culvert Extension																
Construction																
CH100-150 Land Section																
ELS & Structure																
Pile A41/A39 CJ to Pile A39/A37 CJ (Bay 7)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile A39/A37 CJ to Pile A37/A35 CJ (Bay 8)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile A37/A35 CJ to Pile A35/A33 CJ (Bay 9)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile A35/A33 CJ to Pile A33/P117 CJ (Bay 10)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Ch150-250 Marine Section																
ELS & Structure																
Pile A33/P117 CJ to Pile P113/P109 CJ (Bay 11)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P113/P109 CJ to Pile P105/P101 CJ (Bay 12)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P105/P101 CJ to Pile P97/P93 CJ (Bay 13)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P97/P93 CJ to Pile P89/P85 CJ (Bay 14)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P89/P85 CJ to Pile P81/P77 CJ (Bay 15)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P81/P77 CJ to Pile P73/P69 CJ (Bay 16)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Ch250-380 Marine Section																
ELS & Structure																
Pile P73/P69 CJ to Pile P65/P61 CJ (Bay17)																
Box Culvert Structure																
System Formwork Assembly & Setup																
Walls & top slab construction																
Removal of strut S2 & Backfilling up to required level																
Pile P65/P61 CJ to Pile P57/P53 CJ (Bay 18)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P57/P53 CJ to Pile P49/P45 CJ (Bay 19)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P49/P45 CJ to Pile P41/P37 CJ (Bay 20)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P41/P37 CJ to Pile P33/P29 CJ (Bay 21)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P33/P29 CJ to Pile P25/P21 CJ (Bay 22)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P25/P21 CJ to Pile P17/P13 CJ (Bay 23)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P17/P13 CJ to Pile P09/P05 CJ (Bay 24)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Pile P09/P05 CJ to End Wall CJ (Bay 25)																
Box Culvert Structure																
Removal of strut S2 & Backfilling up to required level																
Ch380-399 Connection Section																
Connection to Existing Culvert																
Removal of CH380 Sheet Pile Wall																
Backfilling of temporary Drainage diversion channel for Handover																
CKS Land Access - diversion to Postion N12 Vertical Seawall																
Removal of CKS Access Steel Bridge																



Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

Planned Bar
Planned Bar - Critical
Planned Milestone
Progress bar
Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

Detailed Works Programme (Rev. F)

Progress Variance of Major Activities as of 31-Dec-17

Date	Revision	Checked	Approved
12-Feb-14	TMCLK/DBJ/GEN/PRG/98507	WYu	SPo
08-Apr-14	TMCLK/DBJ/GEN/PRG/98507 Rev.B	SPa	WYu
28-Aug-14	TMCLK/DBJ/GEN/PRG/98507 Rev.C	CLa	WYu
30-Oct-15	TMCLK/DBJ/GEN/PRG/98507 Rev.F	WYu	

Activity Name	2017 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2018 Jan	Feb	Mar	Apr
Advance preparation works for Main Culvert Structure Connection									Advance preparation works for Main Culvert Structure Connection							
Connection Stage 1 (Cell 1 & 2)																
Bulkhead Installation at Cell 1 & 2, divert flow to Cell 3 & 4											Bulkhead Installation at Cell 1 & 2, divert flow to Cell 3 & 4					
Removal of combi-wall at end wall Cell 1 & 2 for connection											Removal of combi-wall at end wall Cell 1 & 2 for connection					
Rock & gravel fill											Rock & gravel fill					
Mass concrete fill & blinding layer											Mass concrete fill & blinding layer					
Bottom slab including kicker											Bottom slab including kicker					
Wall & top slab											Wall & top slab					
Connection Stage 2 (Cell 3 & 4)																
Bulkhead Removal at Cell 1 & 2													Bulkhead Removal at Cell 1 & 2			
Bulkhead Installation at Cell 3 & 4													Bulkhead Installation at Cell 3 &			
Removal of combi-wall at end wall Cell 3 & 4 & row 2 for connection													Removal of combi-wall at			
Bottom slab including kicker													Bottom slab inclu			
Wall & top slab													Wall & top			
Backfilling													Ba			
Miscellaneous works																
Connection to Existing EOC																
ELS for Connection to Existing EOC											ELS for Connection to Existing EOC					
Removal of EOC temp drainage diversion											Removal of EOC temp drainage diversion					
EOC precast structure Installation & Connection													EOC precast structure Installatio			
Backfilling & EOC special manhole Construction													Backfilling & EOC			
Connection to Existing EOB																
ELS for Connection to Existing EOB										ELS for Connection to Existing EOB						
Removal of EOB Temporary Drainage Diversion											Removal of EOB Temporary Drainage Diversion					
Precast EOB Structure Installation & Connection													Precast EOB Structure Installation & Conn			
Backfilling & EOB special manhole Construction													Backfilling & EOB special man			
Connection to Existing EOA																
ELS for Connection to Existing EOA									ELS for Connection to Existing EOA							
EOA Precast installation & Connection											EOA Precast installation & Connection					
Backfilling & EOA special manhole Construction											Backfilling & EOA special manhole Construction					
Inspection Manhole (IM)																
Inspection Manhole IM-13 to IM-16 & backfilling to +6.0mPD									Inspection Manhole IM-13 to IM-16 & backfilling to +6.0mPD							
Balance Hole (BH)																
BH-10 to BH-12 & backfilling to +6.0mPD									BH-10 to BH-12 & backfilling to +6.0mPD							
Desilting Opening (DO)																
DO-05 to DO-08 & backfilling to +6.0mPD										DO-05 to DO-08 & backfilling to +6.0mPD						
CLP Temporary Substation																
Construction																
CLP Substation - Prepare for CLP consent for de-energization										CLP Substation - Prepare for CLP consent for de-energization						
CLP Substation - De-energization											CLP Substation - De-energization					
CLP Substation - Dismantling & Removal																
Handover of Portion N6B																
North Approach TBM Tunnelling & Cross Passage																
Construction																
North Approach Tunnel Internal Structure - NB																
NB - North TBM Tunnel - Fire proofing and Provision to E&MS and TCSS Contract for KD1	el - Fire proofing and Provision to E&MS and TCSS Contract for KD1															
North Approach Tunnel Internal Structure - SB																
SB - North TBM Tunnel - Fire proofing & Provision to E&MS and TCSS Contract for KD1	SB - North TBM Tunnel - Fire proofing & Provision to E&MS and TCSS Contract for KD1															
North Ventilation Building																
Construction																
Substructure																
Superstructure	Superstructure															
Finishing Works											Finishing Works					
Civil Provision for E&MS Contract												Civil Provision for E&MS Contract				
Remaining Finishing Works													Remaining Finishing Works			
Handover Portion N9													Handover Portion N9			
North Reclamation (Phase 2)																
Construction																
Vertical Seawall - Seawall Coping - (Zone G)												Vertical Seawall - Seawall Coping - (Zone G)				
Surcharge - Phase 2											Surcharge - Phase 2					
Removal of Surcharge - Phase 2												Removal of Surcharge - Phase 2				
Handover - Portion N1 to N4												Handover - Portion N1 to N4				
North Approach Ramp																
Construction																
Zone G - Sheet Piling												Zone G - Sheet Piling				
Zone G- Tension Piles												Zone G- Tension Piles				
Zone G - Pile Test													Zone G - Pile Test			

Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

Planned Bar
Planned Bar - Critical
Planned Milestone
Progress bar
Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

Detailed Works Programme (Rev. F)

Progress Variance of Major Activities as of 31-Dec-17

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12-Feb-14	TMCLK/DBJGEN/PRG/98507	WYu	SPo
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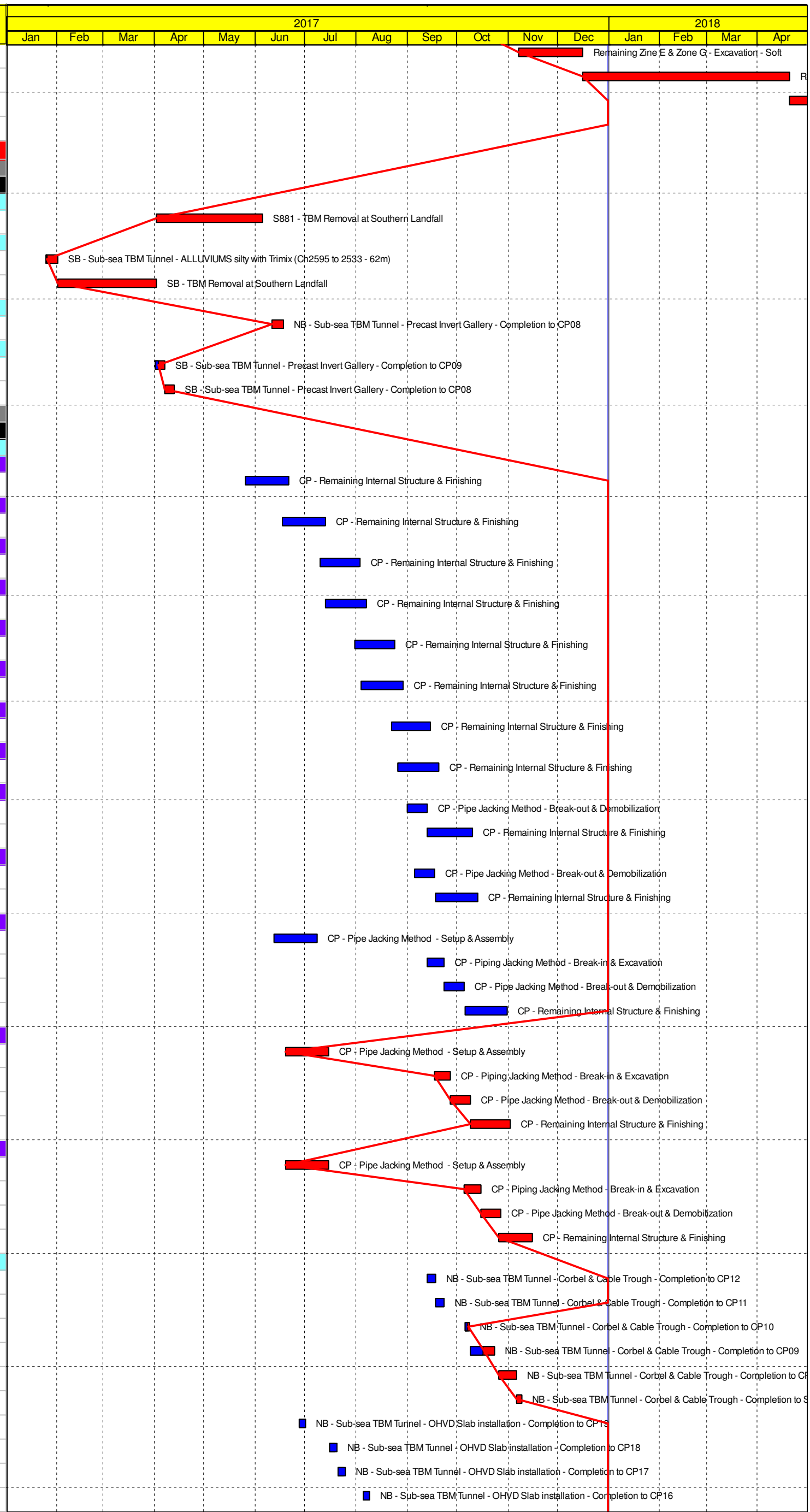
28-Aug-14	TMCLK/DBJGEN/PRG/98507 Rev.C	CLa	WYu
30-Oct-15	TMCLK/DBJGEN/PRG/98507 Rev.F	WYu	

Activity Name
Remaining Zine E & Zone G - Excavation - Soft
Remaining Zone E & Zone G - Structure
Remaining Zone E & Zone G - Backfilling
Provision works for E&MS/TCSS (for Stage 3)
Sub-sea Tunnel
Sub-sea TBM Tunnelling
Construction
Sub-sea TBM Tunnel - NB ID12.2m - S881
S881 - TBM Removal at Southern Landfall
Sub-sea TBM Tunnel - SB ID12.2m - S882
SB - Sub-sea TBM Tunnel - ALLUVIUMS silty with Trimix (Ch2595 to 2533 - 62m)
SB - TBM Removal at Southern Landfall
Sub-sea TBM Tunnel - NB - Precast Invert Gallery
NB - Sub-sea TBM Tunnel - Precast Invert Gallery - Completion to CP08
Sub-sea TBM Tunnel - SB - Precast Invert Gallery
SB - Sub-sea TBM Tunnel - Precast Invert Gallery - Completion to CP09
SB - Sub-sea TBM Tunnel - Precast Invert Gallery - Completion to CP08
Sub-sea Tunnel Cross Passage & Internal Structure
Construction
Sub-sea Tunnel Cross Passage
CP22 - ML03 - Ch3936
CP - Remaining Internal Structure & Finishing
CP20 - ML03 - Ch3739
CP - Remaining Internal Structure & Finishing
CP18 - ML03 - Ch3542
CP - Remaining Internal Structure & Finishing
CP17 - ML03 - Ch3444
CP - Remaining Internal Structure & Finishing
CP16 - ML03 - Ch3345
CP - Remaining Internal Structure & Finishing
CP15 - ML03 - Ch3247
CP - Remaining Internal Structure & Finishing
CP14 - ML03 - Ch3148
CP - Remaining Internal Structure & Finishing
CP13 - ML03 - Ch3050
CP - Remaining Internal Structure & Finishing
CP12 - ML03 - Ch2951
CP - Pipe Jacking Method - Break-out & Demobilization
CP - Remaining Internal Structure & Finishing
CP11 - ML03 - Ch2853
CP - Pipe Jacking Method - Break-out & Demobilization
CP - Remaining Internal Structure & Finishing
CP10 - ML03 - Ch2754
CP - Pipe Jacking Method - Setup & Assembly
CP - Piping Jacking Method - Break-in & Excavation
CP - Pipe Jacking Method - Break-out & Demobilization
CP - Remaining Internal Structure & Finishing
CP09 - ML03 - Ch2656
CP - Pipe Jacking Method - Setup & Assembly
CP - Piping Jacking Method - Break-in & Excavation
CP - Pipe Jacking Method - Break-out & Demobilization
CP - Remaining Internal Structure & Finishing
CP08 - ML03 - Ch2557
CP - Pipe Jacking Method - Setup & Assembly
CP - Piping Jacking Method - Break-in & Excavation
CP - Pipe Jacking Method - Break-out & Demobilization
CP - Remaining Internal Structure & Finishing
Sub-sea TBM Tunnel - NB - Remaining Internal Stru
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP12
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP11
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP10
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP09
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP08
NB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to South Retrieval shaft
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP19
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP18
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP17
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP16



Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

Planned Bar
Planned Bar - Critical
Planned Milestone
Progress bar
Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

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30-Oct-15	TMCLK/DBJ/GEN/PRG/98507 Rev.F	WYu	

Activity Name
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP15
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP14
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP13
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP12
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP11
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP10
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP09
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP08
NB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to South Retrieval shaft
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP48
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP47
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP46
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP45
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP44
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP43
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP42
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP41
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP40
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP39
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP38
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP37
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP36
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP35
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP34
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP33
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP32
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP31
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP30
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP29
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP28
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NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP12
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP11
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP10
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP09
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP08
NB - Sub-sea TBM Tunnel - Fire Proofing - Completion to South Retrieval Shaft
NB - Sub-sea TBM Tunnel - Road Level Fire Proofing
NB Tunnel - Road works & Road marking
Sub-sea TBM Tunnel - SB - Remaining Internal Stru
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP16
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP15
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP14
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP13
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP12
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP11
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP10

Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

Planned Bar
Planned Bar - Critical
Planned Milestone
Progress bar
Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

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30-Oct-15	TMCLK/DBJ/GEN/PRG/98507 Rev.F	WYu	

Activity Name
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP09
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to CP08
SB - Sub-sea TBM Tunnel - Corbel & Cable Trough - Completion to South Retrieval shaft
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP22
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP21
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP20
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP19
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SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP17
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP16
SB - Sub-sea TBM Tunnel - OHVD Slab installation - Completion to CP15
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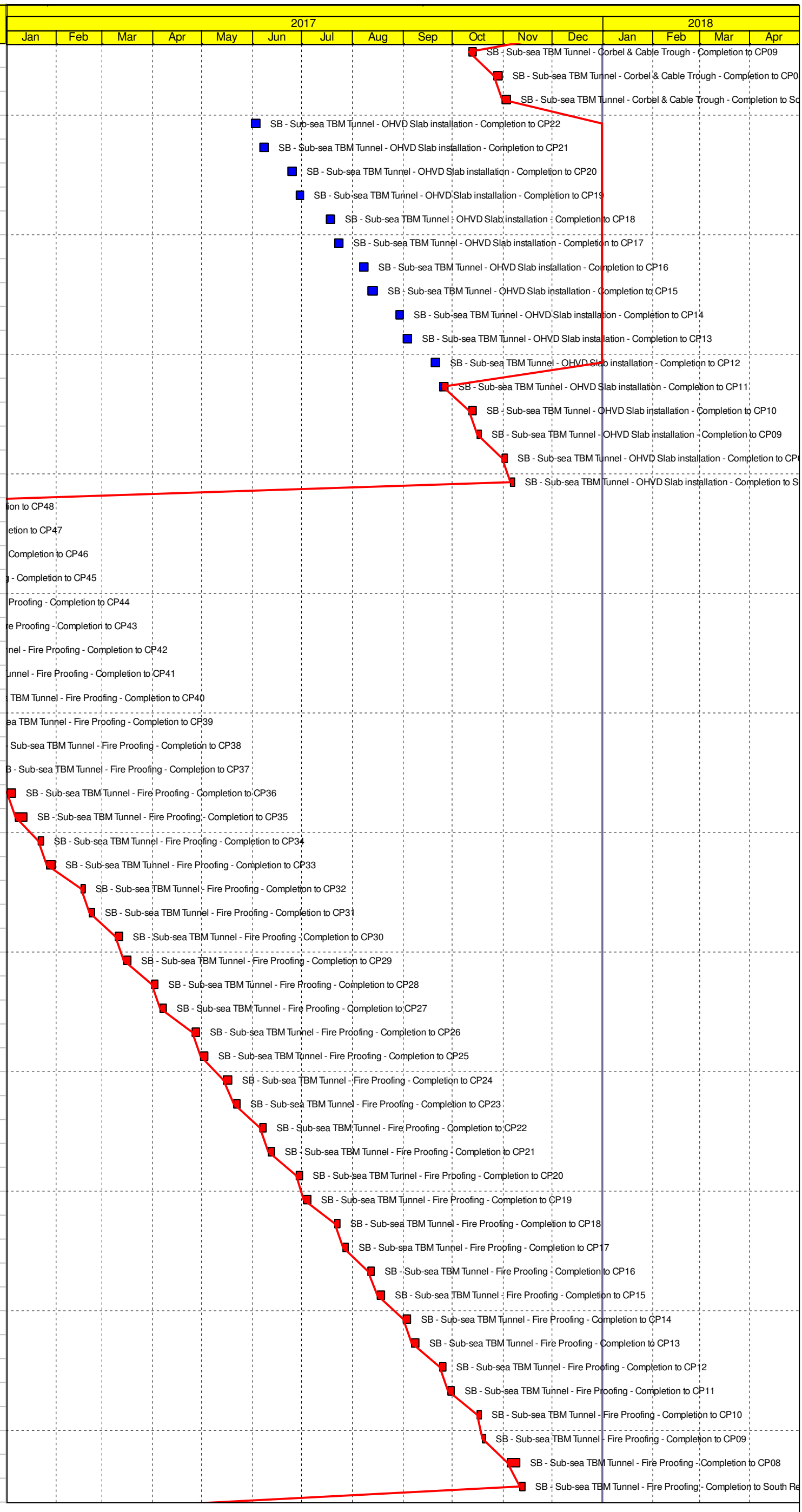
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP13
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP12
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP11
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP10
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP09
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to CP08
SB - Sub-sea TBM Tunnel - Fire Proofing - Completion to South Retrieval Shaft



Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

- Planned Bar
- Planned Bar - Critical
- Planned Milestone
- Progress bar
- Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

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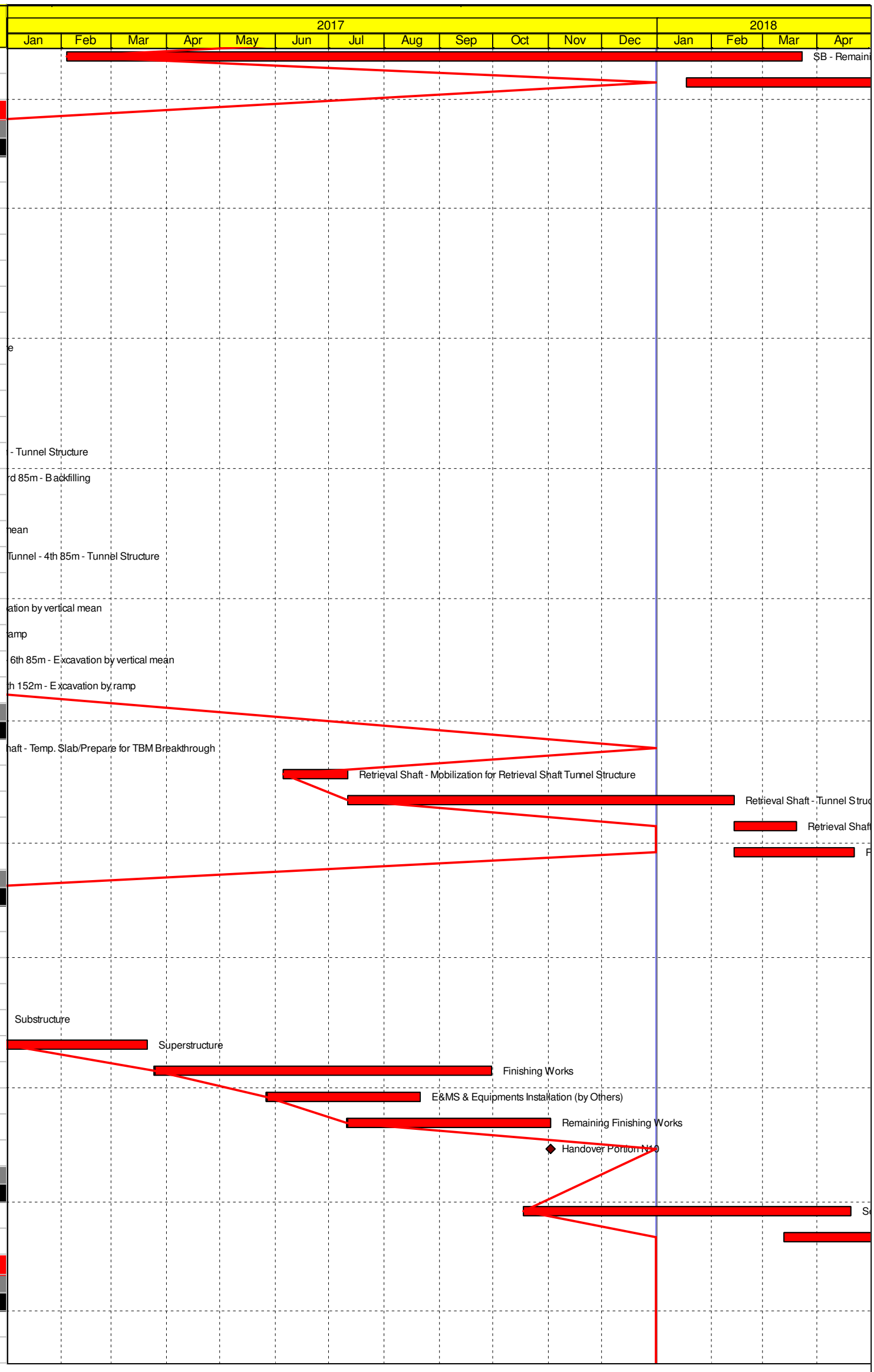
30-Oct-15	TMCLK/DBJ/GEN/PRG/98507 Rev.F	WYu	

Activity Name
SB - Remaining Fire Proofing in Tunnel
SB Tunnel - Road works & Road Marking
Southern Landfall
South Cut & Cover Tunnel
Construction
South C&C Tunnel - Diaphragm Wall
C&C Tunnel - 1st 85m - Excavation by ramp
C&C Tunnel - 1st 85m - Excavation by vertical mean
C&C Tunnel - 1st 85m - Tunnel Structure
C&C Tunnel - 1st 85m - Backfilling
C&C Tunnel - 2nd 85m - Excavation by ramp
C&C Tunnel - 2nd 85m - Excavation by vertical mean
C&C Tunnel - 2nd 85m - Tunnel Structure
C&C Tunnel - 2nd 85m - Backfilling
C&C Tunnel - 3rd 85m - Excavation by ramp
C&C Tunnel - 3rd 85m - Excavation by vertical mean
C&C Tunnel - 3rd 85m - Tunnel Structure
C&C Tunnel - 3rd 85m - Backfilling
C&C Tunnel - 4th 85m - Excavation by ramp
C&C Tunnel - 4th 85m - Excavation by vertical mean
C&C Tunnel - 4th 85m - Tunnel Structure
C&C Tunnel - 5th 85m - Excavation by ramp
C&C Tunnel - 5th 85m - Excavation by vertical mean
C&C Tunnel - 6th 85m - Excavation by ramp
C&C Tunnel - 6th 85m - Excavation by vertical mean
C&C Tunnel - 7th 152m - Excavation by ramp
South Retrieval Shaft
Construction
Retrieval Shaft - Temp. Slab/Prepare for TBM Breakthrough
Retrieval Shaft - Mobilization for Retrieval Shaft Tunnel Structure
Retrieval Shaft - Tunnel Structure
Retrieval Shaft - Tunnel Structure - Provision for TCSS/E&MS works for KD-3
Retrieval Shaft - Vent duct Structure & Backfilling
South Ventilation Building
Construction
S - Piling (Socket H-piles)
S - Pile Test
S -Sheet Piling
S- Excavation
Substructure
Superstructure
Finishing Works
E&MS & Equipments Installation (by Others)
Remaining Finishing Works
Handover Portion N10
South Surface Roadworks, Utility & Drainage works
Construction
South Landfall - Seawall Modification
South Landfall - Road Furniture
Testing & Commissioning/Inspection & Handover
Final Inspection & Handover
Construction
Statutory Inspection
Final Inspection & Handover



Project ID: TMCLK DWPF 17W52

Data Date: 31-Dec-17

Planned Bar
Planned Bar - Critical
Planned Milestone
Progress bar
Progress Milestone

TMCLK - Northern Connection Sub-Sea Tunnel Section

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30-Oct-15	TMCLK/DBJ/GEN/PRG/98507 Rev.F	WYu	

Appendix C

Environmental Mitigation and Enhancement Measure Implementation Schedules

Contract No. HY/2012/08
Tuen Mun – Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
Air Quality									
4.8.1	3.8	An effective watering programme of twice 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	Watering of the construction sites in Lantau for 8 times/day and in Tuen Mun for 12 times/day to reduce dust emissions by 87.5% and 91.7% respectively and shall be undertaken.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		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		✓

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

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		✓
WATER QUALITY									
Marine Works (Sequence A)									
6.1 Figure 6.2a Appendix D6a	Annex A	Construction of seawalls to be advanced by at least 200m before the main reclamation dredging and filling can commence. The protection by advanced seawall is a dynamic process depending on the progress of the construction activities and the stage when such protection could be realised is illustrated in Figure 6.2a and detailed in Appendix D6a. The part of the works where such measures can be undertaken for the majority of the time includes the following locations: - TM-CLKL northern reclamation;	All areas/ prior to dredging and backfilling works	Contractor	TM-EIAO		Y		✓
6.1	-	a maximum of 50% public fill to be used for all seawall filling below +2.5mPD for TM-CLKL southern and northern landfalls.	TM-CLKL seawall filling	Contractor	TM-EIAO		Y		✓

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

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1	-	a maximum of 30% public fill to be used for reclamation filling below +2.5mPD for TM-CLKL southern landfall	TM-CLKL southern landfall reclamation filling	Contractor	TM-EIAO		Y		N/A
6.1	-	a maximum of 100% public fill to be used for reclamation filling below +2.5mPD for TM-CLKL northern landfall	TM-CLKL northern landfall reclamation filling	Contractor	TM-EIAO		Y		✓
6.1	-	Use of cage type silt curtains round allgrab dredgers during the HKBCF, HKLR and TM-CLKL southern reclamation works.	All areas dredging works	Contractor	TM-EIAO		Y		✓
	Figure 1.1 of Annex C	A layer of floating type silt curtain will be applied when dredging and reclamation works are being undertaken at Portion N-a as shown in Figure 1.1 of Annex C of the EM&A Manual.	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓
6.1	-	Trailer suction hopper dredgers shall not allow mud to overflow.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	The use of Lean Material Overboard (LMOB) systems shall be prohibited.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓

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

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1 Figure 6.2b Appendix D6b	Annex A	For other parts of the reclamation works construction of seawalls to be advanced by at least 200m before the main reclamation dredging and filling can commence. It should be noted that the protection by advanced seawall is a dynamic process depending on the progress of the construction activities and the stage when such protection could be realised is illustrated in Figure 6.2b and detailed in Appendices D6b. The part of the works where such measures can be undertaken for the majority of the time includes the following locations: - TM-CLKL northern reclamation; - Reclamation filling for Portion D of HKBCF; Reclamation filling for FSD berth of HKBCF; and - Reclamation dredging and filling for Portion 1 of HKLR;	TM-CLKL northern landfall, Portion D of HKBCF and HKLR	Contractor	TM-EIAO		Y		✓
6.1	-	The filling material for the other parts of the works are the same as Sequence A;	All other areas/backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	5.7	Cage type silt curtain (with steel enclosure) shall be used for grab dredgers working in the site of HKBCF and TM- CLKL southern reclamation. Cage type silt curtains will be applied round all grab dredgers at other works area.	HKBCF, HKLR and TM-CLKL grab dredging	Contractor	TM-EIAO		Y		✓
6.1	Annex A	A layer of floating type silt curtain will be applied around all works as defined in Appendix D6b.	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓
6.1	-	TM-CLKL northern landfall: - Reclamation filling shall not proceed until at least 200m section of leading seawall at both the east and west sides of the reclamation are formed above +2.5 mPD, except for 100m gaps for marine access;	All areas/ through out marine works	Contractor	TM-EIAO		Y		✓

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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
General Marine Works									
6.1	-	Use of TBM for the construction of the submarine tunnel.	Tunnel works / Construction phase	Contractor	TM-EIAO		Y		N/A
6.1	-	Export dredged spoils from NWWCZ.	All areas as much as possible / dredging activities	Contractor	DASO Permit conditions		Y		✓
6.1	-	Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25%	All areas/ backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	-	Where sand fill is proposed for filling below +2.5mPD, the fine content in the sand fill will be controlled to 5%.	All areas/ backfilling works	Contractor	TM-EIAO		Y		N/A
6.1	-	Mechanical grabs shall be designed and maintained to avoid spillage and should seal tightly while being lifted.	All areas/ throughout construction period	Contractor	Marine Fill Committee Guidelines. DASO permit conditions.		Y		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1	-	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		✓
6.1	-	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		N/A
6.1	-	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		N/A
6.1	-	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		✓
6.1	5.2	Silt curtain shall have proved effectiveness from the producer and shall be fully maintained throughout the works by the contractor.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	The daily maximum production rates shall not exceed those assumed in the water quality assessment.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	The dredging and filling works shall be scheduled to spread the works evenly over a working day.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

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						D	C	O	
Land Works									
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		<>
6.1	-	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		✓
6.1	-	Temporary access roads should be surfaced with crushed stone or gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1	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		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	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		✓
6.1	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		N/A
6.1	-	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		✓
6.1	-	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		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1	-	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		✓
6.1	-	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		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.1	-	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	✓
6.1	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									
6.1	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	6.3,6.5	Specification and implementation of 250m dolphin exclusion zone.	All dredging and reclamation areas/Detailed Design/during all reclamation and dredging works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.5	Specification and deployment of an artificial reef of an area of 3,600m2 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 implemented 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		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
8.14	6.3, 6.5	Design and implementation of acoustic decoupling methods for dredging and reclamation works	All areas/ Detailed Design/during dredging and reclamation works	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.3, 6.4	Pre-construction phase survey and coral translocation	Detailed Design/Prior to construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
8.15	6.5	Audit coral translocation success	Post translocation	Contractor	TMEIA		Y		✓
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
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	The colour and shape of the toll control buildings, ventilation building and administration building shall adopt a design which could blend it into the vicinity elements, and the details will be developed in detailed design stage (DM2)	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	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A

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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	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes shall be incorporated to all buildings, engineering structures and associated infrastructure facilities (OM5)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (OM6)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A
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		✓

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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		The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures including waste reduction, reuse and recycling.	Contract Mobilisation	Contractor	TMEIA		Y		✓
12.6	8.1	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The surplus surcharge should be transferred to a fill bank	Reclamation areas / after surcharge works	Contractor	TMEIA		Y		N/A
12.6	8.1	Rock armour from the existing seawall should be reused on the new sloping seawall as far as possible	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	No waste shall be burnt on site.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Provisions to be made in contract documents to allow and promote the use of recycled aggregates where appropriate.	Detailed Design	Design Consultant	TMEIA	Y			✓
12.6	8.1	The Contractor shall be prohibited from disposing of C&D materials at any sensitive locations. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓

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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	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	Dredged marine mud shall be disposed of in a gazetted marine disposal ground under the requirements of the Dumping at Seas Ordinance.	Reclamation areas / throughout dredging works	Contractor	TMEIA		Y		✓
12.6	8.1	Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork/plastic facing for construction works should be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should avoid over-ordering and wastage.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The Contractor should recycle as many C&D 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		✓

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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	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: *f* suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; *f* Having a capacity of <450L unless the specifications have been approved by the EPD; and w Chinese according to the instructions prescribed in Schedule 2 of the Regulations. *f* Clearly labelled and used solely for the storage of chemical wastes; *f* Enclosed with at least 3 sides; *f* 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; *f* Adequate ventilation; *f* Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and *f* Incompatible materials are adequately separated.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A

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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	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	All waste containers shall be in a secure area on hardstanding;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	Site Offices/ throughout construction period	Contractor	TMEIA		Y		✓
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

*** Remarks:**

✓	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

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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	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214	260
1 Hour TSP Level in μg /m³	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337	500

Table D2 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

(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 D3 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 D4 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	NEL = [STG < 2.4 & ANI <8.9] and NWL = [STG < 3.9 & ANI <17.9]	

Appendix E

Copies of Calibration Certificates for Air Quality and Water Quality Monitoring

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 5
Calibrated by	:	P.F.Yeung
Date	:	09/10/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 0816

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.0	3.135	1.522	54	53.54
2	13 holes	8.0	2.804	1.363	49	48.58
3	10 holes	5.8	2.388	1.163	43	42.63
4	7 holes	3.8	1.933	0.945	38	37.67
5	5 holes	2.5	1.568	0.770	30	29.74

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):30.353 Intercept(b):7.454 Correlation Coefficient(r): 0.9947

Checked by: Magnum Fan Date: 12/10/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR10
Calibrated by	:	P.F.Yeung
Date	:	09/10/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 8162

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11	3.288	1.595	57	56.51
2	13 holes	8	2.804	1.363	50	49.57
3	10 holes	6	2.428	1.183	44	43.62
4	7 holes	4.2	2.032	0.992	37	36.68
5	5 holes	2.8	1.659	0.813	29	28.75

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):35.265 Intercept(b): 1.089 Correlation Coefficient(r): 0.9968

Checked by: Magnum Fan Date: 12/10/17

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	AQMS1
Calibrated by	:	P.F.Yeung
Date	:	09/10/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 1253

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.7	3.533	1.712	51	50.56
2	13 holes	9.3	3.023	1.468	45	44.61
3	10 holes	7.6	2.733	1.329	40	39.66
4	7 holes	4.8	2.172	1.060	34	33.71
5	5 holes	3.1	1.746	0.855	28	27.76

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):26.496 Intercept(b):5.218 Correlation Coefficient(r): 0.9984

Checked by: Magnum Fan Date: 12/10/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 1
Calibrated by	:	P.F.Yeung
Date	:	09/10/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 0146

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.7	3.391	1.644	52	51.55
2	13 holes	9.6	3.072	1.491	47	46.60
3	10 holes	6.2	2.469	1.202	42	41.64
4	7 holes	4.2	2.032	0.992	34	33.71
5	5 holes	2.6	1.599	0.785	29	28.75

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):26.214 Intercept(b):8.393 correlation Coefficient(r): 0.9937

Checked by: Magnum Fan Date: 12/10/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 6
Calibrated by	:	P.F.Yeung
Date	:	09/10/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 3957

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.3	3.477	1.686	54	53.54
2	13 holes	9.0	2.974	1.444	48	47.59
3	10 holes	7.0	2.623	1.276	42	41.64
4	7 holes	4.5	2.103	1.027	35	34.70
5	5 holes	2.8	1.659	0.813	27	26.77

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):30.676 Intercept(b): 2.526 Correlation Coefficient(r): 0.9977

Checked by: Magnum Fan Date: 12/10/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 5
Calibrated by	:	P.F.Yeung
Date	:	09/12/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 0816

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.4	3.419	1.658	54	54.69
2	13 holes	8.8	3.004	1.459	50	50.64
3	10 holes	7.0	2.679	1.302	45	45.57
4	7 holes	4.6	2.172	1.060	38	38.48
5	5 holes	2.5	1.601	0.786	30	30.38

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):28.420 Intercept(b):8.341 Correlation Coefficient(r): 0.9981

Checked by: Magnum Fan Date: 12/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR10
Calibrated by	:	P.F.Yeung
Date	:	09/12/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 8162

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	10.8	3.328	1.614	53	53.67
2	13 holes	8.7	2.987	1.451	48	48.61
3	10 holes	6.2	2.522	1.227	42	42.53
4	7 holes	4.3	2.100	1.025	34	34.43
5	5 holes	3.0	1.754	0.859	26	26.331

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):34.475 Intercept(b): -2.704 Correlation Coefficient(r): 0.9933

Checked by: Magnum Fan Date: 12/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	AQMS1
Calibrated by	:	P.F.Yeung
Date	:	09/12/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 1253

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	13.0	3.651	1.769	50	50.64
2	13 holes	9.5	3.121	1.515	45	45.57
3	10 holes	7.6	2.792	1.357	40	40.51
4	7 holes	5.0	2.264	1.104	33	33.42
5	5 holes	3.0	1.754	0.859	25	25.32

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):28.134 Intercept(b):1.930 Correlation Coefficient(r): 0.9960

Checked by: Magnum Fan Date: 12/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 1
Calibrated by	:	P.F.Yeung
Date	:	09/12/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 0146

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	11.4	3.419	1.658	54	54.69
2	13 holes	8.8	3.004	1.459	50	50.64
3	10 holes	7.0	2.680	1.303	45	45.57
4	7 holes	4.6	2.172	1.060	38	38.48
5	5 holes	2.6	1.633	0.801	30	30.38

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):28.847 Intercept(b):7.718 Correlation Coefficient(r): 0.9977

Checked by: Magnum Fan Date: 12/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	ASR 6
Calibrated by	:	P.F.Yeung
Date	:	09/12/2017

Sampler

Model	:	TE-5170
Serial Number	:	S/N 3957

Calibration Orifice and Standard Calibration Relationship

Serial Number	:	2454
Service Date	:	20 March 2017
Slope (m)	:	2.08464
Intercept (b)	:	-0.036840
Correlation Coefficient(r)	:	0.99994

Standard Condition

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

Calibration Condition

Pa (hpa)	:	1018
Ta(K)	:	292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1	18 holes	12.8	3.623	1.756	54	54.69
2	13 holes	9.4	3.105	1.507	50	50.64
3	10 holes	7.1	2.698	1.312	43	43.55
4	7 holes	4.4	2.124	1.037	34	34.43
5	5 holes	2.6	1.633	0.801	28	28.36

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

Sampler Calibration Relationship (Linear Regression)

Slope(m):28.930 Intercept(b): 5.227 Correlation Coefficient(r): 0.9939

Checked by: Magnum Fan Date: 12/12/2017

ENVIROTECH SERVICES CO.

Calibration Report of Wind Meter

Date of Calibration : 18 October 2017

Brand of Test Meter: Davis

Model: Vantage Pro 2 (s/n: AS160104014)

Location : Roof of Tuen Mun Firestation

Procedures :

1. Wind Still Test : The wind speed sensor was hold by hand until it keep still

2.Wind Speed Test : The wind meter was on-site calibrated against the Anemometer

3.Wind Direction Test : The wind meter was on-site calibrated against the marine compass at four directions

Results:

Wind Still Test

Wind Speed (m/s)
0.00

Wind Speed Test

Davis (m/s)	Anemometer (m/s)
0.7	0.8
1.2	1.4
2.5	2.8

Wind Direction Test

Davis (o)	Marine Compass (o)
272	270
1	0
91	90
181	180

Calibrated by: Yeung Ping Fai (Technical Officer)

Checked by : Ho Kam Fat (Senior Technical Officer)

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C175727
證書編號

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

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

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 13 October 2017

TEST RESULTS / 測試結果

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

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

Tested By 測試 : H C Chan, Engineer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 16 October 2017

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

輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C175727
證書編號

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

2. The results presented are the mean of 10 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL386	Multi-function Measuring Instrument	S16493

4. Test procedure : MA130N.

5. Results :

Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
1.9	1.7	+0.2	0.2	2.0
4.0	3.8	+0.2	0.2	2.0
6.0	5.9	+0.1	0.3	2.0
8.0	8.0	0.0	0.3	2.0
10.0	10.1	-0.1	0.4	2.0

Remarks : - The Measured Corrections are defined as :
Value = Applied Value - UUT Reading

- The expanded uncertainties are for a level of confidence of 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

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

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

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120028
Date of Issue : 11 December 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920V2 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	00019CB2
Date of Received	:	Dec 07, 2017
Date of Calibration	:	Dec 07, 2017 to Dec 07, 2017
Date of Next Calibration[a]	:	Mar 07, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4	4.02	+0.02	Satisfactory
6.86	6.86	+0.00	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	10.03	+0.02	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15	15.70	+0.70	Satisfactory
20	20.12	+0.12	Satisfactory
37	35.80	-1.20	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

[a] The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
[b] The results relate only to the calibrated equipment as received
[c] The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
[d] "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
[e] The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.02	+0.02	Satisfactory
3.54	3.40	-0.14	Satisfactory
8.7	8.73	+0.03	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	152.3	+3.7	Satisfactory
0.01	1412	1515	+7.3	Satisfactory
0.1	12890	13408	+4.0	Satisfactory
0.5	58670	56872	-3.1	Satisfactory
1.0	111900	111144	-0.7	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.68	-3.2	Satisfactory
20	18.98	-5.1	Satisfactory
30	28.88	-3.7	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.4	--	--
4	3.8	-5.0	Satisfactory
20	19.8	-1.0	Satisfactory
100	102.4	+2.4	Satisfactory
800	828.4	+3.6	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120026
Date of Issue : 11 December 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	17H105557
Date of Received	:	Dec 07, 2017
Date of Calibration	:	Dec 07, 2017 to Dec 07, 2017
Date of Next Calibration[a]	:	Mar 07, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4	4.04	+0.04	Satisfactory
6.86	6.86	+0.00	Satisfactory
7.42	7.48	+0.06	Satisfactory
10.01	9.94	-0.07	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16	16.40	+0.4	Satisfactory
20	20.20	+0.2	Satisfactory
35	33.40	-1.6	Satisfactory

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

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Remark(s): -

[a] The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
[b] The results relate only to the calibrated equipment as received
[c] The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
[d] "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
[e] The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120026
Date of Issue : 11 December 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.06	+0.06	Satisfactory
3.54	3.66	+0.12	Satisfactory
8.7	8.68	-0.02	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	137	-6.7	Satisfactory
0.01	1412	1386	-1.8	Satisfactory
0.1	12890	12248	-5.0	Satisfactory
0.5	58670	55482	-5.4	Satisfactory
1.0	111900	111072	-0.7	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.88	-1.2	Satisfactory
20	19.6	-2.0	Satisfactory
30	30.0	+0.0	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.1	--	--
4	4.2	+5.0	Satisfactory
20	20.3	+1.5	Satisfactory
100	104.7	+4.7	Satisfactory
800	844.2	+5.5	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG110095
Date of Issue : 16 November 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	17E102520
Date of Received	:	Nov 15, 2017
Date of Calibration	:	Nov 15, 2017 to Nov 15, 2017
Date of Next Calibration[a]	:	Feb 15, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.01	+0.01	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	10.01	0.00	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
14.3	14.6	+0.3	Satisfactory
23.4	23.3	-0.1	Satisfactory
33.5	33.2	-0.3	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

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(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY :

FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG110095
Date of Issue : 16 November 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.06	+0.06	Satisfactory
3.54	3.51	-0.03	Satisfactory
8.20	8.17	-0.03	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	142.4	-3.1	Satisfactory
0.01	1412	1454	+3.0	Satisfactory
0.1	12890	12482	-3.2	Satisfactory
0.5	58670	58120	-0.9	Satisfactory
1.0	111900	108720	-2.8	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.8	-2.0	Satisfactory
20	20.08	+0.4	Satisfactory
30	30.71	+2.4	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0	--	
4	4	0.0	Satisfactory
20	21.8	+9.0	Satisfactory
100	107.4	+7.4	Satisfactory
800	826	+3.3	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG110096
Date of Issue : 16 November 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	16J101715
Date of Received	:	Nov 15, 2017
Date of Calibration	:	Nov 15, 2017 to Nov 15, 2017
Date of Next Calibration[a]	:	Feb 15, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.03	+0.03	Satisfactory
7.42	7.44	+0.02	Satisfactory
10.01	10.03	+0.02	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
14.3	14.4	0.1	Satisfactory
23.4	23.4	0	Satisfactory
33.5	33.3	-0.2	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

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(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG110096
Date of Issue : 16 November 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.05	0.05	Satisfactory
3.54	3.60	0.06	Satisfactory
8.20	8.18	-0.02	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	148.2	+0.9	Satisfactory
0.01	1412	1450	+2.7	Satisfactory
0.1	12890	13185	+2.3	Satisfactory
0.5	58670	59600	+1.6	Satisfactory
1.0	111900	111072	-0.7	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.8	-2.0	Satisfactory
20	19.73	-1.4	Satisfactory
30	30.31	+1.0	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.01	--	
4	4	0.0	Satisfactory
20	20.5	+2.5	Satisfactory
100	106.2	+6.2	Satisfactory
800	834	+4.3	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

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專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120027
Date of Issue : 11 December 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	16H104234
Date of Received	:	Dec 07, 2017
Date of Calibration	:	Dec 07, 2017 to Dec 07, 2017
Date of Next Calibration[a]	:	Mar 07, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4	4.03	+0.03	Satisfactory
6.86	6.86	+0.00	Satisfactory
7.42	7.46	+0.04	Satisfactory
10.01	9.94	-0.07	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16	16.30	+0.3	Satisfactory
20	20.30	+0.3	Satisfactory
38	37.80	-0.2	Satisfactory

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

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Remark(s): -

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[e] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120027
Date of Issue : 11 December 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.07	+0.07	Satisfactory
3.54	3.62	+0.08	Satisfactory
8.70	8.62	-0.08	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	142.8	-2.8	Satisfactory
0.01	1412	1476	+4.5	Satisfactory
0.1	12890	12774	-0.9	Satisfactory
0.5	58670	54732	-6.7	Satisfactory
1.0	111900	111148	-0.7	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.87	-1.3	Satisfactory
20	19.76	-1.2	Satisfactory
30	29.9	-0.3	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.2	--	--
4	4.1	2.5	Satisfactory
20	20.2	1.0	Satisfactory
100	106.8	6.8	Satisfactory
800	862.3	7.8	Satisfactory

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

~ END OF REPORT ~

Remark(s): -
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專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090067
Date of Issue : 13 September 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	17E102521
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017
Date of Next Calibration[a]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.09	+0.09	Satisfactory
7.42	7.38	-0.04	Satisfactory
10.01	9.94	-0.07	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	16.9	+0.4	Satisfactory
25.0	25.2	+0.2	Satisfactory
37.0	36.4	-0.6	Satisfactory

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

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Remark(s): -

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[e] *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

CALIBRATION REPORT

Report No. : AG090067
Date of Issue : 13 September 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.03	7.95	-0.08	Satisfactory
3.76	3.84	+0.08	Satisfactory
0.02	0.12	+0.10	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	151.6	+3.2	Satisfactory
0.01	1,412	1,340	-5.1	Satisfactory
0.1	12,890	12,006	-6.9	Satisfactory
0.5	58,670	57,088	-2.7	Satisfactory
1.0	111,900	105,890	-5.4	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.95	-0.5	Satisfactory
20	20.30	+1.5	Satisfactory
30	30.31	+1.0	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g](%)	Results
10	9.6	-4.0	Satisfactory
20	19.3	-3.5	Satisfactory
100	98.7	-1.3	Satisfactory
800	781.2	+2.3	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090069
Date of Issue : September 13, 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	16J101716
Date of Received	:	Sep 12, 2017
Date of Calibration	:	Sep 12, 2017
Date of Next Calibration[a]	:	Dec 12, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.04	+0.04	Satisfactory
7.42	7.37	-0.05	Satisfactory
10.01	10.04	+0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.5	17.2	+0.7	Satisfactory
25.0	25.3	+0.3	Satisfactory
37.0	36.7	-0.3	Satisfactory

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

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Remark(s): -

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[e] The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY :

FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG090069
Date of Issue : September 13, 2017

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
8.04	7.98	-0.06	Satisfactory
3.63	3.72	+0.09	Satisfactory
0.01	0.06	+0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	140.4	-4.4	Satisfactory
1412	1322	-6.4	Satisfactory
12890	12064	-6.4	Satisfactory
58670	57032	-2.8	Satisfactory
111900	107344	-4.1	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.17	+1.7	Satisfactory
20	20.20	+1.0	Satisfactory
30	30.07	+2.3	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g](%)	Results
10	9.7	-3.0	Satisfactory
20	19.0	-5.0	Satisfactory
100	101.1	+1.1	Satisfactory
800	814.6	+1.8	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AG120029
Date of Issue : 11 December 2017

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Rm 811, Hin Pui House,
Hin Keng Estate, Tai Wai
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment	:	YSI 6920 (Multi-Parameters)
Manufacturer	:	YSI (a xylem brand)
Serial Number	:	000109DF
Date of Received	:	Dec 07, 2017
Date of Calibration	:	Dec 07, 2017 to Dec 07, 2017
Date of Next Calibration[a]	:	Mar 07, 2018

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.03	+0.03	Satisfactory
6.86	6.86	+0.00	Satisfactory
7.42	7.41	-0.01	Satisfactory
10.01	10.05	+0.04	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15	15.30	+0.30	Satisfactory
20	20.13	+0.13	Satisfactory
37	36.20	-0.80	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.*

APPROVED SIGNATORY : _____
FUNG Yuen-ching Aries
Laboratory Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0	0.06	+0.06	Satisfactory
3.54	3.38	-0.16	Satisfactory
8.7	8.66	-0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
0.001	146.9	152.8	+4.0	Satisfactory
0.01	1412	1489	+5.5	Satisfactory
0.1	12890	12672	-1.7	Satisfactory
0.5	58670	54482	-7.1	Satisfactory
1.0	111900	111086	-0.7	Satisfactory

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

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.66	-3.4	Satisfactory
20	18.78	-6.1	Satisfactory
30	28.73	-4.2	Satisfactory

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

(6) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.3	--	--
4	3.8	-5.0	Satisfactory
20	21.2	+6.0	Satisfactory
100	102.8	+2.8	Satisfactory
800	846.4	+5.8	Satisfactory

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

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

Appendix F

EM&A Monitoring Schedules

HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Air Quality Impact Monitoring Schedule - December 2017

Air quality monitoring stations: ASR1, ASR5, ASR6, ASR10, AQMS1

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

HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Tentative Air Quality Impact Monitoring Schedule - January 2018

Air quality monitoring stations: ASR1, ASR5, ASR6, ASR10, AQMS1

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

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

HY/2012/08 - Tuen Mun - Chek Lap Kok Link - Northern Landfall
Impact Marine Water Quality Monitoring (WQM) Schedule (December 2017)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1/Dec	2/Dec
					ebb tide 9:02 - 12:32 flood tide 15:09 - 18:39	
3/Dec	4/Dec	5/Dec	6/Dec	7/Dec	8/Dec	9/Dec
	ebb tide 11:36 - 15:06 flood tide 6:04 - 9:34		ebb tide 13:16 - 16:46 flood tide 7:54 - 11:24		ebb tide 15:01 - 18:31 flood tide 9:44 - 13:14	
10/Dec	11/Dec	12/Dec	13/Dec	14/Dec	15/Dec	16/Dec
	ebb tide 5:19 - 8:49 flood tide 12:53 - 16:23		ebb tide 7:49 - 11:19 flood tide 14:12 - 17:42		ebb tide 9:39 - 13:09 flood tide 4:08 - 7:38	
17/Dec	18/Dec	19/Dec	20/Dec	21/Dec	22/Dec	23/Dec
	ebb tide 11:32 - 15:02 flood tide 6:15 - 9:45		ebb tide 12:40 - 16:10 flood tide 7:25 - 10:55		ebb tide 13:50 - 17:20 flood tide 8:34 - 12:04	
24/Dec	25/Dec	26/Dec	27/Dec	28/Dec	29/Dec	30/Dec
	ebb tide 16:29 - 19:59 flood tide 10:48 - 14:18		ebb tide 4:51 - 8:21 flood tide 12:24 - 15:54		ebb tide 7:27 - 10:57 flood tide 13:45 - 17:15	

HY/2012/08 - Tuen Mun - Chek Lap Kok Link - Northern Landfall
Impact Marine Water Quality Monitoring (WQM) Schedule (January 2018)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/Jan	2/Jan	3/Jan	4/Jan	5/Jan	6/Jan
	ebb tide 10:36 - 14:06 flood tide 5:11 - 8:41		ebb tide 12:17 - 15:47 flood tide 6:55 - 10:25		ebb tide 13:51 - 17:21 flood tide 8:29 - 11:59	
7/Jan	8/Jan	9/Jan	10/Jan	11/Jan	12/Jan	13/Jan
	ebb tide 16:50 - 20:20 flood tide 10:53 - 14:23		ebb tide 5:47 - 9:17 flood tide 12:33 - 16:03		ebb tide 8:25 - 11:55 flood tide 13:57 - 17:27	
14/Jan	15/Jan	16/Jan	17/Jan	18/Jan	19/Jan	20/Jan
	ebb tide 10:40 - 14:10 flood tide 5:31 - 9:01		ebb tide 11:47 - 15:17 flood tide 6:35 - 10:05		ebb tide 12:52 - 16:22 flood tide 7:32 - 11:02	
21/Jan	22/Jan	23/Jan	24/Jan	25/Jan	26/Jan	27/Jan
	ebb tide 14:45 - 18:15 flood tide 9:00 - 12:30		ebb tide 16:45 - 20:15 flood tide 10:20 - 13:50		ebb tide 5:30 - 9:00 flood tide 11:58 - 15:28	
28/Jan	29/Jan	30/Jan	31/Jan			
	ebb tide 9:36 - 13:06 flood tide 4:16 - 7:46		ebb tide 11:19 - 14:49 flood tide 5:56 - 9:26			

HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Impact Dolphin Monitoring Survey Monitoring Schedule - December 2017

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

HY/2012/08 - Tuen Mun - Chek Lap Kok Link
Northern Connection Sub-sea Tunnel Section
Tentative Impact Dolphin Monitoring Survey Monitoring Schedule - January 2018

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

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

Appendix G

Impact Air Quality Monitoring Results

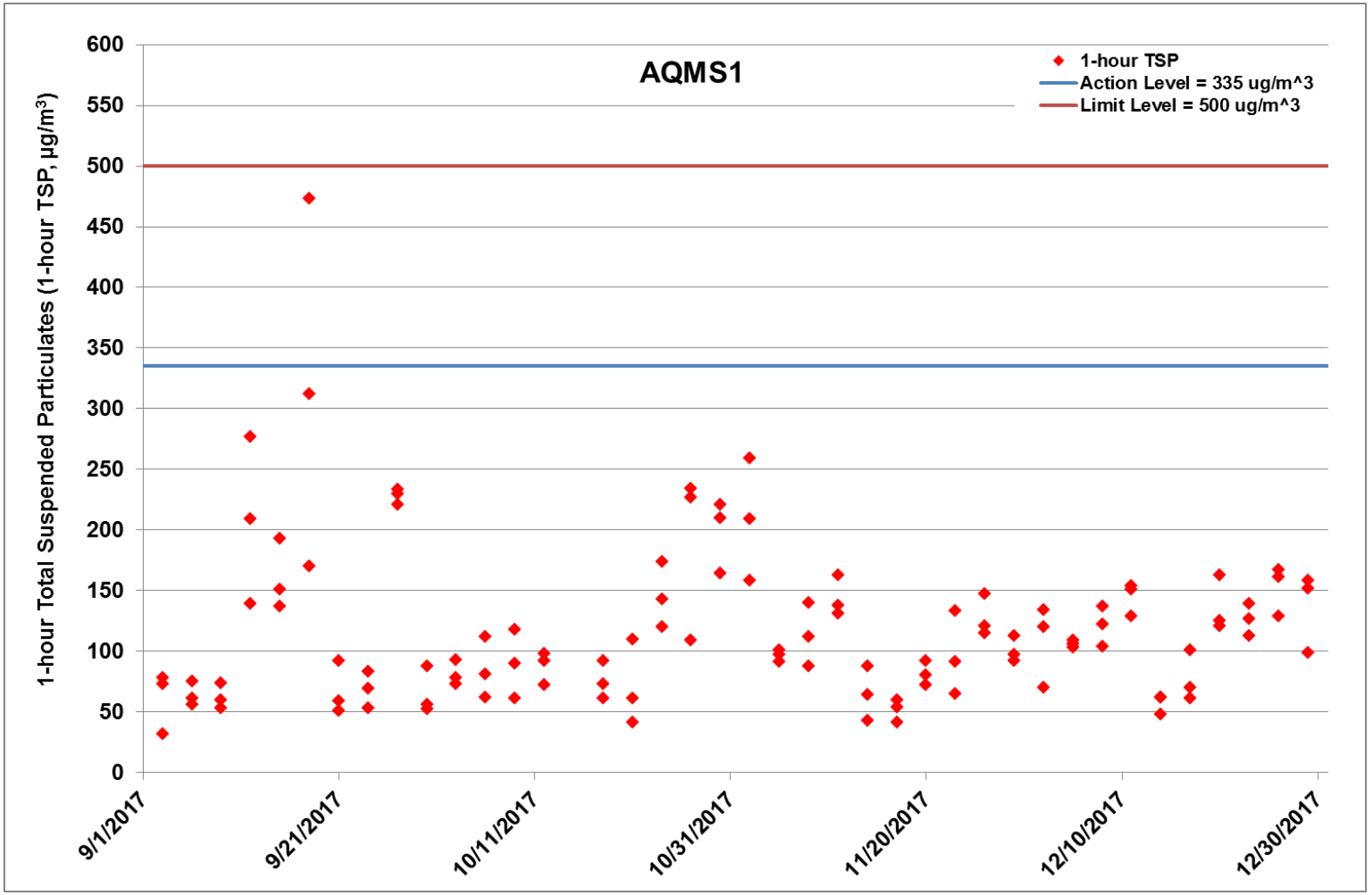


Figure G.1 Impact Monitoring – 1-hour Total Suspended Particulates (µg/m³) at AQMS1 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

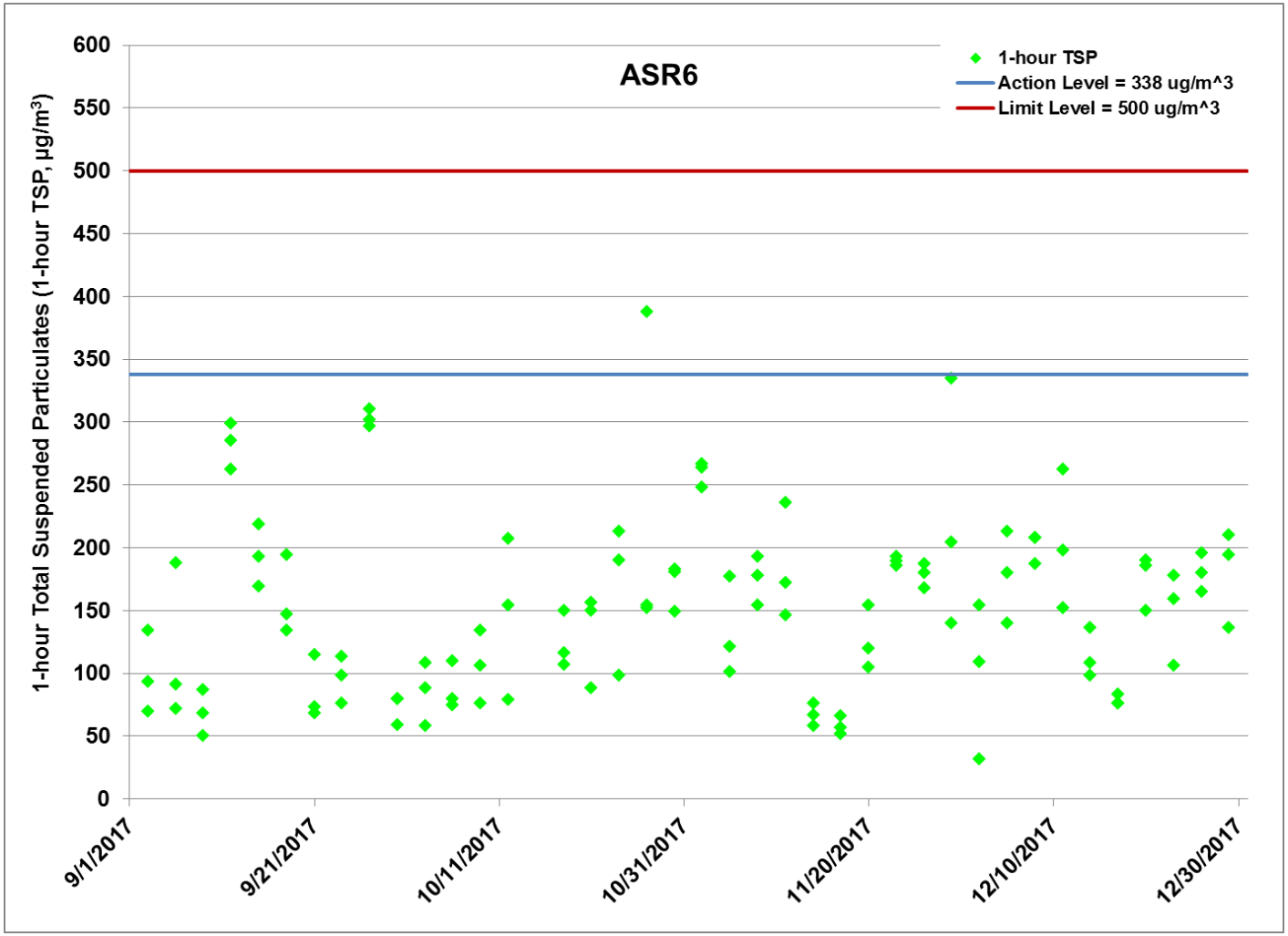


Figure G.2 Impact Monitoring – 1-hour Total Suspended Particulates (µg/m³) at ASR6 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

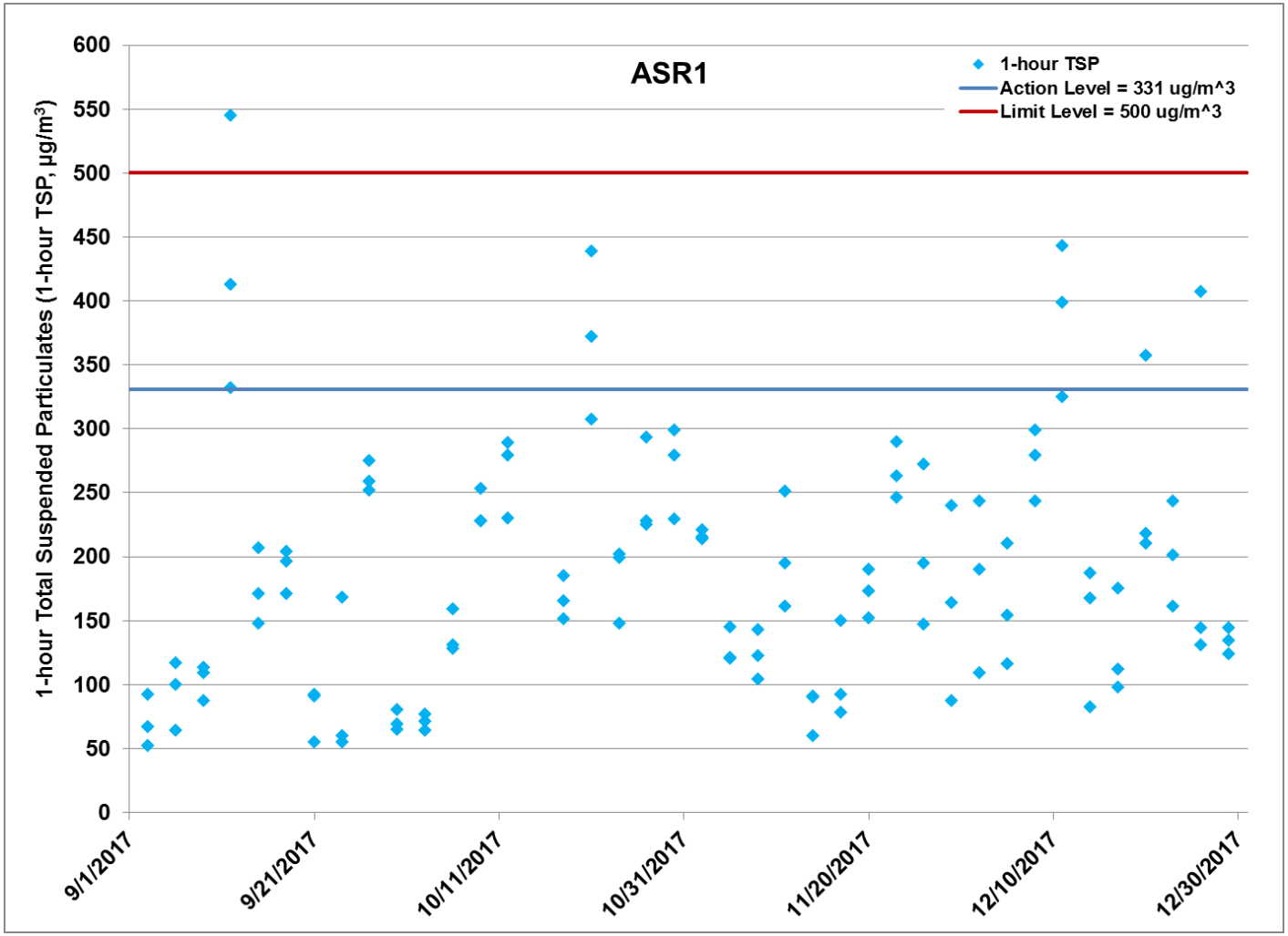


Figure G.3 Impact Monitoring – 1-hour Total Suspended Particulates (µg/m³) at ASR1 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

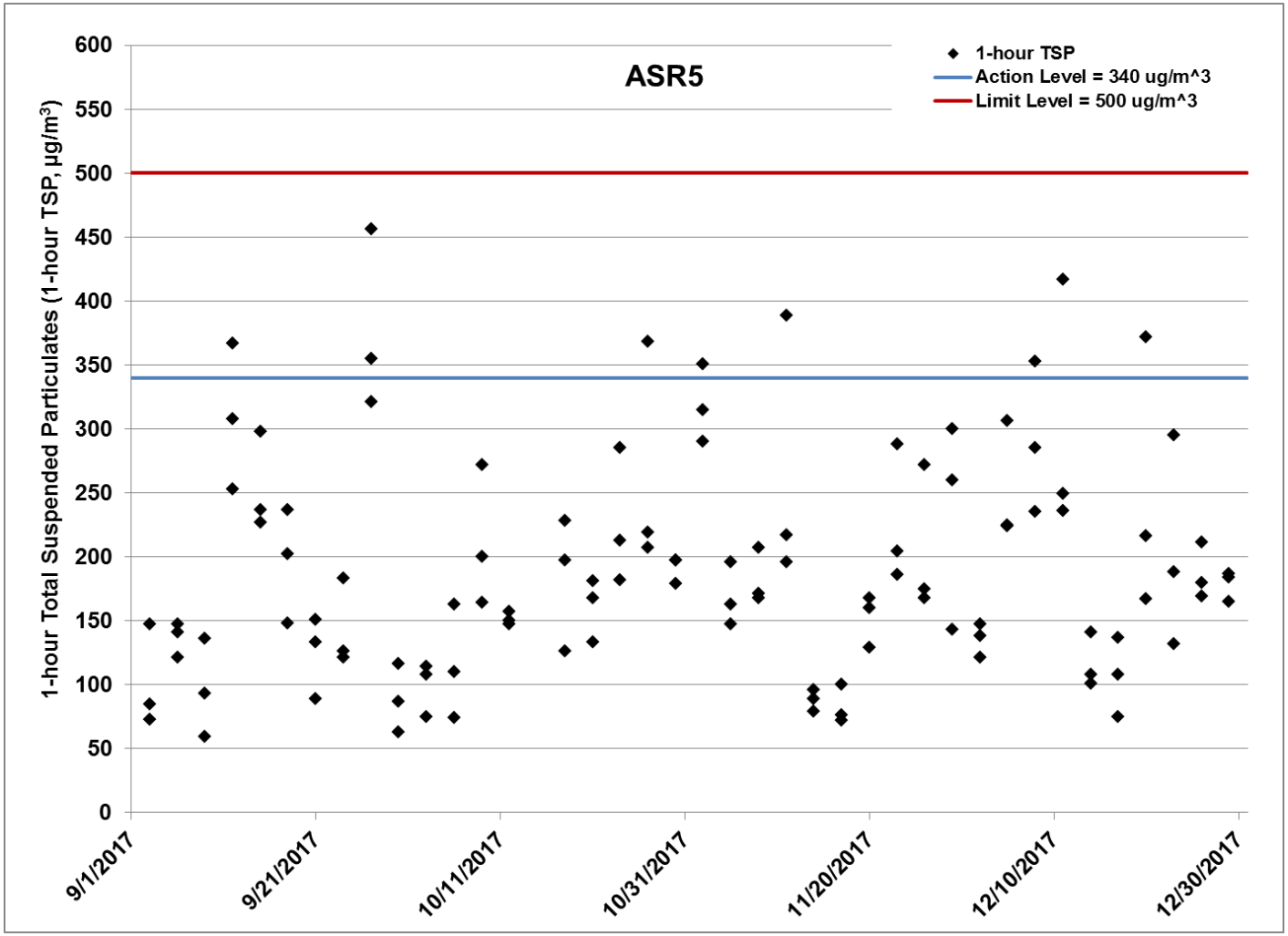


Figure G.4 Impact Monitoring – 1-hour Total Suspended Particulates (µg/m³) at ASR5 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

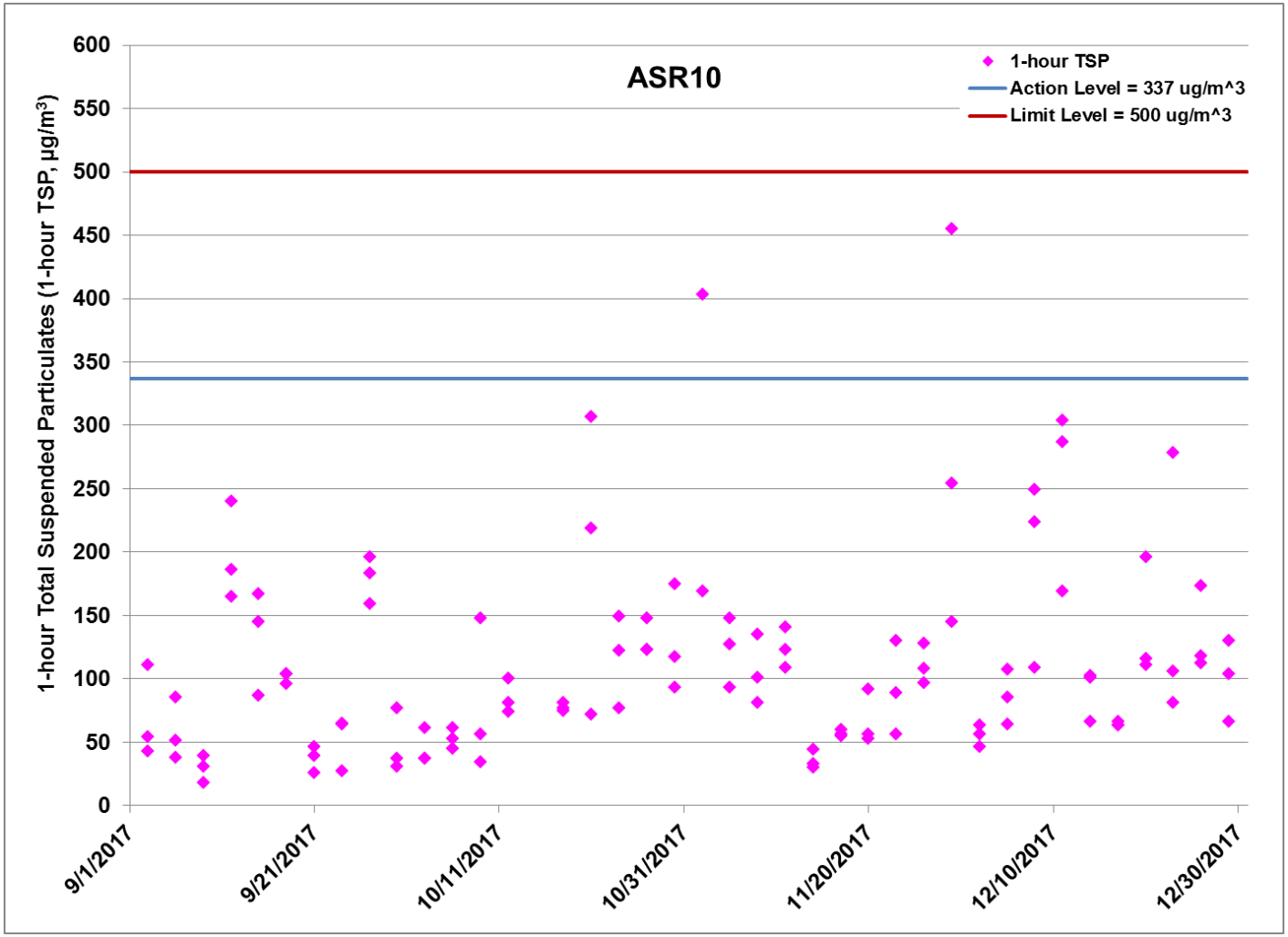


Figure G.5 Impact Monitoring – 1-hour Total Suspended Particulates (µg/m³) at ASR10 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

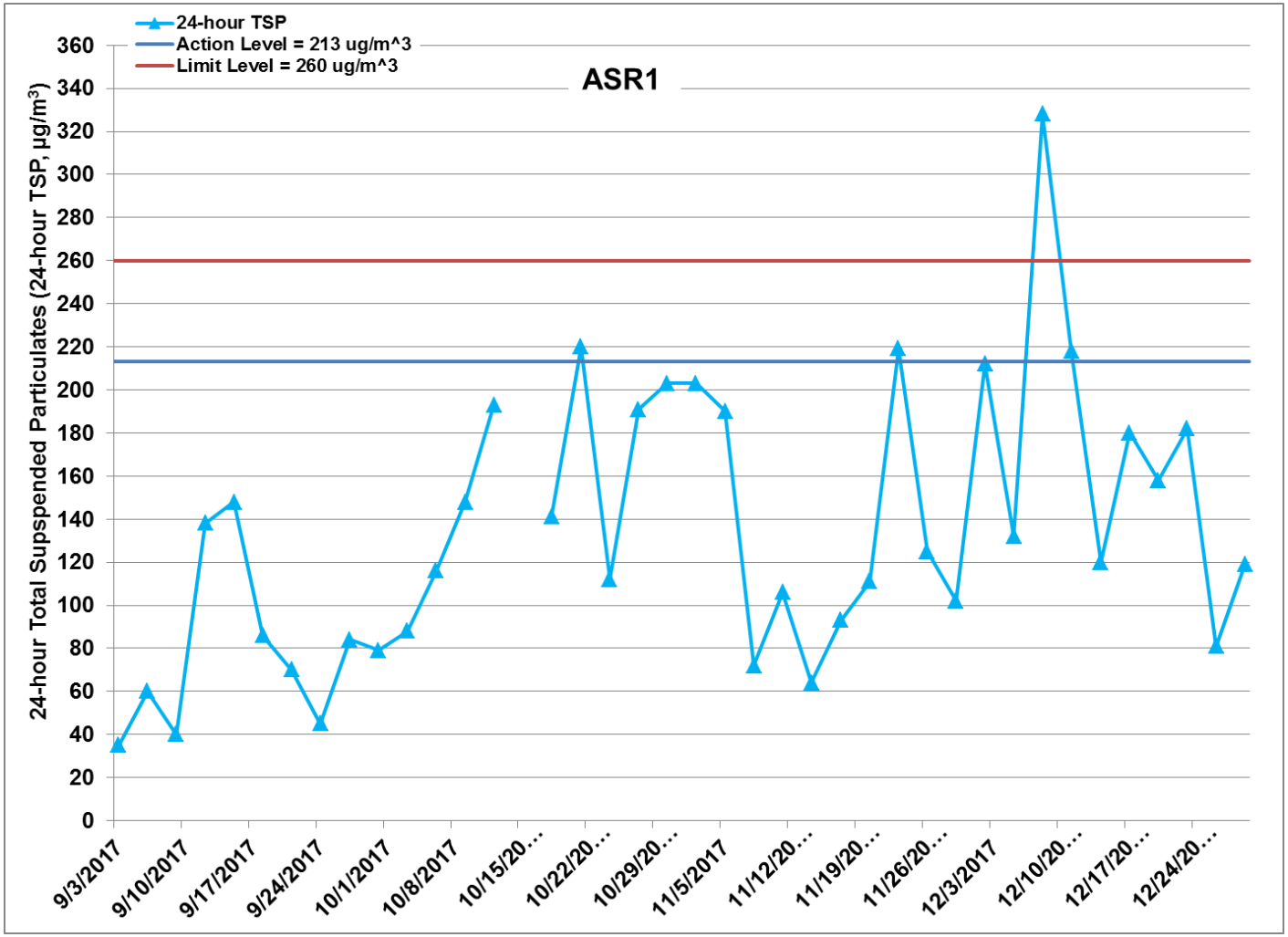


Figure G.6 Impact Monitoring – 24-hour Total Suspended Particulates (µg/m³) at ASR1 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

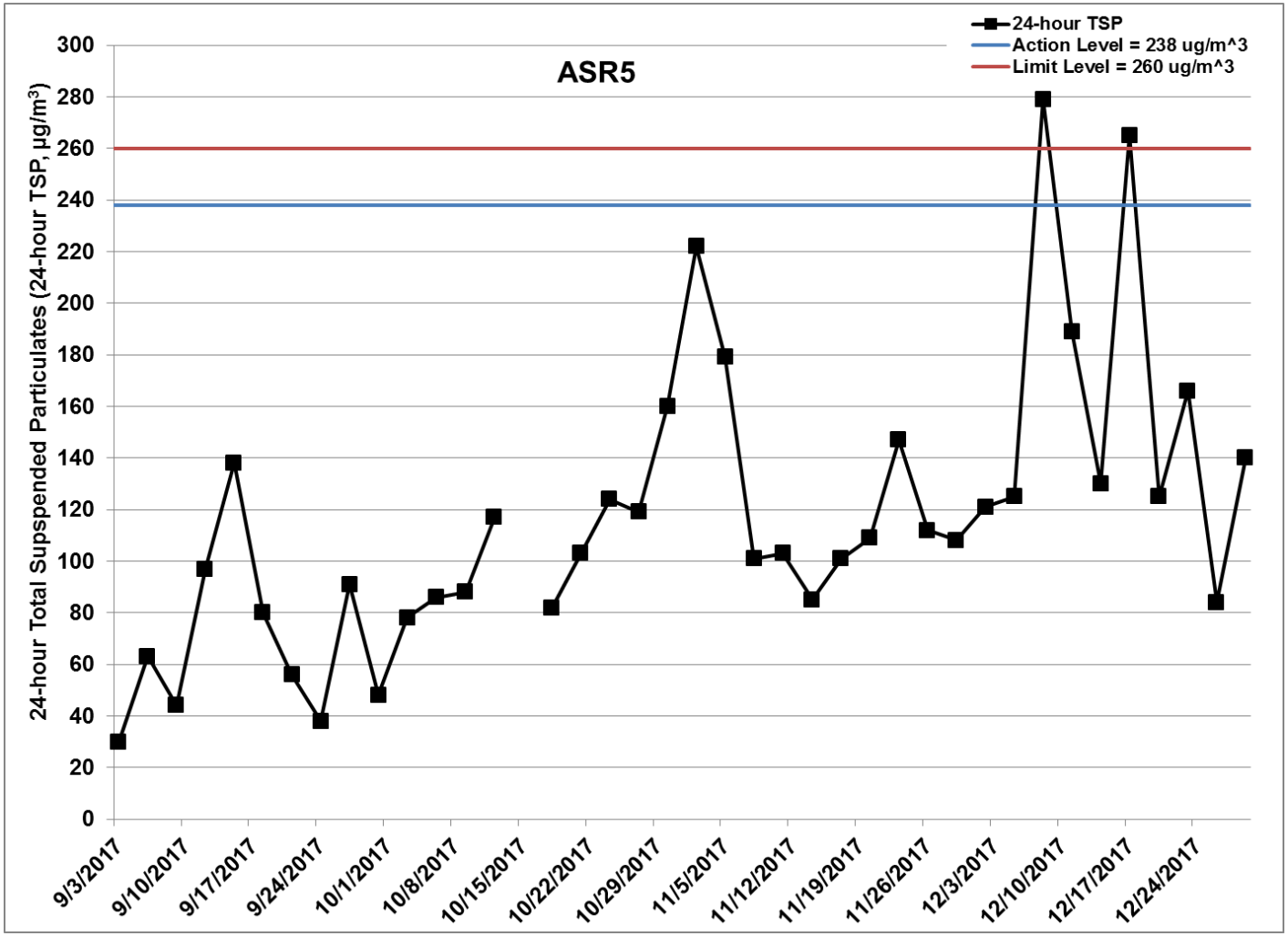


Figure G.7 Impact Monitoring – 24-hour Total Suspended Particulates (µg/m³) at ASR5 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

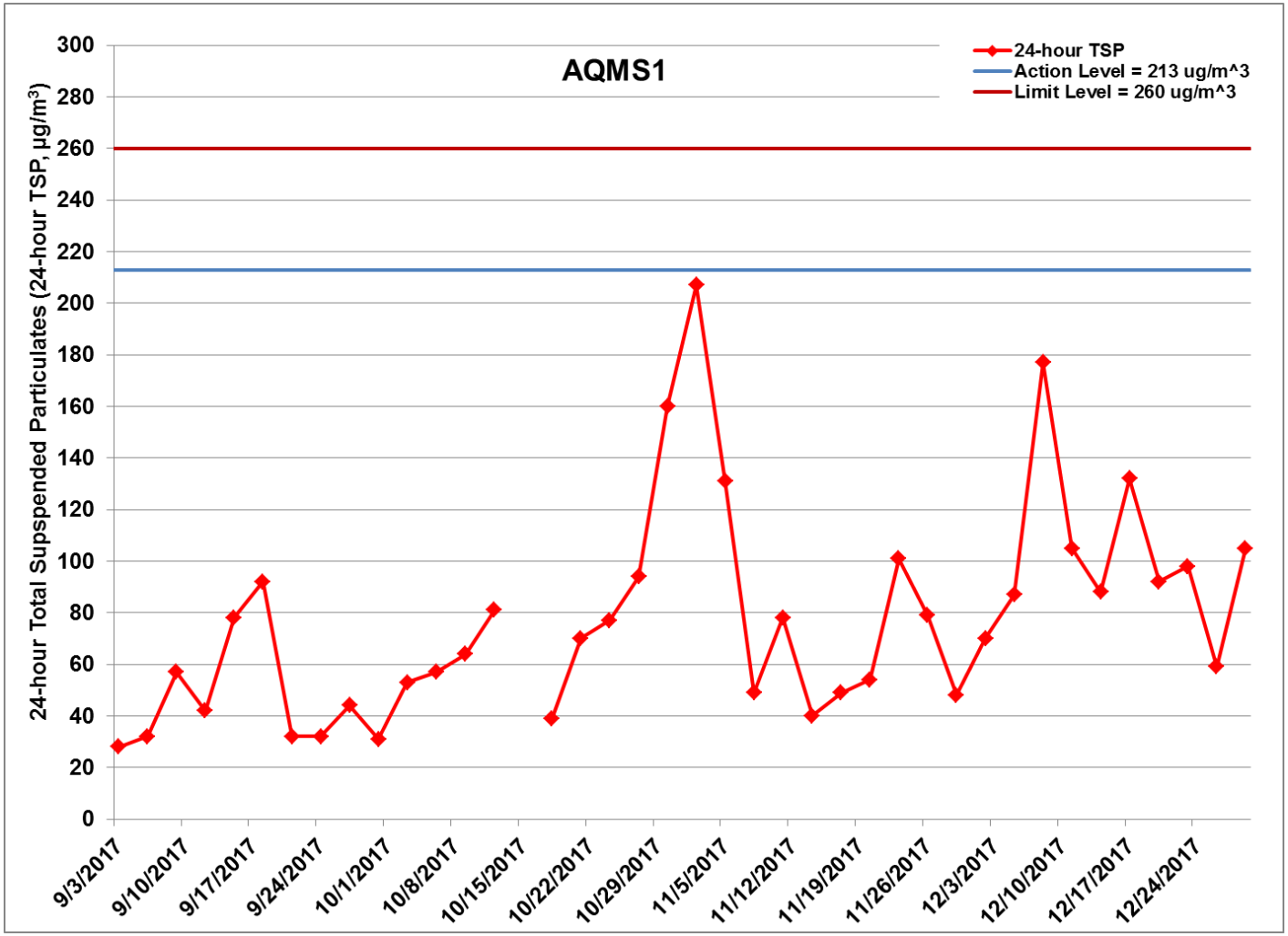


Figure G.8 Impact Monitoring – 24-hour Total Suspended Particulates (µg/m³) at AQMS1 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

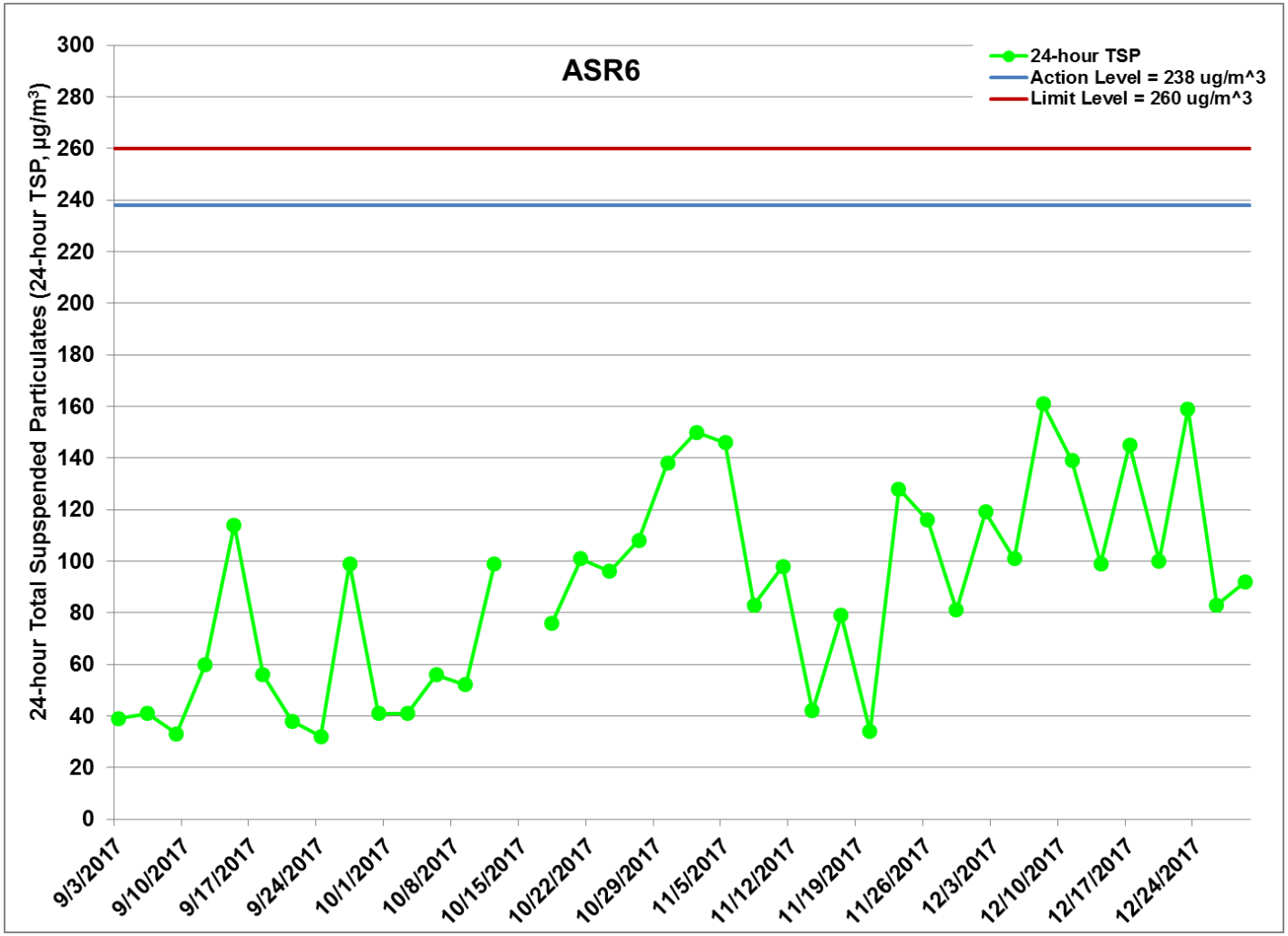


Figure G.9 Impact Monitoring – 24-hour Total Suspended Particulates (µg/m³) at ASR6 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

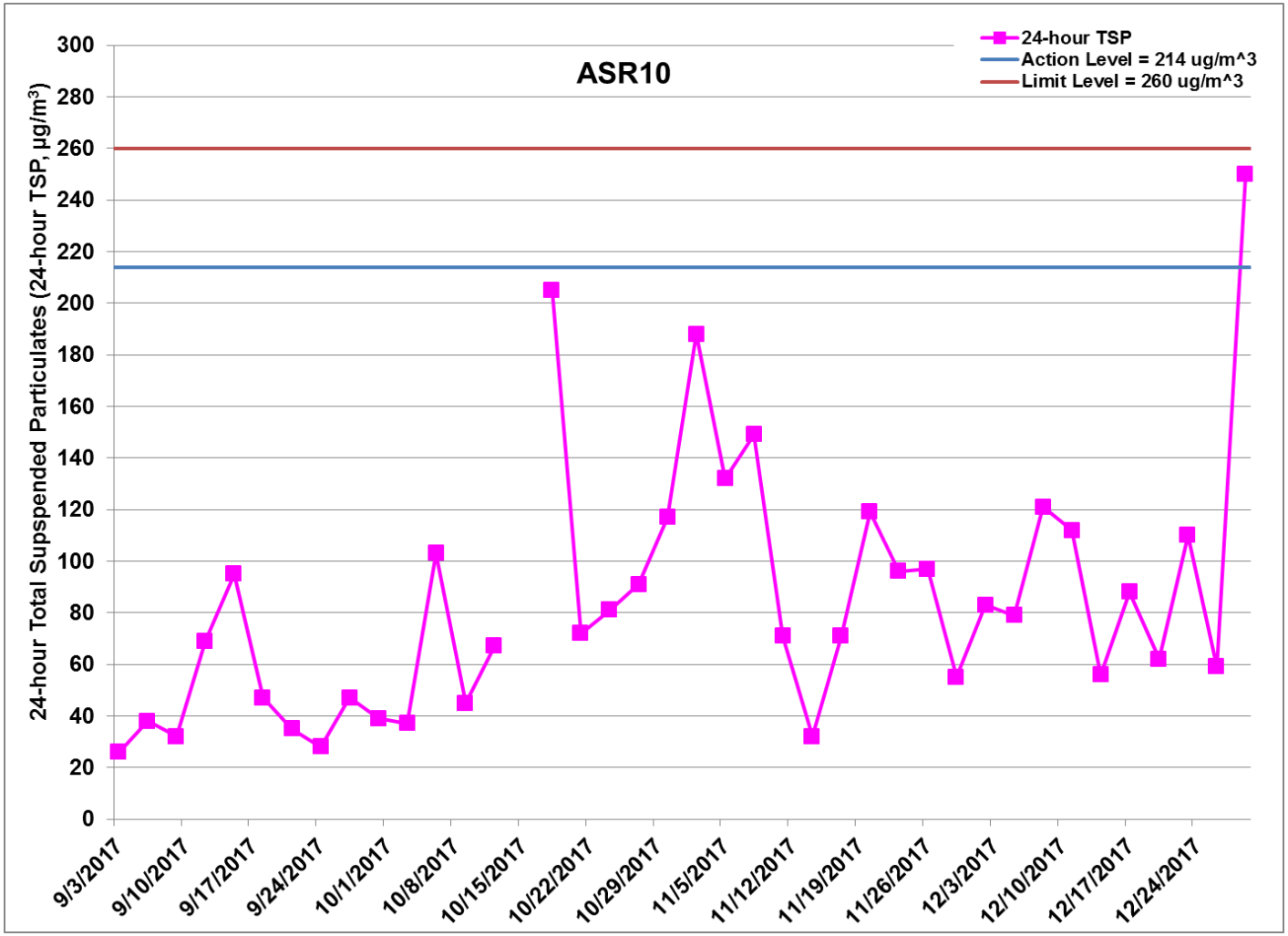


Figure G.10 Impact Monitoring – 24-hour Total Suspended Particulates (µg/m³) at ASR10 between 1 September 2017 and 31 December 2017 during impact monitoring period. The weather conditions during the monitoring period varied from sunny to cloudy. Major land-based construction activities included: Box Culvert Extension, Construction of North Ventilation Building (1/9/2017 – 31/12/2017)

Ref: 0212330_Impact AQM graphs_December 2017_REV a.xlsx

ERM

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-02	AQMS1	Sunny	08:52	1-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	2017-12-02	AQMS1	Sunny	09:54	1-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	2017-12-02	AQMS1	Sunny	10:56	1-hour TSP	134	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR1	Sunny	08:40	1-hour TSP	243	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR1	Sunny	09:42	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR1	Sunny	10:44	1-hour TSP	190	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR10	Sunny	08:06	1-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR10	Sunny	09:08	1-hour TSP	46	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR10	Sunny	10:10	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR5	Sunny	08:28	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR5	Sunny	09:30	1-hour TSP	147	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR5	Sunny	10:32	1-hour TSP	138	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR6	Sunny	08:17	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR6	Sunny	09:19	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR6	Sunny	10:21	1-hour TSP	32	ug/m3
TMCLKL	HY/2012/08	2017-12-05	AQMS1	Sunny	14:10	1-hour TSP	103	ug/m3
TMCLKL	HY/2012/08	2017-12-05	AQMS1	Sunny	15:12	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	2017-12-05	AQMS1	Sunny	16:14	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR1	Sunny	13:58	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR1	Sunny	15:00	1-hour TSP	210	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR1	Sunny	16:02	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR10	Sunny	13:24	1-hour TSP	107	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR10	Sunny	14:26	1-hour TSP	85	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR10	Sunny	15:28	1-hour TSP	64	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR5	Sunny	13:47	1-hour TSP	306	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR5	Sunny	14:49	1-hour TSP	224	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR5	Sunny	15:51	1-hour TSP	225	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR6	Sunny	13:35	1-hour TSP	213	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR6	Sunny	14:37	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR6	Sunny	15:39	1-hour TSP	140	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-08	AQMS1	Sunny	13:56	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	2017-12-08	AQMS1	Sunny	14:58	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	2017-12-08	AQMS1	Sunny	16:00	1-hour TSP	104	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR1	Sunny	13:45	1-hour TSP	279	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR1	Sunny	14:47	1-hour TSP	299	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR1	Sunny	15:49	1-hour TSP	243	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR10	Sunny	13:11	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR10	Sunny	14:13	1-hour TSP	224	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR10	Sunny	15:15	1-hour TSP	249	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR5	Sunny	13:34	1-hour TSP	353	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR5	Sunny	14:36	1-hour TSP	285	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR5	Sunny	15:38	1-hour TSP	235	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR6	Sunny	13:22	1-hour TSP	187	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR6	Sunny	14:24	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR6	Sunny	15:26	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	2017-12-11	AQMS1	Sunny	13:48	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	2017-12-11	AQMS1	Sunny	14:50	1-hour TSP	151	ug/m3
TMCLKL	HY/2012/08	2017-12-11	AQMS1	Sunny	15:52	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR1	Sunny	13:37	1-hour TSP	399	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR1	Sunny	14:39	1-hour TSP	443	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR1	Sunny	15:41	1-hour TSP	325	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR10	Sunny	13:00	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR10	Sunny	14:02	1-hour TSP	287	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR10	Sunny	15:04	1-hour TSP	304	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR5	Sunny	13:23	1-hour TSP	417	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR5	Sunny	14:25	1-hour TSP	249	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR5	Sunny	15:27	1-hour TSP	236	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR6	Sunny	13:11	1-hour TSP	262	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR6	Sunny	14:13	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR6	Sunny	15:15	1-hour TSP	198	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-14	AQMS1	Sunny	14:03	1-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	2017-12-14	AQMS1	Sunny	15:05	1-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2017-12-14	AQMS1	Sunny	16:07	1-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR1	Sunny	13:52	1-hour TSP	82	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR1	Sunny	14:54	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR1	Sunny	15:56	1-hour TSP	187	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR10	Sunny	13:17	1-hour TSP	102	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR10	Sunny	14:19	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR10	Sunny	15:21	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR5	Sunny	13:40	1-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR5	Sunny	14:42	1-hour TSP	141	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR5	Sunny	15:44	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR6	Sunny	13:28	1-hour TSP	136	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR6	Sunny	14:30	1-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR6	Sunny	15:32	1-hour TSP	98	ug/m3
TMCLKL	HY/2012/08	2017-12-17	AQMS1	Sunny	13:48	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2017-12-17	AQMS1	Sunny	14:50	1-hour TSP	61	ug/m3
TMCLKL	HY/2012/08	2017-12-17	AQMS1	Sunny	15:52	1-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR1	Sunny	13:37	1-hour TSP	175	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR1	Sunny	14:39	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR1	Sunny	15:41	1-hour TSP	98	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR10	Sunny	13:02	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR10	Sunny	14:04	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR10	Sunny	15:06	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR5	Sunny	13:25	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR5	Sunny	14:27	1-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR5	Sunny	15:29	1-hour TSP	75	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR6	Sunny	13:14	1-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR6	Sunny	14:16	1-hour TSP	76	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR6	Sunny	15:18	1-hour TSP	76	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-20	AQMS1	Sunny	14:08	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	2017-12-20	AQMS1	Sunny	15:10	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2017-12-20	AQMS1	Sunny	16:12	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR1	Sunny	13:56	1-hour TSP	357	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR1	Sunny	14:58	1-hour TSP	210	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR1	Sunny	16:00	1-hour TSP	218	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR10	Sunny	13:22	1-hour TSP	111	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR10	Sunny	14:24	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR10	Sunny	15:26	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR5	Sunny	13:44	1-hour TSP	372	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR5	Sunny	14:46	1-hour TSP	216	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR5	Sunny	15:48	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR6	Sunny	13:33	1-hour TSP	186	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR6	Sunny	14:25	1-hour TSP	150	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR6	Sunny	15:37	1-hour TSP	190	ug/m3
TMCLKL	HY/2012/08	2017-12-23	AQMS1	Sunny	14:35	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	2017-12-23	AQMS1	Sunny	15:37	1-hour TSP	127	ug/m3
TMCLKL	HY/2012/08	2017-12-23	AQMS1	Sunny	16:39	1-hour TSP	139	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR1	Sunny	14:24	1-hour TSP	243	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR1	Sunny	15:26	1-hour TSP	201	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR1	Sunny	16:28	1-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR10	Sunny	13:52	1-hour TSP	278	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR10	Sunny	14:54	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR10	Sunny	15:56	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR5	Sunny	14:14	1-hour TSP	188	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR5	Sunny	15:16	1-hour TSP	132	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR5	Sunny	16:18	1-hour TSP	295	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR6	Sunny	14:03	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR6	Sunny	15:05	1-hour TSP	159	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR6	Sunny	16:07	1-hour TSP	178	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-26	AQMS1	Sunny	09:27	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	2017-12-26	AQMS1	Sunny	10:29	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	2017-12-26	AQMS1	Sunny	11:31	1-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR1	Sunny	09:17	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR1	Sunny	10:19	1-hour TSP	144	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR1	Sunny	11:21	1-hour TSP	407	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR10	Sunny	08:45	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR10	Sunny	09:47	1-hour TSP	173	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR10	Sunny	10:49	1-hour TSP	118	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR5	Sunny	09:06	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR5	Sunny	10:08	1-hour TSP	211	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR5	Sunny	11:10	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR6	Sunny	08:55	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR6	Sunny	09:57	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR6	Sunny	10:59	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	2017-12-29	AQMS1	Sunny	13:43	1-hour TSP	158	ug/m3
TMCLKL	HY/2012/08	2017-12-29	AQMS1	Sunny	14:45	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	2017-12-29	AQMS1	Sunny	15:47	1-hour TSP	99	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR1	Sunny	13:32	1-hour TSP	124	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR1	Sunny	14:34	1-hour TSP	144	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR1	Sunny	15:36	1-hour TSP	134	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR10	Sunny	13:00	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR10	Sunny	14:02	1-hour TSP	104	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR10	Sunny	15:04	1-hour TSP	130	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR5	Sunny	13:21	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR5	Sunny	14:23	1-hour TSP	184	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR5	Sunny	15:25	1-hour TSP	187	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR6	Sunny	13:10	1-hour TSP	136	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR6	Sunny	14:12	1-hour TSP	210	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR6	Sunny	15:14	1-hour TSP	194	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-02	AQMS1	Sunny	11:58	24-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR1	Sunny	11:46	24-hour TSP	212	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR10	Sunny	11:12	24-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR5	Sunny	11:34	24-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2017-12-02	ASR6	Sunny	11:23	24-hour TSP	119	ug/m3
TMCLKL	HY/2012/08	2017-12-05	AQMS1	Sunny	17:16	24-hour TSP	87	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR1	Sunny	17:04	24-hour TSP	132	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR10	Sunny	16:30	24-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR5	Sunny	16:53	24-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2017-12-05	ASR6	Sunny	16:41	24-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	2017-12-08	AQMS1	Sunny	17:02	24-hour TSP	177	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR1	Sunny	16:51	24-hour TSP	328	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR10	Sunny	16:17	24-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR5	Sunny	16:40	24-hour TSP	279	ug/m3
TMCLKL	HY/2012/08	2017-12-08	ASR6	Sunny	16:28	24-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	2017-12-11	AQMS1	Sunny	16:54	24-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR1	Sunny	16:43	24-hour TSP	218	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR10	Sunny	16:06	24-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR5	Sunny	16:29	24-hour TSP	189	ug/m3
TMCLKL	HY/2012/08	2017-12-11	ASR6	Sunny	16:17	24-hour TSP	139	ug/m3
TMCLKL	HY/2012/08	2017-12-14	AQMS1	Sunny	17:09	24-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR1	Sunny	16:58	24-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR10	Sunny	16:23	24-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR5	Sunny	16:46	24-hour TSP	130	ug/m3
TMCLKL	HY/2012/08	2017-12-14	ASR6	Sunny	16:34	24-hour TSP	99	ug/m3
TMCLKL	HY/2012/08	2017-12-17	AQMS1	Sunny	16:54	24-hour TSP	132	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR1	Sunny	16:43	24-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR10	Sunny	16:08	24-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR5	Sunny	16:31	24-hour TSP	265	ug/m3
TMCLKL	HY/2012/08	2017-12-17	ASR6	Sunny	16:20	24-hour TSP	145	ug/m3

Project	Works	Date	Station	Weather	Start time	Parameters	Results	units
TMCLKL	HY/2012/08	2017-12-20	AQMS1	Sunny	17:14	24-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR1	Sunny	17:02	24-hour TSP	158	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR10	Sunny	16:28	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR5	Sunny	16:50	24-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	2017-12-20	ASR6	Sunny	16:39	24-hour TSP	100	ug/m3
TMCLKL	HY/2012/08	2017-12-23	AQMS1	Sunny	17:41	24-hour TSP	98	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR1	Sunny	17:30	24-hour TSP	182	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR10	Sunny	16:58	24-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR5	Sunny	17:20	24-hour TSP	166	ug/m3
TMCLKL	HY/2012/08	2017-12-23	ASR6	Sunny	17:09	24-hour TSP	159	ug/m3
TMCLKL	HY/2012/08	2017-12-26	AQMS1	Sunny	12:33	24-hour TSP	59	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR1	Sunny	12:23	24-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR10	Sunny	11:51	24-hour TSP	59	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR5	Sunny	12:12	24-hour TSP	84	ug/m3
TMCLKL	HY/2012/08	2017-12-26	ASR6	Sunny	12:01	24-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	2017-12-29	AQMS1	Sunny	16:49	24-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR1	Sunny	16:38	24-hour TSP	119	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR10	Sunny	16:06	24-hour TSP	250	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR5	Sunny	16:27	24-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	2017-12-29	ASR6	Sunny	16:16	24-hour TSP	92	ug/m3

Appendix H

Meteorological Data

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
02/12/17	0:00	2.7	21
02/12/17	1:00	3.1	46
02/12/17	2:00	3.6	50
02/12/17	3:00	3.6	42
02/12/17	4:00	2.7	41
02/12/17	5:00	2.2	52
02/12/17	6:00	3.1	44
02/12/17	7:00	2.7	47
02/12/17	8:00	1.8	53
02/12/17	9:00	1.3	50
02/12/17	10:00	1.8	60
02/12/17	11:00	1.3	91
02/12/17	12:00	1.3	255
02/12/17	13:00	1.8	271
02/12/17	14:00	1.8	282
02/12/17	15:00	2.2	305
02/12/17	16:00	1.8	291
02/12/17	17:00	1.3	275
02/12/17	18:00	1.8	311
02/12/17	19:00	0.9	305
02/12/17	20:00	0.9	92
02/12/17	21:00	0.9	88
02/12/17	22:00	0.4	72
02/12/17	23:00	0	-
03/12/17	0:00	0	-
03/12/17	1:00	0.9	310
03/12/17	2:00	2.2	46
03/12/17	3:00	2.7	52
03/12/17	4:00	2.2	51
03/12/17	5:00	2.2	57
03/12/17	6:00	2.2	43
03/12/17	7:00	2.2	40
03/12/17	8:00	1.8	39
03/12/17	9:00	1.8	95
03/12/17	10:00	0.9	172
03/12/17	11:00	0.4	228
03/12/17	12:00	1.3	275
03/12/17	13:00	1.8	280
03/12/17	14:00	1.8	299
03/12/17	15:00	0.9	267
03/12/17	16:00	1.3	285
03/12/17	17:00	1.3	293
03/12/17	18:00	1.3	308
03/12/17	19:00	1.3	311
03/12/17	20:00	0.9	288
03/12/17	21:00	0.9	314
03/12/17	22:00	0.4	279
03/12/17	23:00	0.9	287
05/12/17	0:00	2.2	49
05/12/17	1:00	2.2	12
05/12/17	2:00	2.7	48
05/12/17	3:00	2.2	51
05/12/17	4:00	2.2	53
05/12/17	5:00	2.2	47
05/12/17	6:00	2.7	16

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
05/12/17	7:00	2.7	41
05/12/17	8:00	2.2	49
05/12/17	9:00	2.2	50
05/12/17	10:00	1.8	18
05/12/17	11:00	1.3	44
05/12/17	12:00	1.3	20
05/12/17	13:00	1.8	14
05/12/17	14:00	1.8	22
05/12/17	15:00	1.3	5
05/12/17	16:00	1.3	3
05/12/17	17:00	1.3	348
05/12/17	18:00	1.3	2
05/12/17	19:00	1.8	46
05/12/17	20:00	1.8	19
05/12/17	21:00	1.3	44
05/12/17	22:00	0.9	41
05/12/17	23:00	1.3	50
06/12/17	0:00	1.3	51
06/12/17	1:00	1.3	44
06/12/17	2:00	1.3	39
06/12/17	3:00	1.8	43
06/12/17	4:00	1.3	47
06/12/17	5:00	1.3	52
06/12/17	6:00	1.3	56
06/12/17	7:00	1.3	50
06/12/17	8:00	1.3	19
06/12/17	9:00	1.3	65
06/12/17	10:00	1.8	94
06/12/17	11:00	0.9	160
06/12/17	12:00	1.3	223
06/12/17	13:00	1.3	241
06/12/17	14:00	1.3	278
06/12/17	15:00	1.3	229
06/12/17	16:00	0.9	231
06/12/17	17:00	0.4	225
06/12/17	18:00	1.3	351
06/12/17	19:00	2.7	95
06/12/17	20:00	2.2	88
06/12/17	21:00	1.8	74
06/12/17	22:00	0.9	46
06/12/17	23:00	0.9	44
08/12/17	0:00	0.9	344
08/12/17	1:00	1.3	358
08/12/17	2:00	1.3	349
08/12/17	3:00	0.4	325
08/12/17	4:00	0.9	351
08/12/17	5:00	0.4	319
08/12/17	6:00	0.9	322
08/12/17	7:00	0.9	315
08/12/17	8:00	1.3	350
08/12/17	9:00	2.2	12
08/12/17	10:00	2.7	16
08/12/17	11:00	2.2	46
08/12/17	12:00	2.2	42
08/12/17	13:00	2.2	19

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
08/12/17	14:00	2.2	41
08/12/17	15:00	2.2	355
08/12/17	16:00	2.2	343
08/12/17	17:00	1.8	352
08/12/17	18:00	1.3	321
08/12/17	19:00	0.9	95
08/12/17	20:00	1.3	351
08/12/17	21:00	2.7	5
08/12/17	22:00	3.6	20
08/12/17	23:00	4.5	4
09/12/17	0:00	4	13
09/12/17	1:00	3.6	11
09/12/17	2:00	3.1	17
09/12/17	3:00	3.1	10
09/12/17	4:00	3.1	43
09/12/17	5:00	1.8	40
09/12/17	6:00	0.9	348
09/12/17	7:00	0.9	223
09/12/17	8:00	1.3	312
09/12/17	9:00	2.2	43
09/12/17	10:00	1.8	39
09/12/17	11:00	1.8	92
09/12/17	12:00	1.3	168
09/12/17	13:00	1.8	205
09/12/17	14:00	1.8	223
09/12/17	15:00	1.3	274
09/12/17	16:00	1.3	288
09/12/17	17:00	0.9	284
09/12/17	18:00	1.3	311
09/12/17	19:00	0.9	341
09/12/17	20:00	0.9	352
09/12/17	21:00	0.4	18
09/12/17	22:00	0.9	315
09/12/17	23:00	0.9	92
11/12/17	0:00	1.3	352
11/12/17	1:00	3.6	15
11/12/17	2:00	3.6	44
11/12/17	3:00	2.2	42
11/12/17	4:00	1.8	41
11/12/17	5:00	2.2	40
11/12/17	6:00	1.8	52
11/12/17	7:00	2.2	51
11/12/17	8:00	1.8	39
11/12/17	9:00	1.3	38
11/12/17	10:00	1.3	99
11/12/17	11:00	1.3	223
11/12/17	12:00	1.8	219
11/12/17	13:00	1.3	271
11/12/17	14:00	2.2	315
11/12/17	15:00	1.8	326
11/12/17	16:00	1.3	309
11/12/17	17:00	0.9	311
11/12/17	18:00	0.9	317
11/12/17	19:00	1.8	116
11/12/17	20:00	1.8	100

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
11/12/17	21:00	1.3	94
11/12/17	22:00	1.3	90
11/12/17	23:00	0.9	69
12/12/17	0:00	2.2	85
12/12/17	1:00	1.3	67
12/12/17	2:00	1.8	74
12/12/17	3:00	1.3	5
12/12/17	4:00	1.3	358
12/12/17	5:00	1.3	43
12/12/17	6:00	0.9	14
12/12/17	7:00	1.3	52
12/12/17	8:00	1.3	44
12/12/17	9:00	1.8	41
12/12/17	10:00	1.3	40
12/12/17	11:00	1.8	21
12/12/17	12:00	1.8	17
12/12/17	13:00	1.8	52
12/12/17	14:00	1.8	18
12/12/17	15:00	1.8	11
12/12/17	16:00	1.3	10
12/12/17	17:00	2.7	96
12/12/17	18:00	2.7	94
12/12/17	19:00	2.2	88
12/12/17	20:00	1.8	74
12/12/17	21:00	1.8	91
12/12/17	22:00	3.1	95
12/12/17	23:00	3.6	86
14/12/17	0:00	4	83
14/12/17	1:00	4.5	44
14/12/17	2:00	3.1	41
14/12/17	3:00	1.8	46
14/12/17	4:00	1.3	59
14/12/17	5:00	2.2	68
14/12/17	6:00	1.8	91
14/12/17	7:00	3.1	98
14/12/17	8:00	0.9	74
14/12/17	9:00	0.9	70
14/12/17	10:00	0.9	132
14/12/17	11:00	0.9	191
14/12/17	12:00	0.9	170
14/12/17	13:00	0.9	116
14/12/17	14:00	0.4	135
14/12/17	15:00	0.4	92
14/12/17	16:00	0.9	90
14/12/17	17:00	1.3	118
14/12/17	18:00	1.8	111
14/12/17	19:00	1.8	87
14/12/17	20:00	2.2	89
14/12/17	21:00	1.3	92
14/12/17	22:00	0.4	77
14/12/17	23:00	0.9	76
15/12/17	0:00	0.9	92
15/12/17	1:00	1.8	94
15/12/17	2:00	0.9	3
15/12/17	3:00	2.2	98

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
15/12/17	4:00	1.8	71
15/12/17	5:00	0.9	76
15/12/17	6:00	0.9	74
15/12/17	7:00	0.9	45
15/12/17	8:00	1.8	80
15/12/17	9:00	1.8	92
15/12/17	10:00	1.8	94
15/12/17	11:00	1.3	88
15/12/17	12:00	0.9	131
15/12/17	13:00	0.9	120
15/12/17	14:00	1.3	228
15/12/17	15:00	1.8	288
15/12/17	16:00	2.2	315
15/12/17	17:00	2.2	321
15/12/17	18:00	2.7	306
15/12/17	19:00	2.2	284
15/12/17	20:00	3.1	311
15/12/17	21:00	3.6	320
15/12/17	22:00	3.1	324
15/12/17	23:00	2.7	328
17/12/17	0:00	1.3	4
17/12/17	1:00	1.3	351
17/12/17	2:00	1.3	19
17/12/17	3:00	3.1	344
17/12/17	4:00	4.5	355
17/12/17	5:00	3.1	346
17/12/17	6:00	1.8	16
17/12/17	7:00	1.8	349
17/12/17	8:00	1.8	42
17/12/17	9:00	1.8	10
17/12/17	10:00	1.3	47
17/12/17	11:00	1.8	50
17/12/17	12:00	1.8	355
17/12/17	13:00	2.7	344
17/12/17	14:00	2.2	351
17/12/17	15:00	2.2	336
17/12/17	16:00	1.8	340
17/12/17	17:00	1.3	285
17/12/17	18:00	1.3	290
17/12/17	19:00	1.3	213
17/12/17	20:00	0.9	225
17/12/17	21:00	0.9	274
17/12/17	22:00	0.9	353
17/12/17	23:00	1.3	44
18/12/17	0:00	1.3	351
18/12/17	1:00	1.8	348
18/12/17	2:00	2.2	356
18/12/17	3:00	2.2	16
18/12/17	4:00	2.2	19
18/12/17	5:00	1.8	20
18/12/17	6:00	0.9	194
18/12/17	7:00	0.9	268
18/12/17	8:00	2.2	319
18/12/17	9:00	2.2	321
18/12/17	10:00	2.2	319
18/12/17	11:00	3.1	324

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
18/12/17	12:00	2.7	316
18/12/17	13:00	2.7	320
18/12/17	14:00	2.7	323
18/12/17	15:00	2.2	317
18/12/17	16:00	1.8	312
18/12/17	17:00	1.3	311
18/12/17	18:00	0.9	324
18/12/17	19:00	0.9	309
18/12/17	20:00	0.9	325
18/12/17	21:00	0.9	324
18/12/17	22:00	0.4	4
18/12/17	23:00	0.4	328
20/12/17	0:00	4.9	11
20/12/17	1:00	4.9	5
20/12/17	2:00	4	2
20/12/17	3:00	2.7	7
20/12/17	4:00	3.6	359
20/12/17	5:00	4.5	3
20/12/17	6:00	3.6	4
20/12/17	7:00	2.2	344
20/12/17	8:00	1.3	305
20/12/17	9:00	2.7	46
20/12/17	10:00	3.6	42
20/12/17	11:00	3.1	19
20/12/17	12:00	2.2	44
20/12/17	13:00	2.2	351
20/12/17	14:00	2.2	350
20/12/17	15:00	1.3	344
20/12/17	16:00	0.9	348
20/12/17	17:00	1.8	339
20/12/17	18:00	0.9	346
20/12/17	19:00	0.9	352
20/12/17	20:00	0.9	70
20/12/17	21:00	1.3	93
20/12/17	22:00	1.3	88
20/12/17	23:00	0.9	355
21/12/17	0:00	1.3	6
21/12/17	1:00	2.7	19
21/12/17	2:00	2.2	48
21/12/17	3:00	2.7	44
21/12/17	4:00	2.2	40
21/12/17	5:00	2.7	16
21/12/17	6:00	3.1	20
21/12/17	7:00	2.7	14
21/12/17	8:00	3.1	52
21/12/17	9:00	2.2	50
21/12/17	10:00	1.8	49
21/12/17	11:00	1.3	172
21/12/17	12:00	0.9	181
21/12/17	13:00	1.3	136
21/12/17	14:00	2.7	140
21/12/17	15:00	1.8	119
21/12/17	16:00	1.8	121
21/12/17	17:00	3.1	87
21/12/17	18:00	1.8	109
21/12/17	19:00	1.3	114
21/12/17	20:00	1.8	95

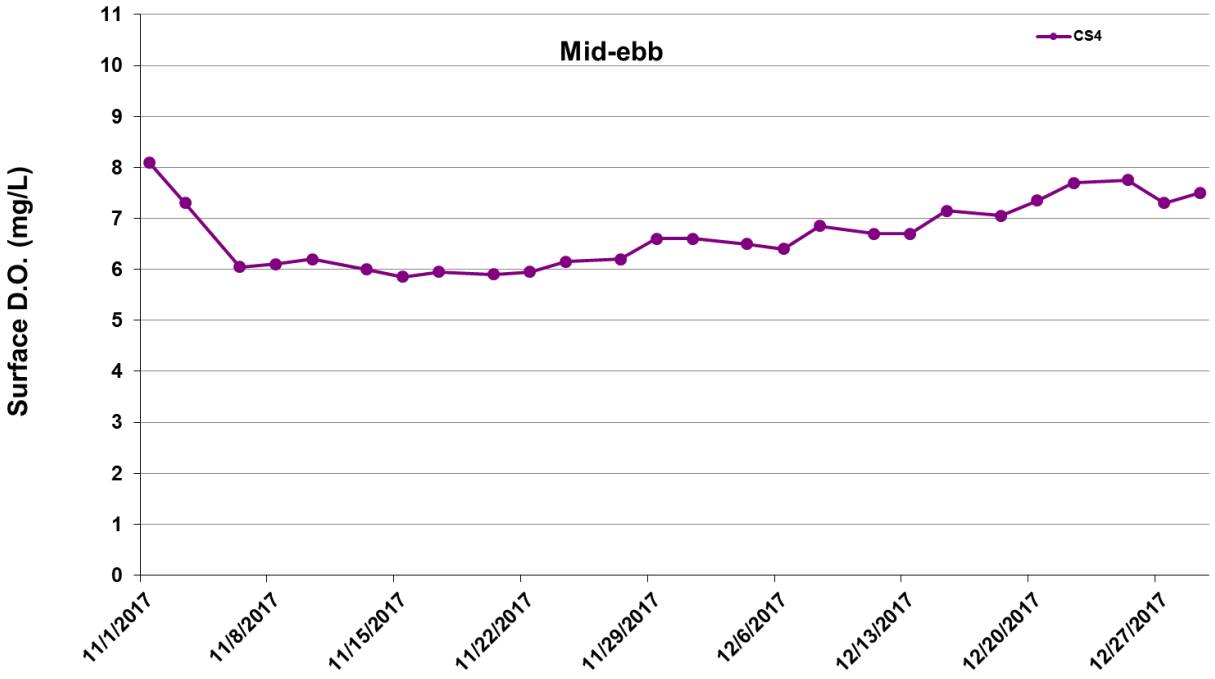
Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
21/12/17	21:00	1.3	91
21/12/17	22:00	0.9	48
21/12/17	23:00	0.9	93
23/12/17	0:00	0.9	68
23/12/17	1:00	1.3	70
23/12/17	2:00	1.3	72
23/12/17	3:00	0.9	71
23/12/17	4:00	0.9	74
23/12/17	5:00	0.4	69
23/12/17	6:00	0	-
23/12/17	7:00	0.4	75
23/12/17	8:00	0.9	72
23/12/17	9:00	0.9	70
23/12/17	10:00	0.9	92
23/12/17	11:00	0.4	128
23/12/17	12:00	0.4	130
23/12/17	13:00	0	-
23/12/17	14:00	1.3	225
23/12/17	15:00	0.9	300
23/12/17	16:00	0.9	275
23/12/17	17:00	0.9	265
23/12/17	18:00	0.1	259
23/12/17	19:00	0.1	223
23/12/17	20:00	0.2	221
23/12/17	21:00	0.1	225
23/12/17	22:00	0.2	204
23/12/17	23:00	0.1	223
24/12/17	0:00	0.9	306
24/12/17	1:00	0.9	352
24/12/17	2:00	0.4	225
24/12/17	3:00	0.4	221
24/12/17	4:00	0.9	231
24/12/17	5:00	0.9	224
24/12/17	6:00	0.4	275
24/12/17	7:00	0.4	267
24/12/17	8:00	1.8	352
24/12/17	9:00	1.8	174
24/12/17	10:00	1.3	62
24/12/17	11:00	1.8	300
24/12/17	12:00	2.7	345
24/12/17	13:00	3.1	351
24/12/17	14:00	2.7	344
24/12/17	15:00	1.8	356
24/12/17	16:00	1.8	354
24/12/17	17:00	1.3	355
24/12/17	18:00	2.2	340
24/12/17	19:00	1.3	349
24/12/17	20:00	2.2	338
24/12/17	21:00	3.6	2
24/12/17	22:00	4.5	1
24/12/17	23:00	4.5	359
26/12/17	0:00	1.3	94
26/12/17	1:00	2.2	88
26/12/17	2:00	1.3	70
26/12/17	3:00	1.8	92
26/12/17	4:00	0.9	50
26/12/17	5:00	0.9	14

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
26/12/17	6:00	0.9	73
26/12/17	7:00	1.3	95
26/12/17	8:00	1.3	91
26/12/17	9:00	1.3	47
26/12/17	10:00	1.8	12
26/12/17	11:00	1.8	10
26/12/17	12:00	1.3	19
26/12/17	13:00	1.8	225
26/12/17	14:00	1.3	269
26/12/17	15:00	1.3	264
26/12/17	16:00	0.9	230
26/12/17	17:00	0.4	257
26/12/17	18:00	0.4	312
26/12/17	19:00	1.8	93
26/12/17	20:00	3.1	91
26/12/17	21:00	3.1	89
26/12/17	22:00	2.7	90
26/12/17	23:00	2.7	93
17/12/27	0:00	1.3	70
17/12/27	1:00	1.3	69
17/12/27	2:00	1.3	66
17/12/27	3:00	1.3	43
17/12/27	4:00	2.2	63
17/12/27	5:00	1.8	70
17/12/27	6:00	1.8	64
17/12/27	7:00	0.9	353
17/12/27	8:00	1.3	95
17/12/27	9:00	2.2	89
17/12/27	10:00	4	119
17/12/27	11:00	2.7	120
17/12/27	12:00	2.2	135
17/12/27	13:00	2.2	131
17/12/27	14:00	1.8	140
17/12/27	15:00	1.8	95
17/12/27	16:00	0.9	128
17/12/27	17:00	0.9	227
17/12/27	18:00	0.4	230
17/12/27	19:00	1.8	90
17/12/27	20:00	2.2	88
17/12/27	21:00	2.2	84
17/12/27	22:00	2.2	96
17/12/27	23:00	1.8	87
17/12/29	0:00	0.4	105
17/12/29	1:00	0.4	42
17/12/29	2:00	0.4	46
17/12/29	3:00	0.9	95
17/12/29	4:00	1.3	92
17/12/29	5:00	2.2	75
17/12/29	6:00	1.3	93
17/12/29	7:00	1.3	72
17/12/29	8:00	1.8	92
17/12/29	9:00	2.2	88
17/12/29	10:00	1.3	87
17/12/29	11:00	1.3	223
17/12/29	12:00	1.3	166
17/12/29	13:00	2.2	200
17/12/29	14:00	1.8	230

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
17/12/29	15:00	1.3	47
17/12/29	16:00	1.8	51
17/12/29	17:00	2.7	46
17/12/29	18:00	4	43
17/12/29	19:00	4	52
17/12/29	20:00	3.6	48
17/12/29	21:00	3.1	44
17/12/29	22:00	2.7	47
17/12/29	23:00	3.1	46
17/12/30	0:00	3.6	53
17/12/30	1:00	2.7	41
17/12/30	2:00	0.9	50
17/12/30	3:00	0.9	12
17/12/30	4:00	1.3	43
17/12/30	5:00	1.8	44
17/12/30	6:00	1.3	50
17/12/30	7:00	0.9	52
17/12/30	8:00	1.3	72
17/12/30	9:00	1.3	171
17/12/30	10:00	1.8	42
17/12/30	11:00	2.7	192
17/12/30	12:00	1.8	228
17/12/30	13:00	1.3	274
17/12/30	14:00	2.2	195
17/12/30	15:00	2.2	190
17/12/30	16:00	1.3	188
17/12/30	17:00	1.3	226
17/12/30	18:00	0.9	77
17/12/30	19:00	0.9	95
17/12/30	20:00	1.3	94
17/12/30	21:00	1.3	48
17/12/30	22:00	2.7	42
17/12/30	23:00	2.7	14

Appendix I

Impact Water Quality Monitoring Results



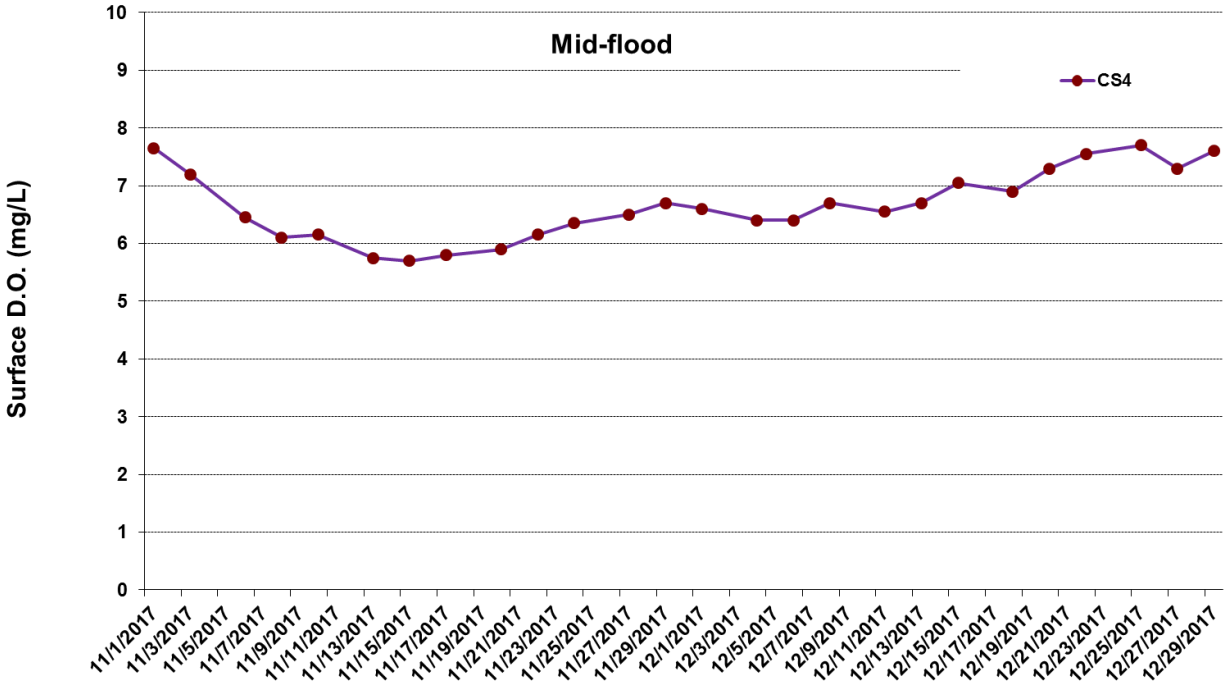
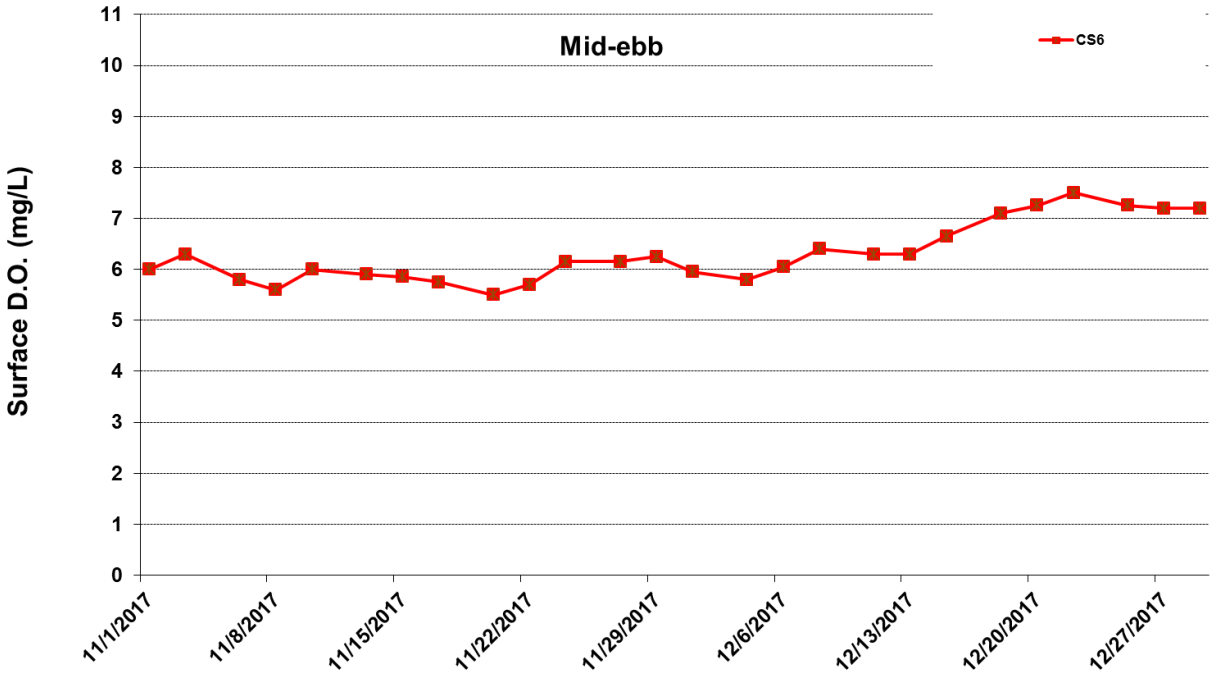


Figure I1 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



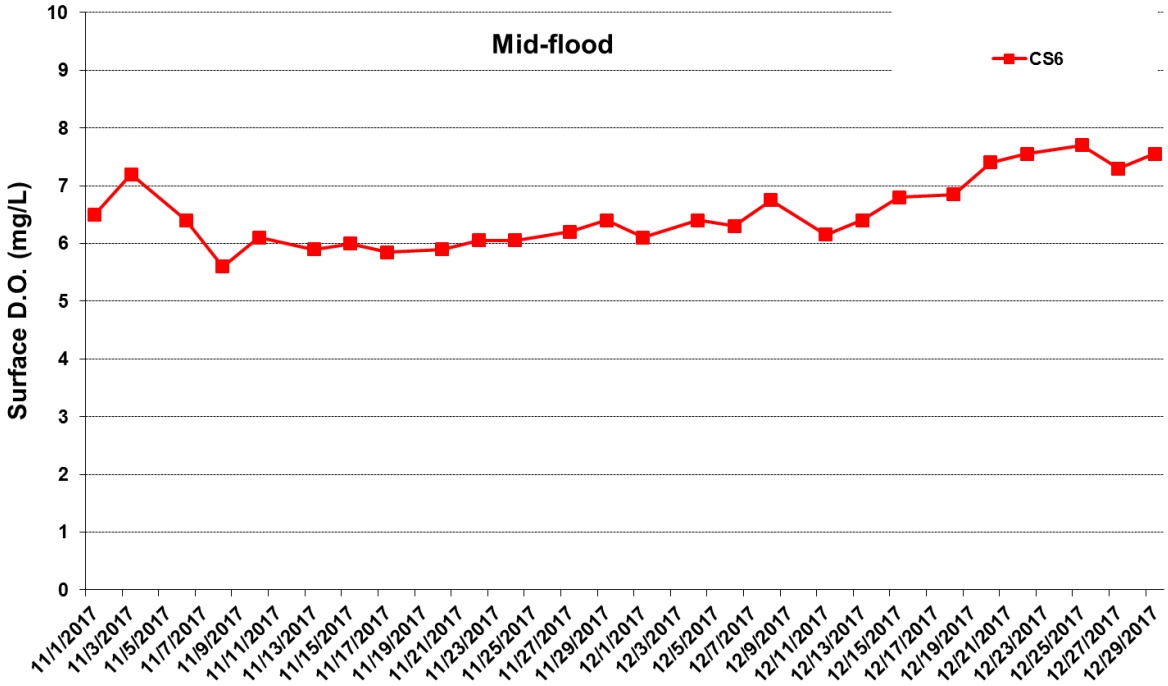
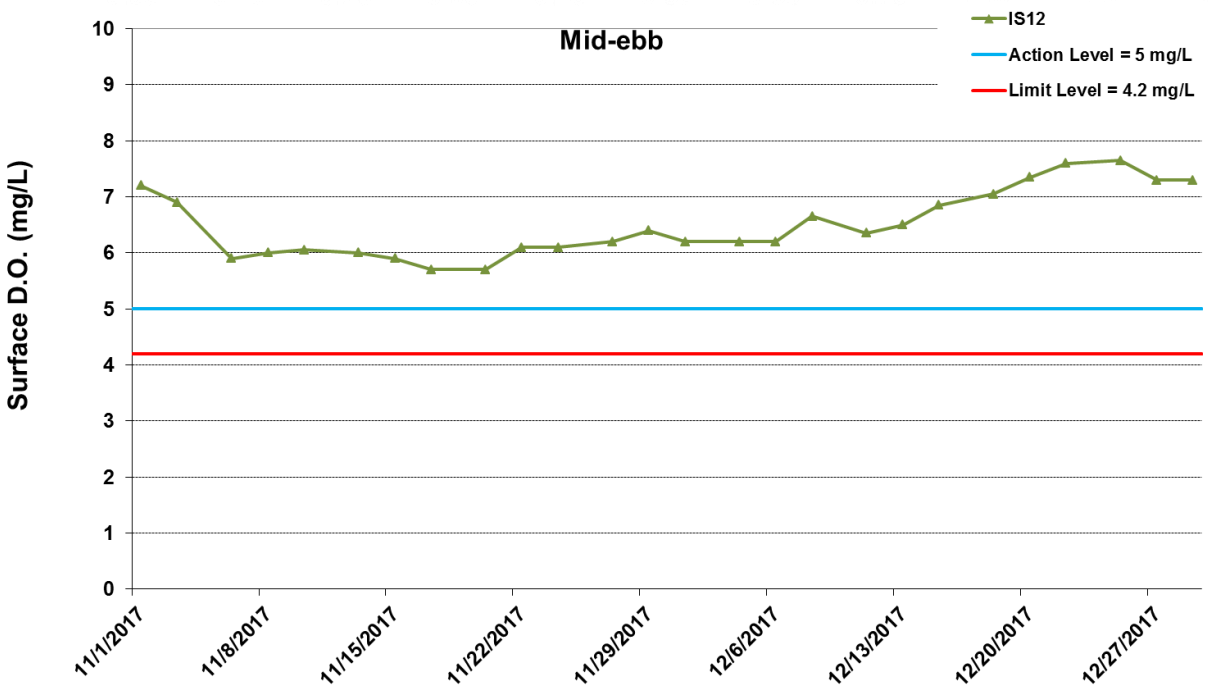


Figure I2 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



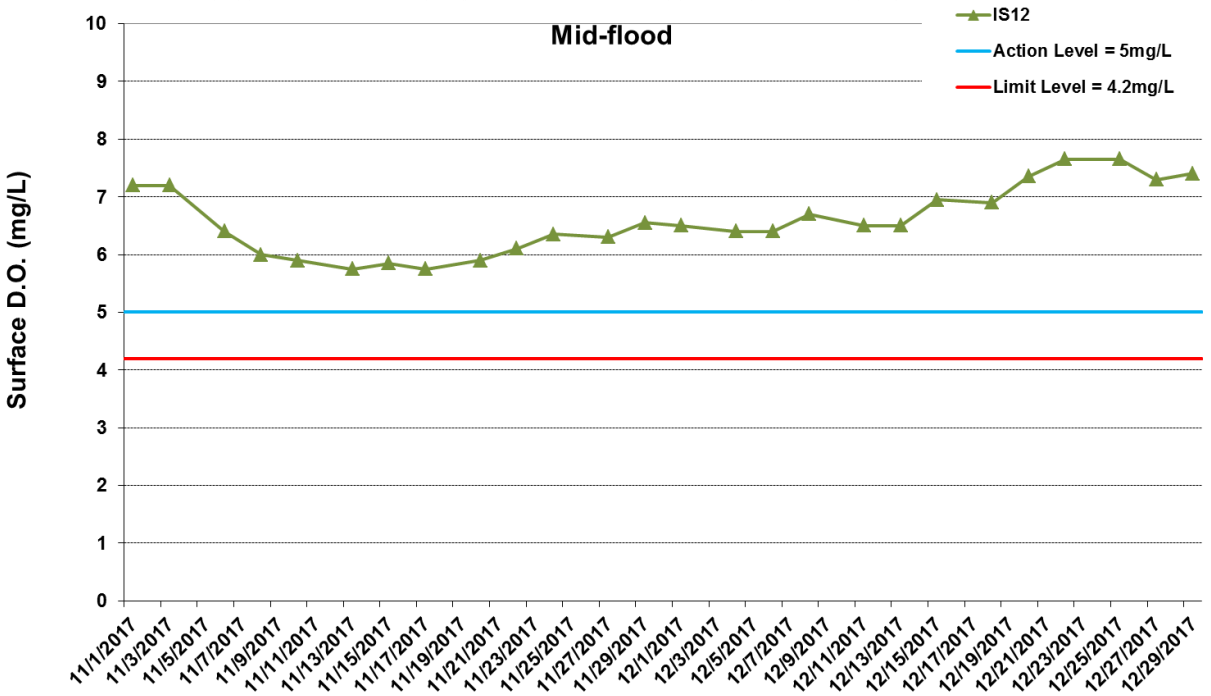
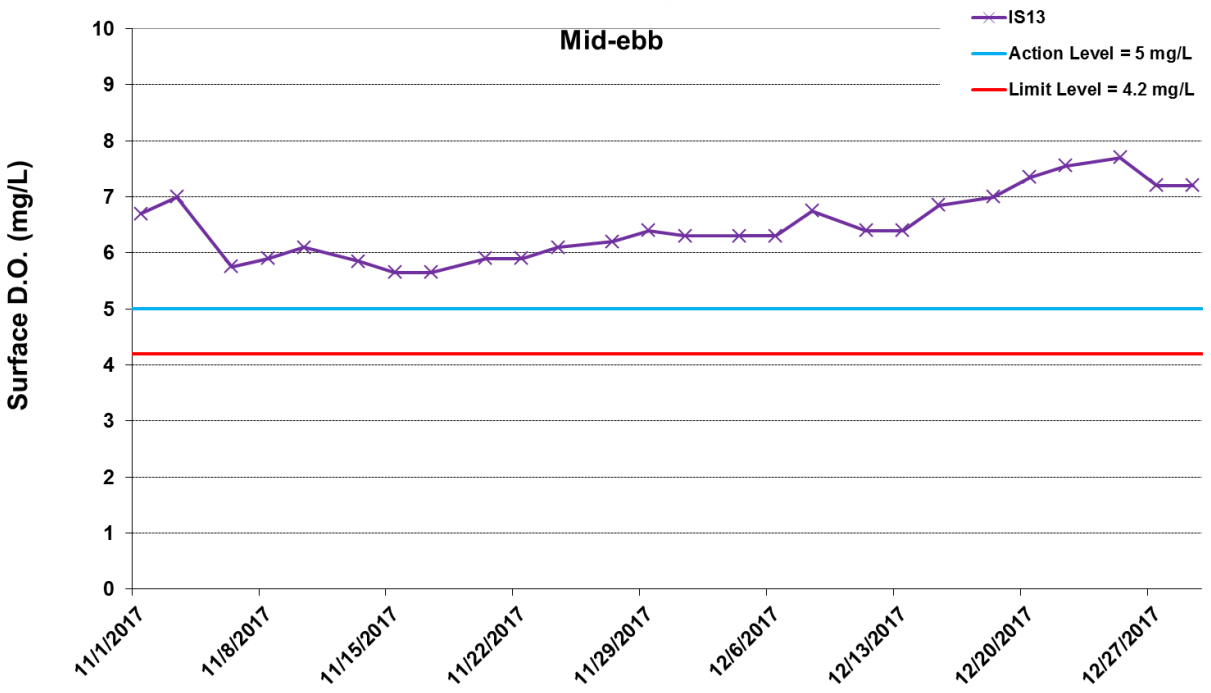


Figure I3 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at IS12. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



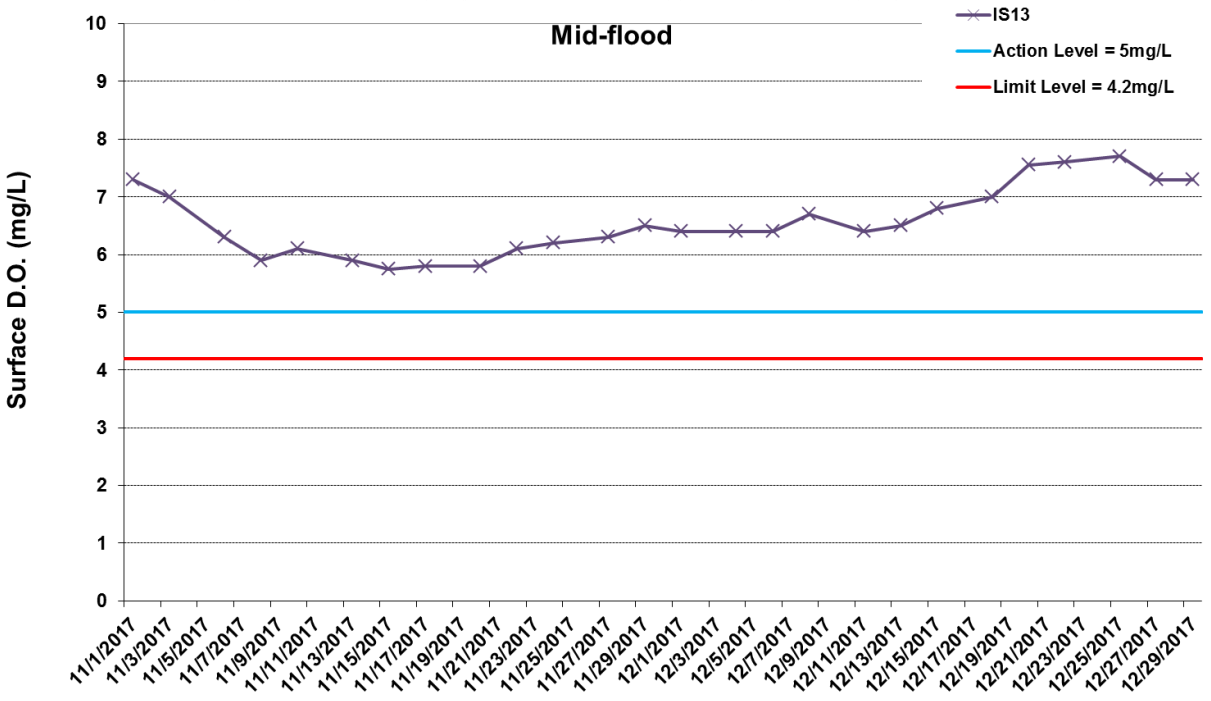
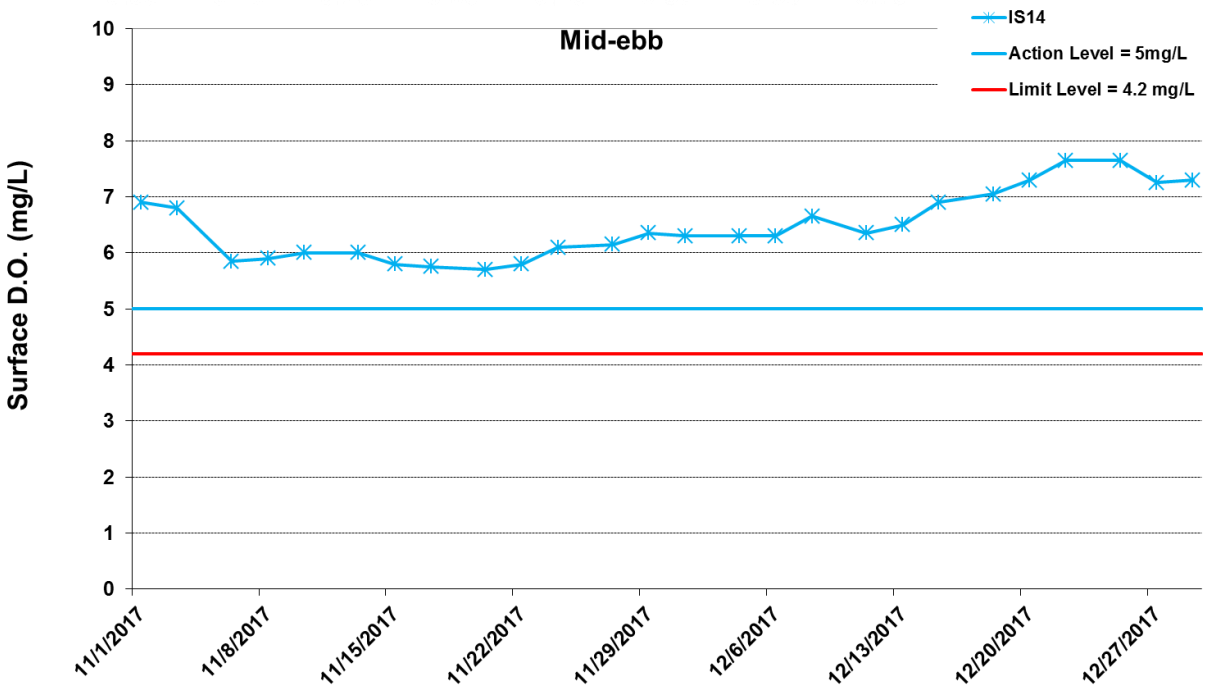


Figure I4 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at IS13. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



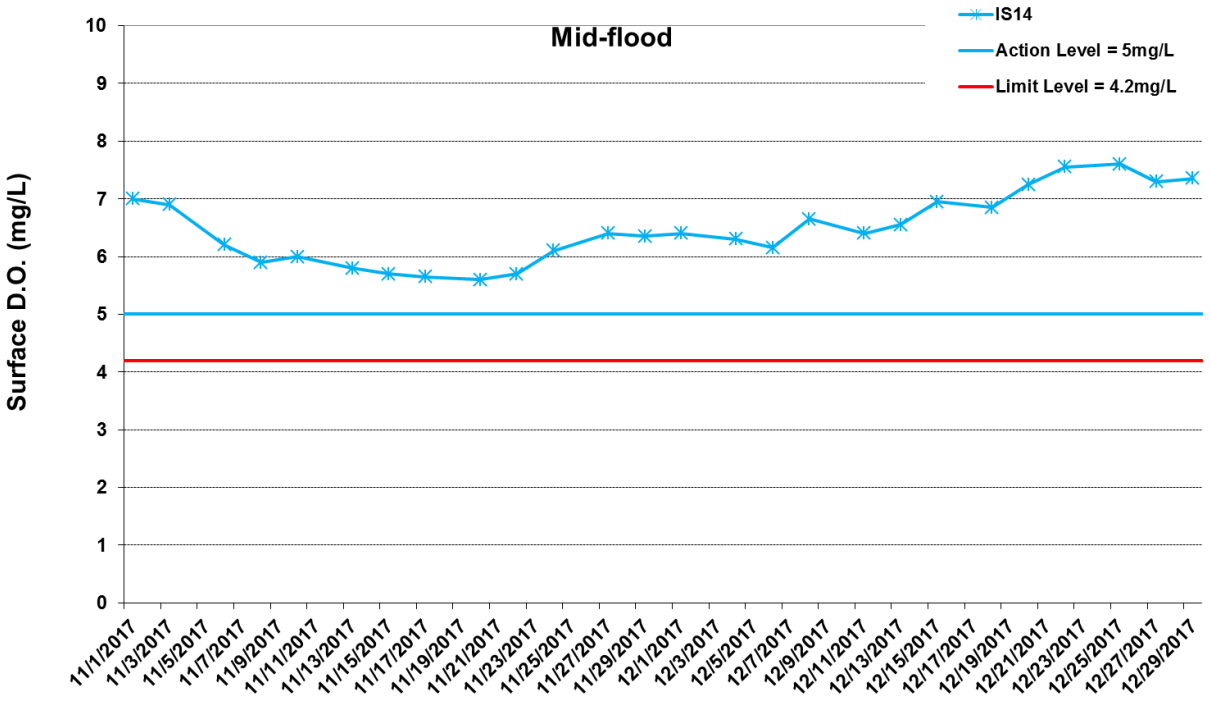


Figure I5 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at IS14. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

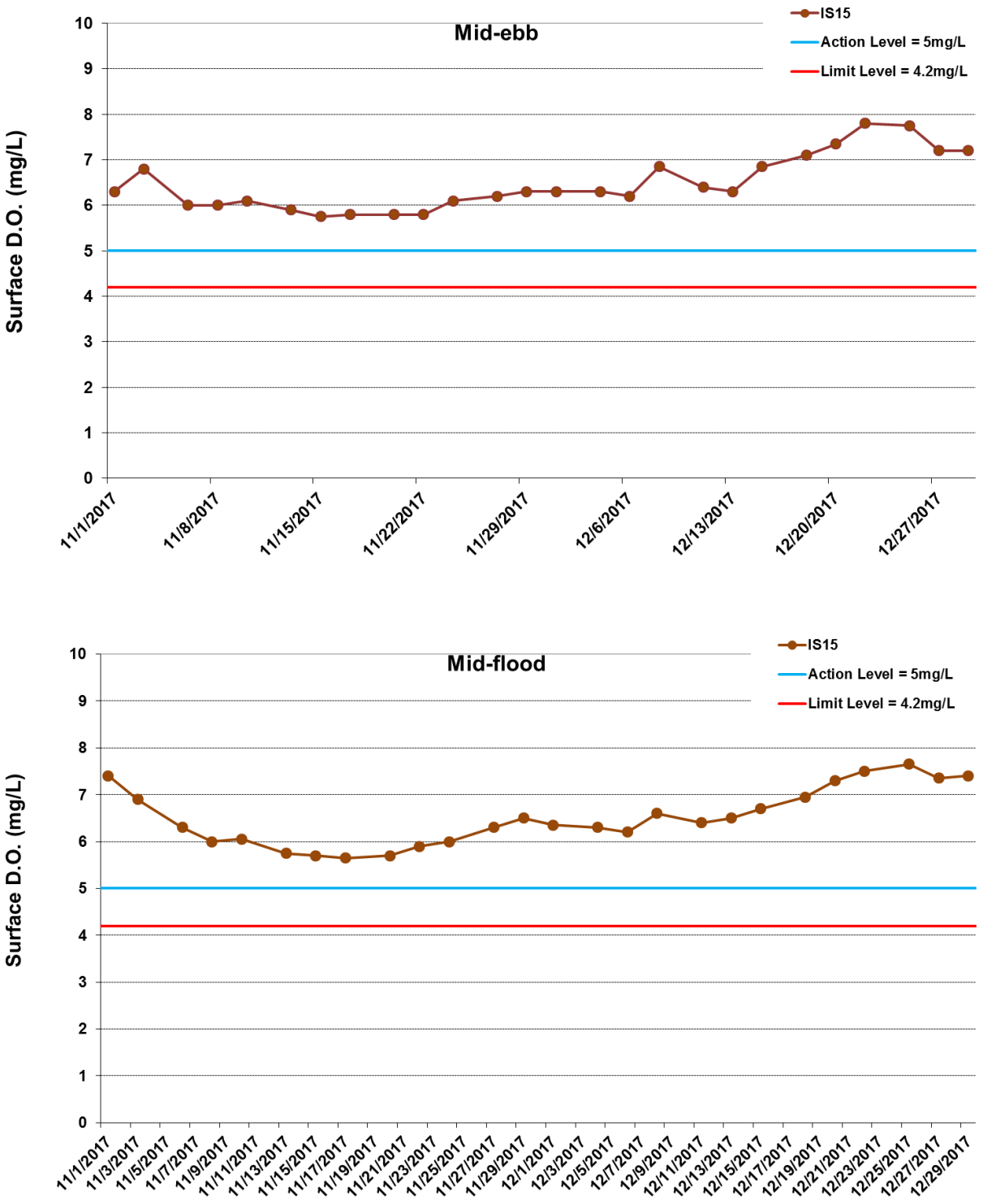


Figure I6 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at IS15. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

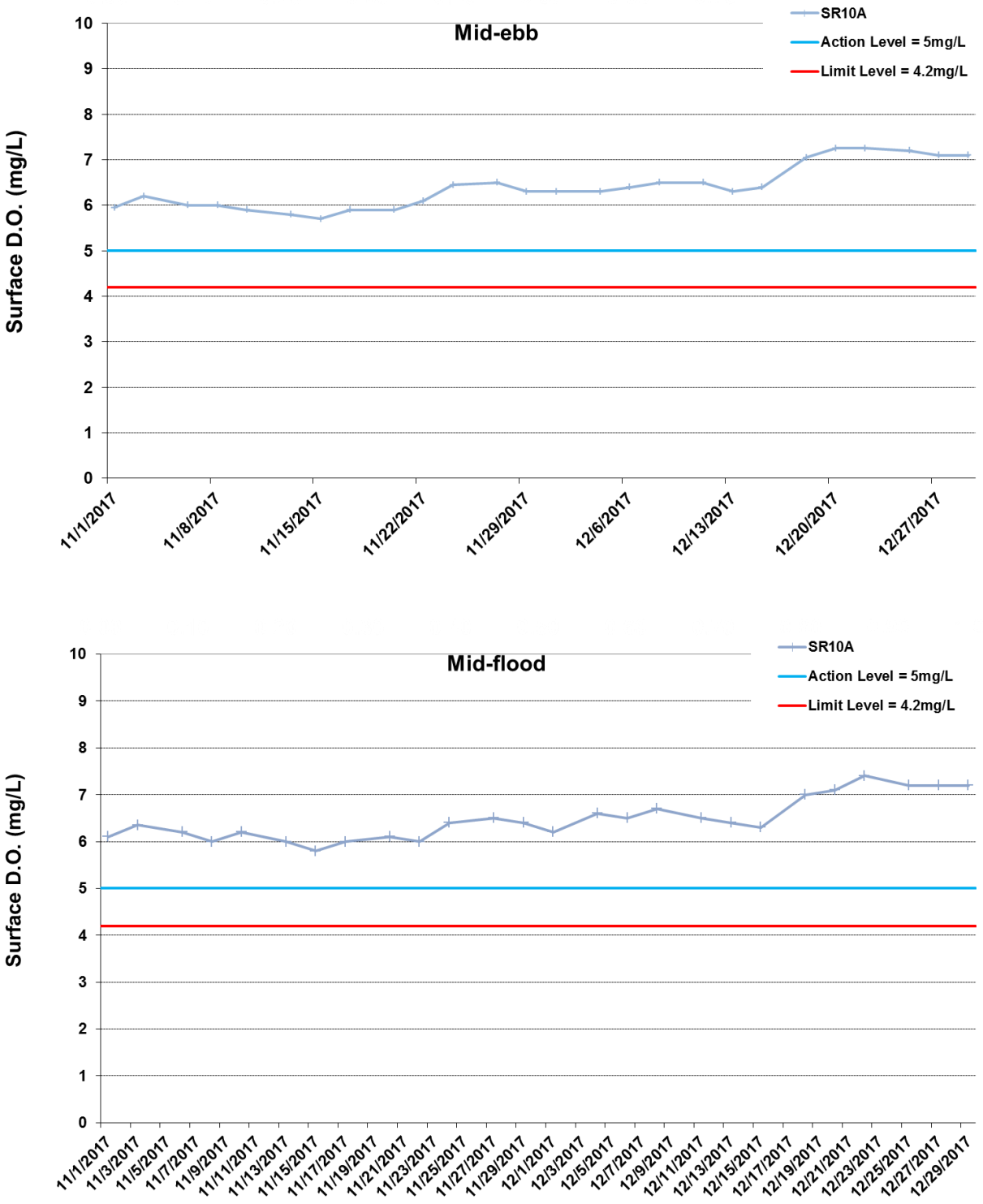
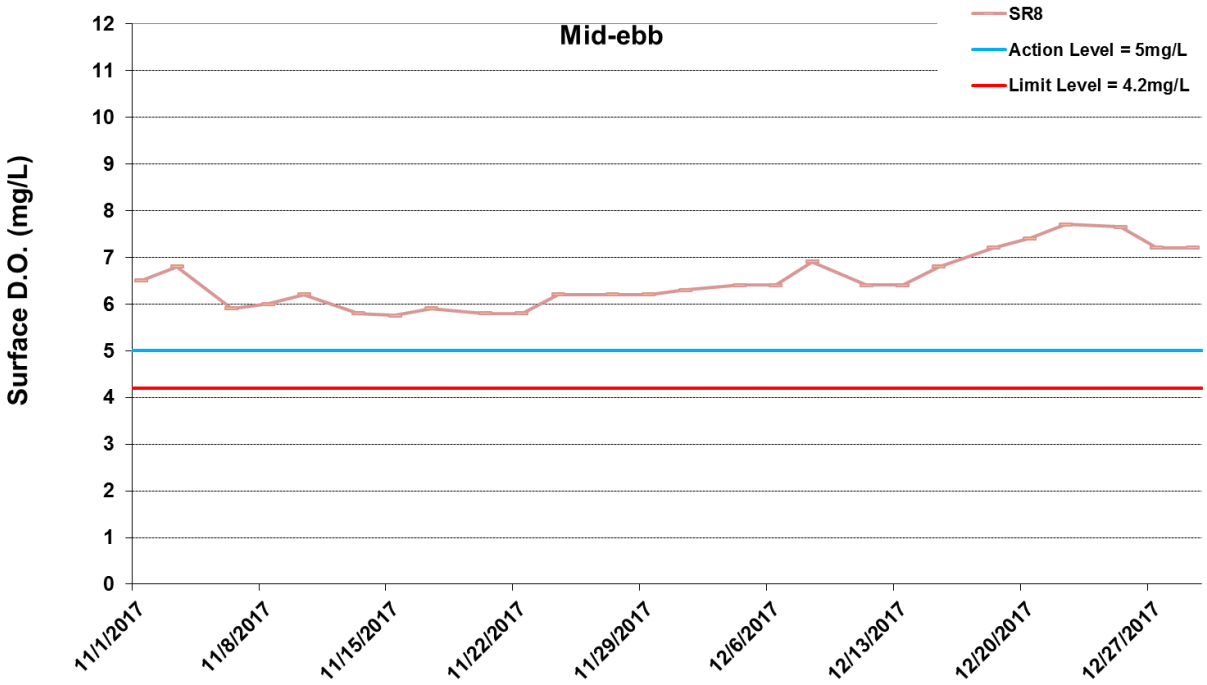


Figure I7 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at SR10A. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



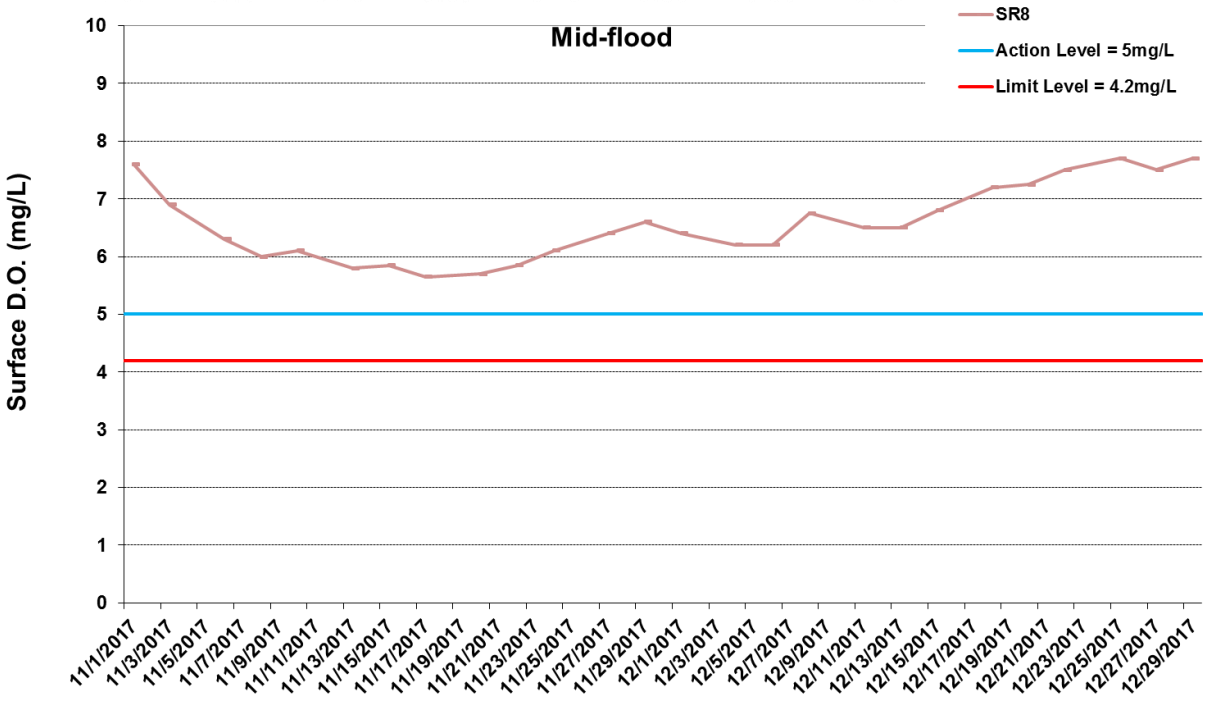
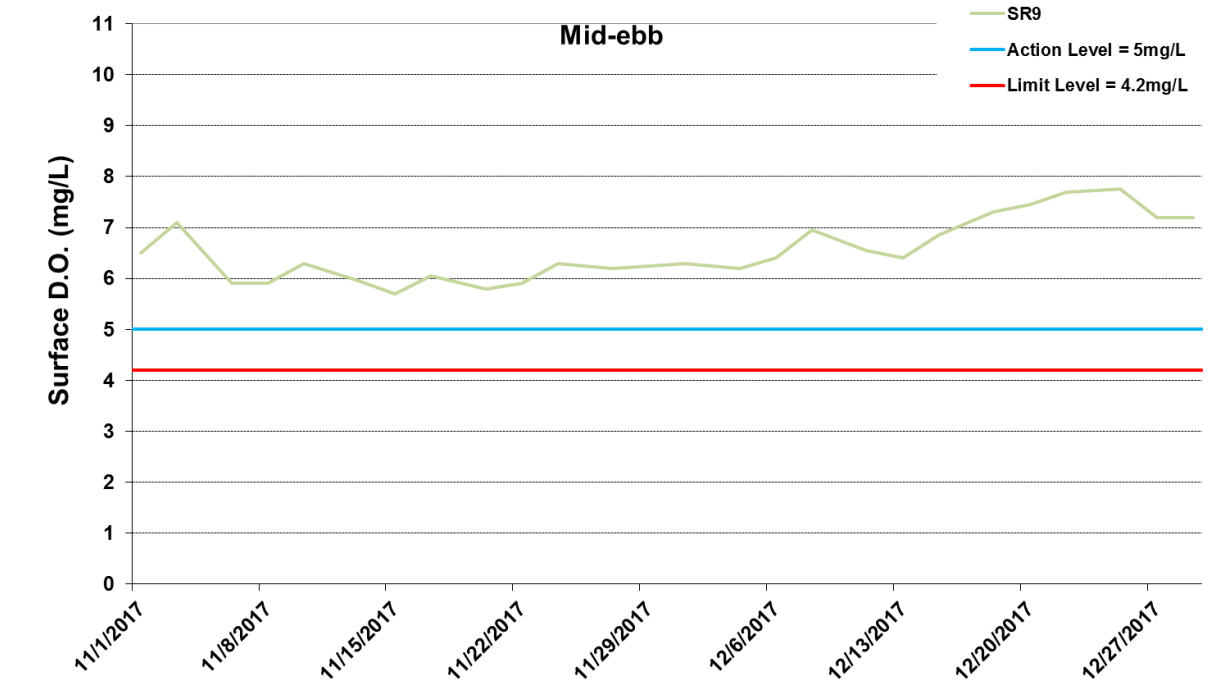


Figure I8 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at SR8. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



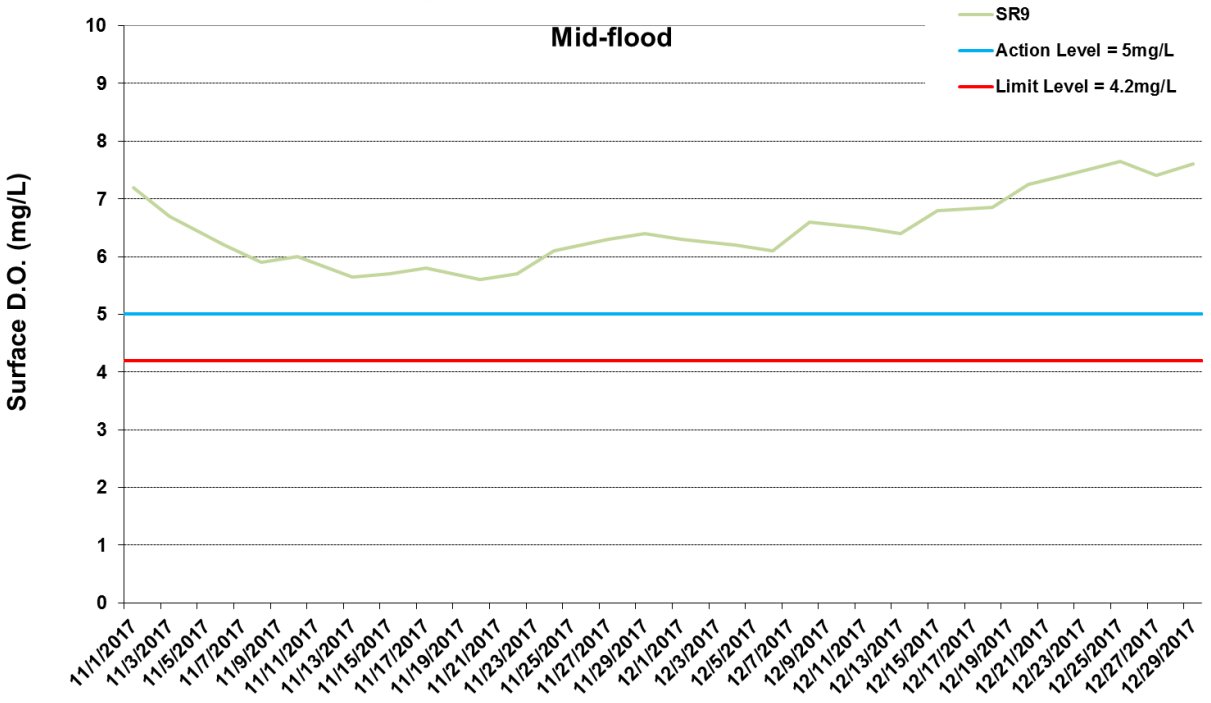
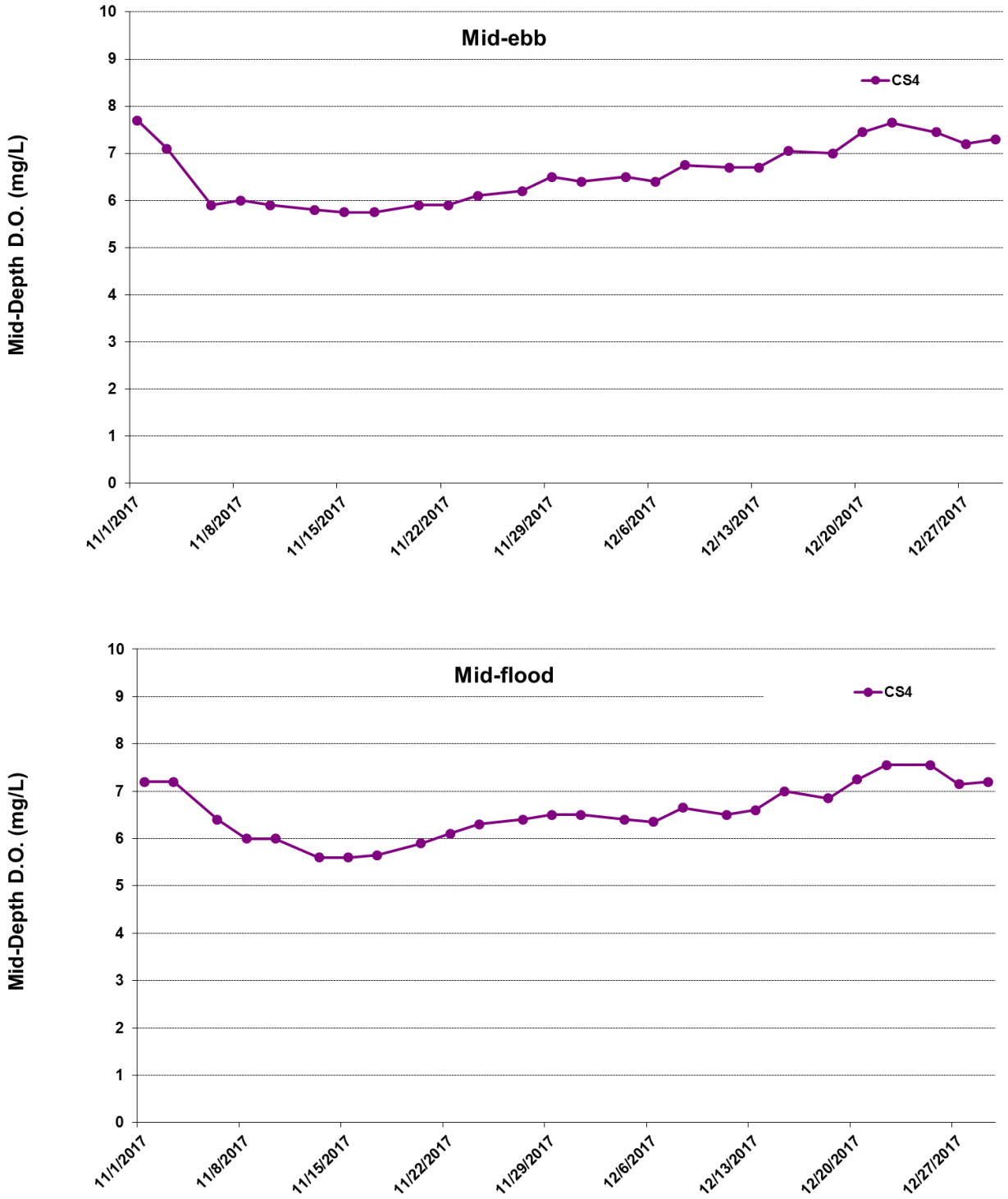


Figure I9 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in surface waters between 1 November 2017 and 31 December 2017 at SR9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

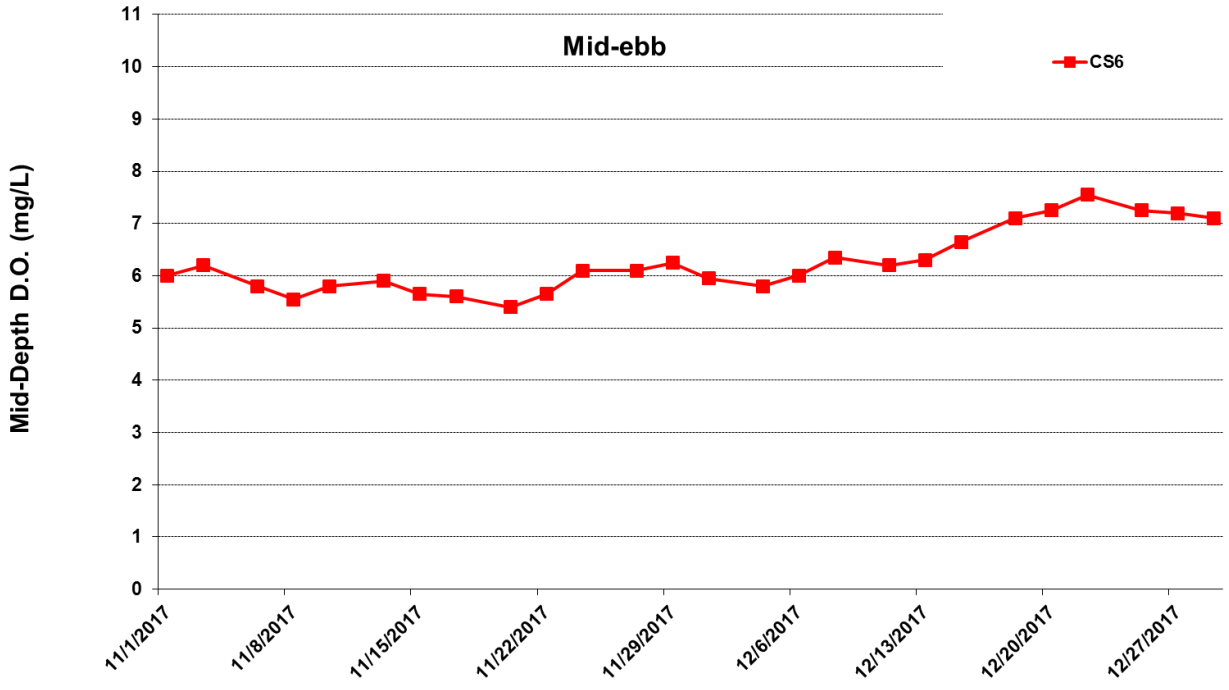
Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

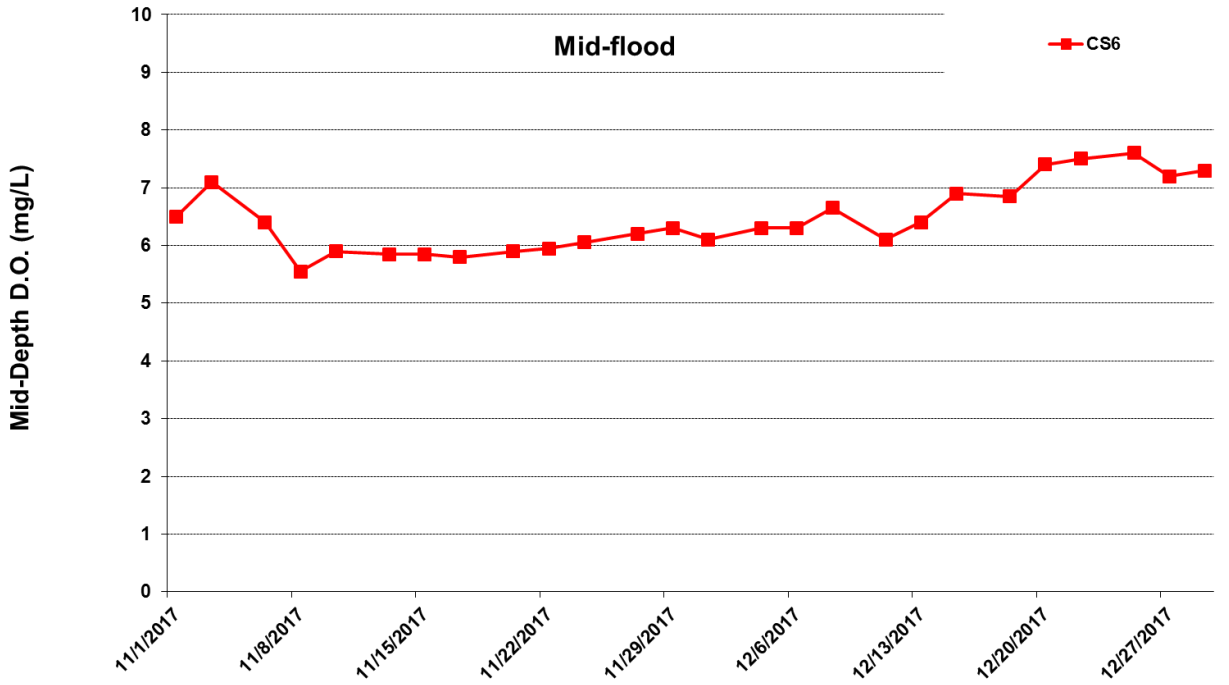


*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I10 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

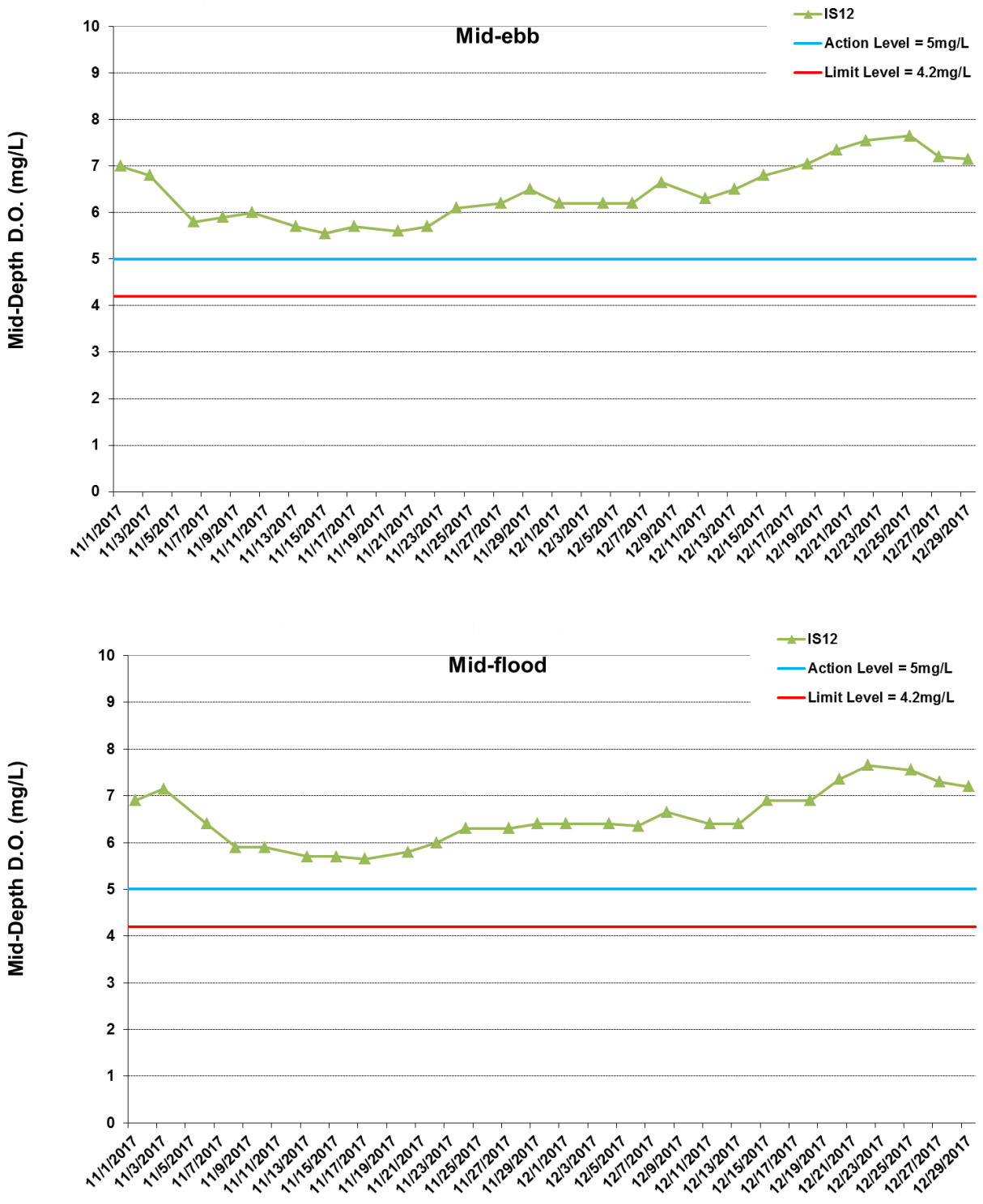




*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I11 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at CS6. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

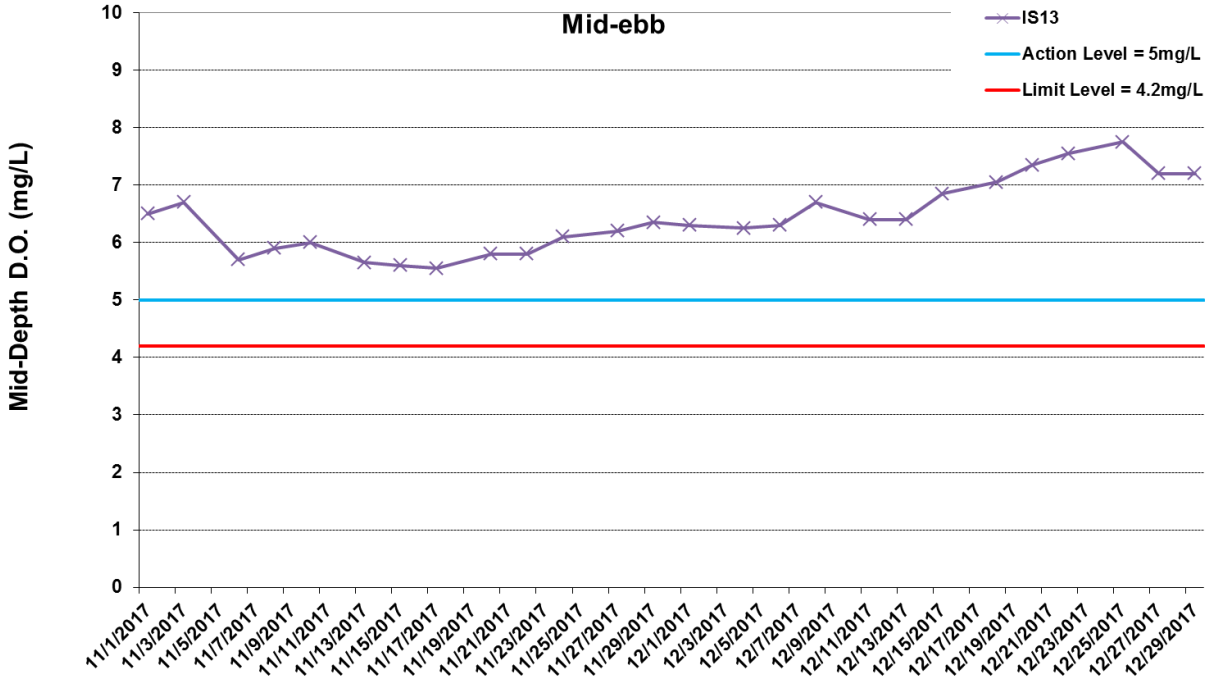
Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

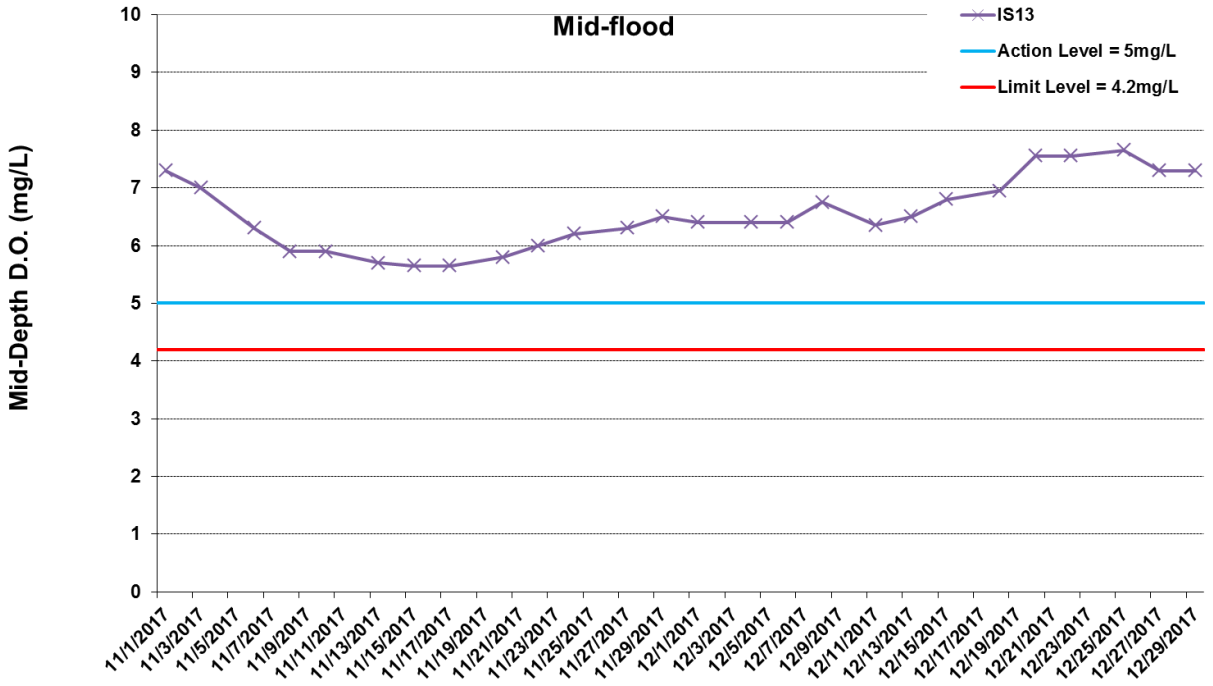


*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I12 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at IS12. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

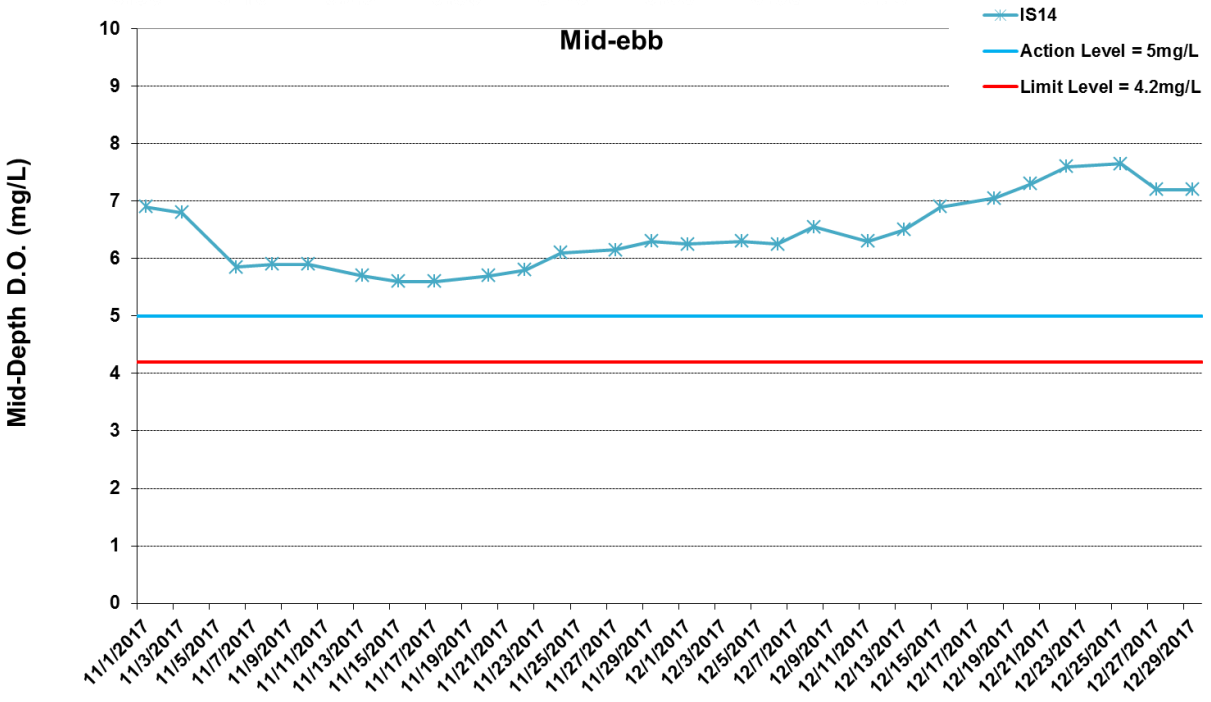


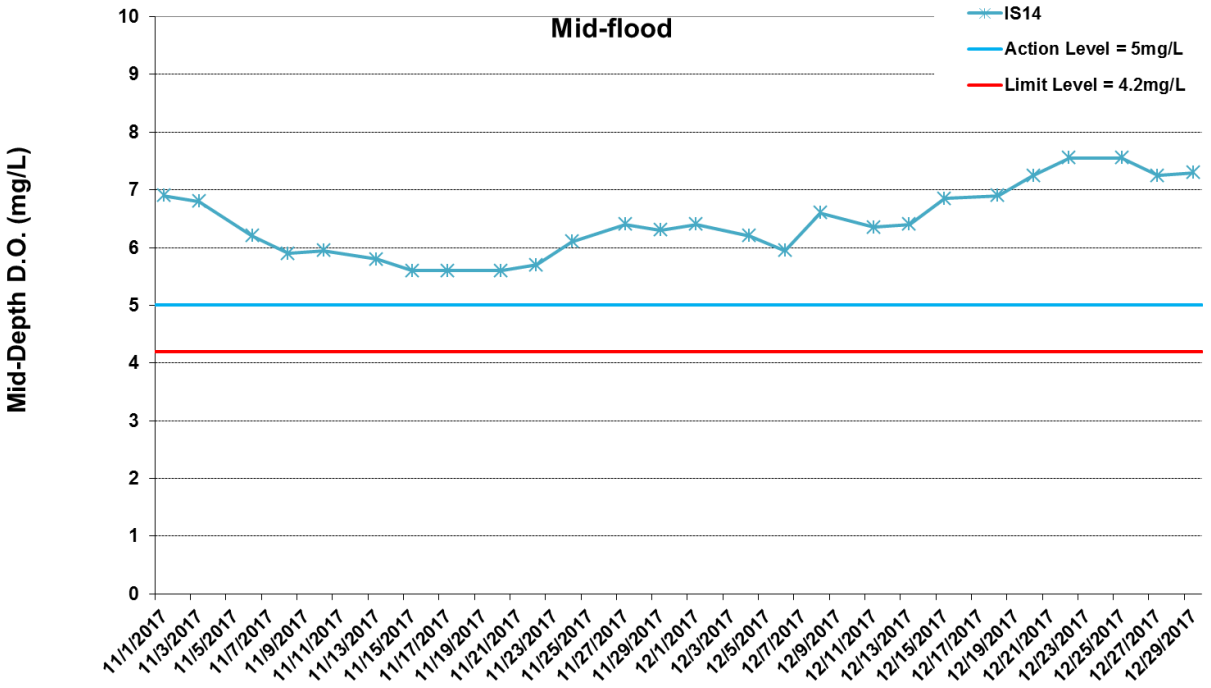


*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I13 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at IS13. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

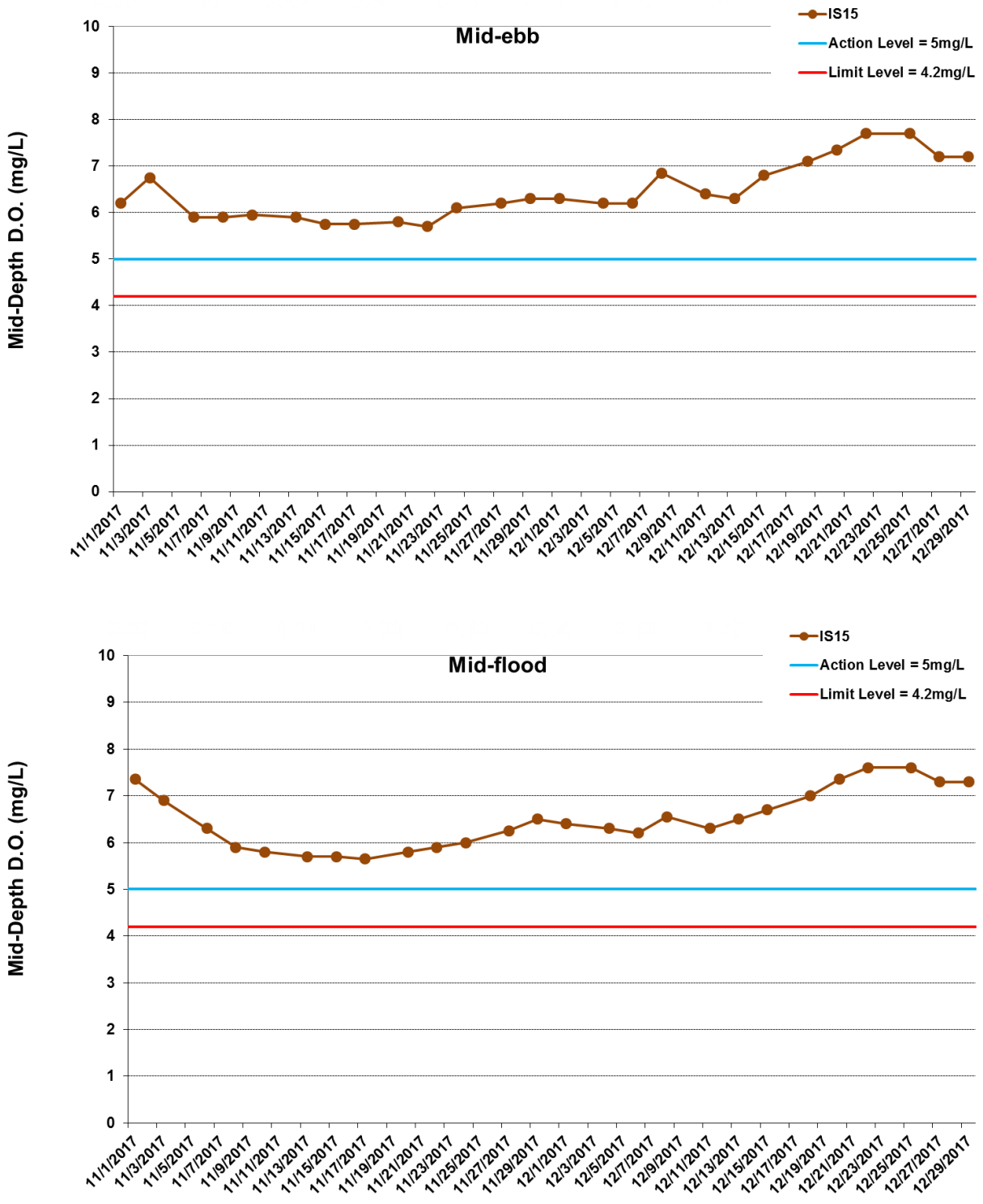




*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I14 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at IS14. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

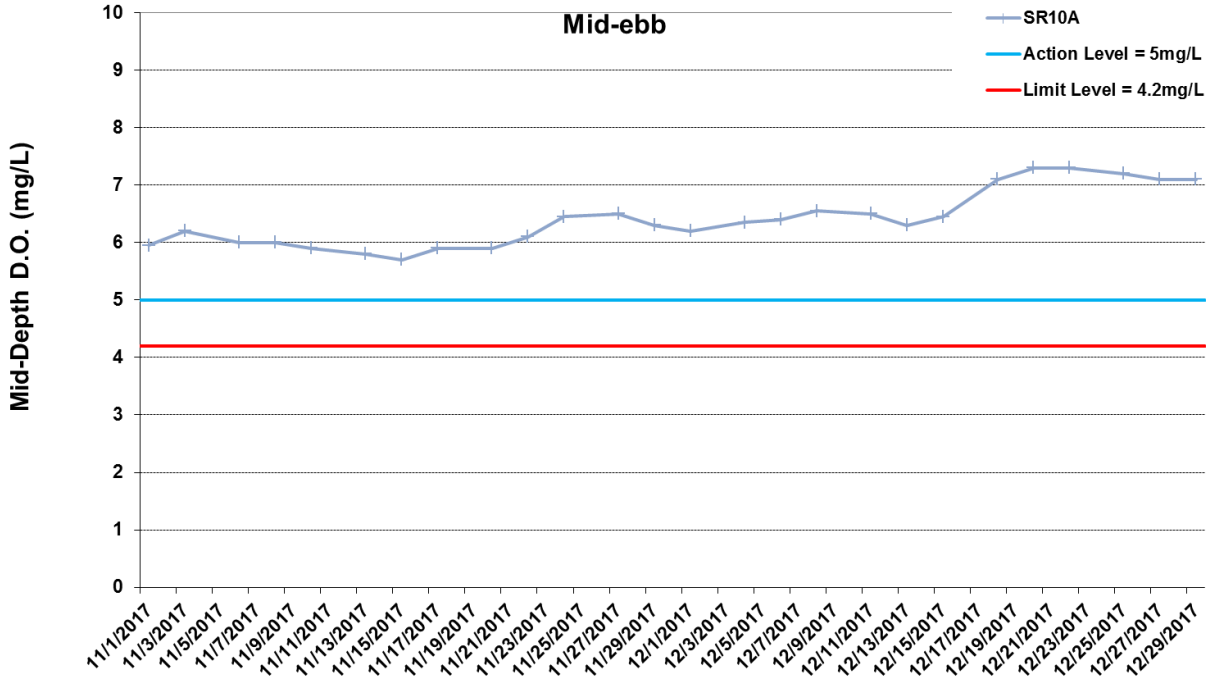
Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

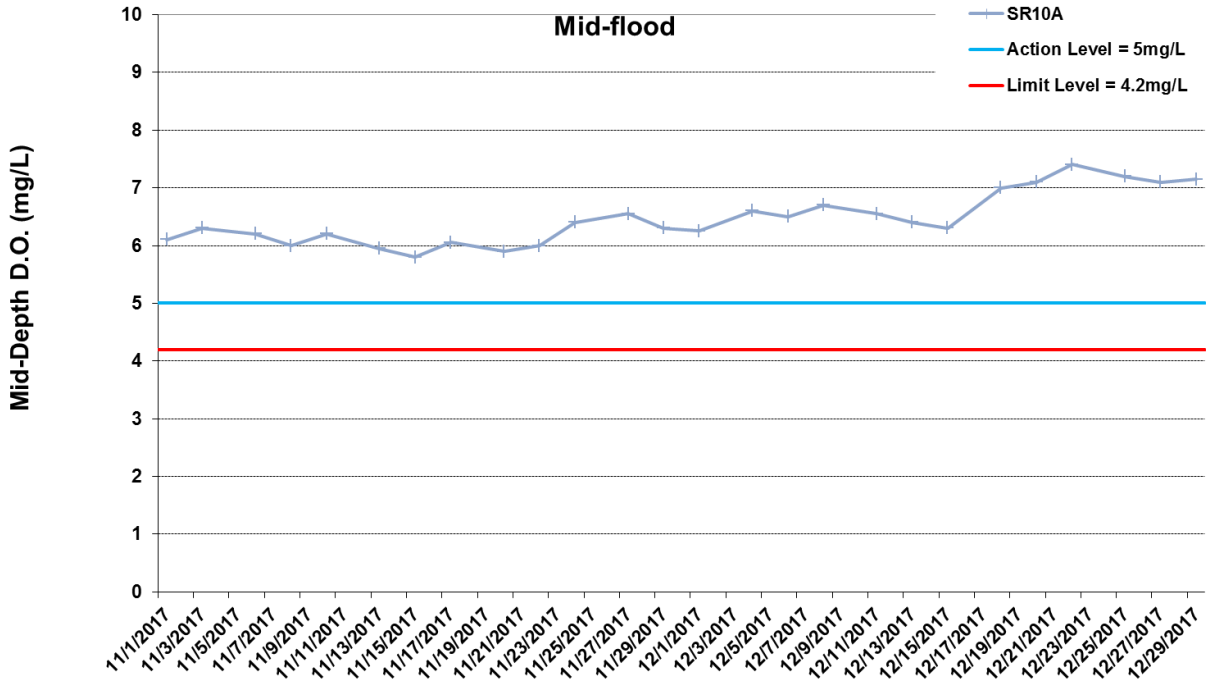


*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I15 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at IS15. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls





*No data for Stations SR8 and SR9 due to shallow water depth (< 6m).

Figure I16 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in mid-depth waters between 1 November 2017 and 31 December 2017 at SR10A. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

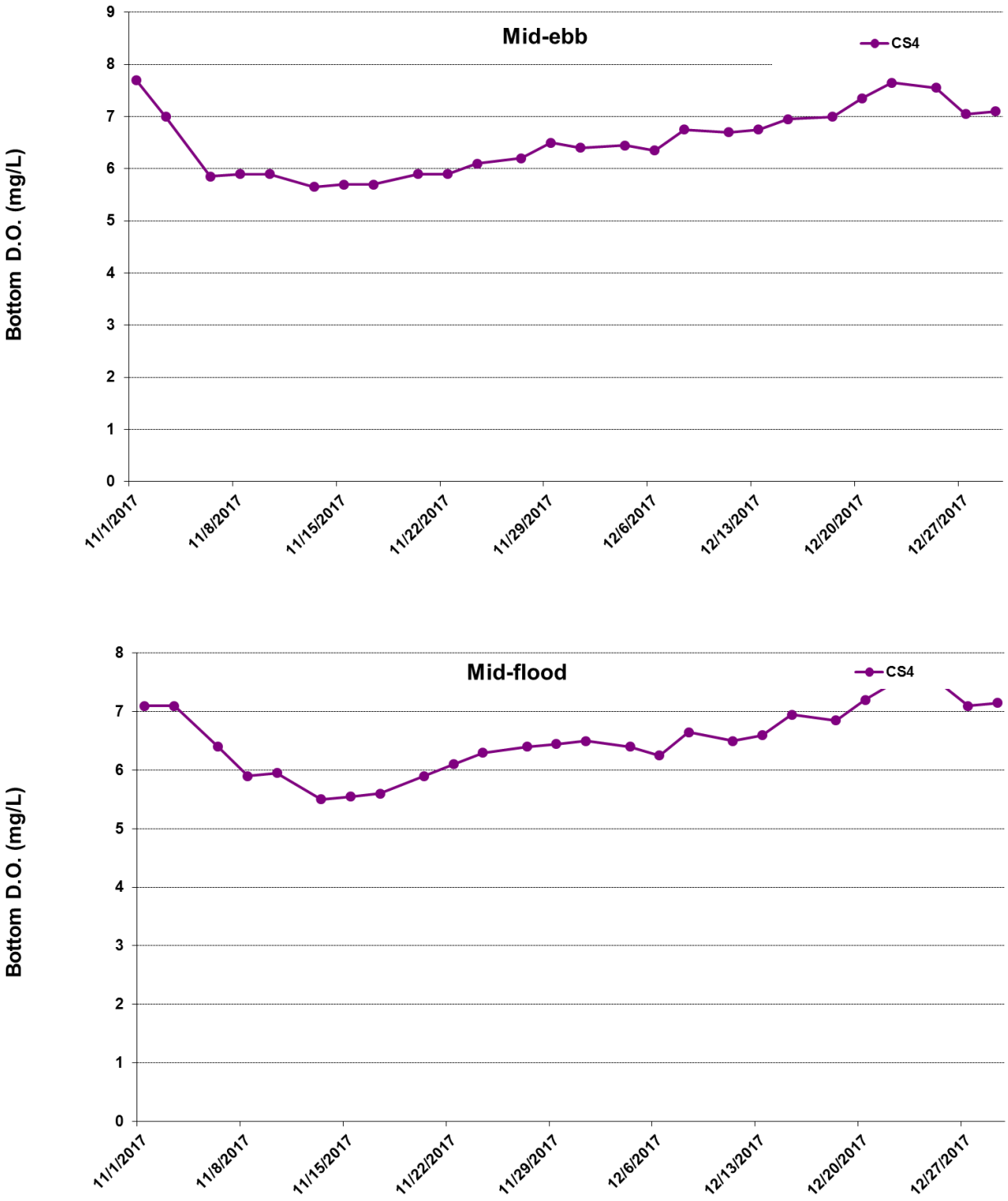
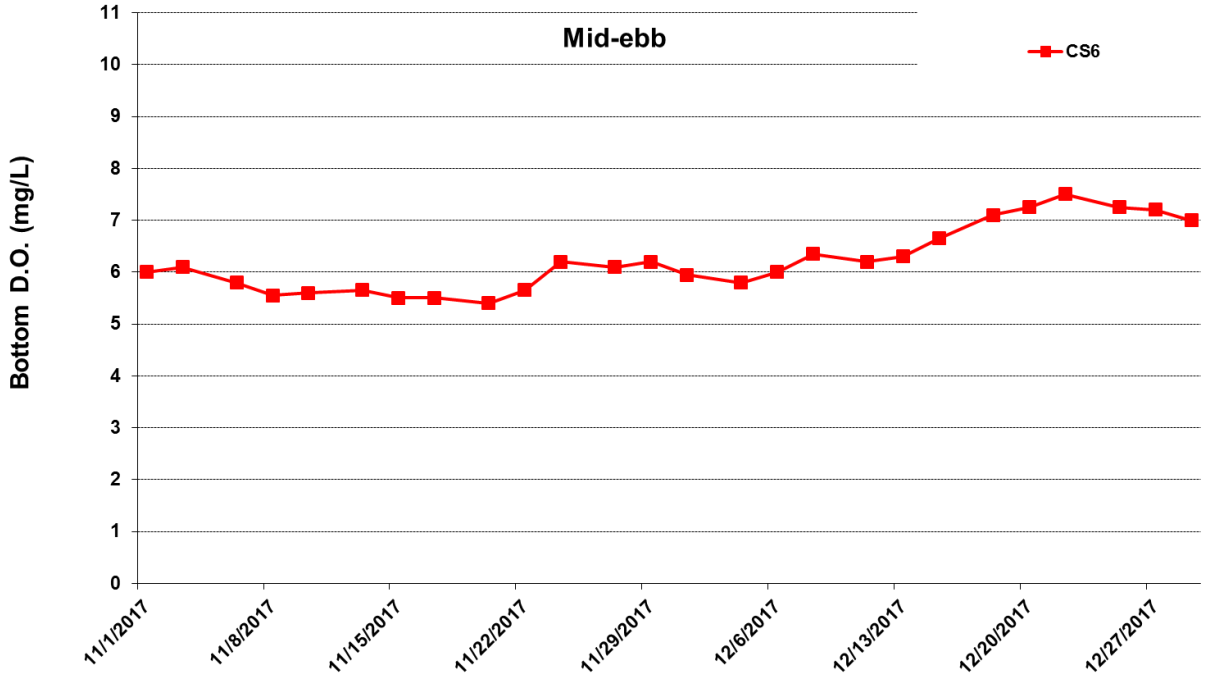


Figure I17 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



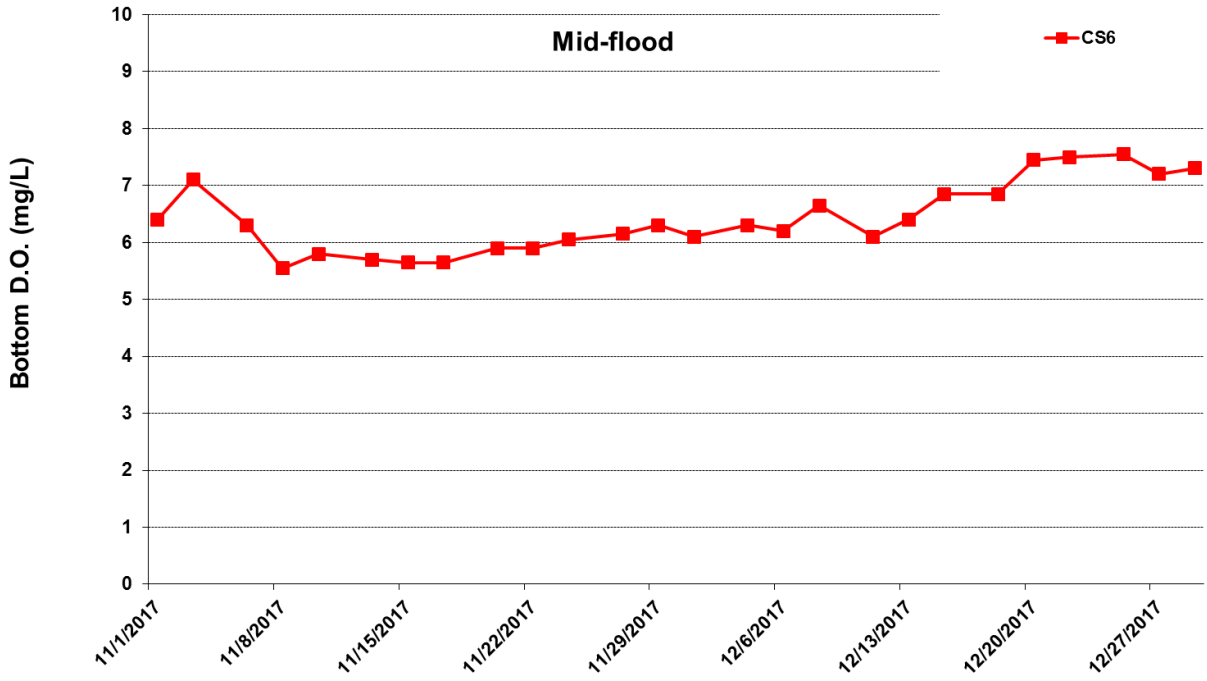


Figure I18 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at CS6. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

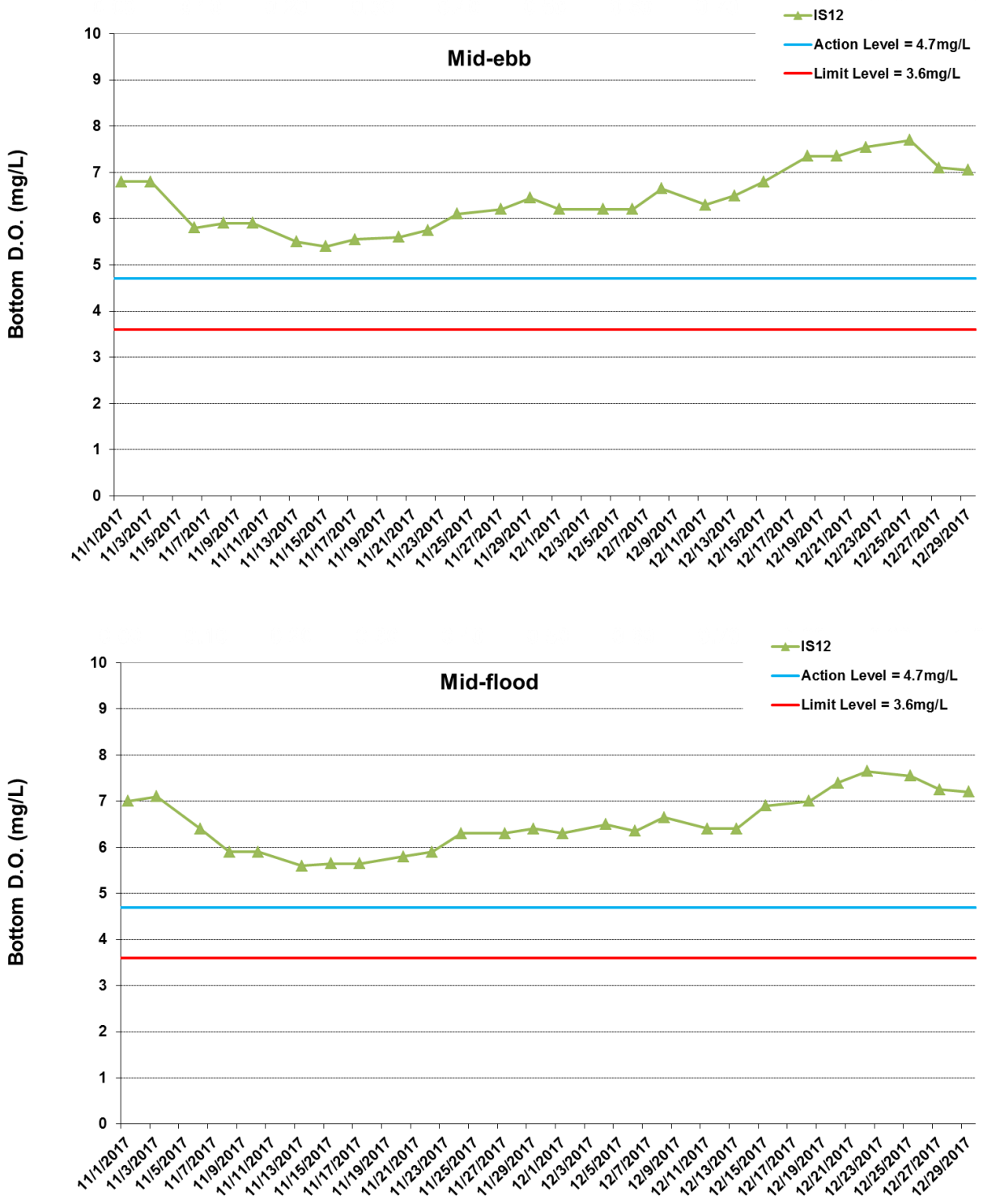


Figure I19 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at IS12. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

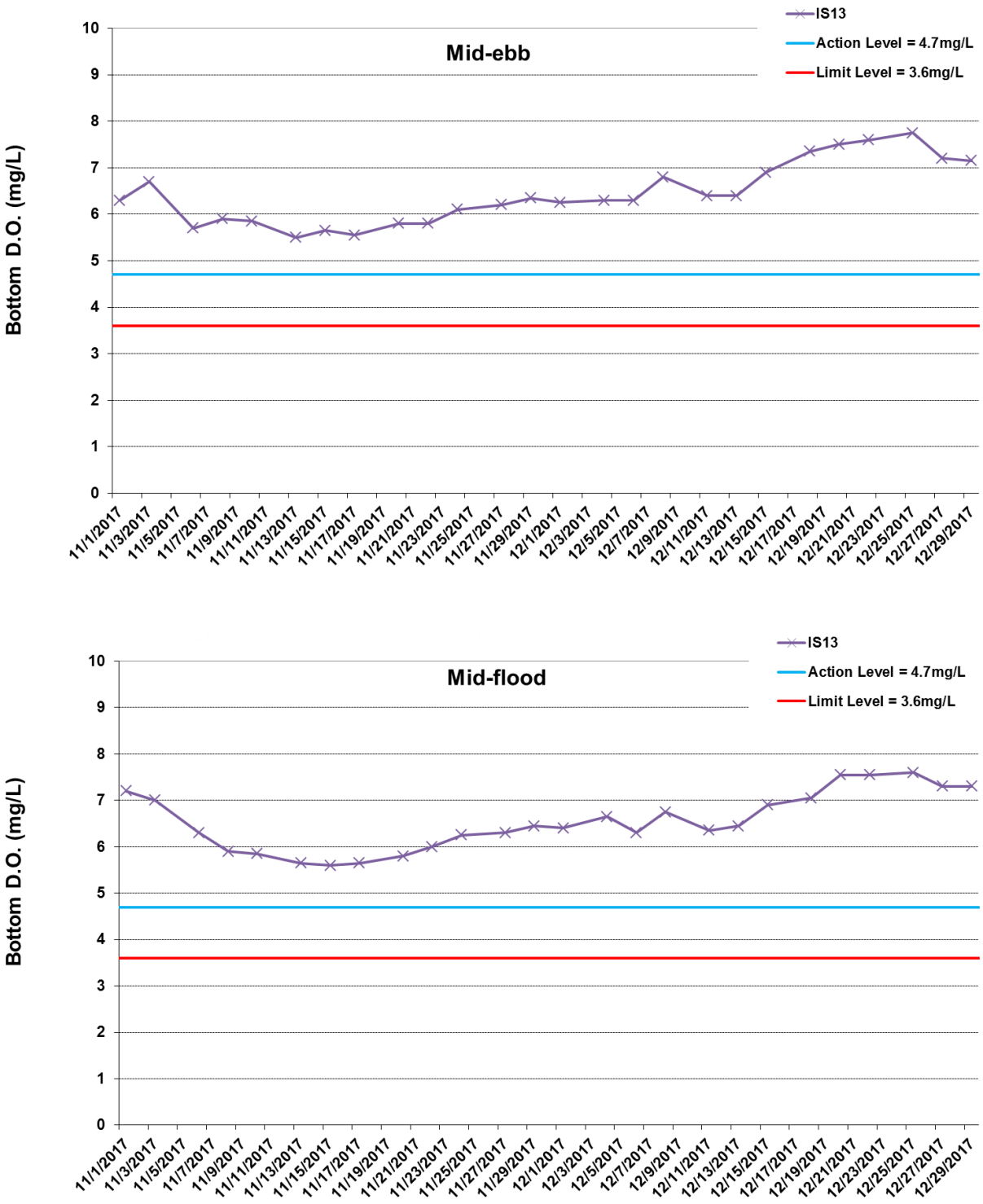
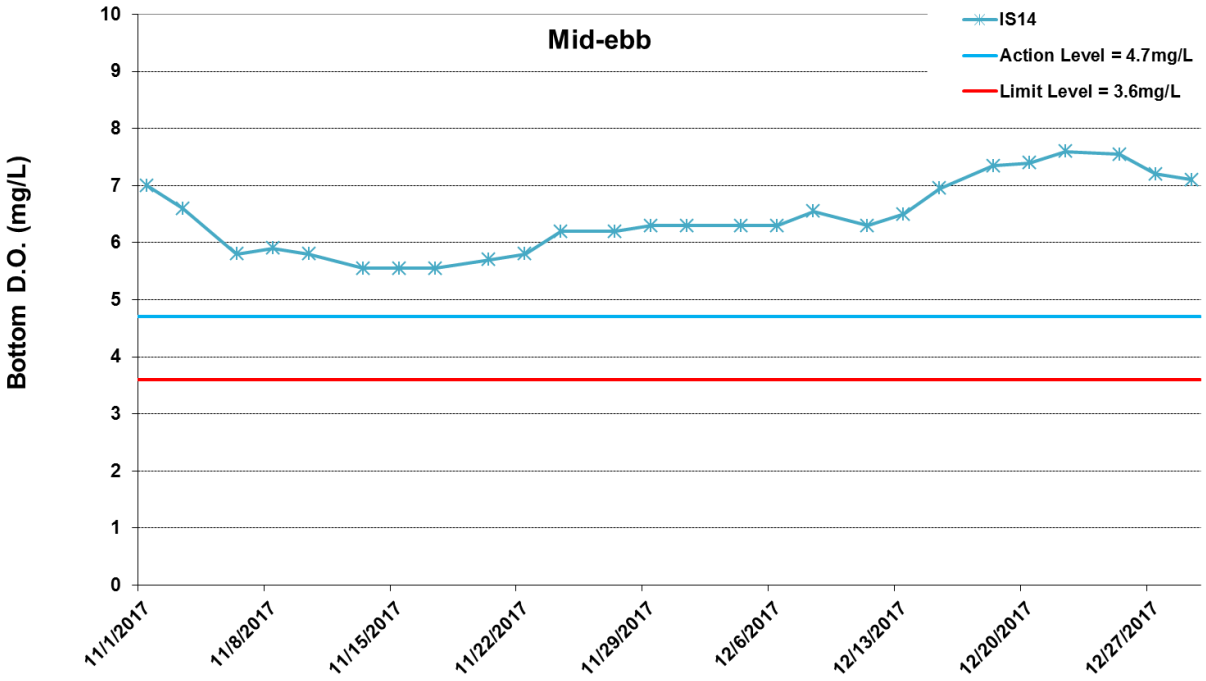


Figure I20 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at IS13. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



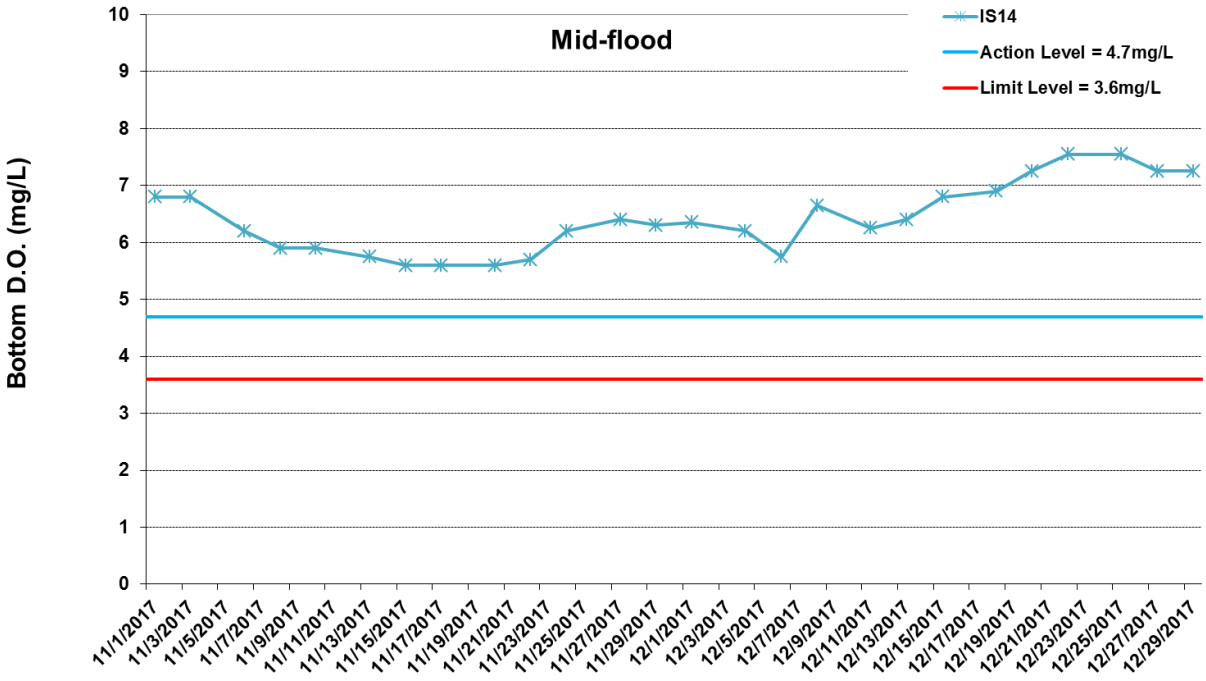
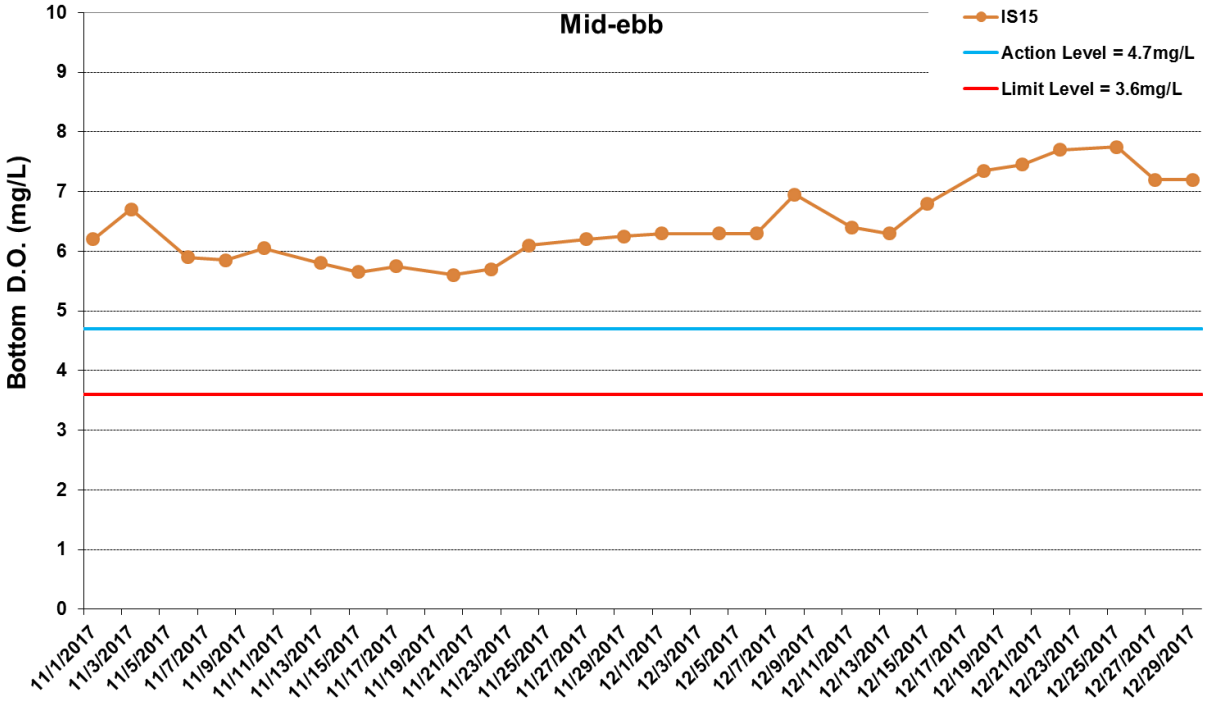


Figure I21 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at IS14. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



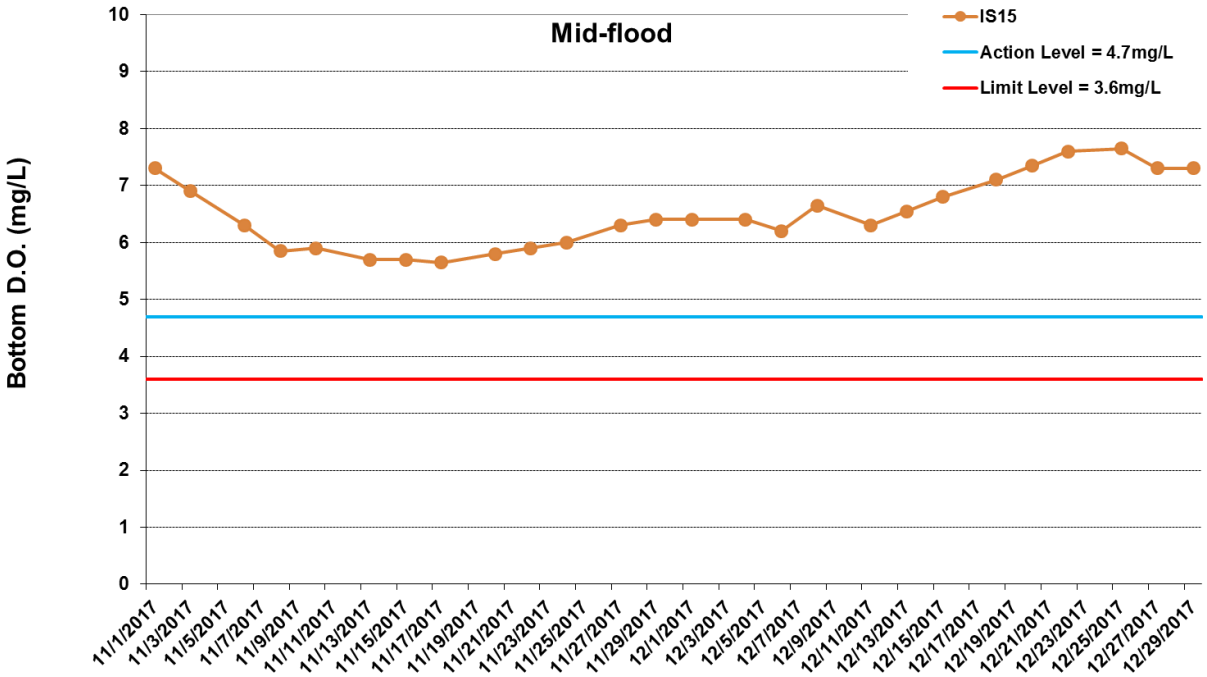
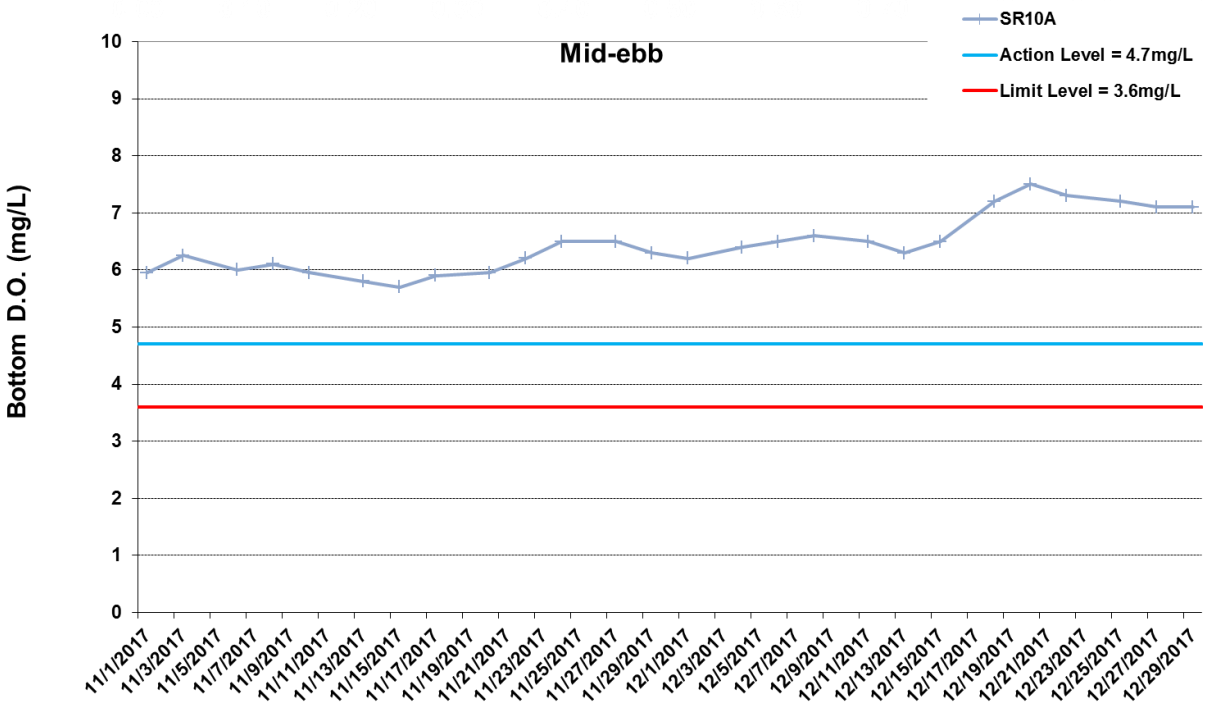


Figure I22 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at IS15. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



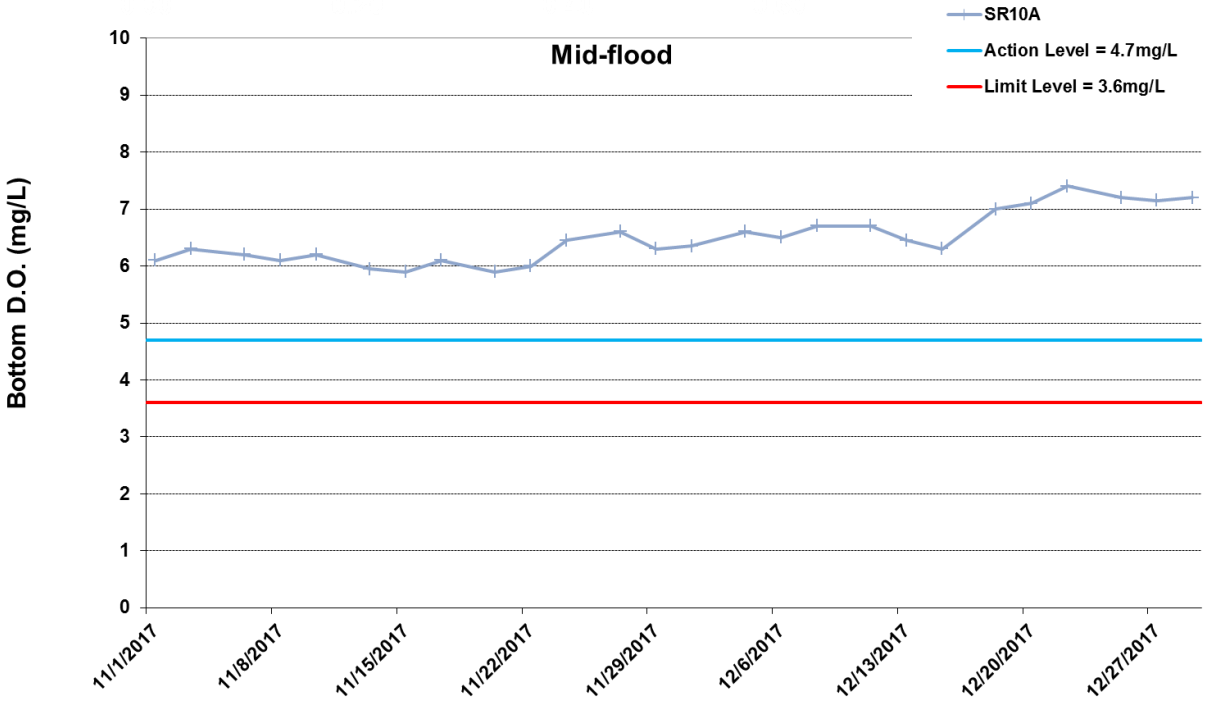
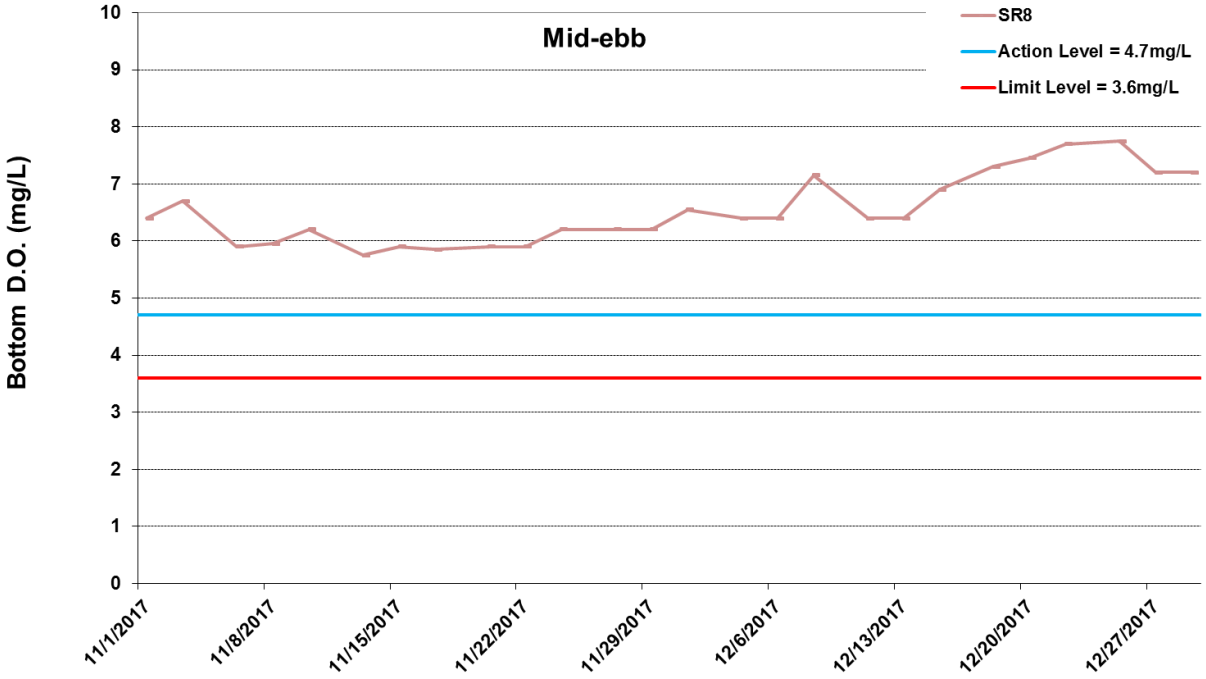


Figure I23 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at SR10A. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



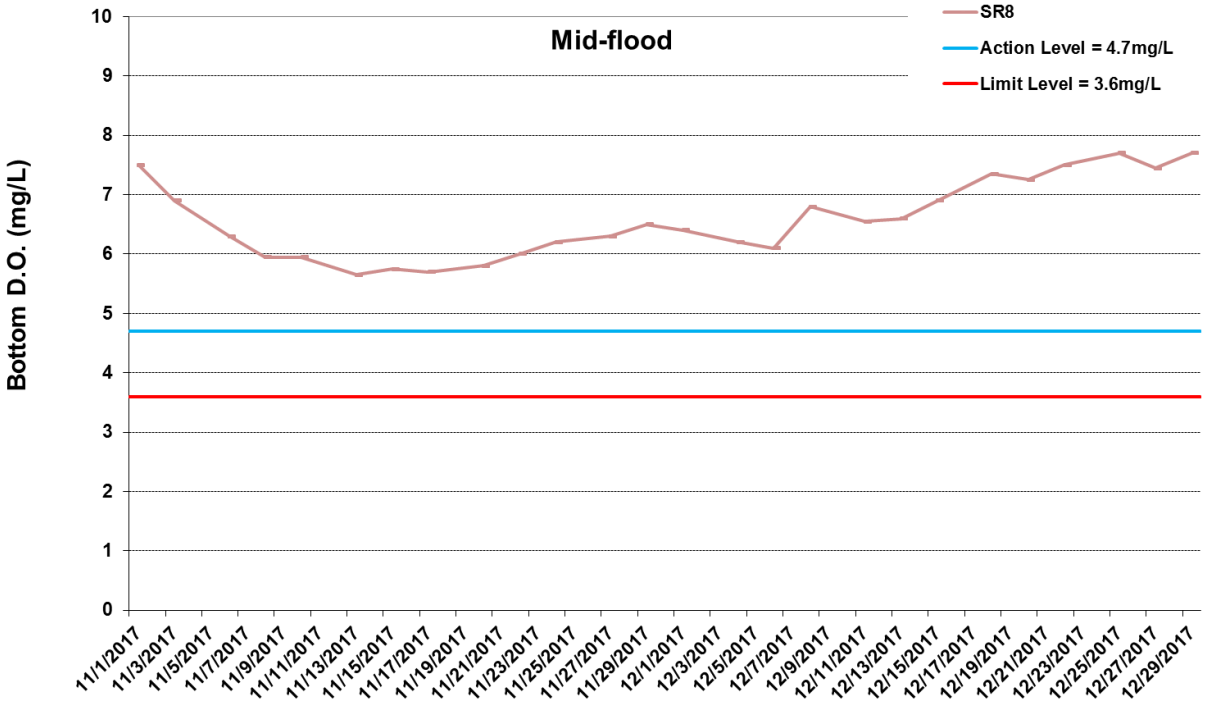
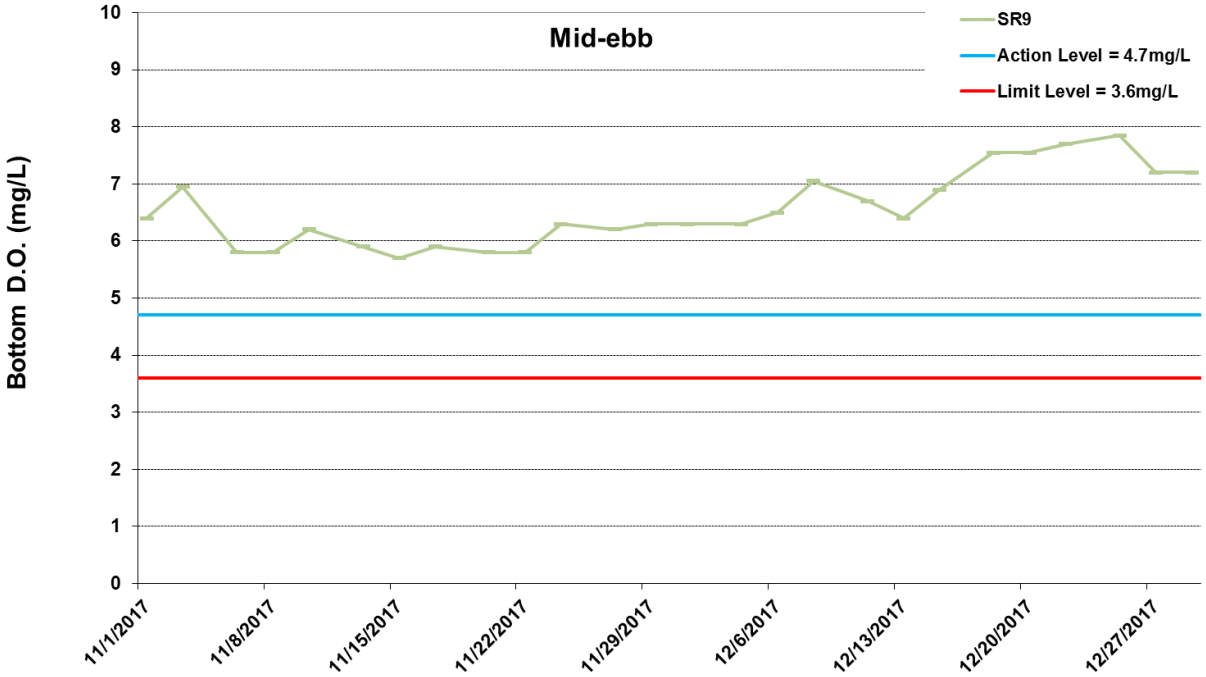


Figure I24 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at SR8. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



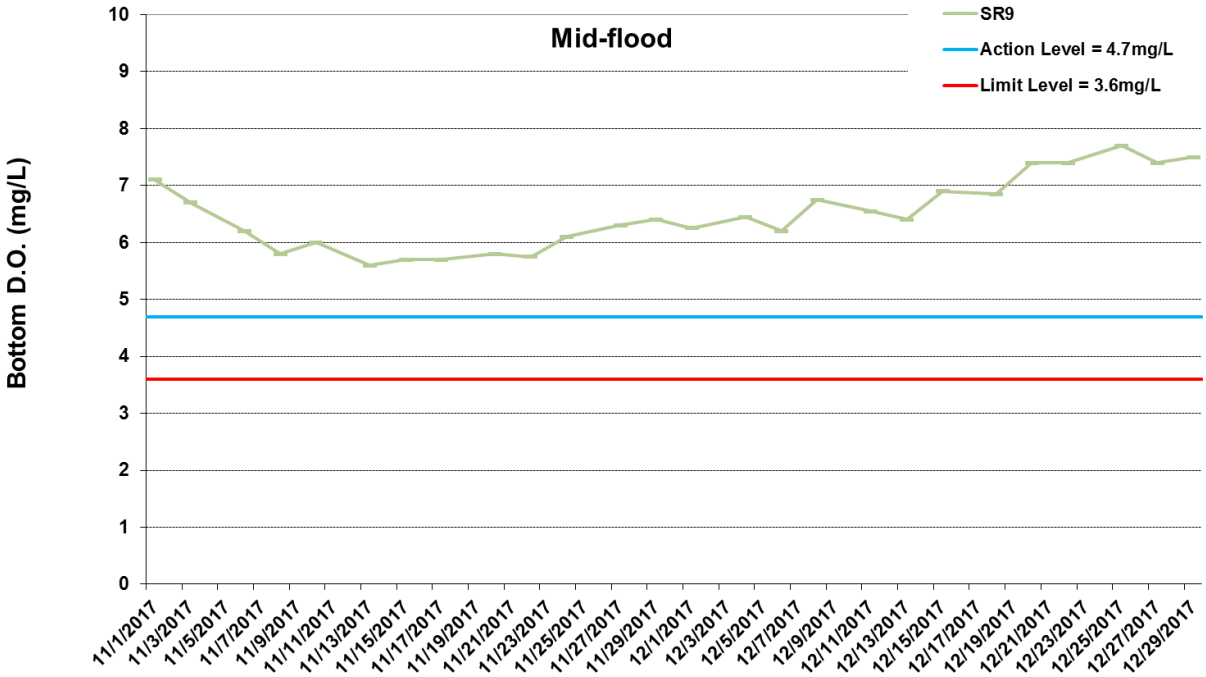
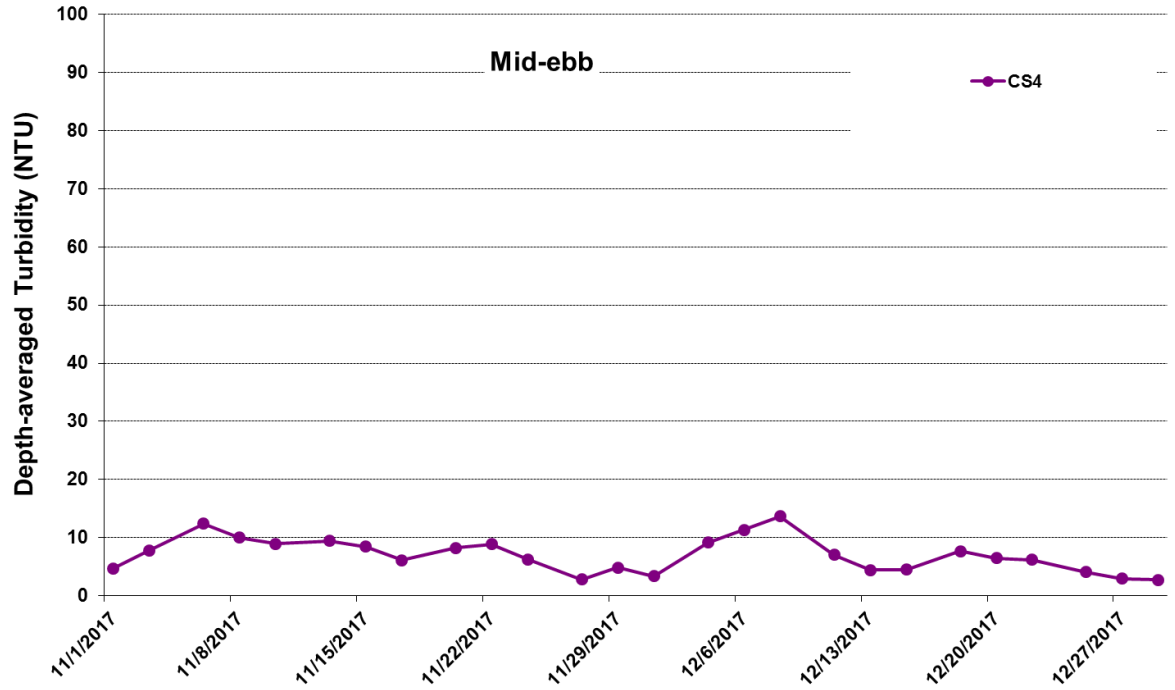


Figure I25 Impact Monitoring – Mean Level of Dissolved Oxygen (mg/L) in bottom water between 1 November 2017 and 31 December 2017 at SR9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



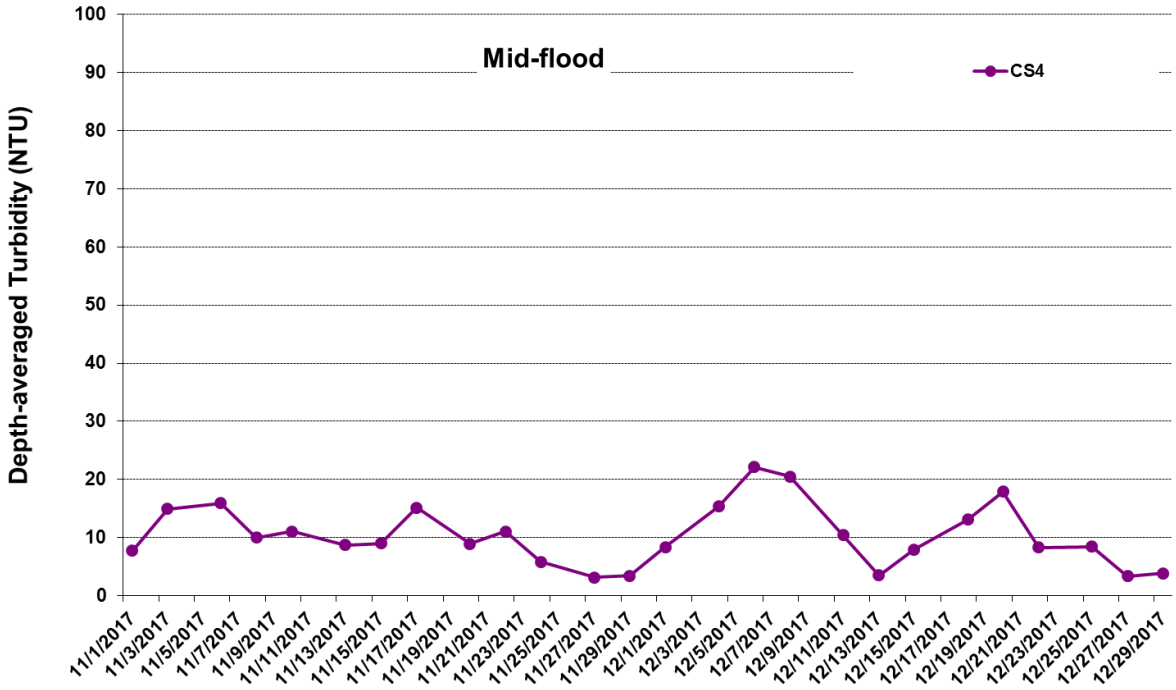
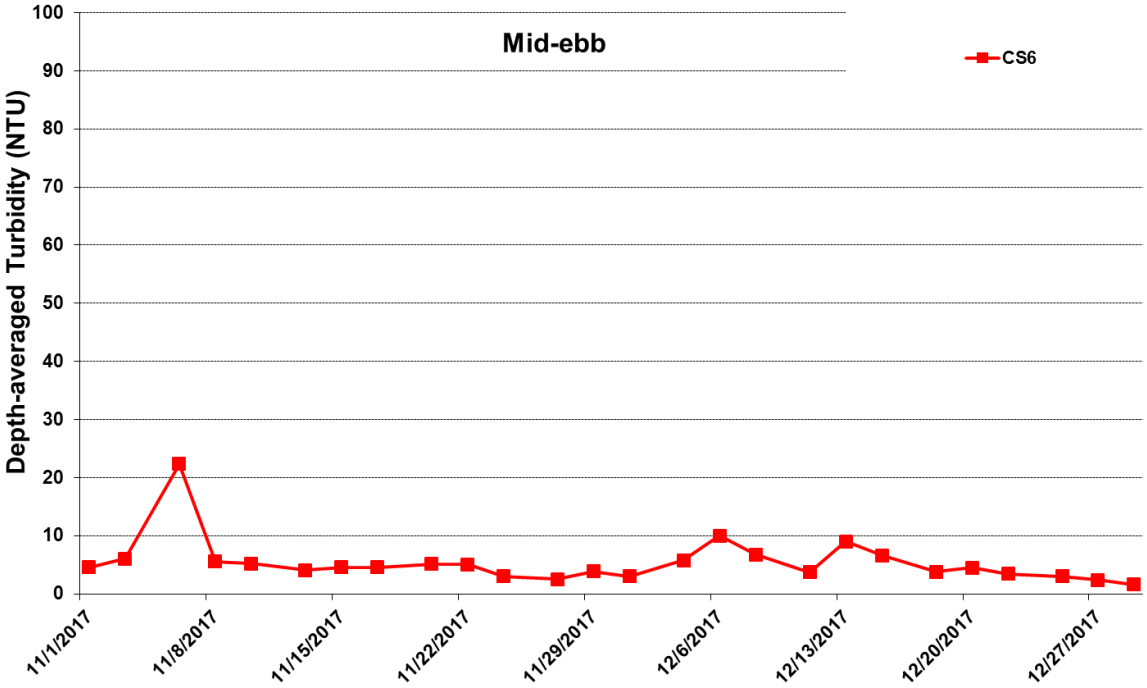


Figure I26 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



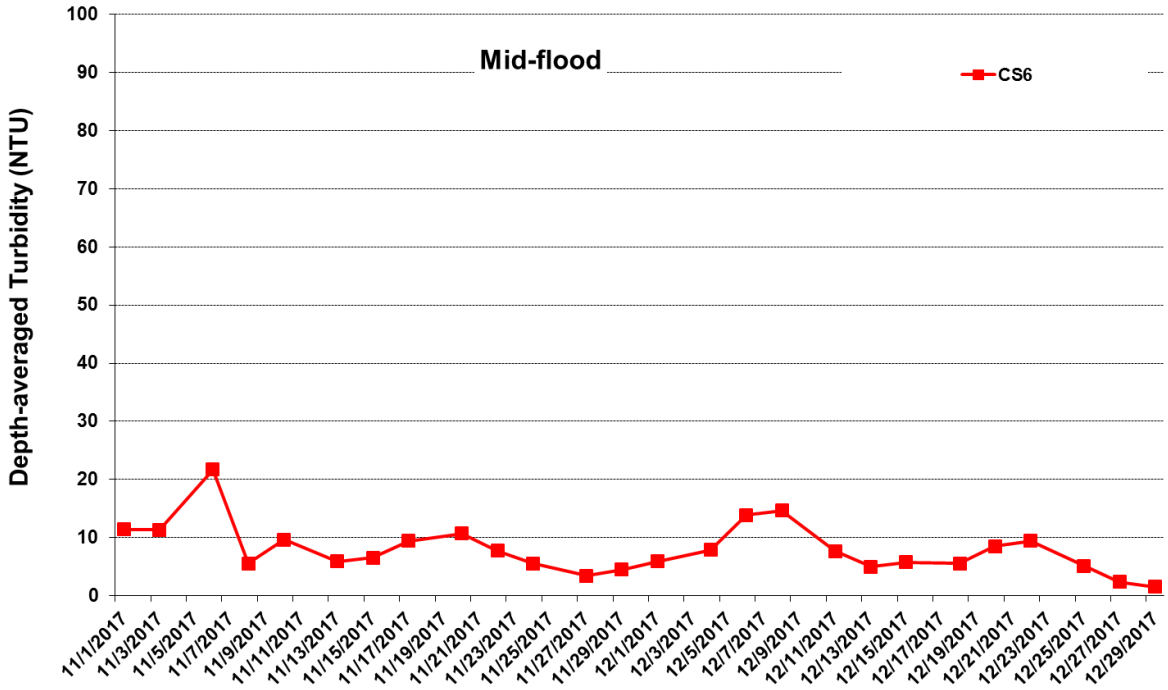
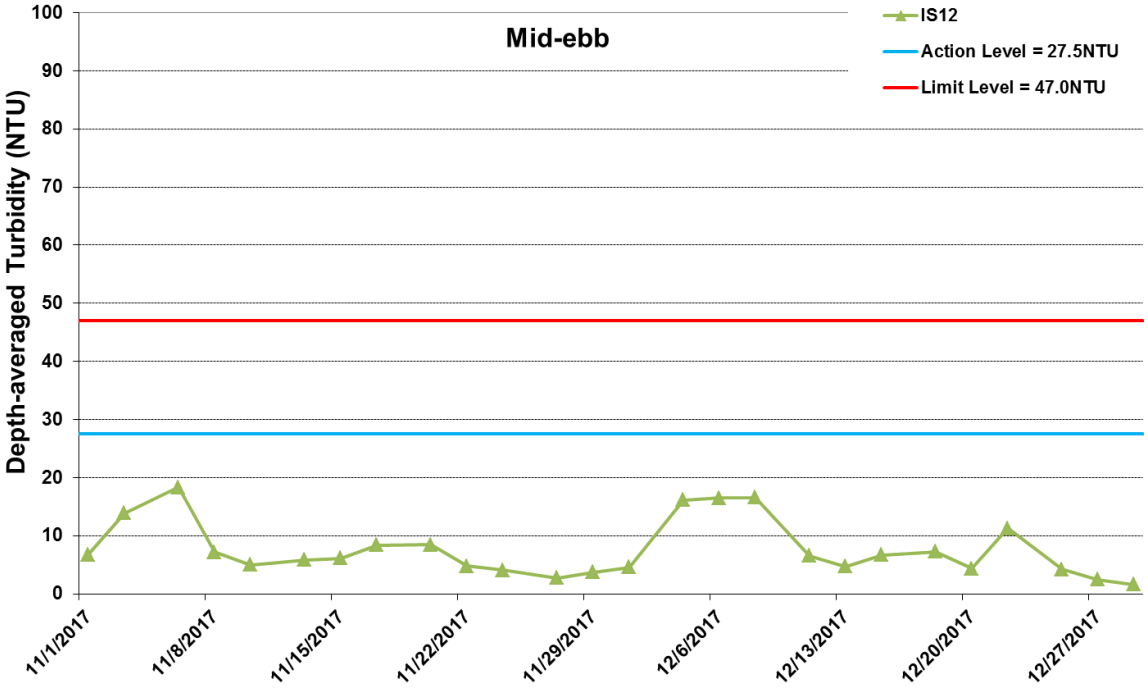


Figure I27 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at CS6. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



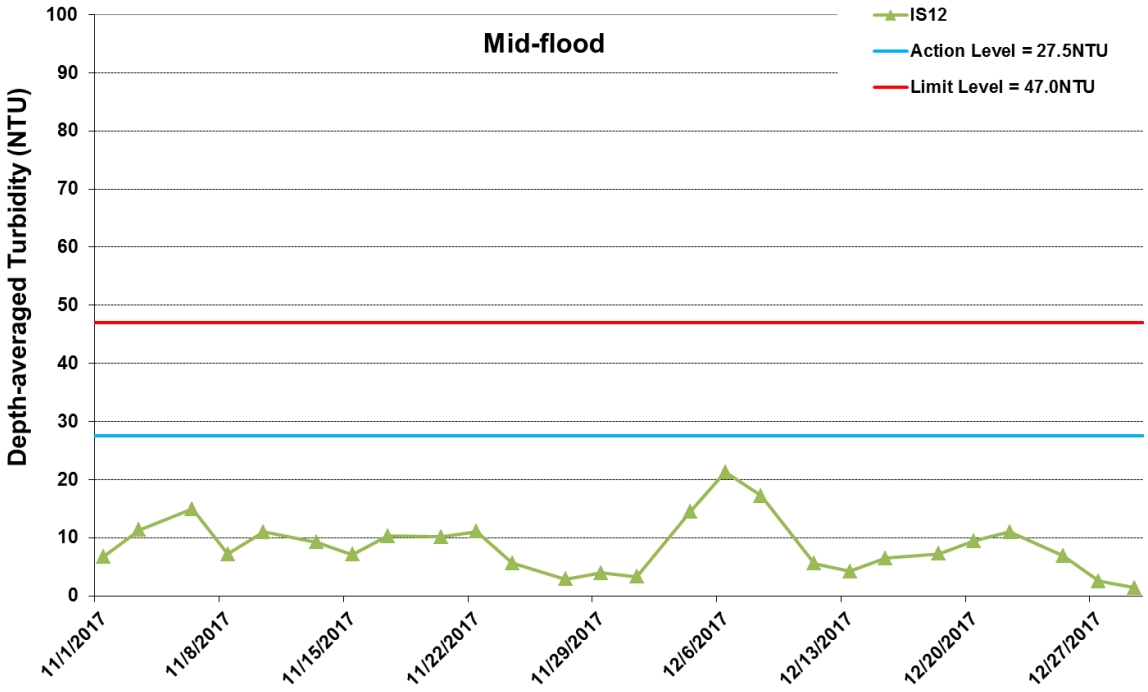
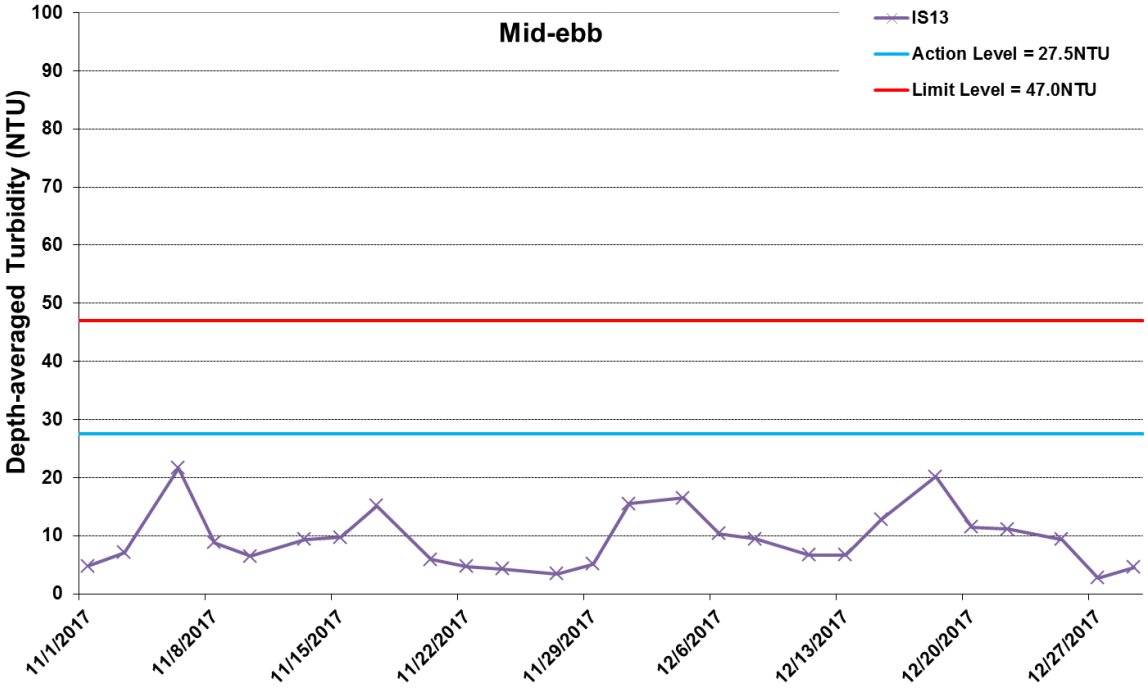


Figure I28 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at IS12. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



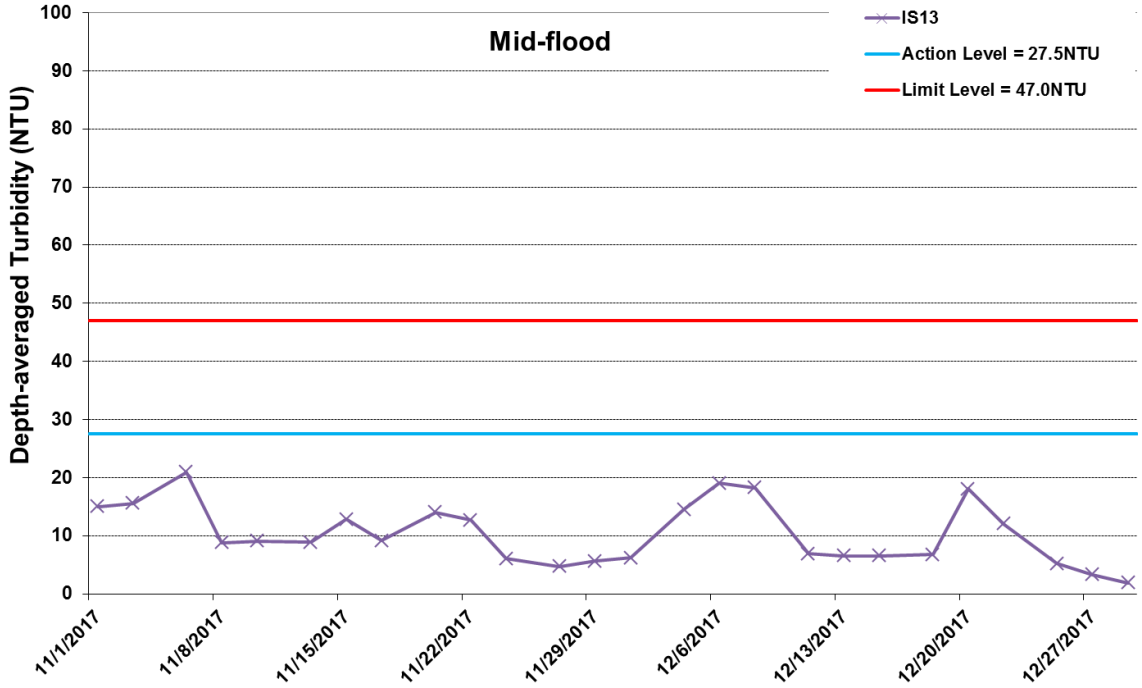
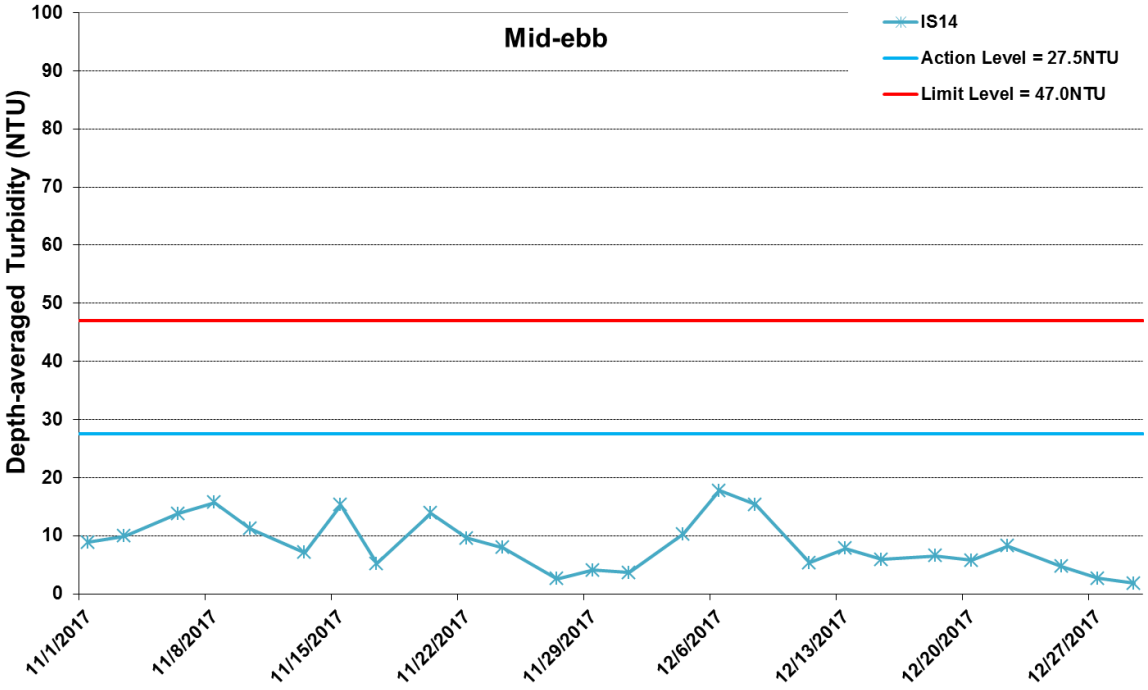


Figure I29 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at IS13. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



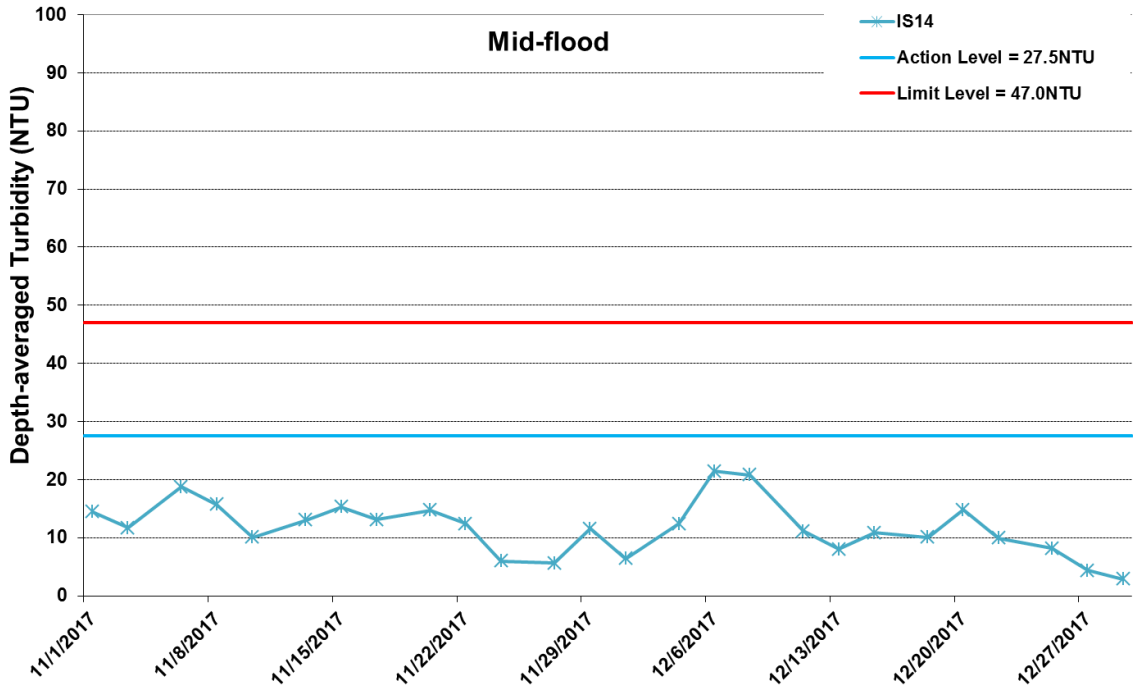
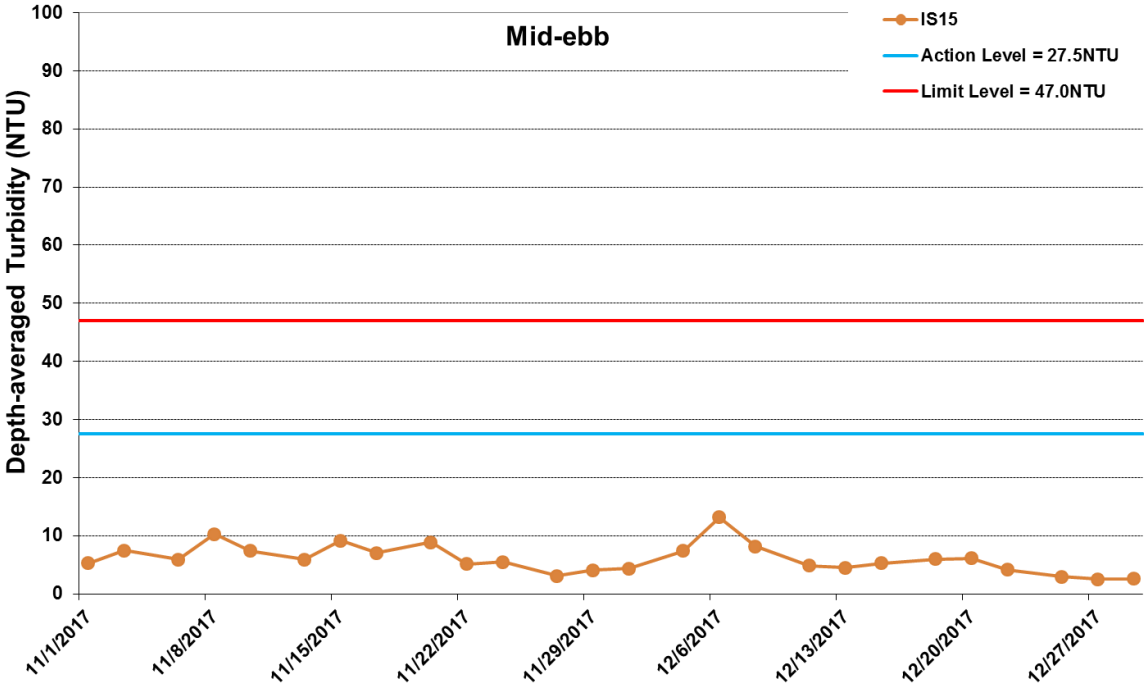


Figure I30 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at IS14. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



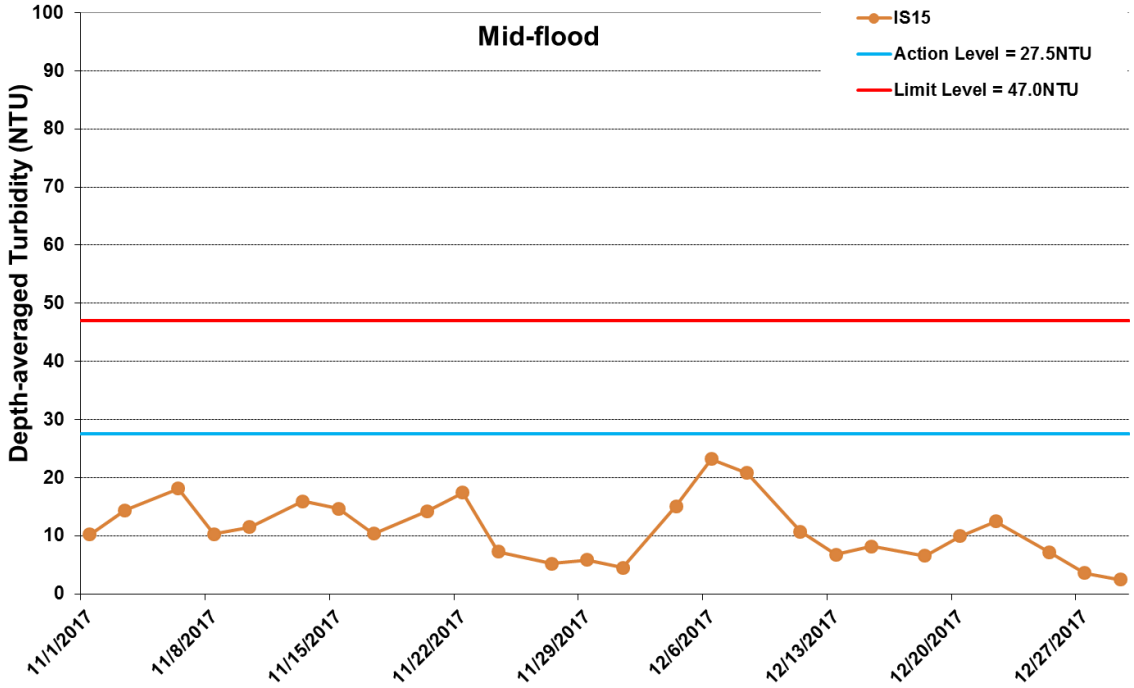
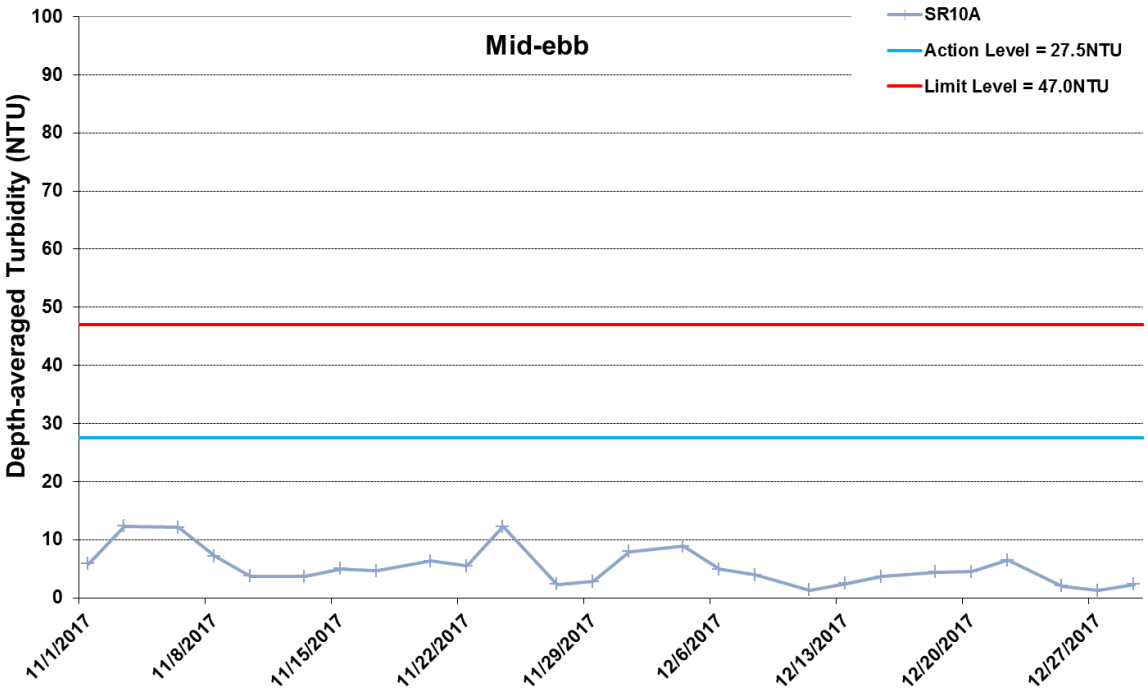


Figure I31 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at IS15. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



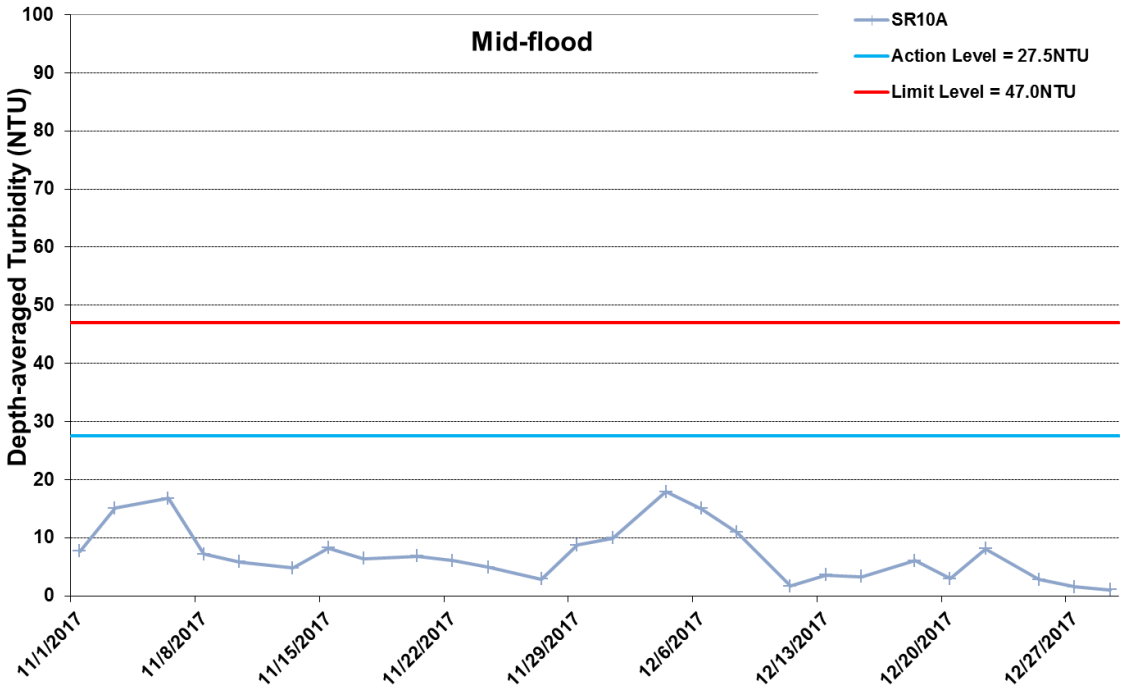
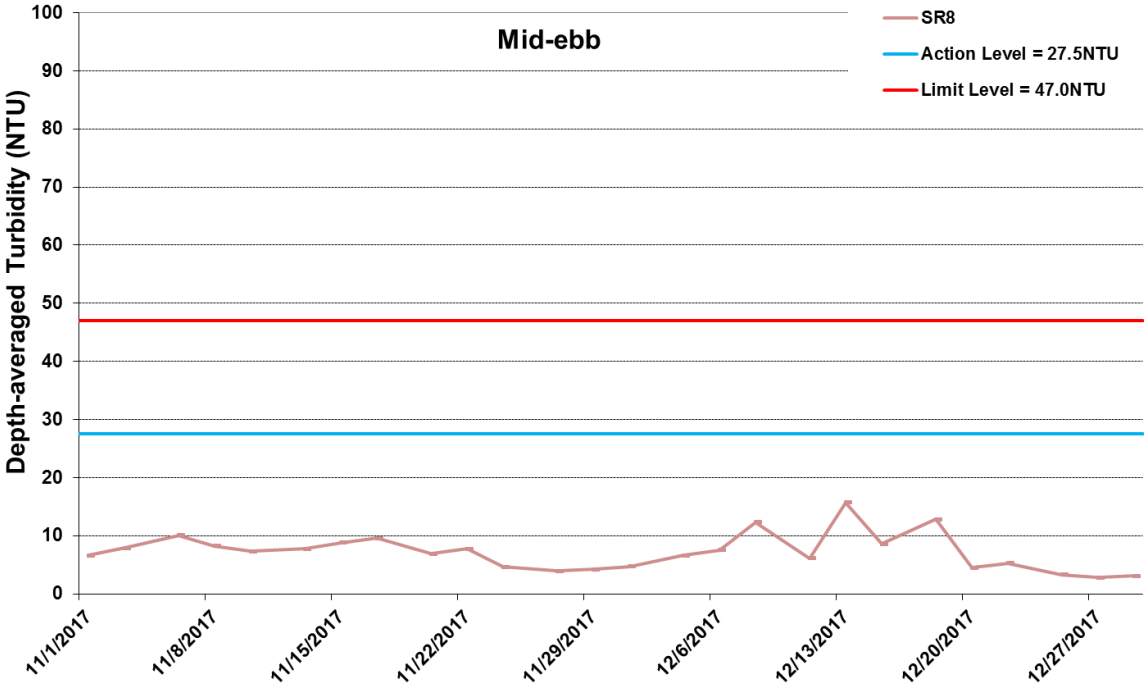


Figure I32 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at SR10A. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



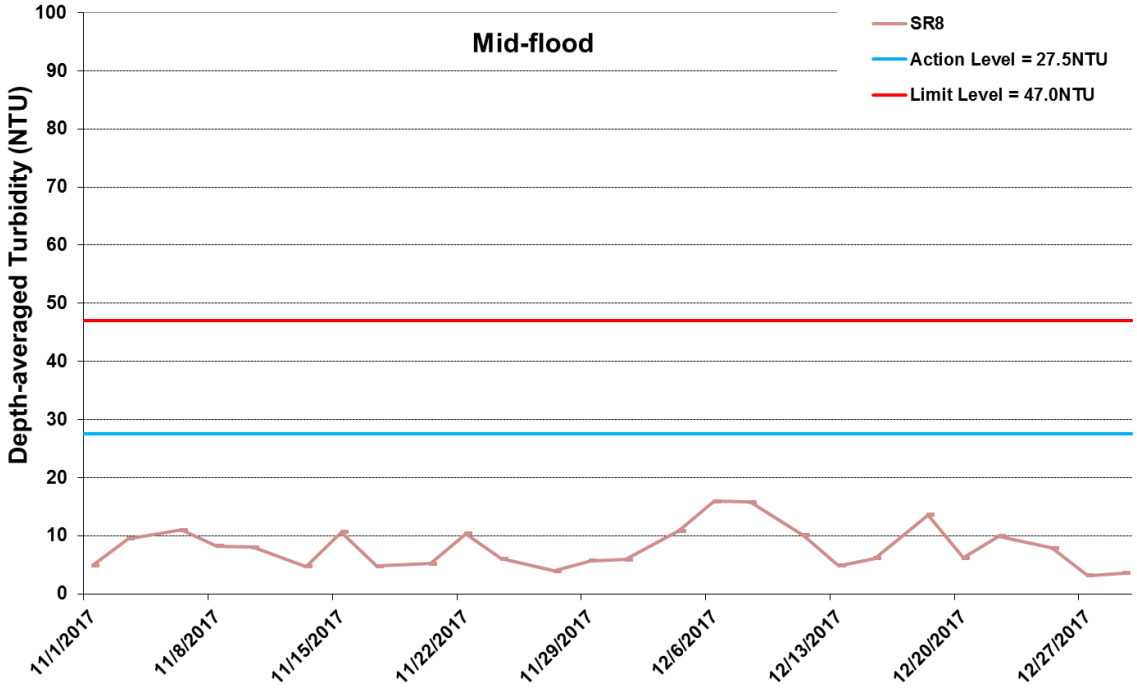
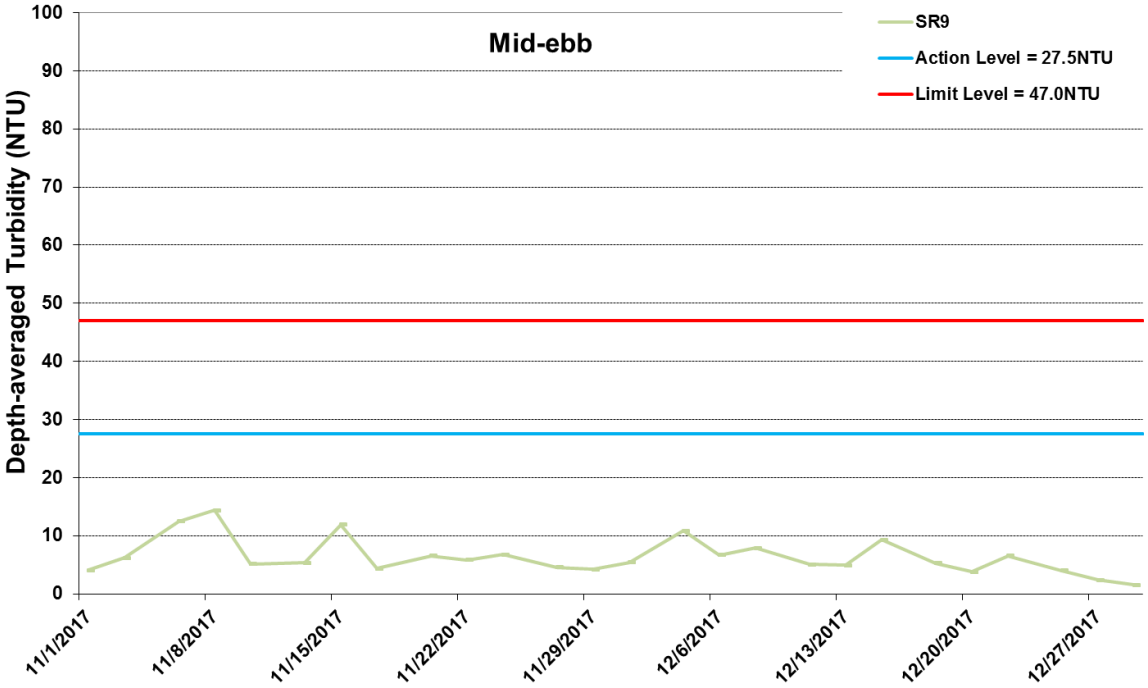


Figure I33 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at SR8. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



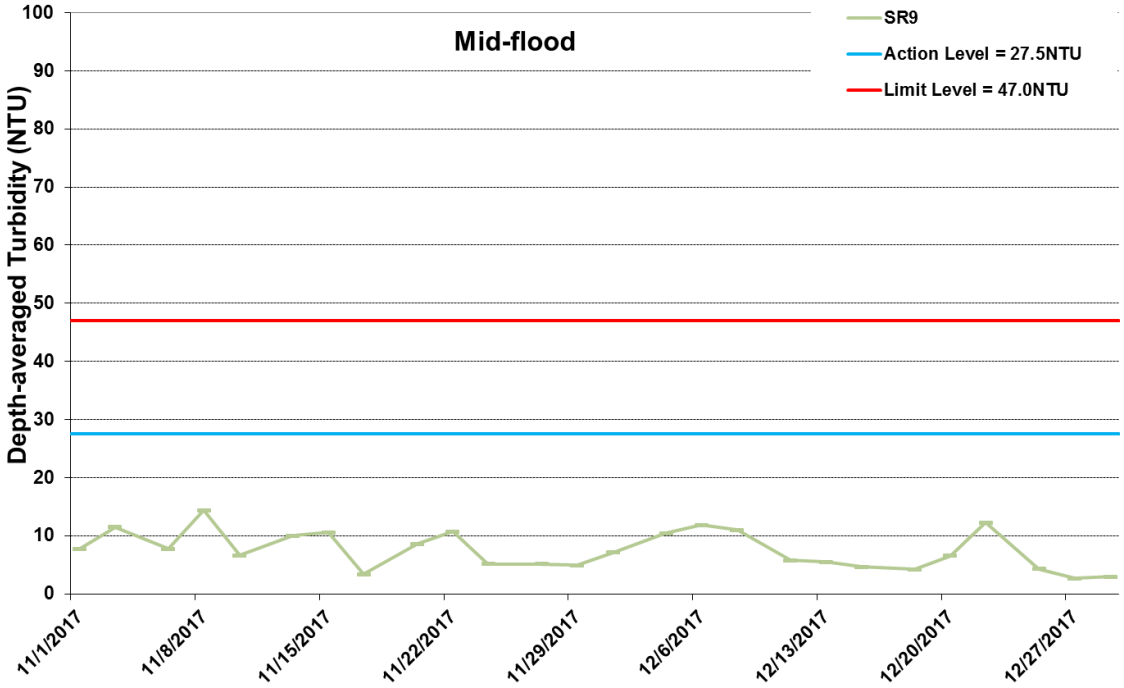
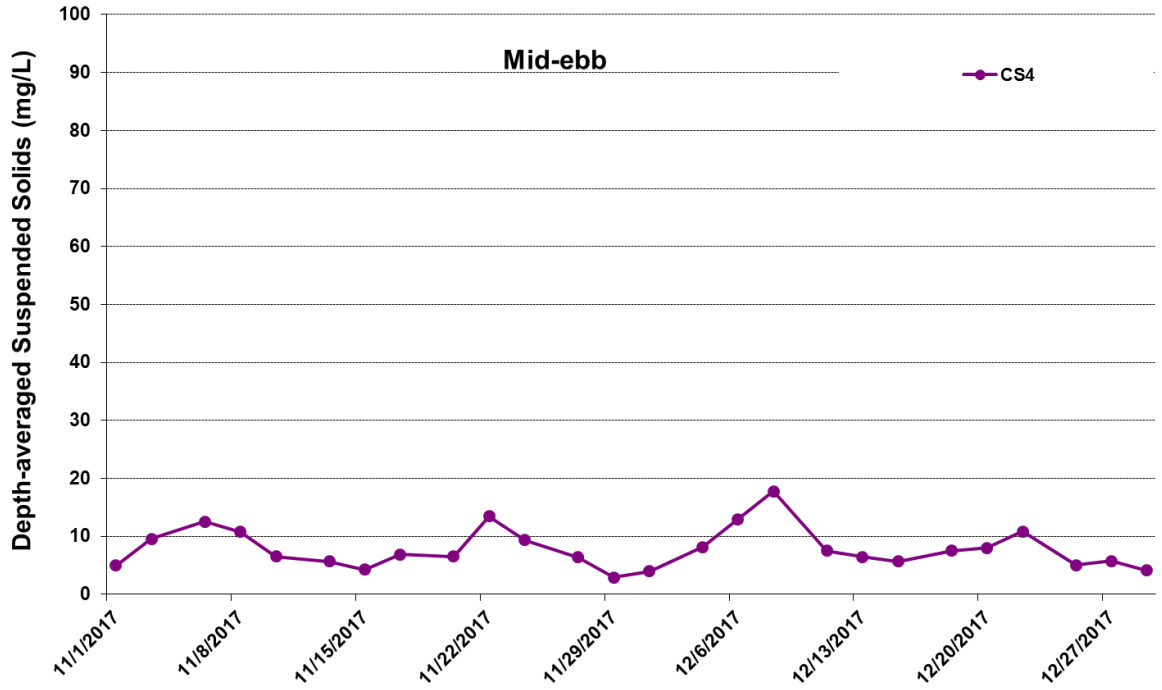


Figure I34 Impact Monitoring – Mean Depth-averaged Level of Turbidity (NTU) between 1 November 2017 and 31 December 2017 at SR9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



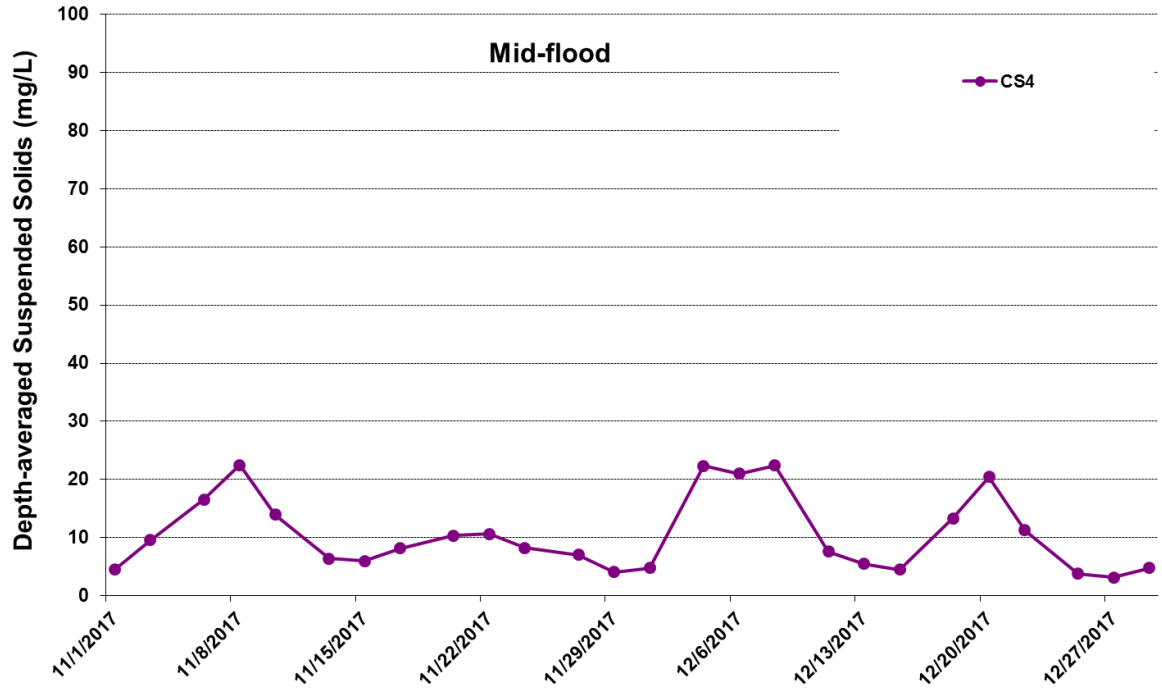
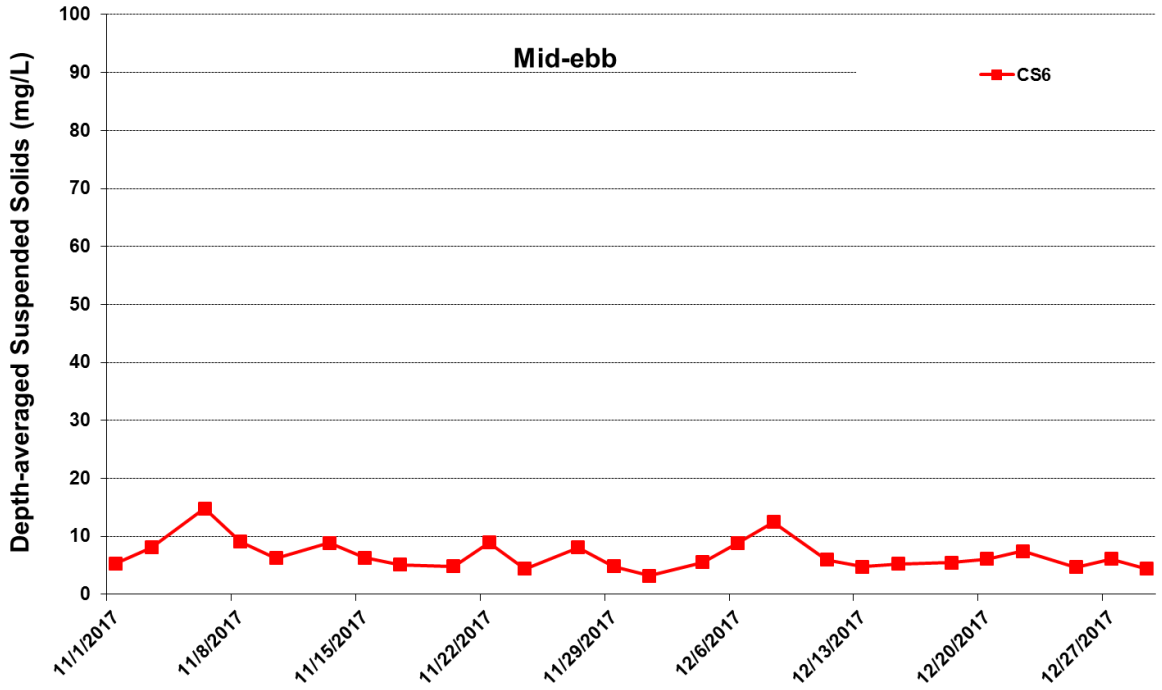


Figure I35 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at CS4. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



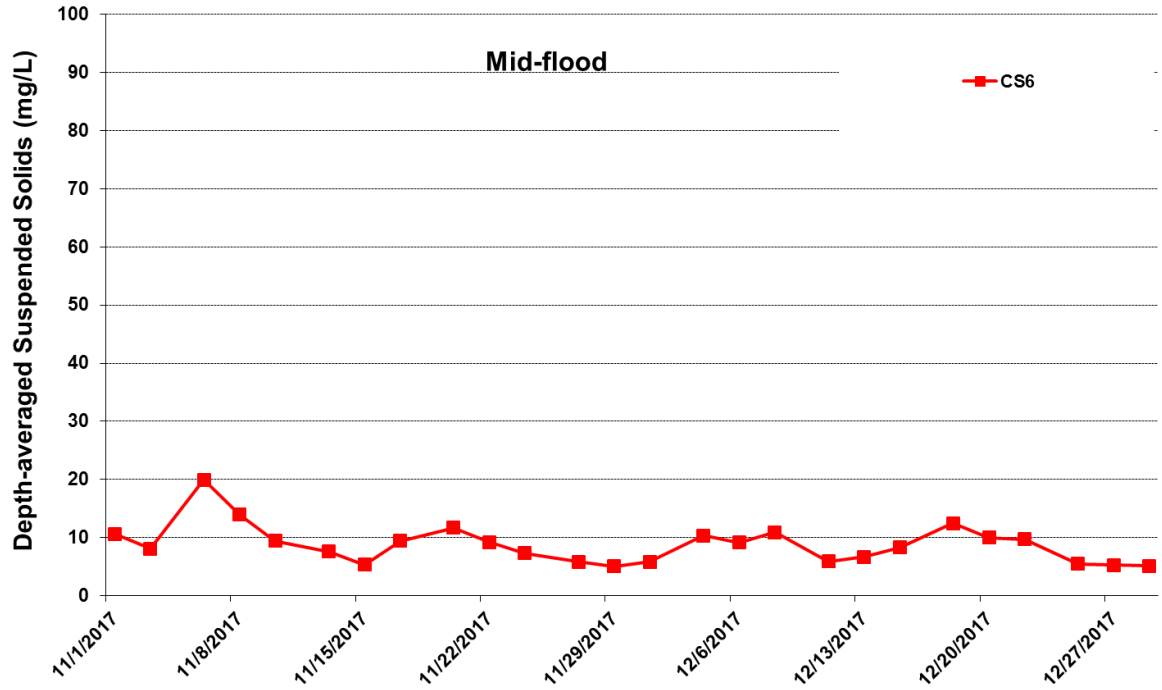
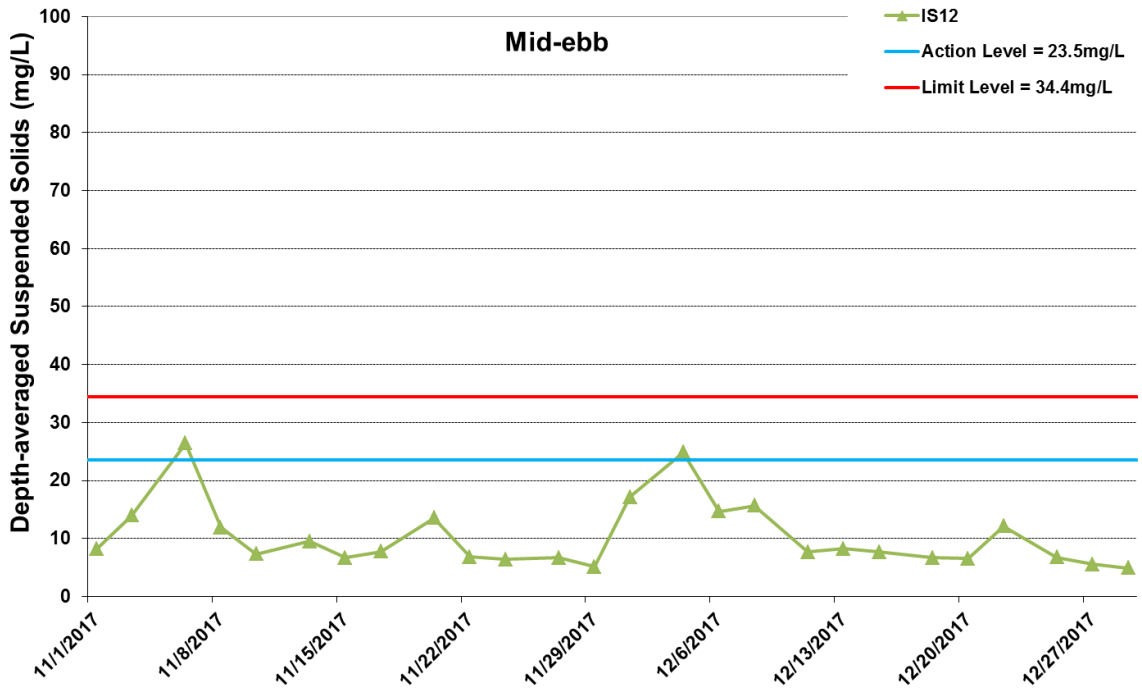


Figure I36 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at CS6. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



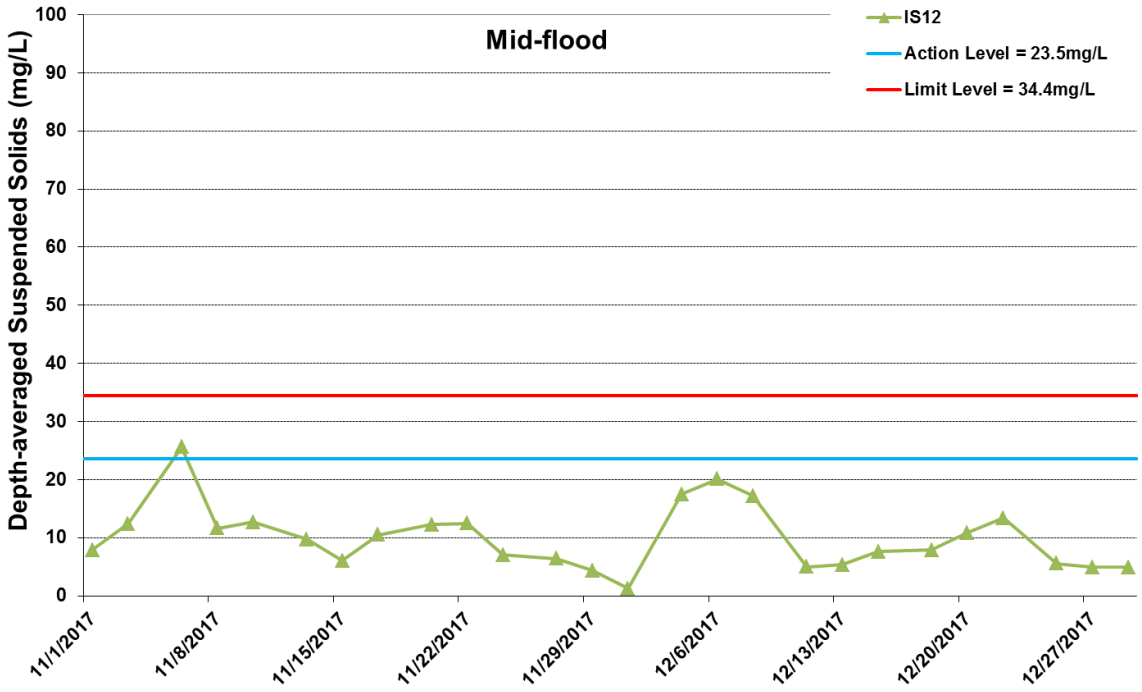
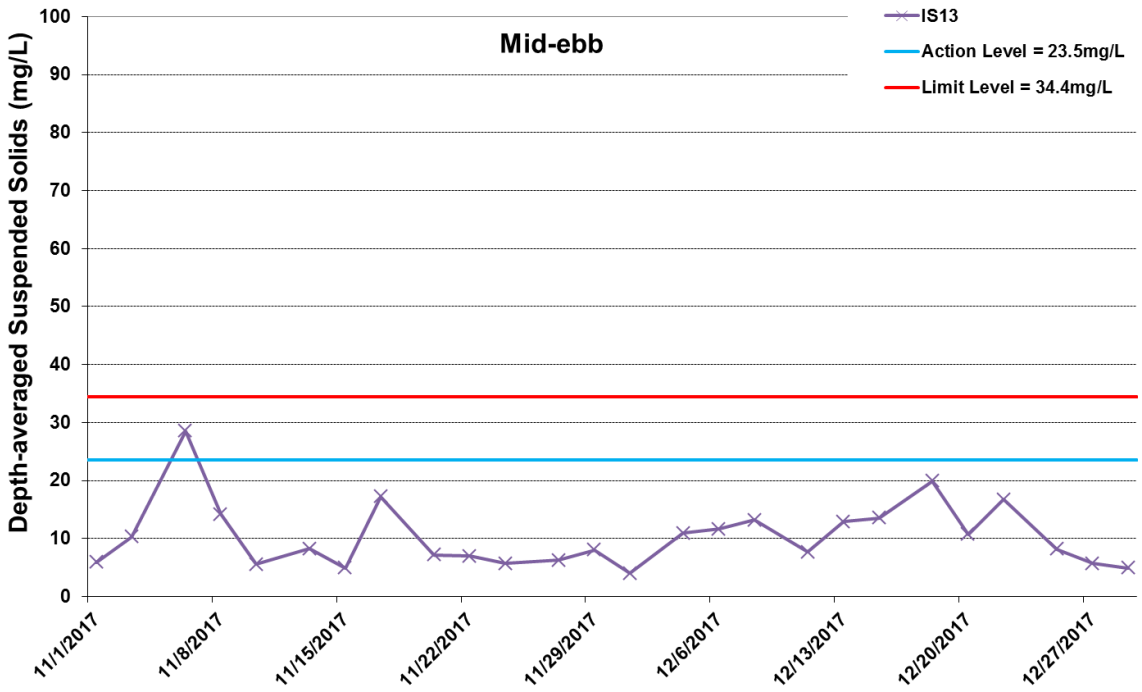


Figure I37 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at IS12. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



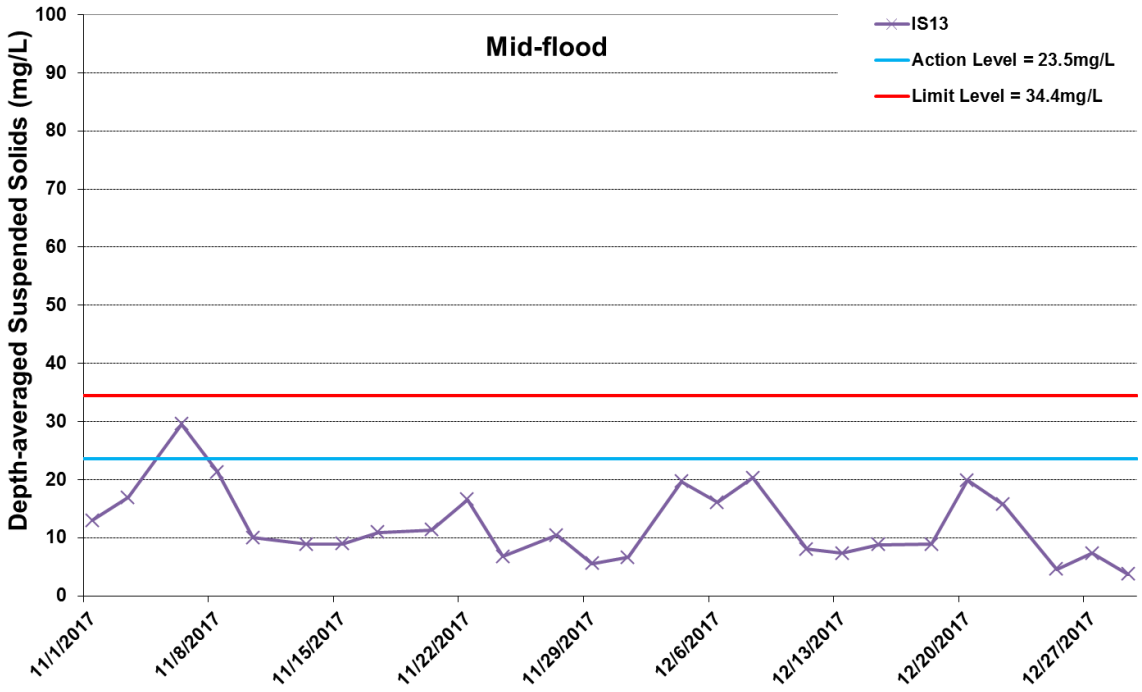
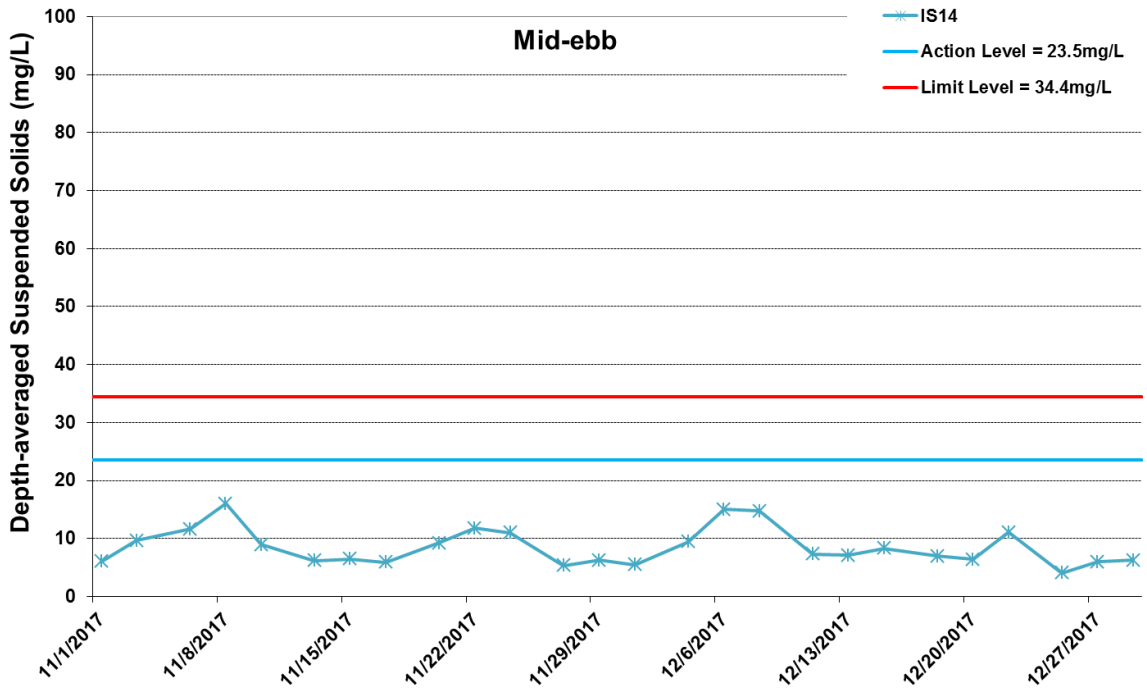


Figure I38 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at IS13. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



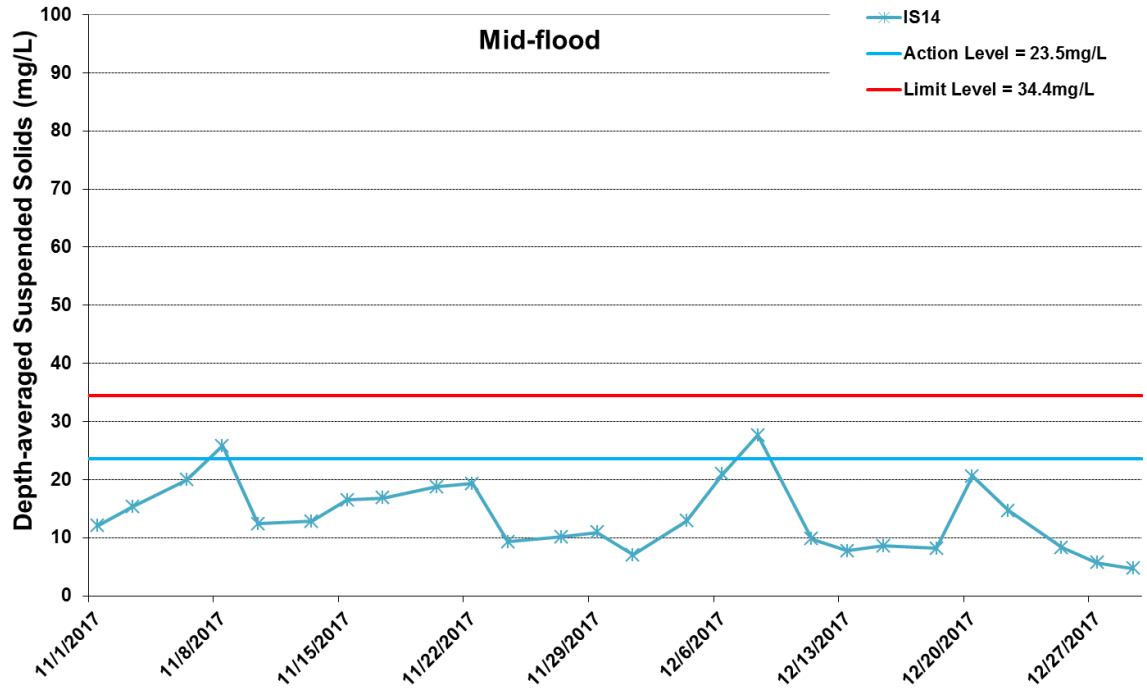
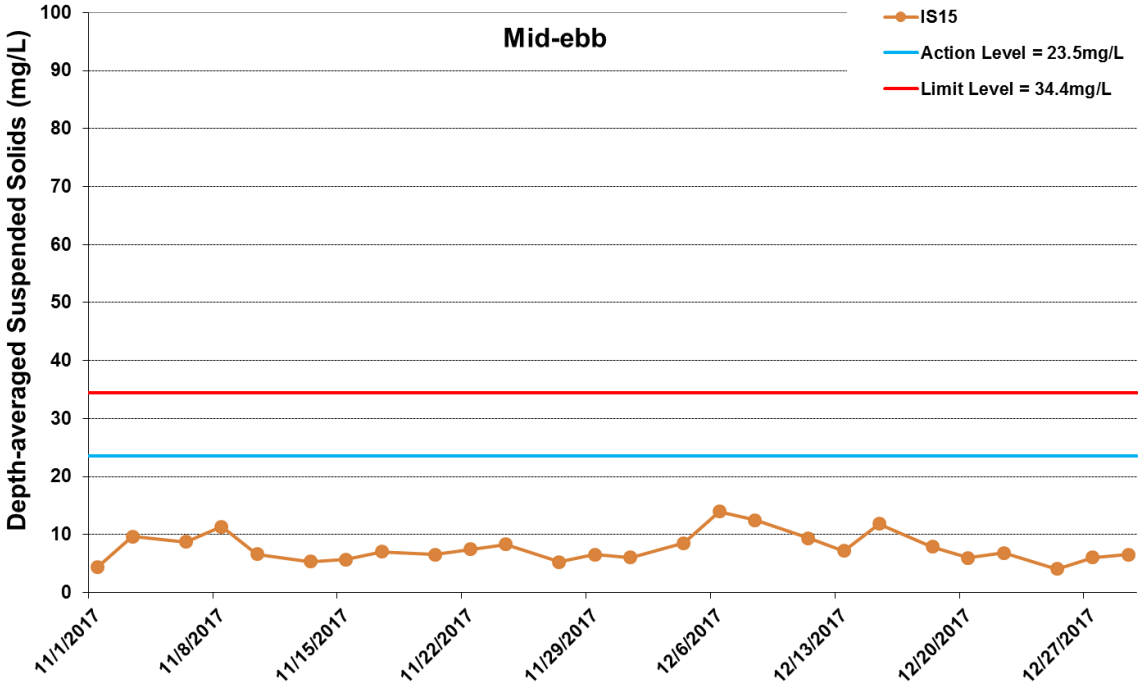


Figure I39 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at IS14. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



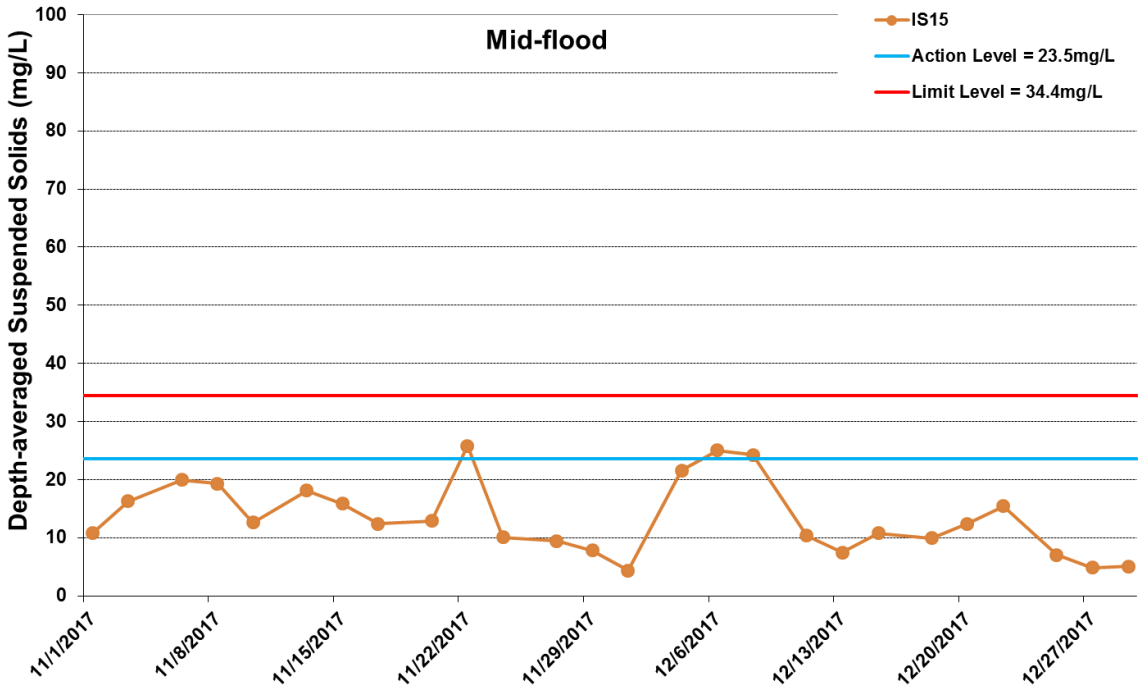
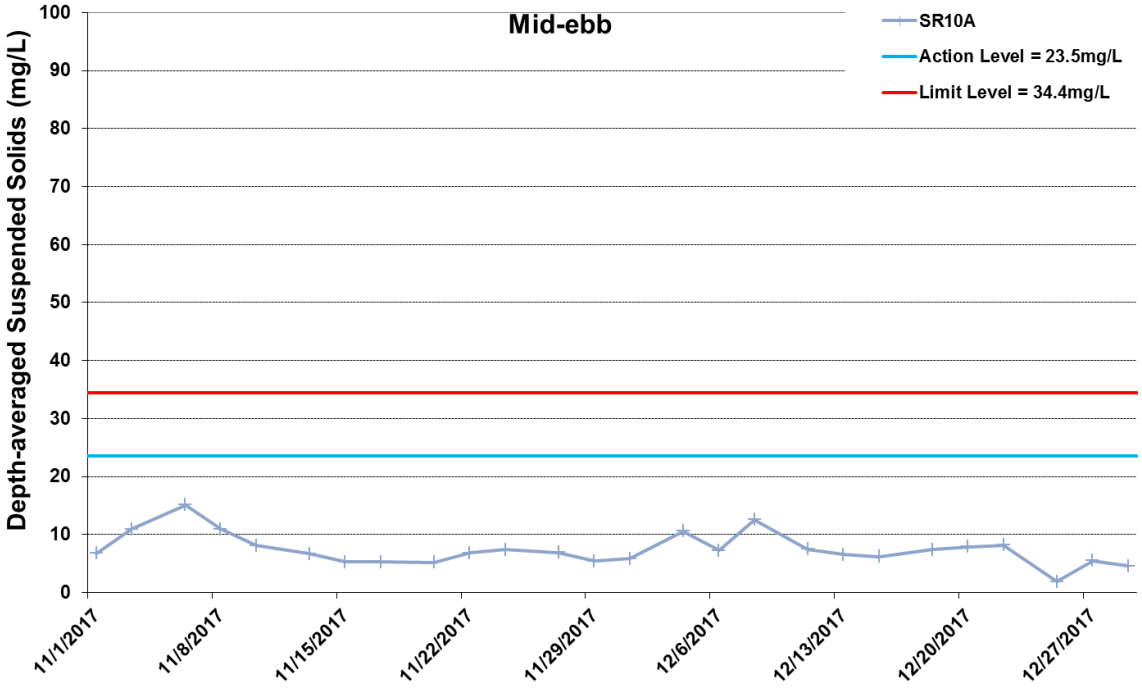


Figure I40 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at IS15. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



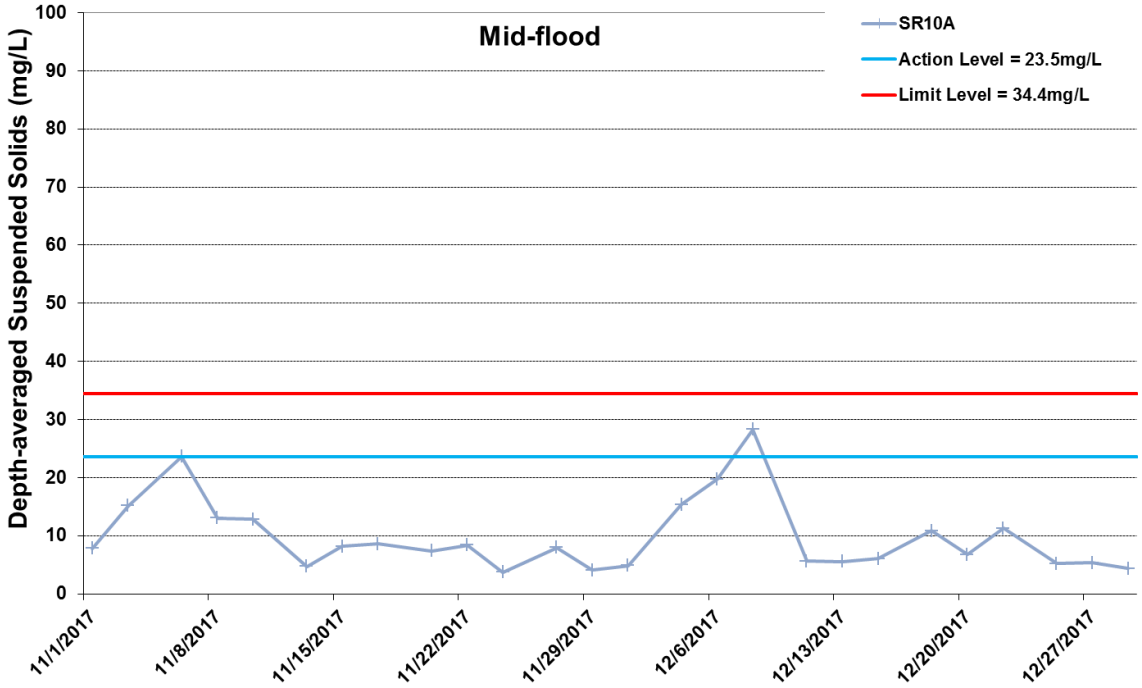
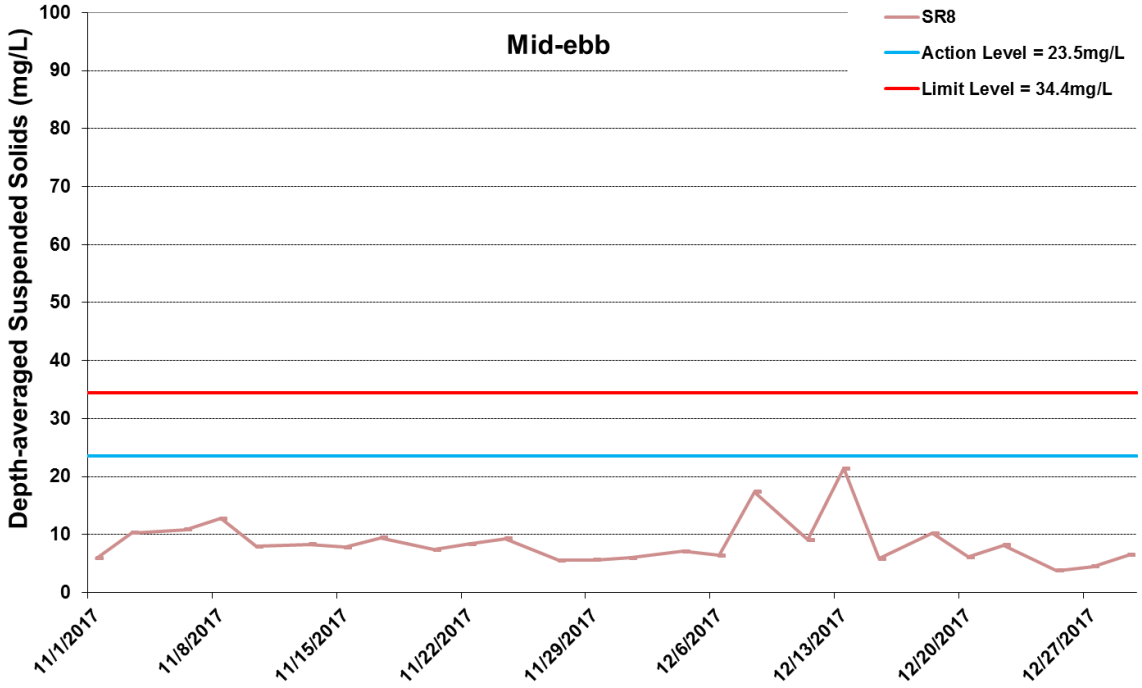


Figure I41 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at SR10A. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



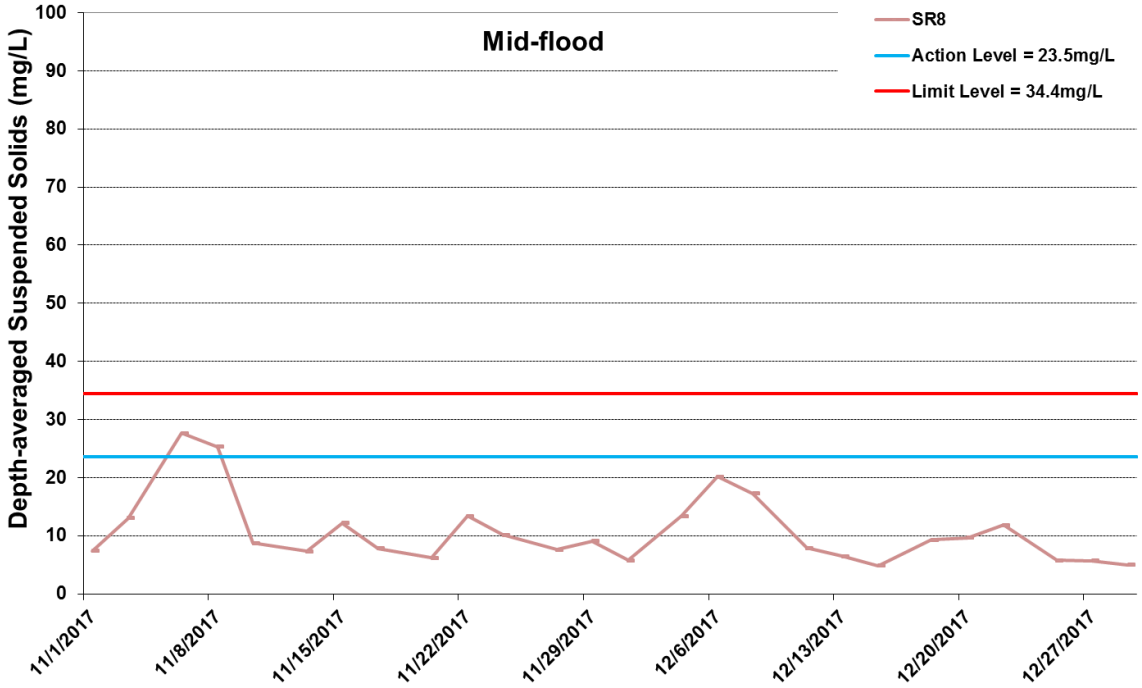
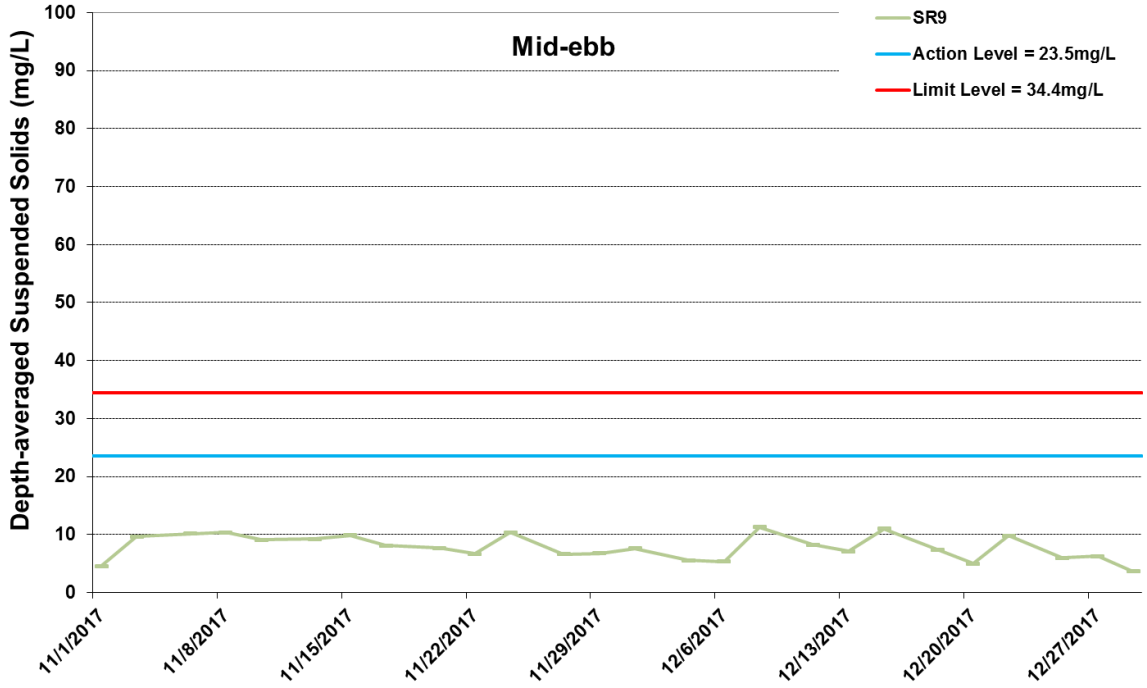


Figure I42 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at SR8. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls



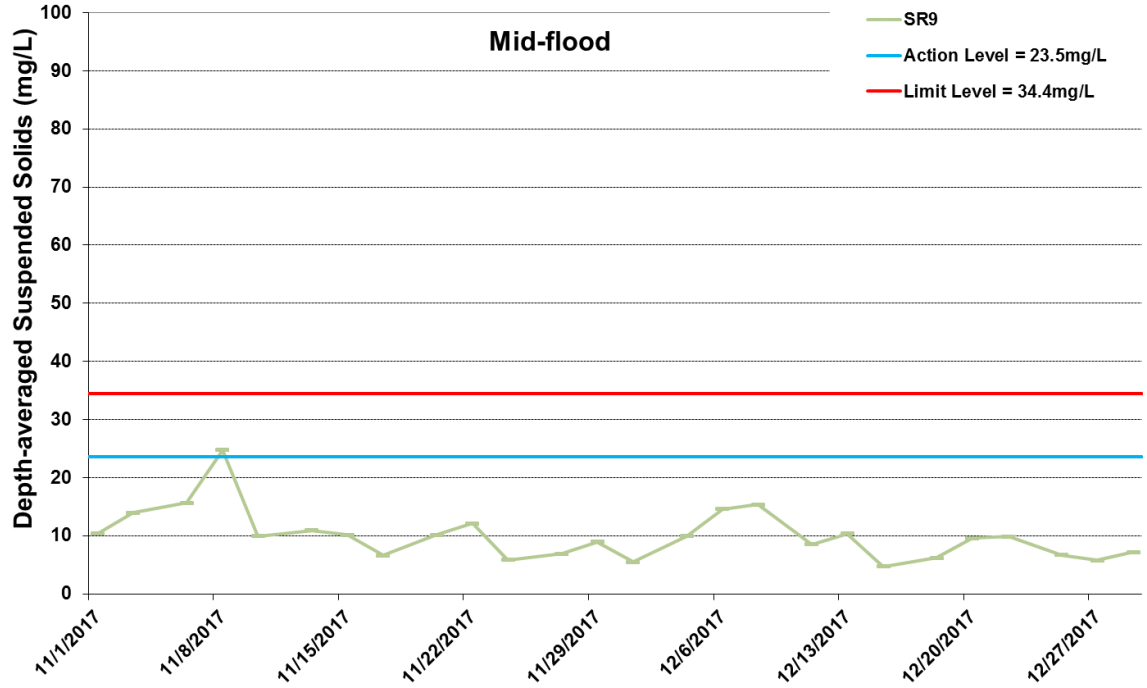


Figure I43 Impact Monitoring – Mean Depth-averaged Level of Suspended Solids (mg/L) between 1 November 2017 and 31 December 2017 at SR9. The weather conditions during the monitoring period varied mostly from sunny to cloudy. Major marine works included: Seawall Enhancement works at Portion N-C (1/11/2017 – 31/12/2017).

Ref: 0212330_Impact-WQM_December2017_graphs_Rev a.xls

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Surface	1	1	22.4	8.1	32.9	6	3.2	2.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Surface	1	2	22.5	8.1	32.9	5.9	2.8	2.5
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Middle	2	1	22.4	8.1	32.9	6	3	3.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Middle	2	2	22.5	8.1	32.9	5.9	2.9	3.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Bottom	3	1	22.4	8.1	32.9	6	3.1	3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS6	Fine	Moderate	10:00	9.6	Bottom	3	2	22.5	8.1	32.9	5.9	3	4.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Surface	1	1	22.6	8.1	32	6.6	3.4	4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Surface	1	2	22.6	8.1	32	6.6	3.1	3.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Middle	2	1	22.7	8.1	32.6	6.4	3.5	4.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Middle	2	2	22.8	8.1	32.6	6.4	3.5	3.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Bottom	3	1	22.4	8.1	32.6	6.4	3.4	4.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	CS4	Fine	Moderate	11:21	19.5	Bottom	3	2	22.4	8.1	32.6	6.4	3.1	4.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Surface	1	1	22.4	8.1	32.8	6.3	4.6	6.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Surface	1	2	22.4	8.1	32.8	6.3	4.4	6.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Bottom	3	1	22.3	8.1	32.8	6.6	5.1	5.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR8	Fine	Moderate	10:13	4	Bottom	3	2	22.4	8.1	32.8	6.5	4.8	5.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Surface	1	1	22.4	8.1	32.7	6.3	5.7	6.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Surface	1	2	22.4	8.1	32.7	6.3	5.5	7.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Bottom	3	1	22.4	8.2	32.7	6.3	5.2	8.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR9	Fine	Moderate	10:30	3.9	Bottom	3	2	22.4	8.1	32.7	6.3	5.2	7.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Surface	1	1	22.4	8	32.6	6.3	8.3	6.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Surface	1	2	22.4	8	32.7	6.3	8.2	6.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Middle	2	1	22.4	8	32.6	6.2	7.3	5.5
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Middle	2	2	22.4	8	32.7	6.2	7.3	5.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Bottom	3	1	22.4	8	32.6	6.2	8.4	5.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	SR10A	Cloudy	Moderate	09:31	12.5	Bottom	3	2	22.4	8	32.7	6.2	8.3	5.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Surface	1	1	22.4	8.1	32.8	6.2	3.3	16.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Surface	1	2	22.4	8.1	32.8	6.2	3.1	15.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Middle	2	1	22.4	8.1	32.8	6.2	4.3	16.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Middle	2	2	22.4	8.1	32.8	6.2	3.9	15.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Bottom	3	1	22.4	8.1	32.8	6.2	6.8	19.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS12	Fine	Moderate	10:51	14.3	Bottom	3	2	22.4	8.1	32.8	6.2	5.9	19.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Surface	1	1	22.4	8.1	32.7	6.3	15.2	4.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Surface	1	2	22.4	8.1	32.7	6.3	15.2	3.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Middle	2	1	22.4	8.1	32.7	6.3	14.4	3.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Middle	2	2	22.4	8.1	32.7	6.3	15.2	4.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Bottom	3	1	22.4	8.1	32.7	6.3	16.2	3.5
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS13	Fine	Moderate	10:42	10.8	Bottom	3	2	22.4	8.1	32.7	6.2	16.8	4.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Surface	1	1	22.4	8.1	32.7	6.3	3.7	5.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Surface	1	2	22.4	8.1	32.7	6.3	3.4	4
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Middle	2	1	22.4	8.1	32.7	6.3	3.8	6.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Middle	2	2	22.4	8.1	32.7	6.2	3.4	6.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Bottom	3	1	22.4	8.1	32.8	6.3	4	5.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS14	Fine	Moderate	10:59	15.3	Bottom	3	2	22.4	8.1	32.8	6.3	3.4	5.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Surface	1	1	22.4	8.1	32.7	6.3	3.9	5.5
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Surface	1	2	22.4	8.1	32.7	6.3	3.7	6
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Middle	2	1	22.4	8.1	32.8	6.3	4.3	6.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Middle	2	2	22.4	8.1	32.8	6.3	4.1	5.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Bottom	3	1	22.4	8.1	32.8	6.3	4.9	6.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Ebb	IS15	Fine	Moderate	10:36	10.6	Bottom	3	2	22.4	8.1	32.8	6.3	5	5.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Surface	1	1	22.5	8.1	32.9	6.1	5.2	5.5

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Surface	1	2	22.6	8.1	32.9	6.1	5.3	4.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Middle	2	1	22.5	8.1	32.9	6.1	5.7	5.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Middle	2	2	22.6	8.1	32.9	6.1	5.9	6.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Bottom	3	1	22.5	8.1	32.9	6.1	6.5	5.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS6	Fine	Moderate	16:38	9.7	Bottom	3	2	22.6	8.1	32.9	6.1	6.7	6.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Surface	1	1	22.5	8.2	32.1	6.6	4.6	4.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Surface	1	2	22.5	8.1	32.1	6.6	4.5	5.5
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Middle	2	1	22.4	8.2	32.3	6.5	10.1	4.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Middle	2	2	22.4	8.2	32.3	6.5	9.1	4.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Bottom	3	1	22.4	8.2	32.3	6.5	10.9	5.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	CS4	Fine	Moderate	15:21	19.4	Bottom	3	2	22.4	8.1	32.3	6.5	10.9	4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Surface	1	1	22.6	8.1	32.8	6.4	5.7	4.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Surface	1	2	22.6	8.1	32.8	6.4	6.5	5
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Bottom	3	1	22.6	8.1	32.8	6.4	5.8	6.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR8	Fine	Moderate	16:21	4.2	Bottom	3	2	22.7	8.1	32.8	6.4	5.7	7.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Surface	1	1	22.7	8.1	32.8	6.3	5.7	4.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Surface	1	2	22.7	8.1	32.8	6.3	6	5.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Bottom	3	1	22.6	8.1	32.8	6.3	9	6.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR9	Fine	Moderate	16:03	4.1	Bottom	3	2	22.6	8.1	32.8	6.2	7.7	5.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Surface	1	1	22.5	7.9	32.5	6.2	9.3	4.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Surface	1	2	22.3	8	32.8	6.2	9.3	5.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Middle	2	1	22.5	7.9	32.5	6.2	9.8	5.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Middle	2	2	22.3	8	32.8	6.3	9.8	4.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Bottom	3	1	22.5	7.9	32.5	6.3	10.6	5.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	SR10A	Fine	Calm	17:19	11.8	Bottom	3	2	22.3	8	32.8	6.4	10.5	4.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Surface	1	1	22.7	8.1	32.7	6.5	2.2	1.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Surface	1	2	22.7	8.1	32.7	6.5	2.3	1.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Middle	2	1	22.6	8.1	32.7	6.4	2.3	1.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Middle	2	2	22.7	8.1	32.7	6.4	2.2	1.1
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Bottom	3	1	22.5	8.1	32.7	6.3	5.6	1.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS12	Fine	Moderate	15:44	14.4	Bottom	3	2	22.5	8.1	32.7	6.3	5.1	1.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Surface	1	1	22.5	8.1	32.7	6.4	5.5	5.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Surface	1	2	22.5	8.1	32.7	6.4	4.7	4.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Middle	2	1	22.5	8.1	32.7	6.4	6.5	7.8
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Middle	2	2	22.5	8.1	32.7	6.4	5.8	6.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Bottom	3	1	22.5	8.1	32.7	6.4	7.4	7.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS13	Fine	Moderate	15:50	10.7	Bottom	3	2	22.5	8.1	32.7	6.4	7.1	7.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Surface	1	1	22.6	8.1	32.7	6.4	5.1	5.4
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Surface	1	2	22.7	8.1	32.7	6.4	4.6	4.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Middle	2	1	22.6	8.1	32.7	6.4	6.2	5.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Middle	2	2	22.6	8.1	32.7	6.4	5.8	6.2
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Bottom	3	1	22.6	8.1	32.7	6.4	8	9.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS14	Fine	Moderate	15:37	15.3	Bottom	3	2	22.6	8.1	32.7	6.3	8.5	10.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Surface	1	1	22.5	8.1	32.8	6.4	4	3
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Surface	1	2	22.6	8.1	32.8	6.3	3.7	3.9
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Middle	2	1	22.6	8.1	32.8	6.4	4.9	3.7
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Middle	2	2	22.6	8.1	32.8	6.4	4.5	4.6
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Bottom	3	1	22.5	8.1	32.8	6.4	5.2	5.3
TMCLKL	HY/2012/08	2017-12-01	Mid-Flood	IS15	Fine	Moderate	15:57	10.8	Bottom	3	2	22.6	8.1	32.8	6.4	4.6	5.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Surface	1	1	22.4	8.1	32.9	5.8	4.5	4.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Surface	1	2	22.5	8.1	32.9	5.8	4	3.9

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Middle	2	1	22.3	8.1	32.9	5.8	7	4.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Middle	2	2	22.3	8.1	32.9	5.8	6.3	4.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Bottom	3	1	22.3	8.1	32.8	5.8	6.6	7.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS6	Sunny	Moderate	13:20	9.7	Bottom	3	2	22.3	8.1	32.8	5.8	6	7.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Surface	1	1	22.3	8.2	32.6	6.5	6.9	7.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Surface	1	2	22.4	8.2	32.6	6.5	6.5	7.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Middle	2	1	22.2	8.2	32.6	6.5	9.4	9
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Middle	2	2	22.2	8.2	32.6	6.5	9	8.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Bottom	3	1	22.1	8.2	32.6	6.5	11.9	8.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	CS4	Sunny	Moderate	12:01	19.4	Bottom	3	2	22.2	8.2	32.6	6.4	11.2	8.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Surface	1	1	22.5	8.2	32.7	6.4	6.2	6.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Surface	1	2	22.5	8.1	32.7	6.4	5.8	4.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Bottom	3	1	22.4	8.2	32.7	6.4	7.3	9.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR8	Sunny	Moderate	13:04	4.2	Bottom	3	2	22.4	8.1	32.7	6.4	7.1	7.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Surface	1	1	22.3	8.2	32.7	6.2	9.4	5.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Surface	1	2	22.3	8.1	32.7	6.2	8.4	4.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Bottom	3	1	22.2	8.2	32.7	6.3	13.6	6.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR9	Sunny	Moderate	12:48	4.1	Bottom	3	2	22.3	8.1	32.7	6.3	12	5.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Surface	1	1	22.4	8	32.5	6.3	8.2	9
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Surface	1	2	22.3	8	32.7	6.3	8.2	10.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Middle	2	1	22.3	8	32.5	6.3	9.1	9.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Middle	2	2	22.2	8	32.7	6.4	9.1	10.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Bottom	3	1	22.3	8	32.5	6.4	9.2	11.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	SR10A	Sunny	Moderate	13:31	11.8	Bottom	3	2	22.2	8	32.7	6.4	9.2	12.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Surface	1	1	22.4	8.2	32.7	6.2	8.9	15.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Surface	1	2	22.4	8.1	32.7	6.2	8.2	15.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Middle	2	1	22.3	8.2	32.7	6.2	17.2	30.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Middle	2	2	22.3	8.1	32.7	6.2	17.1	27.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Bottom	3	1	22.3	8.2	32.7	6.2	22.7	30.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS12	Sunny	Moderate	12:26	14.2	Bottom	3	2	22.3	8.1	32.7	6.2	22.7	29.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Surface	1	1	22.3	8.2	32.7	6.3	10.7	10
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Surface	1	2	22.4	8.1	32.7	6.3	10	9.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Middle	2	1	22.3	8.2	32.7	6.3	15.9	11.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Middle	2	2	22.4	8.1	32.7	6.2	16.1	10.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Bottom	3	1	22.3	8.2	32.7	6.3	22.8	12.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS13	Sunny	Moderate	12:33	10.9	Bottom	3	2	22.3	8.1	32.7	6.3	23.4	12
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Surface	1	1	22.3	8.2	32.7	6.3	8.2	9.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Surface	1	2	22.4	8.1	32.7	6.3	7.8	7.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Middle	2	1	22.3	8.2	32.7	6.3	9.5	10.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Middle	2	2	22.3	8.1	32.7	6.3	9.3	10.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Bottom	3	1	22.3	8.2	32.7	6.3	13.3	9.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS14	Sunny	Moderate	12:18	15.5	Bottom	3	2	22.3	8.1	32.7	6.3	13.3	9.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Surface	1	1	22.5	8.2	32.8	6.3	6	7
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Surface	1	2	22.5	8.1	32.8	6.3	5.7	6.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Middle	2	1	22.3	8.2	32.8	6.2	7.6	7.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Middle	2	2	22.4	8.1	32.8	6.2	7.1	8.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Bottom	3	1	22.3	8.2	32.8	6.3	8.8	11.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Ebb	IS15	Sunny	Moderate	12:41	10.8	Bottom	3	2	22.3	8.1	32.8	6.3	8.9	10.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Surface	1	1	22.3	8.2	32.6	6.4	7.9	8.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Surface	1	2	22.3	8.1	32.6	6.4	7.4	9.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Middle	2	1	22.3	8.2	32.6	6.3	7.7	8.2

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Middle	2	2	22.3	8.1	32.6	6.3	7.5	10
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Bottom	3	1	22.3	8.2	32.7	6.3	8.3	12.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS6	Fine	Moderate	06:42	9.4	Bottom	3	2	22.3	8.1	32.7	6.3	8.2	13.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Surface	1	1	22.2	8.2	32.3	6.4	15.5	17.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Surface	1	2	22.2	8.1	32.3	6.4	14.8	16.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Middle	2	1	22.2	8.2	32.3	6.4	15.4	23.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Middle	2	2	22.2	8.1	32.3	6.4	16	24.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Bottom	3	1	22.2	8.2	32.3	6.4	15.7	25.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	CS4	Fine	Moderate	08:08	19	Bottom	3	2	22.2	8.1	32.3	6.4	14.7	26.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Surface	1	1	22.2	8.2	32.7	6.2	10	13.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Surface	1	2	22.2	8.1	32.7	6.2	10.2	13.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Bottom	3	1	22.2	8.2	32.7	6.2	11.4	13.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR8	Fine	Moderate	07:02	3.8	Bottom	3	2	22.2	8.1	32.8	6.2	11.8	12.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Surface	1	1	22.2	8.1	32.7	6.2	9.7	9.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Surface	1	2	22.2	8.1	32.8	6.2	9	10.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Bottom	3	1	22.2	8.1	32.7	6.4	11	9.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR9	Fine	Moderate	07:18	3.9	Bottom	3	2	22	8.1	32.7	6.5	12	9.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Surface	1	1	22.3	8	32.5	6.6	19.7	14.7
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Surface	1	2	22.2	8.1	32.6	6.6	19.8	14.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Middle	2	1	22.3	8	32.5	6.6	18.1	15.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Middle	2	2	22.2	8.1	32.6	6.6	18.1	16.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Bottom	3	1	22.3	8	32.5	6.6	15.9	16
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	SR10A	Fine	Moderate	06:19	11.5	Bottom	3	2	22.2	8.1	32.6	6.6	15.9	15.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Surface	1	1	22.2	8.2	32.4	6.4	11.7	13.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Surface	1	2	22.3	8.1	32.4	6.4	12	14.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Middle	2	1	22.3	8.2	32.4	6.4	14.6	16.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Middle	2	2	22.3	8.1	32.4	6.4	13.7	17.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Bottom	3	1	22.3	8.2	32.4	6.5	18.6	20.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS12	Fine	Moderate	07:37	14.2	Bottom	3	2	22.3	8.1	32.5	6.5	15.9	21.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Surface	1	1	22.3	8.2	32.5	6.4	13.7	18.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Surface	1	2	22.3	8.1	32.5	6.4	13.3	19.6
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Middle	2	1	22.3	8.2	32.5	6.4	14.6	18.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Middle	2	2	22.3	8.1	32.5	6.4	13.9	20.2
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Bottom	3	1	22.3	8.2	32.5	6.7	16.2	20.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS13	Fine	Moderate	07:31	10.5	Bottom	3	2	22.3	8.1	32.5	6.6	15.2	20.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Surface	1	1	22.3	8.2	32.6	6.3	9.5	10.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Surface	1	2	22.4	8.1	32.6	6.3	8.9	12
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Middle	2	1	22.3	8.2	32.6	6.2	13.4	13.9
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Middle	2	2	22.3	8.1	32.6	6.2	13.5	13.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Bottom	3	1	22.3	8.2	32.7	6.2	14.5	13.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS14	Fine	Moderate	07:44	15.1	Bottom	3	2	22.3	8.1	32.7	6.2	14.7	13.3
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Surface	1	1	22.3	8.2	32.7	6.3	13.6	21.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Surface	1	2	22.3	8.1	32.7	6.3	13	20.5
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Middle	2	1	22.3	8.2	32.7	6.3	16.3	22.8
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Middle	2	2	22.3	8.1	32.7	6.3	15.8	22.4
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Bottom	3	1	22.3	8.2	32.7	6.4	15.9	21.1
TMCLKL	HY/2012/08	2017-12-04	Mid-Flood	IS15	Fine	Moderate	07:25	10.2	Bottom	3	2	22.3	8.1	32.7	6.4	15.7	21.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Surface	1	1	22.1	8.1	32.8	6.1	6.2	7.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Surface	1	2	22.1	8.1	32.8	6	5.7	7.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Middle	2	1	22.1	8.1	32.8	6	8.8	8.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Middle	2	2	22.1	8.1	32.8	6	8.3	8.2

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Bottom	3	1	22.1	8.1	32.8	6	15.5	10.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS6	Sunny	Moderate	14:35	10.2	Bottom	3	2	22.1	8.1	32.8	6	15.5	10.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Surface	1	1	22	8.2	32.6	6.4	7	10.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Surface	1	2	22	8.1	32.6	6.4	6.2	11.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Middle	2	1	21.8	8.2	32.6	6.4	12.2	11.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Middle	2	2	21.9	8.1	32.6	6.4	11.2	12.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Bottom	3	1	21.8	8.2	32.6	6.4	15.7	16.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	CS4	Sunny	Moderate	13:27	19.9	Bottom	3	2	21.9	8.1	32.6	6.3	15.6	15
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Surface	1	1	22.1	8.2	32.7	6.4	7.6	5.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Surface	1	2	22.1	8.1	32.7	6.4	6.8	6.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Bottom	3	1	22	8.2	32.7	6.4	8.2	7.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR8	Sunny	Moderate	14:19	4.1	Bottom	3	2	22	8.1	32.7	6.4	7.4	6.7
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Surface	1	1	22.2	8.2	32.7	6.4	6.7	4.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Surface	1	2	22.3	8.1	32.7	6.4	6.2	5.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Bottom	3	1	22.1	8.2	32.7	6.5	7	5.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR9	Sunny	Moderate	14:03	4	Bottom	3	2	22.1	8.1	32.7	6.5	6.8	5.7
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Surface	1	1	22	8.1	32.7	6.4	4.4	7.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Surface	1	2	22.1	8	32.5	6.4	5.2	7.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Middle	2	1	22	8.1	32.8	6.4	5.3	7.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Middle	2	2	22.1	8	32.5	6.4	5.3	7.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Bottom	3	1	21.9	8.1	32.8	6.5	4.8	6.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	SR10A	Fine	Moderate	15:34	14.4	Bottom	3	2	22.1	8	32.5	6.5	4.5	6.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Surface	1	1	22	8.2	32.7	6.2	11.4	12
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Surface	1	2	22	8.1	32.7	6.2	11.2	12.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Middle	2	1	22	8.2	32.7	6.2	13.3	15.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Middle	2	2	22	8.1	32.7	6.2	13.4	15.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Bottom	3	1	22	8.2	32.7	6.2	24.6	17.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS12	Sunny	Moderate	13:44	15.3	Bottom	3	2	22	8.1	32.7	6.2	24.8	16.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Surface	1	1	22	8.2	32.7	6.3	9.2	9.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Surface	1	2	22.1	8.1	32.7	6.3	9.2	10.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Middle	2	1	22	8.2	32.7	6.3	11.4	13.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Middle	2	2	22.1	8.1	32.7	6.3	10.7	11.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Bottom	3	1	22	8.2	32.7	6.3	10.9	13.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS13	Sunny	Moderate	13:51	10.9	Bottom	3	2	22.1	8.1	32.7	6.3	10.8	11.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Surface	1	1	22	8.2	32.7	6.3	13.3	9.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Surface	1	2	22	8.1	32.7	6.3	12.3	11
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Middle	2	1	22	8.2	32.7	6.3	16.3	15.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Middle	2	2	22	8.1	32.7	6.2	15.8	15.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Bottom	3	1	22	8.2	32.7	6.3	24.6	19.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS14	Sunny	Moderate	13:38	14.6	Bottom	3	2	22	8.1	32.7	6.3	24.3	19.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Surface	1	1	22	8.2	32.7	6.2	10.8	12.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Surface	1	2	22.1	8.1	32.7	6.2	11.1	11.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Middle	2	1	22	8.2	32.7	6.2	13.1	12.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Middle	2	2	22.1	8.1	32.7	6.2	12.8	12.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Bottom	3	1	22	8.2	32.7	6.3	15.7	17.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Ebb	IS15	Sunny	Moderate	13:57	10.6	Bottom	3	2	22	8.1	32.7	6.3	15.4	17
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Surface	1	1	22	8.2	32.6	6.3	10.3	8.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Surface	1	2	22	8.1	32.6	6.3	9.8	7.7
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Middle	2	1	22	8.2	32.6	6.3	14.6	9.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Middle	2	2	22	8.1	32.6	6.3	14.9	9.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Bottom	3	1	22	8.2	32.6	6.2	16.8	9.8

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS6	Fine	Moderate	08:50	10.2	Bottom	3	2	22	8.1	32.6	6.2	16.9	10
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Surface	1	1	21.7	8.2	32.3	6.4	14.3	18.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Surface	1	2	21.8	8.1	32.3	6.4	14.6	18.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Middle	2	1	21.7	8.2	32.3	6.4	23	21.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Middle	2	2	21.8	8.1	32.3	6.3	23.5	22.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Bottom	3	1	21.8	8.2	32.4	6.3	28.9	23.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	CS4	Fine	Moderate	10:07	19.8	Bottom	3	2	21.8	8.1	32.4	6.2	28.6	22.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Surface	1	1	21.9	8.2	32.8	6.2	15.3	16.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Surface	1	2	21.9	8.1	32.8	6.2	14.6	15.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Bottom	3	1	21.8	8.2	32.8	6.1	16.8	24.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR8	Fine	Moderate	09:01	3.9	Bottom	3	2	21.9	8.1	32.8	6.1	17	23.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Surface	1	1	21.8	8.2	32.7	6.1	11.2	15.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Surface	1	2	21.8	8.1	32.7	6.1	11.3	14.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Bottom	3	1	21.8	8.2	32.7	6.2	12.4	14.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR9	Fine	Moderate	09:17	3.8	Bottom	3	2	21.8	8.1	32.7	6.2	12.3	14.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Surface	1	1	21.8	8.1	32.6	6.5	13.5	16.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Surface	1	2	21.9	8	32.4	6.5	13.1	16.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Middle	2	1	21.8	8.1	32.6	6.5	14.9	20.7
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Middle	2	2	21.9	8	32.4	6.5	14.7	21.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Bottom	3	1	21.8	8.1	32.6	6.5	16.9	21.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	SR10A	Sunny	Moderate	08:20	10.6	Bottom	3	2	21.9	8	32.4	6.5	16.7	20.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Surface	1	1	21.8	8.2	32.4	6.4	13.3	15.7
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Surface	1	2	21.8	8.1	32.4	6.4	12.9	15.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Middle	2	1	21.8	8.2	32.4	6.4	19.8	22.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Middle	2	2	21.8	8.2	32.4	6.3	20.3	22.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Bottom	3	1	21.8	8.2	32.4	6.4	30.8	22
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS12	Fine	Moderate	09:38	15.1	Bottom	3	2	21.8	8.1	32.4	6.3	30.5	22.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Surface	1	1	21.9	8.2	32.5	6.4	12.6	14.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Surface	1	2	21.9	8.1	32.5	6.4	12.4	13.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Middle	2	1	21.9	8.2	32.5	6.4	15.4	14.9
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Middle	2	2	21.9	8.1	32.5	6.4	14.8	14.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Bottom	3	1	21.9	8.2	32.6	6.3	29.3	19.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS13	Fine	Moderate	09:32	10.8	Bottom	3	2	22	8.1	32.6	6.3	29.7	19
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Surface	1	1	21.9	8.2	32.6	6.2	15.5	16.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Surface	1	2	22	8.1	32.6	6.1	15.7	17.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Middle	2	1	21.9	8.2	32.7	6.1	20.1	22.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Middle	2	2	21.9	8.1	32.7	5.8	20	21.4
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Bottom	3	1	21.9	8.2	32.7	5.8	28.5	24
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS14	Fine	Moderate	09:47	14.4	Bottom	3	2	21.9	8.1	32.7	5.7	28.8	24.1
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Surface	1	1	22	8.2	32.7	6.2	18.5	20.3
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Surface	1	2	22	8.1	32.7	6.2	18.4	21.8
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Middle	2	1	22	8.2	32.7	6.2	21.4	25.2
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Middle	2	2	22	8.1	32.7	6.2	20.9	24.6
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Bottom	3	1	22	8.2	32.7	6.2	30.2	28.5
TMCLKL	HY/2012/08	2017-12-06	Mid-Flood	IS15	Fine	Moderate	09:24	10.8	Bottom	3	2	22	8.1	32.7	6.2	29.6	29.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Surface	1	1	21.5	8.1	32.4	6.4	6.3	11.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Surface	1	2	21.8	7.9	30.1	6.4	5.7	11.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Middle	2	1	21.5	8.1	32.4	6.3	7.1	11
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Middle	2	2	21.8	7.9	30.1	6.4	6.8	10.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Bottom	3	1	21.6	8.1	32.4	6.3	7.4	15.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS6	Misty	Moderate	17:43	9.8	Bottom	3	2	21.8	7.9	30.2	6.4	7.1	14.5

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Surface	1	1	21.1	8.2	31.3	6.8	12.7	16.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Surface	1	2	21.4	8	29.7	6.9	12.8	16.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Middle	2	1	21.2	8.1	31.7	6.7	13.6	18.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Middle	2	2	21.4	7.9	30	6.8	13.4	17.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Bottom	3	1	21.3	8.1	31.9	6.7	14.9	19.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	CS4	Misty	Moderate	16:30	19.7	Bottom	3	2	21.6	7.9	30.3	6.8	14.5	18.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Surface	1	1	21.3	8.1	32	6.8	12.8	16.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Surface	1	2	21.6	7.9	30.1	7	12.4	17.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Bottom	3	1	21.3	8.1	32	7.1	12.2	17.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR8	Misty	Moderate	17:28	3.9	Bottom	3	2	21.6	7.9	30.2	7.2	11.8	17.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Surface	1	1	21.5	8.1	32	6.9	8	10.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Surface	1	2	21.7	7.9	30	7	7.9	9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Bottom	3	1	21.5	8.1	32	7	8	12.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR9	Misty	Moderate	17:12	4	Bottom	3	2	21.7	7.9	30	7.1	7.6	12.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Surface	1	1	21.6	8.1	32.3	6.5	3.8	11
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Surface	1	2	21.5	8.1	32.5	6.5	3.8	12.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Middle	2	1	21.6	8.1	32.3	6.5	4.1	12.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Middle	2	2	21.5	8.1	32.5	6.6	4.1	13.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Bottom	3	1	21.6	8	32.3	6.6	3.9	12.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	SR10A	Sunny	Moderate	17:06	13	Bottom	3	2	21.5	8.1	32.5	6.6	3.9	13.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Surface	1	1	21.4	8.1	32.1	6.6	13.9	12.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Surface	1	2	21.7	7.9	30.9	6.7	13.8	13.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Middle	2	1	21.4	8.1	32.1	6.6	17.5	16.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Middle	2	2	21.7	7.9	30.9	6.7	17.7	17.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Bottom	3	1	21.4	8.1	32.1	6.6	18.2	16.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS12	Misty	Moderate	16:52	15.7	Bottom	3	2	21.7	7.9	31	6.7	18.3	16.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Surface	1	1	21.4	8.1	32.1	6.7	9	12.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Surface	1	2	21.7	7.9	30.2	6.8	8.2	11.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Middle	2	1	21.5	8.1	32.2	6.6	9.2	12.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Middle	2	2	21.7	7.9	30.3	6.8	9.2	11.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Bottom	3	1	21.5	8.1	32.2	6.7	10.2	15.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS13	Misty	Moderate	16:59	10.8	Bottom	3	2	21.7	7.9	30.5	6.9	10.8	16.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Surface	1	1	21.4	8.1	32.1	6.6	9.8	14.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Surface	1	2	21.7	7.9	30.9	6.7	9.3	13.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Middle	2	1	21.5	8.1	32.2	6.5	14.3	14.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Middle	2	2	21.7	7.9	31	6.6	14.2	14
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Bottom	3	1	21.5	8.1	32.3	6.5	21.6	16.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS14	Misty	Moderate	16:46	16.9	Bottom	3	2	21.8	7.9	31.1	6.6	22.8	15.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Surface	1	1	21.4	8.1	32	6.8	7.4	10.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Surface	1	2	21.6	7.9	30	6.9	6.7	9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Middle	2	1	21.4	8.1	32	6.8	8.5	11.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Middle	2	2	21.7	7.9	30.1	6.9	7.8	11
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Bottom	3	1	21.5	8.1	32	6.9	9.4	15.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Ebb	IS15	Misty	Moderate	17:05	11	Bottom	3	2	21.7	7.9	30.2	7	8.9	16.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Surface	1	1	21.4	8.1	31.8	6.7	9.8	9.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Surface	1	2	21.7	7.9	30	6.8	8.6	8.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Middle	2	1	21.4	8.1	31.8	6.6	12.4	11.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Middle	2	2	21.7	7.9	29.9	6.7	12.5	11.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Bottom	3	1	21.4	8.1	32	6.6	22.2	11.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS6	Fine	Moderate	09:54	9.3	Bottom	3	2	21.7	7.9	30.1	6.7	22.3	12.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Surface	1	1	21.3	8.1	31.5	6.7	16.9	22.4

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Surface	1	2	21.5	7.9	30.4	6.7	16.8	21.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Middle	2	1	21.3	8.1	31.5	6.6	19.7	22.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Middle	2	2	21.5	7.9	30.4	6.7	20.7	22.2
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Bottom	3	1	21.3	8.1	31.6	6.6	24.5	23.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	CS4	Fine	Moderate	11:04	19.5	Bottom	3	2	21.6	7.9	30.5	6.7	24.5	22.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Surface	1	1	21.3	8.2	32.1	6.7	15.3	15.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Surface	1	2	21.6	8.1	30.9	6.8	15.5	16
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Bottom	3	1	21.3	8.2	32.1	6.8	15.9	18.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR8	Fine	Moderate	10:06	4.3	Bottom	3	2	21.6	8.1	30.9	6.8	16.5	18.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Surface	1	1	21.4	8.1	32.2	6.6	11.8	14.5
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Surface	1	2	21.6	7.9	31	6.6	11.9	14.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Bottom	3	1	21.4	8.1	32.2	6.7	10.7	16.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR9	Fine	Moderate	10:21	3.8	Bottom	3	2	21.7	7.9	31.1	6.8	9.6	15.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Surface	1	1	21.5	8.1	32	6.7	11.6	25.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Surface	1	2	21.4	8.1	32.2	6.7	10	24.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Middle	2	1	21.5	8.1	32	6.7	11.9	29.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Middle	2	2	21.4	8.1	32.2	6.7	10	30.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Bottom	3	1	21.5	8.1	32	6.7	11.8	29.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	SR10A	Sunny	Moderate	09:48	12.5	Bottom	3	2	21.4	8.1	32.2	6.7	10.1	30.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Surface	1	1	21.5	8.1	31.8	6.7	11.8	15.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Surface	1	2	21.7	7.9	30.6	6.7	11.5	16
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Middle	2	1	21.5	8.1	31.8	6.6	15.4	17.8
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Middle	2	2	21.7	7.9	30.7	6.7	15.5	18.4
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Bottom	3	1	21.5	8.1	31.8	6.6	25.3	17.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS12	Fine	Moderate	10:39	15.2	Bottom	3	2	21.7	7.9	30.7	6.7	23.8	18.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Surface	1	1	21.5	8.1	31.9	6.7	15.3	19.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Surface	1	2	21.8	7.9	30.7	6.7	14.8	18.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Middle	2	1	21.5	8.1	31.9	6.7	17.6	18
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Middle	2	2	21.7	7.9	30.8	6.8	18.5	18.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Bottom	3	1	21.4	8.1	31.9	6.7	21.4	22.7
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS13	Fine	Moderate	10:33	10.7	Bottom	3	2	21.7	7.9	30.9	6.8	21.8	23.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Surface	1	1	21.4	8.1	32	6.6	17.9	26.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Surface	1	2	21.7	7.9	30.9	6.7	17.6	25
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Middle	2	1	21.4	8.1	32	6.6	20.1	27.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Middle	2	2	21.7	7.9	30.9	6.6	19.8	27.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Bottom	3	1	21.4	8.1	32.1	6.6	24.7	29.6
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS14	Fine	Moderate	10:46	14.3	Bottom	3	2	21.7	7.9	31	6.7	24.5	30
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Surface	1	1	21.4	8.2	32.1	6.6	18.1	22.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Surface	1	2	21.7	8.1	31	6.6	18.7	22
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Middle	2	1	21.4	8.1	32.1	6.5	21.7	25.3
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Middle	2	2	21.6	7.9	31	6.6	22.4	25.1
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Bottom	3	1	21.4	8.1	32.1	6.6	21.4	25.9
TMCLKL	HY/2012/08	2017-12-08	Mid-Flood	IS15	Fine	Moderate	10:27	11.1	Bottom	3	2	21.6	7.9	31	6.7	22.5	25.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Surface	1	1	20.8	8.2	32.6	6.3	3.4	5.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Surface	1	2	20.8	8.1	32.6	6.3	3.3	6.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Middle	2	1	21	8.2	32.7	6.2	3.7	6.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Middle	2	2	21.1	8.1	32.7	6.2	3.6	5.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Bottom	3	1	21.1	8.2	32.8	6.2	4.3	6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS6	Fine	Moderate	06:11	9.3	Bottom	3	2	21.1	8.1	32.8	6.2	3.8	5.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Surface	1	1	20.2	8.2	31.9	6.7	5.2	6.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Surface	1	2	20.2	8.2	31.9	6.7	5.2	6.5

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Middle	2	1	20.3	8.2	32.2	6.7	6.3	6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Middle	2	2	20.4	8.2	32.2	6.7	6.3	5.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Bottom	3	1	20.2	8.2	32.3	6.7	10.2	9.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	CS4	Fine	Moderate	07:41	19.5	Bottom	3	2	20.3	8.2	32.3	6.7	8.9	10.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Surface	1	1	20.8	8.2	32.5	6.4	7.3	5.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Surface	1	2	20.8	8.2	32.5	6.4	8.3	6.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Bottom	3	1	20.7	8.2	32.5	6.4	4.2	12.2
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR8	Fine	Moderate	06:26	3.9	Bottom	3	2	20.8	8.2	32.5	6.4	4.6	11.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Surface	1	1	20.7	8.2	32.5	6.6	5	8.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Surface	1	2	20.7	8.2	32.5	6.5	4.7	8.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Bottom	3	1	20.7	8.2	32.5	6.7	5.2	7.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR9	Fine	Moderate	06:44	3.5	Bottom	3	2	20.7	8.2	32.5	6.7	5.2	7.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Surface	1	1	21.2	8	32.7	6.5	1.2	6.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Surface	1	2	21.3	8.1	32.5	6.5	1.2	7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Middle	2	1	21.2	8	32.7	6.5	1.3	6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Middle	2	2	21.3	8.1	32.5	6.5	1.3	6.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Bottom	3	1	21.2	8	32.7	6.5	1.3	8.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	SR10A	Fine	Moderate	05:35	11.5	Bottom	3	2	21.3	8.1	32.5	6.5	1.4	9.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Surface	1	1	20.9	8.2	32.6	6.4	5.6	5.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Surface	1	2	21	8.2	32.6	6.3	4.8	6.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Middle	2	1	21	8.2	32.6	6.3	6.1	7.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Middle	2	2	21	8.2	32.6	6.3	5.3	6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Bottom	3	1	21	8.2	32.7	6.3	9.3	10.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS12	Fine	Moderate	07:09	15.1	Bottom	3	2	21	8.2	32.7	6.3	8.2	9.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Surface	1	1	20.9	8.2	32.5	6.4	6	6.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Surface	1	2	20.9	8.2	32.5	6.4	5.7	6.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Middle	2	1	20.9	8.2	32.5	6.4	6.7	8.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Middle	2	2	20.9	8.2	32.5	6.4	6	7.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Bottom	3	1	20.9	8.2	32.6	6.4	7.9	8.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS13	Fine	Moderate	07:02	9.7	Bottom	3	2	21	8.2	32.6	6.4	7.8	8.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Surface	1	1	20.9	8.2	32.6	6.4	4.2	5.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Surface	1	2	20.9	8.2	32.6	6.3	4	6.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Middle	2	1	20.9	8.2	32.6	6.3	4.2	6.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Middle	2	2	20.9	8.2	32.6	6.3	4.3	5.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Bottom	3	1	21	8.2	32.6	6.3	7.5	11
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS14	Fine	Moderate	07:18	14.8	Bottom	3	2	21	8.2	32.6	6.3	7.6	9.2
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Surface	1	1	20.7	8.2	32.4	6.4	4.7	5.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Surface	1	2	20.7	8.2	32.4	6.4	4.6	5.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Middle	2	1	20.7	8.2	32.4	6.4	4.9	7.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Middle	2	2	20.7	8.2	32.4	6.4	5.4	7.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Bottom	3	1	20.7	8.2	32.4	6.4	4.8	15
TMCLKL	HY/2012/08	2017-12-11	Mid-Ebb	IS15	Fine	Moderate	06:53	10.7	Bottom	3	2	20.7	8.2	32.4	6.4	4.8	14.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Surface	1	1	21.1	8.2	32.8	6.2	6.3	5.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Surface	1	2	21.2	8.2	32.8	6.1	6	6.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Middle	2	1	21.1	8.2	32.8	6.1	8.2	6.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Middle	2	2	21.2	8.2	32.8	6.1	8.1	5.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Bottom	3	1	21.1	8.2	32.8	6.1	8.9	5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS6	Fine	Moderate	14:43	9.6	Bottom	3	2	21.2	8.2	32.8	6.1	8.4	6.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Surface	1	1	20.7	8.2	32.2	6.6	6.9	6.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Surface	1	2	20.8	8.2	32.2	6.5	5.9	6.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Middle	2	1	20.6	8.2	32.2	6.5	9.3	8.4

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Middle	2	2	20.6	8.2	32.2	6.5	8.1	7.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Bottom	3	1	20.6	8.2	32.2	6.5	16.4	8.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	CS4	Fine	Moderate	13:14	19.5	Bottom	3	2	20.6	8.2	32.2	6.5	16	8.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Surface	1	1	21	8.2	32.6	6.5	6.5	6.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Surface	1	2	21.1	8.2	32.6	6.5	5.5	7.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Bottom	3	1	21	8.2	32.6	6.6	13.6	8.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR8	Fine	Moderate	14:25	3.9	Bottom	3	2	21	8.2	32.6	6.5	14.7	8.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Surface	1	1	21	8.2	32.5	6.5	6.2	7.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Surface	1	2	21.1	8.2	32.5	6.5	5.4	8.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Bottom	3	1	21	8.2	32.5	6.6	6.2	9.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR9	Fine	Moderate	14:09	3.9	Bottom	3	2	21	8.2	32.5	6.5	5.1	8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Surface	1	1	21.3	8	32.5	6.5	1.5	5.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Surface	1	2	21.2	8.1	32.7	6.5	1.6	4.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Middle	2	1	21.3	8	32.5	6.5	1.7	5.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Middle	2	2	21.2	8.1	32.7	6.6	1.7	5.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Bottom	3	1	21.3	8	32.5	6.7	1.8	6.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	SR10A	Fine	Moderate	15:05	11	Bottom	3	2	21.2	8.1	32.7	6.7	1.7	6.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Surface	1	1	20.9	8.2	32.4	6.5	3.2	4.2
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Surface	1	2	20.9	8.2	32.4	6.5	3	4.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Middle	2	1	20.9	8.2	32.5	6.4	4.7	3.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Middle	2	2	20.9	8.2	32.5	6.4	4.8	4.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Bottom	3	1	20.9	8.2	32.5	6.4	8.9	5.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS12	Fine	Moderate	13:40	15.1	Bottom	3	2	20.9	8.2	32.5	6.4	8.5	6.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Surface	1	1	21.1	8.2	32.6	6.4	6.2	4.9
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Surface	1	2	21.2	8.2	32.6	6.4	5.2	5.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Middle	2	1	21.1	8.2	32.6	6.4	7.9	8.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Middle	2	2	21.1	8.2	32.6	6.3	6.6	8.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Bottom	3	1	21.1	8.2	32.6	6.4	8	10.1
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS13	Fine	Moderate	13:50	8.6	Bottom	3	2	21.1	8.2	32.6	6.3	7.2	10.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Surface	1	1	20.9	8.2	32.5	6.4	8.4	7.3
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Surface	1	2	20.9	8.2	32.5	6.4	7.5	7
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Middle	2	1	20.9	8.2	32.5	6.4	12.1	10.2
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Middle	2	2	20.9	8.2	32.5	6.3	11.1	9.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Bottom	3	1	20.8	8.2	32.5	6.2	14.4	11.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS14	Fine	Moderate	13:33	14.1	Bottom	3	2	20.9	8.2	32.5	6.3	13.2	12.8
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Surface	1	1	21.1	8.2	32.6	6.4	7.7	8.7
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Surface	1	2	21.1	8.2	32.6	6.4	6.8	8.6
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Middle	2	1	21	8.2	32.6	6.3	11.1	10
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Middle	2	2	21.1	8.2	32.6	6.3	10.2	11.4
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Bottom	3	1	21	8.2	32.6	6.3	14.9	11.5
TMCLKL	HY/2012/08	2017-12-11	Mid-Flood	IS15	Fine	Moderate	14:01	10.3	Bottom	3	2	21	8.2	32.6	6.3	13.5	11.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Surface	1	1	20.9	8.2	32.8	6.3	8.3	5.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Surface	1	2	21	8.1	32.8	6.3	8.1	4.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Middle	2	1	20.9	8.2	32.8	6.3	8.2	5.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Middle	2	2	21	8.1	32.8	6.3	8.9	4.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Bottom	3	1	21	8.2	32.8	6.3	10.3	4.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS6	Cloudy	Moderate	08:40	9.2	Bottom	3	2	21	8.1	32.8	6.3	10.3	4.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Surface	1	1	20.5	8.3	32.5	6.7	3.4	6.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Surface	1	2	20.6	8.2	32.5	6.7	3.6	5
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Middle	2	1	20.4	8.3	32.5	6.7	4.1	8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Middle	2	2	20.4	8.2	32.5	6.7	4.4	6.6

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Bottom	3	1	20.2	8.3	32.5	6.8	5.5	6.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	CS4	Cloudy	Moderate	10:16	16.4	Bottom	3	2	20.3	8.2	32.5	6.7	5.6	6.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Surface	1	1	20.8	8.2	32.8	6.4	13.5	20.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Surface	1	2	20.9	8.1	32.8	6.4	13.6	20.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Bottom	3	1	20.8	8.2	32.8	6.4	17.8	21.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR8	Cloudy	Calm	08:53	4.1	Bottom	3	2	20.9	8.1	32.8	6.4	17.9	22.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Surface	1	1	20.8	8.2	32.8	6.4	5	7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Surface	1	2	20.8	8.2	32.8	6.4	4.3	7.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Bottom	3	1	20.8	8.2	32.8	6.4	5.1	6.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR9	Cloudy	Calm	09:13	3.8	Bottom	3	2	20.9	8.1	32.8	6.4	5.2	6.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Surface	1	1	21.1	8	32.7	6.3	2.4	5.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Surface	1	2	21.2	8	32.5	6.3	2.4	5.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Middle	2	1	21.1	8	32.7	6.3	2.5	7.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Middle	2	2	21.2	8	32.5	6.3	2.5	6.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Bottom	3	1	21.1	8	32.7	6.3	2.4	6.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	SR10A	Cloudy	Moderate	08:05	11.4	Bottom	3	2	21.2	8	32.5	6.3	2.4	6.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Surface	1	1	20.7	8.2	32.7	6.5	3.9	8
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Surface	1	2	20.8	8.2	32.7	6.5	4.1	7.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Middle	2	1	20.7	8.2	32.7	6.5	3.5	7.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Middle	2	2	20.8	8.2	32.7	6.5	3.8	9.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Bottom	3	1	20.8	8.2	32.7	6.5	6.2	8.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS12	Cloudy	Moderate	09:39	13.2	Bottom	3	2	20.8	8.2	32.7	6.5	6.5	8.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Surface	1	1	20.8	8.2	32.7	6.4	6.8	12.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Surface	1	2	20.9	8.2	32.7	6.4	6.9	12
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Middle	2	1	20.8	8.2	32.7	6.4	6.3	11.5
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Middle	2	2	20.9	8.2	32.7	6.4	6.7	11.5
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Bottom	3	1	20.8	8.2	32.7	6.4	6.4	15.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS13	Cloudy	Moderate	09:28	10.7	Bottom	3	2	20.9	8.2	32.7	6.4	6.8	15
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Surface	1	1	20.7	8.2	32.7	6.5	6.1	7.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Surface	1	2	20.7	8.2	32.7	6.5	6.7	7
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Middle	2	1	20.7	8.2	32.7	6.5	5.7	7.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Middle	2	2	20.7	8.2	32.7	6.5	5.5	6.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Bottom	3	1	20.7	8.2	32.7	6.5	11.5	7.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS14	Cloudy	Moderate	09:48	14.3	Bottom	3	2	20.8	8.2	32.7	6.5	11.3	7.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Surface	1	1	20.9	8.2	32.8	6.3	4.5	6.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Surface	1	2	20.9	8.1	32.8	6.3	4	5.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Middle	2	1	20.9	8.2	32.8	6.3	4.7	7.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Middle	2	2	20.9	8.1	32.8	6.3	4.1	8.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Bottom	3	1	20.9	8.2	32.8	6.3	5.1	7.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Ebb	IS15	Cloudy	Moderate	09:20	10.5	Bottom	3	2	20.9	8.1	32.8	6.3	4.3	8.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Surface	1	1	20.9	8.2	32.8	6.4	4.2	6.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Surface	1	2	21	8.2	32.8	6.4	4.5	6.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Middle	2	1	20.9	8.2	32.8	6.4	5.3	6.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Middle	2	2	21	8.2	32.8	6.4	5	7.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Bottom	3	1	20.9	8.2	32.8	6.4	5.7	6.5
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS6	Cloudy	Moderate	15:54	9.9	Bottom	3	2	21	8.2	32.8	6.4	5.1	6.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Surface	1	1	20.7	8.2	32.3	6.7	3	5.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Surface	1	2	20.8	8.2	32.3	6.7	3.2	5.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Middle	2	1	20.6	8.2	32.3	6.6	3.3	5
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Middle	2	2	20.6	8.2	32.3	6.6	3.3	5.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Bottom	3	1	20.6	8.2	32.3	6.6	4	6.3

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	CS4	Cloudy	Moderate	14:22	15.2	Bottom	3	2	20.6	8.2	32.3	6.6	4.2	5.2
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Surface	1	1	20.9	8.2	32.8	6.5	4.4	7.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Surface	1	2	21	8.2	32.8	6.5	4.6	5.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Bottom	3	1	20.9	8.2	32.8	6.6	5.1	6.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR8	Cloudy	Moderate	15:33	4.2	Bottom	3	2	20.9	8.2	32.8	6.6	5.1	6.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Surface	1	1	20.9	8.2	32.8	6.4	4.5	8.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Surface	1	2	20.9	8.2	32.8	6.4	4.3	8.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Bottom	3	1	20.9	8.2	32.8	6.4	6.6	12.5
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR9	Cloudy	Moderate	15:16	3.9	Bottom	3	2	20.9	8.1	32.8	6.4	6.6	12.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Surface	1	1	21.1	8	32.7	6.4	3.5	3.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Surface	1	2	21.2	8	32.5	6.4	3.6	5
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Middle	2	1	21.1	8	32.7	6.4	3.7	3.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Middle	2	2	21.2	8	32.5	6.4	3.7	5.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Bottom	3	1	21.1	8	32.7	6.5	3.4	7.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	SR10A	Cloudy	Calm	16:19	11.4	Bottom	3	2	21.2	8	32.5	6.4	3.4	8.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Surface	1	1	20.8	8.2	32.7	6.5	3.8	4.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Surface	1	2	20.9	8.2	32.7	6.5	4	4.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Middle	2	1	20.9	8.2	32.8	6.4	4.2	4.8
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Middle	2	2	20.9	8.2	32.8	6.4	4.3	6.1
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Bottom	3	1	20.9	8.2	32.8	6.4	4.6	5.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS12	Cloudy	Moderate	14:48	12.1	Bottom	3	2	20.9	8.2	32.8	6.4	4.4	6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Surface	1	1	20.8	8.2	32.7	6.5	6.1	6.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Surface	1	2	20.9	8.2	32.7	6.5	6.1	5.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Middle	2	1	20.8	8.2	32.7	6.5	6.8	5.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Middle	2	2	20.9	8.2	32.7	6.5	6.5	6.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Bottom	3	1	20.8	8.2	32.7	6.5	6.9	9.4
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS13	Cloudy	Moderate	14:58	10.3	Bottom	3	2	20.9	8.2	32.7	6.4	6.7	10
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Surface	1	1	20.9	8.2	32.7	6.6	5	7.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Surface	1	2	20.9	8.2	32.7	6.5	5.1	6.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Middle	2	1	20.9	8.2	32.8	6.4	7.4	8.3
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Middle	2	2	20.9	8.2	32.8	6.4	7.2	8.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Bottom	3	1	20.9	8.2	32.8	6.4	11.8	7.6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS14	Cloudy	Moderate	14:41	13.1	Bottom	3	2	20.9	8.2	32.8	6.4	11.7	7.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Surface	1	1	20.8	8.2	32.7	6.5	6	6.5
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Surface	1	2	20.9	8.2	32.7	6.5	6.1	7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Middle	2	1	20.8	8.2	32.7	6.5	6.8	6
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Middle	2	2	20.9	8.2	32.7	6.5	6.7	6.9
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Bottom	3	1	20.8	8.2	32.7	6.6	7.5	9.7
TMCLKL	HY/2012/08	2017-12-13	Mid-Flood	IS15	Cloudy	Moderate	15:07	10.6	Bottom	3	2	20.8	8.2	32.7	6.5	7.2	8.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Surface	1	1	20.8	8.2	32.5	6.6	5.5	5.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Surface	1	2	21.1	8	28.9	6.7	5.9	5.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Middle	2	1	20.8	8.2	32.5	6.6	6.9	5
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Middle	2	2	21	8	28.8	6.7	7.5	5.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Bottom	3	1	20.8	8.1	32.5	6.6	6.8	5.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS6	Cloudy	Moderate	12:30	9.9	Bottom	3	2	21	8	28.8	6.7	7	4.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Surface	1	1	20.4	8.2	31.3	7.1	4.4	5.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Surface	1	2	20.6	8.1	29	7.2	3.6	4.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Middle	2	1	20.3	8.2	32.2	7	4.8	4.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Middle	2	2	20.6	8.1	29.9	7.1	4.4	4.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Bottom	3	1	20.4	8.2	32.4	6.9	5.1	7.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	CS4	Cloudy	Moderate	11:22	19.5	Bottom	3	2	20.6	8.1	30.1	7	4.4	8.4

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Surface	1	1	20.8	8.2	32.4	6.7	6.5	4.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Surface	1	2	21.1	8	29.8	6.9	6.3	3.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Bottom	3	1	20.7	8.2	32.5	6.8	10.5	7.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR8	Cloudy	Calm	12:16	4.1	Bottom	3	2	21	8	29.9	7	11	7.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Surface	1	1	20.8	8.2	32.4	6.8	7.4	11.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Surface	1	2	21	8.1	29.9	6.9	7.3	10
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Bottom	3	1	20.7	8.2	32.4	6.8	11.8	10.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR9	Cloudy	Calm	12:01	3.9	Bottom	3	2	20.9	8	29.9	7	10.7	11.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Surface	1	1	21	8	32.6	6.4	4	5.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Surface	1	2	20.9	8	32.7	6.4	4	4
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Middle	2	1	21	8	32.6	6.4	3.5	4.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Middle	2	2	20.9	8	32.7	6.5	3.5	5.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Bottom	3	1	21	8	32.6	6.5	3.4	8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	SR10A	Cloudy	Moderate	11:33	11.7	Bottom	3	2	20.9	8	32.7	6.5	3.4	9.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Surface	1	1	20.6	8.1	32.5	6.8	5.1	6.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Surface	1	2	20.9	8.1	30	6.9	5.2	7.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Middle	2	1	20.6	8.1	32.5	6.7	6.5	8.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Middle	2	2	20.8	8.1	30	6.9	6.9	7.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Bottom	3	1	20.6	8.1	32.5	6.7	7.9	8.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS12	Cloudy	Calm	11:42	15.2	Bottom	3	2	20.8	8.1	30	6.9	8.5	7.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Surface	1	1	20.6	8.2	32.4	6.8	11	13.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Surface	1	2	20.9	8.1	29.9	6.9	10.2	12.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Middle	2	1	20.6	8.1	32.5	6.8	13.4	13.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Middle	2	2	20.8	8.1	30	6.9	14.4	12.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Bottom	3	1	20.6	8	32.4	6.8	14.2	15.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS13	Cloudy	Calm	11:48	10.7	Bottom	3	2	20.8	8.1	29.9	7	13.8	14.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Surface	1	1	20.6	8.1	32.5	6.9	5.4	6.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Surface	1	2	20.8	8.1	30	6.9	4.6	7.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Middle	2	1	20.5	8.1	32.5	6.8	5.9	6.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Middle	2	2	20.8	8.1	30	7	6.2	6.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Bottom	3	1	20.5	8.1	32.5	6.9	6.3	11.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS14	Cloudy	Calm	11:36	16.8	Bottom	3	2	20.8	8.1	30	7	6.9	10.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Surface	1	1	20.7	8.2	32.5	6.8	4.9	9.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Surface	1	2	21	8.1	30	6.9	4	9.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Middle	2	1	20.7	8.2	32.5	6.7	5.3	12.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Middle	2	2	20.9	8.1	30	6.9	6.1	12.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Bottom	3	1	20.6	8.2	32.5	6.7	5.6	13.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Ebb	IS15	Cloudy	Calm	11:55	10.8	Bottom	3	2	20.9	8.1	30	6.9	5.6	13.3
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Surface	1	1	20.6	8.1	32.3	6.7	5.5	5.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Surface	1	2	20.8	8	29.2	6.9	5.5	6.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Middle	2	1	20.5	8.1	32.3	6.8	6	8.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Middle	2	2	20.7	8.1	29.2	7	5.7	8.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Bottom	3	1	20.4	8.1	32.3	6.8	6	10.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS6	Cloudy	Moderate	04:20	9.9	Bottom	3	2	20.6	8.1	29.2	6.9	5.9	10
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Surface	1	1	20.3	8.2	31.9	7	4.4	5.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Surface	1	2	20.5	8.1	28.6	7.1	4	4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Middle	2	1	20.4	8.2	32	6.9	7.6	4.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Middle	2	2	20.6	8.1	28.6	7.1	7.1	4.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Bottom	3	1	20.4	8	32	6.9	12.7	4.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	CS4	Cloudy	Moderate	05:37	19.4	Bottom	3	2	20.6	8.1	28.5	7	12	4.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Surface	1	1	20.6	8.1	32.4	6.7	6	4.7

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Surface	1	2	20.9	8	29.9	6.9	5.3	5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Bottom	3	1	20.6	8.1	32.4	6.8	6.6	4.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR8	Cloudy	Calm	04:33	4	Bottom	3	2	20.9	8	29.9	7	6.5	4.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Surface	1	1	20.6	8.1	32.4	6.7	4.5	4.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Surface	1	2	20.9	8	28.6	6.9	4.4	4.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Bottom	3	1	20.6	8.1	32.4	6.8	4.8	5.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR9	Cloudy	Calm	04:49	3.8	Bottom	3	2	20.9	8	28.6	7	4.7	4.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Surface	1	1	20.9	8	32.7	6.3	3.2	5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Surface	1	2	21	8	32.5	6.3	3.3	5.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Middle	2	1	20.9	8	32.7	6.3	3.3	6.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Middle	2	2	21	8	32.5	6.3	3.3	4.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Bottom	3	1	20.9	8	32.7	6.3	3.4	6.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	SR10A	Fine	Calm	04:10	11.6	Bottom	3	2	21	8	32.5	6.3	3.4	7.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Surface	1	1	20.4	8.1	32.3	6.9	4.8	6.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Surface	1	2	20.6	8.1	29.3	7	4.1	6.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Middle	2	1	20.5	8.1	32.4	6.8	6.4	7.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Middle	2	2	20.7	8.1	29.4	7	6.1	8.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Bottom	3	1	20.5	8.1	32.4	6.8	9.1	8.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS12	Cloudy	Calm	05:09	14.9	Bottom	3	2	20.8	8.1	29.5	7	8.4	8.7
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Surface	1	1	20.6	8.1	32.4	6.7	6.7	7.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Surface	1	2	20.9	8	28.8	6.9	5.7	7.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Middle	2	1	20.6	8.1	32.4	6.7	6.8	7.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Middle	2	2	20.9	8	28.7	6.9	5.6	7.6
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Bottom	3	1	20.6	8.1	32.4	6.8	7.4	11.8
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS13	Cloudy	Calm	05:04	10.8	Bottom	3	2	20.9	8	28.6	7	6.9	11.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Surface	1	1	20.5	8.1	32.3	6.9	5.2	8.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Surface	1	2	20.7	8.1	29.1	7	4.7	9.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Middle	2	1	20.5	8.1	32.3	6.8	8.8	9
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Middle	2	2	20.8	8.1	29	6.9	8.6	7.9
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Bottom	3	1	20.5	8.1	32.4	6.7	19.1	8.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS14	Cloudy	Calm	05:16	16.6	Bottom	3	2	20.8	8.1	29	6.9	18.5	8.5
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Surface	1	1	20.7	8.1	32.4	6.6	8	10.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Surface	1	2	20.9	8	28.7	6.8	7.8	11.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Middle	2	1	20.7	8	32.4	6.6	8.5	11.2
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Middle	2	2	20.9	8	28.6	6.8	8	10.1
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Bottom	3	1	20.7	7.9	32.4	6.7	8.7	11.4
TMCLKL	HY/2012/08	2017-12-15	Mid-Flood	IS15	Cloudy	Calm	04:56	10.9	Bottom	3	2	20.9	8	28.6	6.9	8	10.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Surface	1	1	19.6	8.1	32.4	7	3.5	5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Surface	1	2	19.9	8.1	28.1	7.2	3.2	5.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Middle	2	1	19.6	8.1	32.3	7	3.2	4.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Middle	2	2	19.9	8.1	28.2	7.2	3.2	4.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Bottom	3	1	19.6	8.1	32.3	7	4.5	6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS6	Sunny	Moderate	14:18	9.9	Bottom	3	2	19.8	8.1	28.2	7.2	4.9	7.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Surface	1	1	19.6	8.1	32.6	7	5.5	6.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Surface	1	2	19.8	8.1	27.7	7.1	5.7	7
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Middle	2	1	19.3	8.1	32.5	6.9	7.9	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Middle	2	2	19.5	8.1	27.7	7.1	7.2	8.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Bottom	3	1	19.1	8.1	32.5	6.9	9.9	8.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	CS4	Sunny	Moderate	13:03	19.7	Bottom	3	2	19.3	8.1	27.7	7.1	9.6	7.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Surface	1	1	19.6	8.1	32.6	7.1	10	9.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Surface	1	2	19.9	8.1	28.6	7.3	10.5	10.4

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Bottom	3	1	19.6	7.5	32.6	7.2	15.4	10.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR8	Sunny	Moderate	14:01	4.1	Bottom	3	2	19.8	7.5	28.5	7.4	15.2	11
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Surface	1	1	19.5	8	32.6	7.2	4.6	5.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Surface	1	2	19.8	8	28.9	7.4	4.1	6.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Bottom	3	1	19.4	8	32.5	7.4	6.2	8.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR9	Sunny	Moderate	13:46	4	Bottom	3	2	19.7	8	29	7.7	6.1	8.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Surface	1	1	19.7	8.1	32.6	7	4.3	4.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Surface	1	2	19.6	8.1	32.7	7.1	4.3	3.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Middle	2	1	19.7	8.1	32.6	7.1	4.6	8.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Middle	2	2	19.6	8.1	32.7	7.1	4.6	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Bottom	3	1	19.7	8.1	32.5	7.2	4.4	10.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	SR10A	Fine	Moderate	13:53	12	Bottom	3	2	19.6	8.1	32.7	7.2	4.4	9.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Surface	1	1	19.6	8	32.6	6.9	4	6.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Surface	1	2	19.8	8	28.1	7.2	4.1	6.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Middle	2	1	19.6	8	32.6	6.9	7.2	6.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Middle	2	2	19.8	8	28.2	7.2	6.9	7.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Bottom	3	1	19.6	8	32.6	7.3	10.4	6.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS12	Sunny	Moderate	13:23	14.6	Bottom	3	2	19.8	8	28.3	7.4	10.9	7.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Surface	1	1	19.6	8	32.6	6.9	18.7	18.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Surface	1	2	19.9	8	28.3	7.1	18.6	18.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Middle	2	1	19.6	8	32.6	6.9	20	20
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Middle	2	2	19.8	8	28.5	7.2	20.4	20.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Bottom	3	1	19.6	8	32.6	7.2	21.5	20.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS13	Sunny	Moderate	13:31	10.9	Bottom	3	2	19.8	8	28.8	7.5	21.8	20.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Surface	1	1	19.6	8	32.6	6.9	4.1	6.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Surface	1	2	19.9	8	28.2	7.2	4.2	5.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Middle	2	1	19.6	8	32.6	6.9	5.8	7
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Middle	2	2	19.8	8	28.3	7.2	5.7	6.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Bottom	3	1	19.6	8	32.6	7.3	9.6	8.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS14	Sunny	Moderate	13:18	14.9	Bottom	3	2	19.8	8	28.2	7.4	9.9	7.8
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Surface	1	1	19.7	8.1	32.6	7	4	6.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Surface	1	2	20	8.1	28.5	7.2	3.8	7.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Middle	2	1	19.5	8	32.6	7	6.4	6.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Middle	2	2	19.8	8.1	28.7	7.2	6.8	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Bottom	3	1	19.3	8	32.5	7.3	7.2	10
TMCLKL	HY/2012/08	2017-12-18	Mid-Ebb	IS15	Sunny	Moderate	13:37	11.2	Bottom	3	2	19.6	8	28.8	7.4	7.6	9.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Surface	1	1	19.7	8	32.4	6.8	4.5	12.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Surface	1	2	20	8	30	6.9	4.3	11.8
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Middle	2	1	19.7	8	32.4	6.8	5.9	13.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Middle	2	2	20	8	30.3	6.9	5.2	11.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Bottom	3	1	19.8	8	32.4	6.8	6.6	13.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS6	Fine	Moderate	06:54	9.7	Bottom	3	2	20	8	30.4	6.9	6.9	12.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Surface	1	1	19.4	8	32.3	6.8	11.6	10.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Surface	1	2	19.7	8	28.5	7	11.4	10.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Middle	2	1	19.5	8	32.4	6.8	13.3	11.8
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Middle	2	2	19.8	8	28.6	6.9	13.2	12.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Bottom	3	1	19.6	8	32.4	6.8	14.3	17.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	CS4	Sunny	Moderate	08:06	19.5	Bottom	3	2	19.8	8	28.7	6.9	14.8	17.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Surface	1	1	19.5	8	32.3	7.1	13.3	9.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Surface	1	2	19.7	8.1	30.5	7.3	11.4	9.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Middle	2	1						

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Bottom	3	1	19.5	8	32.3	7.2	15.2	9.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR8	Fine	Moderate	07:04	4.2	Bottom	3	2	19.7	8	31	7.5	14.4	8.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Surface	1	1	19.2	8	32.4	6.8	3.4	5.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Surface	1	2	19.4	8	29.9	6.9	3.1	4.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Bottom	3	1	19.2	8	32.5	6.8	5.2	7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR9	Sunny	Moderate	07:20	3.8	Bottom	3	2	19.4	8	29.9	6.9	5.2	7.8
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Surface	1	1	19.8	8.1	32.6	7	6	8.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Surface	1	2	19.7	8.1	32.8	7	6	8.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Middle	2	1	19.8	8.1	32.6	7	6	9.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Middle	2	2	19.7	8.1	32.8	7	6	10.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Bottom	3	1	19.8	8.1	32.6	7	6.1	13.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	SR10A	Fine	Moderate	06:23	12.2	Bottom	3	2	19.7	8.1	32.8	7	6.1	14.1
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Surface	1	1	19.7	8	32.5	6.8	5.4	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Surface	1	2	20	8	29.5	7	5.7	6.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Middle	2	1	19.7	8	32.5	6.8	7.6	8.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Middle	2	2	20	8	29.6	7	7.2	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Bottom	3	1	19.7	8	32.5	6.9	9	8.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS12	Sunny	Moderate	07:40	14.4	Bottom	3	2	20	8	29.7	7.1	8.5	8.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Surface	1	1	19.7	8	32.5	6.9	4.8	9.9
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Surface	1	2	19.9	8	29.2	7.1	4.9	8.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Middle	2	1	19.7	8	32.5	6.8	7.2	8.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Middle	2	2	19.9	8	29.4	7.1	7.2	8.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Bottom	3	1	19.7	8	32.5	6.9	8.1	9.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS13	Sunny	Moderate	07:34	10.6	Bottom	3	2	19.9	8	29.4	7.2	8.3	8.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Surface	1	1	19.6	8	32.5	6.8	8	7.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Surface	1	2	19.8	8	29.2	6.9	7.2	8.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Middle	2	1	19.6	8	32.5	6.8	10.8	7.7
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Middle	2	2	19.8	8	29.3	7	10.8	7.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Bottom	3	1	19.5	8	32.4	6.8	11.8	9.6
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS14	Sunny	Moderate	07:46	14.9	Bottom	3	2	19.7	8	29.3	7	11.8	8.3
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Surface	1	1	19.4	8	32.5	6.9	5.1	9.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Surface	1	2	19.6	8	29.5	7	5	9.2
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Middle	2	1	19.3	8	32.5	6.9	6.2	8.4
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Middle	2	2	19.6	8	29.6	7.1	6.2	8
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Bottom	3	1	19.2	8	32.5	7	8.4	11.5
TMCLKL	HY/2012/08	2017-12-18	Mid-Flood	IS15	Sunny	Moderate	07:28	11	Bottom	3	2	19.4	8	29.5	7.2	8.4	13.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Surface	1	1	18.8	8.1	32.4	7.2	3.8	6.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Surface	1	2	19	8.1	29.8	7.3	3.4	5.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Middle	2	1	18.8	8.1	32.4	7.2	4.9	6.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Middle	2	2	19	8.1	29.8	7.3	4.3	5.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Bottom	3	1	18.8	8.1	32.4	7.2	5.6	6.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS6	Sunny	Moderate	15:29	9.6	Bottom	3	2	19	8.1	29.8	7.3	4.8	5.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Surface	1	1	18.6	8.1	32.5	7.3	3.9	6.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Surface	1	2	18.9	8.1	29.4	7.4	3.4	5.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Middle	2	1	18.3	8.1	32.5	7.4	7	8.1
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Middle	2	2	18.5	8.1	29.4	7.5	6.7	7.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Bottom	3	1	18	8.1	32.6	7.3	8.9	10.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	CS4	Sunny	Moderate	14:16	19.2	Bottom	3	2	18.2	8.1	29.4	7.4	8.8	9.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Surface	1	1	18.7	8.1	32.5	7.3	4.4	4.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Surface	1	2	19	8.1	30	7.5	4.5	5.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Middle	2	2						

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Bottom	3	1	18.7	8.1	32.5	7.4	4.9	6.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR8	Sunny	Moderate	15:15	3.9	Bottom	3	2	19	8.1	30	7.5	4.2	7.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Surface	1	1	18.8	8.1	32.5	7.4	3.4	5.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Surface	1	2	19.1	8.1	29.9	7.5	3	4.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Bottom	3	1	18.5	8.1	32.5	7.5	4.1	4.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR9	Sunny	Moderate	15:00	4	Bottom	3	2	18.8	8.1	30.1	7.6	4.7	5
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Surface	1	1	18.8	8.1	32.6	7.3	4	7.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Surface	1	2	18.9	8.1	32.4	7.2	4	6.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Middle	2	1	18.8	8.1	32.6	7.3	4.3	8.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Middle	2	2	18.9	8.1	32.4	7.3	4.3	8.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Bottom	3	1	18.8	8.1	32.6	7.5	5.1	8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	SR10A	Sunny	Calm	14:45	11.9	Bottom	3	2	18.9	8.1	32.4	7.5	5.2	8.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Surface	1	1	18.7	8.1	32.5	7.3	3.9	5.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Surface	1	2	18.9	8.1	29.7	7.4	3.7	6.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Middle	2	1	18.7	8.1	32.5	7.3	4.3	6.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Middle	2	2	18.9	8.1	29.8	7.4	3.7	7.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Bottom	3	1	18.6	8.1	32.5	7.3	5.5	6.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS12	Sunny	Moderate	14:39	14.6	Bottom	3	2	18.8	8.1	29.9	7.4	5	6.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Surface	1	1	18.5	8.1	32.5	7.3	11.2	9.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Surface	1	2	18.7	8.1	29.8	7.4	11.6	10.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Middle	2	1	18.5	8.1	32.5	7.3	11.2	11.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Middle	2	2	18.7	8.1	29.9	7.4	10.6	11.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Bottom	3	1	18.4	8.1	32.5	7.4	12.1	10.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS13	Sunny	Moderate	14:45	10.7	Bottom	3	2	18.7	8.1	30	7.6	11.9	10.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Surface	1	1	18.6	8.1	32.5	7.2	5	6.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Surface	1	2	18.9	8.1	29.7	7.4	5	5.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Middle	2	1	18.5	8.1	32.5	7.2	5.9	5.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Middle	2	2	18.8	8.1	29.8	7.4	5	7.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Bottom	3	1	18.4	8.1	32.5	7.3	6.8	7.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS14	Sunny	Moderate	14:32	15.4	Bottom	3	2	18.7	8.1	30	7.5	6.6	6.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Surface	1	1	18.6	8.1	32.5	7.3	4.4	3.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Surface	1	2	18.9	8.1	29.9	7.4	3.9	4.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Middle	2	1	18.4	8.1	32.5	7.3	6.2	5.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Middle	2	2	18.6	8.1	29.9	7.4	5.6	6.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Bottom	3	1	18.3	8.1	32.5	7.4	8.1	7.1
TMCLKL	HY/2012/08	2017-12-20	Mid-Ebb	IS15	Sunny	Moderate	14:52	10.5	Bottom	3	2	18.5	8.1	30	7.5	8.3	8.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Surface	1	1	18.1	8.1	32.3	7.4	7.7	10
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Surface	1	2	18.3	8.1	32	7.4	7	9.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Middle	2	1	18.1	8.1	32.3	7.4	9.1	9.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Middle	2	2	18.3	8.1	32	7.4	8.1	8.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Bottom	3	1	18.1	8.1	32.3	7.5	9.7	10.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS6	Fine	Moderate	07:42	9.7	Bottom	3	2	18.3	8.1	32	7.4	9.5	11.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Surface	1	1	18.3	8.1	32.3	7.2	12	16.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Surface	1	2	18.5	8.1	28.4	7.4	11.4	16.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Middle	2	1	18.3	8.1	32.3	7.2	16.3	18.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Middle	2	2	18.6	8.1	28.3	7.3	15.7	19.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Bottom	3	1	18.3	8.1	32.3	7.1	25.4	25.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	CS4	Fine	Moderate	08:55	19.5	Bottom	3	2	18.5	8.1	28.4	7.3	26.7	25.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Surface	1	1	18.3	8	32.4	7.2	6.4	9.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Surface	1	2	18.5	8.1	30.2	7.3	5.8	10.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Bottom	3	1	18.3	8	32.4	7.2	6.3	8.8

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR8	Fine	Moderate	07:55	4.1	Bottom	3	2	18.5	8.1	30.4	7.3	6.3	9.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Surface	1	1	18.4	8	32.3	7.2	6.3	8.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Surface	1	2	18.6	8.1	28.7	7.3	5.9	7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Bottom	3	1	18.3	8	32.3	7.3	7.4	10.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR9	Fine	Moderate	08:11	4	Bottom	3	2	18.5	8.1	28.8	7.5	6.6	11.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Surface	1	1	19	8.2	32.5	7.1	2.4	6
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Surface	1	2	18.9	8.1	32.7	7.1	2.4	7.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Middle	2	1	19	8.2	32.5	7.1	2.8	6
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Middle	2	2	18.9	8.1	32.7	7.1	2.8	6
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Bottom	3	1	19	8.2	32.5	7.1	3.5	8.1
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	SR10A	Fine	Calm	07:30	11.8	Bottom	3	2	18.9	8.1	32.7	7.1	3.5	7.1
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Surface	1	1	18.2	8.1	32.4	7.3	7.6	10.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Surface	1	2	18.4	8.1	28.6	7.4	7.8	11.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Middle	2	1	18.2	8.1	32.4	7.3	8.5	10.6
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Middle	2	2	18.5	8.1	28.8	7.4	7.7	10.1
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Bottom	3	1	18	8.1	32.5	7.3	12.5	10.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS12	Fine	Moderate	08:31	14.9	Bottom	3	2	18.3	8.1	29	7.5	12.4	11.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Surface	1	1	17.8	8.1	32.5	7.5	15.6	18.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Surface	1	2	18.1	8.1	29	7.6	15.3	18.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Middle	2	1	17.8	8.1	32.5	7.5	19.6	19.4
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Middle	2	2	18.1	8.1	29	7.6	19.3	20
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Bottom	3	1	17.8	8.1	32.5	7.5	19.3	21.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS13	Fine	Moderate	08:24	10.8	Bottom	3	2	18.1	8.1	29.2	7.6	19	21.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Surface	1	1	18.5	8.1	32.4	7.2	12.7	16.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Surface	1	2	18.8	8.1	28.6	7.3	11.2	17.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Middle	2	1	18.4	8.1	32.4	7.2	16.7	20.8
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Middle	2	2	18.7	8.1	28.8	7.3	16.9	22.7
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Bottom	3	1	18.4	8.1	32.4	7.2	16.2	23.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS14	Fine	Moderate	08:38	15.7	Bottom	3	2	18.6	8.1	28.9	7.3	15	22.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Surface	1	1	18.1	8.1	32.4	7.2	6.8	11.9
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Surface	1	2	18.4	8.1	28.7	7.4	6.1	11
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Middle	2	1	18.1	8.1	32.4	7.3	11	11.5
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Middle	2	2	18.4	8.1	28.8	7.4	10	10.3
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Bottom	3	1	18.1	8.1	32.4	7.3	12.9	14.2
TMCLKL	HY/2012/08	2017-12-20	Mid-Flood	IS15	Fine	Moderate	08:16	10.9	Bottom	3	2	18.4	8.1	28.9	7.4	12.7	15.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Surface	1	1	18.4	8.1	32.1	7.5	2.3	6.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Surface	1	2	18.6	8.1	31.1	7.5	2	5.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Middle	2	1	18.1	8.1	32.1	7.5	3.7	8.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Middle	2	2	18.3	8.1	31.1	7.6	3.3	8.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Bottom	3	1	17.9	8.1	32.1	7.5	4.6	7.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS6	Fine	Moderate	16:31	9.8	Bottom	3	2	18.1	8.1	31.1	7.5	4.8	8.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Surface	1	1	18	8.1	32.1	7.7	6.2	9.3
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Surface	1	2	18.3	8.2	31	7.7	5.9	9.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Middle	2	1	17.9	8.1	32.2	7.6	6.1	9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Middle	2	2	18.2	8.2	31	7.7	5.9	10.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Bottom	3	1	17.6	8.1	32.1	7.6	6.3	14
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	CS4	Fine	Moderate	15:17	19.6	Bottom	3	2	17.8	8.1	31	7.7	6.7	13
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Surface	1	1	18.4	8.1	32.1	7.7	4.4	7.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Surface	1	2	18.7	8.1	30.9	7.7	4.2	6.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Bottom	3	1	18.2	8.1	32.1	7.7	6.2	9.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR8	Fine	Moderate	16:16	4	Bottom	3	2	18.4	8.1	30.9	7.7	6.2	8.7

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Surface	1	1	18.1	8.1	32.1	7.7	7.2	8.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Surface	1	2	18.4	8.1	30.9	7.7	6.8	9.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Bottom	3	1	18	8.1	32.1	7.7	6.1	11.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR9	Fine	Moderate	16:00	4.1	Bottom	3	2	18.3	8.1	30.9	7.7	5.9	10.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Surface	1	1	18.6	8.1	32.4	7.2	6.5	8.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Surface	1	2	18.5	8.1	32.6	7.3	6.5	8.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Middle	2	1	18.6	8.1	32.4	7.3	6.5	7.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Middle	2	2	18.5	8.1	32.6	7.3	6.5	7.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Bottom	3	1	18.6	8.1	32.4	7.3	6.4	8.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	SR10A	Sunny	Moderate	15:52	12.9	Bottom	3	2	18.5	8.1	32.6	7.3	6.4	8.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Surface	1	1	17.9	8.1	32.1	7.6	6.9	11.3
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Surface	1	2	18.1	8.1	31	7.6	6.8	10.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Middle	2	1	17.8	8.1	32.1	7.5	11.7	10
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Middle	2	2	18	8.1	30.9	7.6	11.4	11.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Bottom	3	1	17.8	8.1	32.1	7.5	15.5	15
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS12	Fine	Moderate	15:39	14.9	Bottom	3	2	18	8.1	30.9	7.6	15.2	13.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Surface	1	1	18	8.1	32.1	7.5	7.9	16.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Surface	1	2	18.3	8.1	30.9	7.6	7.5	15.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Middle	2	1	18	8.1	32.1	7.5	12.4	16.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Middle	2	2	18.2	8.1	30.9	7.6	12.1	15.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Bottom	3	1	18	8.1	32.1	7.6	13.4	17.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS13	Fine	Moderate	15:46	10.9	Bottom	3	2	18.2	8.1	30.8	7.6	13.3	17.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Surface	1	1	18	8.1	32.1	7.6	5.1	8
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Surface	1	2	18.2	8.1	30.9	7.7	4.7	6.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Middle	2	1	17.8	8.1	32.2	7.6	8.7	13.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Middle	2	2	18.1	8.1	30.9	7.6	8.2	13
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Bottom	3	1	17.8	8.1	32.2	7.6	11.8	12
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS14	Fine	Moderate	15:32	16.5	Bottom	3	2	18.1	8.1	30.8	7.6	11	13.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Surface	1	1	18.2	8.1	32.1	7.8	3.9	5.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Surface	1	2	18.5	8.2	31	7.8	3.2	5
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Middle	2	1	18	8.1	32.1	7.7	4.6	6.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Middle	2	2	18.3	8.2	31	7.7	3.8	7.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Bottom	3	1	18	8.1	32.2	7.7	4.7	8.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Ebb	IS15	Fine	Moderate	15:53	11	Bottom	3	2	18.2	8.2	30.9	7.7	4.5	7.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Surface	1	1	17.8	8.1	31.9	7.6	8.6	7.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Surface	1	2	18	8	31.9	7.5	8.4	8.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Middle	2	1	17.8	8.1	31.9	7.5	9.2	8.3
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Middle	2	2	18	8	31.9	7.5	9.3	9.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Bottom	3	1	17.8	8	31.9	7.5	10.4	12
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS6	Fine	Moderate	09:13	9.9	Bottom	3	2	18	8	31.9	7.5	10.7	13.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Surface	1	1	17.9	8.1	32.1	7.5	7.2	8.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Surface	1	2	18.1	8.1	30.3	7.6	7.2	8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Middle	2	1	17.9	8.1	32.1	7.5	7.5	11.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Middle	2	2	18.1	8.1	30.3	7.6	7.9	11.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Bottom	3	1	17.8	8.1	32.1	7.5	10.1	13.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	CS4	Fine	Moderate	10:19	19.6	Bottom	3	2	18.1	8.1	30.4	7.5	9.8	14.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Surface	1	1	18	8	32	7.5	9.2	9.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Surface	1	2	18.3	8.1	31.8	7.5	8.7	10.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Bottom	3	1	18	8.1	32	7.5	11.2	13.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR8	Fine	Moderate	09:25	4.1	Bottom	3	2	18.2	8.1	31.8	7.5	10.7	13.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Surface	1	1	18	8.1	32	7.4	10.9	9

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Surface	1	2	18.2	8.1	31.8	7.4	10.9	7.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Bottom	3	1	17.9	8.1	32	7.4	13.6	11.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR9	Fine	Moderate	09:38	3.9	Bottom	3	2	18.2	8.1	31.8	7.4	13.6	10.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Surface	1	1	18.3	8.2	32.5	7.4	8.2	10
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Surface	1	2	18.2	8.1	32.7	7.4	8.2	10.7
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Middle	2	1	18.3	8.2	32.5	7.4	8	11
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Middle	2	2	18.2	8.1	32.7	7.4	8	10
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Bottom	3	1	18.3	8.2	32.5	7.4	8.1	12.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	SR10A	Sunny	Moderate	08:40	12.8	Bottom	3	2	18.2	8.1	32.7	7.4	8.1	12.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Surface	1	1	17.7	8.1	32.1	7.6	8.7	9.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Surface	1	2	18	8.1	30.2	7.7	8.6	10.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Middle	2	1	17.7	8.1	32.1	7.6	12	9.3
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Middle	2	2	17.9	8.1	30.2	7.7	11.9	10.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Bottom	3	1	17.6	8.1	32.1	7.6	12.1	20.9
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS12	Fine	Moderate	09:55	14.8	Bottom	3	2	17.9	8.1	30.1	7.7	12.4	19.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Surface	1	1	17.8	8.1	32.1	7.6	10.5	14
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Surface	1	2	18.1	8.1	30.3	7.6	10.1	12.3
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Middle	2	1	17.8	8.1	32.1	7.5	11	15
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Middle	2	2	18.1	8.1	30.3	7.6	11.1	15.5
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Bottom	3	1	17.8	8.1	32.1	7.5	14.7	18.8
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS13	Fine	Moderate	09:50	10.8	Bottom	3	2	18.1	8.1	30.4	7.6	14.9	18.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Surface	1	1	18	8.1	32.1	7.5	10	14.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Surface	1	2	18.2	8.1	30	7.6	9.8	14.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Middle	2	1	18	8.1	32.1	7.5	10.2	13.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Middle	2	2	18.2	8.1	29.9	7.6	9.9	14.1
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Bottom	3	1	18	8.1	32.1	7.5	9.8	15.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS14	Fine	Moderate	10:02	16.5	Bottom	3	2	18.2	8.1	29.9	7.6	9.8	16.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Surface	1	1	17.9	8.1	32.1	7.5	11.2	15.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Surface	1	2	18.2	8.1	31.8	7.5	11.2	16.2
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Middle	2	1	17.8	8.1	32.1	7.6	12.7	14.4
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Middle	2	2	18.1	8.1	31.9	7.6	12.9	14.6
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Bottom	3	1	17.8	8.1	32.1	7.6	13.1	16
TMCLKL	HY/2012/08	2017-12-22	Mid-Flood	IS15	Fine	Moderate	09:44	10.9	Bottom	3	2	18	8.1	31.9	7.6	13.5	15.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Surface	1	1	18.1	8.1	32	7.2	3.1	4.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Surface	1	2	18.4	8.1	30.1	7.3	2.8	3.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Middle	2	1	18.1	8.1	32	7.2	3.1	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Middle	2	2	18.4	8.1	30	7.3	3.1	4.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Bottom	3	1	18.1	8.1	32	7.2	3.2	5.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS6	Fine	Moderate	19:32	9.7	Bottom	3	2	18.4	8.1	30	7.3	2.6	6.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Surface	1	1	17.6	8.1	31	7.7	4.8	4.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Surface	1	2	17.9	8.1	29	7.8	4.2	5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Middle	2	1	17.9	8.1	31.8	7.4	3.9	4.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Middle	2	2	18.1	8.1	29.8	7.5	3.3	5.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Bottom	3	1	18	8.1	32	7.5	4.2	5.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	CS4	Fine	Moderate	18:06	19.4	Bottom	3	2	18.2	8.1	29.9	7.6	4.1	5.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Surface	1	1	18	8.1	32	7.6	3.2	3.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Surface	1	2	18.3	8.1	29.8	7.7	3.2	3.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Bottom	3	1	18	8.1	32	7.7	3.5	4.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR8	Fine	Calm	19:06	4	Bottom	3	2	18.3	8.1	29.6	7.8	3.3	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Surface	1	1	18	8.1	31.8	7.7	4.3	4.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Surface	1	2	18.3	8.1	29.9	7.8	4	5

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Bottom	3	1	18	8.1	31.9	7.8	3.9	7.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR9	Fine	Calm	18:50	3.8	Bottom	3	2	18.2	8.1	29.9	7.9	3.7	7.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Surface	1	1	18.4	8.1	32.4	7.2	2.1	1.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Surface	1	2	18.4	8.2	32.6	7.2	2.1	1.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Middle	2	1	18.4	8.1	32.4	7.2	2	1.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Middle	2	2	18.4	8.2	32.6	7.2	2	1.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Bottom	3	1	18.4	8.1	32.4	7.2	2	2.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	SR10A	Fine	Moderate	18:32	11.6	Bottom	3	2	18.4	8.2	32.6	7.2	2	2.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Surface	1	1	17.9	8.1	31.9	7.6	3.7	7.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Surface	1	2	18.1	8.1	29.9	7.7	3.2	6.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Middle	2	1	17.9	8.1	31.9	7.6	4.7	6.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Middle	2	2	18.2	8.1	30	7.7	4.5	7
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Bottom	3	1	17.9	8.1	31.9	7.6	4.6	6.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS12	Fine	Moderate	18:28	14.4	Bottom	3	2	18.2	8.1	30	7.8	4.6	6.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Surface	1	1	17.9	8.1	31.9	7.7	8.9	7
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Surface	1	2	18.2	8.1	30	7.7	8.2	6.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Middle	2	1	17.9	8.1	31.9	7.7	9.6	7.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Middle	2	2	18.2	8.1	30	7.8	10	8.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Bottom	3	1	17.9	8.1	31.9	7.7	9.5	9.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS13	Fine	Calm	18:35	10.6	Bottom	3	2	18.2	8.1	29.9	7.8	10	10.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Surface	1	1	17.9	8.1	31.9	7.6	3.8	4.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Surface	1	2	18.1	8.1	29.9	7.7	3.2	4.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Middle	2	1	17.9	8.1	31.9	7.6	4.5	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Middle	2	2	18.1	8.1	29.9	7.7	3.8	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Bottom	3	1	17.9	8.1	31.9	7.5	6.5	4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS14	Fine	Moderate	18:20	16.2	Bottom	3	2	18.1	8.1	29.9	7.6	6.3	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Surface	1	1	17.9	8.1	31.8	7.7	2.8	3.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Surface	1	2	18.2	8.1	29.9	7.8	2.4	4.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Middle	2	1	17.9	8.1	31.9	7.7	3	4.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Middle	2	2	18.2	8.1	29.9	7.7	2.8	3.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Bottom	3	1	17.9	8.1	32	7.7	3.4	3.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Ebb	IS15	Fine	Calm	18:42	10.5	Bottom	3	2	18.2	8.1	30	7.8	3.1	5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Surface	1	1	17.8	8.1	31.3	7.7	3.4	3.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Surface	1	2	18	8.1	31.1	7.7	3.3	3.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Middle	2	1	17.7	8.1	31.6	7.6	4.4	5.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Middle	2	2	18	8.1	31.5	7.6	4	5.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Bottom	3	1	17.8	8.1	31.8	7.5	7.8	7.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS6	Sunny	Moderate	11:09	9.5	Bottom	3	2	18	8.1	31.6	7.6	7.7	7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Surface	1	1	17.9	8.1	31.4	7.7	4.3	2.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Surface	1	2	18.2	8.1	29.6	7.7	3.5	4.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Middle	2	1	17.9	8.1	31.7	7.5	8.6	3.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Middle	2	2	18.2	8.1	29.9	7.6	9.6	3.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Bottom	3	1	17.9	8.1	31.7	7.5	12	5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	CS4	Sunny	Moderate	12:29	19.1	Bottom	3	2	18.1	8.1	29.9	7.5	12.4	3.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Surface	1	1	17.9	8.1	31.7	7.7	5.8	5.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Surface	1	2	18.1	8.1	30.4	7.7	5	5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Bottom	3	1	17.9	8.1	31.8	7.7	10.1	6
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR8	Sunny	Moderate	11:21	4	Bottom	3	2	18.1	8.1	30.5	7.7	10.7	6.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Surface	1	1	17.9	8.1	32	7.6	4.4	5.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Surface	1	2	18.2	8.1	30.6	7.7	4.1	6.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Middle	2	1						

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Bottom	3	1	17.9	8.1	31.9	7.7	4.5	7.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR9	Sunny	Calm	11:38	3.9	Bottom	3	2	18.2	8.1	30.9	7.7	4.1	7.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Surface	1	1	18.3	8.1	32.4	7.2	2.6	5.6
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Surface	1	2	18.2	8.2	32.6	7.2	2.6	4.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Middle	2	1	18.3	8.1	32.4	7.2	2.9	6.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Middle	2	2	18.2	8.2	32.6	7.2	2.9	5.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Bottom	3	1	18.3	8.1	32.4	7.2	2.9	4.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	SR10A	Sunny	Moderate	10:52	11.2	Bottom	3	2	18.2	8.2	32.6	7.2	2.8	4.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Surface	1	1	17.9	8.1	31.5	7.6	4	6.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Surface	1	2	18.2	8.1	29.8	7.7	3.3	5.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Middle	2	1	17.9	8.1	31.7	7.5	7.1	4.8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Middle	2	2	18.1	8.1	29.9	7.6	6.7	5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Bottom	3	1	17.9	8.1	31.7	7.5	9.7	5.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS12	Sunny	Calm	11:58	14.6	Bottom	3	2	18.1	8.1	29.9	7.6	10.3	6.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Surface	1	1	17.8	8.1	31.3	7.7	4	3.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Surface	1	2	18.1	8.1	29.7	7.7	3.7	4.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Middle	2	1	17.8	8.1	31.6	7.6	5	3.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Middle	2	2	18.1	8.1	30.1	7.7	5.4	4.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Bottom	3	1	17.9	8.1	31.8	7.6	7	5.4
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS13	Sunny	Calm	11:53	10.8	Bottom	3	2	18.1	8.1	30.2	7.6	6.1	6.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Surface	1	1	17.9	8.1	31.9	7.6	6.8	6.3
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Surface	1	2	18.2	8.1	30.1	7.6	6.4	6.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Middle	2	1	17.9	8.1	31.9	7.5	8.9	9.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Middle	2	2	18.1	8.1	30	7.6	8.5	8
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Bottom	3	1	17.8	8.1	31.9	7.5	9.1	9.2
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS14	Sunny	Calm	12:05	15.5	Bottom	3	2	18.1	8.1	30.1	7.6	9.1	10
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Surface	1	1	17.9	8.1	31.8	7.6	6.1	4.9
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Surface	1	2	18.1	8.1	30.3	7.7	6.4	5.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Middle	2	1	17.8	8.1	31.8	7.5	7.2	6.5
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Middle	2	2	18.1	8.1	30.3	7.7	8	6.7
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Bottom	3	1	17.8	8.1	31.9	7.6	7.5	9.1
TMCLKL	HY/2012/08	2017-12-25	Mid-Flood	IS15	Sunny	Calm	11:46	10.7	Bottom	3	2	18	8.1	30.5	7.7	7.8	9.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Surface	1	1	17.9	8.3	32.2	7.2	2.5	6.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Surface	1	2	17.9	8.2	32.2	7.2	2.4	5.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Middle	2	1	17.9	8.2	32.2	7.2	2.5	7.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Middle	2	2	18	8.2	32.2	7.2	2.4	6.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Bottom	3	1	18.1	8.2	32.4	7.2	2.3	5.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS6	Cloudy	Calm	05:41	9.8	Bottom	3	2	18.1	8.2	32.4	7.2	2.2	6.2
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Surface	1	1	17.9	8.2	31.4	7.3	3.1	5.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Surface	1	2	17.9	8.2	31.4	7.3	2.8	6.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Middle	2	1	18.1	8.3	31.9	7.2	2.5	6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Middle	2	2	18.1	8.2	31.9	7.2	2.5	5.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Bottom	3	1	18.1	8.3	32.2	7.1	3.3	5.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	CS4	Cloudy	Moderate	07:06	19.6	Bottom	3	2	18.2	8.2	32.2	7	3.5	5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Surface	1	1	18.1	8.2	32.4	7.2	3.2	4.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Surface	1	2	18.2	8.2	32.4	7.2	2.8	4
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Bottom	3	1	18.1	8.2	32.4	7.2	2.8	4
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR8	Cloudy	Moderate	05:56	4.2	Bottom	3	2	18.2	8.2	32.4	7.2	2.3	5.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Surface	1	1	18.1	8.3	32.4	7.2	2.4	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Surface	1	2	18.2	8.2	32.4	7.2	2.3	4.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Middle	2	2						

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Bottom	3	1	18.1	8.3	32.4	7.2	2.4	7.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR9	Cloudy	Moderate	06:13	4.1	Bottom	3	2	18.1	8.2	32.4	7.2	2.4	7.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Surface	1	1	18.4	8.1	32.3	7.1	1.1	4.2
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Surface	1	2	18.3	8.1	32.4	7.1	1.1	5.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Middle	2	1	18.4	8.2	32.3	7.1	1.3	4.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Middle	2	2	18.3	8.1	32.5	7.1	1.3	6.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Bottom	3	1	18.4	8.2	32.3	7.1	1.3	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	SR10A	Fine	Calm	05:04	11	Bottom	3	2	18.3	8.1	32.5	7.1	1.3	6.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Surface	1	1	18.1	8.3	32	7.3	2.5	4.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Surface	1	2	18.2	8.2	32	7.3	2.4	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Middle	2	1	18.3	8.3	32.2	7.2	2.2	5.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Middle	2	2	18.3	8.2	32.1	7.2	2.2	6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Bottom	3	1	18.2	8.3	32.4	7.1	2.6	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS12	Cloudy	Moderate	06:36	14.6	Bottom	3	2	18.2	8.2	32.4	7.1	2.5	6.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Surface	1	1	18.1	8.3	32.3	7.2	2.3	3.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Surface	1	2	18.1	8.2	32.3	7.2	2.4	4.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Middle	2	1	18.1	8.3	32.3	7.2	3	5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Middle	2	2	18.1	8.2	32.3	7.2	2.9	4.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Bottom	3	1	18.1	8.3	32.3	7.2	2.9	7.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS13	Cloudy	Moderate	06:29	10.9	Bottom	3	2	18.1	8.2	32.3	7.2	3	8.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Surface	1	1	18.1	8.3	31.9	7.3	2.5	6.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Surface	1	2	18.1	8.2	31.9	7.2	2.5	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Middle	2	1	18.3	8.3	32.3	7.2	2.7	4.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Middle	2	2	18.3	8.2	32.3	7.2	2.6	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Bottom	3	1	18.2	8.3	32.3	7.2	2.8	6.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS14	Cloudy	Moderate	06:45	15.3	Bottom	3	2	18.3	8.2	32.3	7.2	2.8	7.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Surface	1	1	18	8.3	32.4	7.2	2.6	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Surface	1	2	18	8.2	32.4	7.2	2.4	6.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Middle	2	1	18	8.3	32.4	7.2	2.5	5.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Middle	2	2	18	8.2	32.4	7.2	2.4	6.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Bottom	3	1	18	8.3	32.4	7.2	2.6	6.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Ebb	IS15	Cloudy	Moderate	06:21	10.8	Bottom	3	2	18	8.2	32.4	7.2	2.4	6.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Surface	1	1	18.2	8.3	32.3	7.3	2	3.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Surface	1	2	18.2	8.2	32.3	7.3	2	2.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Middle	2	1	18.2	8.3	32.3	7.2	2.3	4.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Middle	2	2	18.2	8.2	32.3	7.2	2.2	4.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Bottom	3	1	18.1	8.3	32.3	7.2	2.7	7.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS6	Fine	Moderate	14:00	9.6	Bottom	3	2	18.2	8.2	32.3	7.2	2.8	8.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Surface	1	1	18.3	8.3	31.6	7.3	2.2	2.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Surface	1	2	18.3	8.2	31.6	7.3	2.2	3
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Middle	2	1	18.1	8.3	31.7	7.2	2.8	4.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Middle	2	2	18.1	8.2	31.7	7.1	2.6	3.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Bottom	3	1	18.2	8.3	32.1	7.1	5.3	2.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	CS4	Fine	Moderate	12:40	19.2	Bottom	3	2	18.3	8.2	32.1	7.1	5.1	2.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Surface	1	1	18.5	8.3	32.3	7.5	2.9	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Surface	1	2	18.5	8.2	32.3	7.5	3	4.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Bottom	3	1	18.5	8.3	32.3	7.5	3.3	6.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR8	Fine	Moderate	13:44	3.9	Bottom	3	2	18.5	8.2	32.3	7.4	3.5	6.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Surface	1	1	18.6	8.3	32.3	7.4	2.5	4.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Surface	1	2	18.6	8.2	32.3	7.4	2.4	3.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Bottom	3	1	18.6	8.3	32.3	7.4	2.9	7.3

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR9	Fine	Moderate	13:27	4	Bottom	3	2	18.6	8.2	32.3	7.4	2.8	7.2
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Surface	1	1	18.4	8.1	32.2	7.2	1.5	5.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Surface	1	2	18.3	8.1	32.4	7.2	1.5	4.4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Middle	2	1	18.4	8.1	32.3	7.1	1.5	3.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Middle	2	2	18.3	8.1	32.4	7.1	1.5	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Bottom	3	1	18.4	8.1	32.3	7.1	1.6	6.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	SR10A	Sunny	Moderate	14:37	10.9	Bottom	3	2	18.3	8.1	32.4	7.2	1.6	6.5
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Surface	1	1	18.4	8.3	32	7.3	2.4	4.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Surface	1	2	18.4	8.2	32	7.3	2.2	4
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Middle	2	1	18.4	8.3	32.1	7.3	2.3	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Middle	2	2	18.4	8.2	32.1	7.3	2.3	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Bottom	3	1	18.4	8.3	32.2	7.3	2.9	4.8
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS12	Fine	Moderate	13:05	14.4	Bottom	3	2	18.5	8.2	32.2	7.2	2.8	5
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Surface	1	1	18.4	8.3	32.3	7.3	2.3	6.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Surface	1	2	18.5	8.2	32.3	7.3	2.4	5.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Middle	2	1	18.4	8.3	32.3	7.3	3.4	7.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Middle	2	2	18.4	8.2	32.3	7.3	3.3	6.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Bottom	3	1	18.4	8.3	32.3	7.3	4.1	8
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS13	Fine	Moderate	13:13	10.7	Bottom	3	2	18.4	8.2	32.3	7.3	4.2	9.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Surface	1	1	18.3	8.3	32.3	7.3	3	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Surface	1	2	18.3	8.2	32.3	7.3	2.8	5.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Middle	2	1	18.2	8.3	32.3	7.3	4	5.7
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Middle	2	2	18.2	8.2	32.3	7.2	3.9	5.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Bottom	3	1	18.2	8.3	32.3	7.3	6.1	4.9
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS14	Fine	Moderate	12:57	15.2	Bottom	3	2	18.2	8.2	32.3	7.2	6.3	6.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Surface	1	1	18.4	8.3	32.3	7.4	2.5	4.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Surface	1	2	18.4	8.2	32.3	7.3	2.6	5
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Middle	2	1	18.3	8.3	32.3	7.3	3.4	5.3
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Middle	2	2	18.4	8.2	32.3	7.3	3.6	5.1
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Bottom	3	1	18.3	8.3	32.3	7.3	4.8	4.6
TMCLKL	HY/2012/08	2017-12-27	Mid-Flood	IS15	Fine	Moderate	13:20	10.6	Bottom	3	2	18.4	8.2	32.3	7.3	4.6	4.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Surface	1	1	18.2	8.3	32	7.2	1.5	4.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Surface	1	2	18.3	8.2	32	7.2	1.4	2.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Middle	2	1	18.3	8.2	32.2	7.1	1.7	5.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Middle	2	2	18.3	8.2	32.2	7.1	1.7	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Bottom	3	1	18.3	8.2	32.4	7	1.5	4.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS6	Fine	Moderate	08:30	9.8	Bottom	3	2	18.4	8.1	32.4	7	1.6	4.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Surface	1	1	18.8	8.3	31	7.5	1.8	4.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Surface	1	2	18.9	8.2	31	7.5	1.8	3.5
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Middle	2	1	18.2	8.3	31.5	7.3	2.2	4.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Middle	2	2	18.3	8.2	31.5	7.3	2.2	3.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Bottom	3	1	18.3	8.3	32.1	7.1	4.1	4.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	CS4	Fine	Moderate	09:49	19.5	Bottom	3	2	18.3	8.2	32.1	7.1	4.1	4.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Surface	1	1	18.3	8.3	32.1	7.2	3.1	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Surface	1	2	18.3	8.2	32.1	7.2	3.1	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Bottom	3	1	18.3	8.3	32.1	7.2	3.1	7.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR8	Fine	Moderate	08:44	4.1	Bottom	3	2	18.3	8.2	32.1	7.2	2.9	8.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Surface	1	1	18.3	8.3	32.2	7.2	1.3	4.8
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Surface	1	2	18.4	8.2	32.2	7.2	1.3	3.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Bottom	3	1	18.3	8.3	32.2	7.2	1.9	3
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR9	Fine	Moderate	09:00	4	Bottom	3	2	18.4	8.2	32.2	7.2	1.7	3.6

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Surface	1	1	18.4	8.1	32.3	7.1	2.3	4.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Surface	1	2	18.4	8.1	32.2	7.1	2.3	3.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Middle	2	1	18.4	8.1	32.3	7.1	2.2	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Middle	2	2	18.4	8.1	32.1	7.1	2.2	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Bottom	3	1	18.4	8.1	32.3	7.1	2.4	5.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	SR10A	Fine	Moderate	08:01	10.5	Bottom	3	2	18.4	8.1	32.1	7.1	2.5	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Surface	1	1	18.3	8.3	31.8	7.3	1.5	4.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Surface	1	2	18.3	8.2	31.8	7.3	1.6	5.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Middle	2	1	18.3	8.3	32	7.2	1.6	4.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Middle	2	2	18.3	8.2	32	7.1	1.5	4.5
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Bottom	3	1	18.3	8.3	32.3	7.1	1.7	4.5
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS12	Fine	Moderate	09:23	14.4	Bottom	3	2	18.4	8.2	32.3	7	1.8	5.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Surface	1	1	18.3	8.3	32.1	7.2	2	3.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Surface	1	2	18.4	8.2	32.1	7.2	2.1	4.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Middle	2	1	18.3	8.3	32.1	7.2	2.3	5.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Middle	2	2	18.4	8.2	32.1	7.2	2.6	5.8
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Bottom	3	1	18.3	8.3	32.1	7.2	9.1	5.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS13	Fine	Moderate	09:15	10.7	Bottom	3	2	18.4	8.2	32.1	7.1	9	4.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Surface	1	1	18.3	8.3	31.8	7.3	1.7	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Surface	1	2	18.3	8.2	31.8	7.3	1.6	3.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Middle	2	1	18.3	8.3	32	7.2	1.7	6.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Middle	2	2	18.4	8.2	32	7.2	1.7	5.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Bottom	3	1	18.3	8.3	32.1	7.1	1.9	8.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS14	Fine	Moderate	09:30	15.2	Bottom	3	2	18.4	8.2	32.1	7.1	2	8.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Surface	1	1	18.3	8.3	32.1	7.2	2.9	6.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Surface	1	2	18.4	8.2	32.1	7.2	2.9	6.8
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Middle	2	1	18.3	8.3	32.1	7.2	2.1	6.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Middle	2	2	18.4	8.2	32.1	7.2	2.1	6.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Bottom	3	1	18.3	8.3	32.2	7.2	2.9	6
TMCLKL	HY/2012/08	2017-12-29	Mid-Ebb	IS15	Fine	Moderate	09:08	10.8	Bottom	3	2	18.4	8.2	32.2	7.2	2.7	6.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Surface	1	1	18.8	8.3	31.9	7.6	1.1	3.5
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Surface	1	2	18.9	8.2	31.9	7.5	1.1	3.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Middle	2	1	18.6	8.3	32.1	7.3	1.4	6.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Middle	2	2	18.7	8.2	32.1	7.3	1.5	5.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Bottom	3	1	18.5	8.3	32.2	7.3	2.1	6.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS6	Misty	Moderate	15:15	9.7	Bottom	3	2	18.5	8.2	32.2	7.3	2.1	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Surface	1	1	19.1	8.3	31	7.6	1.6	2.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Surface	1	2	19.1	8.2	31.1	7.6	1.5	4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Middle	2	1	18.5	8.3	31.7	7.2	2.2	3.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Middle	2	2	18.5	8.2	31.8	7.2	2.3	3.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Bottom	3	1	18.3	8.3	32	7.2	8.2	7.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	CS4	Misty	Moderate	13:56	19.4	Bottom	3	2	18.4	8.2	32	7.1	7.1	7.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Surface	1	1	18.9	8.3	32	7.7	2.7	4.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Surface	1	2	18.9	8.2	32	7.7	2.7	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Bottom	3	1	18.8	8.3	32.1	7.7	4.4	6.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR8	Misty	Moderate	14:58	3.8	Bottom	3	2	18.8	8.2	32.1	7.7	4.4	4.5
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Surface	1	1	18.8	8.3	32.1	7.6	2.5	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Surface	1	2	18.9	8.2	32.1	7.6	2.4	5.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Middle	2	1						
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Middle	2	2						
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Bottom	3	1	18.8	8.3	32.1	7.5	3.2	8.8
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR9	Misty	Moderate	14:42	4	Bottom	3	2	18.9	8.2	32.1	7.5	3.5	9.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Surface	1	1	18.5	8.1	32.2	7.2	0.6	4.9

Project	Works	Date	Tide	Stat	Weather	Sea Condition	Time	Water Depth	Level	Lev_Cod	Replicate	Temp(°C)	pH	Salinity(ppt)	DO(mg/L)	Turbidity(NTU)	SS(mg/L)
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Surface	1	2	18.6	8.1	32.1	7.2	0.6	4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Middle	2	1	18.5	8.1	32.3	7.2	0.6	4.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Middle	2	2	18.6	8.1	32.1	7.1	0.6	3
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Bottom	3	1	18.5	8.1	32.2	7.2	1.8	5.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	SR10A	Fine	Moderate	15:51	10.2	Bottom	3	2	18.6	8.1	32.1	7.2	1.8	4.8
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Surface	1	1	18.7	8.3	31.9	7.4	1.1	5.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Surface	1	2	18.7	8.2	31.9	7.4	1.2	5
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Middle	2	1	18.4	8.3	32	7.2	1.2	4.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Middle	2	2	18.4	8.2	32	7.2	1.3	6
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Bottom	3	1	18.4	8.3	32.1	7.2	1.7	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS12	Misty	Moderate	14:18	14.3	Bottom	3	2	18.4	8.2	32	7.2	1.9	4.1
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Surface	1	1	18.4	8.3	32	7.3	1.5	2.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Surface	1	2	18.5	8.2	32	7.3	1.5	3.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Middle	2	1	18.4	8.3	32	7.3	1.8	3.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Middle	2	2	18.4	8.2	32	7.3	1.8	2.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Bottom	3	1	18.4	8.3	32	7.3	2.4	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS13	Misty	Moderate	14:25	10.9	Bottom	3	2	18.4	8.2	32	7.3	2.4	5.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Surface	1	1	18.6	8.3	32	7.4	1.7	4.3
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Surface	1	2	18.6	8.2	32	7.3	1.8	5.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Middle	2	1	18.4	8.3	32.1	7.3	3.1	5.9
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Middle	2	2	18.5	8.2	32.1	7.3	2.6	4.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Bottom	3	1	18.4	8.3	32.1	7.3	4.1	4.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS14	Misty	Moderate	14:11	15.1	Bottom	3	2	18.5	8.2	32.1	7.2	3.7	4.4
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Surface	1	1	18.6	8.3	32	7.4	2.1	4.7
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Surface	1	2	18.6	8.2	32	7.4	2.1	3.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Middle	2	1	18.5	8.3	32.1	7.3	2.5	4.2
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Middle	2	2	18.5	8.2	32.1	7.3	2.6	5.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Bottom	3	1	18.5	8.3	32.1	7.3	2.7	5.6
TMCLKL	HY/2012/08	2017-12-29	Mid-Flood	IS15	Misty	Moderate	14:34	10.7	Bottom	3	2	18.6	8.2	32.1	7.3	2.5	6.6

Appendix J

Impact Dolphin Monitoring Survey

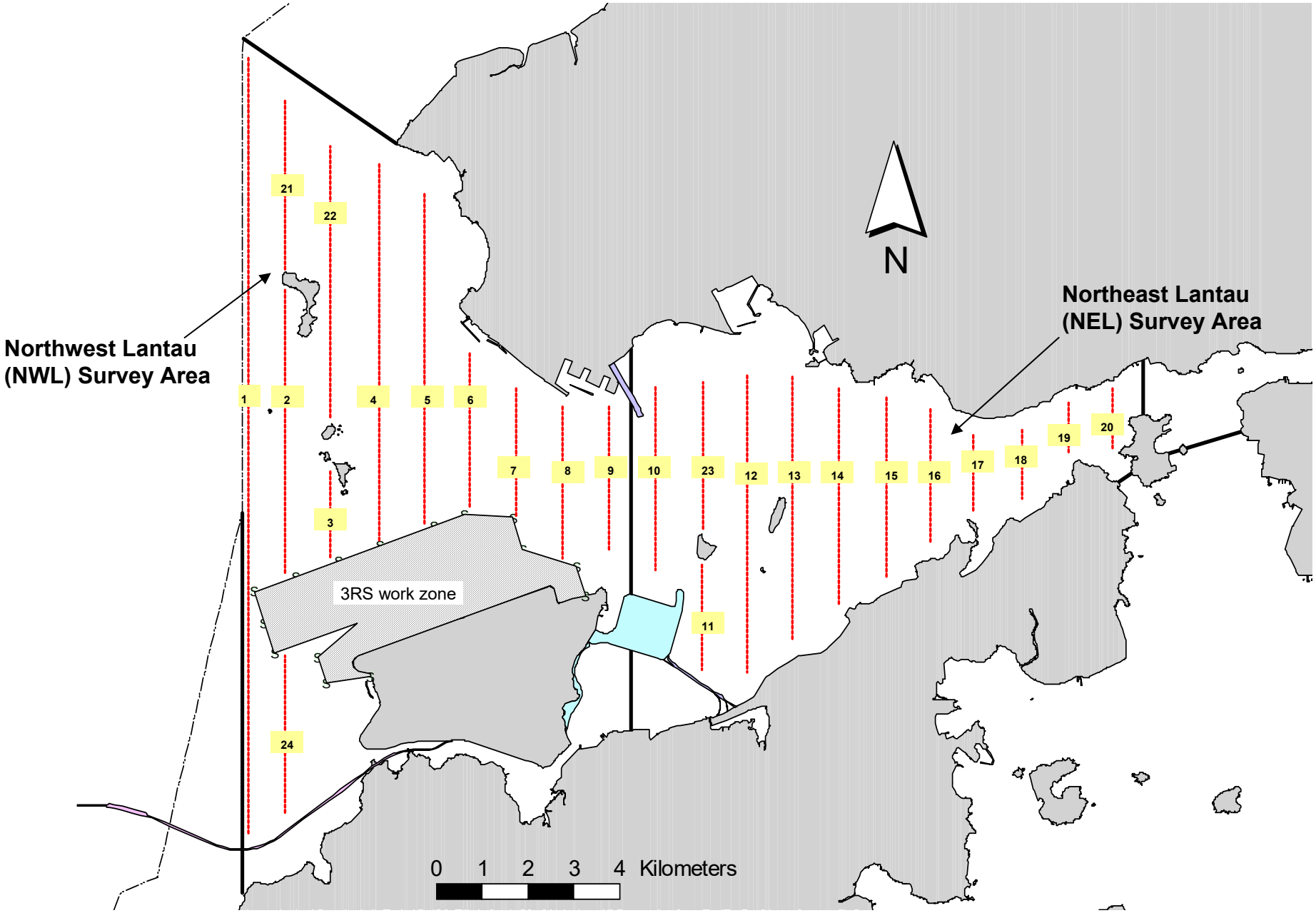


Figure 1. Transect Line Layout in Northwest and Northeast Lantau Survey Areas

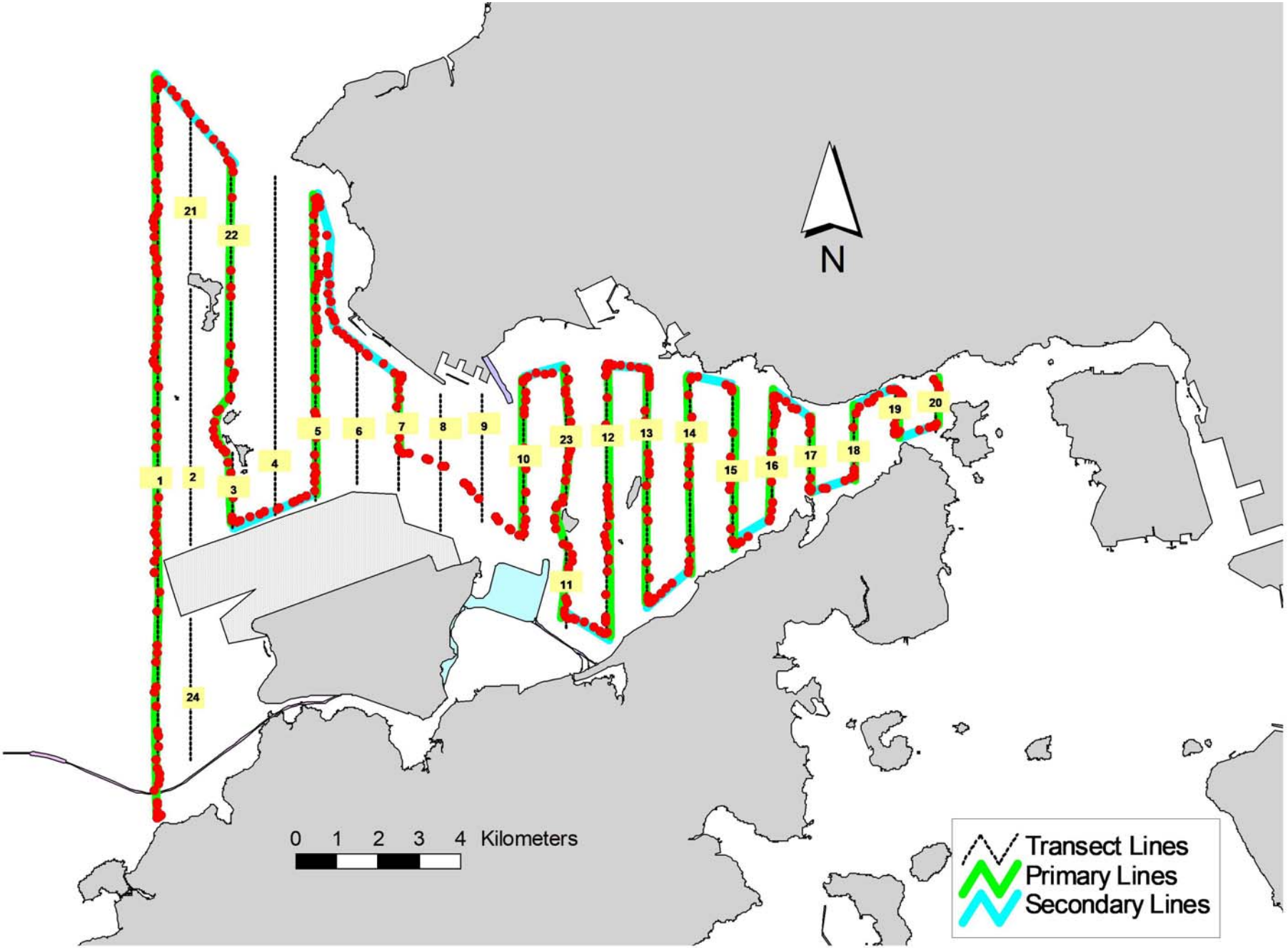


Figure 2. Survey Route on December 5th, 2017 (from HKLR03 project)

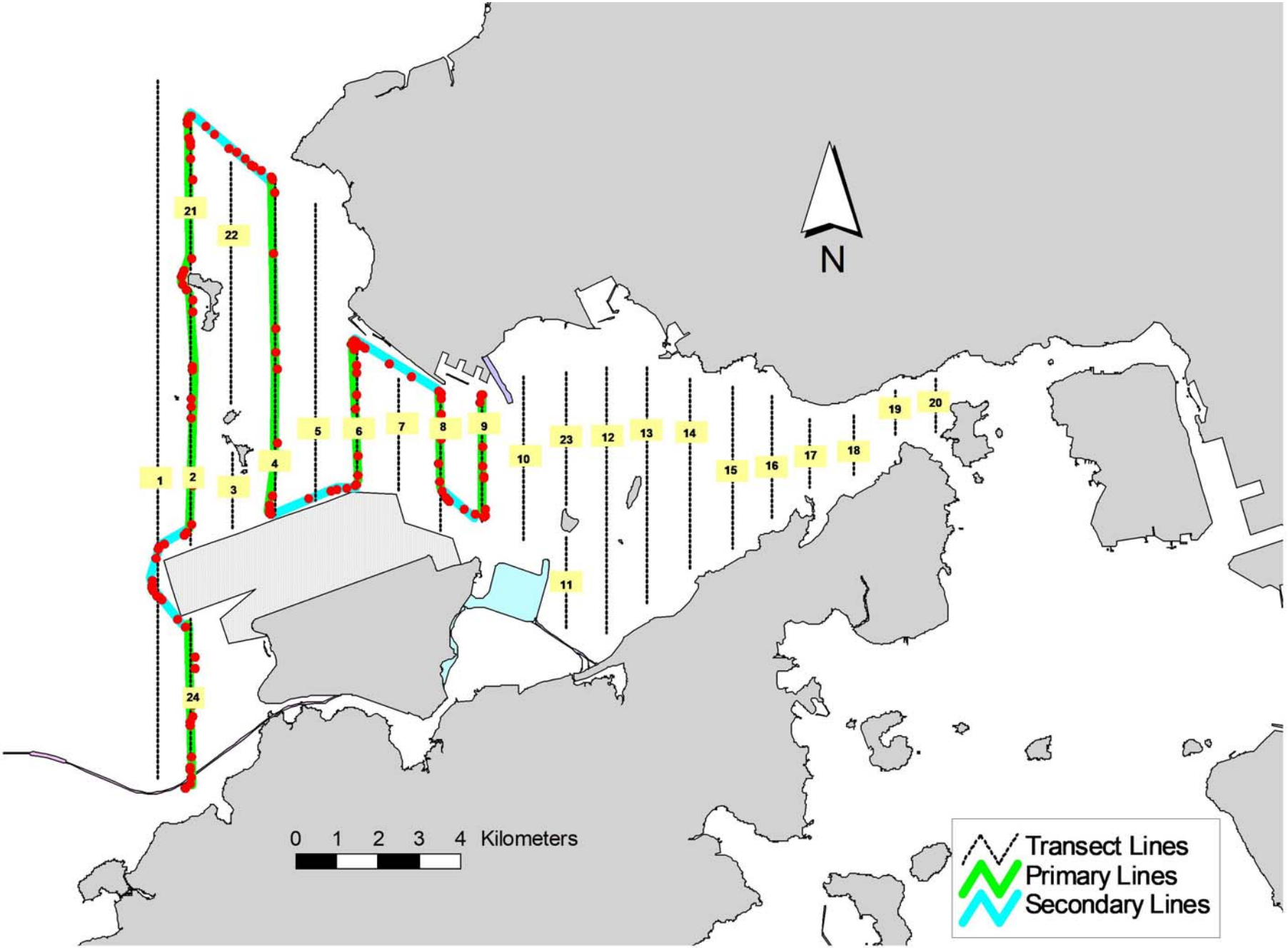


Figure 3. Survey Route on December 12th, 2017 (from HKLR03 project)

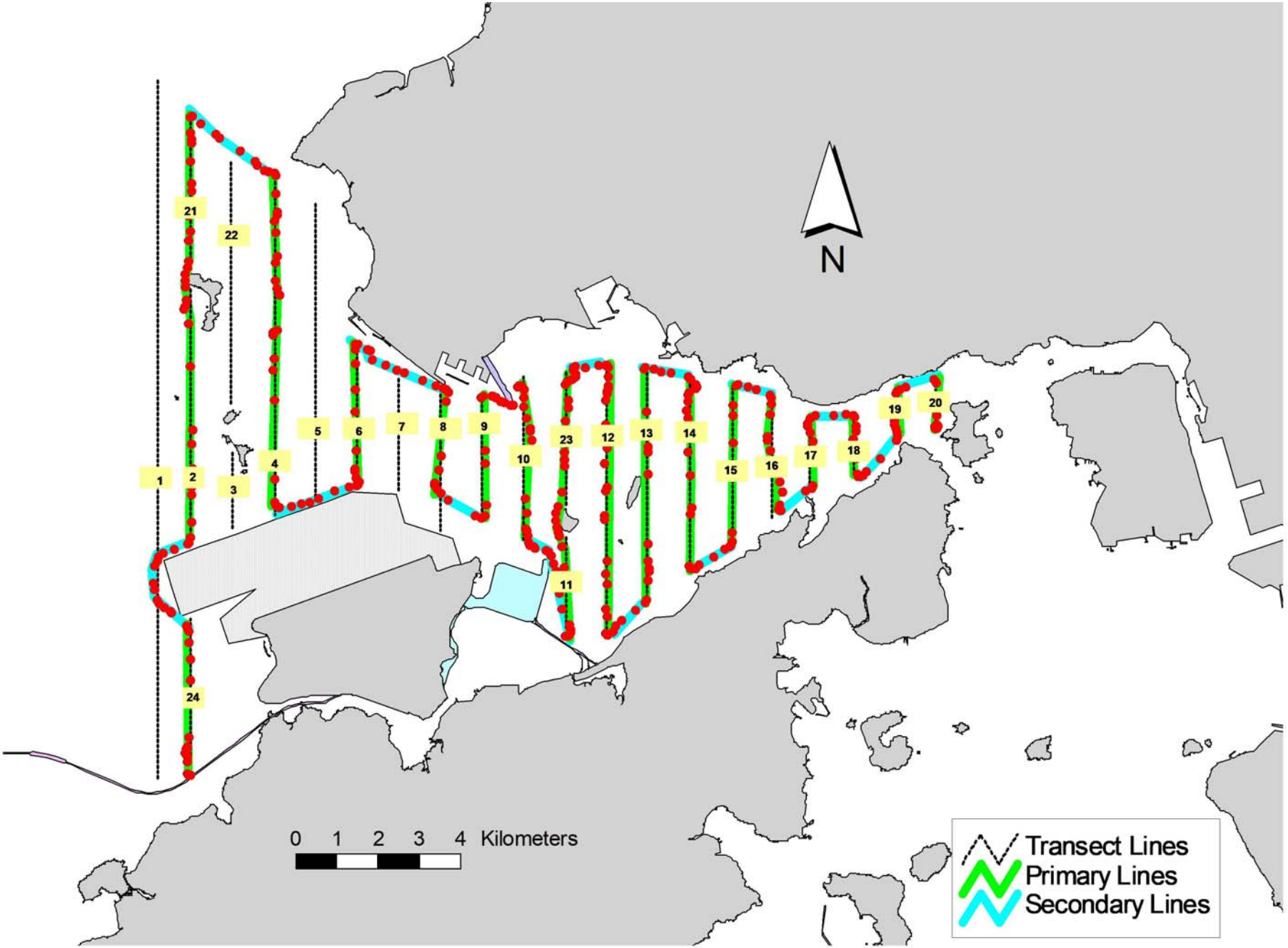


Figure 4. Survey Route on December 15th, 2017 (from HKLR03 project)

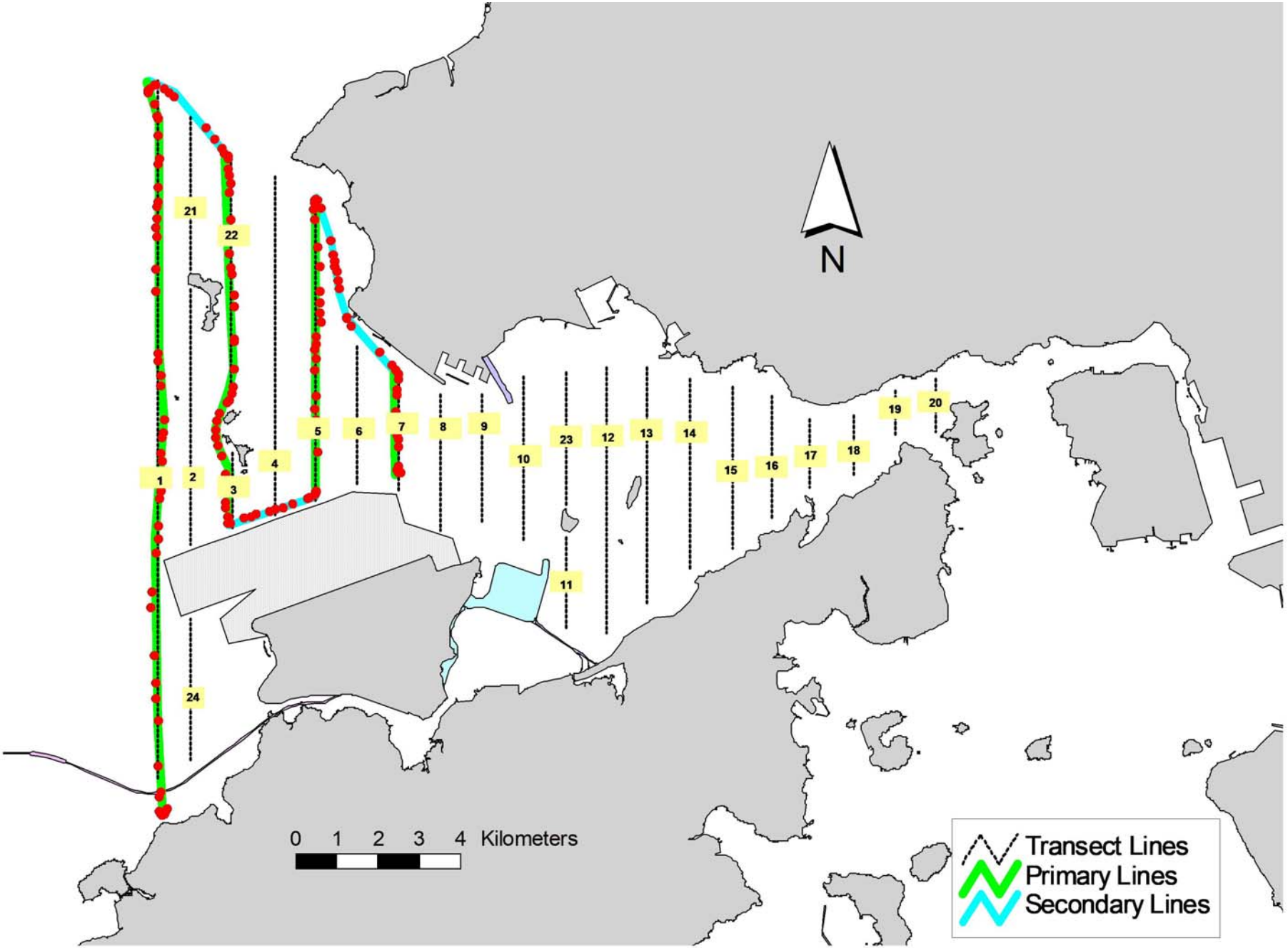


Figure 5. Survey Route on December 20th, 2017 (from HKLR03 project)

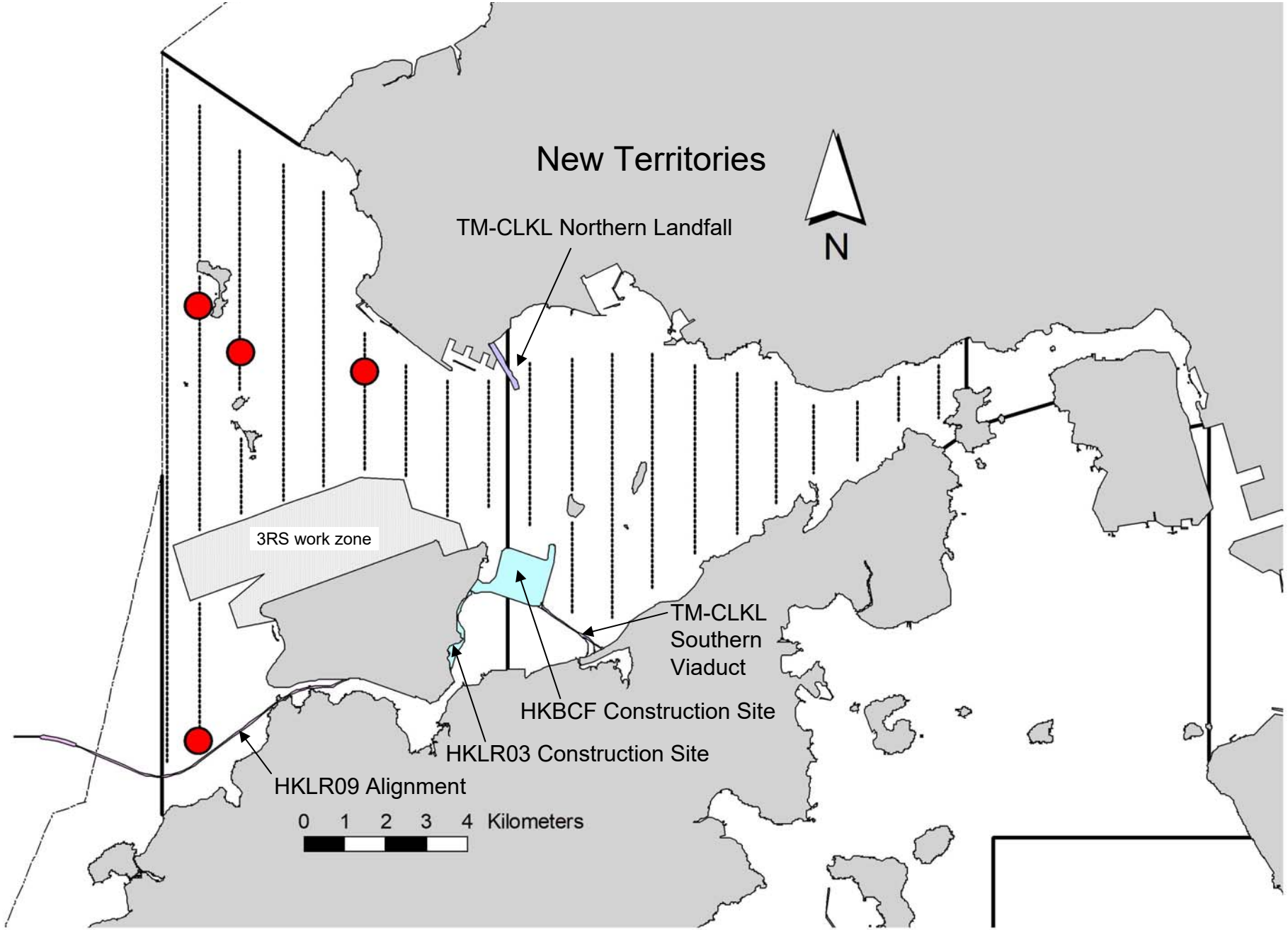


Figure 6. Distribution of Chinese White Dolphin Sightings during December 2017 HKLR03 Monitoring Surveys

Appendix I. HKLR03 Survey Effort Database (December 2017)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
5-Dec-17	NW LANTAU	2	17.27	WINTER	STANDARD36826	HKLR	P
5-Dec-17	NW LANTAU	3	15.02	WINTER	STANDARD36826	HKLR	P
5-Dec-17	NW LANTAU	2	7.80	WINTER	STANDARD36826	HKLR	S
5-Dec-17	NW LANTAU	3	3.81	WINTER	STANDARD36826	HKLR	S
5-Dec-17	NE LANTAU	2	33.41	WINTER	STANDARD36826	HKLR	P
5-Dec-17	NE LANTAU	3	2.11	WINTER	STANDARD36826	HKLR	P
5-Dec-17	NE LANTAU	2	13.18	WINTER	STANDARD36826	HKLR	S
5-Dec-17	NE LANTAU	3	0.60	WINTER	STANDARD36826	HKLR	S
12-Dec-17	NW LANTAU	2	24.51	WINTER	STANDARD36826	HKLR	P
12-Dec-17	NW LANTAU	3	3.30	WINTER	STANDARD36826	HKLR	P
12-Dec-17	NW LANTAU	2	11.89	WINTER	STANDARD36826	HKLR	S
12-Dec-17	NW LANTAU	3	0.90	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NW LANTAU	1	3.85	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NW LANTAU	2	21.86	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NW LANTAU	3	2.68	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NW LANTAU	1	2.79	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NW LANTAU	2	6.92	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NW LANTAU	3	2.43	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NE LANTAU	1	11.59	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NE LANTAU	2	21.70	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NE LANTAU	3	4.60	WINTER	STANDARD36826	HKLR	P
15-Dec-17	NE LANTAU	1	3.31	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NE LANTAU	2	6.80	WINTER	STANDARD36826	HKLR	S
15-Dec-17	NE LANTAU	3	1.90	WINTER	STANDARD36826	HKLR	S
20-Dec-17	NW LANTAU	2	1.39	WINTER	STANDARD36826	HKLR	P
20-Dec-17	NW LANTAU	3	5.99	WINTER	STANDARD36826	HKLR	P
20-Dec-17	NW LANTAU	4	25.69	WINTER	STANDARD36826	HKLR	P
20-Dec-17	NW LANTAU	3	5.43	WINTER	STANDARD36826	HKLR	S
20-Dec-17	NW LANTAU	4	5.50	WINTER	STANDARD36826	HKLR	S

Appendix II. HKLR03 Chinese White Dolphin Sighting Database (December 2017)

(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
5-Dec-17	1	1150	5	NW LANTAU	3	155	ON	HKLR	824890	806432	WINTER	NONE	P
15-Dec-17	1	1011	1	NW LANTAU	2	7	ON	HKLR	815955	805415	WINTER	NONE	P
15-Dec-17	2	1106	6	NW LANTAU	2	151	ON	HKLR	825966	805414	WINTER	NONE	P
15-Dec-17	3	1242	1	NW LANTAU	1	176	ON	HKLR	824441	809449	WINTER	NONE	P

Appendix III. Individual dolphins identified during HKLR03 monitoring surveys in December 2017

ID#	DATE	STG#	AREA
CH34	15/12/17	2	NW LANTAU
NL33	15/12/17	2	NW LANTAU
NL46	05/12/17	1	NW LANTAU
NL136	15/12/17	2	NW LANTAU
NL182	15/12/17	2	NW LANTAU
NL242	05/12/17	1	NW LANTAU
NL259	05/12/17	1	NW LANTAU
NL261	15/12/17	2	NW LANTAU
NL296	05/12/17	1	NW LANTAU
NL322	15/12/17	2	NW LANTAU
WL62	15/12/17	3	NW LANTAU
WL273	05/12/17	1	NW LANTAU

Appendix IV. Photographs of Identified Individual Dolphins in December 2017 (HKLR03)

Appendix IV. (cont'd)

Appendix K

Event and Action Plan

Event and Action Plan for Impact Air Monitoring

	Action			
	ET [(a)]	**IEC [(a)]**	**SOR [(a)]**	**Contractor(s)**
Action Level Exceedance				
	1. Identify the source. 2. Repeat measurement to confirm finding. If two consecutive measurements exceed Action Level, the exceedance is then confirmed. 3. Inform the IEC and the SOR. 4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented. 5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily. 6. Discuss with the IEC and the Contractor on remedial actions required. 7. If exceedance continues, arrange meeting with the IEC and the SOR. 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working method. 3. If the exceedance is confirmed to be Project related after investigation, discuss with the ET and the Contractor on possible remedial measures. 4. Advise the SOR on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented.	1. Rectify any unacceptable practice 2. Amend working methods if appropriate 3. If the exceedance is confirmed to be Project related, submit proposals for remedial actions to IEC within 3 working days of notification 4. Implement the agreed proposals 5. Amend proposal if appropriate

	Action			
	ET [(a)]	**IEC [(a)]**	**SOR [(a)]**	**Contractor(s)**
Limit Level Exceedance				
	1. Identify the source. 2. Repeat measurement to confirm finding. If two consecutive measurements exceed Limit Level, the exceedance is then confirmed. 3. Inform the IEC, the SOR, the DEP and the Contractor. 4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented. 5. If the exceedance is confirmed to be Project related after investigation, increase monitoring frequency to daily. 6. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 7. Arrange meeting with the IEC and the SOR to discuss the remedial actions to be taken. 8. Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the SOR informed of the results. 9. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 3. If the exceedance is confirmed to be Project related after investigation, discuss with the ET and the Contractor on possible remedial measures. 4. Advise the SOR on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. If the exceedance is confirmed to be Project related after investigation, 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. If the exceedance is confirmed to be Project related after investigation, submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Amend proposal if appropriate. 5. Stop the relevant activity of works as determined by the SOR until the exceedance is abated.

Note: (a) ET – Environmental Team; IEC – Independent Environmental Checker; SOR – Supervising Officer's Representative

Event & Action Plan for Impact Water Quality Monitoring

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

Event	ET Leader	IEC	SOR	Contractor
	2. Identify source(s) of impact; 3. Inform IEC, Contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor;	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.	writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to review the working methods.	non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to SOR within 3 working days of notification and discuss with ET, IEC and SOR.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, SOR and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, SOR and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the SOR accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. 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.

Note: ET – Environmental Team, IEC – Independent Environmental Checker, SOR – Supervising Officer's Representative

Event / Action Plan for Impact Dolphin Monitoring

EVENT	ACTION			
	ET	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 finding 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.
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;	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, SOR and	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 SOR is satisfied with the	1. Inform the SOR and confirm notification of the non-compliance in writing; 2. Attend the meeting to discuss with ET, IEC and SOR the necessity of additional dolphin monitoring and any other

EVENT	ACTION			
	ET	IEC	SOR	Contractor
	3. Identify source(s) of impact; 4. Inform the IEC, 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, 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.	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 SOR of the results and findings accordingly. 5. Supervise / Audit the implementation of additional monitoring and/or any other mitigation measures and advise SOR the results and findings accordingly.	proposals for additional dolphin monitoring and/or any other mitigation measures submitted by ET and Contractor and verified by IEC, 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.	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.

Note: ET – Environmental Team, IEC – Independent Environmental Checker, SOR – Supervising Officer's Representative

Appendix L

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

Table L1 *Cumulative Statistics on Exceedances*

Parameters	Level of Exceedance	Total No. recorded in this reporting month	Total No. recorded since project commencement
1-hr TSP	Action	8	56
	Limit	0	4
24-hr TSP	Action	1	7
	Limit	3	4
Water Quality	Action	4	20
	Limit	0	1
Impact Dolphin Monitoring	Action	0	9
	Limit	0	11

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Month (December 2017)	0	0	0
Total No. received since project commencement	15	1	0

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	18 December 2017

ERM

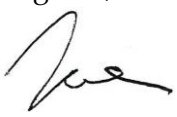
Dear Sir or Madam,

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

0212330_29November2017_1hrTSP_Station ASR10

One Action Level Exceedance was recorded on 29 November 2017.

Regards,



Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_29November2017_1hrTSP_Station ASR10** **[Total No. of Exceedances = 1]**	
Date	29 November 2017 (Measured) 10 December 2017 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR10 (455 µg/m3) during 1410 - 1510 hrs.	
Works Undertaken (at the time of monitoring event)	On 29 November 2017, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, the majority of ground construction works on 29 November 2017 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). • The Action Level at ASR10 is likely due to the maintenance works at the toilet nearby. The toilet is located within 5 meters from the high volume sampler at ASR 10. Concrete debris was found on the ground. Dusty environment was observed during the AQM inspection on 11 December 2017. The maintenance works at the toilet are considered to have major effect on dust generation. Based on the above, the exceedances are unlikely to be due to the project.	

Actions Taken / To Be Taken	Site inspection was carried out on 13 December 2017 to audit proper implementation of mitigation measures. Dust suppression measures were also properly implemented during the site inspections. Based on the above, no additional action is required. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached. Photo Record is provided in Annex A.

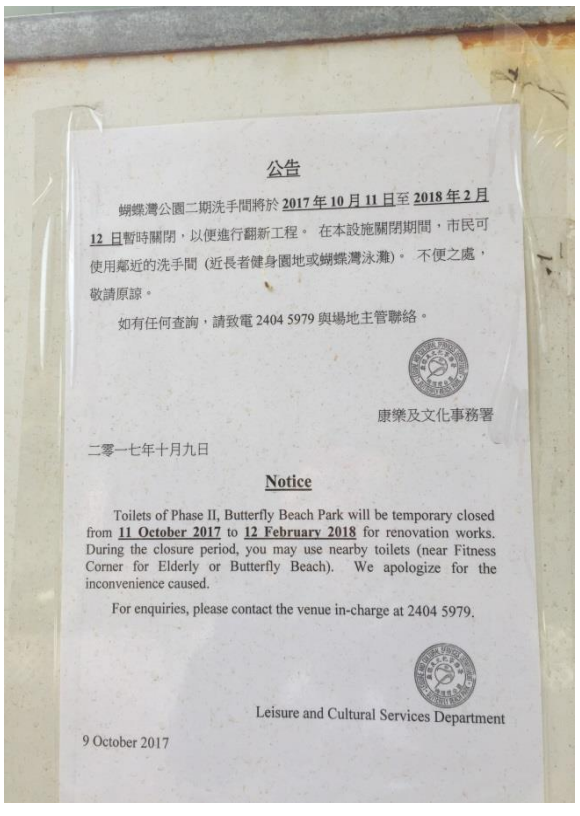
TMCLKL	HY/2012/08	29/11/2017	AQMS1	Sunny	13:52	1-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	29/11/2017	AQMS1	Sunny	14:54	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	29/11/2017	AQMS1	Sunny	15:56	1-hour TSP	97	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR1	Sunny	13:41	1-hour TSP	240	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR1	Sunny	14:43	1-hour TSP	164	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR1	Sunny	15:45	1-hour TSP	87	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR10	Sunny	13:08	1-hour TSP	254	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR10	Sunny	14:10	1-hour TSP	455	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR10	Sunny	15:12	1-hour TSP	145	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR5	Sunny	13:31	1-hour TSP	300	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR5	Sunny	14:33	1-hour TSP	260	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR5	Sunny	15:35	1-hour TSP	143	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR6	Sunny	13:20	1-hour TSP	204	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR6	Sunny	14:22	1-hour TSP	335	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR6	Sunny	15::24	1-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	29/11/2017	AQMS1	Sunny	16:58	24-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR1	Sunny	16:47	24-hour TSP	102	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR10	Sunny	16:14	24-hour TSP	55	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR5	Sunny	16:37	24-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	29/11/2017	ASR6	Sunny	16:26	24-hour TSP	81	ug/m3

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 11/12/2017

ASR10



公告

蝴蝶灣公園二期洗手間將於 **2017 年 10 月 11 日**至 **2018 年 2 月 12 日**暫時關閉，以便進行翻新工程。 在本設施關閉期間，市民可使用鄰近的洗手間 (近長者健身園地或蝴蝶灣泳灘)。 不便之處，敬請原諒。

如有任何查詢，請致電 2404 5979 與場地主管聯絡。

康樂及文化事務署

二零一七年十月九日

Notice

Toilets of Phase II, Butterfly Beach Park will be temporary closed from **11 October 2017** to **12 February 2018** for renovation works. During the closure period, you may use nearby toilets (near Fitness Corner for Elderly or Butterfly Beach). We apologize for the inconvenience caused.

For enquiries, please contact the venue in-charge at 2404 5979.

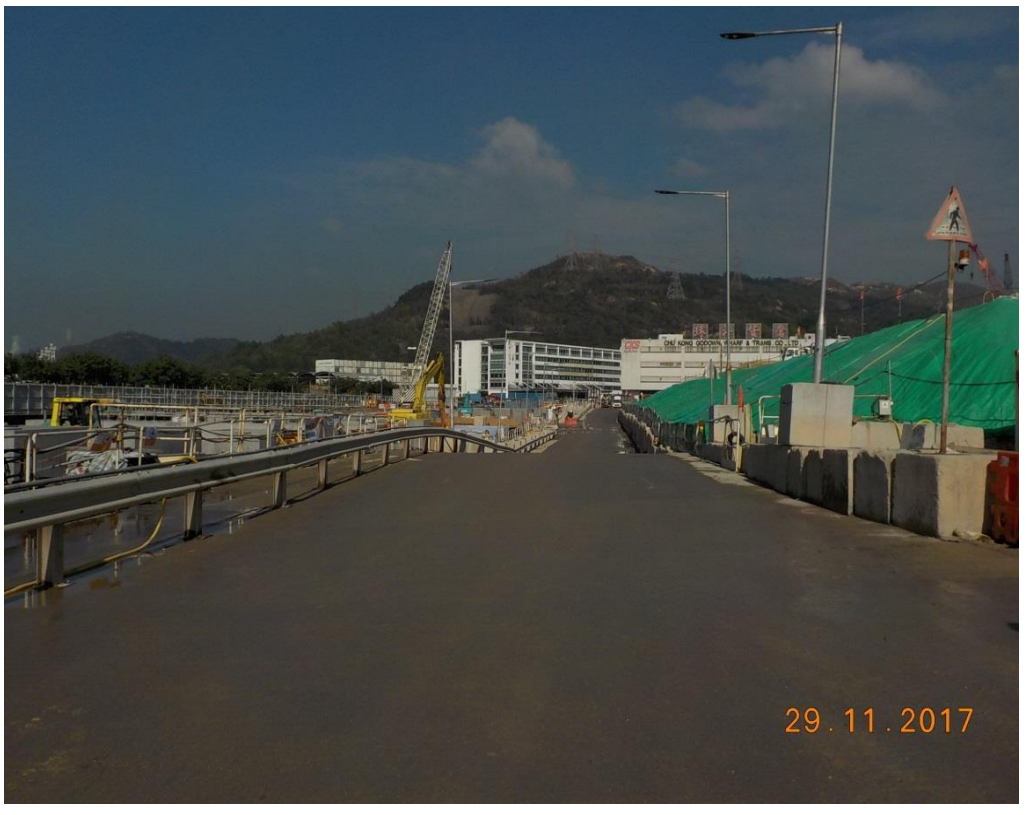
Leisure and Cultural Services Department

9 October 2017

Notification of works at ASR10

ERM

Annex A Photos taken during site inspection



Water spraying was applied frequently during dry conditions.(Works Area Portion N-A)

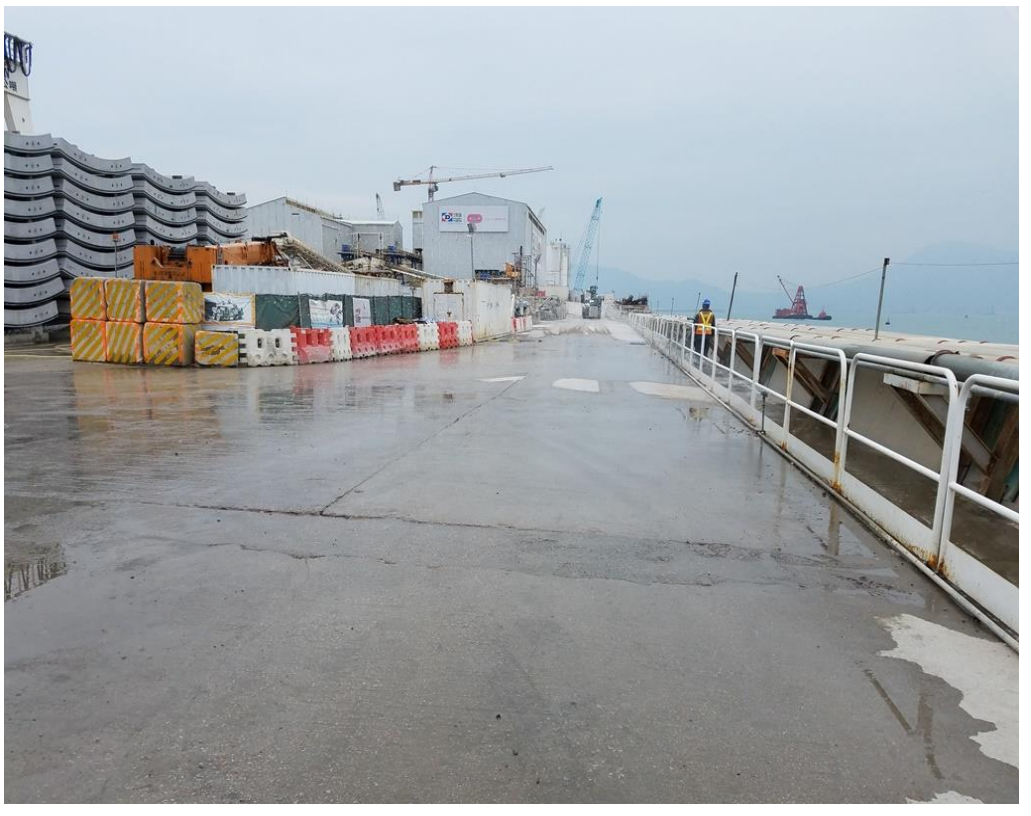
Water spraying was applied frequently during dry conditions.(Works Area Portion N-A)

ERM

Annex A Photos provided by the Contractor

*Note: Photos taken on 29/11/2017

Water spraying was applied frequently during dry conditions.(Works Area Portion N-B)



Water spraying was applied frequently during dry conditions.(Works Area Portion N-C)

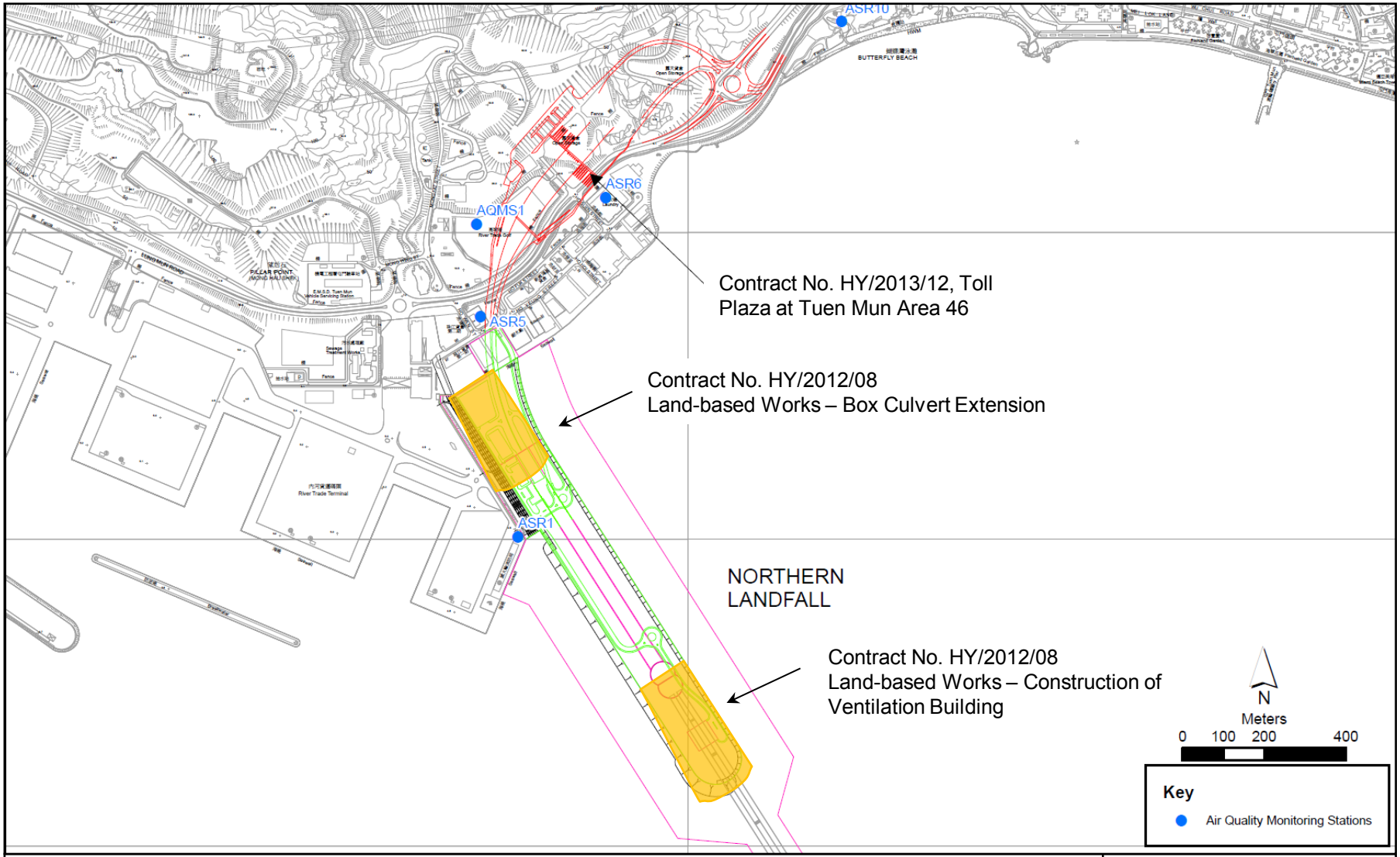


Figure 1

Indicative Construction Works Area on 29 November 2017

DATE: 06/03/2013

Environmental Resources Management

ERM


搜尋 Google 地圖
登入
蝴蝶灣停車場
白角污水泵房
屯門蝴蝶灣小食亭
蝴蝶灣公園
蝴蝶灣泳灘
龍門路
龍富路
Toilet under renovation works
蝴蝶灣公園廁所
ASR10
蝴蝶灣公園
衛星
Google
地圖資料 ©2018 Google 台灣 使用條款 提供意見 50 公尺

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	19 December 2017

ERM

Dear Sir or Madam,

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

0212330_8December2017_1hrTSP_Station ASR5
0212330_8December2017_24hrTSP_Station ASR1
0212330_8December2017_24hrTSP_Station ASR5

One Action Level and Two Limit Level Exceedances were recorded on 8 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_8December2017_1hrTSP_Station ASR5** **0212330_8December2017_24hrTSP_Station ASR1** **0212330_8December2017_24hrTSP_Station ASR5** **[Total No. of Exceedances = 3]**	
Date	8 December 2017 (Measured) 15 December 2017 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP 24-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR5 (353 µg/m3) during 1334 – 1434 hrs. Limit Level Exceedance for 24-hr TSP is observed at ASR1 (328 µg/m3) during 1651 – 1651 hrs. Limit Level Exceedance for 24-hr TSP is observed at ASR5 (279 µg/m3) during 1640 – 1640 hrs.	
Works Undertaken (at the time of monitoring event)	On 8 December 2017, Box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	

Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, the majority of ground construction works on 8 December 2017 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. The exceedances for are unlikely to be due to the project as the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets) during the period of recorded exceedances. • The limit level exceedance for 24-hr TSP at ASR5 is unlikely to be due to the project as the average wind direction was from ASR5 to the site area during the construction period. From 16:00 (8 Dec) to 20:00 (8 Dec), average wind direction was from ASR5 to the site area. From 20:00 (8 Dec) to 07:00 (9 Dec), there was no ground construction works. From 07:00 (9 Dec) to 17:00 (9 Dec), most of the time the average wind direction was from ASR5 to the site area, except that from 12:00 to 14:00. Generally Station ASR5 are located upstream of the major construction activities at Portion N-A, thus they should not be affected by the dust, if any, generated by the construction activities and the exceedance for 24-hour TSP is unlikely to be due to the concerned construction activities. • The limit level exceedance for 24-hr TSP at ASR1 is unlikely to be due to the project as dust suppression measures were implemented properly on site. Water spraying was applied. Exposed soil at Portion N-A was also covered by tarpaulin sheets. Photo record on 8 December 2017 is provided in Annex A. Based on the above, the exceedances are unlikely to be due to the project.
Actions Taken / To Be Taken	Site inspection was carried out on 13 December 2017 to audit proper implementation of mitigation measures. Dust suppression measures were also properly implemented during the site inspections. Photo record is provided in Annex A. Based on the above, no additional action is required. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached.

ERM

Annex A Photos provided by the Contractor

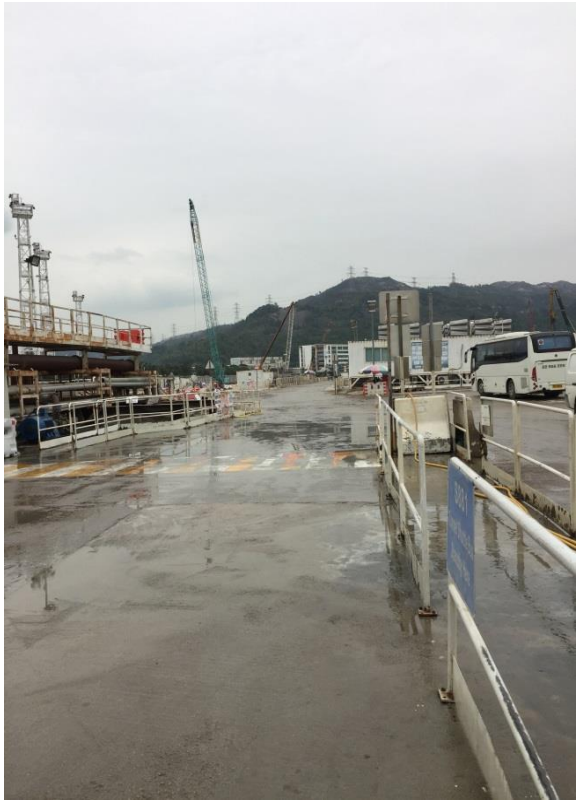
Water spraying was applied frequently during dry conditions. (Works Area Portion N-A)

Exposed soil at Portion N-A was also covered by tarpaulin sheets. (Works Area Portion N-A)

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 13/12/2017



Water spraying was applied frequently during dry conditions.(Works Area Portion N-B)

Exposed soil at Portion N-A was also covered by tarpaulin sheets. (Works Area Portion N-A)

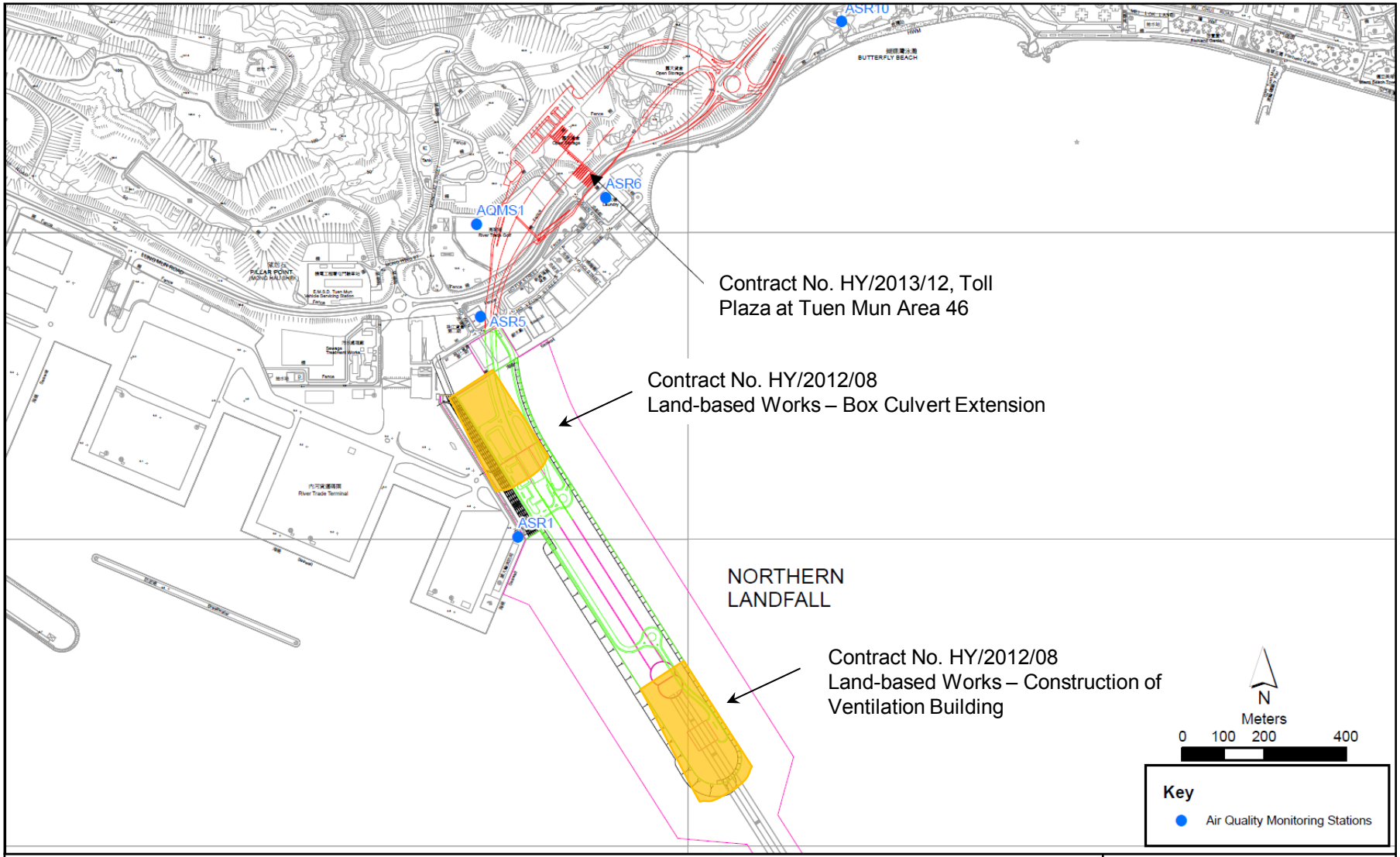


Figure 1

Indicative Construction Works Area on 8 December 2017

DATE: 06/03/2013

Environmental Resources Management

ERM

TMCLKL	HY/2012/08	8/12/2017	AQMS1	Sunny	13:56	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	8/12/2017	AQMS1	Sunny	14:58	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	8/12/2017	AQMS1	Sunny	16:00	1-hour TSP	104	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR1	Sunny	13:45	1-hour TSP	279	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR1	Sunny	14:47	1-hour TSP	299	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR1	Sunny	15:49	1-hour TSP	243	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR10	Sunny	13:11	1-hour TSP	109	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR10	Sunny	14:13	1-hour TSP	224	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR10	Sunny	15:15	1-hour TSP	249	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR5	Sunny	13:34	1-hour TSP	353	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR5	Sunny	14:36	1-hour TSP	285	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR5	Sunny	15:38	1-hour TSP	235	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR6	Sunny	13:22	1-hour TSP	187	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR6	Sunny	14:24	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR6	Sunny	15:26	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	8/12/2017	AQMS1	Sunny	17:02	24-hour TSP	177	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR1	Sunny	16:51	24-hour TSP	328	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR10	Sunny	16:17	24-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR5	Sunny	16:40	24-hour TSP	279	ug/m3
TMCLKL	HY/2012/08	8/12/2017	ASR6	Sunny	16:28	24-hour TSP	161	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
08/12/17	0:00	0.9	344
08/12/17	1:00	1.3	358
08/12/17	2:00	1.3	349
08/12/17	3:00	0.4	325
08/12/17	4:00	0.9	351
08/12/17	5:00	0.4	319
08/12/17	6:00	0.9	322
08/12/17	7:00	0.9	315
08/12/17	8:00	1.3	350
08/12/17	9:00	2.2	12
08/12/17	10:00	2.7	16
08/12/17	11:00	2.2	46
08/12/17	12:00	2.2	42
08/12/17	13:00	2.2	19
08/12/17	14:00	2.2	41
08/12/17	15:00	2.2	355
08/12/17	16:00	2.2	343
08/12/17	17:00	1.8	352
08/12/17	18:00	1.3	321
08/12/17	19:00	0.9	95
08/12/17	20:00	1.3	351
08/12/17	21:00	2.7	5
08/12/17	22:00	3.6	20
08/12/17	23:00	4.5	4
09/12/17	0:00	4	13
09/12/17	1:00	3.6	11
09/12/17	2:00	3.1	17
09/12/17	3:00	3.1	10
09/12/17	4:00	3.1	43
09/12/17	5:00	1.8	40
09/12/17	6:00	0.9	348
09/12/17	7:00	0.9	223
09/12/17	8:00	1.3	312
09/12/17	9:00	2.2	43
09/12/17	10:00	1.8	39
09/12/17	11:00	1.8	92
09/12/17	12:00	1.3	168
09/12/17	13:00	1.8	205
09/12/17	14:00	1.8	223
09/12/17	15:00	1.3	274
09/12/17	16:00	1.3	288
09/12/17	17:00	0.9	284
09/12/17	18:00	1.3	311
09/12/17	19:00	0.9	341
09/12/17	20:00	0.9	352
09/12/17	21:00	0.4	18
09/12/17	22:00	0.9	315
09/12/17	23:00	0.9	92

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	27 December 2017

ERM

Dear Sir or Madam,

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

0212330_11December2017_1hrTSP_Station ASR1
0212330_11December2017_1hrTSP_Station ASR1
0212330_11December2017_1hrTSP_Station ASR5
0212330_11December2017_24hrTSP_Station ASR1

Four Action Level Exceedances were recorded on 11 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_11December2017_1hrTSP_Station ASR1** **0212330_11December2017_1hrTSP_Station ASR1** **0212330_11December2017_1hrTSP_Station ASR5** **0212330_11December2017_24hrTSP_Station ASR1** **[Total No. of Exceedances = 4]**	
Date	11 December 2017 (Measured) 26 December 2017 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP, 24-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 (399 µg/m3) during 1337 – 1437 hrs. Action Level Exceedance for 1-hr TSP is observed at ASR1 (443 µg/m3) during 1439 – 1539 hrs. Action Level Exceedance for 1-hr TSP is observed at ASR5 (417 µg/m3) during 1323 – 1423 hrs. Action Level Exceedance for 24-hr TSP is observed at ASR1 (218 µg/m3) during 1643 – 1643 hrs.	
Works Undertaken (at the time of monitoring event)	On 11 December 2017, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, the majority of ground construction works on 11 December 2017 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. The exceedances for are unlikely to be due to the project as the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets) during the period of recorded exceedances. • The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on site. Water spraying was applied. Exposed soil at Portion N-A was also covered by tarpaulin sheets. Photo record on 11 December 2017 is provided in Annex A. Based on the above, the exceedances are unlikely to be due to the project.	

Actions Taken / To Be Taken	Site inspection was carried out on 13 December 2017 to audit proper implementation of mitigation measures. Dust suppression measures were also properly implemented during the site inspections. Photo record is provided in Annex A. Based on the above, no additional action is required. A meeting amongst the ET, IEC, SOR and the Contractor was held on 29 December 2017 to discuss the action / limit level exceedances of 24-hour TSP at ASR1 on 8 and 11 December 2017. As reported by the Contractor, dust suppression measures were properly implemented on 8 and 11 December 2017. At Works Area Portion N-A, which is closest to the AQM stations where exceedances were recorded, water spraying was applied to avoid dust and exposed soil was covered by tarpaulin sheets. It was concluded that the AQM exceedances are unlikely to be due to the project based on the above. The Contractor was reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual. The ET was also reminded to carry out regular checking and maintenance on the AQM equipment to ensure the accuracy of the monitoring data. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached.

ERM

Annex A Photos provided by the Contractor

*Note: Photos taken on 11/12/2017

Water spraying was applied frequently during dry conditions. (Works Area Portion N-C)

Exposed soil at Portion N-A was also covered by tarpaulin sheets. (Works Area Portion N-A)

ERM

Annex A Photos provided by the Contractor

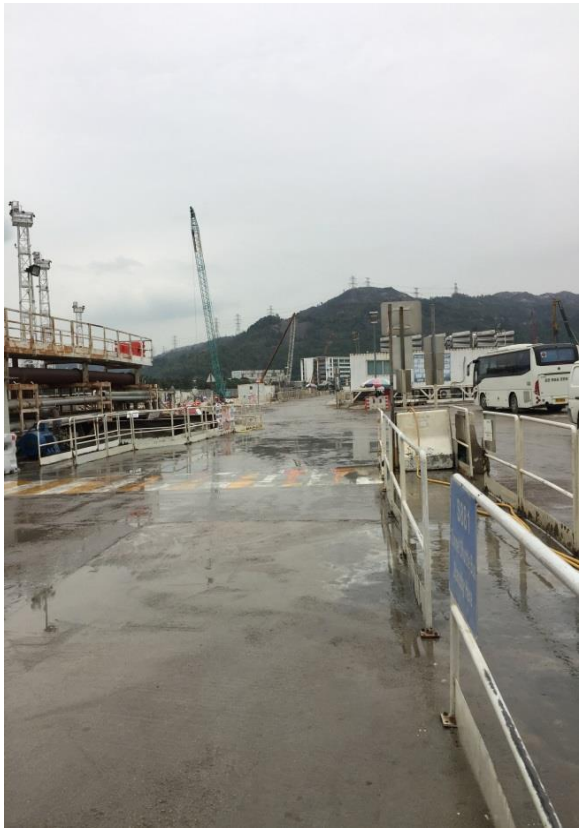
*Note: Photos taken on 11/12/2017

Water spraying was applied frequently during dry conditions. (Works Area Portion N-C)

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 13/12/2017



Water spraying was applied frequently during dry conditions.(Works Area Portion N-B)

Exposed soil at Portion N-A was also covered by tarpaulin sheets. (Works Area Portion N-A)

ERM

Annex A Photos taken at the AQM stations

*Note: Photos taken on 11/12/2017

ASR1

ASR5

TMCLKL	HY/2012/08	11/12/2017	AQMS1	Sunny	13:48	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	11/12/2017	AQMS1	Sunny	14:50	1-hour TSP	151	ug/m3
TMCLKL	HY/2012/08	11/12/2017	AQMS1	Sunny	15:52	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR1	Sunny	13:37	1-hour TSP	399	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR1	Sunny	14:39	1-hour TSP	443	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR1	Sunny	15:41	1-hour TSP	325	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR10	Sunny	13:00	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR10	Sunny	14:02	1-hour TSP	287	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR10	Sunny	15:04	1-hour TSP	304	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR5	Sunny	13:23	1-hour TSP	417	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR5	Sunny	14:25	1-hour TSP	249	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR5	Sunny	15:27	1-hour TSP	236	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR6	Sunny	13:11	1-hour TSP	262	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR6	Sunny	14:13	1-hour TSP	152	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR6	Sunny	15:15	1-hour TSP	198	ug/m3
TMCLKL	HY/2012/08	11/12/2017	AQMS1	Sunny	16:54	24-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR1	Sunny	16:43	24-hour TSP	218	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR10	Sunny	16:06	24-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR5	Sunny	16:29	24-hour TSP	189	ug/m3
TMCLKL	HY/2012/08	11/12/2017	ASR6	Sunny	16:17	24-hour TSP	139	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
11/12/17	0:00	1.3	352
11/12/17	1:00	3.6	15
11/12/17	2:00	3.6	44
11/12/17	3:00	2.2	42
11/12/17	4:00	1.8	41
11/12/17	5:00	2.2	40
11/12/17	6:00	1.8	52
11/12/17	7:00	2.2	51
11/12/17	8:00	1.8	39
11/12/17	9:00	1.3	38
11/12/17	10:00	1.3	99
11/12/17	11:00	1.3	223
11/12/17	12:00	1.8	219
11/12/17	13:00	1.3	271
11/12/17	14:00	2.2	315
11/12/17	15:00	1.8	326
11/12/17	16:00	1.3	309
11/12/17	17:00	0.9	311
11/12/17	18:00	0.9	317
11/12/17	19:00	1.8	116
11/12/17	20:00	1.8	100
11/12/17	21:00	1.3	94
11/12/17	22:00	1.3	90
11/12/17	23:00	0.9	69
12/12/17	0:00	2.2	85
12/12/17	1:00	1.3	67
12/12/17	2:00	1.8	74
12/12/17	3:00	1.3	5
12/12/17	4:00	1.3	358
12/12/17	5:00	1.3	43
12/12/17	6:00	0.9	14
12/12/17	7:00	1.3	52
12/12/17	8:00	1.3	44
12/12/17	9:00	1.8	41
12/12/17	10:00	1.3	40
12/12/17	11:00	1.8	21
12/12/17	12:00	1.8	17
12/12/17	13:00	1.8	52
12/12/17	14:00	1.8	18
12/12/17	15:00	1.8	11
12/12/17	16:00	1.3	10
12/12/17	17:00	2.7	96
12/12/17	18:00	2.7	94
12/12/17	19:00	2.2	88
12/12/17	20:00	1.8	74
12/12/17	21:00	1.8	91
12/12/17	22:00	3.1	95
12/12/17	23:00	3.6	86

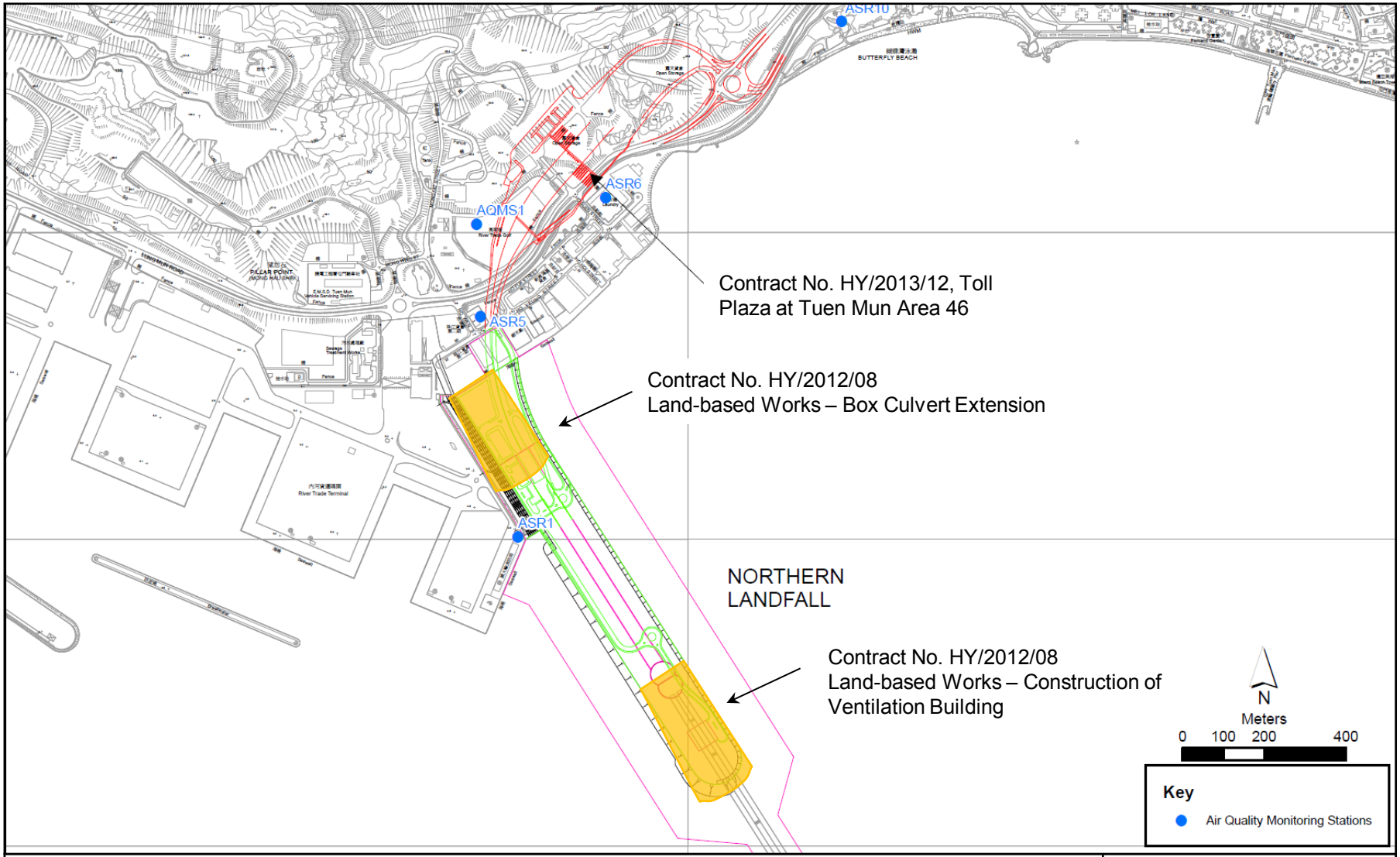


Figure 1

Indicative Construction Works Area on 11 December 2017

DATE: 06/03/2013

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	28 December 2017

ERM

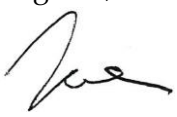
Dear Sir or Madam,

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

0212330_17December2017_24hrTSP_Station ASR5

One Limit Level Exceedance was recorded on 17 December 2017.

Regards,



Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_17December2017_24hrTSP_Station ASR5** **[Total No. of Exceedances = 1]**	
Date	17 December 2017 (Measured) 27 December 2017 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP, 24-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Limit Level Exceedance for 24-hr TSP is observed at ASR5 (265 µg/m3) during 1631 – 1631 hrs.	
Works Undertaken (at the time of monitoring event)	From 16:31 (17 Dec) to 07:00 (18 Dec), there were no ground construction works. From 07:00 to 16:31 (18 Dec), box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, the majority of ground construction works on 18 December 2017 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). • The limit level exceedance for 24-hr TSP is unlikely to be due to the project as the average wind direction was from ASR5 to the site area during the major construction period. From 16:31 (17 Dec) to 07:00 (18 Dec), there were no ground construction works. From 07:00 to 17:00(18 Dec), the average wind direction ranged between 268° to 324° and station ASR5 are located upstream of the major construction activities at Portion N-A, thus they should not be affected by the dust, if any, generated by the construction activities. • As there were no ground construction works during more than half of the 24-hr TSP monitoring period, the construction works of this Contract on 18 Dec 2017 were unlikely to cause limit level exceedance of 24-hr TSP. Based on the above, the exceedances are unlikely to be due to the project.	

Actions Taken / To Be Taken	Site inspection was carried out on 27 December 2017 to audit proper implementation of mitigation measures. Dust suppression measures were also properly implemented during the site inspections. Photo record is provided in Annex A. Based on the above, no additional action is required. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results, wind data and the locations of air quality monitoring stations are attached.

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 27/12/2017

Water spraying was applied frequently during dry conditions.(Works Area Portion N-A)

Exposed soil at Portion N-A was also covered by tarpaulin sheets. (Works Area Portion N-A)

TMCLKL	HY/2012/08	17/12/2017	AQMS1	Sunny	13:48	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	17/12/2017	AQMS1	Sunny	14:50	1-hour TSP	61	ug/m3
TMCLKL	HY/2012/08	17/12/2017	AQMS1	Sunny	15:52	1-hour TSP	70	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR1	Sunny	13:37	1-hour TSP	175	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR1	Sunny	14:39	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR1	Sunny	15:41	1-hour TSP	98	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR10	Sunny	13:02	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR10	Sunny	14:04	1-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR10	Sunny	15:06	1-hour TSP	63	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR5	Sunny	13:25	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR5	Sunny	14:27	1-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR5	Sunny	15:29	1-hour TSP	75	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR6	Sunny	13:14	1-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR6	Sunny	14:16	1-hour TSP	76	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR6	Sunny	15:18	1-hour TSP	76	ug/m3
TMCLKL	HY/2012/08	17/12/2017	AQMS1	Sunny	16:54	24-hour TSP	132	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR1	Sunny	16:43	24-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR10	Sunny	16:08	24-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR5	Sunny	16:31	24-hour TSP	265	ug/m3
TMCLKL	HY/2012/08	17/12/2017	ASR6	Sunny	16:20	24-hour TSP	145	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
17/12/17	16:00	1.8	340
17/12/17	17:00	1.3	285
17/12/17	18:00	1.3	290
17/12/17	19:00	1.3	213
17/12/17	20:00	0.9	225
17/12/17	21:00	0.9	274
17/12/17	22:00	0.9	353
17/12/17	23:00	1.3	44
18/12/17	0:00	1.3	351
18/12/17	1:00	1.8	348
18/12/17	2:00	2.2	356
18/12/17	3:00	2.2	16
18/12/17	4:00	2.2	19
18/12/17	5:00	1.8	20
18/12/17	6:00	0.9	194
18/12/17	7:00	0.9	268
18/12/17	8:00	2.2	319
18/12/17	9:00	2.2	321
18/12/17	10:00	2.2	319
18/12/17	11:00	3.1	324
18/12/17	12:00	2.7	316
18/12/17	13:00	2.7	320
18/12/17	14:00	2.7	323
18/12/17	15:00	2.2	317
18/12/17	16:00	1.8	312
18/12/17	17:00	1.3	311

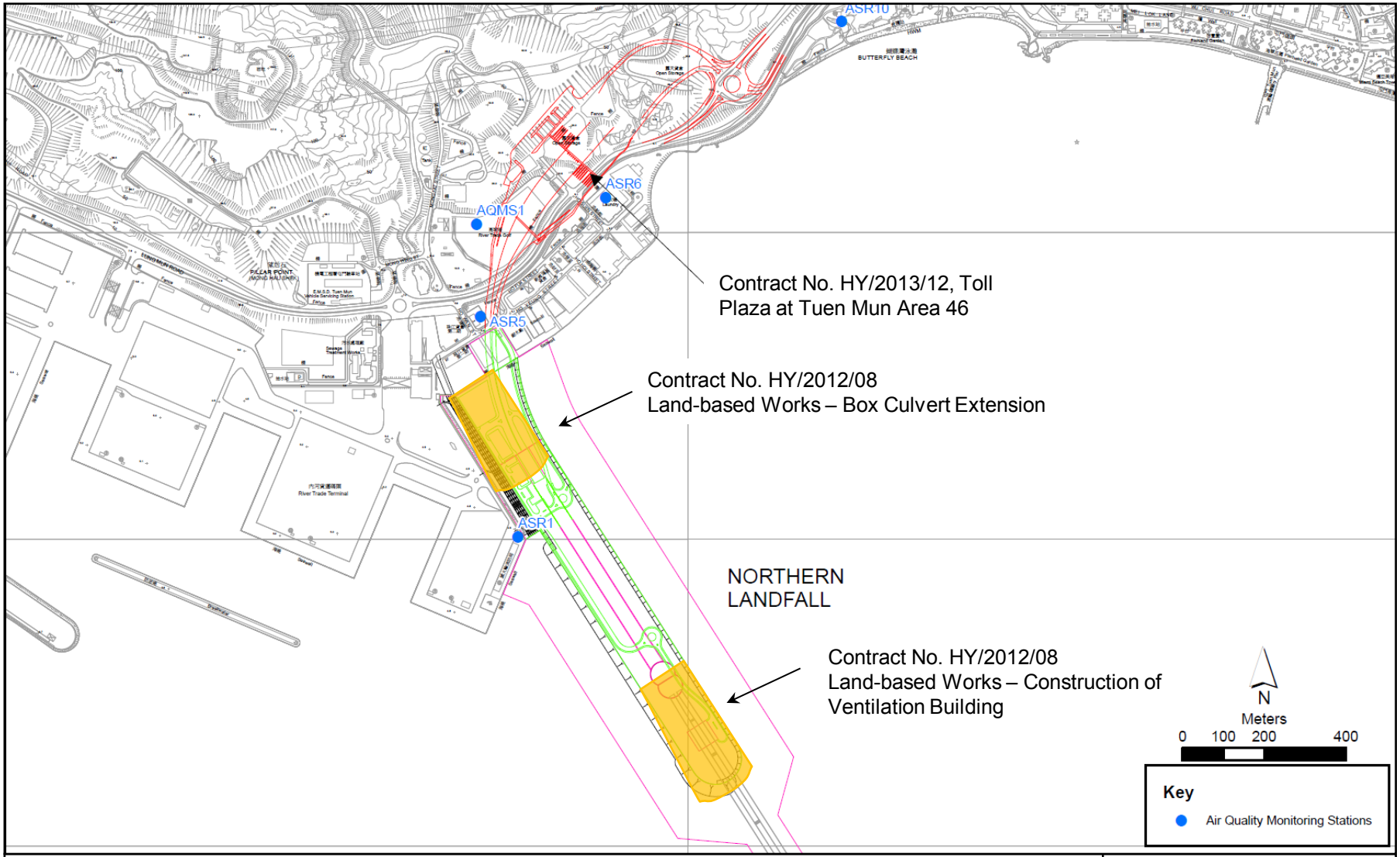


Figure 1

Indicative Construction Works Area on 17 December 2017

DATE: 06/03/2013

Environmental Resources Management

ERM

寶嘉 Dragages HongKong	Contract No. HY/2012/08 Tuen Mun – Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section	**Weekly Water Spraying Record** **每週灑水檢查記錄**

Site Location 地盤位置: Northern Landfall

Date 日期: 11th Dec 2017 to 至 17th Dec 2017

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	✓	✓	✓	✓	✓	✓	✓
2	8:45 – 9:30	✓	✓	✓	✓	✓	✓	✓
3	9:30 – 10:15	✓	✓	✓	✓	✓	✓	✓
4	10:15 – 11:00	✓	✓	✓	✓	✓	✓	✓
5	11:00 – 11:45	✓	✓	✓	✓	✓	✓	✓
6	11:45 – 12:30	✓	✓	✓	✓	✓	✓	✓
7	12:30 – 13:15	✓	✓	✓	✓	✓	✓	✓
8	13:15 – 14:00	✓	✓	✓	✓	✓	✓	✓
9	14:00 – 14:45	✓	✓	✓	✓	✓	✓	✓
10	14:45 – 15:30	✓	✓	✓	✓	✓	✓	✓
11	15:30 – 16:45	✓	✓	✓	✓	✓	✓	✓
12	16:45 – 17:30	✓	✓	✓	✓	✓	✓	✓
	Verified by Site Foreman 地盤科文簽署確認							

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

*Please - tick (√) in the box if complete the spraying of water.
circle (O) in the box if it is raining.

*如果 - 已經完成灑水, 請於方格內加上剔號(√)。
是下雨天, 請於方格內加上圓圈(O)。

Remarks:

(1) Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
(2) Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
(3) If it is raining, no water spraying is needed.
(4) The no of spraying will be increased due to site condition.

備註:

(1) 根據環境許可證 3.15 條例，在整個施工階段內，許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
(2) 灑水位置包括主要運輸道路，空曠地帶，斜坡，存料堆，以及任何其他產生塵埃物料。
(3) 當下雨時，地盤將不需要灑水。
(4) 如果地盤情況更改或有需要時，灑水次數會相應增加。

Dragages Hong Kong	Contract No. HY/2012/08 Tuen Mun – Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section	**Weekly Water Spraying Record** **每週灑水檢查記錄**

Site Location 地盤位置: Northern Landfall

Date 日期: 18th Dec 2017 to 至 24th Dec. 2017

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	√	√	√	√	√	√	√
2	8:45 – 9:30	√	√	√	√	√	√	√
3	9:30 – 10:15	√	√	√	√	√	√	√
4	10:15 – 11:00	√	√	√	√	√	√	√
5	11:00 – 11:45	√	√	√	√	√	√	√
6	11:45 – 12:30	√	√	√	√	√	√	√
7	12:30 – 13:15	√	√	√	√	√	√	√
8	13:15 – 14:00	√	√	√	√	√	√	√
9	14:00 – 14:45	√	√	√	√	√	√	√
10	14:45 – 15:30	√	√	√	√	√	√	√
11	15:30 – 16:45	√	√	√	√	√	√	√
12	16:45 – 17:30	√	√	√	√	√	√	√
	Verified by Site Foreman 地盤科文簽署確認	√	√	√	√	√	√	√

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

*Please - tick (√) in the box if complete the spraying of water.
circle (O) in the box if it is raining.

*如果 - 已經完成灑水, 請於方格內加上剔號(√)。
是下雨天, 請於方格內加上圓圈(O)。

Remarks:

(1) Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
(2) Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
(3) If it is raining, no water spraying is needed.
(4) The no of spraying will be increased due to site condition.

備註:

(1) 根據環境許可證 3.15 條例，在整個施工階段內，許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
(2) 灑水位置包括主要運輸道路，空曠地帶，斜坡，存料堆，以及任何其他產生塵埃物料。
(3) 當下雨時，地盤將不需要灑水。
(4) 如果地盤情況更改或有需要時，灑水次數會相應增加。

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	2 January 2018

ERM

Dear Sir or Madam,

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

0212330_20December2017_1hrTSP_Station ASR1
0212330_20December2017_1hrTSP_Station ASR5

Two Action Level Exceedances were recorded on 20 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_20December2017_1hrTSP_Station ASR1** **0212330_20December2017_1hrTSP_Station ASR5** **[Total No. of Exceedances = 2]**	
Date	20 December 2017 (Measured) 1 January 2018 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 (357 µg/m3) during 1356 – 1456 hrs. Action Level Exceedance for 1-hr TSP is observed at ASR5 (372 µg/m3) during 1344 – 1444 hrs.	
Works Undertaken (at the time of monitoring event)	On 20 December 2017, box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, the majority of ground construction works on 20 December 2017 were box culvert extension at Works Area Portion N-A and Construction of Ventilation Building at Portions N-C. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). • The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on the works area. Water spraying was applied at Portion N-A and N-C. Exposed soil at Portion N-A was also covered by tarpaulin sheets to prevent dust. Based on the above, the exceedances are unlikely to be due to the project.	

Actions Taken / To Be Taken	Follow-up site inspection was carried out on 4 January 2018. Box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building was carried out at Portion N-C. Water spraying was applied frequently. Exposed soil at Portion N-A was covered by tarpaulin sheets and water spraying was also applied to prevent dust. Photo record is provided in Annex A. As dust suppression measures were properly implemented during the site inspections. Based on the above, no additional action is required. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached.

TMCLKL	HY/2012/08	20/12/2017	AQMS1	Sunny	14:08	1-hour TSP	163	ug/m3
TMCLKL	HY/2012/08	20/12/2017	AQMS1	Sunny	15:10	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	20/12/2017	AQMS1	Sunny	16:12	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR1	Sunny	13:56	1-hour TSP	357	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR1	Sunny	14:58	1-hour TSP	210	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR1	Sunny	16:00	1-hour TSP	218	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR10	Sunny	13:22	1-hour TSP	111	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR10	Sunny	14:24	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR10	Sunny	15:26	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR5	Sunny	13:44	1-hour TSP	372	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR5	Sunny	14:46	1-hour TSP	216	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR5	Sunny	15:48	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR6	Sunny	13:33	1-hour TSP	186	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR6	Sunny	14:25	1-hour TSP	150	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR6	Sunny	15:37	1-hour TSP	190	ug/m3
TMCLKL	HY/2012/08	20/12/2017	AQMS1	Sunny	17:14	24-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR1	Sunny	17:02	24-hour TSP	158	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR10	Sunny	16:28	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR5	Sunny	16:50	24-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	20/12/2017	ASR6	Sunny	16:39	24-hour TSP	100	ug/m3

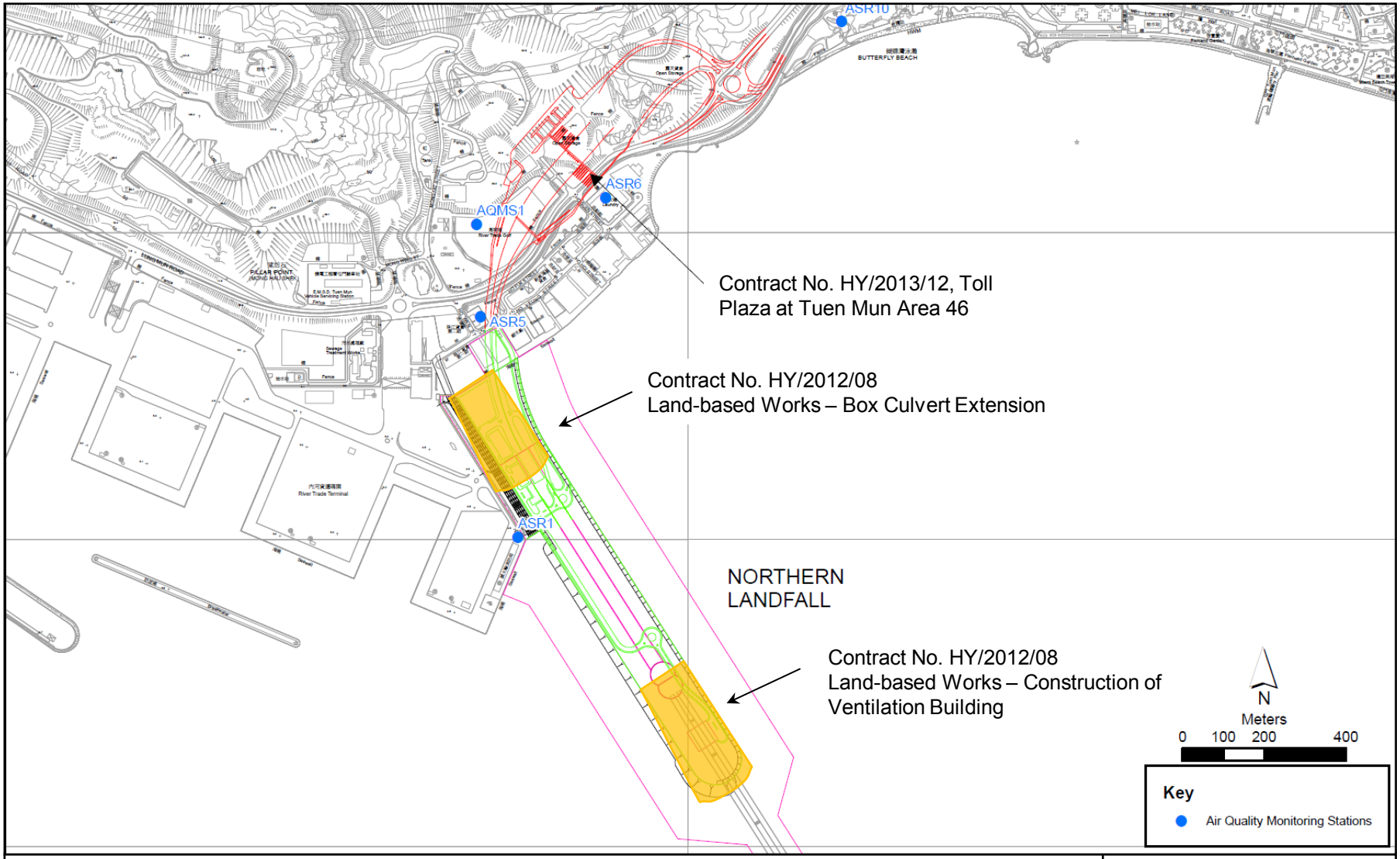


Figure 1

Indicative Construction Works Area on 20 December 2017

DATE: 06/03/2013

Environmental Resources Management

ERM

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 4/1/2017

Water spraying was applied frequently during dry conditions.(Works Area Portion N-A)

Exposed soil at Portion N-A was covered by tarpaulin sheets. (Works Area Portion N-A)

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 4/1/2017

Water spraying was applied on the exposed soil. (Works Area Portion N-A)

Water spraying was applied frequently during dry conditions.(Works Area Portion N-B)

Meteorological Data for Impact Monitoring in the reporting period			
Date (yyyy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
2017-12-20	0:00	4.9	11
2017-12-20	1:00	4.9	5
2017-12-20	2:00	4	2
2017-12-20	3:00	2.7	7
2017-12-20	4:00	3.6	359
2017-12-20	5:00	4.5	3
2017-12-20	6:00	3.6	4
2017-12-20	7:00	2.2	344
2017-12-20	8:00	1.3	305
2017-12-20	9:00	2.7	46
2017-12-20	10:00	3.6	42
2017-12-20	11:00	3.1	19
2017-12-20	12:00	2.2	44
2017-12-20	13:00	2.2	351
2017-12-20	14:00	2.2	350
2017-12-20	15:00	1.3	344
2017-12-20	16:00	0.9	348
2017-12-20	17:00	1.8	339
2017-12-20	18:00	0.9	346
2017-12-20	19:00	0.9	352
2017-12-20	20:00	0.9	70
2017-12-20	21:00	1.3	93
2017-12-20	22:00	1.3	88
2017-12-20	23:00	0.9	355

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	Ramboll Environ - Hong Kong, Limited (ENPO)
From	ERM- Hong Kong, Limited
Ref/Project number	Contract No. HY/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Air Quality Impact Monitoring
Date	5 January 2018

ERM

Dear Sir or Madam,

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

0212330_26December2017_1hrTSP_Station ASR1

One Action Level Exceedance was recorded on 26 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_26December2017_1hrTSP_Station ASR1** **[Total No. of Exceedances = 1]**	
Date	26 December 2017 (Measured) 5 January 2018 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP (µg/m³)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP (µg/m³)	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP (µg/m³)	500
	24-hr TSP (µg/m³)	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 (407 µg/m3) during 1121 - 1221 hrs.	
Works Undertaken (at the time of monitoring event)	On 26 December 2017, TBM works were carried out.	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • According to the construction information provided by the Contractor, there were only TBM works on 26 December 2017 and there were no ground construction works. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets). • The exceedances are unlikely to be due to the project as dust suppression measures were implemented properly on the works area. Water spraying was applied during dry conditions. Exposed soil at Portion N-A was also covered by tarpaulin sheets to prevent dust. Based on the above, the exceedances are unlikely to be due to the project.	

Actions Taken / To Be Taken	Follow-up site inspection was carried out on 10 January 2018. Box culvert extension was carried out at Works Area Portion N-A and Construction of Ventilation Building was carried out at Portion N-C. Water spraying was applied frequently. Exposed soil at Portion N-A was covered by tarpaulin sheets and water spraying was also applied to prevent dust. Photo record is provided in Annex A. As dust suppression measures were properly implemented during the site inspections. Based on the above, no additional action is required. The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period. The Contractor was also reminded to ensure all dust mitigating measures are provided at Portion N-A and Portion N-C, where the construction works are carried out.
Remarks	The monitoring results and the locations of air quality monitoring stations are attached.

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 10/1/2017

Water spraying was applied frequently during dry conditions.(Works Area Portion N-C)

Exposed soil at Portion N-A was covered by tarpaulin sheets. (Works Area Portion N-A)

ERM

Annex A Photos taken during site inspection

*Note: Photos taken on 10/1/2017

Water spraying was applied frequently during dry conditions.(Works Area Portion N-C)

Water spraying was applied frequently during dry conditions.(Works Area Portion N-B)

TMCLKL	HY/2012/08	26/12/2017	AQMS1	Sunny	9:27	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	26/12/2017	AQMS1	Sunny	10:29	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	26/12/2017	AQMS1	Sunny	11:31	1-hour TSP	161	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR1	Sunny	9:17	1-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR1	Sunny	10:19	1-hour TSP	144	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR1	Sunny	11:21	1-hour TSP	407	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR10	Sunny	8:45	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR10	Sunny	9:47	1-hour TSP	173	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR10	Sunny	10:49	1-hour TSP	118	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR5	Sunny	9:06	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR5	Sunny	10:08	1-hour TSP	211	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR5	Sunny	11:10	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR6	Sunny	8:55	1-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR6	Sunny	9:57	1-hour TSP	180	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR6	Sunny	10:59	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	26/12/2017	AQMS1	Sunny	12:33	24-hour TSP	59	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR1	Sunny	12:23	24-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR10	Sunny	11:51	24-hour TSP	59	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR5	Sunny	12:12	24-hour TSP	84	ug/m3
TMCLKL	HY/2012/08	26/12/2017	ASR6	Sunny	12:01	24-hour TSP	83	ug/m3

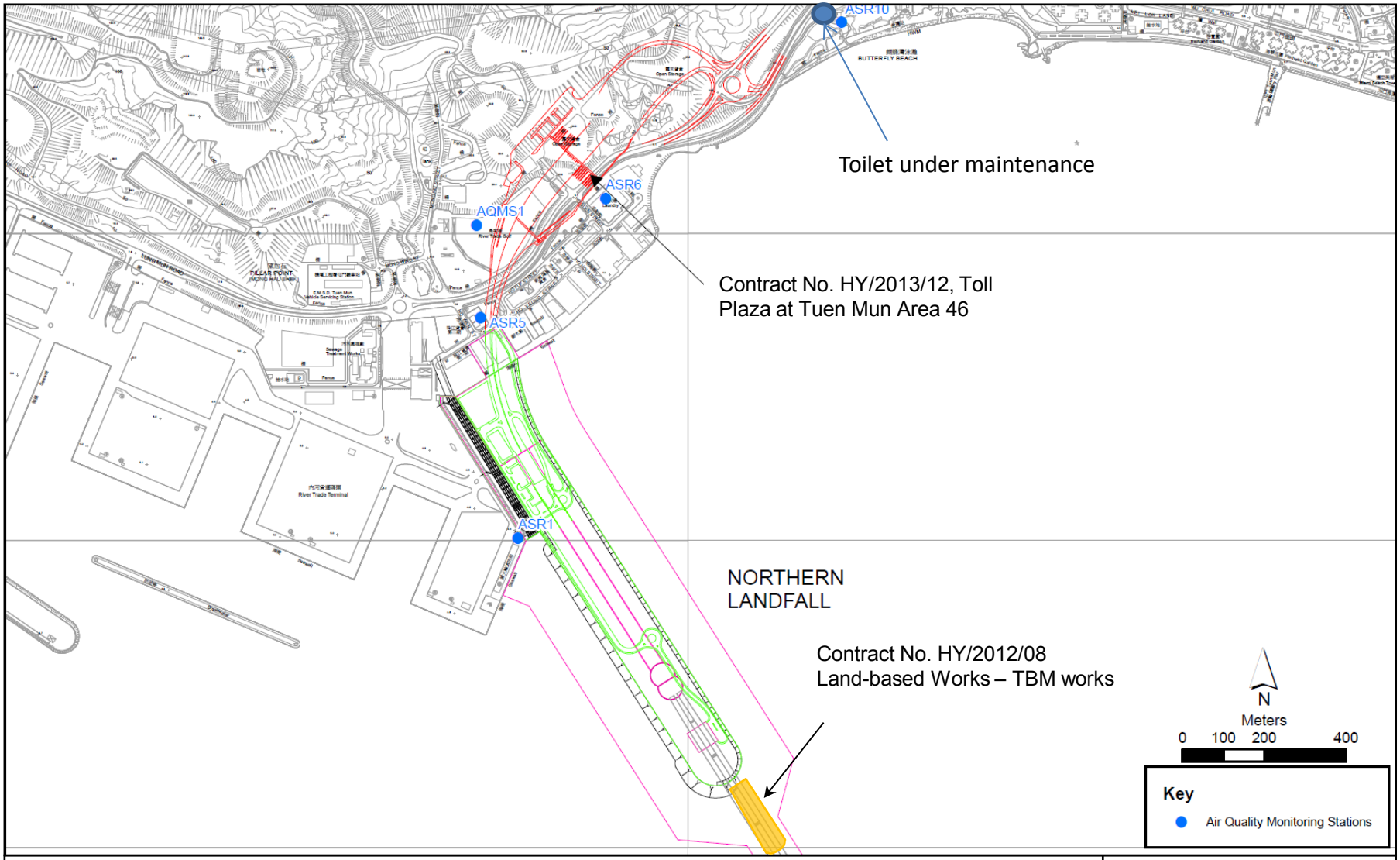


Figure 1

Indicative Construction Works Area on 26 December 2017

DATE: 06/03/2013

Environmental Resources Management

ERM

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	**Time (24hrs)**	**Average of Wind Speed (m/s)**	**Average of Wind Direction(degree)**
26/12/17	0:00	1.3	94
26/12/17	1:00	2.2	88
26/12/17	2:00	1.3	70
26/12/17	3:00	1.8	92
26/12/17	4:00	0.9	50
26/12/17	5:00	0.9	14
26/12/17	6:00	0.9	73
26/12/17	7:00	1.3	95
26/12/17	8:00	1.3	91
26/12/17	9:00	1.3	47
26/12/17	10:00	1.8	12
26/12/17	11:00	1.8	10
26/12/17	12:00	1.3	19
26/12/17	13:00	1.8	225
26/12/17	14:00	1.3	269
26/12/17	15:00	1.3	264
26/12/17	16:00	0.9	230
26/12/17	17:00	0.4	257
26/12/17	18:00	0.4	312
26/12/17	19:00	1.8	93
26/12/17	20:00	3.1	91
26/12/17	21:00	3.1	89
26/12/17	22:00	2.7	90
26/12/17	23:00	2.7	93

Dragages HongKong	Contract No. HY/2012/08 Tuen Mun – Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section	**Weekly Water Spraying Record** **每週灑水檢查記錄**

Site Location 地盤位置: Northern Landfall

Date 日期: 25th Dec. 2017 to 至 31st Dec. 2017

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	✓	✓	✓	✓	✓	✓	✓
2	8:45 – 9:30	✓	✓	✓	✓	✓	✓	✓
3	9:30 – 10:15	✓	✓	✓	✓	✓	✓	✓
4	10:15 – 11:00	✓	✓	✓	✓	✓	✓	✓
5	11:00 – 11:45	✓	✓	✓	✓	✓	✓	✓
6	11:45 – 12:30	✓	✓	✓	✓	✓	✓	✓
7	12:30 – 13:15	✓	✓	✓	✓	✓	✓	✓
8	13:15 – 14:00	✓	✓	✓	✓	✓	✓	✓
9	14:00 – 14:45	✓	✓	✓	✓	✓	✓	✓
10	14:45 – 15:30	✓	✓	✓	✓	✓	✓	✓
11	15:30 – 16:45	✓	✓	✓	✓	✓	✓	✓
12	16:45 – 17:30	✓	✓	✓	✓	✓	✓	✓
	Verified by Site Foreman 地盤科文簽署確認	✓	✓	✓	✓	✓	✓	✓

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

*Please - tick (√) in the box if complete the spraying of water.
circle (O) in the box if it is raining.

*如果 - 已經完成灑水, 請於方格內加上剔號(√)。
是下雨天, 請於方格內加上圓圈(O)。

Remarks:

(1) Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
(2) Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
(3) If it is raining, no water spraying is needed.
(4) The no of spraying will be increased due to site condition.

備註:

(1) 根據環境許可證 3.15 條例，在整個施工階段內，許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
(2) 灑水位置包括主要運輸道路，空曠地帶，斜坡，存料堆，以及任何其他產生塵埃物料。
(3) 當下雨時，地盤將不需要灑水。
(4) 如果地盤情況更改或有需要時，灑水次數會相應增加。

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/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Water Quality Impact Monitoring
Date	22 November 2017

ERM

Dear Sir or Madam,

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

Action Level Exceedance
0212330_22November2017_Depth-averaged SS_F_Station_IS15

A total of one Action Level Exceedance was recorded on 22 November 2017.

Regards,

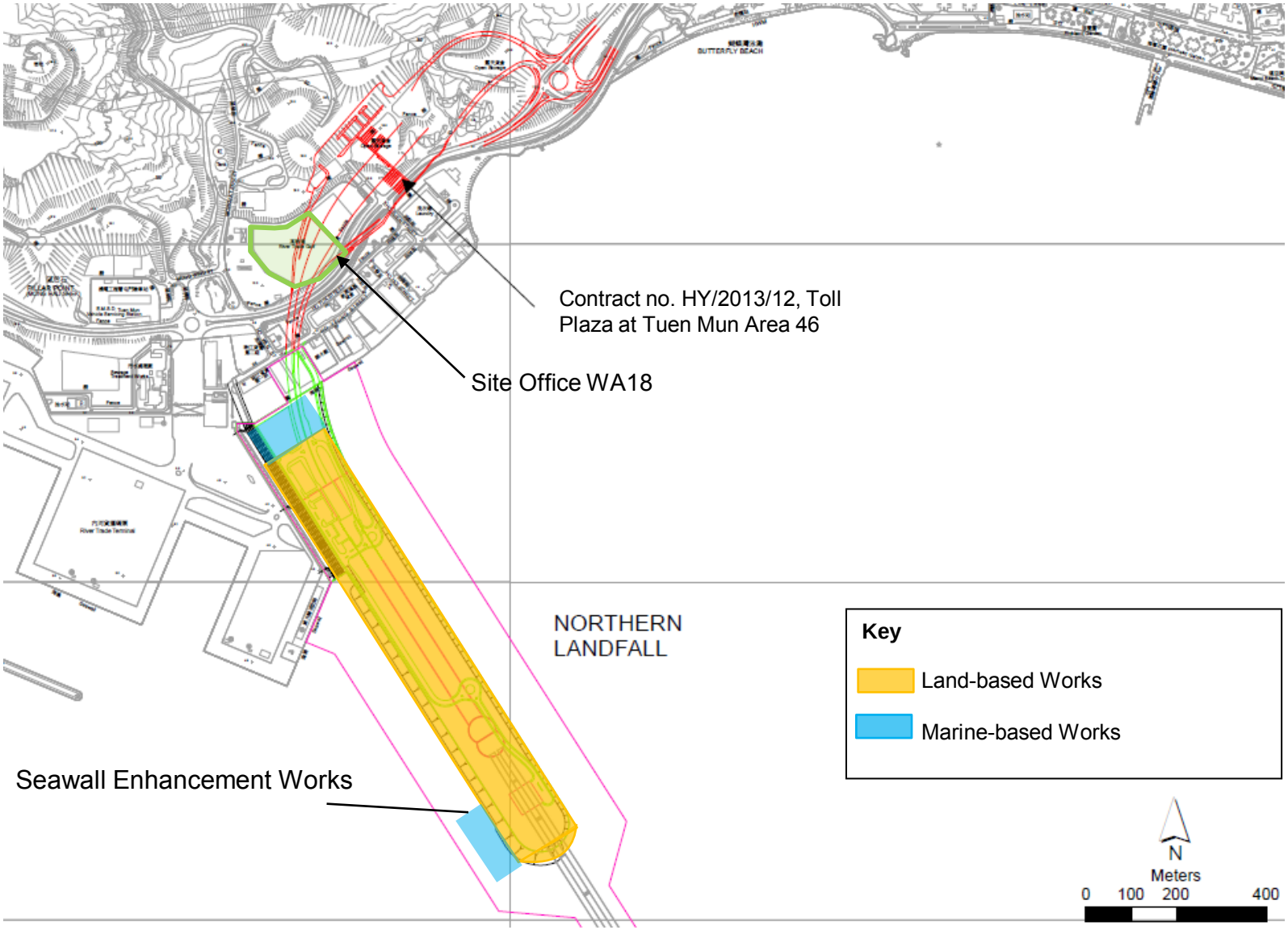
Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_22November2017_Depth-averaged SS_F_Station_IS15** **[Total No. of Exceedances = 1]**	
Date	22 November 2017 (Measured) 23 November 2017(*In situ* results received by ERM) 1 December 2017 (Laboratory results received by ERM)	
Monitoring Station	CS4, CS6, SR8, SR9, SR10A, IS12, IS13, IS14, IS15	
Parameter(s) with Exceedance(s)	Depth-averaged Suspended Solids (SS, mg/L)	
Action Levels	SS	120% of upstream control station at the same tide of the same day (i.e., CS6: 9.2 x 120% = 11.0 mg/L for mid-flood; CS4: 13.5 x 120% = 16.2 mg/L for mid-ebb) and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels	SS	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun (i.e., CS6: 9.2 x 130% = 12.0 mg/L for mid-flood; CS4: 13.5 x 130% = 17.6 mg/L for mid-ebb) and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	Action Level Exceedance for SS is observed at IS15 (25.8 mg/L) during mid-flood tide.	
Works Undertaken (at the time of monitoring event)	According to the information provided by the Contractor, marine works conducted on 22 November 2017 included: • Seawall Enhancement Works at Portion N-C	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • Apart from observed exceedances, SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. • IS12 and IS14 were closer to the marine-based construction area than the WQM stations where exceedances were observed. While average SS value recorded at IS12 and IS14 were in compliance with the Action and Limit Levels in both mid-ebb and mid-flood tides, the observed exceedances at other remote stations were unlikely to be due to the marine works of this Contract. • The average current flow direction during flood tide was from CS6 to CS4. The current flow direction did not favour the dispersion of suspended solids to IS15, if any, generated by the marine works under this Contract. Consider the normal average SS value recorded at IS12 and IS14, which is the closest WQM station to the marine-based construction area, the observed exceedances at other remote stations were unlikely to be due to the marine works of this Contract. • Depth-averaged Turbidity levels at all stations were in compliance with the Action and Limit Levels during both tides on the same day. Likewise, dissolved oxygen (DO) at all levels were also in compliance with the Action and Limit Levels in both mid-ebb and mid-flood tides.	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results and the locations of water quality monitoring stations are attached.	



Environmental Resources Management

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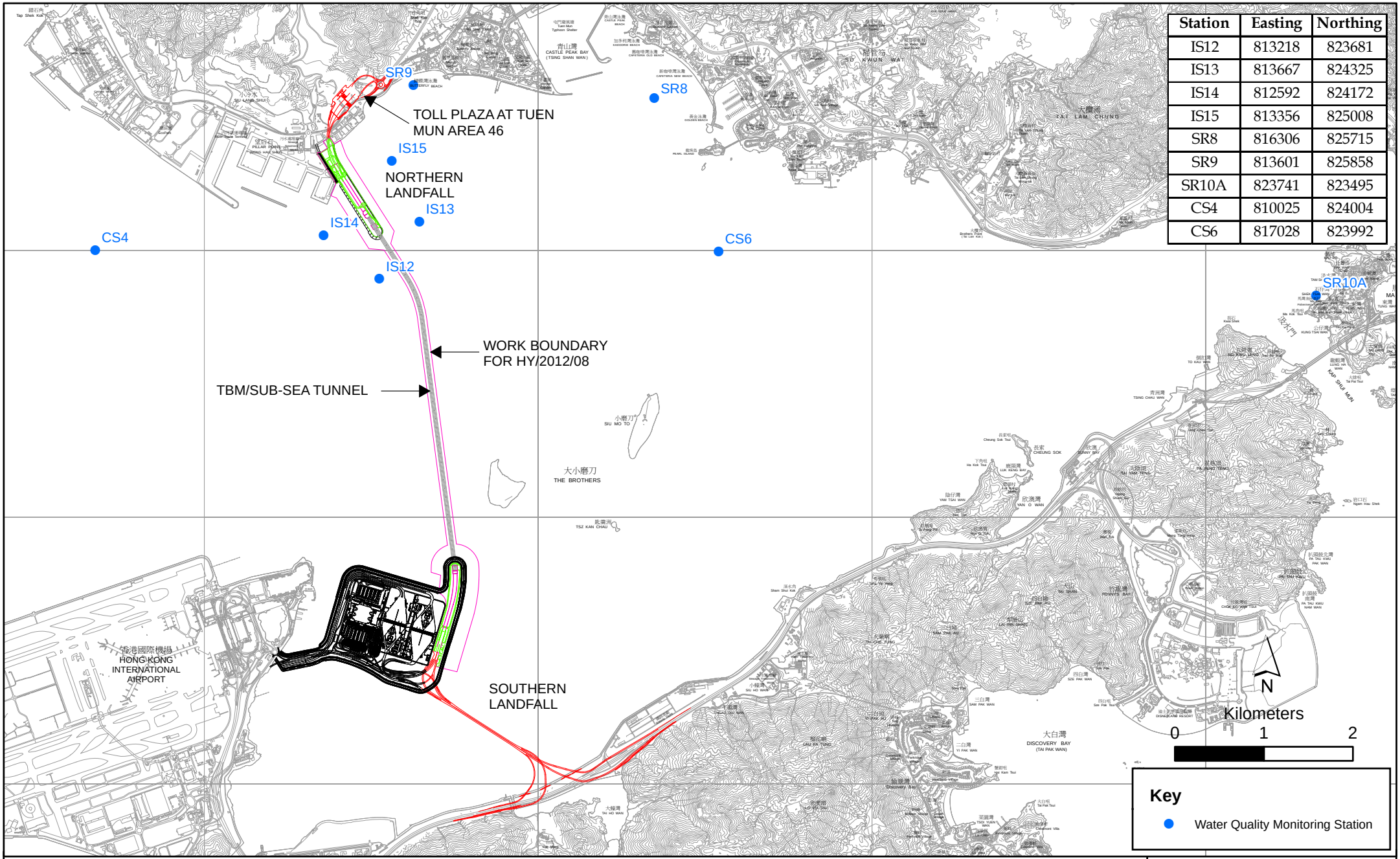

Station	Easting	Northing
IS12	813218	823681
IS13	813667	824325
IS14	812592	824172
IS15	813356	825008
SR8	816306	825715
SR9	813601	825858
SR10A	823741	823495
CS4	810025	824004
CS6	817028	823992

Figure 2.2

Water Quality Monitoring Station

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_WQMS.mxd
Date: 15/11/2013

Environmental Resources Management

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Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Surface	1	1	23.8	8.0	32.2	5.7	5.7	3.4	5.0	7.1	8.9
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Surface	1	2	23.8	8.0	32.3	5.7		3.4		8.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Middle	2	1	23.7	8.0	32.3	5.7		5.1		8.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Middle	2	2	23.8	8.0	32.3	5.6		4.9		9.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Bottom	3	1	23.7	8.0	32.3	5.7	5.7	6.6		10.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS6	14:54	Bottom	3	2	23.8	8.0	32.3	5.6		6.7		10.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Surface	1	1	23.7	8.1	31.6	6.0	5.9	6.3	8.8	9.9	13.5
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Surface	1	2	23.7	8.0	31.6	5.9		6.2		8.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Middle	2	1	23.7	8.1	31.6	5.9		6.5		13.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Middle	2	2	23.7	8.0	31.6	5.9		6.8		13.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Bottom	3	1	23.7	8.1	31.6	5.9	5.9	13.5		17.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	CS4	13:39	Bottom	3	2	23.7	8.0	31.6	5.9		13.7		17.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Surface	1	1	23.9	8.0	31.8	5.8	5.8	5.9	7.7	8.7	8.4
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Surface	1	2	23.9	8.0	31.8	5.8		5.5		7.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Middle	2	1									
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Middle	2	2									
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Bottom	3	1	23.8	8.0	31.8	5.9	5.9	9.9		8.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR8	14:40	Bottom	3	2	23.8	8.0	31.9	5.9		9.5		8.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Surface	1	1	24.0	8.0	31.8	5.9	5.9	4.8	5.8	6.8	6.7
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Surface	1	2	24.0	8.0	31.8	5.9		4.7		6.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Middle	2	1									
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Middle	2	2									
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Bottom	3	1	23.7	8.0	31.8	5.8	5.8	6.9		7.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR9	14:25	Bottom	3	2	23.8	8.0	31.8	5.8		6.8		6.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Surface	1	1	23.6	8.0	32.1	6.1	6.1	5.8	5.5	7.0	6.9
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Surface	1	2	23.8	7.8	31.9	6.1		5.7		7.2	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Middle	2	1	23.6	8.0	32.1	6.1		5.3		7.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Middle	2	2	23.8	7.8	31.9	6.1		5.2		6.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Bottom	3	1	23.6	8.0	32.1	6.2	6.2	5.4		6.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	SR10A	15:38	Bottom	3	2	23.8	7.8	31.9	6.2		5.4		6.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Surface	1	1	23.7	8.1	31.7	6.1	5.9	3.6	4.7	5.9	6.8
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Surface	1	2	23.8	8.0	31.7	6.1		3.7		5.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Middle	2	1	23.8	8.0	31.9	5.7		4.4		7.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Middle	2	2	23.8	8.0	31.9	5.7		4.6		6.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Bottom	3	1	23.8	8.0	32.0	5.8	5.8	6.1		7.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS12	14:02	Bottom	3	2	23.8	8.0	32.0	5.7		6.0		8.2	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Surface	1	1	23.8	8.0	31.8	5.9	5.9	3.5	4.7	4.6	7.0
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Surface	1	2	23.8	8.0	31.8	5.9		3.6		5.2	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Middle	2	1	23.7	8.0	31.8	5.8		4.6		7.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Middle	2	2	23.8	8.0	31.8	5.8		4.7		7.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Bottom	3	1	23.8	8.0	31.9	5.8	5.8	6.3		8.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS13	14:11	Bottom	3	2	23.8	8.0	31.9	5.8		5.6		8.5	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Surface	1	1	23.7	8.0	31.7	5.8	5.8	6.4	9.6	8.2	11.8
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Surface	1	2	23.7	8.0	31.7	5.8		6.6		8.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Middle	2	1	23.7	8.0	31.7	5.8		8.6		11.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Middle	2	2	23.7	8.0	31.7	5.8		8.7		10.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Bottom	3	1	23.6	8.0	31.7	5.8	5.8	13.1		16.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS14	13:55	Bottom	3	2	23.6	8.0	31.7	5.8		14.1		15.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Surface	1	1	24.0	8.0	31.8	5.8	5.8	4.5	5.1	6.1	7.5
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Surface	1	2	24.0	8.0	31.8	5.8		4.3		5.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Middle	2	1	23.9	8.0	31.9	5.7		5.0		7.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Middle	2	2	23.9	8.0	31.9	5.7		5.1		6.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Bottom	3	1	23.8	8.0	31.9	5.7	5.7	5.6		8.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Ebb	IS15	14:18	Bottom	3	2	23.8	8.0	31.9	5.7		6.0		10.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Surface	1	1	23.4	8.1	31.5	6.0	6.0	5.7	7.7	8.2	9.2
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Surface	1	2	23.3	8.1	31.5	6.1		5.8		7.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Middle	2	1	23.5	8.0	31.7	5.9		5.7		8.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Middle	2	2	23.5	8.1	31.7	6.0		5.5		9.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Bottom	3	1	23.6	8.0	31.8	5.9	5.9	11.6		11.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS6	8:45	Bottom	3	2	23.6	8.1	31.8	5.9		12.1		10.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Surface	1	1	23.3	8.1	31.2	6.1	6.1	8.5	11.0	9.1	10.6
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Surface	1	2	23.2	8.1	31.2	6.2		8.5		10.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Middle	2	1	23.2	8.1	31.2	6.1		10.5		10.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Middle	2	2	23.2	8.1	31.2	6.1		10.6		9.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Bottom	3	1	23.2	8.1	31.2	6.1	6.1	14.1		12.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	CS4	10:02	Bottom	3	2	23.2	8.1	31.2	6.1		14.0		11.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Surface	1	1	23.6	8.0	31.8	5.8	5.9	7.5	10.3	9.8	13.4
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Surface	1	2	23.6	8.0	31.8	5.9		7.4		8.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Middle	2	1									
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Middle	2	2									
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Bottom	3	1	23.6	8.0	31.8	5.9	6.0	13.1		17.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR8	9:00	Bottom	3	2	23.6	8.0	31.8	6.1		13.3		17.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Surface	1	1	23.6	8.0	31.8	5.7	5.7	8.8	10.7	9.8	12.1
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Surface	1	2	23.6	8.0	31.7	5.7		9.0		9.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Middle	2	1									
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Middle	2	2									
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Bottom	3	1	23.6	8.0	31.8	5.7	5.8	12.3		14.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR9	9:16	Bottom	3	2	23.6	8.0	31.7	5.8		12.8		14.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Surface	1	1	23.6	7.9	31.8	6.0	6.0	5.7	6.1	7.4	8.4
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Surface	1	2	23.7	7.9	31.6	6.0		5.7		7.5	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Middle	2	1	23.6	7.9	31.8	6.0		6.3		6.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Middle	2	2	23.7	7.9	31.6	6.0		6.3		7.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Bottom	3	1	23.6	7.9	31.8	6.0	6.0	6.2		10.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	SR10A	8:21	Bottom	3	2	23.7	7.9	31.6	6.0		6.1		11.2	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Surface	1	1	23.3	8.0	31.2	6.1	6.1	4.8	11.1	6.7	12.5
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Surface	1	2	23.3	8.1	31.2	6.1		4.8		7.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Middle	2	1	23.4	8.0	31.4	6.0		11.9		10.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Middle	2	2	23.4	8.1	31.4	6.0		11.7		9.2	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Bottom	3	1	23.5	8.0	31.5	5.9	5.9	17.7		20.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS12	9:35	Bottom	3	2	23.5	8.0	31.5	5.9		15.4		20.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Surface	1	1	23.4	8.0	31.5	6.1	6.1	10.5	12.7	13.2	16.5
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Surface	1	2	23.4	8.1	31.4	6.1		10.1		13.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Middle	2	1	23.4	8.0	31.5	6.0		12.5		16.1	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Middle	2	2	23.4	8.1	31.5	6.0		12.8		15.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Bottom	3	1	23.4	8.0	31.6	6.0	6.0	15.4		20.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS13	9:30	Bottom	3	2	23.4	8.0	31.5	6.0		14.8		19.9	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Surface	1	1	23.7	8.0	31.7	5.7	5.7	12.8	12.4	15.5	19.3
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Surface	1	2	23.7	8.0	31.7	5.7		12.8		16.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Middle	2	1	23.7	8.0	31.7	5.7		10.5		18.8	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Middle	2	2	23.7	8.0	31.7	5.7		10.2		18.0	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Bottom	3	1	23.7	8.0	31.7	5.7	5.7	13.7		23.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS14	9:42	Bottom	3	2	23.7	8.0	31.7	5.7		14.1		23.6	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Surface	1	1	23.5	8.0	31.8	5.9	5.9	16.9	17.4	24.9	25.8
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Surface	1	2	23.5	8.1	31.8	5.9		17.1		24.4	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Middle	2	1	23.5	8.0	31.8	5.9		14.2		25.3	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Middle	2	2	23.5	8.1	31.8	5.9		14.7		26.7	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Bottom	3	1	23.5	8.0	31.8	5.9	5.9	22.9		26.0	
TMCLKL	HY/2012/08	2017/11/22	Mid-Flood	IS15	9:23	Bottom	3	2	23.5	8.1	31.8	5.9		18.6		27.3	

Note:

Indicates Ex 2017/11/01

Indicates Ex 2017/11/01

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/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Water Quality Impact Monitoring
Date	6 December 2017

ERM

Dear Sir or Madam,

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

Action Level Exceedance
0212330_6December 2017_Depth-averaged SS_F_Station_IS15

A total of one Action Level Exceedance was recorded on 6 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

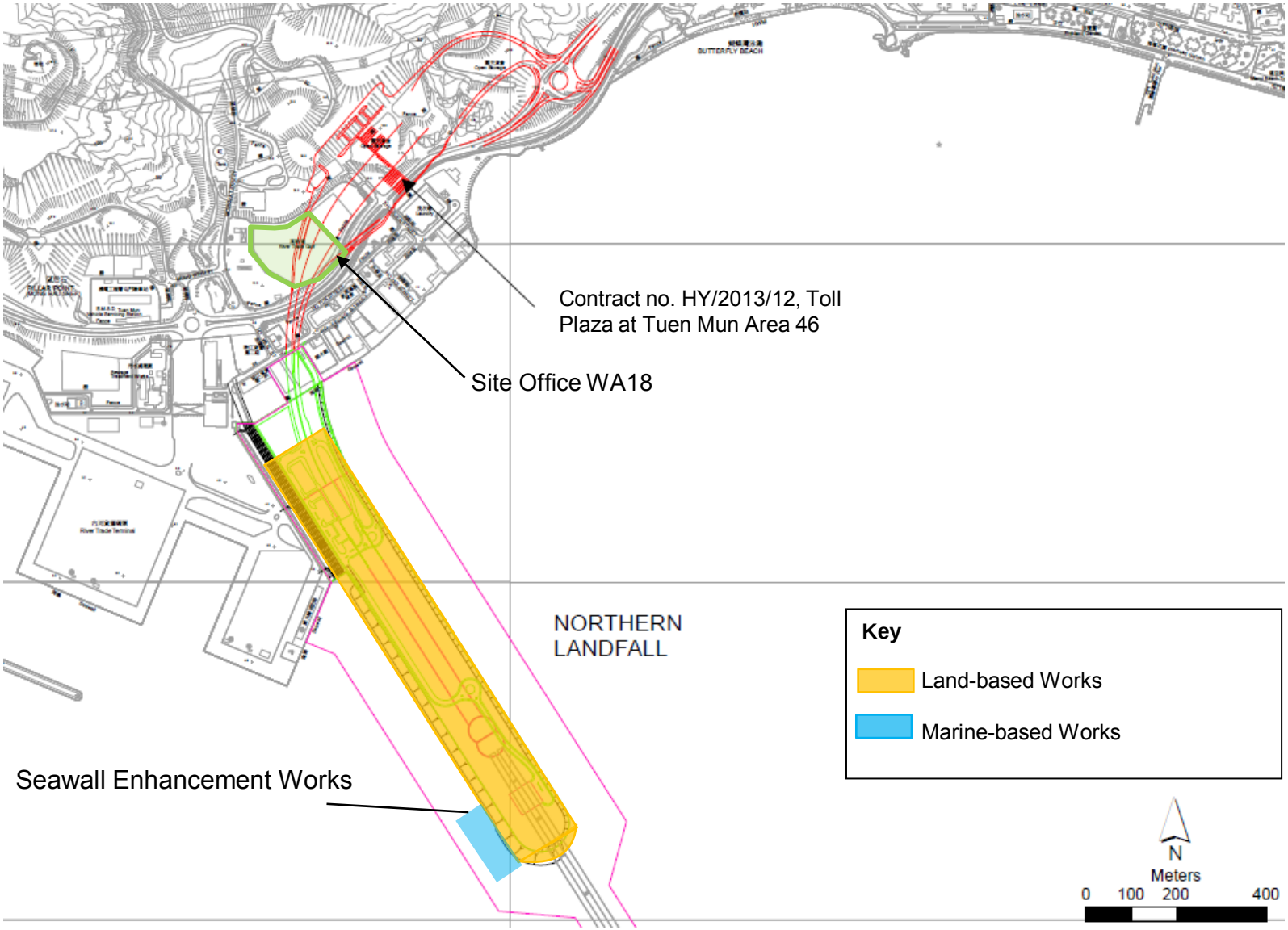
Log No.	**0212330_6December 2017_Depth-averaged SS_F_Station_IS15** **[Total No. of Exceedances = 1]**	
Date	6 December 2017 (Measured) 9 December 2017 (*In situ* results received by ERM) 13 December 2017 (Laboratory results received by ERM)	
Monitoring Station	CS4, CS6, SR8, SR9, SR10A, IS12, IS13, IS14, IS15	
Parameter(s) with Exceedance(s)	Depth-averaged Suspended Solids (SS, mg/L)	
Action Levels	SS	120% of upstream control station at the same tide of the same day (i.e., CS6: 9.1 x 120% = 10.9 mg/L for mid-flood; CS4: 13.0 x 120% = 15.6 mg/L for mid-ebb) and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels	SS	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun (i.e., CS6: 9.1 x 130% = 11.8 mg/L for mid-flood; CS4: 13.0 x 130% = 16.9 mg/L for mid-ebb) and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	Action Level Exceedance for SS is observed at IS15 (25.0 mg/L) during mid-flood tide.	
Works Undertaken (at the time of monitoring event)	According to the information provided by the Contractor, marine works conducted on 6 December 2017 included: • Seawall Enhancement Works at Portion N-C	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • Apart from observed exceedances, SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. • The average current flow direction during flood tide was from CS6 to CS4. The current flow direction did not favour the dispersion of suspended solids to IS15, if any, generated by the marine works under this Contract. Consider the normal average SS value recorded at IS12 and IS14, which is the closest WQM station to the marine-based construction area, the observed exceedances at other remote stations were unlikely to be due to the marine works of this Contract. • Depth-averaged Turbidity levels at all stations were in compliance with the Action and Limit Levels during both tides on the same day. Likewise, dissolved oxygen (DO) at all levels were also in compliance with the Action and Limit Levels in both mid-ebb and mid-flood tides.	
Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results and the locations of water quality monitoring stations are attached.	

ERM

Annex A Photos taken during Water Quality Monitoring

*Note: Photos taken on 6/12/2017

IS15 - Flood tide



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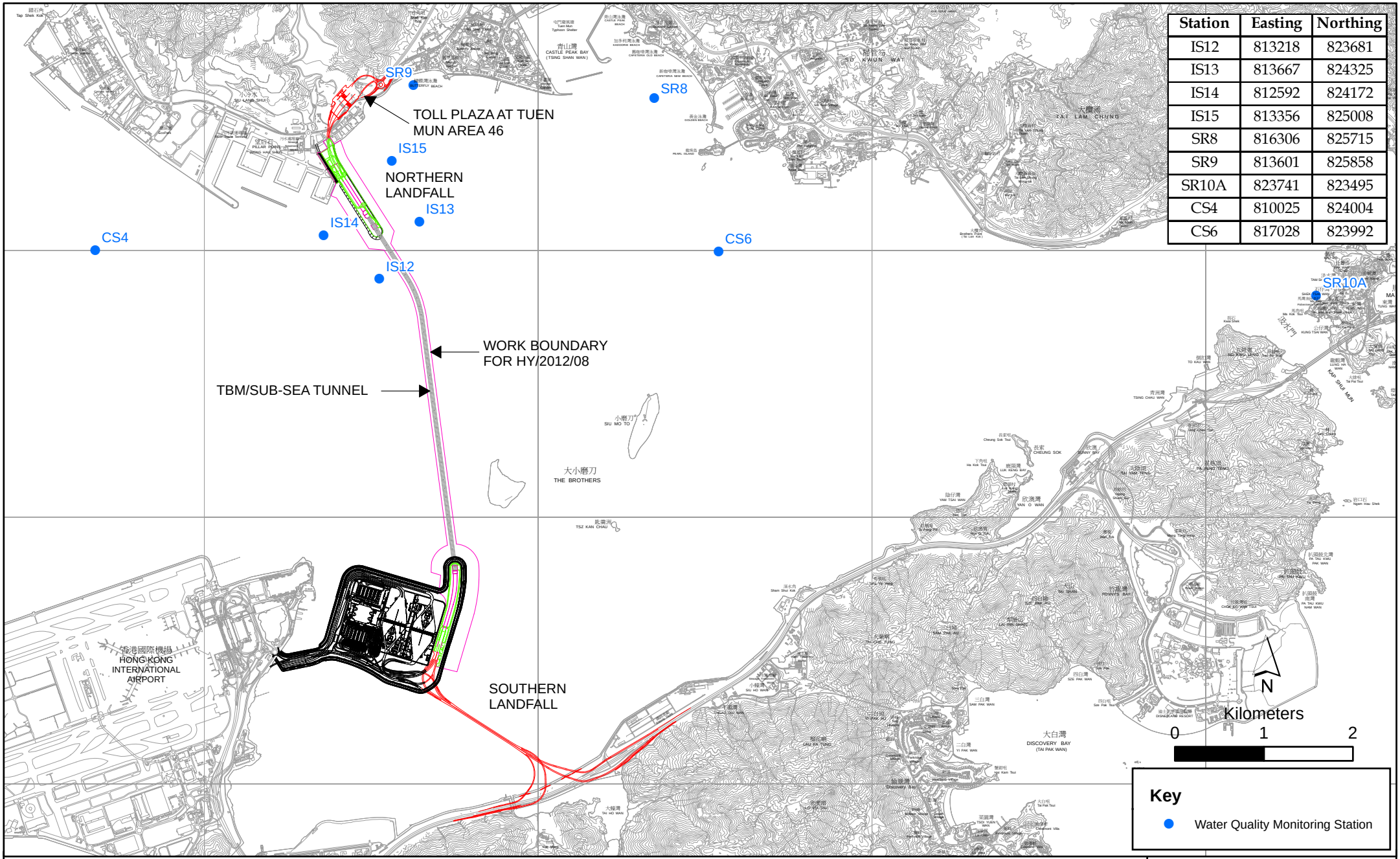

Station	Easting	Northing
IS12	813218	823681
IS13	813667	824325
IS14	812592	824172
IS15	813356	825008
SR8	816306	825715
SR9	813601	825858
SR10A	823741	823495
CS4	810025	824004
CS6	817028	823992

Figure 2.2

Water Quality Monitoring Station

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_WQMS.mxd
Date: 15/11/2013

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Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Surface	1	1	22.1	8.1	32.8	6.1	6.0	6.2	10.0	7.8	8.9
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Surface	1	2	22.1	8.1	32.8	6.0		5.7		7.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Middle	2	1	22.1	8.1	32.8	6.0		8.8		8.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Middle	2	2	22.1	8.1	32.8	6.0		8.3		8.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Bottom	3	1	22.1	8.1	32.8	6.0	6.0	15.5		10.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS6	14:35	Bottom	3	2	22.1	8.1	32.8	6.0		15.5		10.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Surface	1	1	22.0	8.2	32.6	6.4	6.4	7.0	11.3	10.9	13.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Surface	1	2	22.0	8.1	32.6	6.4		6.2		11.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Middle	2	1	21.8	8.2	32.6	6.4		12.2		11.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Middle	2	2	21.9	8.1	32.6	6.4		11.2		12.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Bottom	3	1	21.8	8.2	32.6	6.4	6.4	15.7		16.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	CS4	13:27	Bottom	3	2	21.9	8.1	32.6	6.3		15.6		15.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Surface	1	1	22.1	8.2	32.7	6.4	6.4	7.6	7.5	5.4	6.4
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Surface	1	2	22.1	8.1	32.7	6.4		6.8		6.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Bottom	3	1	22.0	8.2	32.7	6.4	6.4	8.2		7.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR8	14:19	Bottom	3	2	22.0	8.1	32.7	6.4		7.4		6.7	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Surface	1	1	22.2	8.2	32.7	6.4	6.4	6.7	6.7	4.4	5.4
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Surface	1	2	22.3	8.1	32.7	6.4		6.2		5.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Bottom	3	1	22.1	8.2	32.7	6.5	6.5	7.0		5.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR9	14:03	Bottom	3	2	22.1	8.1	32.7	6.5		6.8		5.7	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Surface	1	1	22.0	8.1	32.7	6.4	6.4	4.4	4.9	7.6	7.3
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Surface	1	2	22.1	8.0	32.5	6.4		5.2		7.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Middle	2	1	22.0	8.1	32.8	6.4		5.3		7.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Middle	2	2	22.1	8.0	32.5	6.4		5.3		7.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Bottom	3	1	21.9	8.1	32.8	6.5	6.5	4.8		6.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	SR10A	15:34	Bottom	3	2	22.1	8.0	32.5	6.5		4.5		6.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Surface	1	1	22.0	8.2	32.7	6.2	6.2	11.4	16.5	12.0	14.7
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Surface	1	2	22.0	8.1	32.7	6.2		11.2		12.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Middle	2	1	22.0	8.2	32.7	6.2		13.3		15.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Middle	2	2	22.0	8.1	32.7	6.2		13.4		15.3	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Bottom	3	1	22.0	8.2	32.7	6.2	6.2	24.6		17.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS12	13:44	Bottom	3	2	22.0	8.1	32.7	6.2		24.8		16.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Surface	1	1	22.0	8.2	32.7	6.3	6.3	9.2	10.4	9.5	11.6
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Surface	1	2	22.1	8.1	32.7	6.3		9.2		10.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Middle	2	1	22.0	8.2	32.7	6.3		11.4		13.3	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Middle	2	2	22.1	8.1	32.7	6.3		10.7		11.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Bottom	3	1	22.0	8.2	32.7	6.3	6.3	10.9		13.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS13	13:51	Bottom	3	2	22.1	8.1	32.7	6.3		10.8		11.9	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Surface	1	1	22.0	8.2	32.7	6.3	6.3	13.3	17.8	9.2	15.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Surface	1	2	22.0	8.1	32.7	6.3		12.3		11.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Middle	2	1	22.0	8.2	32.7	6.3		16.3		15.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Middle	2	2	22.0	8.1	32.7	6.2		15.8		15.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Bottom	3	1	22.0	8.2	32.7	6.3	6.3	24.6		19.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS14	13:38	Bottom	3	2	22.0	8.1	32.7	6.3		24.3		19.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Surface	1	1	22.0	8.2	32.7	6.2	6.2	10.8	13.2	12.9	14.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Surface	1	2	22.1	8.1	32.7	6.2		11.1		11.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Middle	2	1	22.0	8.2	32.7	6.2		13.1		12.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Middle	2	2	22.1	8.1	32.7	6.2		12.8		12.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Bottom	3	1	22.0	8.2	32.7	6.3	6.3	15.7		17.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Ebb	IS15	13:57	Bottom	3	2	22.0	8.1	32.7	6.3		15.4		17.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Surface	1	1	22.0	8.2	32.6	6.3	6.3	10.3	13.9	8.6	9.1
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Surface	1	2	22.0	8.1	32.6	6.3		9.8		7.7	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Middle	2	1	22.0	8.2	32.6	6.3		14.6		9.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Middle	2	2	22.0	8.1	32.6	6.3		14.9		9.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Bottom	3	1	22.0	8.2	32.6	6.2	6.2	16.8		9.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS6	8:50	Bottom	3	2	22.0	8.1	32.6	6.2		16.9		10.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Surface	1	1	21.7	8.2	32.3	6.4	6.4	14.3	22.2	18.4	21.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Surface	1	2	21.8	8.1	32.3	6.4		14.6		18.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Middle	2	1	21.7	8.2	32.3	6.4		23.0		21.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Middle	2	2	21.8	8.1	32.3	6.3		23.5		22.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Bottom	3	1	21.8	8.2	32.4	6.3	6.3	28.9		23.3	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	CS4	10:07	Bottom	3	2	21.8	8.1	32.4	6.2		28.6		22.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Surface	1	1	21.9	8.2	32.8	6.2	6.2	15.3	15.9	16.5	20.2
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Surface	1	2	21.9	8.1	32.8	6.2		14.6		15.3	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Bottom	3	1	21.8	8.2	32.8	6.1	6.1	16.8		24.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR8	9:01	Bottom	3	2	21.9	8.1	32.8	6.1		17.0		23.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Surface	1	1	21.8	8.2	32.7	6.1	6.1	11.2	11.8	15.1	14.6
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Surface	1	2	21.8	8.1	32.7	6.1		11.3		14.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Bottom	3	1	21.8	8.2	32.7	6.2	6.2	12.4		14.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR9	9:17	Bottom	3	2	21.8	8.1	32.7	6.2		12.3		14.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Surface	1	1	21.8	8.1	32.6	6.5	6.5	13.5	15.0	16.6	19.7
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Surface	1	2	21.9	8.0	32.4	6.5		13.1		16.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Middle	2	1	21.8	8.1	32.6	6.5		14.9		20.7	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Middle	2	2	21.9	8.0	32.4	6.5		14.7		21.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Bottom	3	1	21.8	8.1	32.6	6.5	6.5	16.9		21.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	SR10A	8:20	Bottom	3	2	21.9	8.0	32.4	6.5		16.7		20.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Surface	1	1	21.8	8.2	32.4	6.4	6.4	13.3	21.3	15.7	20.1
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Surface	1	2	21.8	8.1	32.4	6.4		12.9		15.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Middle	2	1	21.8	8.2	32.4	6.4		19.8		22.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Middle	2	2	21.8	8.2	32.4	6.3		20.3		22.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Bottom	3	1	21.8	8.2	32.4	6.4	6.4	30.8		22.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS12	9:38	Bottom	3	2	21.8	8.1	32.4	6.3		30.5		22.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Surface	1	1	21.9	8.2	32.5	6.4	6.4	12.6	19.0	14.9	16.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Surface	1	2	21.9	8.1	32.5	6.4		12.4		13.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Middle	2	1	21.9	8.2	32.5	6.4		15.4		14.9	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Middle	2	2	21.9	8.1	32.5	6.4		14.8		14.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Bottom	3	1	21.9	8.2	32.6	6.3	6.3	29.3		19.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS13	9:32	Bottom	3	2	22.0	8.1	32.6	6.3		29.7		19.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Surface	1	1	21.9	8.2	32.6	6.2	6.1	15.5	21.4	16.4	20.9
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Surface	1	2	22.0	8.1	32.6	6.1		15.7		17.3	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Middle	2	1	21.9	8.2	32.7	6.1		20.1		22.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Middle	2	2	21.9	8.1	32.7	5.8		20.0		21.4	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Bottom	3	1	21.9	8.2	32.7	5.8	5.8	28.5		24.0	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS14	9:47	Bottom	3	2	21.9	8.1	32.7	5.7		28.8		24.1	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Surface	1	1	22.0	8.2	32.7	6.2	6.2	18.5	23.2	20.3	25.0
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Surface	1	2	22.0	8.1	32.7	6.2		18.4		21.8	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Middle	2	1	22.0	8.2	32.7	6.2		21.4		25.2	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Middle	2	2	22.0	8.1	32.7	6.2		20.9		24.6	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Bottom	3	1	22.0	8.2	32.7	6.2	6.2	30.2		28.5	
TMCLKL	HY/2012/08	2017/12/06	Mid-Flood	IS15	9:24	Bottom	3	2	22.0	8.1	32.7	6.2		29.6		29.6	

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/2012/08 Tuen Mun–Chek Lap Kok Link–Northern Connection Sub-sea Tunnel Section
Subject	Notification of Exceedance for Water Quality Impact Monitoring
Date	8 December 2017

ERM

Dear Sir or Madam,

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

Action Level Exceedance
0212330_8December2017_Depth-averaged SS_F_Station_SR10A
0212330_8December2017_Depth-averaged SS_F_Station_IS14
0212330_8December2017_Depth-averaged SS_F_Station_IS15

A total of three Action Level Exceedances were recorded on 8 December 2017.

Regards,

Mr Jovy Tam
Environmental Team Leader

ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08
TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Marine Water Quality Impact Monitoring
Notification of Exceedance

Log No.	**0212330_8December2017_Depth-averaged SS_F_Station_SR10A** **0212330_8December2017_Depth-averaged SS_F_Station_IS14** **0212330_8December2017_Depth-averaged SS_F_Station_IS15** **[Total No. of Exceedances = 3]**	
Date	8 December 2017 (Measured) 9 December 2017(*In situ* results received by ERM) 14 December 2017 (Laboratory results received by ERM)	
Monitoring Station	CS4, CS6, SR8, SR9, SR10A, IS12, IS13, IS14, IS15	
Parameter(s) with Exceedance(s)	Depth-averaged Suspended Solids (SS, mg/L)	
Action Levels	SS	120% of upstream control station at the same tide of the same day (i.e., CS6: 10.9 x 120% = 13.1 mg/L for mid-flood; CS4: 17.8 x 120% = 21.4 mg/L for mid-ebb) and 95%-ile of baseline data (i.e., 23.5 mg/L).
Limit Levels	SS	130% of upstream control station at the same tide of the same day and 10mg/L for WSD Seawater Intakes at Tuen Mun (i.e., CS6: 10.9 x 130% = 14.2 mg/L for mid-flood; CS4: 17.8 x 130% = 23.1 mg/L for mid-ebb) and 99%-ile of baseline data. (i.e., 34.4 mg/L)
Measured Levels	Action Level Exceedance for SS is observed at SR10A (28.3 mg/L) during mid-flood tide. Action Level Exceedance for SS is observed at IS14 (27.6 mg/L) during mid-flood tide. Action Level Exceedance for SS is observed at IS15 (24.3 mg/L) during mid-flood tide.	
Works Undertaken (at the time of monitoring event)	According to the information provided by the Contractor, marine works conducted on 8 December 2017 included: • Seawall Enhancement Works at Portion N-C	
Possible Reason for Action or Limit Level Exceedance(s)	The exceedances are unlikely to be due to the Project, in view of the following: • Apart from observed exceedances, SS levels at all other monitoring stations were in compliance with the Action and Limit Levels during both mid-flood and mid-ebb tides on the same day. • No malpractice was observed during the sampling process. • Exceedance at SR10A was unlikely to be due to the marine works of this Contract as SR10A is far away from the marine works area. It is unlikely to be affected by the suspended solids, if any, generated by the marine works under this Contract. • According to the marine mammal observer, there was no seawall enhancement works at Portion N-C in the morning on 8 December 2017. Therefore, the observed exceedance at IS14 was unlikely to be due to the marine works of this Contract. • The average current flow direction during flood tide was from CS6 to CS4. The current flow direction did not favour the dispersion of suspended solids to IS15, if any, generated by the marine works under this Contract. Therefore, the observed exceedances at IS15 were unlikely to be due to the marine works of this Contract. • Depth-averaged Turbidity levels at all stations were in compliance with the Action and Limit Levels during both tides on the same day. Likewise, dissolved oxygen (DO) at all levels were also in compliance with the Action and Limit Levels in both mid-ebb and mid-flood tides.	

Actions Taken / To Be Taken	No immediate action is considered necessary. The ET will monitor for future trends in exceedances.
Remarks	The monitoring results and the locations of water quality monitoring stations are attached.

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Annex A Photos taken during Water Quality Monitoring

*Note: Photos taken on 8/12/2017

IS15 - Flood tide

IS14 - Flood tide

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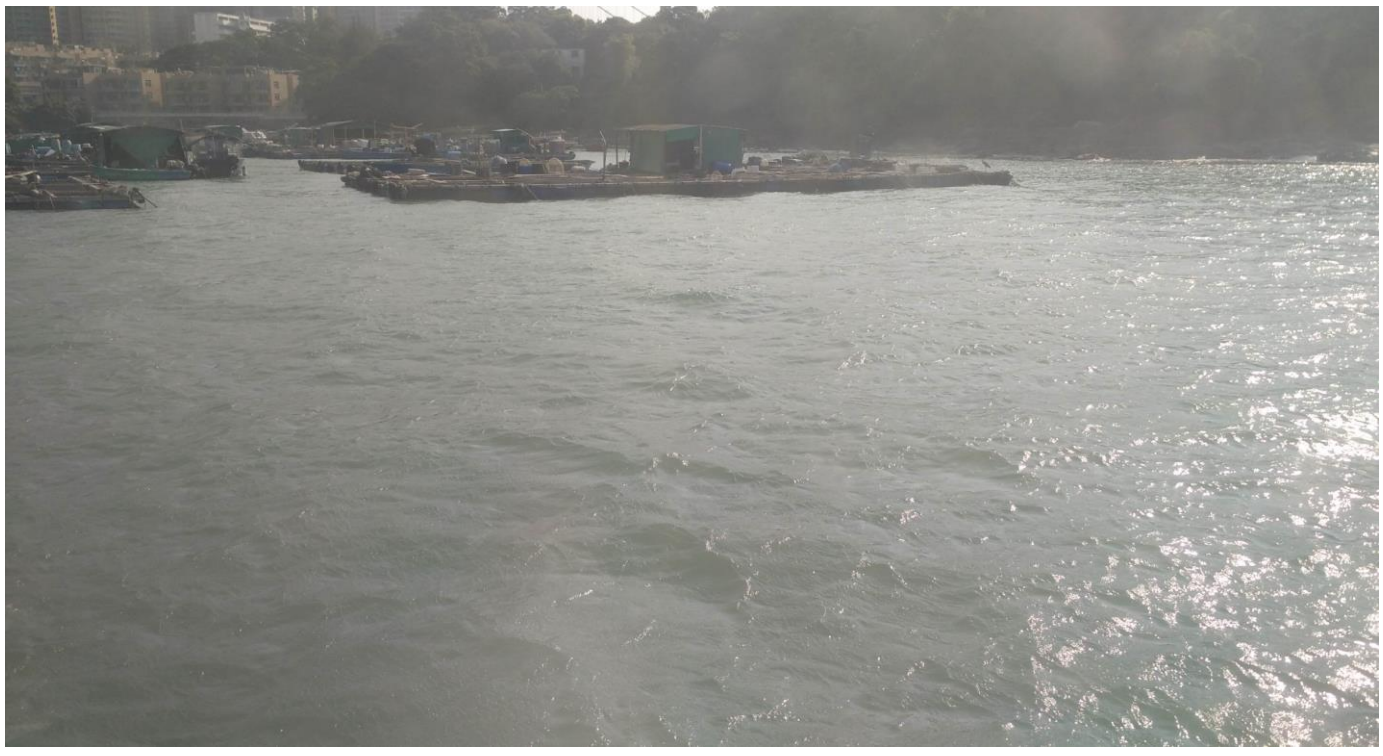
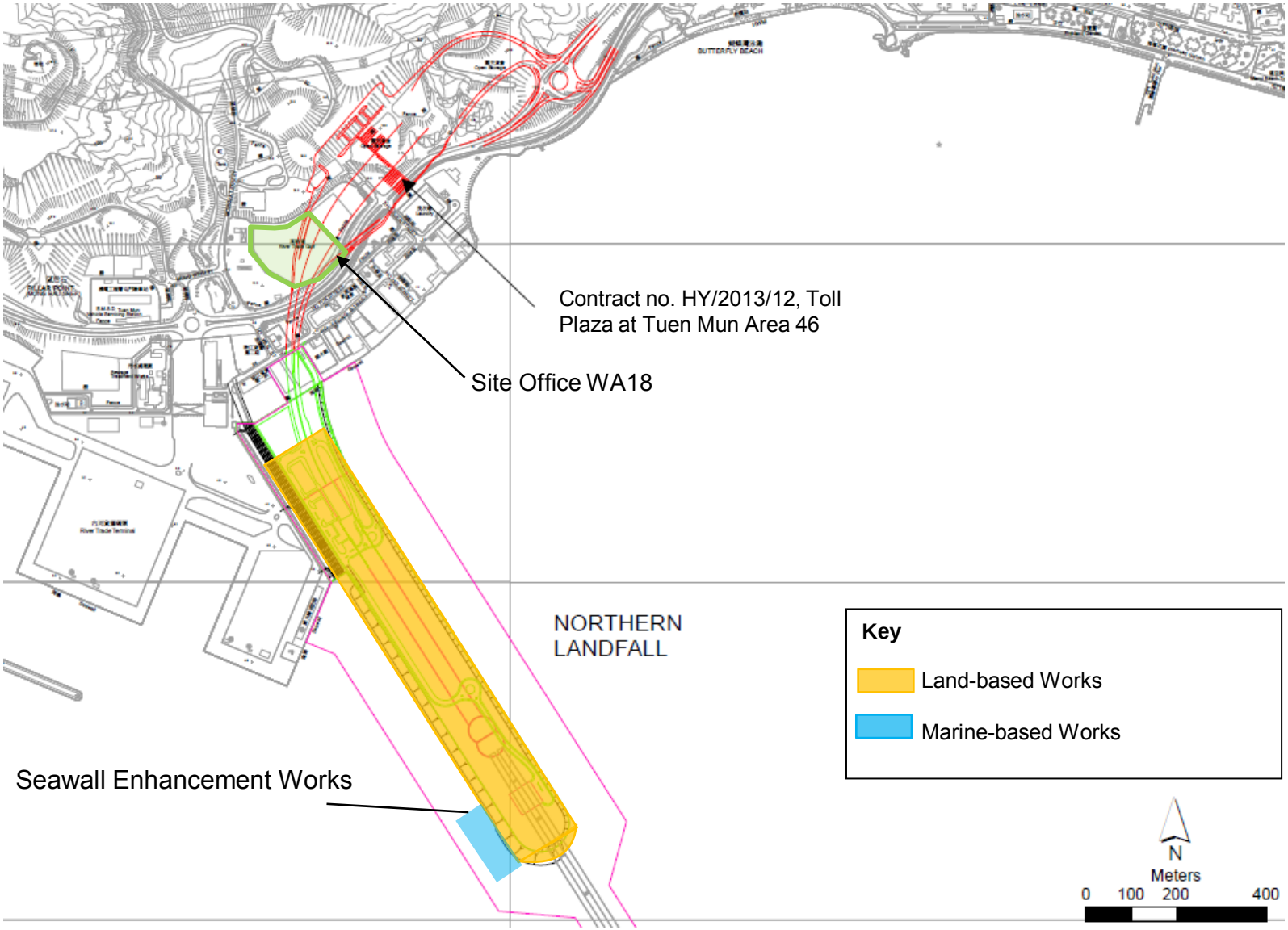
Annex A Photos taken during Water Quality Monitoring

*Note: Photos taken on 8/12/2017



SR10A - Flood tide



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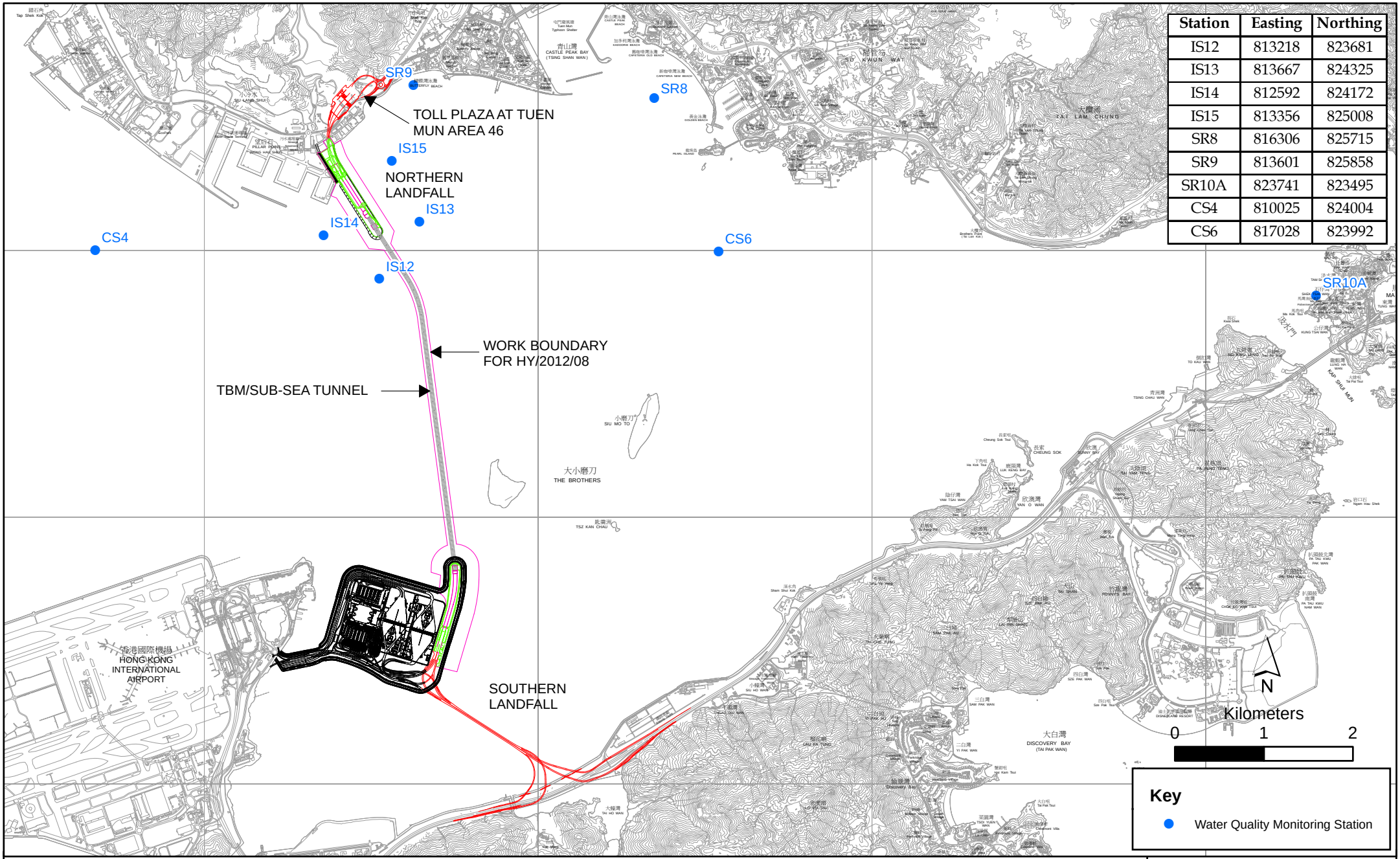

Station	Easting	Northing
IS12	813218	823681
IS13	813667	824325
IS14	812592	824172
IS15	813356	825008
SR8	816306	825715
SR9	813601	825858
SR10A	823741	823495
CS4	810025	824004
CS6	817028	823992

Figure 2.2

Water Quality Monitoring Station

File: T:\GIS\CONTRACT\0212330\Mxd\0212330_WQMS.mxd
Date: 15/11/2013

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Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Surface	1	1	21.5	8.1	32.4	6.4	6.4	6.3	6.7	11.4	12.5
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Surface	1	2	21.8	7.9	30.1	6.4		5.7		11.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Middle	2	1	21.5	8.1	32.4	6.3		7.1		11.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Middle	2	2	21.8	7.9	30.1	6.4		6.8		10.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Bottom	3	1	21.6	8.1	32.4	6.3	6.4	7.4		15.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS6	17:43	Bottom	3	2	21.8	7.9	30.2	6.4		7.1		14.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Surface	1	1	21.1	8.2	31.3	6.8	6.8	12.7	13.7	16.8	17.8
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Surface	1	2	21.4	8.0	29.7	6.9		12.8		16.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Middle	2	1	21.2	8.1	31.7	6.7		13.6		18.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Middle	2	2	21.4	7.9	30.0	6.8		13.4		17.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Bottom	3	1	21.3	8.1	31.9	6.7	6.8	14.9		19.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	CS4	16:30	Bottom	3	2	21.6	7.9	30.3	6.8		14.5		18.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Surface	1	1	21.3	8.1	32.0	6.8	6.9	12.8	12.3	16.4	17.4
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Surface	1	2	21.6	7.9	30.1	7.0		12.4		17.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Bottom	3	1	21.3	8.1	32.0	7.1	7.2	12.2		17.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR8	17:28	Bottom	3	2	21.6	7.9	30.2	7.2		11.8		17.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Surface	1	1	21.5	8.1	32.0	6.9	7.0	8.0	7.9	10.9	11.3
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Surface	1	2	21.7	7.9	30.0	7.0		7.9		9.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Middle	2	1									
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Bottom	3	1	21.5	8.1	32.0	7.0	7.1	8.0		12.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR9	17:12	Bottom	3	2	21.7	7.9	30.0	7.1		7.6		12.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Surface	1	1	21.6	8.1	32.3	6.5	6.5	3.8	3.9	11.0	12.5
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Surface	1	2	21.5	8.1	32.5	6.5		3.8		12.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Middle	2	1	21.6	8.1	32.3	6.5		4.1		12.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Middle	2	2	21.5	8.1	32.5	6.6		4.1		13.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Bottom	3	1	21.6	8.0	32.3	6.6	6.6	3.9		12.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	SR10A	17:06	Bottom	3	2	21.5	8.1	32.5	6.6		3.9		13.1	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Surface	1	1	21.4	8.1	32.1	6.6	6.7	13.9	16.6	12.9	15.7
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Surface	1	2	21.7	7.9	30.9	6.7		13.8		13.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Middle	2	1	21.4	8.1	32.1	6.6		17.5		16.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Middle	2	2	21.7	7.9	30.9	6.7		17.7		17.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Bottom	3	1	21.4	8.1	32.1	6.6	6.7	18.2		16.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS12	16:52	Bottom	3	2	21.7	7.9	31.0	6.7		18.3		16.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Surface	1	1	21.4	8.1	32.1	6.7	6.7	9.0	9.4	12.1	13.2
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Surface	1	2	21.7	7.9	30.2	6.8		8.2		11.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Middle	2	1	21.5	8.1	32.2	6.6		9.2		12.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Middle	2	2	21.7	7.9	30.3	6.8		9.2		11.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Bottom	3	1	21.5	8.1	32.2	6.7	6.8	10.2		15.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS13	16:59	Bottom	3	2	21.7	7.9	30.5	6.9		10.8		16.1	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Surface	1	1	21.4	8.1	32.1	6.6		9.8		14.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Surface	1	2	21.7	7.9	30.9	6.7	6.6	9.3		13.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Middle	2	1	21.5	8.1	32.2	6.5		14.3	15.3	14.4	14.7
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Middle	2	2	21.7	7.9	31.0	6.6		14.2		14.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Bottom	3	1	21.5	8.1	32.3	6.5	6.6	21.6		16.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS14	16:46	Bottom	3	2	21.8	7.9	31.1	6.6		22.8		15.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Surface	1	1	21.4	8.1	32.0	6.8		7.4		10.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Surface	1	2	21.6	7.9	30.0	6.9	6.9	6.7		9.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Middle	2	1	21.4	8.1	32.0	6.8		8.5	8.1	11.8	12.5
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Middle	2	2	21.7	7.9	30.1	6.9		7.8		11.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Bottom	3	1	21.5	8.1	32.0	6.9	7.0	9.4		15.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Ebb	IS15	17:05	Bottom	3	2	21.7	7.9	30.2	7.0		8.9		16.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Surface	1	1	21.4	8.1	31.8	6.7		9.8		9.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Surface	1	2	21.7	7.9	30.0	6.8	6.7	8.6		8.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Middle	2	1	21.4	8.1	31.8	6.6		12.4	14.6	11.4	10.9
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Middle	2	2	21.7	7.9	29.9	6.7		12.5		11.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Bottom	3	1	21.4	8.1	32.0	6.6	6.7	22.2		11.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS6	9:54	Bottom	3	2	21.7	7.9	30.1	6.7		22.3		12.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Surface	1	1	21.3	8.1	31.5	6.7		16.9		22.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Surface	1	2	21.5	7.9	30.4	6.7	6.7	16.8		21.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Middle	2	1	21.3	8.1	31.5	6.6		19.7	20.5	22.2	22.4
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Middle	2	2	21.5	7.9	30.4	6.7		20.7		22.2	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Bottom	3	1	21.3	8.1	31.6	6.6	6.7	24.5		23.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	CS4	11:04	Bottom	3	2	21.6	7.9	30.5	6.7		24.5		22.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Surface	1	1	21.3	8.2	32.1	6.7		15.3		15.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Surface	1	2	21.6	8.1	30.9	6.8	6.8	15.5		16.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Middle	2	1							15.8		17.3
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Bottom	3	1	21.3	8.2	32.1	6.8	6.8	15.9		18.8	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR8	10:06	Bottom	3	2	21.6	8.1	30.9	6.8		16.5		18.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Surface	1	1	21.4	8.1	32.2	6.6		11.8		14.5	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Surface	1	2	21.6	7.9	31.0	6.6	6.6	11.9		14.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Middle	2	1							11.0		15.4
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Middle	2	2									
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Bottom	3	1	21.4	8.1	32.2	6.7	6.8	10.7		16.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR9	10:21	Bottom	3	2	21.7	7.9	31.1	6.8		9.6		15.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Surface	1	1	21.5	8.1	32.0	6.7		11.6		25.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Surface	1	2	21.4	8.1	32.2	6.7	6.7	10.0		24.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Middle	2	1	21.5	8.1	32.0	6.7		11.9	10.9	29.1	28.3
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Middle	2	2	21.4	8.1	32.2	6.7		10.0		30.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Bottom	3	1	21.5	8.1	32.0	6.7	6.7	11.8		29.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	SR10A	9:48	Bottom	3	2	21.4	8.1	32.2	6.7		10.1		30.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Surface	1	1	21.5	8.1	31.8	6.7		11.8		15.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Surface	1	2	21.7	7.9	30.6	6.7	6.7	11.5		16.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Middle	2	1	21.5	8.1	31.8	6.6		15.4	17.2	17.8	17.2
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Middle	2	2	21.7	7.9	30.7	6.7		15.5		18.4	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Bottom	3	1	21.5	8.1	31.8	6.6	6.7	25.3		17.1	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS12	10:39	Bottom	3	2	21.7	7.9	30.7	6.7		23.8		18.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Surface	1	1	21.5	8.1	31.9	6.7		15.3		19.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Surface	1	2	21.8	7.9	30.7	6.7	6.7	14.8		18.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Middle	2	1	21.5	8.1	31.9	6.7		17.6	18.2	18.0	20.3
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Middle	2	2	21.7	7.9	30.8	6.8		18.5		18.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Bottom	3	1	21.4	8.1	31.9	6.7	6.8	21.4		22.7	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS13	10:33	Bottom	3	2	21.7	7.9	30.9	6.8		21.8		23.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Surface	1	1	21.4	8.1	32.0	6.6		17.9		26.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Surface	1	2	21.7	7.9	30.9	6.7	6.6	17.6		25.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Middle	2	1	21.4	8.1	32.0	6.6		20.1	20.8	27.6	27.6
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Middle	2	2	21.7	7.9	30.9	6.6		19.8		27.3	

Project	Works	Date (yyyy-mm-dd)	Tide	Station	Start Time	Level	Lev_Cod	Replicate	Temperature (°C)	pH	Salinity (ppt)	DO (mg/L)	Average DO (mg/L)	Turbidity (NTU)	Depth-Averaged Turbidity	SS (mg/L)	Depth-Averaged SS
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Bottom	3	1	21.4	8.1	32.1	6.6	6.7	24.7		29.6	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS14	10:46	Bottom	3	2	21.7	7.9	31.0	6.7		24.5		30.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Surface	1	1	21.4	8.2	32.1	6.6	6.6	18.1	20.8	22.1	24.3
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Surface	1	2	21.7	8.1	31.0	6.6		18.7		22.0	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Middle	2	1	21.4	8.1	32.1	6.5		21.7		25.3	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Middle	2	2	21.6	7.9	31.0	6.6		22.4		25.1	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Bottom	3	1	21.4	8.1	32.1	6.6	6.7	21.4		25.9	
TMCLKL	HY/2012/08	2017/12/08	Mid-Flood	IS15	10:27	Bottom	3	2	21.6	7.9	31.0	6.7		22.5		25.1	

Note: Indicates Ex 2017/11/01

Indicates Ex 2017/11/01

Appendix M

Waste Flow Table

Monthly Summary Waste Flow Table

Name of Department: HyD **Contract No. / Works Order No.: HY/2012/08**

Monthly Summary Waste Flow Table for December 2017 [to be submitted not later than the 15th day of each month following reporting month] (All quantities shall be rounded off to 3 decimal places.)

Month	Monthly Break-down of Inert Construction & Demolition Materials (i.e. Public Fill Materials)				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Hard Rock and Large Broken Concrete	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)
Sub-total	1097.465	0.000	0.000	0.000	1097.465
Jan-2017	60.781	0.000	0.000	0.000	60.781
Feb-2017	17.367	0.000	0.000	0.000	17.367
Mar-2017	7.508	0.000	0.000	0.000	7.508
Apr-2017	15.603	0.000	0.000	0.000	15.603
May-2017	12.358	0.000	0.000	0.000	12.358
Jun-2017	0.194	0.000	0.000	0.000	0.194
Half Year Sub-total	113.811	0.000	0.000	0.000	113.811
Jul-2017	0.652	0.000	0.000	0.000	0.652
Aug-2017	1.624	0.000	0.000	0.000	1.624
Sep-2017	0.886	0.000	0.000	0.000	0.886
Oct-2017	0.706	0.000	0.000	0.000	0.706
Nov-2017	3.259	0.000	0.000	0.000	3.259
Dec-2017	3.574	0.000	0.000	0.000	3.574
Project Total Quantities	1221.977	0.000	0.000	0.000	1221.977

Month	**Actual Quantities of <u>Non-inert</u> Construction Waste Generated Monthly**								
	Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		Others, e.g. General Refuse disposed at Landfill
	(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000ton)
	generated	recycled	generated	recycled	generated	recycled	generated	Disposed	generated
Sub-total	1.850	1.850	3.150	3.150	6.870	6.870	9.450	9.450	4.935
Jan-2017	0.000	0.000	0.000	0.000	0.000	0.000	3.400	3.400	0.257
Feb-2017	0.000	0.000	0.200	0.200	0.000	0.000	0.000	0.000	0.340
Mar-2017	0.000	0.000	0.000	0.000	0.000	0.000	6.100	6.100	0.286
Apr-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.237
May-2017	0.000	0.000	0.000	0.000	0.000	0.000	10.400	10.400	0.300
Jun-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.317
Half Year Sub-total	0.000	0.000	0.200	0.200	0.000	0.000	19.900	19.900	1.737
Jul-2017	0.000	0.000	0.200	0.200	0.000	0.000	0.000	0.000	0.272
Aug-2017	141.990	141.990	0.200	0.200	0.000	0.000	0.000	0.000	0.305
Sep-2017	0.000	0.000	0.200	0.200	0.000	0.000	0.000	0.000	0.300
Oct-2017	132.270	132.270	0.000	0.000	0.000	0.000	0.000	0.000	0.244
Nov-2017	343.270	343.270	0.200	0.200	0.000	0.000	3.800	3.800	0.345
Dec-2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.121
Project Total Quantities	619.380	619.380	4.150	4.150	6.870	6.870	33.150	33.150	7.914

Forecast of Total Quantities of Construction and Demolition Materials to be Generated from the Contract*				
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed of as Public Fill
(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)	(in '000 ton)
3.000	0.000	0.000	0.000	3.000

Forecast of Total Quantities of Construction and Demolition Materials to be Generated from the Contract*				
Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	General Refuse disposed of at Landfill
(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 ton)
50.000	0.000	0.000	0.000	0.200

Notes:
(1) The performance targets are given in the **ER Appendix 8J Clause 14** and the EM & A Manual(s).
(2) The waste flow table shall also include C&D materials to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3. (**ER Part 8 Clause 8.8.5 (d) (ii)** refers).