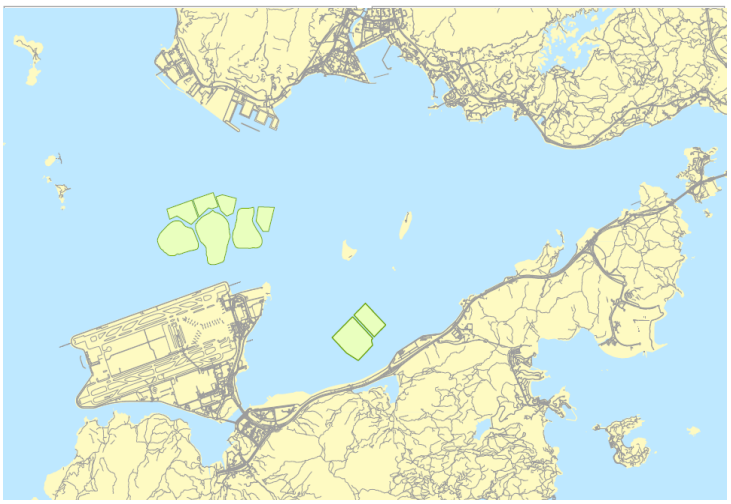


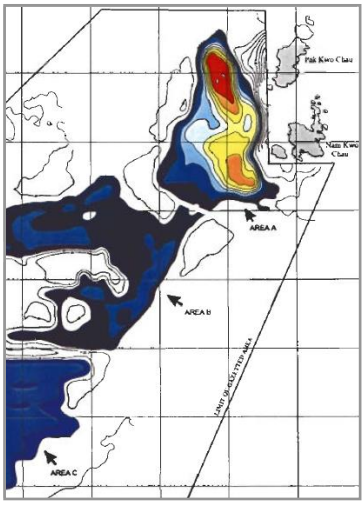




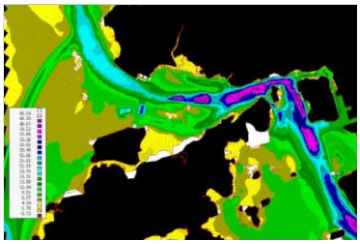

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Civil Engineering and Development Department

Environmental Monitoring and Audit for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) – Investigation

Agreement No. CE 23/2012(EP)

50th Monthly Progress Report for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau – October 2016

Draft (Revision 0)

11 November 2016

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Dredging, Management and Capping of Contaminated Sediment Disposal Facility to the South of The Brothers

Environmental Certification Sheet
EP-427/2011/A

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	50th Monthly Progress Report for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau – October 2016
Date of Report:	11 November 2016
Date prepared by ET:	11 November 2016
Date received by IA:	11 November 2016

Reference EP Condition

Environmental Permit Condition: Condition No.: 4.4

4 hard copies and 1 electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of the reporting month. The EM&A Reports shall include a summary of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be certified by the ET Leader and verified by the Independent Auditor. Additional copies of the submission shall be provided to the Director upon request by the Director.

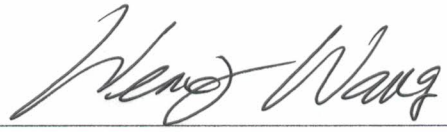
ET Certification

I hereby certify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-427/2011/A

Craig A. Reid,
Environmental Team Leader:  Date: 11/11/2016

IA Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-427/2011/A

Dr Wang Wen Xiong,
Independent Auditor:  Date: 11/11/2016

Environmental Monitoring and Audit for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) – Investigation

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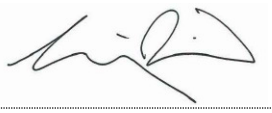
Client:	Project No:
Civil Engineering and Development Department (CEDD)	0175086
Summary: This document presents the 50th monthly progress report for Contaminated Mud Pits at the South of The Brothers and at East Sha Chau.	Date: 11 November 2016 Approved by:  Craig A. Reid *Partner*

Revision	Description	By	Checked	Approved	Date
v0	50th Monthly Progress Report for ESC CMPs and SB CMPs	RC	JT	CAR	11/11/16

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CONTENTS

ANNEXES

Agreement No. CE 23/2012 (EP)
Environmental Monitoring and Audit
for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) - Investigation

50TH MONTHLY PROGRESS REPORT FOR OCTOBER 2016

1.1 BACKGROUND

1.1.1 Since early 1990s, contaminated sediment (1) arising from various construction works (e.g. dredging and reclamation projects) in Hong Kong has been disposed of at a series of seabed pits at East of Sha Chau (ESC). In late 2008, a review indicated that the existing and planned facilities at ESC would not be able to meet the disposal demand after 2012. In order to meet this demand, the Hong Kong Special Administrative Region Government (HKSARG) decided to implement a new contained aquatic disposal (CAD) (2) facility at the South of The Brothers (SB CMPs) which had been under consideration for a number of years.

1.1.2 The environmental acceptability of the construction and operation of the Project had been confirmed by findings of the associated Environmental Impact Assessment (EIA) study completed in 2005 under *Agreement No. CE 12/2002(EP)* (3). The Director of Environmental Protection (DEP) approved this EIA report under the *Environmental Impact Assessment Ordinance* (*Cap. 499*) (*EIAO*) in September 2005 (*EIA Register No.: AEIAR-089/2005*).

1.1.3 In accordance with the EIA recommendation, prior to commencement of construction works for the SB CMPs, the Civil Engineering and Development Department (CEDD) undertook a detailed review and update of the EIA findings for the SB site (4). Findings of the EIA review undertaken in 2009/ 2010 confirmed that the construction and operation of the SB site had been predicted to be environmentally acceptable.

(1) According to the Management Framework of Dredged/ Excavated Sediment of ETWB TC(W) No. 34/2002, contaminated sediment in general shall mean those sediment requiring Type 2 – Confined Marine Disposal as determined according to this TC(W).

(2) CAD options may involve use of excavated borrow pits, or may involve purpose-built excavated pits. CAD sites are those which involve filling a seabed pit with contaminated mud and capping it with uncontaminated material such that the original seabed level is restored and the contaminated material is isolated from the surrounding marine environment.7

(3) Detailed Site Selection Study for a Proposed Contaminated Mud Disposal Facility within the Airport East/ East of Sha Chau Area (Agreement No. CE 12/2002(EP))

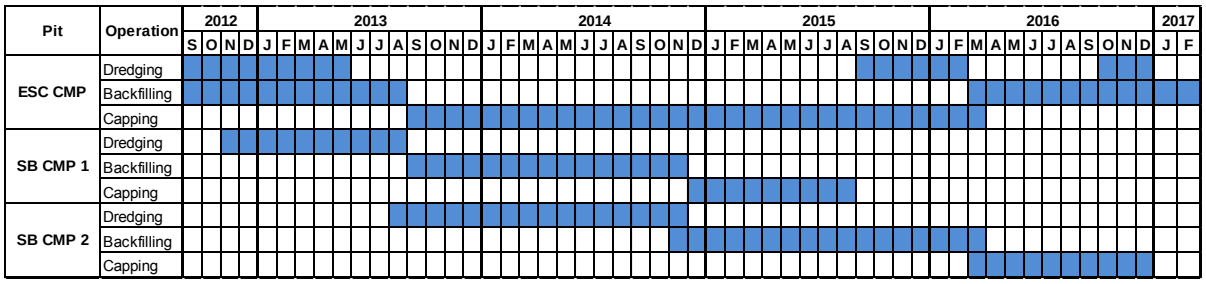
(4) Under the CEDD study *Contaminated Sediment Disposal Facility to the South of The Brothers (Agreement No. FM 2/2009)*

1.1.4 *Environmental Permits (EPs)* (*EP-312/2008/A* and *EP-427/2011/A*) were issued by the Environmental Protection Department (EPD) to the CEDD, the Permit Holder, on 28 November 2008 for ESC CMP V and on 23 December 2011 for SB CMPs, respectively. Under the requirements of the *EPs*, an Environmental Monitoring and Audit (EM&A) programme as set out in the *EM&A Manuals* (1) (2) is required to be implemented for the CMPs.

1.1.5 The present EM&A programme under *Agreement No. CE 23/2012 (EP)* covers the dredging, disposal and capping operations of the SB CMPs as well as ESC CMPs. Detailed works schedule for ESC CMPs and SB CMPs is shown in *Figure 1.1*. In October 2016, the following works were being undertaken:

- Dredging operation at ESC CMP Vb;
- Disposal of contaminated mud at ESC CMP Vd; and
- Capping operation at SB CMP 2.

Figure 1.1 Works Schedule for ESC CMPs and SB CMPs



1.2 REPORTING PERIOD

1.2.1 This *50th Monthly Progress Report* covers the EM&A activities for the reporting month of October 2016.

1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES

1.3.1 The following monitoring activities have been undertaken for ESC CMPs in October 2016:

- *Water Quality Monitoring During Dredging of ESC CMP Vb* was undertaken on 3, 5, 7, 11, 13, 15, 17, 19, 24, 26, 28 and 31 October 2016;

(1) ERM (2012) Environmental Monitoring and Audit (EM&A) Manual. Final First Review. Environmental Monitoring and Audit for Contaminated Mud Pits to the South of the Brothers and at East Sha Chau (2012-2017) – Investigation. Agreement No. CE 23/2012(EP). Submitted to EPD in November 2012.

(2) ERM (2010) Environmental Monitoring and Audit (EM&A) Manual. Final Second Review. Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation. Agreement No. CE 4/2009(EP). Submitted to EPD in November 2010.

- *Routine Water Quality Monitoring of ESC CMPs* was undertaken on 4 October 2016;
- *Pit Specific Sediment Chemistry of ESC CMP Vd* was undertaken on 6 October 2016.
- *Water Column Profiling of ESC CMP Vd* was undertaken on 12 October 2016;
- *Sediment Chemistry after a Major Storm of ESC CMPs* was undertaken on 27 October 2016; and

1.3.2 No monitoring activities were scheduled to be undertaken for SB CMPs in October 2016.

1.4 DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS

1.4.1 No outstanding sampling remained for October 2016.

1.4.2 The following laboratory analyses are in progress during the preparation of this monthly report and will be presented in the next monthly report once the data are available:

- Laboratory analyses of water samples collected for *Sediment Chemistry after a Major Storm of ESC CMPs* in October 2016.

1.5 BRIEF DISCUSSION OF THE MONITORING RESULTS FOR ESC CMPS

1.5.1 Brief discussion of the monitoring results of the following activities for ESC CMPs is presented in this *50th Monthly Progress Report*:

- *Water Quality Monitoring During Dredging of ESC CMP Vb* in October 2016;
- *Water Column Profiling of ESC CMP Vd* in October 2016;
- *Routine Water Quality Monitoring of ESC CMPs* in October 2016; and
- *Pit Specific Sediment Chemistry of ESC CMP Vd* in October 2016.

1.5.2 ***Impact Water Quality Monitoring during Dredging Operations of ESC CMP Vb – October 2016***

1.5.3 Dredging activities were carried out on 7 - 31 October 2016 during this reporting period and monitoring was conducted three times per week on 3, 5, 7, 11, 13, 15, 17, 19, 24, 26, 28 and 31 October 2016. During the survey day, monitoring was conducted during both mid-ebb and mid-flood tides at two Reference (Upstream) stations and five Impact (Downstream) stations around the dredging operations at ESC CMP Vb. Monitoring was also conducted at one Sensitive Receiver station situated in Ma Wan. A total of eight (8) stations were monitored and locations of the sampling stations are shown in *Figure 1.2*.

1.5.4 Monitoring results are presented in *Table B1* of *Annex B*. Daily dredging volume in October 2016 is reported in *Annex C*. Levels of Dissolved Oxygen (DO), Turbidity and Suspended Solid (SS) complied with the Action and Limit Levels (see *Table B2* of *Annex B* for details) set in the *Baseline Monitoring Report* [(1)], except for the following occasion of exceedances discussed in *Table 1.1* below.

1.5.5 The results indicated that the dredging operations at ESC CMP Vb did not appear to cause any unacceptable deterioration in water quality during this reporting period. Therefore, no further action, except for those recommended in the Environmental Permit (*EP-312/2008/A*), are considered necessary for the dredging operations.

(1) ERM (2009). Draft Second Review of the EM&A Manual. Under Agreement No. CE 4/2009 (EP) EM&A for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation

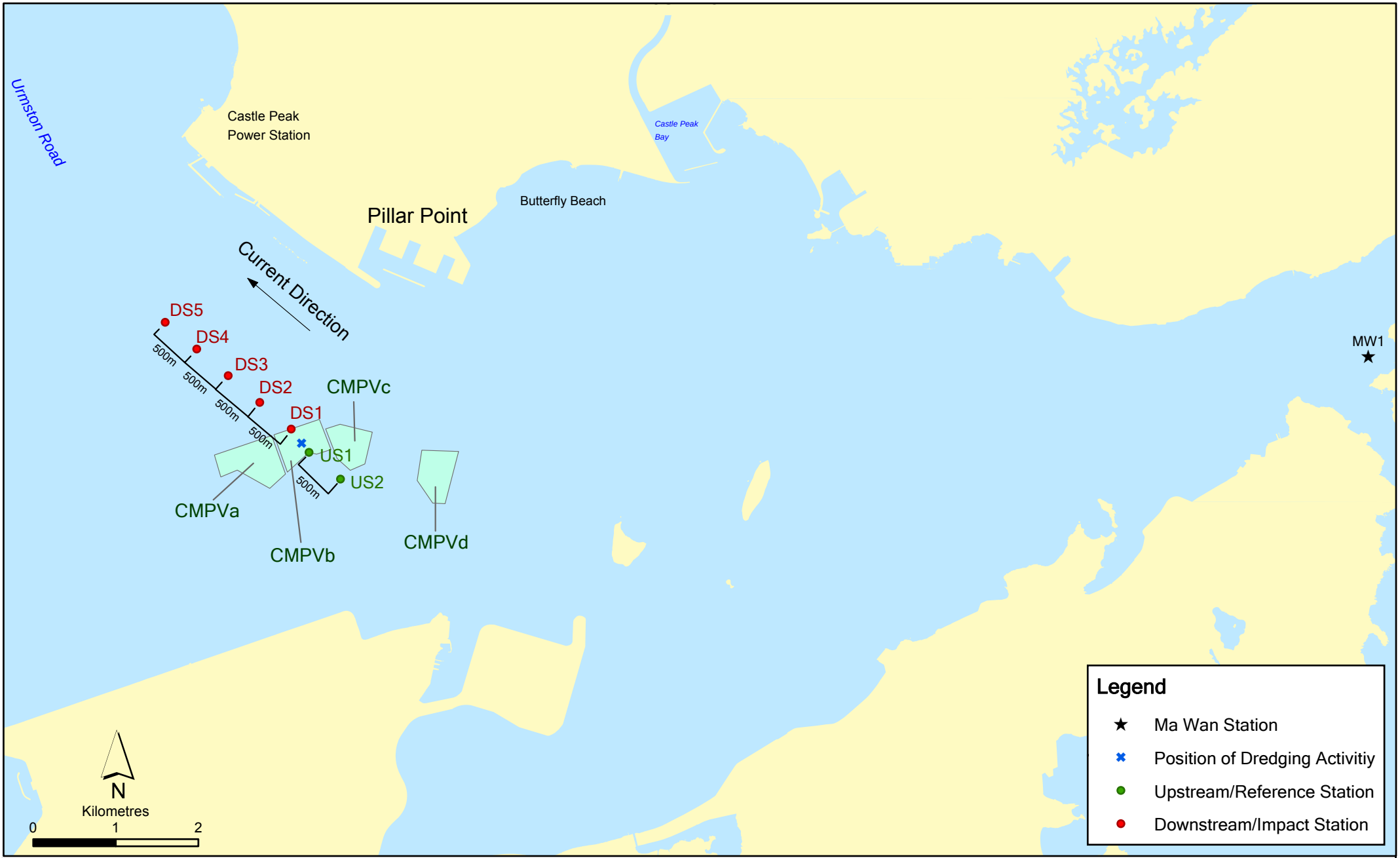


Figure 1.2

Indicative Dredging Impact Sampling Stations for CMPVb

Note: The locations of sampling stations will be determined on site based on current direction and position of dredging activities.

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Date: 22/9/2016

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Table 1.1 Details of Exceedances Recorded at ESC CMP Vb between 3 and 31 October 2016

Date	Tide	Parameter	Station	Type	Remarks
19 October 2016	Mid-Flood	SS	DS4	Action	The exceedance was not considered as indicating any unacceptable impacts from the dredging operations to WSRs outside the works area due to the following reason: • Stations DS4 is located further away from the works area of ESC CMP Vb when compared to station DS1, DS2 and DS3 at which the levels of SS did not exceed the Action and Limit Levels during the same tidal period.

1.5.6 ***Water Column Profiling of ESC CMP Vd – October 2016***

1.5.7 *Water Column Profiling* was undertaken at a total of two sampling stations (Upstream and Downstream stations) on 12 October 2016. The monitoring results have been assessed for compliance with the Water Quality Objectives (WQOs) set by Environmental Protection Department (EPD). This consists of a review of the EPD routine water quality monitoring data for the wet season period (April to October) of 2006 - 2015 from stations in the Northwestern Water Control Zone (WCZ), where the ESC CMPs are located [1]. For Salinity, the averaged value obtained from the Reference stations was used for the basis as the WQO. Levels of DO and Turbidity were also assessed for compliance with the Action and Limit Levels (see *Table B2* of *Annex B* for details).

In-situ Measurements

1.5.8 Analyses of results for October 2016 indicated that levels of DO and pH complied with the WQOs at both Downstream and Upstream stations (*Table B3* of *Annex B*). In addition, DO and Turbidity at all stations complied with the Action and Limit Levels (*Table B2* of *Annex B*).

Laboratory Measurements for Suspended Solids (SS)

1.5.9 Analyses of results for October 2016 indicated that the SS levels at all stations complied with the WQOs (*Table B3* of *Annex B*).

1.5.10 Overall, the monitoring results indicated that the mud disposal operation at ESC CMP Vd did not appear to cause any deterioration in water quality during this reporting period.

[1] http://epic.epd.gov.hk/EPICRIVER/marine/?lang=en

1.5.11 ***Routine Water Quality Monitoring of ESC CMPs – October 2016***

1.5.12 *Routine Water Quality Monitoring of ESC CMPs* was undertaken on 4 October 2016. The monitoring results have been assessed for compliance with the WQOs (see *Section 1.5.7* for details) The monitoring results are shown in *Tables B4 and B5* of *Annex B* and *Figures 1 - 10* of *Annex D*. A total of sixteen (16) monitoring stations were sampled in October 2016 as shown in *Figure 1.3*.

In-situ Measurements

1.5.13 Graphical presentation of the monitoring results (Temperature, DO, pH, Salinity and Turbidity) is shown in *Figures 1 - 6* of *Annex D*. Analyses of results for October 2016 indicated that the levels of pH, Salinity and DO complied with the WQOs at all stations (Impact, Intermediate, Reference and Ma Wan stations) in October 2016 (*Table B4* of *Annex B*; *Figures 1, 3* and *5* of *Annex D*).

1.5.14 The levels of DO and Turbidity complied with the Action and Limit Levels at all stations (*Table B4* of *Annex B; Figures 3* and 6 of *Annex D*).

1.5.15 Overall, *in-situ* measurement results of the *Routine Water Quality Monitoring* indicated that the disposal operation at ESC CMP Vd did not appear to cause any unacceptable impacts in water quality in October 2016.

Laboratory Measurements

1.5.16 Laboratory analysis of October 2016 results indicated that concentrations of Cadmium, Silver and Mercury were below their limit of reporting at all stations. Arsenic, Lead, Chromium, Nickel, Copper and Zinc were detected in October 2016 samples and the concentrations of these metals and metalloids were similar amongst stations (*Table B5* of *Annex B*; *Figure 7* of *Annex D*).

1.5.17 For nutrients, concentrations of Total Inorganic Nitrogen (TIN) at all stations except Intermediate station in October 2016 were higher than the WQO (0.5 mg/L) (*Table B5* of *Annex B*; *Figure 8* of *Annex D*). It should be noted that due to the effect of Pearl River, the North Western WCZ has historically experienced higher levels of TIN [1]. Since TIN concentrations were recorded to be similar amongst all stations, the exceedances of TIN WQO at all stations are unlikely to be caused by the disposal operation at ESC CMP Vd. Concentrations of Ammonia Nitrogen (NH3-N) were relatively similar amongst all stations (*Table B5* of *Annex B*; *Figure 8* of *Annex D*). Levels of 5-day Biochemical Oxygen Demand (BOD_5) appear to be higher at Impact stations in October 2016 (*Table B5* of *Annex B*; *Figure 9* of *Annex D*).

1.5.18 Analyses of results for October 2016 indicated that the SS levels at all stations were higher than the WQO (11.0 mg/L for wet season), however SS levels at all stations complied with the Action and Limit Levels (*Table B5* of *Annex B*; *Figure 10* of *Annex D*).

[1] http://www.epd.gov.hk/epd/misc/marine_quality/1986-2005/textonly/eng/index.htm

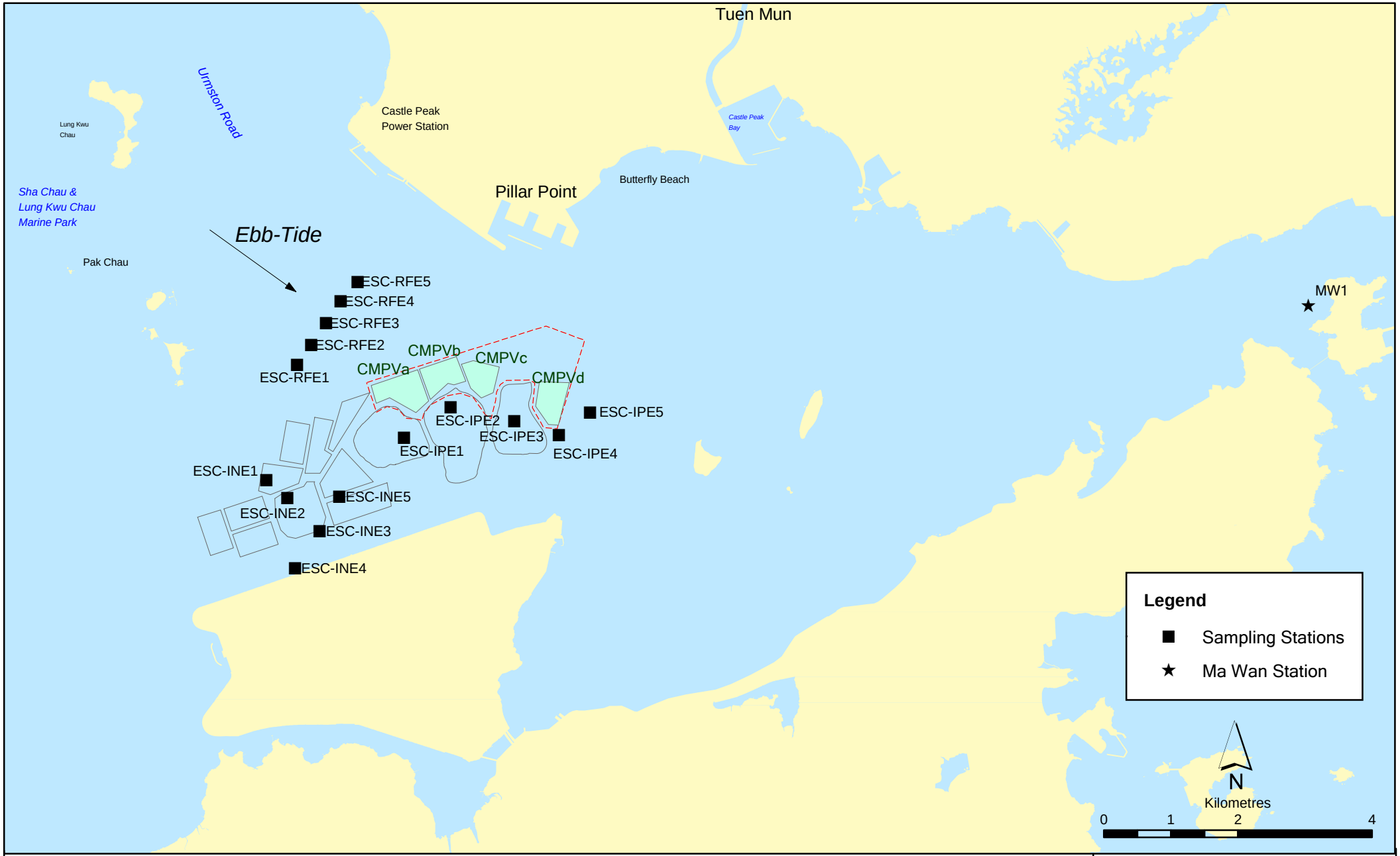

Figure 1.3

Routine & Capping Water Quality Sampling Stations (Ebb-Tide) for CMPV

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Date: 29/10/2009

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1.5.19 Overall, results of the *Routine Water Quality Monitoring* indicated that the disposal operation at ESC CMP Vd did not appear to cause any unacceptable deterioration in water quality in October 2016. Detailed statistical analysis will be presented in the Quarterly Report to investigate any spatial and temporal trends of potential concern.

1.5.20 ***Pit Specific Sediment Chemistry of ESC CMP Vd – October 2016***

1.5.21 Monitoring locations for *Pit Specific Sediment Chemistry for ESC CMP Vd* are shown in *Figure 1.4*. A total of six (6) monitoring stations were sampled in October 2016.

1.5.22 The concentrations of all inorganic contaminants were lower than the Lower Chemical Exceedance Level (LCEL) at all stations in October 2016 (*Figures 11 and 12* of *Annex D*).

1.5.23 For organic contaminants, the concentrations of Total Organic Carbon (TOC) were similar amongst the stations in October 2016 (*Figure 13* of *Annex D*). In October 2016, Tributyltin (TBT) concentrations were higher at Active Pit station ESC-NPAB in October 2016 (*Figure 14* of *Annex D*). Low and High Molecular Weight Polycyclic Aromatic Hydrocarbons (PAHs), Total Polychlorinated Biphenyls (PCBs), Total dichloro-diphenyl-trichloroethane (DDT) and 4,4'-dichlorodiphenyldichloroethylene (DDE) concentrations were below the limit of reporting at all stations in October 2016.

1.5.24 Overall, there is no evidence indicating any unacceptable environmental impacts to sediment quality as a result of the contaminated mud disposal operations at ESC CMP Vd in October 2016. Statistical analysis will be undertaken and presented in the quarterly report to investigate whether there are any unacceptable impacts in the area caused by the contaminated mud disposal.

1.6 ACTIVITIES SCHEDULED FOR THE NEXT MONTH

1.6.1 The following monitoring activities will be conducted in the next monthly period of November 2016 for ESC CMPs:

- *Water Column Profiling of ESC CMP Vd*;
- *Routine Water Quality Monitoring of ESC CMP Vd*;
- *Water Quality Monitoring During Dredging of ESC CMP Vb*; and
- *Pit Specific Sediment Chemistry of ESC CMP Vd.*

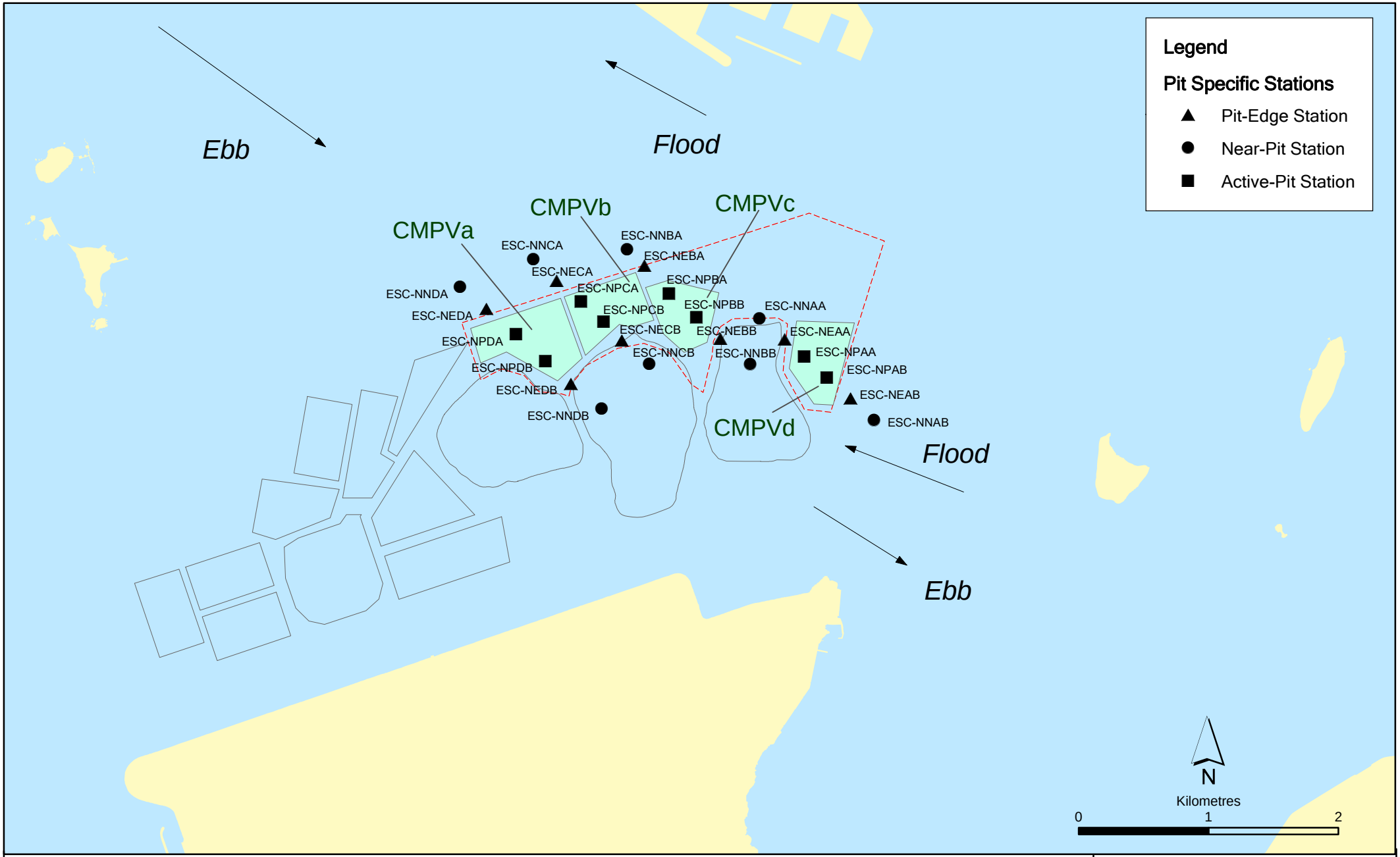

Figure 1.4

Pit Specific Sediment Quality Monitoring Stations for CMPV

File: CMPV\0103262_SQMS_pit specific.mxd
Date: 29/10/2009

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1.6.2 No monitoring activities will be scheduled in the next monthly period of November 2016 for SB CMPs.

1.6.3 The sampling schedule is presented in *Annex A*.

1.7 STUDY PROGRAMME

1.7.1 A summary of the Study programme is presented in *Annex E.*

Annex A

Sampling Schedule

Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

		2012				2013												2014												2015												2016												2017	
Pit Specific Sediment Chemistry	**Code**	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Active-Pit																																																					
	ESC-NPDA	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
	ESC-NPDB	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
Pit-Edge																																																						
	ESC-NEDA	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
	ESC-NEDB	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
Near-Pit																																																						
	ESC-NNDA	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
	ESC-NNDB	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*

Cumulative Impact Sediment Chemistry	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Near-field Stations																																																					
ESC-RNA				*		*				*		*																																*		*				*		*
ESC-RNB				*		*				*		*																																*		*				*		*
Mid-field Stations																																																					
ESC-RMA				*		*				*		*																																*		*				*		*
ESC-RMB				*		*				*		*																																*		*				*		*
Capped Pit Stations																																																					
ESC-RCA				*		*				*		*																																*		*				*		*
ESC-RCB				*		*				*		*																																*		*				*		*
Far-Field Stations																																																					
ESC-RFA				*		*				*		*																																*		*				*		*
ESC-RFB				*		*				*		*																																*		*				*		*
Ma Wan Station																																																					
MW1				*		*				*		*																																*		*				*		*

Sediment Toxicity Tests	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Near-Field Stations																																																				
ESC-TDA						*						*																																*								*
ESC-TDB						*						*																																*								*
Reference Stations																																																					
ESC-TRA						*						*																																*								*
ESC-TRB						*						*																																*								*
Ma Wan Station																																																					
MW1						*						*																																*								*

Tissue/ Whole Body Sampling	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Impact Stations																																																				
ESC-INA						*						*																																*								*
ESC-INB						*						*																																*								*
Reference																																																					
ESC-TNA						*						*																																*								*
ESC-TNB						*						*																																*								*
ESC-TSA						*						*																																*								*
ESC-TSB						*						*																																*								*

Demersal Trawling	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Impact Stations																																																				
ESC-INA					*	*					*	*																																*	*								*	*
ESC-INB					*	*					*	*																																*	*								*	*
Reference Stations																																																					
ESC-TNA					*	*					*	*																																*	*								*	*
ESC-TNB					*	*					*	*																																*	*								*	*
ESC-TSA					*	*					*	*																																*	*								*	*
ESC-TSB					*	*					*	*																																*	*								*	*

Water Column Profiling		S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Plume Stations	WCP1	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*
	WCP2	*	*	*	*	*	*	*	*	*	*	*	*																															*	*	*	*	*	*	*	*	*	*	*	*

Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

	2012				2013												2014												2015												2016												2017	
Benthic Recolonisation Studies	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Capped Contaminated Mud Pits IVa-c																																																			
ESC-CPA				*								*				*								*				*								*				*								*				*		
ESC-CPB				*								*				*								*				*								*				*								*				*		
ESC-CPC				*								*				*								*				*								*				*								*				*		
Reference Stations																																																						
ESC-RBA				*								*				*								*				*								*				*								*				*		
ESC-RBB				*								*				*								*				*								*				*								*				*		
ESC-RBC				*								*				*								*				*								*				*								*				*		

Impact Monitoring for Dredging	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Upstream/Reference Stations																																																					
US1	*	*	*	*	*	*	*	*	*																																											
US2	*	*	*	*	*	*	*	*	*																																											
Downstream/Impact Stations																																																					
DS1	*	*	*	*	*	*	*	*	*																																											
DS2	*	*	*	*	*	*	*	*	*																																											
DS3	*	*	*	*	*	*	*	*	*																																											
DS4	*	*	*	*	*	*	*	*	*																																											
DS5	*	*	*	*	*	*	*	*	*																																											
Ma Wan Station																																																					
MW1	*	*	*	*	*	*	*	*	*																																											

Capping	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Ebb Tide																																																				
Impact Station																																																					
ESC-IPE1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPE2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPE3																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPE4																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPE5																*		*				*		*				*		*				*		*				*		*				*		*				*		
Intermediate Station																																																					
ESC-INE1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INE2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INE3																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INE4																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INE5																*		*				*		*				*		*				*		*				*		*				*		*				*		
Reference Station																																																					
ESC-RFE1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFE2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFE3																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFE4																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFE5																*		*				*		*				*		*				*		*				*		*				*		*				*		
Ma Wan Station																																																					
MW1																*		*				*		*				*		*				*		*				*		*				*		*				*		
Flood Tide																																																					
Impact Station																																																					
ESC-IPF1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPF2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-IPF3																*		*				*		*				*		*				*		*				*		*				*		*				*		
Intermediate Station																																																					
ESC-INF1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INF2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-INF3																*		*				*		*				*		*				*		*				*		*				*		*				*		
Reference Station																																																					
ESC-RFF1																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFF2																*		*				*		*				*		*				*		*				*		*				*		*				*		
ESC-RFF3																*		*				*		*				*		*				*		*				*		*				*		*				*		
Ma Wan Station																																																					
MW1																*		*				*		*				*		*				*		*				*		*				*		*				*		

Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

Routine Water Quality Monitoring		2012				2013												2014												2015												2016												2017	
		S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Ebb Tide																																																				
Impact Station																																																					
	ESC-IPE1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPE2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPE3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPE4		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPE5		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Intermediate Station																																																					
	ESC-INE1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INE2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INE3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INE4		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INE5		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Reference Station																																																					
	ESC-RFE1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFE2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFE3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFE4		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFE5		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Ma Wan Station																																																					
	MW1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Flood Tide																																																				
Impact Station																																																					
	ESC-IPF1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPF2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-IPF3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Intermediate Station																																																					
	ESC-INF1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INF2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-INF3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Reference Station																																																					
	ESC-RFF1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFF2		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
	ESC-RFF3		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*
Ma Wan Station																																																					
	MW1		*	*		*	*		*	*		*	*																															*	*		*	*		*	*		*	*

Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

Baseline Monitoring Prior to Dredging	Code	Frequency	2012 J	2012 A	2012 S	2012 O	2012 N	2012 D	2013 J	2013 F	2013 M	2013 A	2013 M	2013 J	2013 J	2013 A	2013 S	2013 O	2013 N	2013 D	2014 J	2014 F	2014 M	2014 A	2014 M	2014 J	2014 J	2014 A	2014 S	2014 O	2014 N	2014 D	2015 J	2015 F	2015 M	2015 A	2015 M	2015 J	2015 J	2015 A	2015 S	2015 O	2015 N	2015 D	2016 J	2016 F	2016 M	2016 A	2016 M	2016 J	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F
Far Field Stations																																																								
	SB-WFA	3 days per week for 4 weeks	*	*																																																			
	SB-WFB	3 days per week for 4 weeks	*	*																																																		
Mid Field Stations																																																								
	SB-WMA	3 days per week for 4 weeks	*	*																																																		
	SB-WMB	3 days per week for 4 weeks	*	*																																																		
Near Field Stations																																																								
	SB-WNAA	3 days per week for 4 weeks	*	*																																																		
	SB-WNAB	3 days per week for 4 weeks	*	*																																																	
	SB-WNBA	3 days per week for 4 weeks	*	*																																																	
	SB-WNBB	3 days per week for 4 weeks	*	*																																																	
Reference Stations																																																								
	NM1	3 days per week for 4 weeks	*	*																																																	
	NM2	3 days per week for 4 weeks	*	*																																																	
	NM3	3 days per week for 4 weeks	*	*																																																	
	NM5	3 days per week for 4 weeks	*	*																																																	
	NM6	3 days per week for 4 weeks	*	*																																																	
Sensitive Receiver Stations																																																							
	MW1	3 days per week for 4 weeks	*	*																																																	
	THB1	3 days per week for 4 weeks	*	*																																																	
	THB2	3 days per week for 4 weeks	*	*																																																	
	WSR45C	3 days per week for 4 weeks	*	*																																																	
	WSR46	3 days per week for 4 weeks	*	*																																																	

Impact Monitoring for Dredging	Code	Frequency	2012 J	2012 A	2012 S	2012 O	2012 N	2012 D	2013 J	2013 F	2013 M	2013 A	2013 M	2013 J	2013 J	2013 A	2013 S	2013 O	2013 N	2013 D	2014 J	2014 F	2014 M	2014 A	2014 M	2014 J	2014 J	2014 A	2014 S	2014 O	2014 N	2014 D	2015 J	2015 F	2015 M	2015 A	2015 M	2015 J	2015 J	2015 A	2015 S	2015 O	2015 N	2015 D	2016 J	2016 F	2016 M	2016 A	2016 M	2016 J	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F
Upstream Stations																																																								
	US1	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	US2	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
Downstream Stations																																																								
	DS1	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	DS2	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	DS3	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	DS4	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	DS5	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
Sensitive Receiver Stations																																																								
	MW1	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	THB1	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	THB2	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	WSR45C	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										
	WSR46	3 days per week					*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																										

Pit Specific Sediment Chemistry	Code	Frequency	2012 J	2012 A	2012 S	2012 O	2012 N	2012 D	2013 J	2013 F	2013 M	2013 A	2013 M	2013 J	2013 J	2013 A	2013 S	2013 O	2013 N	2013 D	2014 J	2014 F	2014 M	2014 A	2014 M	2014 J	2014 J	2014 A	2014 S	2014 O	2014 N	2014 D	2015 J	2015 F	2015 M	2015 A	2015 M	2015 J	2015 J	2015 A	2015 S	2015 O	2015 N	2015 D	2016 J	2016 F	2016 M	2016 A	2016 M	2016 J	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F
SB CMP 1 Active																																																							
Near-Pit																																																							
	SB-NNAA	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
	SB-NNAB	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
Pit-Edge																																																						
	SB-NEAA	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
	SB-NEAB	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
Active-Pit																																																					
	SB-NPAA	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
	SB-NPAB	Monthly													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12																										
SB CMP 2 Active																																																						
Near-Pit																																																						
	SB-NNBA	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														
	SB-NNBB	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														
Pit-Edge																																																						
	SB-NEBA	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														
	SB-NEBB	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														
Active-Pit																																																					
	SB-NPBA	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														
	SB-NPBB	Monthly																													12	12	12	12	12	12	12	12	12	12	12	12	12	12	12														

Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

			2012						2013												2014												2015												2016												2017	
Cumulative Impact Sediment Chemistry			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Near-field Stations																																																								
	SB-RNA	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	SB-RNB	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
Mid-field Stations																																																								
	SB-RMA	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	SB-RMB	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
Far-Field Stations																																																								
	SB-RFA	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	SB-RFB	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
Capped Pit Stations																																																							
	SB-RCA	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	SB-RCB	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
Sensitive Receiver Stations																																																						
	MW1	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	THB1	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			
	THB2	4 times per year														12				12		12				12		12				12						12		12						12		12						12		12			

			2012						2013												2014												2015												2016												2017	
Sediment Toxicity Tests			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
SB CMP 1 Active																																																							
Reference																																																								
	SB-TRA	2 times per year														5						5				5																																
	SB-TRB	2 times per year														5						5				5																																
Near-Field																																																								
	SB-TAA	2 times per year														5						5				5																																
	SB-TAB	2 times per year														5						5				5																																
Sensitive Receiver Stations																																																								
	MW1	2 times per year														5						5				5																																
	THB1	2 times per year														5						5				5																																
	THB2	2 times per year														5						5				5																																
SB CMP 2 Active																																																								
Reference																																																								
	SB-TRA	2 times per year																																5						5						5						5					
	SB-TRB	2 times per year																																5						5						5						5					
Near-Field																																																								
	SB-TBA	2 times per year																																5						5						5						5					
	SB-TBB	2 times per year																																5						5						5						5					
Sensitive Receiver Stations																																																								
	MW1	2 times per year																																5						5						5						5					
	THB1	2 times per year																																5						5						5						5					
	THB2	2 times per year																																5						5						5						5					

			2012						2013												2014												2015												2016												2017	
Tissue/ Whole Body Sampling			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Near-Pit Stations																																																							
	SB-INA	2 times per year																			*							*						*						*						*						*					
	SB-INB	2 times per year																			*							*						*						*						*						*					
Reference North																																																								
	TNA	2 times per year																			*							*						*						*						*						*					
	TNB	2 times per year																			*							*						*						*						*						*					
Reference South																																																								
	TSA	2 times per year																			*							*						*						*						*						*					
	TSB	2 times per year																			*							*						*						*						*						*					

			2012						2013												2014												2015												2016												2017	
Demersal Trawling			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Impact																																																								
	SB-INA 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		
	SB-INB 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		
Reference North																																																								
	TNA 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		
	TNB 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		
Reference South																																																								
	TSA 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		
	TSB 1-5	4 times per year														5					5	5				5	5					5	5					5	5					5	5					5	5					5	5		

Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

			2012						2013												2014												2015												2016												2017	
Routine Water Quality Monitoring			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Ebb Tide																																																								
Impact Stations Downcurrent																																																								
	SB-IPE1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPE2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPE3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPE4	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPE5	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Intermediate Stations Downcurrent																																																								
	SB-INE1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INE2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INE3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INE4	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INE5	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Reference Stations Upcurrent																																																								
	SB-RFE1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFE2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFE3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFE4	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFE5	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Sensitive Receiver Stations																																																								
	MW1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	THB1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	THB2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	WSR45C	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	WSR46	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Flood Tide																																																								
Impact Stations Downcurrent																																																								
	SB-IPF1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPF2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-IPF3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Intermediate Stations Downcurrent																																																								
	SB-INF1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INF2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-INF3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Reference Stations Upcurrent																																																								
	SB-RFF1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFF2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	SB-RFF3	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
Sensitive Receiver Stations																																																								
	MW1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	THB1	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	THB2	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	WSR45C	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												
	WSR46	8 times per year														8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8		8	8												

Water Column Profiling			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Plume Stations	WCP1	Monthly														4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4											
	WCP2	Monthly														4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4											

Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

			2012						2013												2014												2015												2016												2017	
Capping Water Quality Monitoring			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Ebb Tide																																																					
Impact Stations Downcurrent																																																						
	SB-IPE1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPE2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPE3	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPE4	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPE5	4 times per year																													3		3				3		3				3		3				3		3				3		
Intermediate Stations Downcurrent																																																					
	SB-INE1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INE2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INE3	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INE4	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INE5	4 times per year																													3		3				3		3				3		3				3		3				3		
Reference Stations Upcurrent																																																					
	SB-RFE1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFE2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFE3	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFE4	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFE5	4 times per year																													3		3				3		3				3		3				3		3				3		
Sensitive Receiver Stations																																																					
	MW1	4 times per year																													3		3				3		3				3		3				3		3				3		
	THB1	4 times per year																													3		3				3		3				3		3				3		3				3		
	THB2	4 times per year																													3		3				3		3				3		3				3		3				3		
	WSR45C	4 times per year																													3		3				3		3				3		3				3		3				3		
	WSR46	4 times per year																													3		3				3		3				3		3				3		3				3		
Flood Tide																																																					
Impact Stations Downcurrent																																																					
	SB-IPF1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPF2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-IPF3	4 times per year																													3		3				3		3				3		3				3		3				3		
Intermediate Stations Downcurrent																																																					
	SB-INF1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INF2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-INF3	4 times per year																													3		3				3		3				3		3				3		3				3		
Reference Stations Upcurrent																																																					
	SB-RFF1	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFF2	4 times per year																													3		3				3		3				3		3				3		3				3		
	SB-RFF3	4 times per year																													3		3				3		3				3		3				3		3				3		
Sensitive Receiver Stations																																																					
	MW1	4 times per year																													3		3				3		3				3		3				3		3				3		
	THB1	4 times per year																													3		3				3		3				3		3				3		3				3		
	THB2	4 times per year																													3		3				3		3				3		3				3		3				3		
	WSR45C	4 times per year																													3		3				3		3				3		3				3		3				3		
	WSR46	4 times per year																													3		3				3		3				3		3				3		3				3		

Benthic Recolonisation Studies			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
Capped Contaminated Mud Pits																																																							
	SB-CPA	2 times per year																																																								
	SB-CPB	2 times per year																																																						
Reference Stations																																																							
	RBA	2 times per year																																																						
	RBB	2 times per year																																																						
	RBC	2 times per year																																																						

Notes:
"*" = Number of replicates depends on parameters
Naming of stations are tentative only and will be subjected to changes

Annex B

Water Quality Monitoring Results

Table B1 Summary Table of DO, Turbidity and SS Levels Recorded in October 2016

Sampling Date	Tidal Period	Station	Average DO Levels (mg/L)		Average Turbidity Level (NTU)	Average SS Level (mg/L)
			Bottom	Surface and Mid Depth		
2016/10/03	Mid-Ebb	DS1	5.81	5.68	9.35	12.03
		DS2	5.84	5.78	12.80	15.42
		DS3	5.83	5.75	17.56	19.60
		DS4	5.84	5.77	17.26	19.38
		DS5	5.91	5.83	13.27	18.98
		US1	5.72	5.65	15.27	9.98
		US2	5.71	5.65	23.98	19.75
		MW1	5.05	5.11	7.44	10.35
	Mid-Flood	DS1	5.47	5.59	16.40	24.87
		DS2	5.44	5.56	23.10	24.22
		DS3	5.46	5.61	19.46	23.73
		DS4	5.63	5.66	13.34	21.93
		DS5	5.59	5.65	15.26	21.82
		US1	5.49	5.59	15.83	21.62
		US2	5.49	5.59	14.87	21.58
		MW1	5.02	5.08	8.03	12.33
2016/10/05	Mid-Ebb	DS1	5.92	5.94	14.98	16.97
		DS2	6.02	6.05	9.00	8.18
		DS3	6.09	6.07	18.90	28.10
		DS4	6.08	6.09	13.09	19.73
		DS5	6.03	6.12	9.85	12.28
		US1	5.95	5.91	15.47	13.83
		US2	5.90	5.83	17.93	26.40
		MW1	5.01	5.10	5.27	7.23
	Mid-Flood	DS1	5.81	5.74	9.44	13.00
		DS2	5.81	5.78	10.97	14.08
		DS3	5.68	5.71	8.63	10.72
		DS4	5.71	5.68	7.63	10.38
		DS5	5.74	5.70	7.38	7.15
		US1	5.82	5.80	8.27	11.42
		US2	5.79	5.79	9.10	12.75
		MW1	5.08	5.44	3.93	7.23
2016/10/07	Mid-Ebb	DS1	5.51	6.19	3.55	4.62
		DS2	5.36	5.93	4.80	19.30
		DS3	5.80	6.37	3.02	4.25
		DS4	5.30	5.99	4.22	5.95
		DS5	5.56	6.35	3.48	5.98
		US1	6.00	6.28	2.40	3.37
		US2	5.96	6.27	2.71	4.05
		MW1	5.21	5.21	3.86	5.50
	Mid-Flood	DS1	5.76	5.84	5.23	7.62
		DS2	5.82	5.83	7.66	12.98
		DS3	5.85	5.90	7.36	12.92
		DS4	5.82	5.88	7.25	9.47
		DS5	5.78	5.84	7.18	10.18
		US1	5.75	5.88	11.12	12.50
		US2	5.67	5.90	8.23	17.32
		MW1	5.21	5.26	3.97	5.50
2016/10/11	Mid-Ebb	DS1	5.82	5.98	2.90	7.22
		DS2	5.83	5.91	2.08	3.82

Sampling Date	Tidal Period	Station	Average DO Levels (mg/L)		Average Turbidity Level (NTU)	Average SS Level (mg/L)
			Bottom	Surface and Mid Depth		
		DS3	5.83	5.84	2.39	4.68
		DS4	5.84	5.79	2.12	4.25
		DS5	5.86	5.84	2.17	4.63
		US1	5.82	6.11	2.30	4.73
		US2	5.78	5.98	2.91	5.30
		MW1	6.34	6.29	2.00	4.73
	Mid-Flood	DS1	6.94	6.96	4.54	7.72
		DS2	7.05	7.15	5.85	9.52
		DS3	7.31	7.24	7.95	11.28
		DS4	7.26	7.32	6.55	10.20
		DS5	7.36	7.47	6.34	10.20
		US1	6.40	6.81	8.38	7.07
		US2	6.67	6.68	5.78	9.78
		MW1	6.04	6.20	2.48	4.97
2016/10/13	Mid-Ebb	DS1	6.05	5.96	7.95	12.82
		DS2	5.86	5.83	7.92	9.18
		DS3	5.86	5.84	6.54	9.95
		DS4	5.84	5.85	6.12	9.37
		DS5	5.87	5.85	7.42	10.32
		US1	6.08	6.06	6.07	8.60
		US2	6.05	6.04	5.83	8.68
		MW1	5.69	5.70	7.40	12.95
	Mid-Flood	DS1	6.30	6.29	6.09	10.75
		DS2	6.34	6.33	5.25	9.53
		DS3	6.38	6.42	4.28	7.07
		DS4	6.40	6.46	4.82	6.43
		DS5	6.35	6.46	5.51	8.82
		US1	6.23	6.19	8.80	11.90
		US2	6.13	6.12	14.22	21.75
		MW1	5.78	5.76	5.19	8.17
2016/10/15	Mid-Ebb	DS1	6.00	6.10	8.26	9.38
		DS2	5.98	5.98	6.84	9.65
		DS3	5.99	5.98	8.13	10.83
		DS4	6.07	6.03	6.64	10.20
		DS5	6.13	6.10	6.68	9.28
		US1	6.01	6.08	6.18	8.45
		US2	6.02	6.12	7.49	10.28
		MW1	5.51	5.50	15.11	22.25
	Mid-Flood	DS1	6.29	6.27	19.53	29.13
		DS2	6.27	6.27	19.74	31.30
		DS3	6.36	6.33	16.00	24.32
		DS4	6.45	6.46	15.96	18.12
		DS5	6.40	6.40	14.37	18.73
		US1	6.23	6.22	14.43	22.78
		US2	6.28	6.28	14.69	24.07
		MW1	5.56	5.55	10.25	10.65
2016/10/17	Mid-Ebb	DS1	5.91	5.86	7.67	12.47
		DS2	5.84	5.78	6.00	8.63
		DS3	5.74	5.72	8.28	17.30
		DS4	5.66	5.65	5.71	18.80
		DS5	5.59	5.58	9.83	13.13
		US1	6.04	6.05	7.51	17.42
		US2	6.13	6.15	12.01	13.87

Sampling Date	Tidal Period	Station	Average DO Levels (mg/L)		Average Turbidity Level (NTU)	Average SS Level (mg/L)
			Bottom	Surface and Mid Depth		
		MW1	5.41	5.42	8.60	17.90
	Mid-Flood	DS1	6.09	6.07	15.65	15.88
		DS2	6.11	6.09	15.57	20.52
		DS3	6.10	6.08	15.94	28.43
		DS4	6.12	6.11	12.90	27.98
		DS5	6.12	6.12	10.24	32.18
		US1	6.11	6.09	11.54	22.90
		US2	6.15	6.13	12.13	20.08
		MW1	5.43	5.40	19.61	27.68
2016/10/19	Mid-Ebb	DS1	6.13	6.12	18.37	28.31
		DS2	6.16	6.13	12.10	21.88
		DS3	6.14	6.14	13.32	18.39
		DS4	6.14	6.14	18.81	27.88
		DS5	6.15	6.17	21.35	26.26
		US1	6.09	6.10	11.30	15.08
		US2	6.09	6.09	14.63	16.01
		MW1	5.69	5.70	5.73	9.74
	Mid-Flood	DS1	6.17	6.15	14.24	21.10
		DS2	6.16	6.17	17.11	30.74
		DS3	6.14	6.15	18.18	28.43
		DS4	6.15	6.14	20.39	40.95
		DS5	6.13	6.12	13.75	25.61
		US1	6.19	6.18	14.56	21.96
		US2	6.20	6.20	12.94	20.45
		MW1	5.77	5.74	9.68	17.54
2016/10/24	Mid-Ebb	DS1	5.53	5.72	6.52	8.55
		DS2	5.53	5.79	6.15	9.08
		DS3	5.53	5.71	6.70	8.97
		DS4	5.53	5.75	5.59	8.40
		DS5	5.60	5.78	5.89	6.73
		US1	5.58	5.80	7.00	9.67
		US2	5.59	5.77	8.44	8.60
		MW1	5.79	5.96	2.95	4.28
	Mid-Flood	DS1	5.50	5.82	7.24	9.77
		DS2	5.48	5.90	6.86	10.40
		DS3	5.56	6.11	7.70	15.90
		DS4	5.66	6.36	6.68	6.30
		DS5	5.73	6.01	10.87	13.18
		US1	5.66	5.95	5.72	8.10
		US2	5.54	5.86	8.53	16.60
		MW1	5.42	5.71	5.68	11.20
2016/10/26	Mid-Ebb	DS1	5.34	5.77	4.69	6.20
		DS2	5.38	5.84	4.33	6.48
		DS3	5.39	5.91	4.31	4.98
		DS4	5.34	5.82	4.64	3.03
		DS5	5.80	6.10	2.79	6.10
		US1	5.47	5.87	3.63	4.90
		US2	5.40	5.77	3.74	4.70
		MW1	5.48	5.65	2.78	3.90
	Mid-Flood	DS1	5.25	5.78	8.55	12.07
		DS2	5.07	5.72	15.45	20.22
		DS3	5.24	5.68	9.92	12.15
		DS4	5.47	6.01	16.11	19.10

Sampling Date	Tidal Period	Station	Average DO Levels (mg/L)		Average Turbidity Level (NTU)	Average SS Level (mg/L)
			Bottom	Surface and Mid Depth		
		DS5	5.64	6.19	11.63	17.32
		US1	5.26	5.88	12.37	16.73
		US2	5.46	5.85	12.79	18.77
		MW1	5.34	5.89	3.89	6.32
2016/10/28	Mid-Ebb	DS1	5.22	5.46	5.38	5.50
		DS2	5.35	5.71	4.67	7.10
		DS3	5.42	5.82	3.94	6.45
		DS4	5.60	5.91	3.95	5.80
		DS5	5.51	5.99	4.75	7.20
		US1	5.48	5.75	3.77	7.92
		US2	5.62	5.69	4.59	6.15
		MW1	5.70	6.04	4.14	11.13
	Mid-Flood	DS1	5.57	6.00	14.01	15.80
		DS2	5.43	5.75	13.33	28.42
		DS3	5.42	6.14	10.03	19.80
		DS4	5.51	6.18	17.07	29.82
		DS5	6.03	6.13	13.73	17.55
		US1	5.55	6.04	13.44	17.63
		US2	5.52	5.76	28.06	45.23
		MW1	5.72	6.56	3.29	5.13
2016/10/31	Mid-Ebb	DS1	6.67	6.50	22.34	29.40
		DS2	6.56	6.45	12.06	16.67
		DS3	6.62	6.48	16.67	22.60
		DS4	6.60	6.50	13.00	19.32
		DS5	6.63	6.50	13.89	15.52
		US1	6.59	6.34	11.17	15.78
		US2	6.60	6.35	11.85	16.18
		MW1	5.98	6.00	5.75	11.78
	Mid-Flood	DS1	6.15	6.11	9.58	12.33
		DS2	6.14	6.10	13.72	19.03
		DS3	6.16	6.08	8.62	13.28
		DS4	6.05	6.00	14.01	14.75
		DS5	5.91	5.90	6.83	8.60
		US1	6.19	6.16	9.45	14.52
		US2	6.28	6.23	9.54	14.98
		MW1	5.97	5.97	10.63	19.22

Notes:

1. Please refer to Table B2 below for the Action and Limit Levels for dredging activities.
2. Cell shaded yellow indicated value exceeding the Action Level criteria.
3. Cell shaded red indicated value exceeding the Limit Level criteria.

Table B2 Action and Limit Levels of Water Quality for Dredging, Backfilling and Capping Activities at ESC CMPs

Parameter	Action Level	Limit Level
Dissolved Oxygen (DO) (1)	Surface and Mid-depth (2) 5%-ile of baseline data for surface and middle layer = **3.76 mg L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)	Surface and Mid-depth (2) 1%-ile of baseline data for surface and middle layer = **3.11 mg L^{-1}** (3) and Significantly less than the reference stations mean DO (at the same tide of the same day)
	Bottom 5%-ile of baseline data for bottom layers = **2.96 mg L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)	Bottom The average of the impact station readings are **<2 mg/L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)
Depth-averaged Suspended Solids (SS) (4) (5)	95%-ile of baseline data for depth average = **37.88 mg L^{-1}** and 120% of control station's SS at the same tide of the same day	99%-ile of baseline data for depth average = **61.92 mg L^{-1}** and 130% of control station's SS at the same tide of the same day
Depth-averaged Turbidity (Tby) (4) (5)	95%-ile of baseline data = **28.14 NTU** and 120% of control station's Tby at the same tide of the same day	99%-ile of baseline data = **38.32 NTU** and 130% of control station's Tby at the same tide of the same day

Notes:

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

(2) The Action and Limit Levels for DO for Surface & Middle layers were calculated from the combined pool of baseline surface layer data and baseline middle layer data.

(3) Given the Action Level for DO for Surface & Middle layers has already been lower than 4 mg L^{-1}, it is proposed to set the Limit Level at 3.11 mg L^{-1} which is the first percentile of the baseline data.

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

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

Table B3 Water Column Profiling Results for ESC CMP Vd in October 2016

Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen (%)	Dissolved Oxygen (mg L^{-1})	pH (mg L^{-1})	Suspended Solids (mg L^{-1})
WCP 1 (Downstream)	27.41	20.47	3.07	98.00	6.91	7.80	4.23
WCP 2 (Upstream)	27.12	32.13	4.61	98.83	6.56	7.81	10.80
WQO (Wet season)	N/A	28.92 – 35.35#	N/A	N/A	>4	6.5-8.5	11.0

Note:
#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value exceeding the WQO.

Table B4 In-situ Monitoring Results for Routine Water Quality Monitoring of ESC CMPs in October 2016

Sampling Period	Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen (%)	Dissolved Oxygen (mg L^{-1})	pH (mg L^{-1})
October 2016	RFE (Reference)	28.42	28.24	8.94	89.09	5.92	7.81
	IPE (Impact)	28.59	28.52	9.61	92.26	6.10	7.86
	INE (Intermediate)	28.17	30.05	12.48	91.04	6.01	7.92
	Ma Wan	28.42	29.67	4.17	81.35	5.36	7.82
	WQO	N/A	25.42 – 31.07#	N/A	N/A	>4	6.5-8.5

Notes:
#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value exceeding the WQO.

Table B5 Laboratory Results for Routine Water Quality Monitoring of ESC CMPs in October 2016

Sampling Period	Stations	As (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Pb (µg/L)	Hg (µg/L)	Ni (µg/L)	Ag (µg/L)	Zn (µg/L)	NH_3 (mg/L)	TIN (mg/L)	BOD_5 (mg/L)	SS (mg/L)
October 2016	RFE	2.60	<LOR	0.50	1.11	0.67	<LOR	1.93	<LOR	10.25	0.08	0.61	1.14	13.79
	IPE	2.73	<LOR	1.51	0.50	0.68	<LOR	0.85	<LOR	9.39	0.05	0.55	1.66	11.57
	INE	3.04	<LOR	1.94	0.87	0.65	<LOR	0.56	<LOR	6.57	0.04	0.39	1.13	16.82
	Ma Wan	2.33	<LOR	0.50	0.50	0.50	<LOR	1.36	<LOR	7.09	0.14	0.59	1.09	11.11

WQO of TIN: 0.5 mg/L
Wet Season WQO of SS : 11.0 mg/L

Notes:
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value exceeding the WQO.

Annex C

Dredging Record for ESC CMP Vd

Table C1 Dredging Record at ESC CMP Vb

Date	Daily Dredging Volume (m^3)	Weekly Dredging Volume (m^3) (From Sunday to Saturday)
01-Oct-2016	0	0
02-Oct-2016	0	7,150
03-Oct-2016	0	
04-Oct-2016	0	
05-Oct-2016	0	
06-Oct-2016	0	
07-Oct-2016	2,600	
08-Oct-2016	4,550	
09-Oct-2016	5,200	37,700
10-Oct-2016	4,550	
11-Oct-2016	5,200	
12-Oct-2016	5,850	
13-Oct-2016	5,850	
14-Oct-2016	5,200	
15-Oct-2016	5,850	
16-Oct-2016	5,200	11,050
17-Oct-2016	1,300	
18-Oct-2016	0	
19-Oct-2016	1,950	
20-Oct-2016	650	
21-Oct-2016	0	
22-Oct-2016	1,950	
23-Oct-2016	5,850	37,700
24-Oct-2016	5,850	
25-Oct-2016	5,850	
26-Oct-2016	5,200	
27-Oct-2016	4,550	
28-Oct-2016	5,850	
29-Oct-2016	4,550	
30-Oct-2016	4,550	9,750
31-Oct-2016	5,200	

Annex D

Graphical Presentations

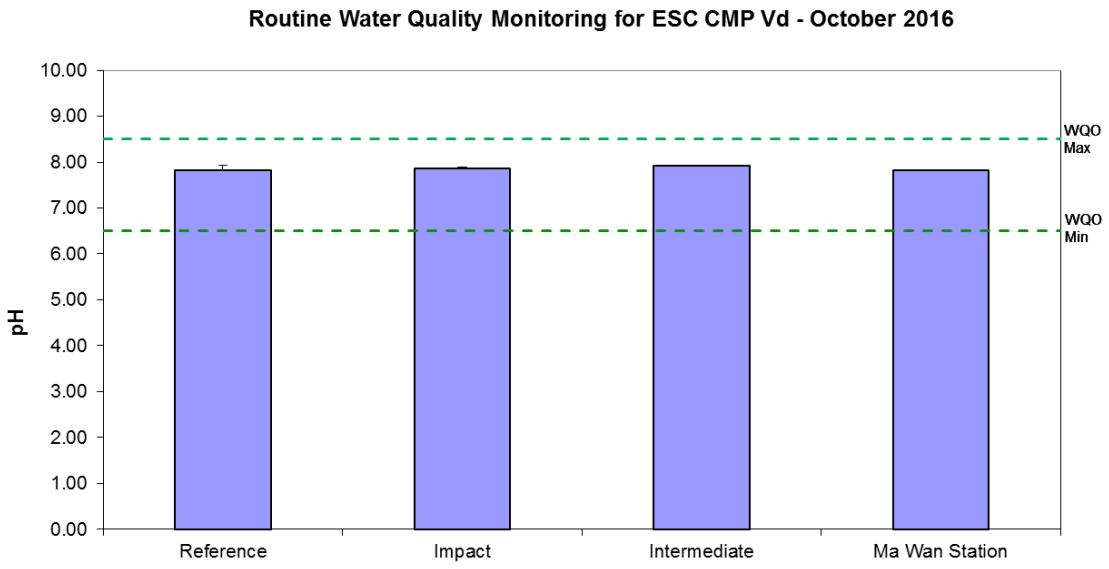


Figure 1: Level of pH recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

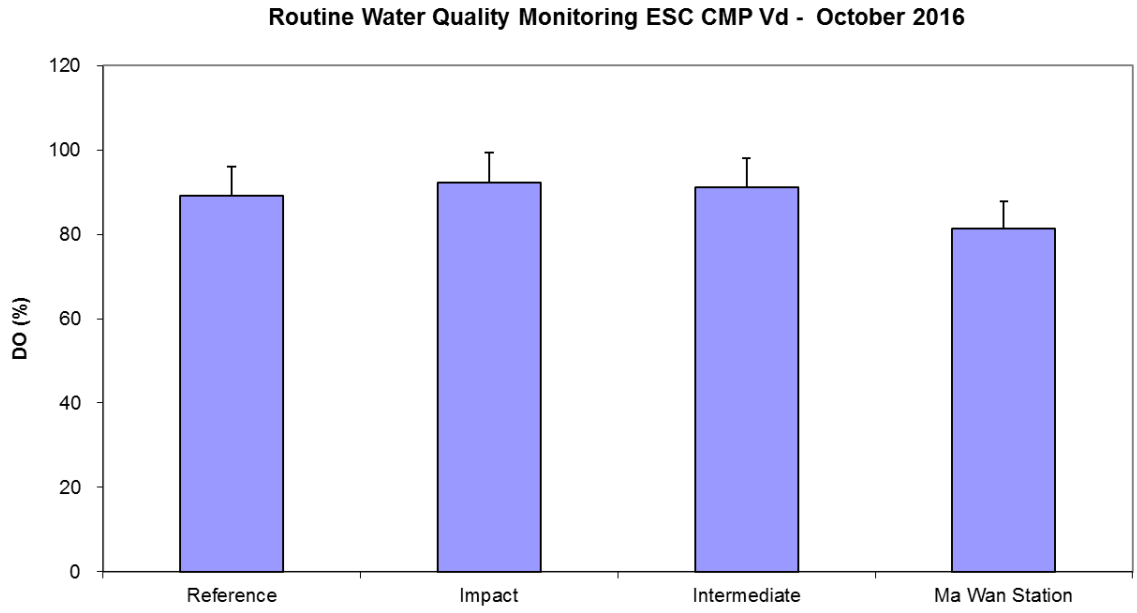


Figure 2: Level of Dissolved Oxygen (DO) (% saturation; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

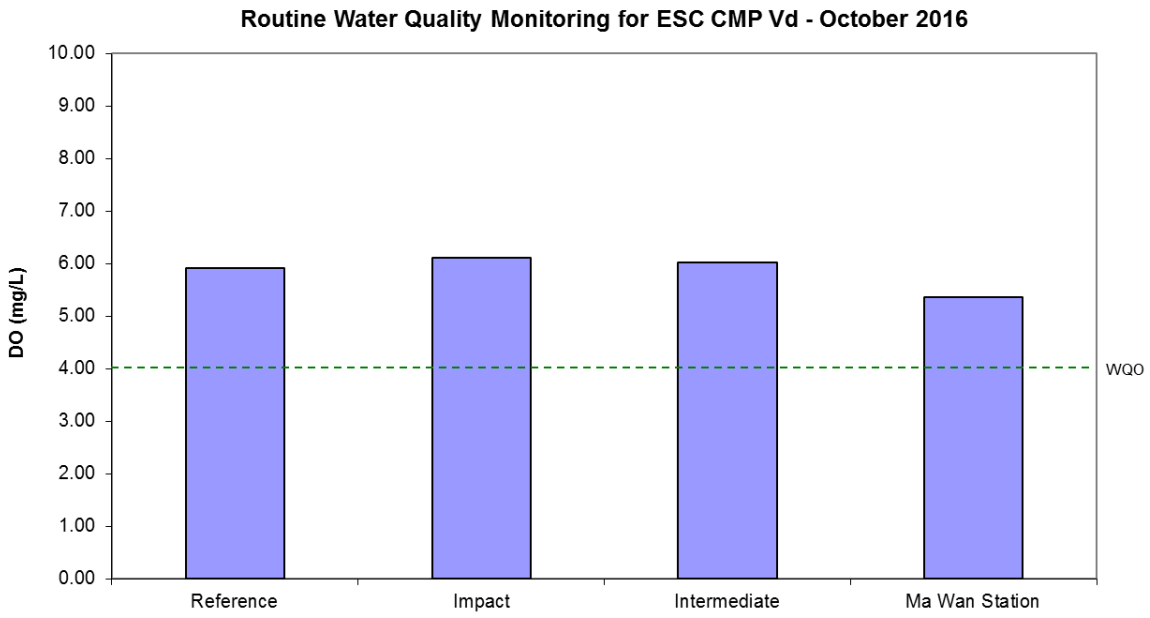


Figure 3: Concentration of Dissolved Oxygen (DO) (mg/L; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

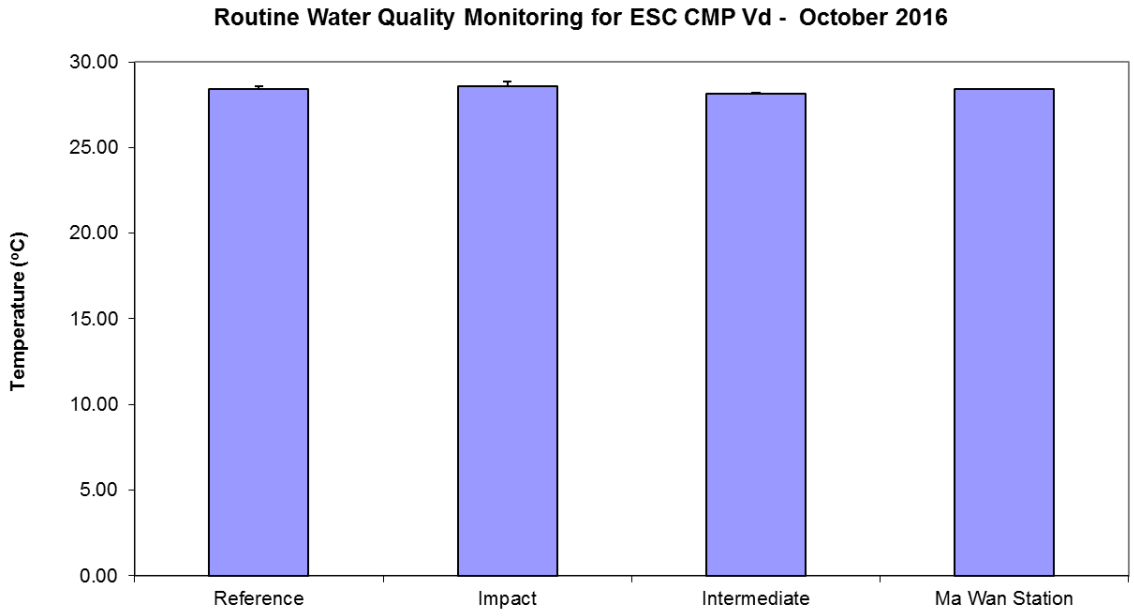


Figure 4: Level of Temperature (˚C; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

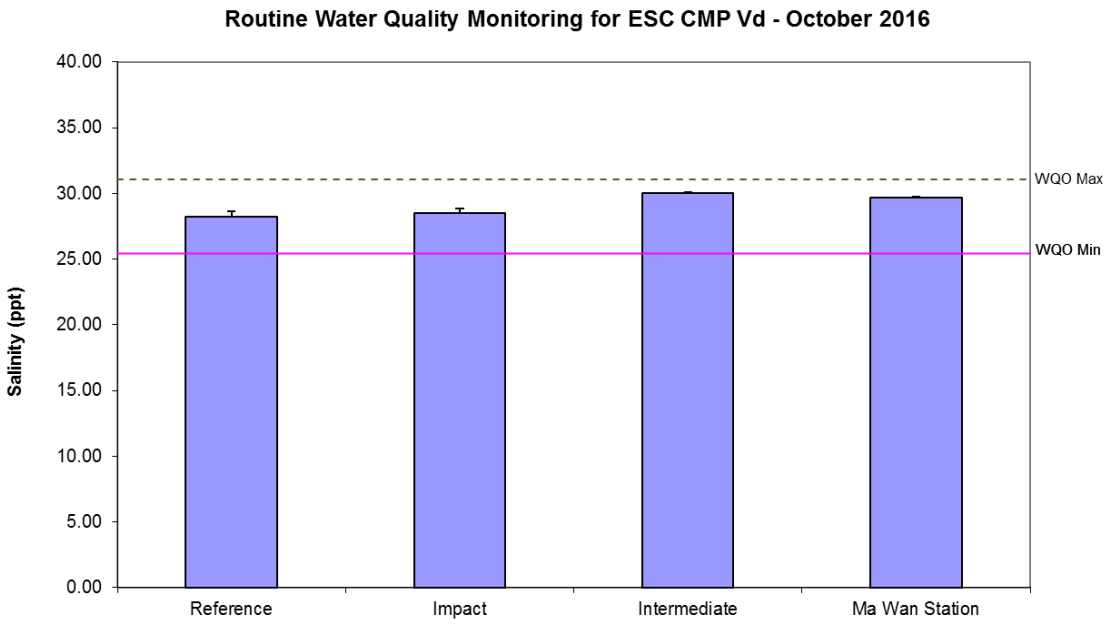


Figure 5: Level of Salinity (ppt; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

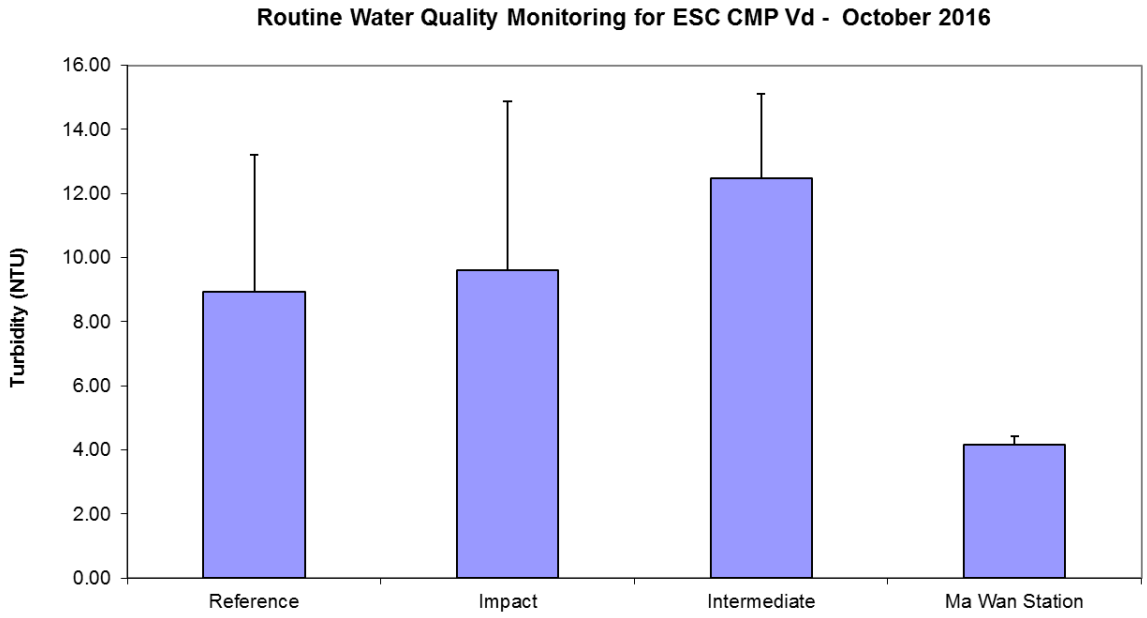


Figure 6: Levels of Turbidity (NTU; mean + SD) recorded during Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

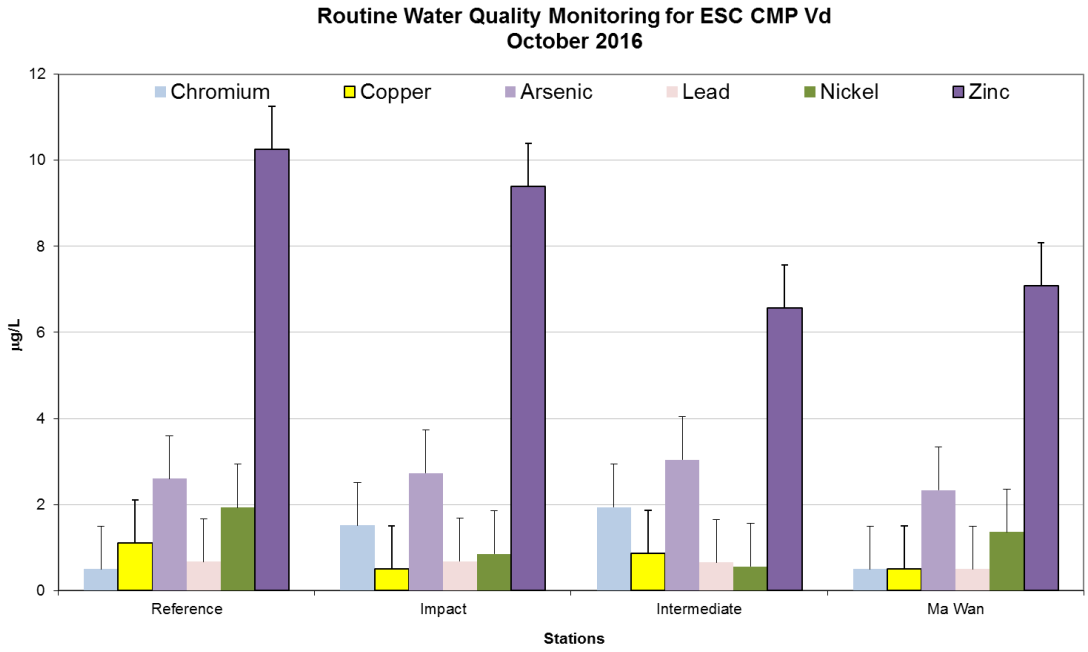


Figure 7: Concentration of Copper, Chromium, Zinc, Arsenic and Nickel (µg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

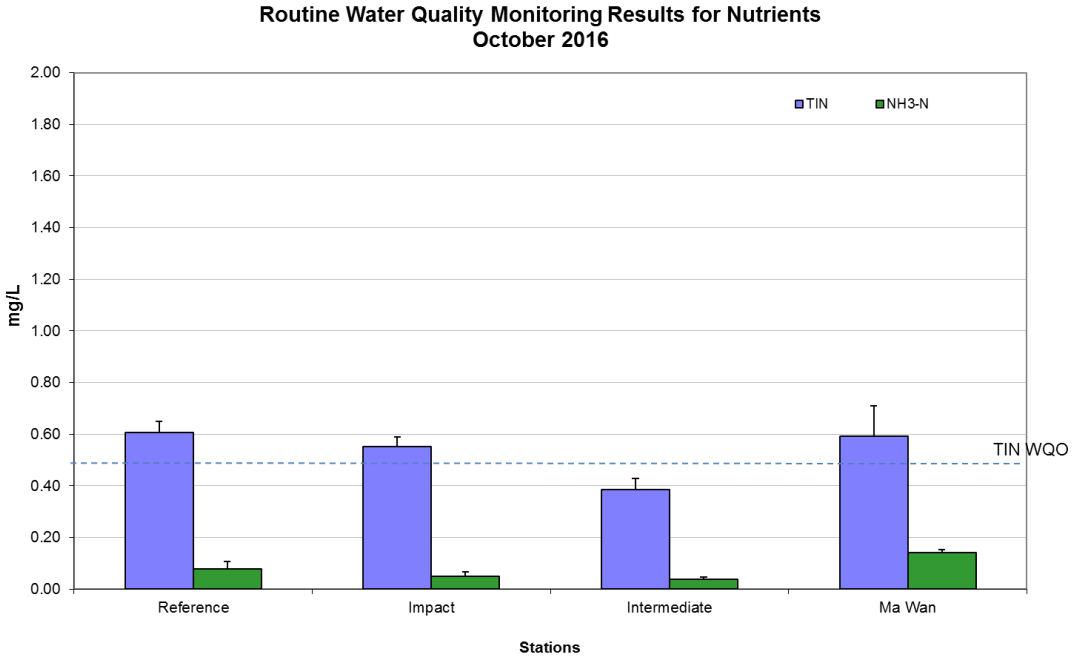


Figure 8: Concentration of Total Inorganic Nitrogen (TIN) and Ammonia Nitrogen (NH3-N) (µg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

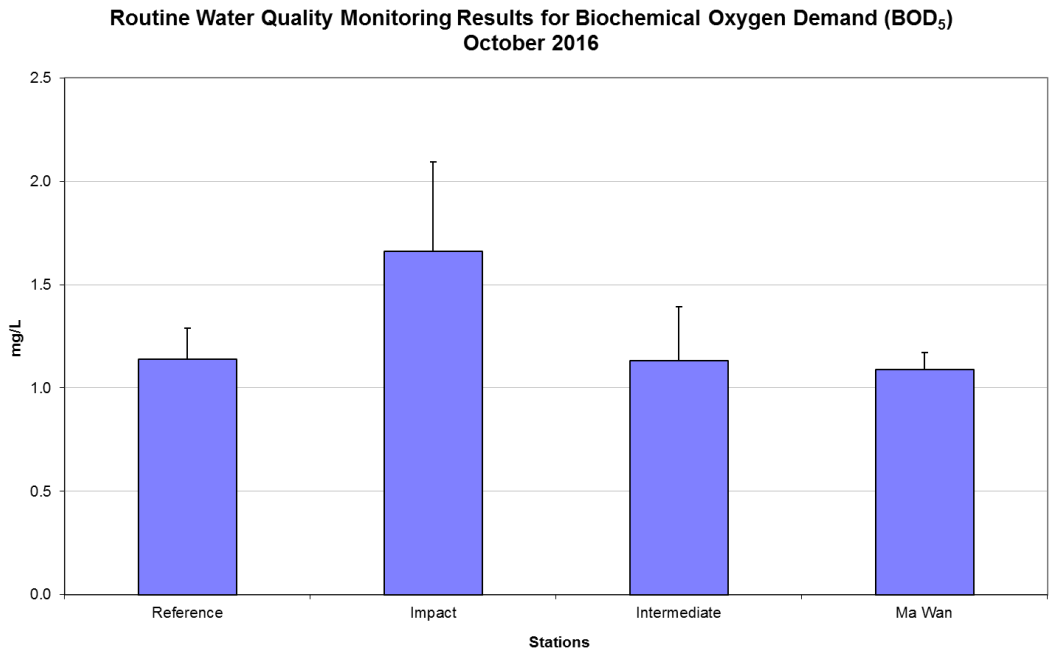


Figure 9: Level of Biochemical Oxygen Demand (BOD5) (mg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

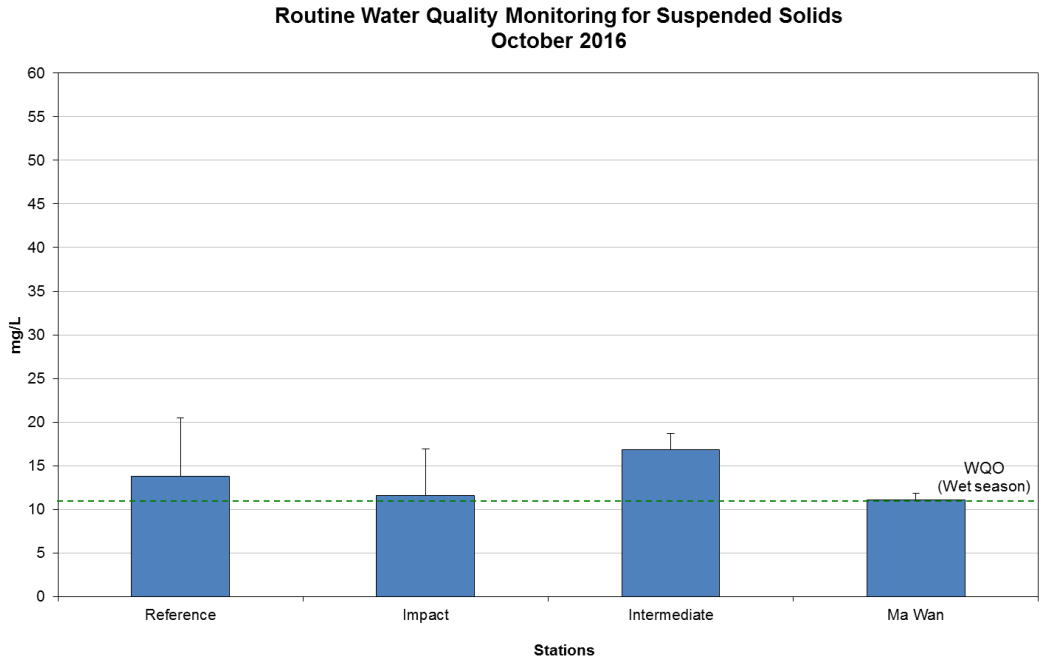


Figure 10: Concentration of Suspended Solids (SS) (mg/L; mean + SD) in water samples collected from Routine Water Quality Monitoring for disposal operations at ESC CMP Vd in October 2016.

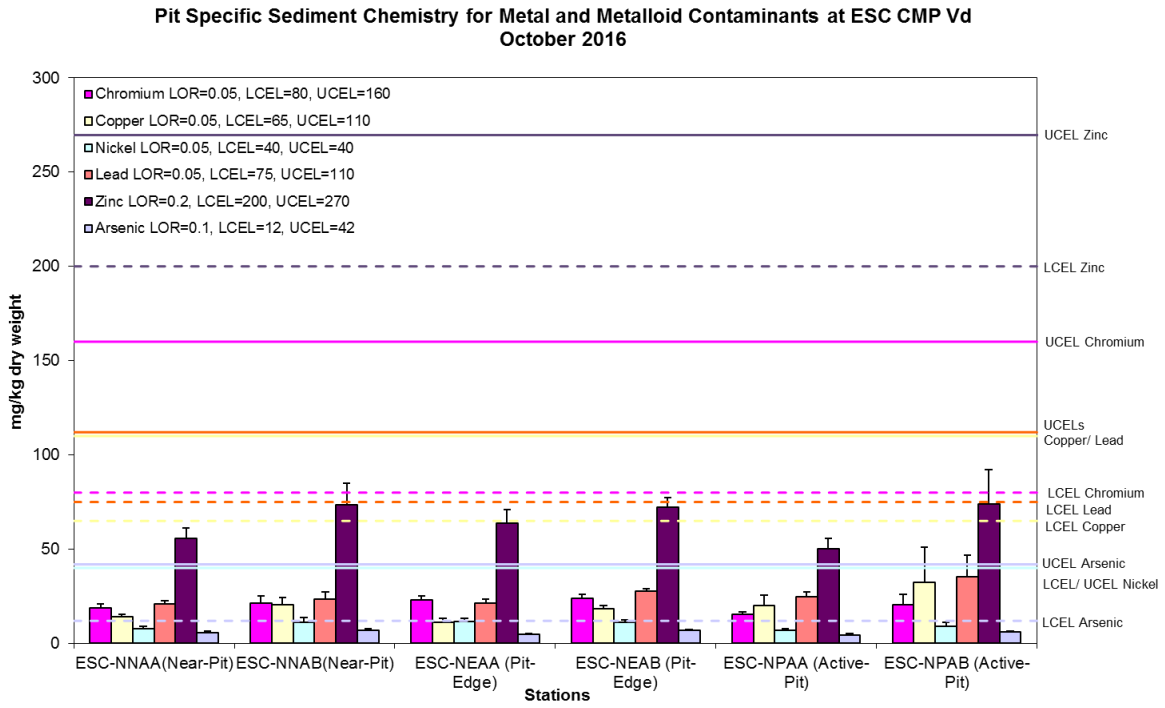


Figure 11: Concentration of Metals and Metalloid (Cr, Cu, Ni, Pb, Zn, As; mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in October 2016.

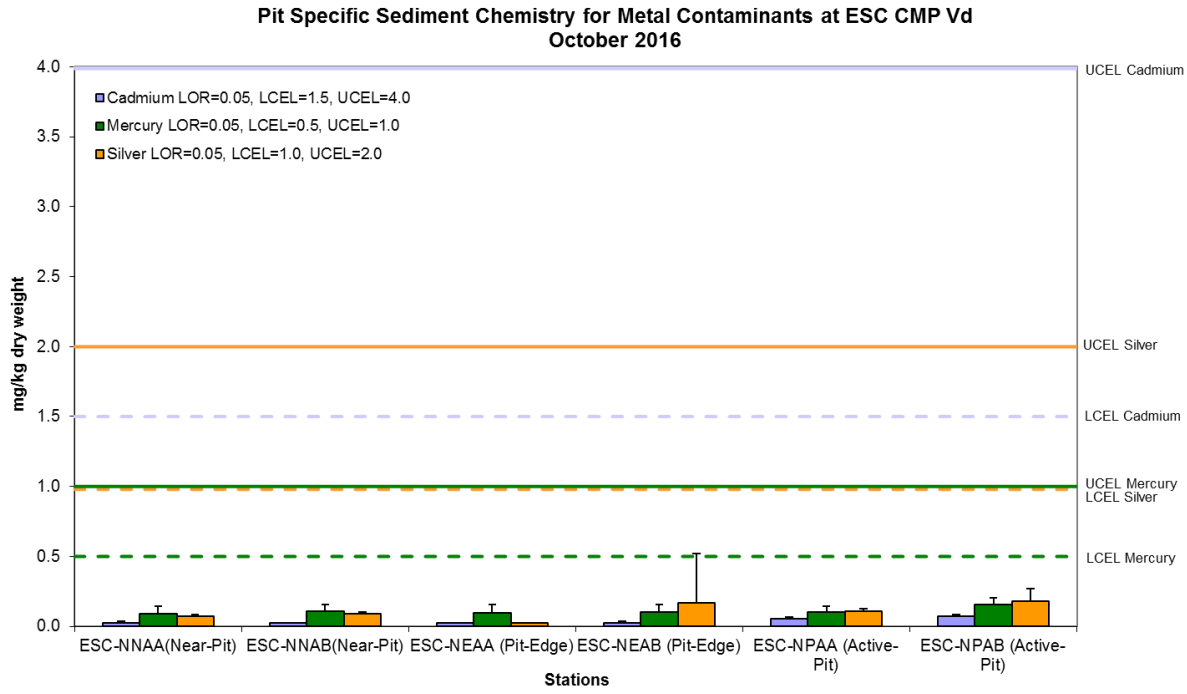


Figure 12: Concentration of Metals (Cd, Hg, Ag; mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in October 2016.

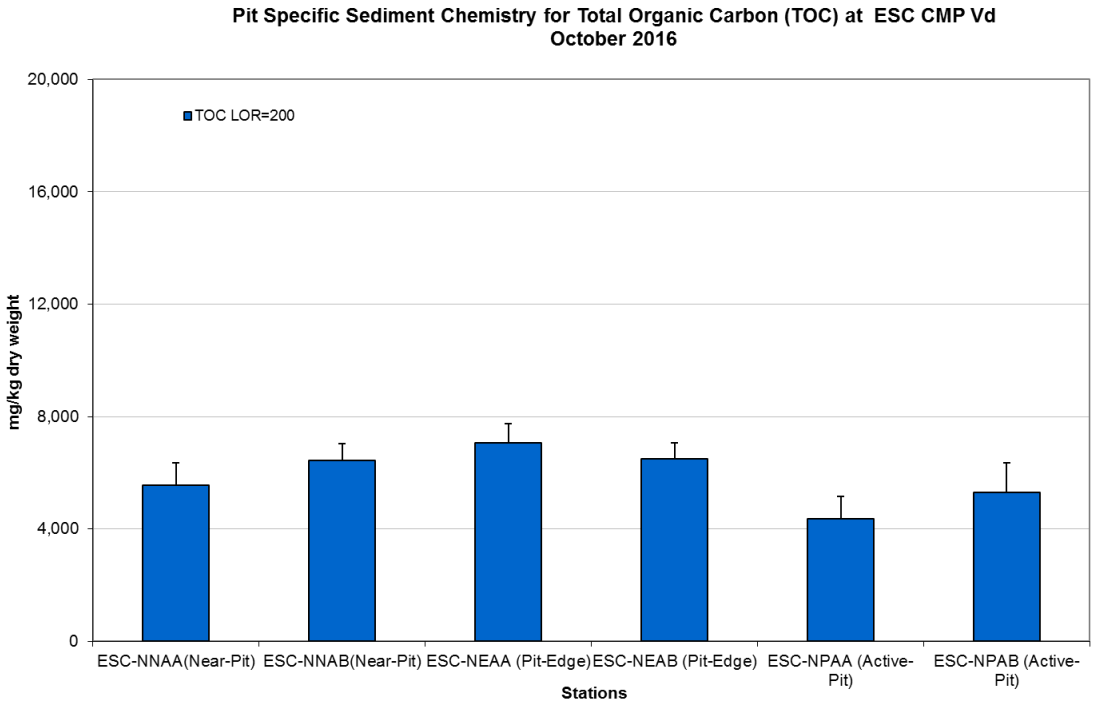


Figure 13: Concentration of Total Organic Carbon (TOC) (mg/kg dry weight; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in October 2016.

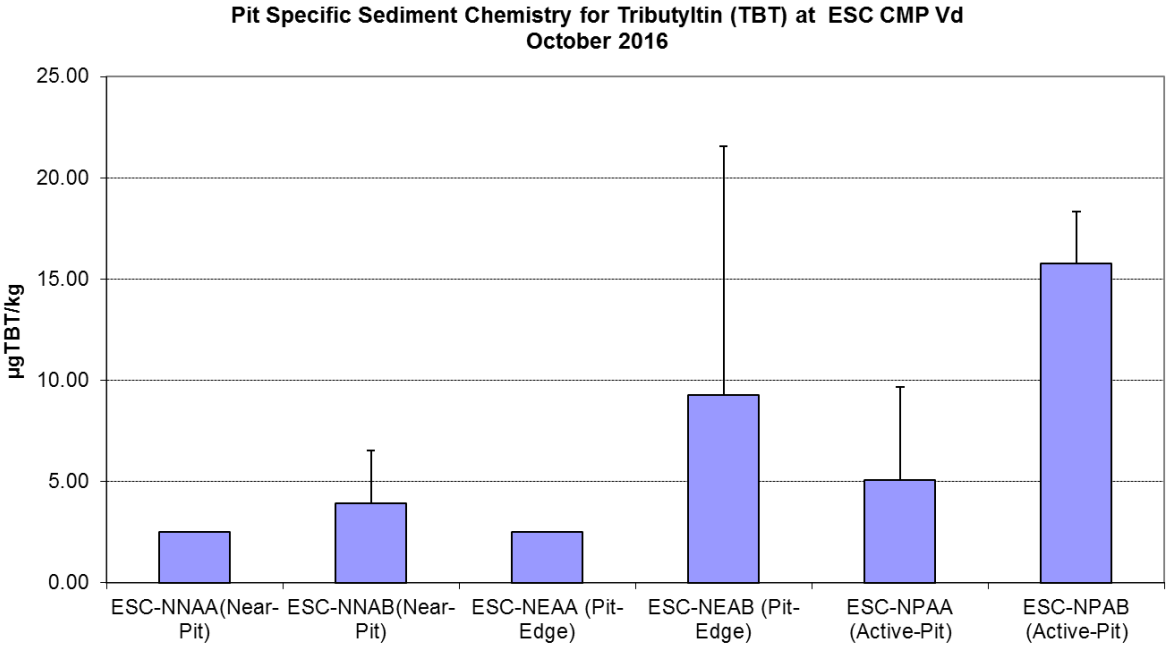
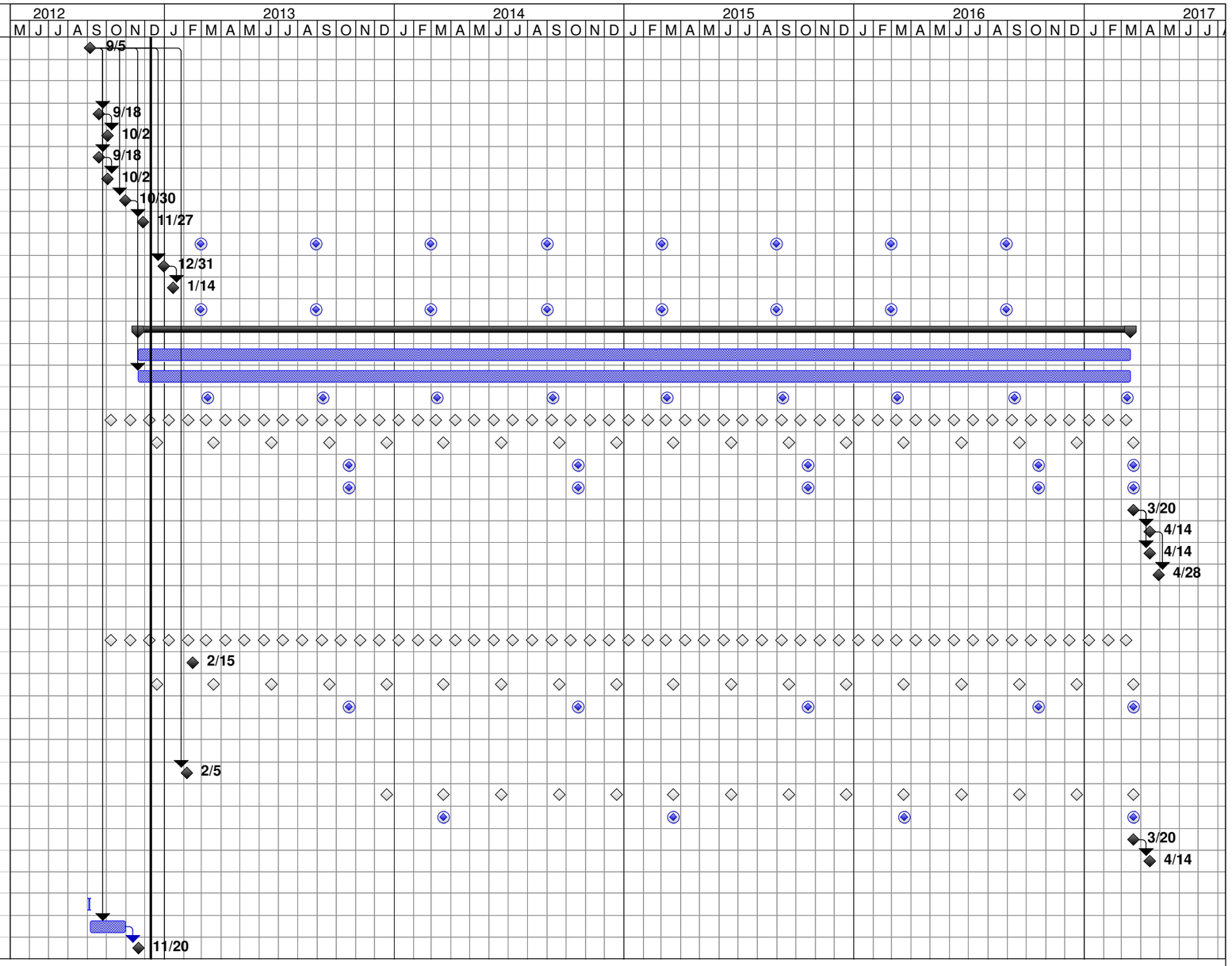


Figure 14: Concentration of Tributyltin (TBT) (µg TBT/kg; mean +SD) in sediment samples collected from Pit Specific Sediment Chemistry Monitoring for ESC CMP Vd in October 2016.

Annex E

Study Programme

Task Name
Project Commencement
For South Brothers CMPs and East of Sha Chau CMPs
Submission of Draft Inception Report & Draft Programme
Submission of Final Inception Report & Final Programme
Submission of Draft EM&A Manual (First Review)
Submission of Final EM&A Manual (First Review)
Submission of Draft EM&A Manual (Second Review)
Submission of Final EM&A Manual (Second Review)
Submission of Subsequent EM&A Manual Updates
Submission of Draft Operations Manual
Submission of Final Operations Manual
Submission of Operations Manual Updates
Monitoring Contracts
Regular Site Inspections of CMP Contractors
Participate in Liaison Group Meetings/ Consultations as required by CEDD
Submission of Report on Dredging & Capping Operations
Submission of Monthly Progress Report
Submission of Quarterly EM&A Report
Submission of Annual Review Report
Submission of Annual Risk Assessment Report
Submission of Draft Final Report
Submission of the Final Report
Submission of Draft Executive Summary Report
Submission of Final Executive Summary Report
For East Tung Lung Chau Disposal Facility
Submission of Monitoring Results & Monthly EM&A Progress Report
Submission of Initial Review Report (assume disposal commences in November 2012)
Submission of Quarterly EM&A Report
Submission of Annual Report
Alternative / Modified Capping Design
Submission of Investigation Report
Submission of Quarterly Report
Submission of Annual Report
Submission of Draft Final Report
Submission of the Final Report
Baseline Pelagic and Demersal Fisheries Survey
Baseline Shrimp Trawl & Hang Trawl Surveys, twice before SB CMPs dredging
Submission of Baseline Pelagic and Demersal Fisheries Survey Report



Study Programme	Task	Milestone	Summary	Rolled Up Task	Rolled Up Milestone

Agreement No. CE 23/2012 (EP) Environmental Monitoring and Audit for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) - Investigation