CONTRACT NO: KL/2009/01

SITE FORMATION FOR KAI TAK CRUISE TERMINAL DEVELOPMENT

QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- DECEMBER 2012 TO FEBRUARY 2013 -

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21 March 2013



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Subject	Agreement No. CE 19/2009 (EP) Dredging Works for Proposed Cruise Terminal Quarterly Environmental Monitoring & Audit Re 2013		

We refer to the revised Quarterly EM&A Report for December 2012 to February 2013 that we received through email on 21 March 2013 and are pleased to confirm we have no further comment on the report.

Should you require further information, please feel free to contact us.

Best regards,

Joseph Poon Independent Environmental Checker

JP/CY/by

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EXECUTIVE SUMMARY

i. This is the eleven Quarterly Environmental Monitoring and Audit (EM&A) Report – December 2012 to February 2013 for the Site Formation for Kai Tak Cruise Terminal Development under Contract No. KL/2009/01. Dredging of marine sediment has been commenced since 28 June 2010 while removal and reconstruction of existing seawall has been commenced since 22 November 2010. This report presents the environmental monitoring findings and information recorded during the period from December 2012 to February 2013.

Construction Activities in the Reported Period

ii. During the reporting period, the principle work activities are summarized as below:

	Table I Principle Work Activities in the Reporting Quarter								
	December 2012		January 2013	February 2013					
•	Dredging of Marine Sediment	•	Dredging of marine sediment;	•	Dredging of marine sediment;				
•	Removal of Existing Seawall;	•	Removal of Existing Seawall;	•	Removal of Existing Seawall;				
•	Fabrication and installation of silt curtain for seawall remove		Fabrication and installation of silt curtain for seawall removal;	•	Fabrication and installation of silt curtain for seawall removal;				
•	Maintenance of Silt Curtain and Silt Screens;	•	Maintenance of Silt Curtain and Silt Screens;	•	Maintenance of Silt Curtain and Silt Screens;				
•	Sorting of inert C&D material from existing seawall;	•	Sorting of inert C&D material from existing seawall; and	•	Sorting of inert C&D material from existing seawall; and				
•	Disposal of surplus fill materia off-site; and	•	Reconstruction of New Seawall	•	Reconstruction of New Seawall				
•	Reconstruction of New Seaw	ıll							

Noise Monitoring

iii. Due to the non-existence of planned NSRs during the reporting quarter, no noise monitoring was required to be conducted at the planned noise monitoring locations NM1 and NM2.

Water Quality Monitoring

- iv. Water quality monitoring was conducted at 6 designated monitoring stations namely WSD9, WSD10, WSD15, WSD17, WSD19 and WSD21. Turbidity exceedances were found on the 30 November 2012 at WSD10 during flood tide; 15 December 2012 at WSD10 during flood tide; 4 February 2013 at WSD21 during ebb tide. Investigations found that all exceedances were not related to the Project works.
- SS exceedances were found on the 30 November 2012 at WSD10 during flood tide; 3 ۷. December 2012 at WSD15 during flood tide; 15 December 2012 at WSD10 during flood tide; 9 January 2013 at WSD10 during flood tide; 4 February 2013 at WSD21 during ebb tide; 6 February 2013 at WSD21 during ebb tide. Investigations found that all exceedances were not related to the Project works.
- vi. Supplementary to Baseline Water Quality Monitoring Report - Review of Action and Limit Levels (Revision 1.2) was submitted to EPD on 13 October 2011. With respect to the EPD's no comment on the new Action and Limit Levels for water monitoring on 19 October 2011, the new set Action and Limit Levels for turbidity and SS was started to use from 19 October 2011.



Water Quality against the Tidal Movement along Victoria Harbour

- vii. In the recorded exceedance(SS & Turbidity), no turbidity and SS exceedance was the downstream stations from project location, no rising of SS level at other downstream stations It is concluded that no water quality impact was arising from the Project works.
- viii. In the recorded exceedance(SS & Turbidity), three turbidity exceedances and six SS exceedances were upstream from project location, no rising of turbidity was observed at downstream stations. It is concluded that no water quality impact was arising from the Project works.

Natural Variation Comparison

- ix. Based on the determination of upper bound of the natural variation levels from the Supplementary to Baseline Water Quality Monitoring Report, most SS results in reporting period were well within the upper bound of natural variation levels.
- x. For the SS exceedances recorded on 30 Nov 2012 of WSD10 (Mid-flood), 3 Dec 2012 of WSD15 (Mid-flood), 15 Dec 2012 of WSD10 (Mid-flood), 9 Jan 2013 of WSD10 (Mid-flood), 4 Feb 2013 of WSD21 (Mid-ebb) and 6 Feb 2013 of WSD21 (Mid-ebb) were upstream from project location, no rising of SS was observed at downstream stations.
- xi. It definitely concluded that the exceedances were not related to the Project works.

Water Quality Surveillance System

- xii. With reference to the upper bound of natural variation levels and water quality surveillance conducting in reporting period, most monitoring stations downstream of project were well within the action level and hence these further supports such exceedances are not caused by dredging activities.
- xiii. Since the investigations found that the exceedances recorded in the reporting quarter were not related to the Project, it was concluded that all necessary steps under Event and Action Plan had been taken. The details of Event and Action Plans and Notification of Exceedance summarizing the finding of investigation, possible causes can be referred to the Monthly EM&A Reports.

Waste Management

- xiv. In this reporting quarter, there was marine sediment (Type 1 Open Sea Disposal) disposed to South Cheung Chau Spoil Disposal Area denoted "KTCT-1" and "KTCT -2". The dredging and disposal of the sediment (Type 1 – Open Sea Disposal (Dedicate Sites) and Type 2 – Confined Marine Disposal) to East Sha Chau Contaminated Mud Disposal Site – Pit IVc was completed in June 2011.
- xv. There were 5800m³ inert surplus fill materials and 25m³ non-inert C&D material related to dredging works were disposed off site in this reporting quarter.



Complaints, Notifications of Summons and Successful Prosecutions

xvi. No complaint, notification of prosecutions or summons was received in the reporting quarter.



1. INTRODUCTION

1.1 Scope of the Report

- 1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) for dredging works to implement the Environmental Monitoring and Audit (EM&A) programme for the Site Formation for Kai Tak Cruise Terminal Development under Contract No. KL/2009/01. Dredging of marine sediment and removal and reconstruction of existing seawall were commenced on 28 June and 22 November 2010 respectively.
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.7 under Environmental Monitoring and Audit (EM&A) Manual.
- 1.1.3. This report documents the finding of EM&A works during the quarter from December 2012 to February 2013.

1.2 Structure of the Report

- Section 1 *Introduction* details the scope and structure of the report.
- Section 2 *Project Background* summarizes background and scope of the Project, site description, project organization and contact details of key personnel during the reporting period.
- **Section 3** *Monitoring Requirements* summarizes all monitoring parameters, monitoring locations, monitoring frequency, duration and action plan.
- **Section 4** *Monitoring Results* summarizes the monitoring results obtained in the reporting period.
- Section 5 Compliance Audit, Review of the Reasons for and the Implication of Non-compliance summarizes the auditing of monitoring results, all exceedances environmental parameters, review the reasons for and the implication of non-compliance.
- Section 6 *Complaints, Notification of summons and Prosecution* summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 7 Conclusion



2. PROJECT BACKGROUND

2.1 Background

- 2.1.1. The former Kai Tak Airport located in the south-eastern part of Kowloon Peninsula was the international airport of Hong Kong. The Kai Tak Airport had come into operations since 1920s. The operation of the Kai Tak Airport was ceased and replaced by the new airport at Chek Lap Kok in July 1998. After closure, the disused airport site has been occupied by various temporary uses, including a golf driving range on the runway area.
- 2.1.2. In 2002, the Chief Executive in Council approved the Kai Tak Outline Zoning Plans (No. S/K19/3 and S/K21/3) to provide the statutory framework to proceed with the South East Kowloon Development at the former Kai Tak Airport. However, following the judgment of the Court of Final Appeal in January 2004 regarding the Harbour reclamation, the originally proposed development which involves reclamation has to be reviewed. The Kai Tak Planning Review (KTPR) has resulted with a Preliminary Outline Development Plan (PODP) for Kai Tak in October 2006. Subsequently, the Administration announced in October 2006 a plan to implement a cruise terminal at Kai Tak, as part of the development.
- 2.1.3. Development of the cruise terminal at Kai Tak would require dredging at the existing seawall at the southern tip of the former Kai Tak Airport runway for construction of a quay deck structure for two berths, and dredging the seabed fronting the new quay to provide necessary manoeuvring basin. The general layout of the proposed cruise terminal construction is shown in *Figure 2.1*.
- 2.1.4. The current Project involves a dredging operation exceeding 500,000m³ for construction and operation of the proposed cruise terminal at Kai Tak and is therefore classified as a Designated Project under Item C.12, Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). An Environmental Impact Assessment (EIA) Study for the Project has been undertaken in accordance with the EIA Study Brief (No. ESB-159/2006) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

2.2 Scope of the Project and Site Description

- 2.2.1. The scope of the Project comprises:
 - Dredging of marine sediment of about 700,000m³ from the existing seabed (Stage 1 dredging) in the Harbour area off the southern tip of the former Kai Tak Airport runway to provide the necessary water depth within the manoeuvring area for cruise vessels; and
 - Removal of existing seawall of about 322,300m³ by dredging at the southern tip of the former Kai Tak Airport runway for cruise berth construction.

2.3 Project Organization

2.3.1. Kowloon Development Office of Civil Engineering and Development Department is the overall project controller. For the construction phase of the Project, Project Engineer, Contractor,



Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in <u>Figure 2.2</u>. Key personnel and contact particulars are summarized in *Table 2.2*:

Party	Role	Name	Post	Contact No.	Contact Fax	
Civil Engineering and Development Department (Kowloon Development Office)	Project Proponent	Ir. KY Shin	Senior Engineer	2301 1461	2301 1277	
URS /	Engineer's	Mr. Stephen Cheng	Chief Resident	2148 7638	2148 7277	
Scott Wilson Limited	Representative		Engineer			
Penta-Ocean Construction	Contractor	Mr. H. Taguchi	Project Manager	2148 7238	2148 7138	
Company Limited		Mr. K. Takae	Site Agent			
		Mr. Perry Yam	Environmental Officer			
Fugro (HK) Limited	Independent Environmental Checker (IEC)	Mr. Joseph Poon	Independent Environmental Checker (IEC)	2450 8238	2450 6138	
Lam Environmental Services Limited	Environmental Team Leader	Mr. Raymond Dai	Environmental Team Leader (ETL)	2882 3939	2882 3331	

 Table 2.2
 Contact Details of Key Personnel

2.4 **Principal Work and Activities**

2.4.1. During this reporting quarter, the principal work activities are summarized in Table2.4.

 Table 2.4
 Principle Work Activities during the Reporting Quarter

	December 2012		January 2013		February 2013
•	Dredging of marine sediment;	•	Dredging of marine sediment;	•	Dredging of Marine Sediment;
•	Removal of Existing Seawall;	•	Removal of Existing Seawall;	•	Removal of Existing Seawall;
•	Fabrication and installation of silt curtain for seawall removal;	•	Fabrication and installation of silt curtain for seawall removal;	•	Fabrication and installation of silt curtain for seawall removal;
•	Maintenance of Silt Curtain and Silt Screens;	•	Maintenance of Silt Curtain and Silt Screens;	•	Maintenance of Silt Curtain and Silt Screens;
•	Sorting of inert C&D material from existing seawall;	•	Sorting of inert C&D material from existing seawall; and	•	Sorting of inert C&D material from existing seawall; and
•	Disposal of surplus fill material off-site; and	•	Reconstruction of New Seawall	•	Reconstruction of New Seawall
•	Reconstruction of New Seawall				

2.4.2. Implementation status of the recommended mitigation measures during this reporting period is presented in *Appendix 2.1*.



3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

3.1.1. In accordance with the EIA Report and the approved EM&A Manual, it is anticipated that construction activities, if unmitigated, would not cause any adverse noise impact to the nearest NSRs in the vicinity of the work site. The predicted noise levels at the NSRs would comply with construction noise criteria. These nearest NSRs are designated for construction noise monitoring as listed in *Table 3.1*.

Station	Description
NM1	Planned Residential Development (R3 site)
NM2	Planned Residential Development (R3 site)

Table 3.1 Noise Monitoring Stations

3.1.2. As per S.3.1.1 of the approved EM&A Manual states that "Noise levels shall be monitored to evaluate the construction noise impact if there is any planned noise sensitive receivers (NSRs) occupied within 300m from the works area of this Project during the proposed dredging works". Therefore, the impact monitoring for construction noise shall only be carried out when the planned residential development at the two identified monitoring stations are occupied at a later stage.

3.2. Water Quality Monitoring

- 3.2.1. The EIA Report has identified that suspended solids (SS) would be the most critical water quality parameter during the dredging operations. Water quality monitoring for SS and turbidity is therefore recommended to be carried out at selected WSD flushing water intakes. The impact monitoring should be carried out during the proposed dredging works for cruise terminal construction to ensure the compliance with the water quality standards.
- 3.2.2. It is proposed to monitor the water quality at six WSD flushing water intakes along the seafront of the Victoria Harbour. The proposed water quality monitoring stations are shown in *Table 3.2* and *Figure 3.1*.

Station Ref.	WSD Flushing Water Intake	Easting	Northing							
WSD9	Tai Wan	837921.0	818330.0							
WSD10	Cha Kwo Ling	841900.9	817700.1							
WSD15	Sai Wan Ho	841110.4	816450.1							
WSD17	Quarry Bay	839790.3	817032.2							
WSD21	Wan Chai	836220.8	815940.1							
WSD19	Sheung Wan	833415.0	816771.0							

 Table 3.2
 Marine Water Quality Stations for Water Quality Monitoring

WATER QUALITY PARAMETERS AND FREQUENCY

- 3.2.3. During the period of dredging, monitoring should be undertaken three days per week, at midflood and mid-ebb tides, with sampling / measurement at the designated monitoring stations as shown in **Table 3.2**. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased. **Table 3.3** shows the proposed monitoring frequency and water quality parameters. Duplicate in-situ measurements and water sampling should be carried out in each sampling event. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should not be less than 0.5m.
- 3.2.4. Silt screens in frame type or floating type shall be deployed at these intakes during the dredging period. It is recommended to conduct the monitoring behind the silt screens at the seawater intake culvert at each seawater pumping station to collect information on the water quality condition after passed the silt screen.

Activities	Monitoring Frequency ¹	Parameters ²
During the 4-week baseline monitoring period	Three days per week, at mid-flood and mid- ebb tides	Turbidity (in NTU), Suspended Solids (SS in mg/L)
During dredging works for proposed cruise terminal at Kai Tak	Three days per week, at mid-flood and mid- ebb tides	Turbidity (in NTU), Suspended Solids (SS in mg/L)

Table 3.3 Water Quality Monitoring Frequency and Parameters

Notes:

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- 1. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.
- 2. Turbidity should be measured in situ whereas SS should be determined by laboratory.
- 3.2.5. Supplementary to Baseline Water Quality Monitoring Report Review of Action and Limit Levels (Revision 1.2) was submitted to EPD on 13 October 2011. With respect to the EPD's no comment on the new Action and Limit Levels for water monitoring on 19 October 2011, the new set Action and Limit Levels for turbidity and SS was started to use from 19 October 2011. The established Action and Limit levels can be referred to <u>Appendix 3.1</u>.



4. MONITORING RESULTS

4.1. Water Monitoring Results

- 4.1.1. The water quality monitoring was commenced concurrently with the commencement of dredging works on 28 June 2010. Water quality monitoring was conducted at 6 designated monitoring stations namely WSD9, WSD10, WSD15, WSD17, WSD19 and WSD21 during the reporting quarter.
- 4.1.2. Water monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in <u>Appendix 4.1.</u> The details of exceedances are summarized in Table 4.1.2.

			ws	SD9	WS	D10	ws	D15	WS	D17	ws	D19	WS	D21
			Turb	SS	Turb	SS	Turb	SS	Turb	SS	Turb	SS	Turb	SS
Pe	riod	Level	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L
Mid-flood	Dec-12	AL	0	0	0	0	0	0	0	0	0	0	0	0
	Jan-13		0	0	0	0	0	0	0	0	0	0	0	0
	Feb-13		0	0	0	0	0	0	0	0	0	0	0	0
Mid-ebb	Dec-12	AL	0	0	0	0	0	0	0	0	0	0	0	0
	Jan-13		0	0	0	0	0	0	0	0	0	0	0	0
	Feb-13		0	0	0	0	0	0	0	0	0	0	0	0
Total	of AL Excee	dances:	0	0	0	0	0	0	0	0	0	0	0	0
Mid-flood	Dec-12	LL	0	0	2	2	0	1	0	0	0	0	0	0
	Jan-13		0	0	0	1	0	0	0	0	0	0	0	0
	Feb-13		0	0	0	0	0	0	0	0	0	0	0	0
Mid-ebb	Dec-12	LL	0	0	0	0	0	0	0	0	0	0	0	0
	Jan-13		0	0	0	0	0	0	0	0	0	0	0	0
	Feb-13		0	0	0	0	0	0	0	0	0	0	1	2
Total	Total of LL Exceedances		0	0	2	3	0	1	0	0	0	0	1	2
Т	otal of Excee	dances:	•	<u>כ</u>		5		1	(ט		0	:	3

Table 4.1.2 Summary of Exceedances Recorded in the Reporting Quarter

4.1.3. Total 3 turbidity and 6 SS exceedances were recorded in the reporting period. Investigation found that the exceedances were located at the upstream station of the Project site or due to localized impact and were not due to the Project work. It concluded that no adverse water quality impact was arising from the Project works. Details of investigations can be referred in Section 5.

4.2. Water Quality Surveillance System

4.2.1. Six self water quality surveillance monitoring events for removal of existing seawall were conducted in the reporting period. Turbidity and SS monitoring were conducted at 12 locations as follows and shown in *Figure 4.1*.

- One sampling point inside the silt curtain (SP1);
- Four sampling points outside the silt curtain (MP1-MP4);
- Seven control points (C1-C7)
- 4.2.2. The graphical presentation of the SS levels at SP1, sampling points outside the silt curtain, control points and impact water quality monitoring stations against the distance are shown in *Appendix 4.2*.

4.3. Dredging and Disposal

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4.3.1. Implementation of mitigation measures for dredging work and the associated dredging records were checked and the findings are summarized in *Table 4.2.1*.

EP Condition	Compliance Status and/or Recommendation
2.6	In accordance with the EP requirement
Silt Curtain Deployment	
2.6	Complied with the EP requirement in reporting quarter:
and the seabod. Daily Drodging	Maximum daily Dredging Rate was at 400m ³ /day and Maximum hourly Dredging Rate was at 100m ³ /hr.
2.7 Daily Dredging Rate ≤ 4,000m³/d Hourly Dredging Rate ≤ 334m³/hr	Complied with the EP requirement in reporting month: Maximum daily Dredging Rate was at 1,191m ³ /day and Maximum hourly Dredging Rate was at 200m ³ /hr.
2.8 Silt Screen Deployment	In accordance with the Silt Screen Deployment Plan for all 6 intakes

 Table 4.2.1 Compliance with EP Conditions in the Reporting Quarter

- 4.3.2. The daily and hourly dredging rates were checked and reviewed that were below the EP requirements. It was concluded that the dredging was conducted in compliance with the specific EP requirements.
- 4.3.3. The dredging and disposal of the sediment (Type 1 Open Sea Disposal (Dedicate Sites) and Type 2 Confined Marine Disposal) to East Sha Chau Contaminated Mud Disposal Site Pit IVc was completed.
- 4.3.4. There were 5,800m³ inert surplus fill materials and 25m³ non-inert C&D material related to dredging works were disposed off site in this reporting quarter.
- 4.3.5. Details of the marine sediment dumping are summarized in Table 4.2.2.



Waste Type	Quantity this quarter, m ³ , (Bulk Volume)	Cumulative Quantity- to-Date,m ³ , (Bulk Volume)	Disposal / Dumping Grounds						
Marine Sediment (Type 1 – Open Sea Disposal)	29,101	556,623	South Cheung Chau Spoil Disposal Area denoted "KTCT-1" and "KTCT -2"						
Marine Sediment (Type 1 – Open Sea Disposal (Dedicated Sites) & Type 2 – Confined Marine Disposal) *	NIL	Completed	East Sha Chau Contaminated Mud Disposal Site – Pit IVc						

Table 4.2.2 Waste Quantities Related To Dredging Works

* Remarks: The disposal of marine sediment (Type 1 – Open Sea Disposal (Dedicated Sites) and Type 2 – Confined Marine Disposal) was completed.



5. COMPLIANCE AUDIT, REVIEW OF THE REASONS FOR AND THE IMPLICATIONS OF NON-COMPLIANCE

5.0.1. The Event Action Plan for construction noise and water quality is presented in Appendix 5.1.

5.1. Noise Monitoring

5.1.1. Noise monitoring was not necessary in the reporting period due to non-presence of NSR.

5.2. Water Quality Monitoring

- 5.2.1. For the suspended solid, the details of exceedance in the reporting period are as follows:
 - 3 Limit Level SS exceedances were recorded at WSD10
 - 1 Limit Level SS exceedance was recorded at WSD15
 - 2 Limit Level SS exceedances were recorded at WSD21
- 5.2.2. Total 6 SS exceedances were recorded in the reporting period. Silt curtain and silt screens were checked and confirmed in proper condition during the water monitoring. Investigations found that the exceedances were not related to the Project works.
- 5.2.3. For the exceedances, further investigations were conducted to determine the cause of impact in terms of the following areas:
 - Water Quality against the Tidal Movement along Victoria Harbour;
 - Natural Variation Comparison; and
 - Water Quality Surveillance System
- 5.2.4. More details on the investigation are given in Section 5.3 to 5.5.

5.3. Water Quality against the Tidal Movement along Victoria Harbour

- 5.3.1. In order to conclude the cause of an adverse water quality impact, the trend across the 6 monitoring stations is reviewed. Whether the adverse impact is due to project work will be evaluated from the trend of SS level in downstream across the Victoria Harbour after passing the project location. By observing this trend of SS, contribution of the adverse water quality impact from the dredging activities under the project can be evaluated by checking if there is a significant rising up trend in the SS level in the WSD intakes at project downstream.
- 5.3.2. Moreover, a comparison of the monitoring station at project downstream stations with the upstream monitoring stations can also indicate whether the extent of exceedance in SS content recorded at the WSD intakes downstream to the project is likely to be caused by upstream source or not. If the SS values of the upstream and downstream show similar levels, the impact at the project downstream stations shall probably be due to the project upstream streams and the contribution from project work can be eliminated. A review on the tidal movement across the Victoria Harbour is plotted against the SS results and graphical presentation is presented in <u>Appendix 5.2</u>.



5.3.3. Investigations on the recorded upstream exceedances revealed that there were no significant rising up trend of SS levels across the Victoria Harbour after passing the project location. No downstream exceedance recorded in this reporting period. It is concluded that no adverse water quality impact was arising from the Project works.

5.4. Natural Variation Comparison

- 5.4.1. Referring to the ER Letter ref. CEDD/KL/2009/01/M45/130(369767) dated 14 February 2011, a Supplementary to Baseline Water Quality Monitoring Report Review Action and Limit Levels (Revision 1.0) has been provided to EPD by ER in February 2011 in according to Sections 4.92 and 10.7 of EM&A Manual. This report in Revision 1.1 has been provided on 26 April 2011 in response to EPD's comments dated 1 April 2011. This report presents the methodology for enlargement baseline database and the review and determination of the Action and Limit Levels in dry and wet seasons.
- 5.4.2. On the basis of this Supplementary to Baseline Water Quality Monitoring Report, the maximum SS levels in the establishment of larger baseline database will be applied and acted as the upper bound of natural variation levels for the comparison with SS results in reporting quarter. The upper bound of natural variation levels are shown in **Table 5.4**. The graphic presentation of water quality results with respect to local variation is shown in **Appendix 5.3**.

Upper Bound of Natural Variation Levels (mg/L)	WSD9	WSD10	WSD15	WSD17	WSD19	WSD21
Dry Season	12.0	19.0	14.0	16.0	18.0	15.0
Wet Season	15.1	21.2	22.7	17.9	17.1	18.8

Table 5.4 Upper Bound of Natural Variation Levels at Water Monitoring Stations

- 5.4.3. According to the graphic presentation, most SS results were well within the upper bound of natural variation levels.
- 5.4.4. Based on the graphic presentation and the trend description of the SS levels in <u>Appendix 4.2</u>, conclusion of the water quality surveillance can be draw as follows:
 - SS levels at all control points and downstream WSD intakes were below SP1 and well within the Action level;
 - When the WSD intakes were located at upstream of the Project, it found that SS level was occasionally higher than the control points and sampling points near dredging area. Thus, uncertain interference of water quality was apparently interfering in the vicinity of intakes frequently;
- 5.4.5. With reference to the upper bound of natural variation levels and water quality surveillance conducting in reporting period, it shows no fluctuation over the upper bound most of the time and hence this further supports such exceedance is not caused by dredging activities.



Summary of Investigation

- 5.4.6. To summarize, it was found in this reporting period that:
 - SS exceedances located at upstream of the Project site and no rising SS level in downstream across the Victoria Harbour after passing the project location. No SS exceedances recorded at downstream station, and were due to localized impact. It definitely concluded that these exceedances were not related to the Project works.
- 5.4.7. Since the investigations found that the exceedances recorded in the reporting quarter was not related to the Project, it was concluded that all necessary steps under Event and Action Plan had been taken. The details of Event and Action Plans and Notification of Exceedance summarizing the finding of investigation, possible causes can be referred to the Monthly EM&A Reports.

5.5. Site Audit

5.5.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting quarter, no particular finding was obtained on the dredging works during the site inspections.

5.6. Summary of action taken in the event of and follow-up on non-compliance

5.6.1. Since the exceedances recorded were not project-related, follow-up mitigation measures were therefore not required.



6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. In the reporting quarter, no complaints, notification of summons or prosecution was received in the reporting period. Cumulative statistic on complaints and successful prosecutions are summarized in *Table 6.1*, *Table 6.2* and *Table 6.3* respectively.

Table 6.1 Environmental Complaints Log
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Complaint Log No.		Received From and Received By	Nature of Complaint	Date Investigated	Outcome	Date of Reply
NIL	-	-	-	-	-	-

Table 6.2 Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative No. Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Table 6.3 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0



7. CONCLUSION

- 7.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 7.0.2. No action level exceedances and six limit level exceedances of SS concentration, and no action level exceedances and three limit level exceedances of turbidity were recorded in the reporting period. Investigations found that the exceedances were either located at the upstream station of the Project site or due to localized impact, and not due to the Project work. It is concluded that no adverse water quality impact was arising from the Project works.
- 7.0.3. Supplementary to Baseline Water Quality Monitoring Report Review of Action and Limit Levels (Revision 1.2) was submitted to EPD on 13 October 2011. With respect to the EPD's no comment on the new Action and Limit Levels for water monitoring on 19 October 2011, the new set Action and Limit Levels for turbidity and SS was started to use from 19 October 2011.
- 7.0.4. Noise monitoring was not necessary in the reporting period due to non-presence of NSR.
- 7.0.5. The construction programmes in reporting quarter are provided in Appendix 7.1.



Figure 2.1

General Layout

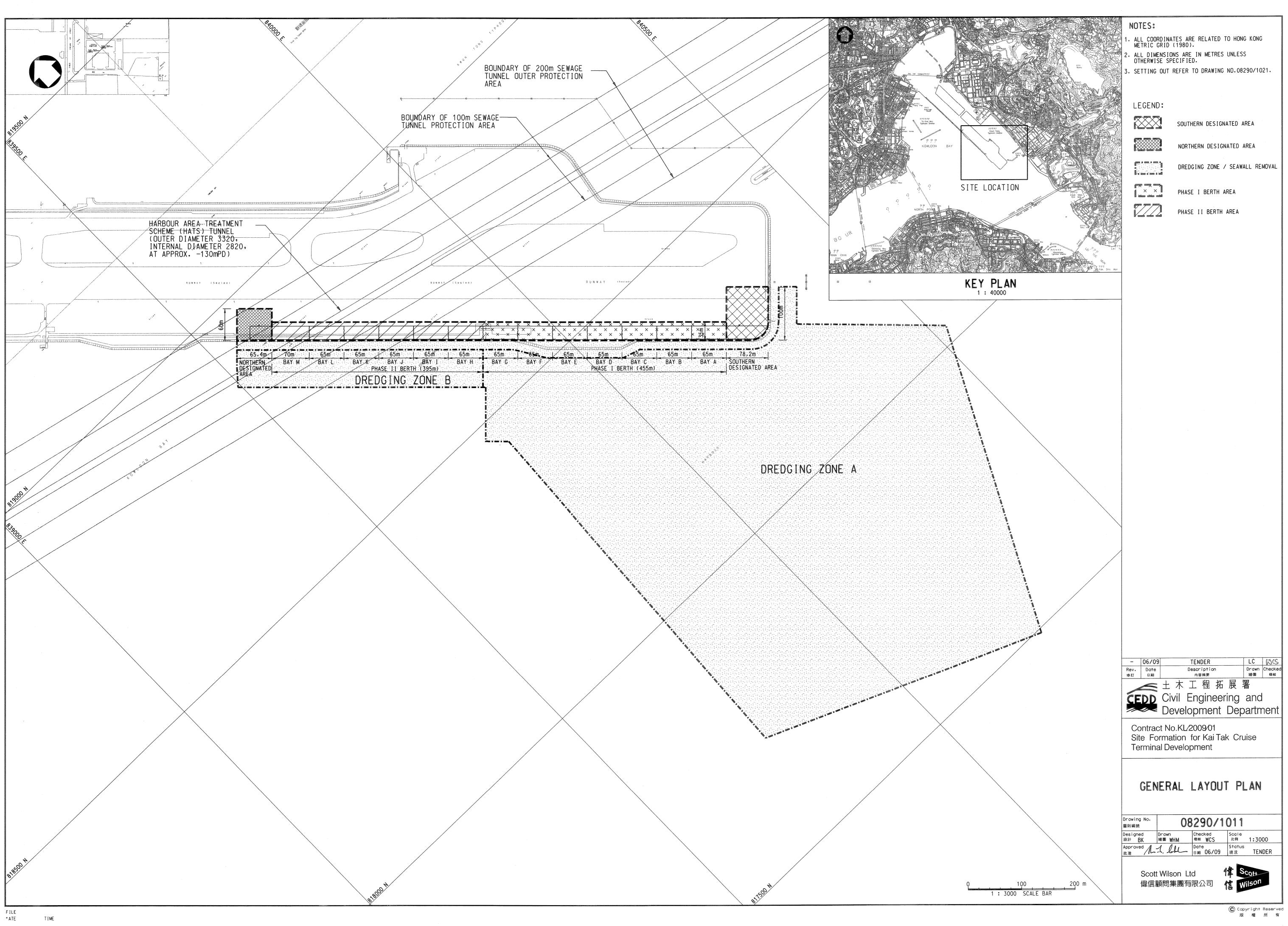




Figure 2.2

Project Organization Chart



Project Organization Chart

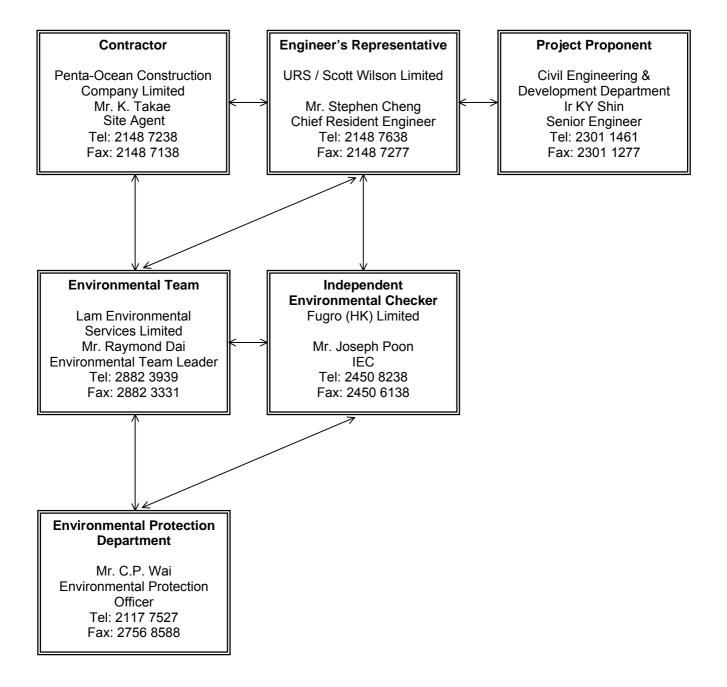
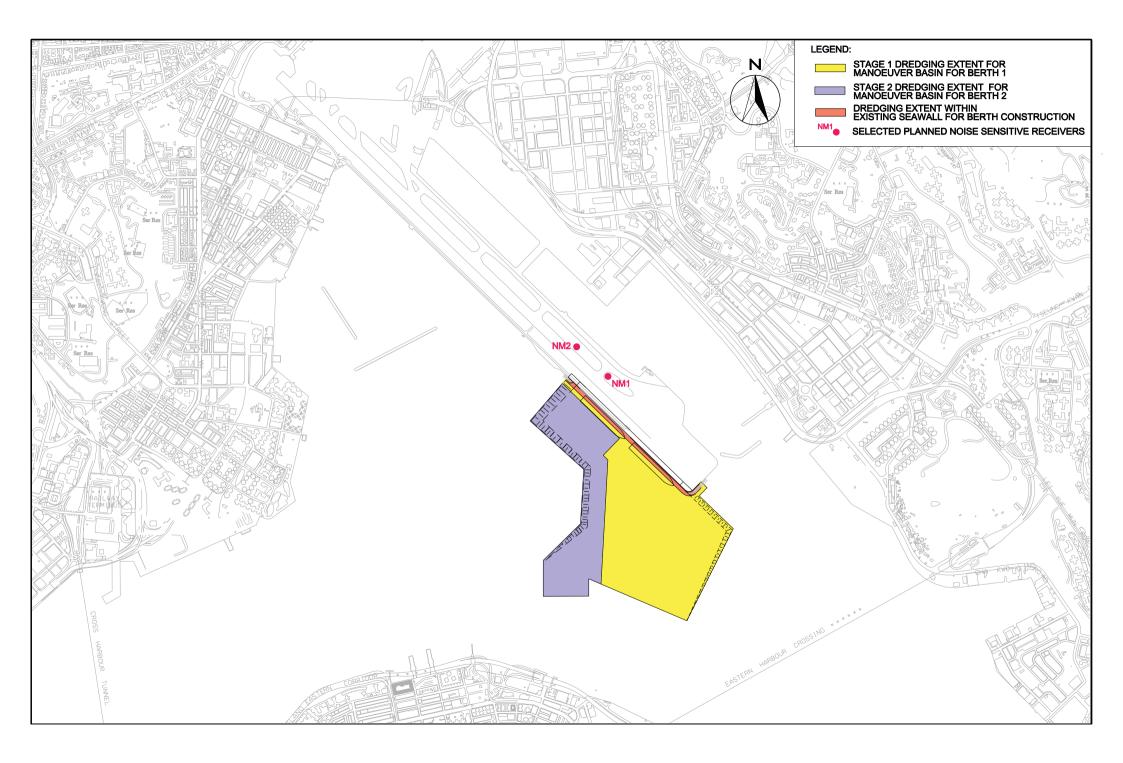
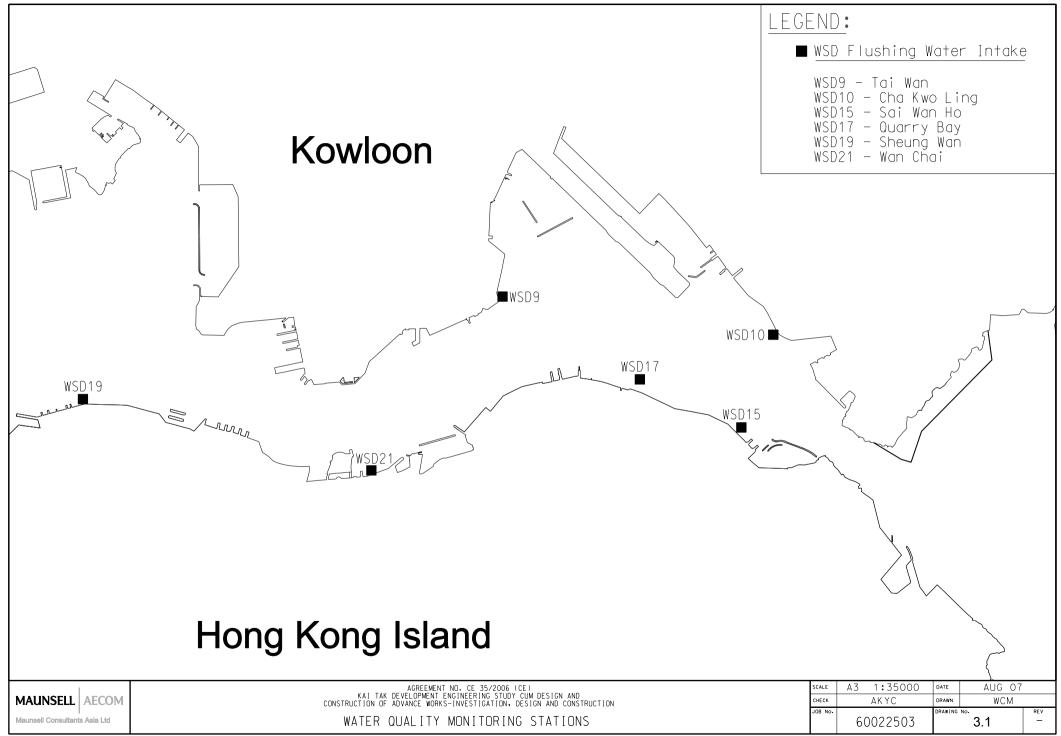




Figure 3.1

Layout of Environmental Monitoring Stations



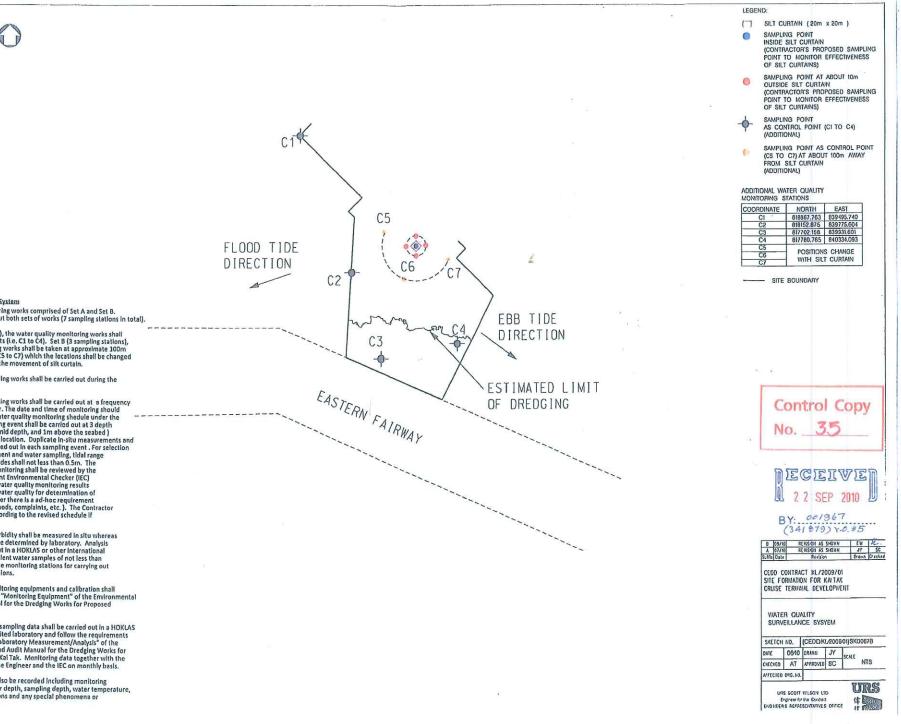


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Figure 4.1

Layout of Monitoring Stations for Water Quality Surveillance System



Scope of Works for Water Quality Surveillance System 1. The water quality monitoring works comprised of Set A and Set B. The Contractor shall carry out both sets of works (7 sampling stations in total).

 Set A (4 sampling stations), the water quality monitoring works shall be taken at the Control Points (i.e. C1 to C4). Set B (3 sampling stations), the water quality monitoring works shall be taken at approximate 100m outside the silt curtain (i.e. C5 to C7) which the locations shall be changed from time to time to follow the movement of silt curtain.

3. The water quality monitoring works shall be carried out during the dredging period.

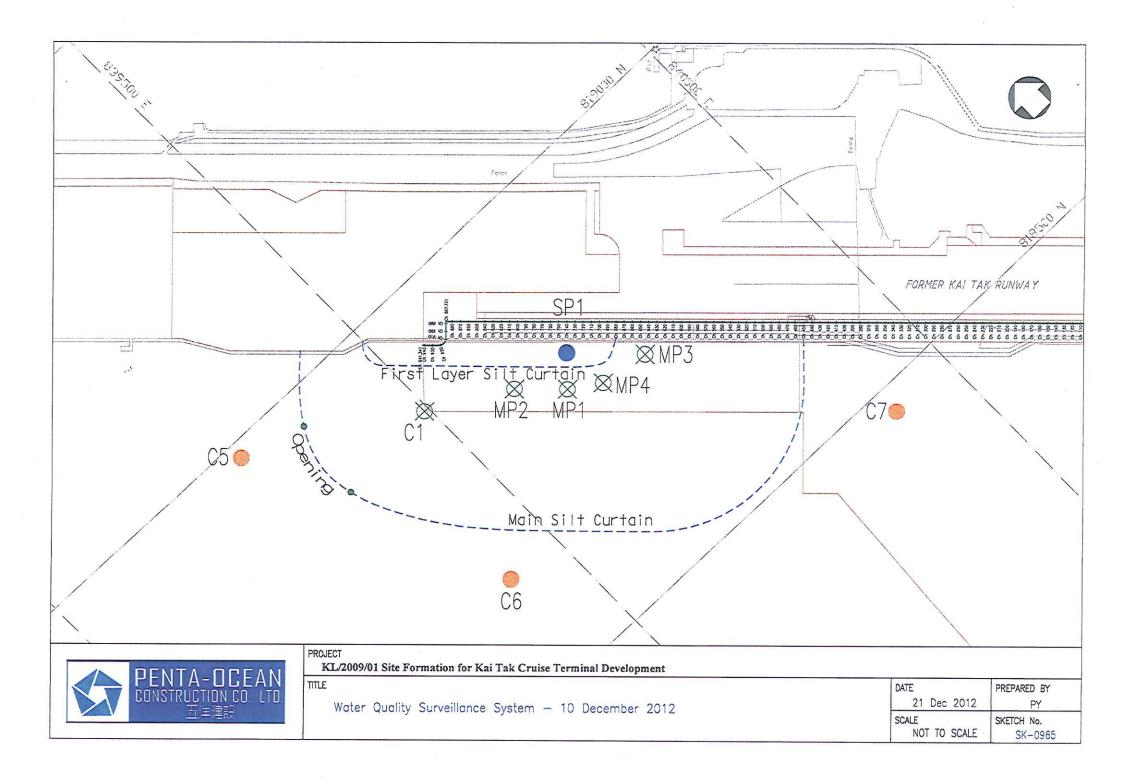
4. The water quality monitoring works shall be carried out at a frequency to be agreed by the Engineer. The date and time of monitoring should be in line with the impact water quality monitoring should under the EM&A manual. Each sampling event shall be carried out at 3 depth (i.e. 1m below the surface, mid depth, and 1m above the seabed) of the water column at each location. Duplicate In-situ measurements and water sampling shall be carried out in each sampling event . For selection Water samping stant be carried out in each samping, event is out of tides for in-situ measurement and water sampling, tidal range of Individual flood and ebb tides shall not less than 0.5m. The schedule of water quality monitoring shall be reviewed by the Engineer and the independent Environmental Checker (IEC) depending on whether the water quality monitoring results could Indicate any trend of water quality for determination of trigger/action level or whether there is a ad-hoc requirement (e.g. change of working methods, complaints, etc.). The Contractor shall carry out the works according to the revised schedule if Instructed by the Engineer.

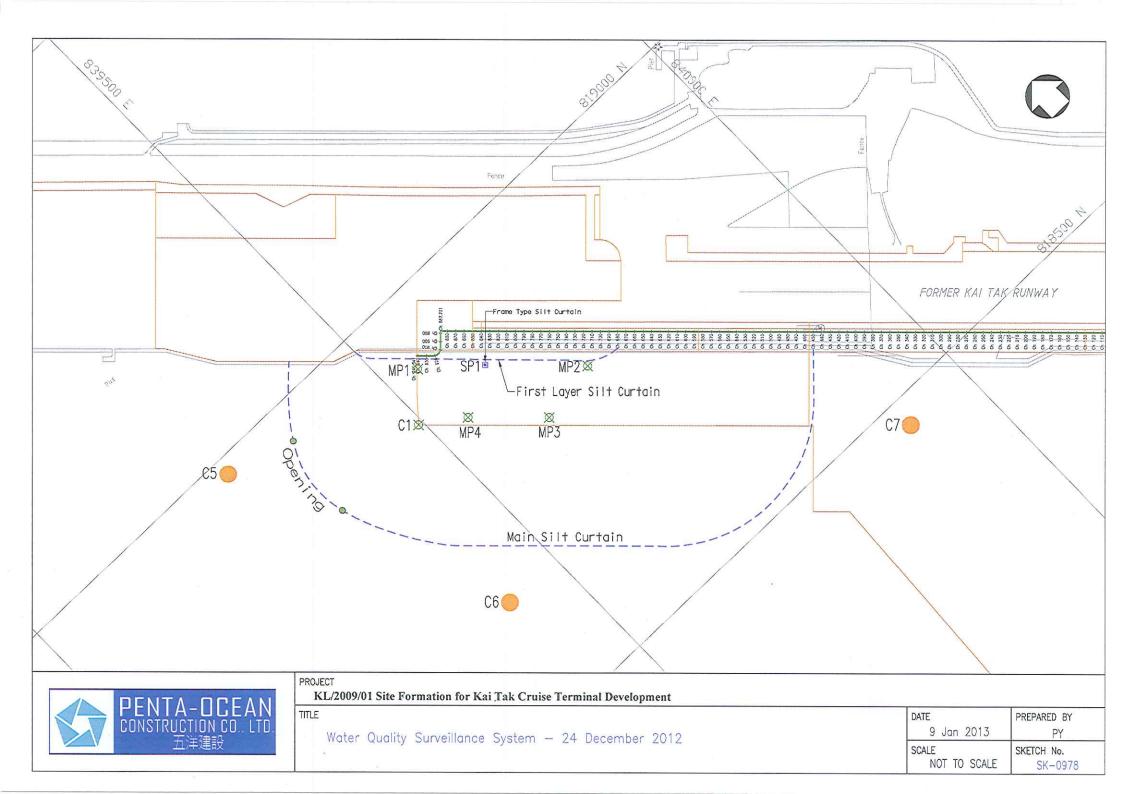
5. As the key parameters, turbidity shall be measured in situ whereas Suspended Solids (SS) shall be determined by laboratory. Analysis of SS level shall be carried out in a HOKLAS or other international accredited laboratory. Sufficient water samples of not less than 1 liter shall be collected at the monitoring stations for carrying out the laboratory 55 determinations.

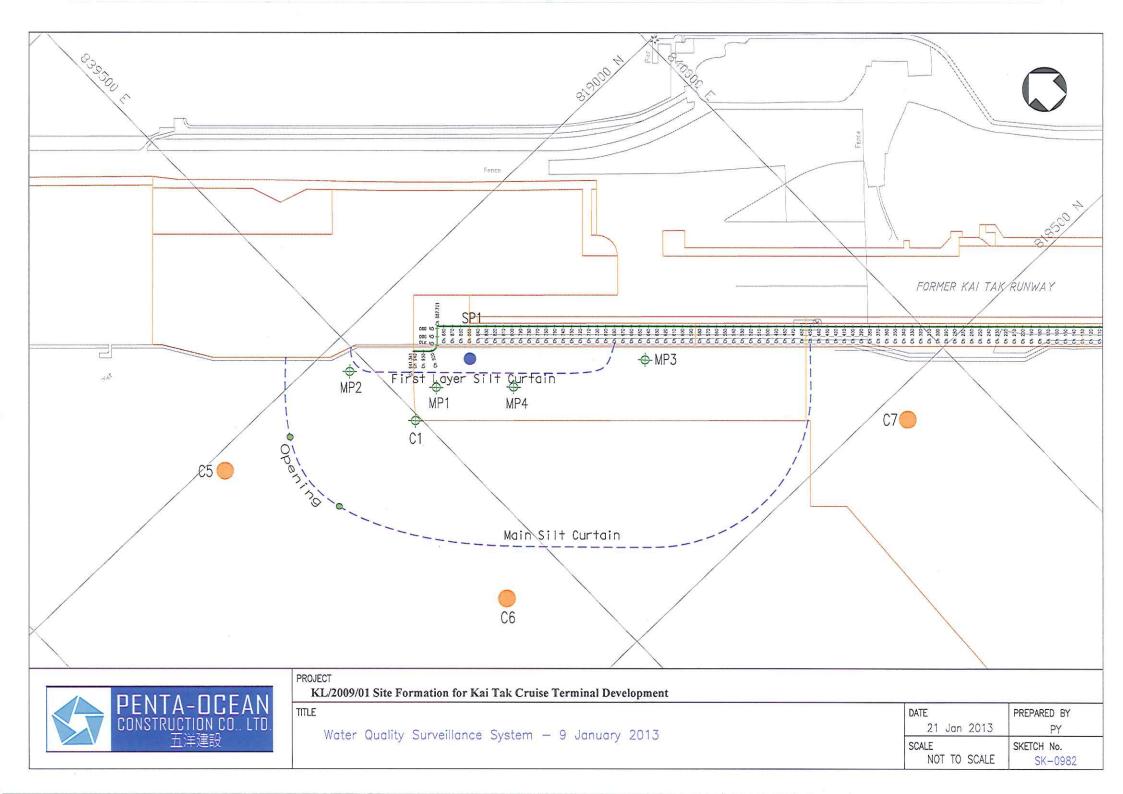
6. Requirements on the monitoring equipments and calibration shall be referred to Paragraph 4.7 "Monitoring Equipment" of the Environmental Monitoring and Audit Manual for the Dredging Works for Proposed Cruise Terminal at Kai Tak.

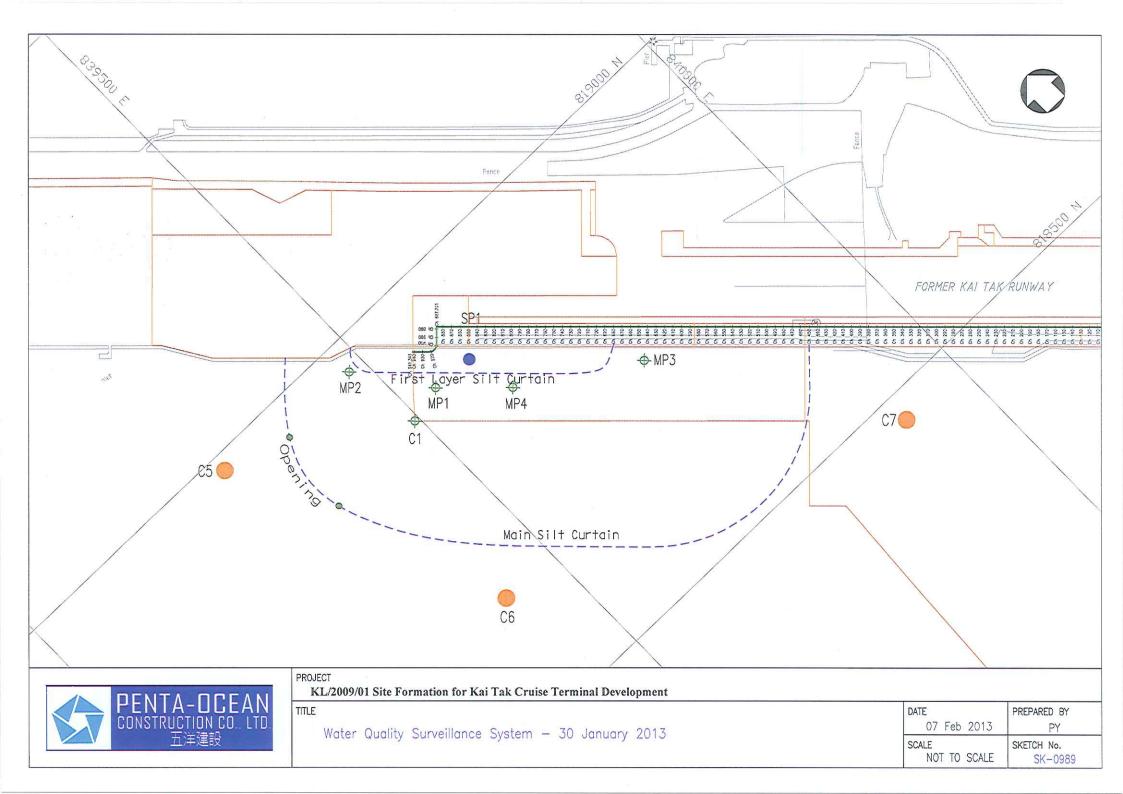
7. Laboratory analysis of the sampling data shall be carried out in a HOKLAS or other international accredited laboratory and follow the requirements as stated in Paragraph 4.8 "Laboratory Measurement/Analysis" of the Environmental Monitoring and Audit Manual for the Dredging Works for Proposed Cruise Terminal at Kal Tak. Monitoring data together with the report shall be reported to the Engineer and the IEC on monthly basis.

8. Other relevant data shall also be recorded including monitoring location/position, time, water depth, sampling depth, water temperature. tidal stages, weather conditions and any special phenomena or work underway nearby.

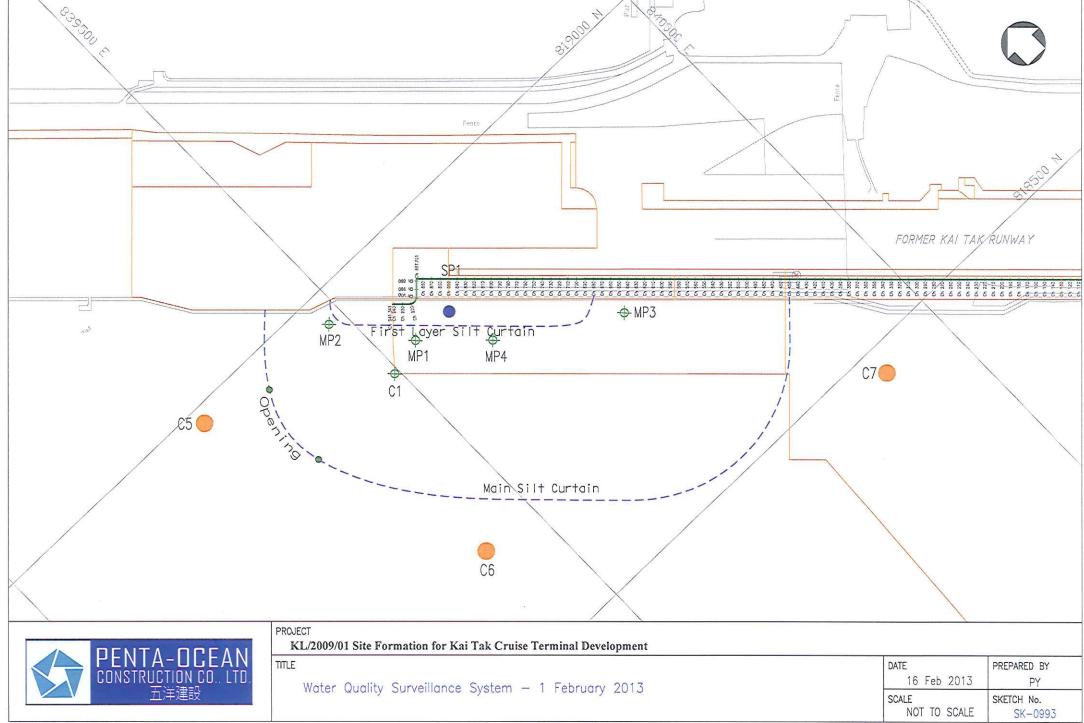


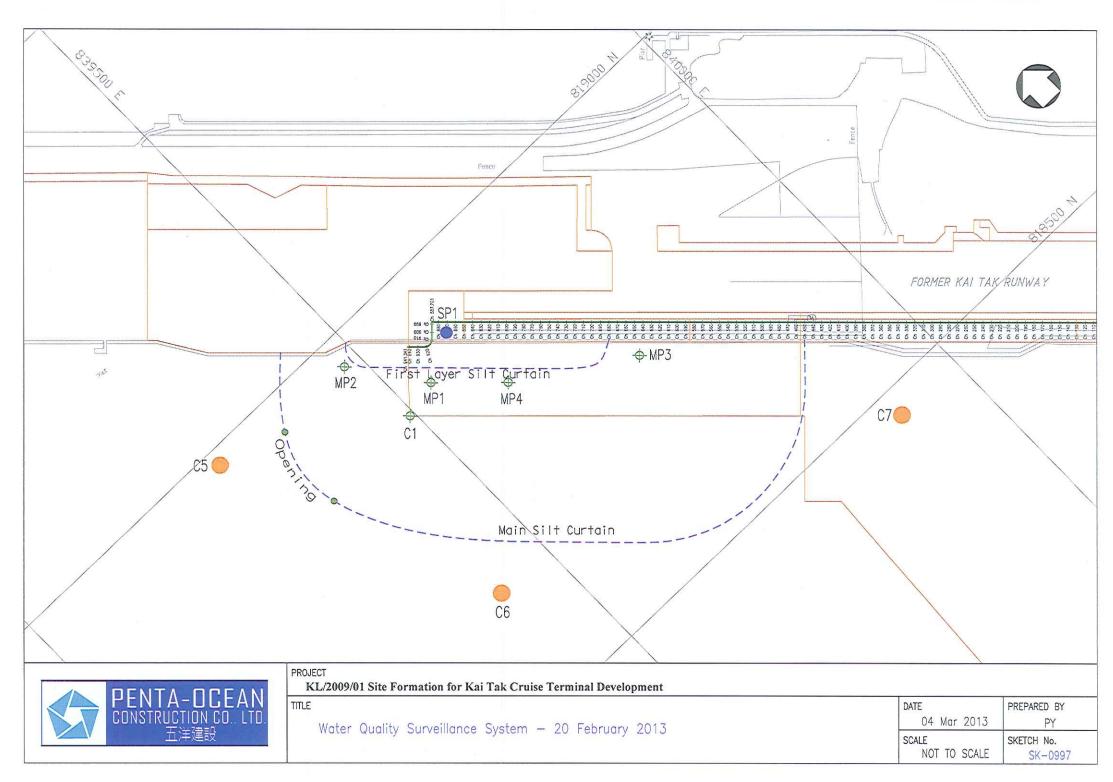














Appendix 2.1

Implementation Schedule of Environmental Mitigation Measures



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S3.6	Requirements of the Air Pollution Control (Construction Dust) Regulation shall be adhered to during the construction period.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	Air Pollution Control (Construction Dust) Regulation
S3.6	In order to minimize the potential odour emissions, if any, the dredged sediment placed on barge should be properly covered as far as practicable to minimise the exposed area and hence the potential odour emissions during the transportation of the dredged sediment.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM
S4.8	 Good Site Practices: Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Mobile plant, if any, should be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	NCO EIAO-TM



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S4.9	If there is any planned NSRs within 300m from the work area occupied during the dredging period, an EM&A programme is recommended to be established according to the predicted occurrence of noisy activities. All the recommended mitigation measures for daytime normal working activities should be incorporated into the EM&A programme for implementation during dredging.	Representative NSRs at the former Kai Tak Airport runway / Upon formal occupation	N/A	Not applicable	NCO EIAO-TM
S5.9	 Dredging will be carried out by closed grab dredger to minimize release of sediment and other contaminants during both capital and maintenance dredging. The maximum production rate for dredging from the seabed to provide necessary manoeuvring area would not be more than 4,000m³ per day (and no more than 2 closed grab dredgers) during capital dredging and 2,000m³ per day (and no more than 1 closed grab dredger) during maintenance dredging. The maximum production rate for dredging at or near the seawall area would not be more than 4,000m³ per day for berth construction. No more than two closed grab dredger would be operated at the same time at or near the seawall for berth construction. 	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM WPCO
S5.9	Silt curtains should be deployed around the closed grab dredgers used for dredging at and near the existing seawall of the former Kai Tak Airport runway for construction of the cruise berth structures.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Silt screens should be installed at the WSD flushing water intakes at Cha Kwo Ling, Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai and Tai Wan for dredging in the manoeuvring basin of the first berth during the capital dredging.	Seawater intakes in Victoria Harbour/ During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO
S5.9	Silt screens should be installed at the WSD flushing water intakes at Cha Kwo Ling, Quarry Bay and Tai Wan for dredging in the manoeuvring basin of the second berth during the capital dredging.	Seawater intakes in Victoria Harbour / During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO
S5.9	If the opening has been introduced at the northern runway, silt screens should also be installed at the WSD flushing water intake at Sai Wan Ho, Sheung Wan and Wan Chai for dredging in the manoeuvring basin of the second berth during the capital dredging.	Seawater intake at Sai Wan Ho, Sheung Wan and Wan Chai / During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	 Other good site practices that should be undertaken during dredging include: all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; all barges / dredgers should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation. 	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO, EIAO-TM, WPCO, WDO
S5.9	Appropriate numbers of portable chemical toilets shall be provided by a licensed contractor to serve the construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO, WDO



Contract No. KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Collection and removal of floating refuse should be performed at regular intervals on a daily basis. The contractor should be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish during the dredging works.	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO, WDO
S5.9	An environmental monitoring and audit programme should be implemented to verify whether or not impact predictions are representative, and to ensure that all the recommended mitigation measures are implemented properly. If the water quality monitoring data indicate that the proposed dredging works result in unacceptable water quality impacts in the receiving water, appropriate actions should be taken to review the dredging operation and additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works should be implemented as necessary.	6 selected WSD flushing water intakes in Victoria Harbour/ During dredging in construction stage	Environmental Team and verified by Independent Environmental Checker	Implemented	EIAO-TM, WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Silt screens are recommended to be deployed at 6 selected WSD flushing water intakes during the capital dredging. The contractor for capital dredging shall demonstrate and ensure that the design of the silt screen will not affect the normal operation of flushing water intake. The contractor shall obtain consensus from all relevant parties, including WSD and Marine Department on the design of the silt screen at each of the six selected flushing water intake points before installation of the silt screen and commencement of the proposed dredging works. As a mitigation measure to avoid the pollutant and refuse entrapment problems and to ensure that the impact monitoring results are representative, regular maintenance of the silt screens and refuse collection should be performed at the monitoring stations at regular intervals on a daily basis. The Contractor should be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.	6 selected WSD flushing water intakes in Victoria Harbour/ During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines															
S6.7	Good Site Practices It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the dredging activities include:	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM															
	 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. Training of site personnel in proper waste management and chemical waste handling 																			
	 procedures. Provision of sufficient waste disposal points and regular collection for disposal. 																			
	• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.																			
	• A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).																			
	• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.																			



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7 (cont.)	 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the workforce. Any unused chemicals or those with remaining functional capacity shall be recycled. 	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM
S6.7	Marine Sediments The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 – Open Sea Disposal. Contaminated sediment would require either Type 1 – Open Sea Disposal (Dedicated Sites) or Type 2 - Confined Marine Disposal and must be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the East Sha Chau Contaminated Mud Pits that are designated for the disposal of contaminated mud in Hong Kong.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	ETWB TCW No. 34/2002



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	It will be the responsibility of the Contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works shall apply for the allocation of marine sediment disposal sites from all relevant authorities.	Work site / During dredging in construction stage	Contractor for capital dredging	Dumping Permits were issued by EPD	ETWB TCW No. 34/2002
S6.7	 During transportation and disposal of the dredged marine sediments requiring Type 1 and Type 2 disposal, the following measures shall be taken to minimise potential impacts on water quality: Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation. 	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	WDO; WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	Chemical Wastes After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.7	General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	WDO, WPCO



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	Construction and Demolition Material It is recommended that the extent of dredging of the existing seawall should be kept to a minimum in the detailed design of the new cruise terminal to minimize generation of C&D material. Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: • Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. • Skip hoist for material transport should be totally enclosed by impervious sheeting. • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	Work site / During the construction period	Contractor for capital dredging	Implemented	ETWB TCW No. 33/2002, 31/2004, 19/2005
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				



EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7 (cont.)	 The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. 	Work site / During the construction period	Contractor for capital dredging	Implemented	ETWB TCW No. 33/2002, 31/2004, 19/2005
	 The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. 				
S6.7	When delivering inert C&D material to public fill reception facilities, the material shall consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by the Contractor under the Waste Management Plan certified by the Environmental Team and verified by the Independent Environmental Checker who should be responsible for auditing the results of the system.	Work site / During the construction period	Contractor for capital dredging, Engineer, Environmental Team and Independent Environmental Checker	Not applicable	ETWB TCW No. 31/2004



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S7.8	The dredging activities of the proposed cruise terminal should ensure that disturbance to the existing seawall masonry outside the Project boundary should be avoided as far as practicable.	Work site/ During construction of cruise terminal	Contractor for capital dredging as per CEDD's advice	Implemented	Antiquities and Monuments Ordinance EIAO, EIAO-TM Guidance Notes on Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies (GN-CH) Hong Kong Planning Standards and Guidelines (HKPSG)
S7.10, App. 7.1	It is recommended that the dredged spoil should be monitored for the presence of archaeological material. Guidelines for the monitoring brief have been prepared in consultation with the AMO. A qualified marine archaeologist needs to be on standby to provide specialist advice, if required, but the monitoring can be carried out by a member of staff on the dredging barge.	Work site / during dredging in construction stage	Contractor for capital dredging, Environmental Team	Implemented	Antiquities and Monuments Ordinance EIAO, EIAO-TM GN-CH HKPSG Marine Archaeological Investigation Guidelines



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
8.7	Translocate those existing coral colonies attached on boulders that are manually movable by a diver underwater (possibly longest dimension of less than 50cm) located within the hard substrata sea area within the dredging site as far as practicable prior to the commencement of the capital dredging activities. The entire translocation exercise include the preparation of a detailed translocation plan, the pre- translocation coral survey, the coral translocation, and the quarterly post-translocation monitoring for one year. Pre-translocation survey would be focused on identifying and mapping of coral colonies that would be directly impacted by the proposed dredging and investigating the translocation feasibility of these coral colonies. A detailed translocation plan (including pre- translocation coral survey, translocation methodology and monitoring of transplanted corals) should be prepared during the detailed design stage of the Project which, together with the ecologist involved in coral translocation, should be approved by AFCD prior to commencement of the translocation exercises. The proposed relocation of the coral colonies should not affect any private/public marine rights at the recipient site.	Along the section of the former Kai Tak Airport runway that will be directed affected by the cruise terminal construction / During detailed design stage	Other ET specifically employed for coral translocation works	Final Detailed Coral Translocation Plan was approved by EPD in letter ref. (18) in EP2/K19/C/19 Pt.5 dated 5 June 2009. Form 5 was submitted under CEDD's memo ref. (6) in KD 2/31/4 Pt.3 dated 10 June 2009 regarding minor alteration of the position of the coral recipient site. Coral Translocation Report was submitted in Scott Wilson letter ref. 08290/325723 dated 2 July 2009. Post-translocation report shall be referred to the submissions by another ET specifically employed for coral translocation works.	EIAO-TM



EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S8.7	New seawalls at the berth structure of the cruise terminal shall be constructed in order to provide large area of hard substrata for settlement and recruitment of intertidal and subtidal assemblages similar to those previously recorded from existing habitats.	The section of the former Kai Tak Airport runway that will be directed affected by the cruise terminal construction / During detailed design stage	To be confirmed at later stage	To be confirmed at later stage	EIAO-TM
9.6	No fisheries-specific mitigation measures would be required.	-	Not applicable	Not applicable	-



Appendix 3.1

Action and Limit Levels



Action and Limit Levels

Action and Limit Levels for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)

Remarks: No noise monitoring was conducted due to no planned noise sensitive receivers (NSRs) occupied within 300m from the works area of this Project during the dredging works.

Action and Limit Levels for Water Monitoring

Parameters	Action L	evel		Limit Le	vel	
Turbidity in NTU		All Sease	on		All Sease	<u>on</u>
	WSD9	5.67	,	WSD9	12.27	
	WSD10	6.26	5	WSD10	10.47	
	WSD15	8.15	5	WSD15	14.41	
	WSD17	11.60)	WSD17	16.91	
	WSD21	9.11		WSD21	15.38	
	WSD19	13.09)	WSD19	15.34	
Suspended Solids		Dry Season	Wet Season		Dry Season	Wet Season
(SS) in mg/L	WSD9	6.9	9.7	WSD9	7.8	10.9
	WSD10	7.7	9.1	WSD10	10.3	12.2
	WSD15	7.8	13.5	WSD15	8.4	14.5
	WSD17	9.5	11.2	WSD17	13.7	16.2
	WSD21	13.3	17.1	WSD21	13.9	17.8
	WSD19	16.3	15.1	WSD19	17.0	15.7

Remarks:

Wet season is the period from April to September.

Dry season is the period from October to March.

Revised Action and Limit Levels for Water Monitoring

Station	Turbidity (NTU)				Suspended Solid (mg/L)			
	Action Level for Limit Level individual stations					Limit Level for individual stations		
	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season
WSD9	5.6	7.0	10.6	13.4	10.2	12.8	10.8	13.5
WSD10	6.3	8.1	9.4	12.1	10.0	11.2	11.8	13.2
WSD15	7.5	11.9	12.5	19.6	10.8	17.5	11.8	19.1



Station	Turbidity (NTU)				Suspended Solid (mg/L)				
			Limit Level individual s				Limit Level individual s	it Level for vidual stations	
	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	
WSD17	10.0	12.9	15.3	19.7	13.2	14.7	15.3	17.0	
WSD19	10.9	13.7	14.7	18.4	14.0	13.3	17.0	16.2	
WSD21	8.9	11.6	13.4	17.6	13.3	16.7	14.0	17.5	

Remarks:

Revised Action and Limit Levels for water monitoring was approved on 19 October 2011.

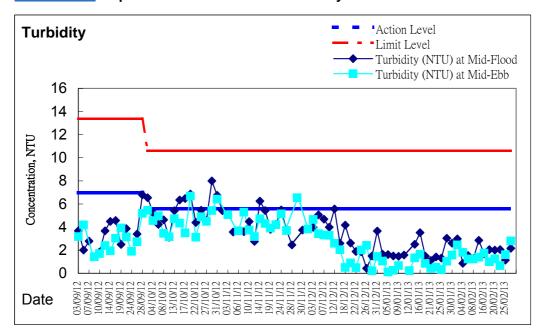


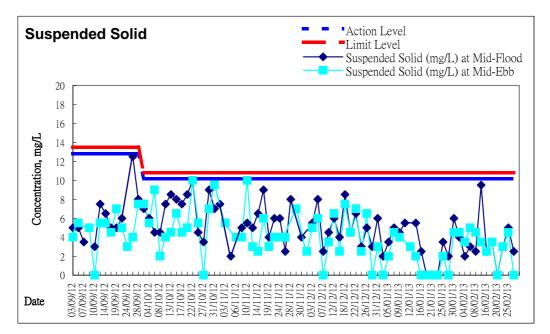
Appendix 4.1

Graphical Presentation of Water Quality Monitoring Results

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Graphic Presentation of Water Quality Result of WSD9 - Tai Wan



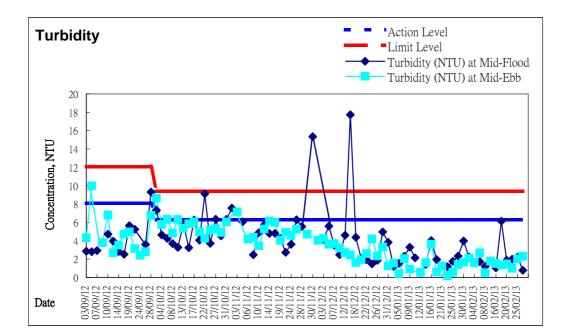


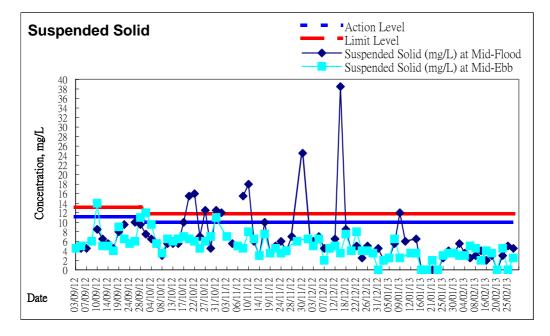
Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD10 - Cha Kwo Ling





Remarks:

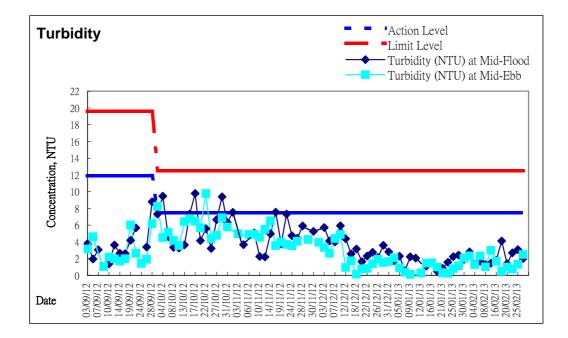
am

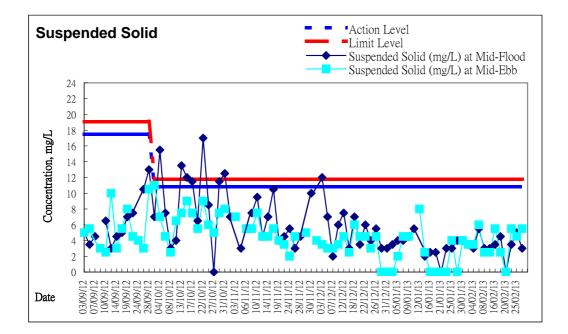
- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).



Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho





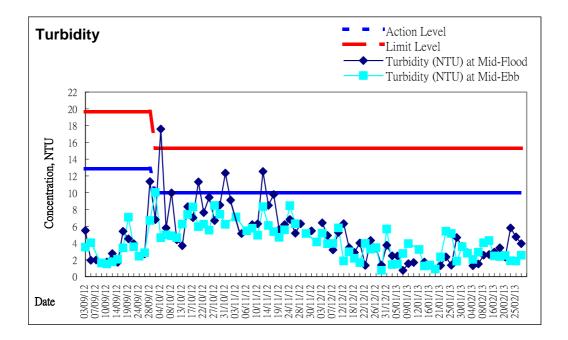
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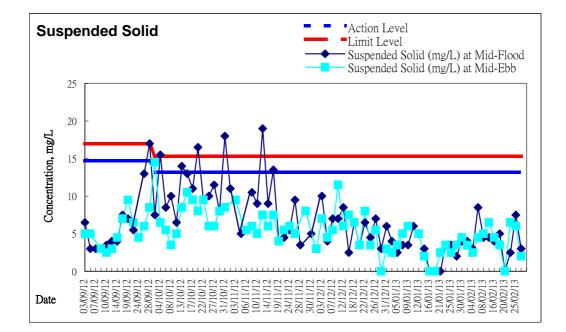
- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).



Graphic Presentation of Water Quality Result of WSD17 - Quarry Bay





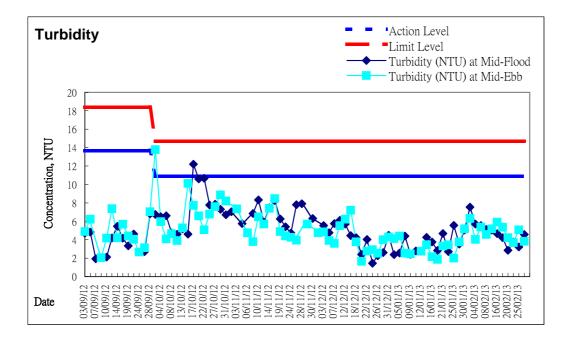
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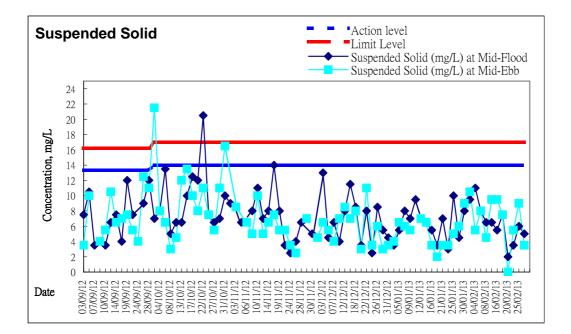
- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).



Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan



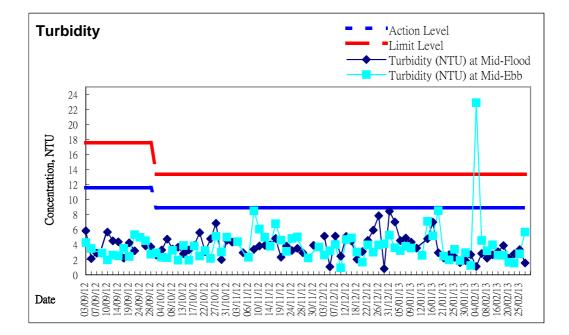


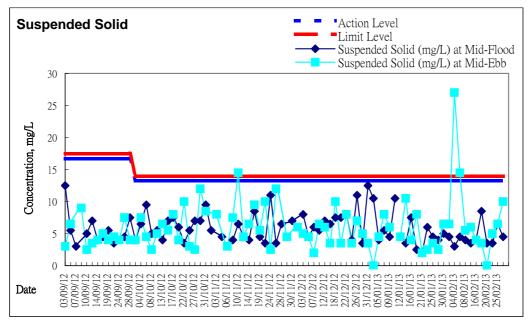
Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).







Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March)

and wet season (the period from April to September).



Appendix 4.2

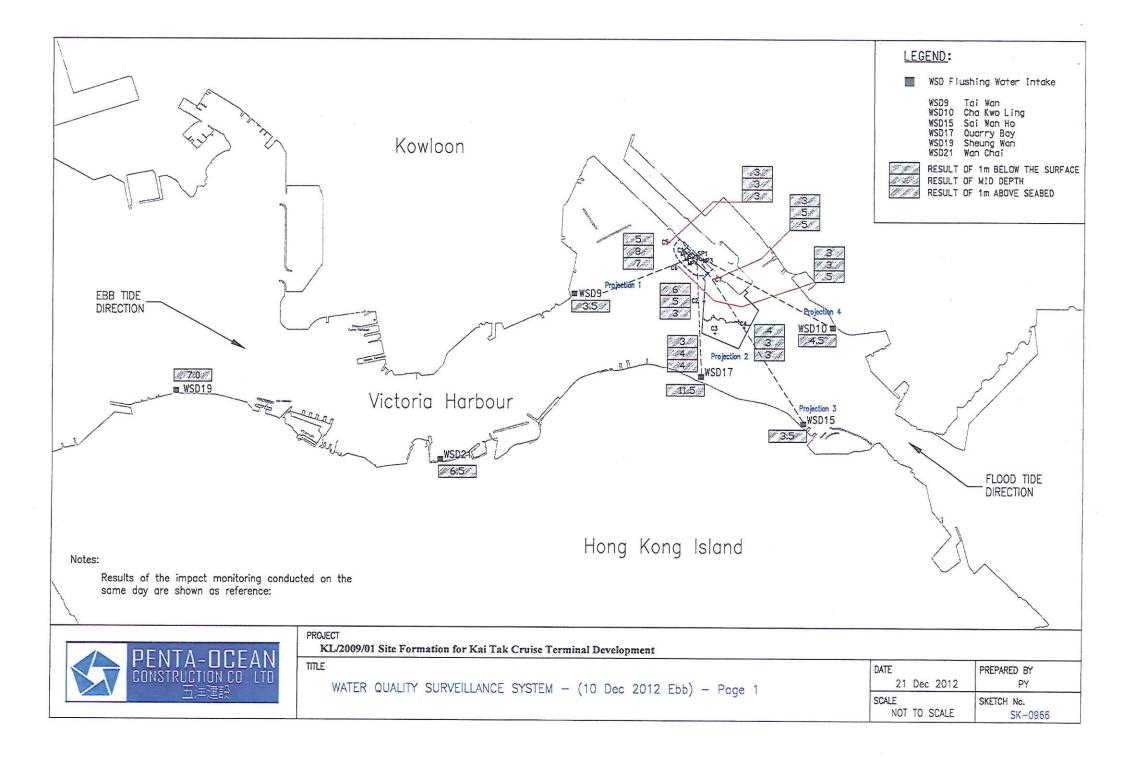
Graphical Presentation of Water Quality Surveillance

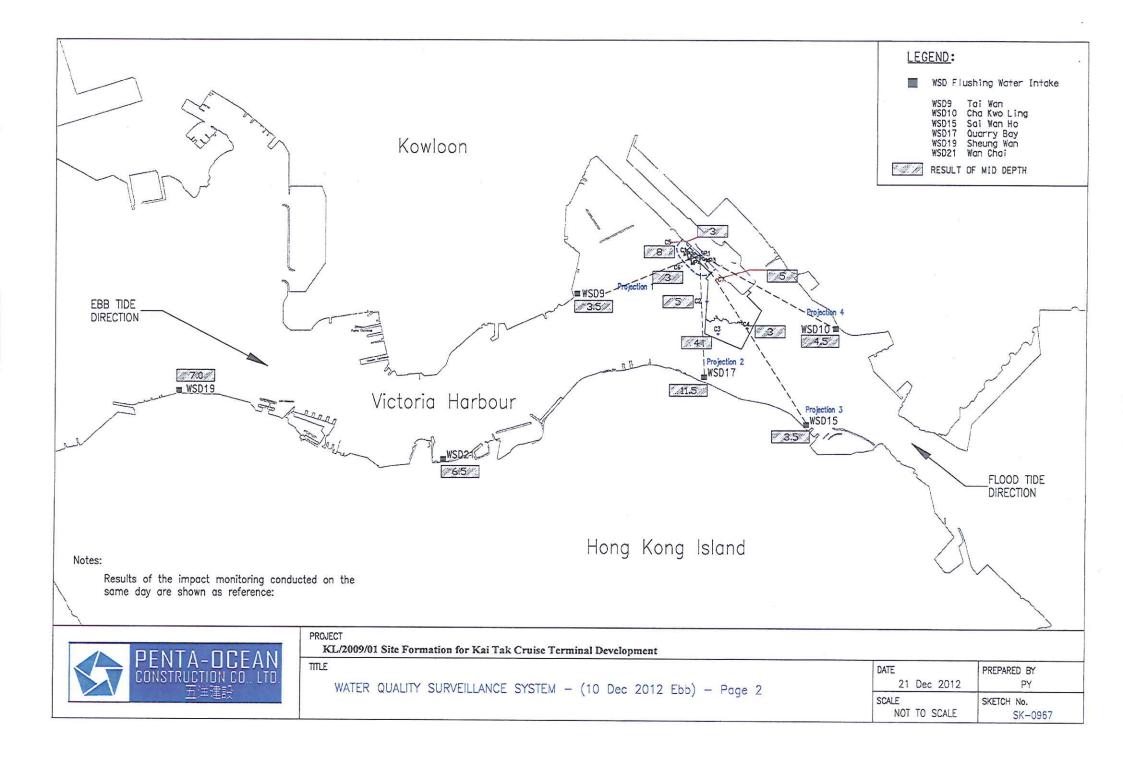
Monitoring Location		Turbidity in NTU	Compare to Trigger Level	Suspended Solids in mg/L	Compare to Trigger Level
	1m below the surface	5.12	N/A	6	N/A
SP1	mid depth	3.24	N/A	5	N/A
	1m above the seabed	3.35	N/A	5	N/A
	1m below the surface	2.34	N/A	5	N/A
MP1	mid depth	2.00	N/A	3	N/A
	1m above the seabed	2.27	N/A	4	N/A
	1m below the surface	3.50	N/A	4	N/A
MP2	mid depth	3.12	N/A	4	N/A
	1m above the seabed	2.49	N/A	3	N/A
	1m below the surface	2.73	N/A	3	N/A
MP3	mid depth	3.28	N/A	4	N/A
	1m above the seabed	2.85	N/A	5	N/A
	1m below the surface	3.70	N/A	3	N/A
MP4	mid depth	3.61	N/A	5	N/A
	1m above the seabed	4.47	N/A	7	N/A
	1m below the surface	4.12	Lower	5	Lower
C1	mid depth	4.36	Lower	8	Lower
	1m above the seabed	4.42	Lower	7	Lower
	1m below the surface	4.54	Lower	6	Lower
C2	mid depth	4.33	Lower	5	Lower
	1m above the seabed	4.15	Lower	3	Lower
	1m below the surface	3.05	Lower	3	Lower
C3	mid depth	3.38	Lower	4	Lower
	1m above the seabed	3.05	Lower	4	Lower
	1m below the surface	3.87	Lower	4	Lower
C4	mid depth	3.20	Lower	3	Lower
	1m above the seabed	3.17	Lower	3	Lower
	1m below the surface	3.89	N/A	3	N/A
C5	mid depth	4.87	N/A	3	N/A
	1m above the seabed	3.60	N/A	3	N/A
	1m below the surface	3.68	N/A	3	N/A
C6	mid depth	3.67	N/A	3	N/A
	1m above the seabed	4.31	N/A	5	N/A
	1m below the surface	3.42	N/A	3	N/A
C7	mid depth	3.12	N/A	5	N/A
	1m above the seabed	3.27	N/A	5	N/A

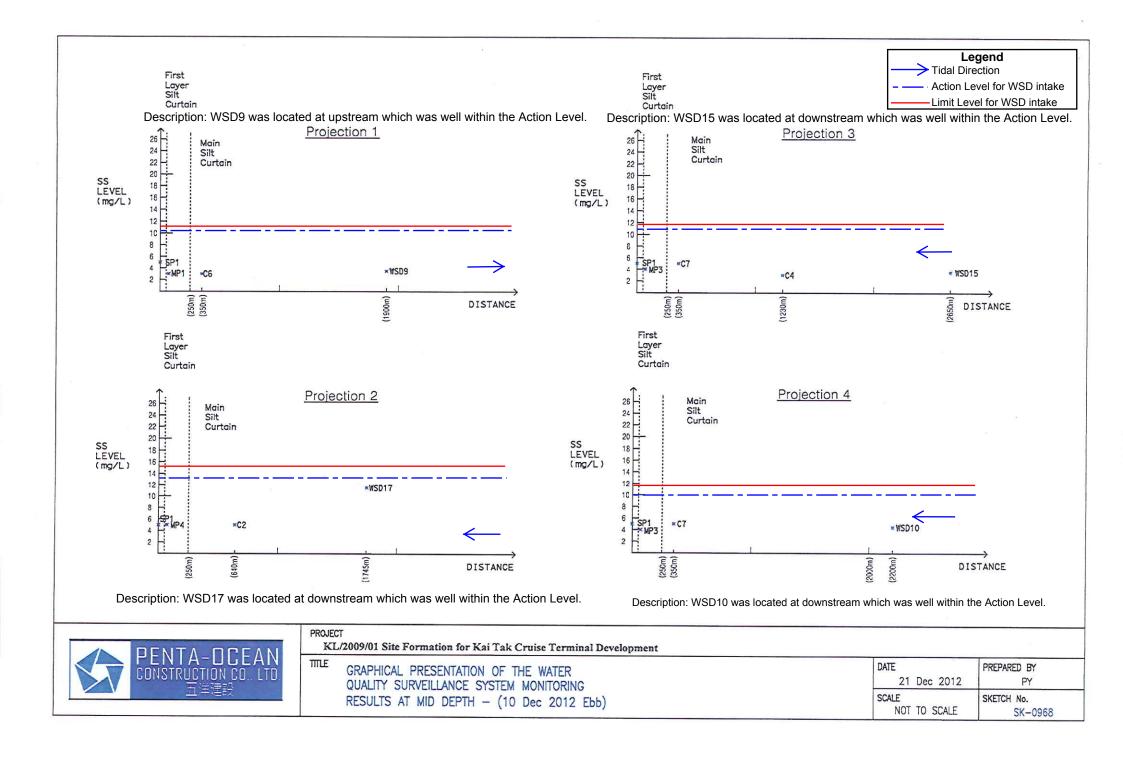
Water Quality Surveillance System Monitoring Results - 10 December 2012 (Ebb Tide)

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Control Point	Trigger Level for Turbidity in NTU for All Season	Trigger Level for SS in mg/L for Dry Season (October - March)		
C1	12.3 for Flood Tide			
C2	12.3 for Flood Tide	14.0		
C3	16.9	14.0		
C4	10.5 for Ebb Tide			



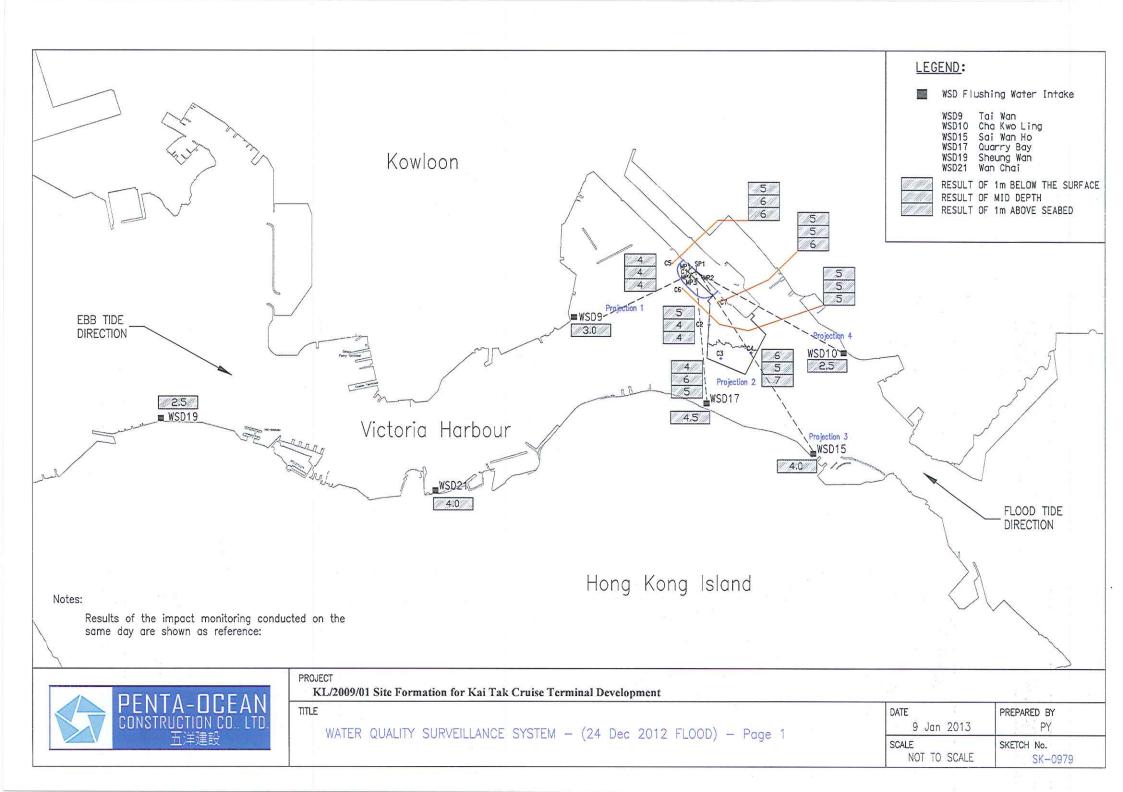


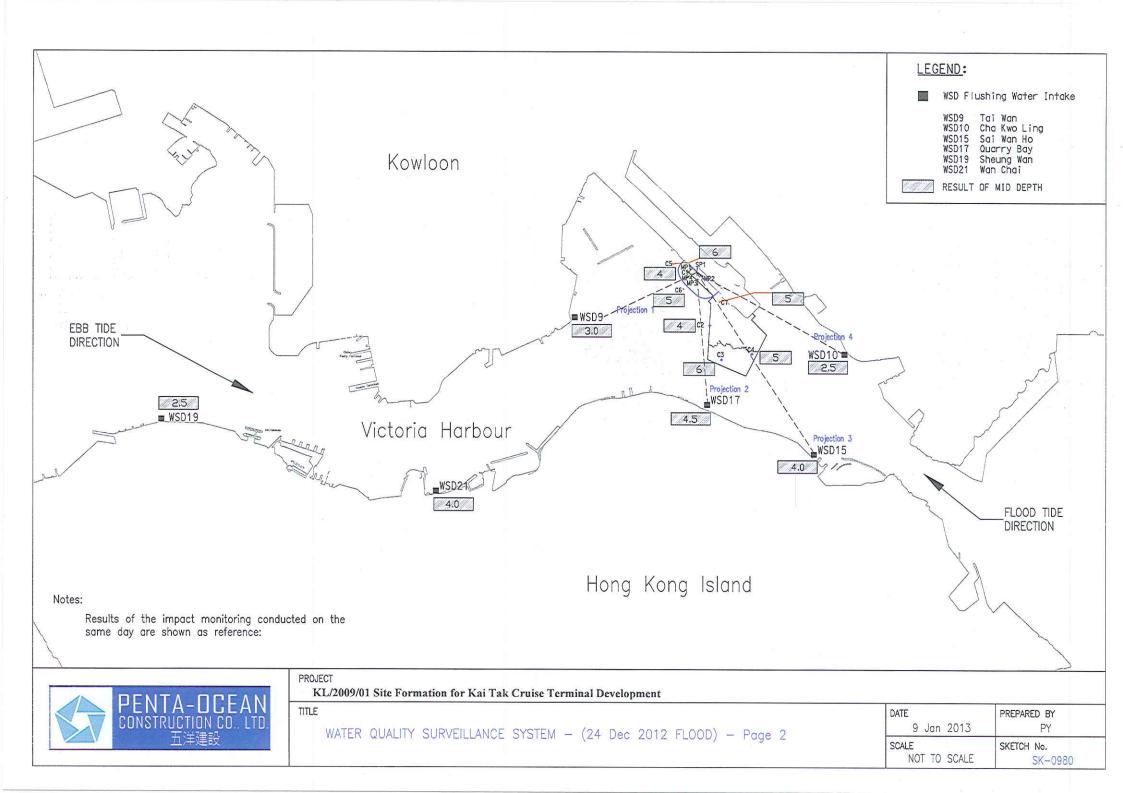


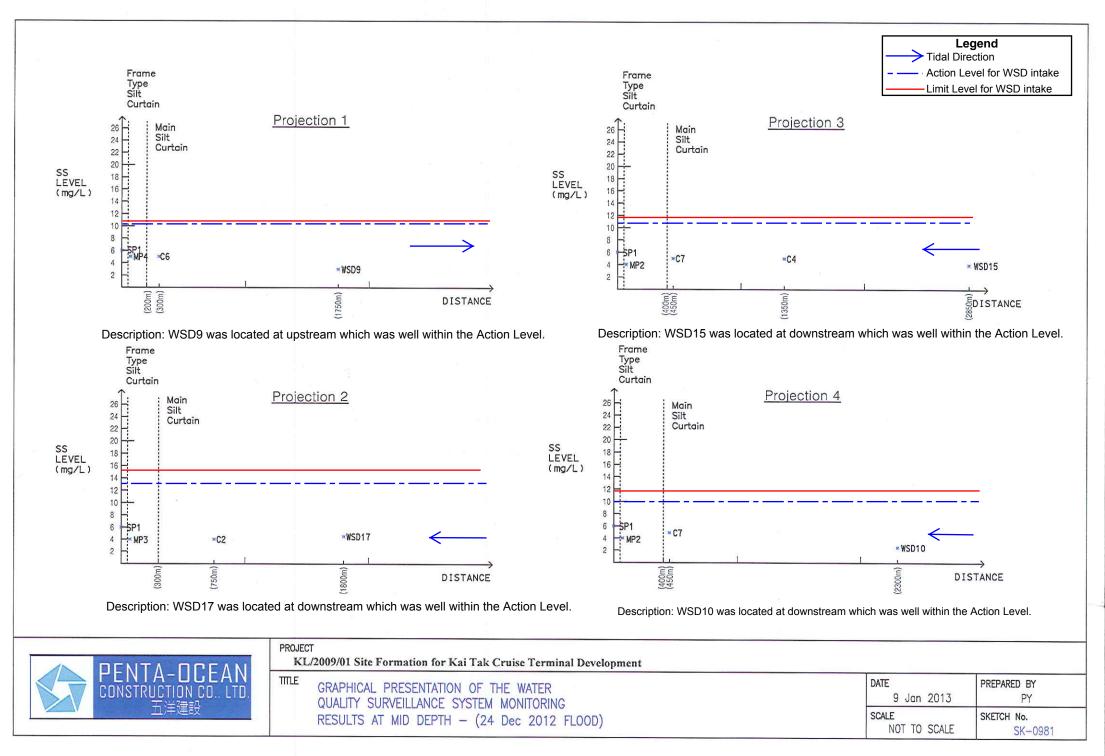
Water Quality Surveillance System Monitoring Results - 24 December 2012 (Flood Tide)

Monitoring Location		Turbidity in	Compare to	Suspended	Compare to
		NTU	Trigger Level	Solids in mg/L	Trigger Leve
	1m below the surface	3.97	N/A	6	N/A
SP1	mid depth	3.10	N/A	6	N/A
74	1m above the seabed	3.48	N/A	7	N/A
	1m below the surface	0.82	N/A	8	N/A
MP1	mid depth	0.98	N/A	9	N/A
	1m above the seabed	0.76	N/A	8	N/A
	1m below the surface	0.43	N/A	4	N/A
MP2	mid depth	0.48	N/A	4	N/A
	1m above the seabed	0.39	N/A	4	N/A
	1m below the surface	0.31	N/A	4	N/A
MP3	mid depth	0.69	N/A	4	N/A
	1m above the seabed	0.81	N/A	4	N/A
	1m below the surface	0.73	N/A	4	N/A
MP4	mid depth	0.51	N/A	5	N/A
	1m above the seabed	0.52	N/A	4	N/A
	1m below the surface	0.26	Lower	4	Lower
C1	mid depth	0.58	Lower	4	Lower
	1m above the seabed	0.34	Lower	4	Lower
	1m below the surface	0.48	Lower	5	Lower
C2	mid depth	0.58	Lower	4	Lower
	1m above the seabed	0.41	Lower	4	Lower
	1m below the surface	0.42	Lower	4	Lower
C3	mid depth	0.23	Lower	6	Lower
	1m above the seabed	0.45	Lower	5	Lower
	1m below the surface	0.96	Lower	6	Lower
C4	mid depth	0.80	Lower	5	Lower
	1m above the seabed	0.65	Lower	7	Lower
	1m below the surface	0.07	N/A	5	N/A
C5	mid depth	0.04	N/A	6	N/A
	1m above the seabed	0.46	N/A	6	N/A
	1m below the surface	0.45	N/A	5	N/A
C6	mid depth	0.20	N/A	5	N/A
	1m above the seabed	0.38	N/A	5	N/A
	1m below the surface	0.62	N/A	5	N/A
C7	mid depth	0.05	N/A	5	N/A
	1m above the seabed	0.59	N/A	6	N/A

Control Point	Trigger Level for Turbidity in NTU for All Season	Trigger Level for SS in mg/L for Dry Season (October - March)
C1	12.3 for Flood Tide	
C2	12.3 for Flood Tide	14.0
C3	16.9	- 14.0
C4	10.5 for Ebb Tide	



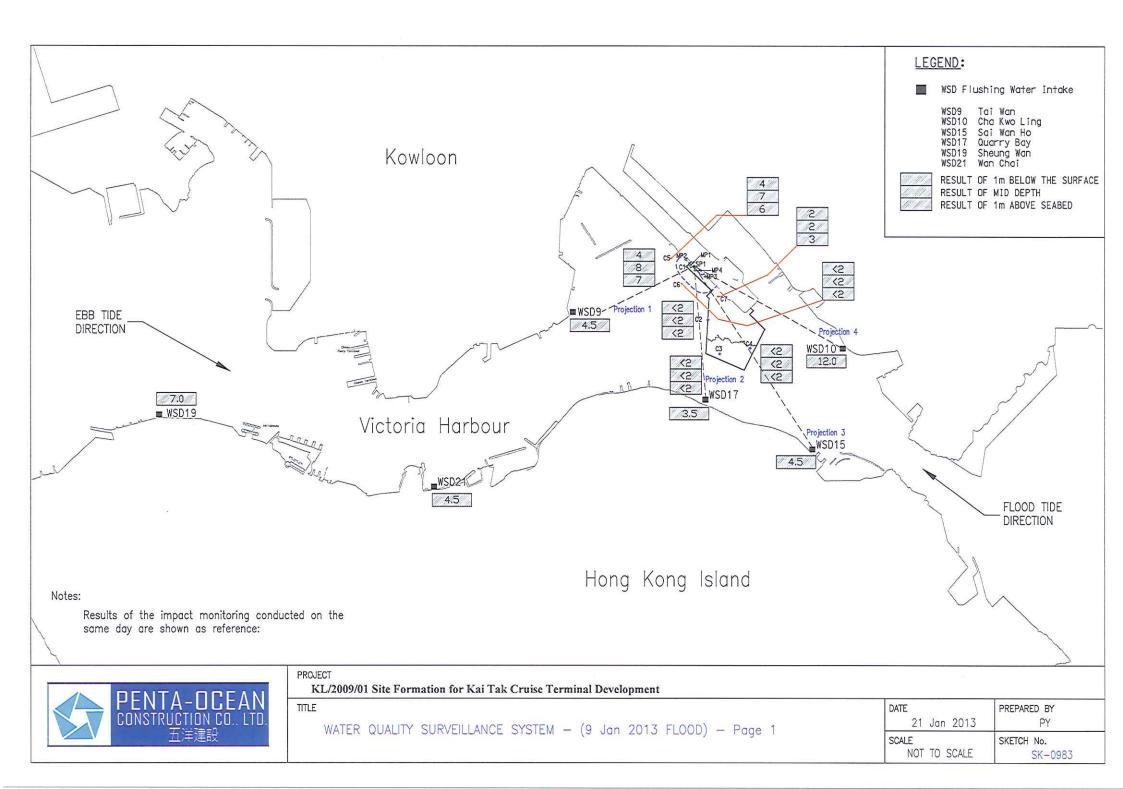


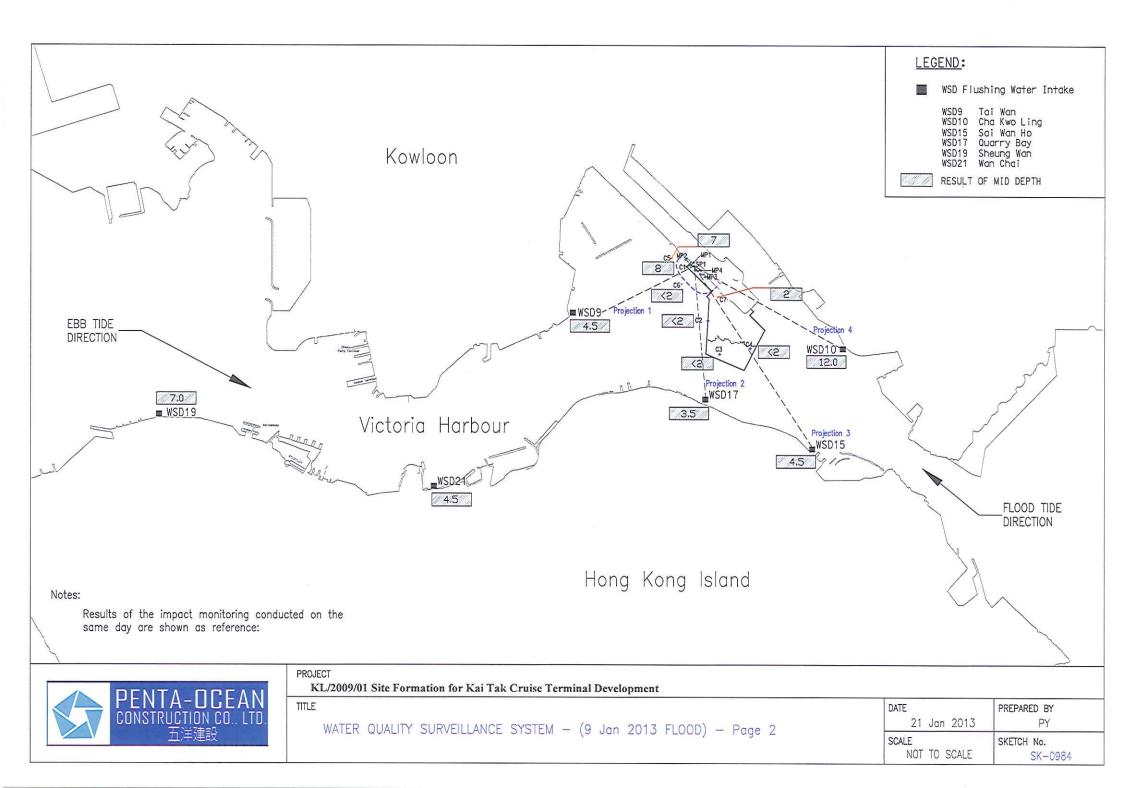


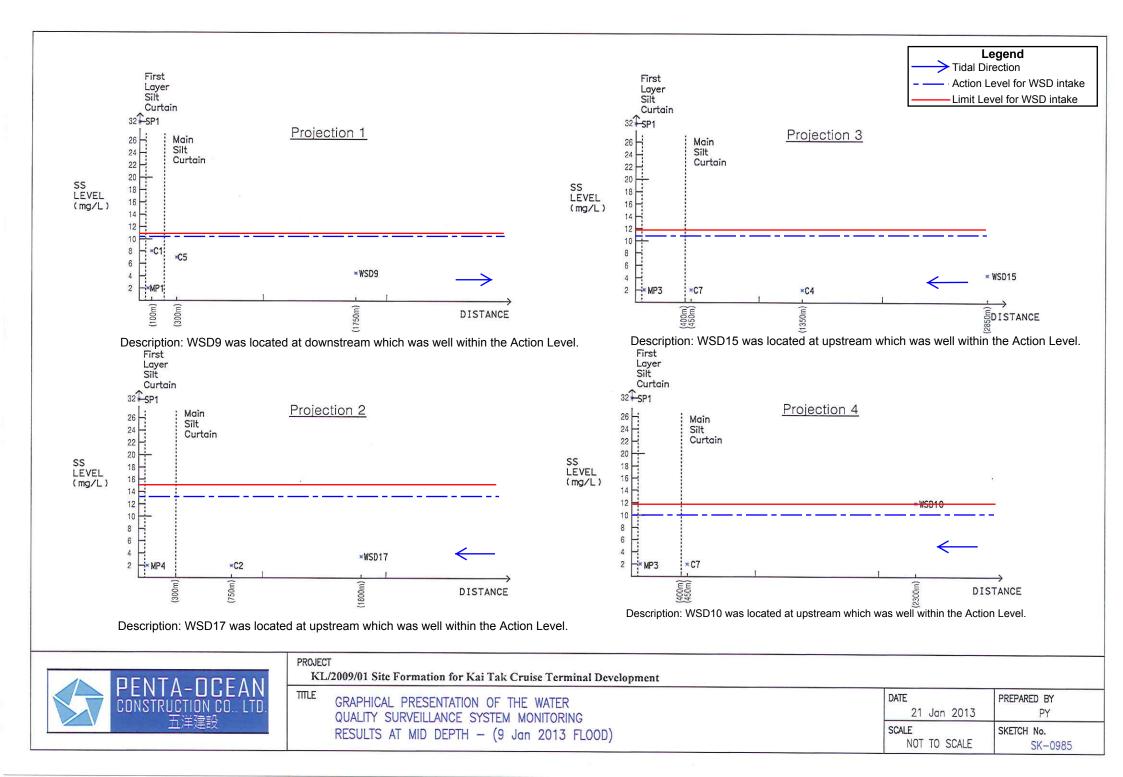
Water Quality Surveillance System Monitoring Results - 9 January 2013 (Flood Tide)

Мо	nitoring Location	Turbidity in	Compare to	Suspended	Compare to
		NTU	Trigger Level	Solids in mg/L	Trigger Level
0.0.1	1m below the surface	4.60	N/A	7	N/A
SP1	mid depth	7.78	N/A	32	N/A
	1m above the seabed	6.25	N/A	26	N/A
	1m below the surface	0.23	N/A	2	N/A
MP1	mid depth	0.17	N/A	2	N/A
	1m above the seabed	0.12	N/A	2	N/A
	1m below the surface	0.20	N/A	<2	N/A
MP2	mid depth	0.31	N/A	<2	N/A
	1m above the seabed	0.17	N/A	6	N/A
	1m below the surface	0.85	N/A	2	N/A
MP3	mid depth	0.27	N/A	2	N/A
	1m above the seabed	0.27	N/A	2	N/A
	1m below the surface	0.11	N/A	<2	N/A
MP4	mid depth	0.16	N/A	<2	N/A
	1m above the seabed	0.12	N/A	<2	N/A
	1m below the surface	1.89	Lower	4	Lower
C1	mid depth	4.33	Lower	8	Lower
	1m above the seabed	5.27	Lower	7	Lower
	1m below the surface	0.07	Lower	<2	Lower
C2	mid depth	0.05	Lower	<2	Lower
	1m above the seabed	0.12	Lower	<2	Lower
	1m below the surface	0.16	Lower	<2	Lower
C3	mid depth	0.08	Lower	<2	Lower
	1m above the seabed	0.15	Lower	<2	Lower
	1m below the surface	0.27	Lower	<2	Lower
C4	mid depth	0.25	Lower	<2	Lower
	1m above the seabed	0.36	Lower	<2	Lower
	1m below the surface	2.67	N/A	4	N/A
C5	mid depth	4.96	N/A	7	N/A
	1m above the seabed	5.21	N/A	6	N/A
	1m below the surface	0.06	N/A	<2	N/A
C6	mid depth	0.19	N/A	<2	N/A
00	1m above the seabed	0.17	N/A N/A	<2	N/A N/A
	1m below the surface	0.17	N/A N/A	2	N/A
C7	mid depth	0.20	N/A N/A	2	N/A N/A
07	1m above the seabed	0.56	N/A N/A	3	N/A

Control Point	Trigger Level for Turbidity in NTU for All Season	Trigger Level for SS in mg/L for Dry Season (October - March)
C1	12.3 for Flood Tide	- 14.0
C2	12.3 for Flood Tide	
C3	16.9	
C4	10.5 for Ebb Tide	



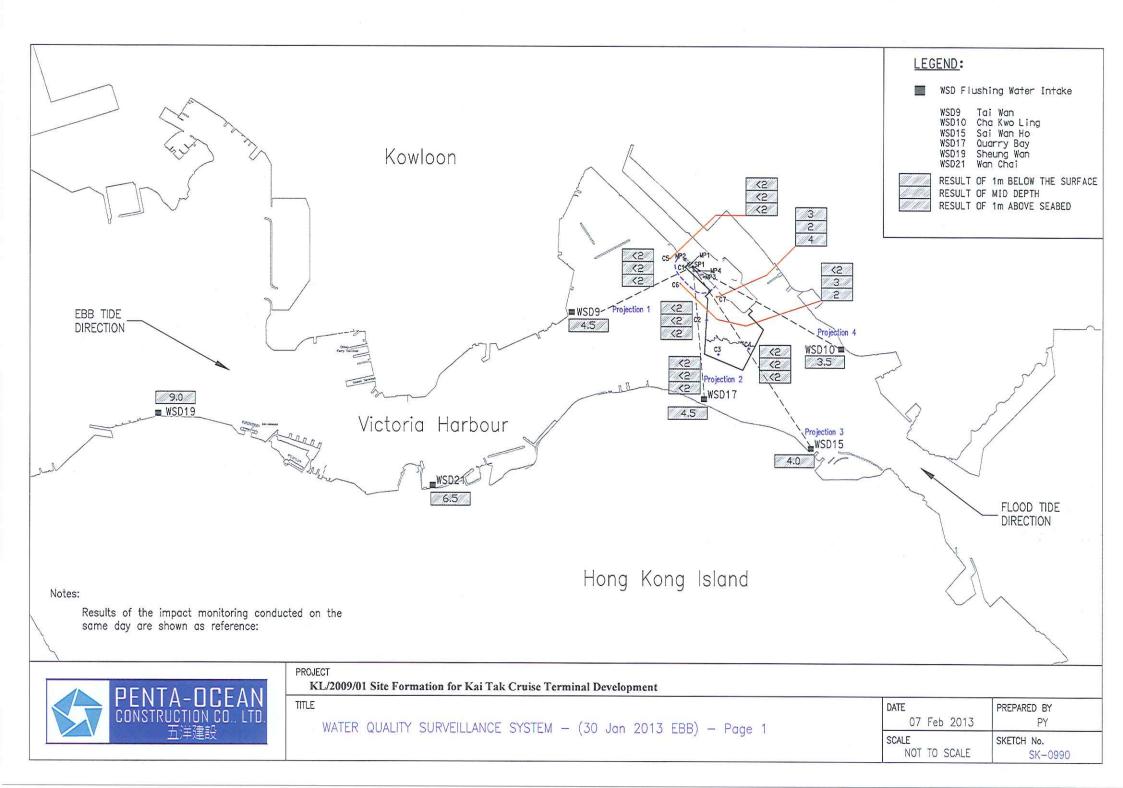


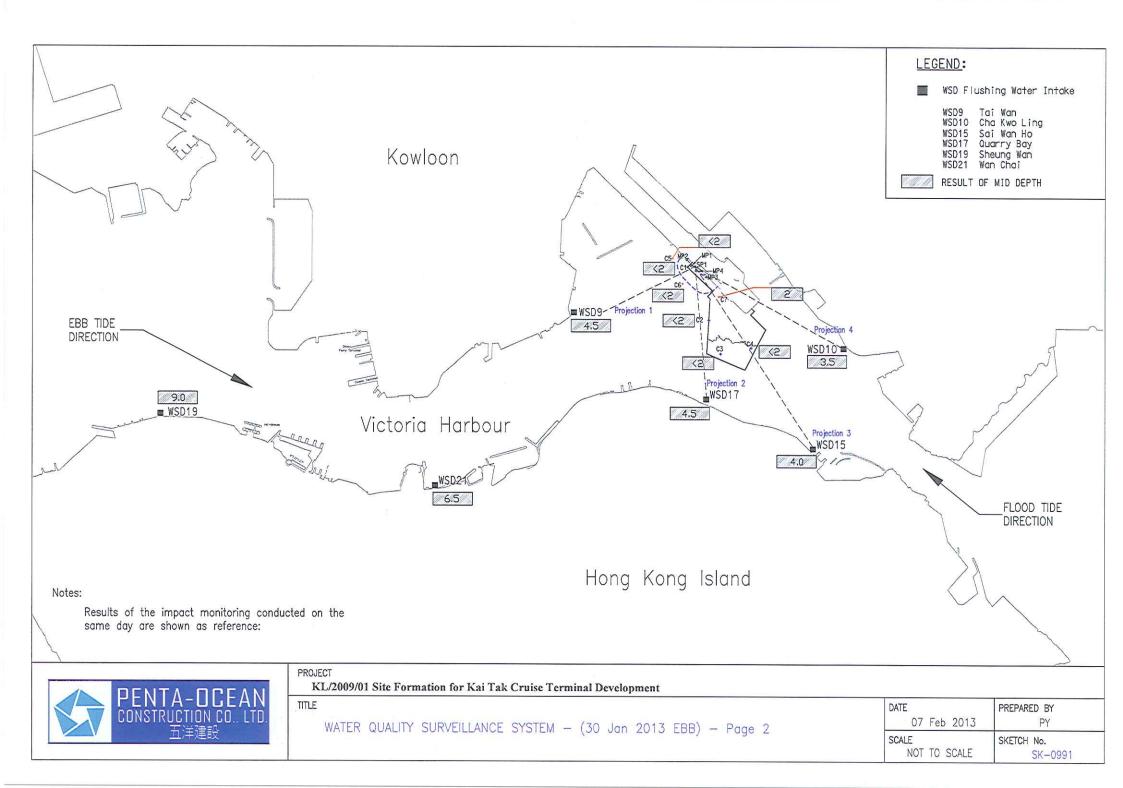


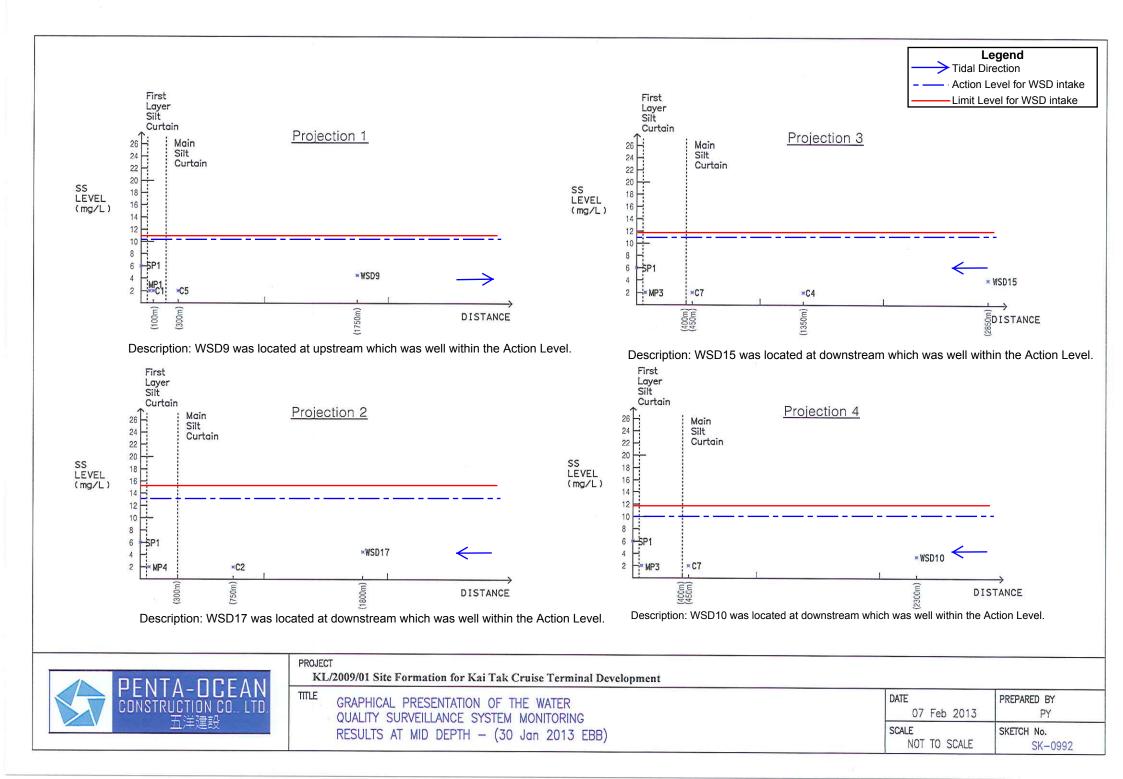
Water Quality Surveillance System Monitoring Results - 30 January 2013 (Ebb Tide)

Mo	nitoring Location	Turbidity in	Compare to	Suspended	Compare to
		NTU	Trigger Level	Solids in mg/L	Trigger Level
	1m below the surface	7.53	N/A	8	N/A
SP1	mid depth	8.53	N/A	6	N/A
	1m above the seabed	9.51	N/A	6	N/A
	1m below the surface	0.74	N/A	<2	N/A
MP1	mid depth	0.63	N/A	<2	N/A
	1m above the seabed	0.14	N/A	<2	N/A
	1m below the surface	0.11	N/A	<2	N/A
MP2	mid depth	0.07	N/A	<2	N/A
1011 2	1m above the seabed	0.34	N/A	<2	N/A
	1m below the surface	0.43	N/A	<2	N/A
MP3	mid depth	0.49	N/A	<2	N/A
	1m above the seabed	0.69	N/A	<2	N/A
	1m below the surface	1.30	N/A	<2	N/A
MP4	mid depth	0.59	N/A	<2	N/A
	1m above the seabed	0.31	N/A	<2	N/A
	1m below the surface	0.69	Lower	<2	Lower
C1	mid depth	0.84	Lower	<2	Lower
	1m above the seabed	0.69	Lower	<2	Lower
	1m below the surface	0.25	Lower	<2	Lower
C2	mid depth	0.53	Lower	<2	Lower
	1m above the seabed	0.18	Lower	<2	Lower
	1m below the surface	0.41	Lower	<2	Lower
C3	mid depth	0.55	Lower	<2	Lower
	1m above the seabed	1.00	Lower	<2	Lower
	1m below the surface	0.12	Lower	<2	Lower
C4	mid depth	0.16	Lower	<2	Lower
	1m above the seabed	0.23	Lower	<2	Lower
	1m below the surface	0.80	N/A	<2	N/A
C5	mid depth	0.38	N/A	<2	N/A
	1m above the seabed	0.36	N/A	<2	N/A
-	1m below the surface	0.11	N/A	<2	N/A
C6	mid depth	0.07	N/A	3	N/A
	1m above the seabed	0.34	N/A	2	N/A
	1m below the surface	1.81	N/A	3	N/A
C7	mid depth	0.74	N/A	2	N/A
	1m above the seabed	0.90	N/A	4	N/A

Control Point	Trigger Level for Turbidity in NTU for All Season	Trigger Level for SS in mg/L for Dry Season (October - March)
C1	12.3 for Flood Tide	
C2	12.3 for Flood Tide	14.0
C3	16.9	- 14.0
C4	10.5 for Ebb Tide	



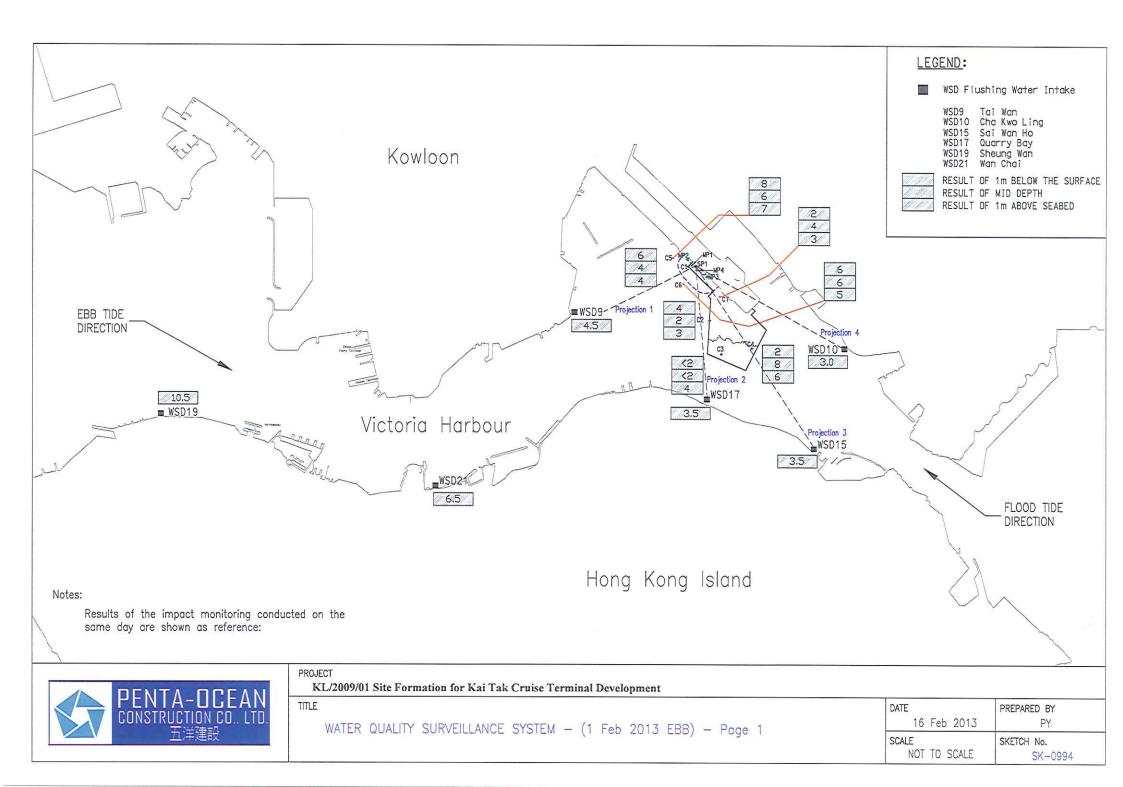


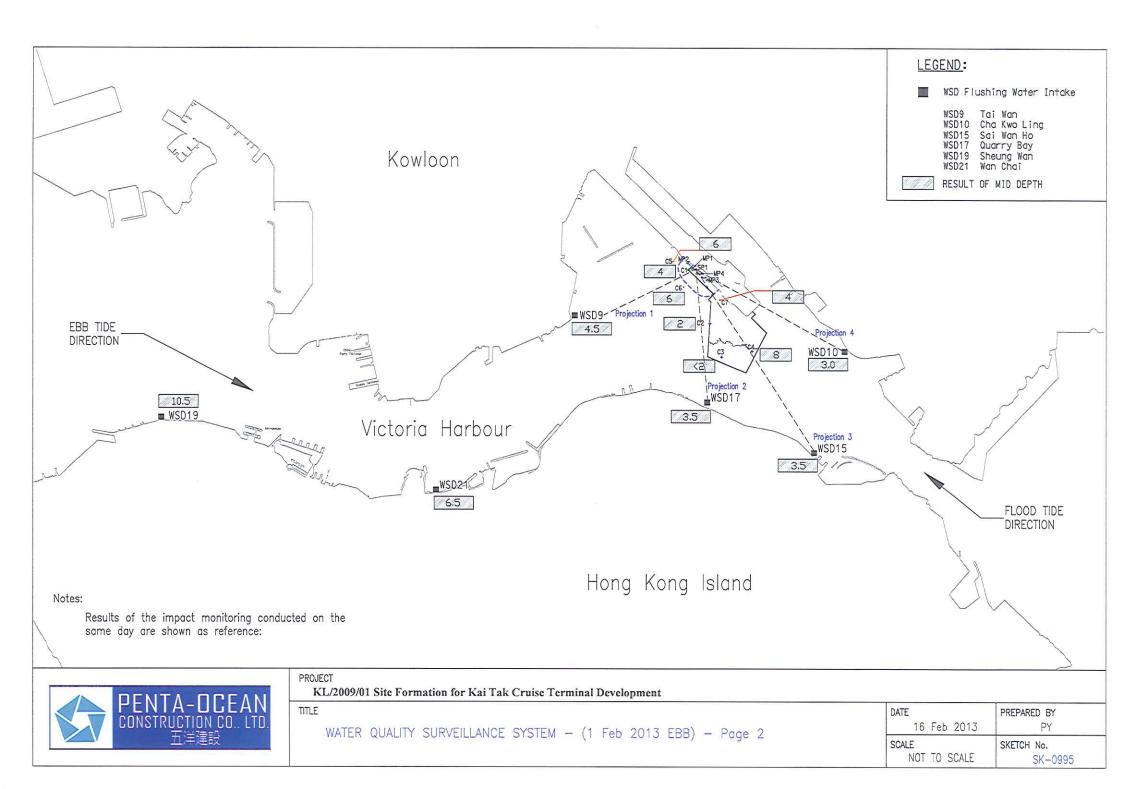


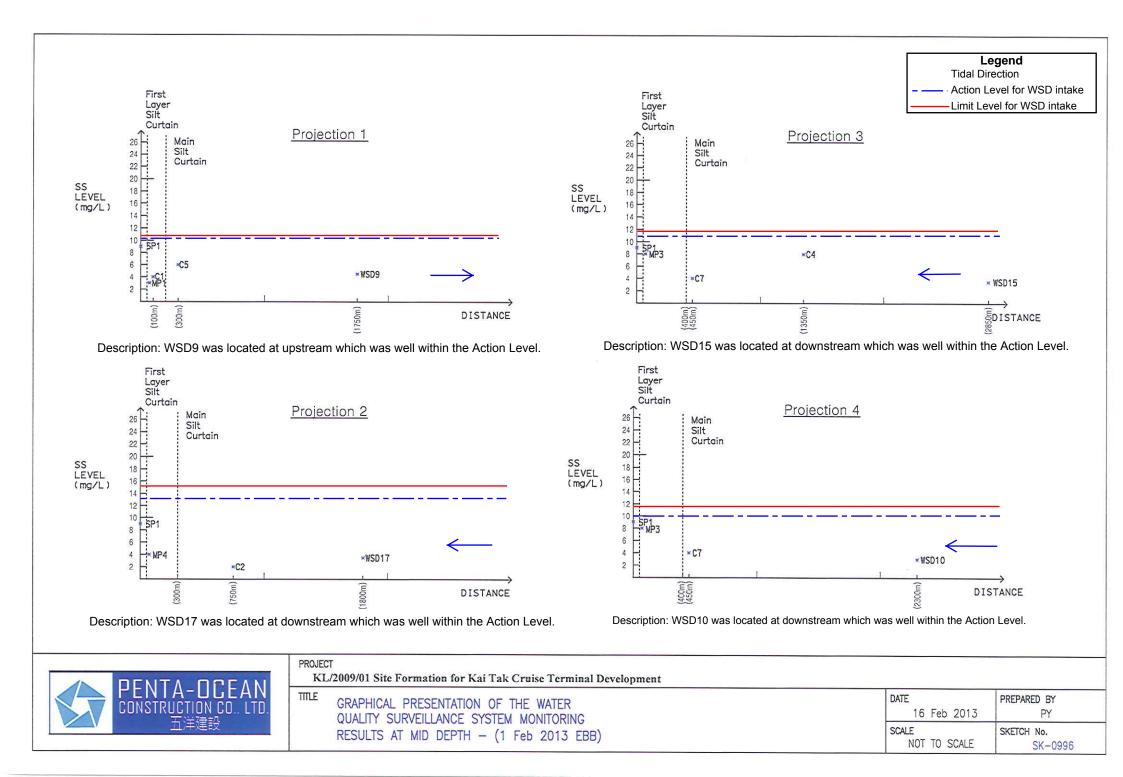
Water Quality Surveillance System Monitoring Results - 1 February 2013 (Ebb Tide)

ng Location	Turbidity in NTU	Compare to Trigger Level	Suspended	Compare to Trigger Level
elow the surface	9.81	N/A	Solids in mg/L 10	N/A
			9	N/A
depth	9.70	N/A		
bove the seabed	9.30	N/A	10	N/A
elow the surface	0.65	N/A	3	N/A
depth	0.25	N/A	3	N/A
bove the seabed	0.23	N/A	6	N/A
elow the surface	0.45	N/A	4	N/A
depth	0.12	N/A	7	N/A
bove the seabed	0.13	N/A	5	N/A
elow the surface	0.27	N/A	9	N/A
depth	1.52	N/A	8	N/A
bove the seabed	0.54	N/A	7	N/A
elow the surface	0.15	N/A	4	N/A
depth	0.22	N/A	4	N/A
bove the seabed	0.48	N/A	3	N/A
elow the surface	0.40	Lower	6	Lower
depth	0.77	Lower	4	Lower
bove the seabed	0.63	Lower	4	Lower
elow the surface	0.41	Lower	4	Lower
depth	0.14	Lower	2	Lower
bove the seabed	0.58	Lower	3	Lower
elow the surface	0.26	Lower	<2	Lower
depth	0.72	Lower	<2	Lower
bove the seabed	0.18	Lower	4	Lower
elow the surface	1.13	Lower	2	Lower
depth	0.62	Lower	8	Lower
bove the seabed	0.68	Lower	6	Lower
elow the surface	0.21	N/A	8	N/A
depth	0.13	N/A	6	N/A
bove the seabed	0.20	N/A	7	N/A
elow the surface	0.13	N/A	6	N/A
depth	0.13	N/A N/A	6	N/A
				N/A
				N/A N/A
				N/A N/A
1				N/A N/A
b e de	ove the seabed low the surface epth ove the seabed	ove the seabed0.27low the surface0.08epth0.26	ove the seabed0.27N/Alow the surface0.08N/Aepth0.26N/A	ove the seabed0.27N/A5low the surface0.08N/A2epth0.26N/A4

Control	Trigger Level for Turbidity in	Trigger Level for SS in mg/L for Dry Season
Point	NTU for All Season	(October - March)
C1	12.3 for Flood Tide	
C2	12.3 for Flood Tide	14.0
C3	16.9	14.0
C4	10.5 for Ebb Tide	



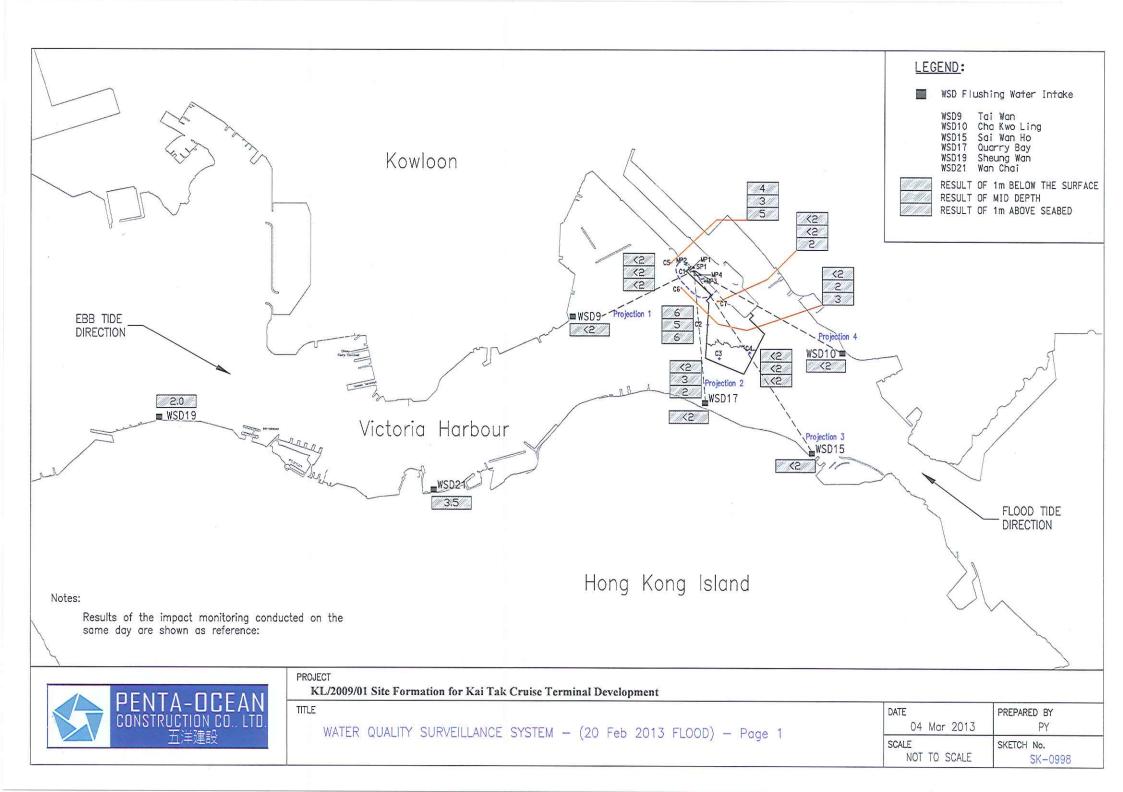


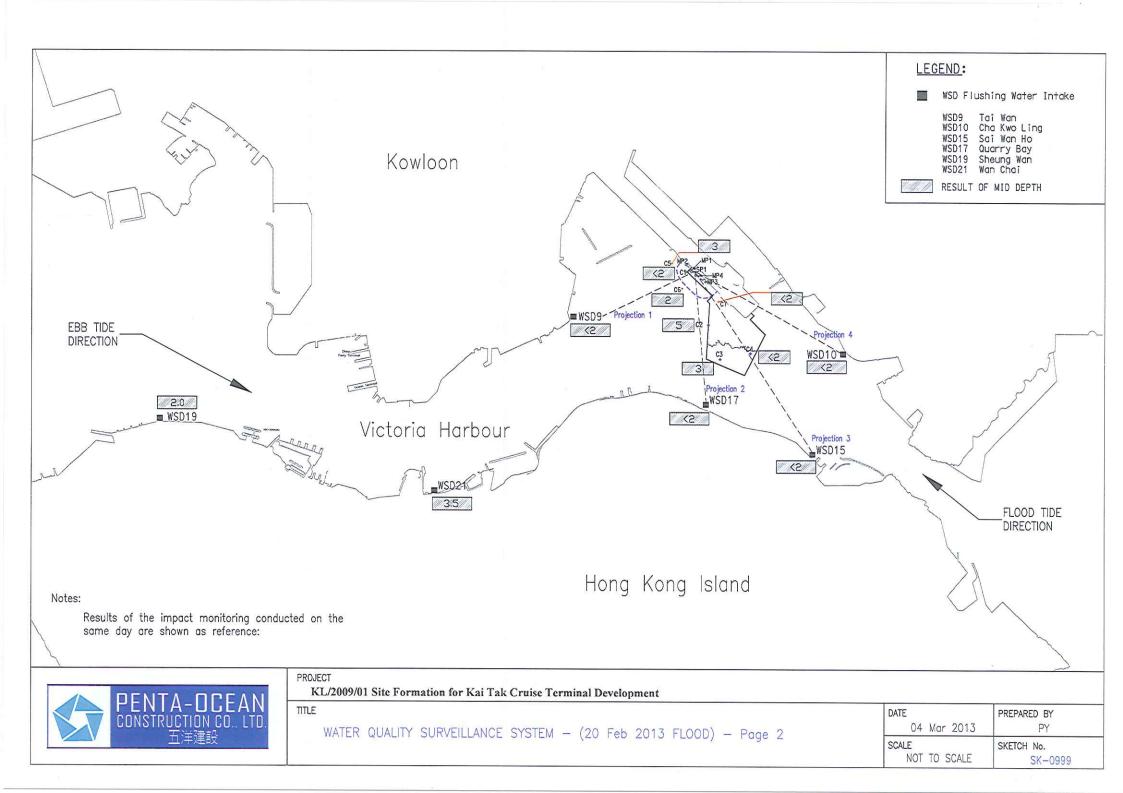


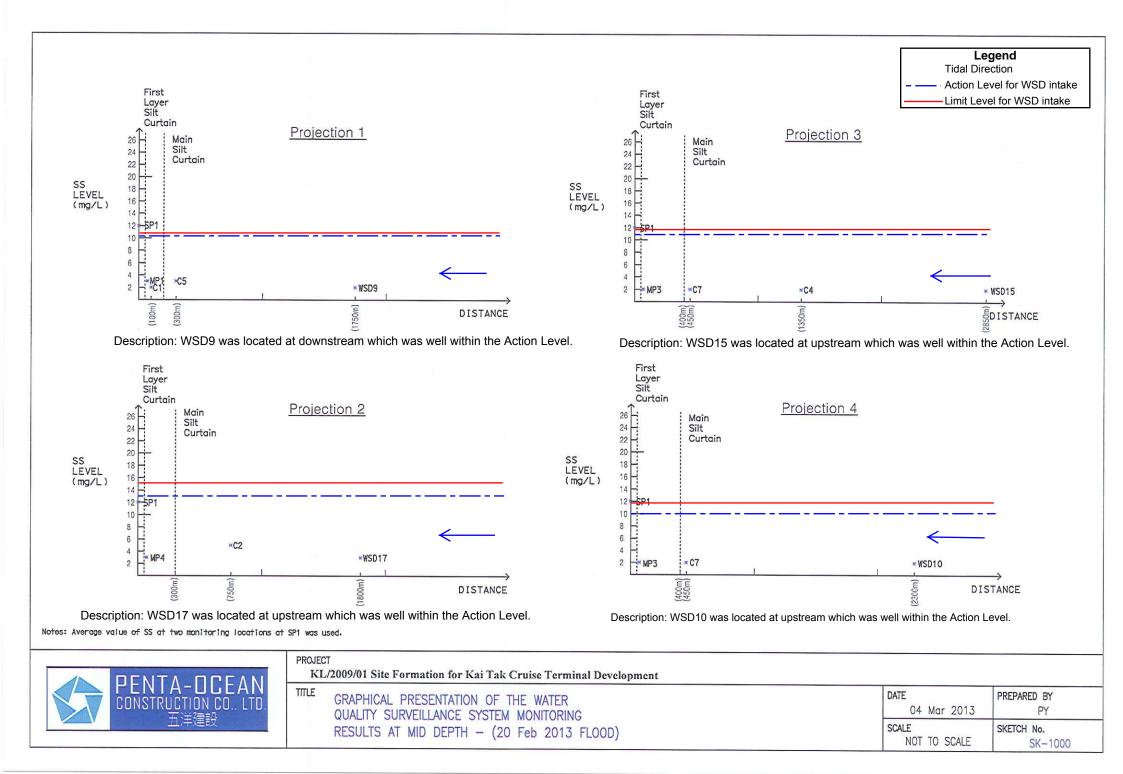
Mo	onitoring Location	Turbidity in	Compare to	Suspended	Compare to
IVIO		NTU	Trigger Level	Solids in mg/L	Trigger Level
	1m below the surface	16.0	N/A	12	N/A
SP1	mid depth	N/A	N/A	N/A	N/A
	1m above the seabed	17.5	N/A	12	N/A
	1m below the surface	0.17	N/A	2	N/A
MP1	mid depth	0.29	N/A	3	N/A
	1m above the seabed	0.37	N/A	3	N/A
	1m below the surface	0.58	N/A	<2	N/A
MP2	mid depth	0.71	N/A	<2	N/A
	1m above the seabed	0.65	N/A	<2	N/A
	1m below the surface	0.75	N/A	<2	N/A
MP3	mid depth	0.38	N/A	<2	N/A
	1m above the seabed	0.22	N/A	<2	N/A
	1m below the surface	0.30	N/A	2	N/A
MP4	mid depth	0.34	N/A	3	N/A
	1m above the seabed	0.17	N/A	3	N/A
	1m below the surface	0.40	Lower	<2	Lower
C1	mid depth	0.82	Lower	<2	Lower
	1m above the seabed	0.25	Lower	<2	Lower
	1m below the surface	0.20	Lower	6	Lower
C2	mid depth	0.32	Lower	5	Lower
	1m above the seabed	0.19	Lower	6	Lower
	1m below the surface	0.24	Lower	<2	Lower
C3	mid depth	0.17	Lower	3	Lower
	1m above the seabed	0.14	Lower	2	Lower
	1m below the surface	0.18	Lower	. <2	Lower
C4	mid depth	0.12	Lower	<2	Lower
	1m above the seabed	0.15	Lower	<2	Lower
	1m below the surface	0.91	N/A	4	N/A
C5	mid depth	0.75	N/A	3	N/A
	1m above the seabed	0.61	N/A	5	N/A
	1m below the surface	0.22	N/A	<2	N/A
C6	mid depth	0.24	N/A	2	N/A
	1m above the seabed	0.34	N/A	3	N/A
	1m below the surface	0.26	N/A	<2	N/A
C7	mid depth	0.28	N/A	<2	N/A
	1m above the seabed	0.13	N/A	2	N/A

Water Quality Surveillance System Monitoring Results - 20 February 2013 (Flood Tide)

Control Point	Trigger Level for Turbidity in NTU for All Season	Trigger Level for SS in mg/L for Dry Season (October - March)
C1	12.3 for Flood Tide	
C2	12.3 for Flood Tide	11.0
C3	16.9	- 14.0
C4	10.5 for Ebb Tide	









Appendix 5.1

Event and Action Plan



Event and Action Plan for Construction Noise

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



Event and Action Plan for Marine Water Quality

EVENT	ACTION					
	ET	IEC	ER	CONTRACTOR		
Action level being exceeded by one sampling day	 Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance. 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Review the working methods and consider additional measures such as use of frame- type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified) 		
Action level being exceeded by more than one consecutive sampling days	 Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER 	 Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness 	 Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and 		



EVENT		ACTION		
	ET	IEC	ER	CONTRACTOR
	 Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance. 	accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	 equipment; 4. Review the working methods and consider additional measures such as use of frame- type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)



EVENT AND ACTION PLAN

EVENT		ACTION		
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by one sampling day	 Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit Level. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Review the working methods and consider additional measures such as use of frame- type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)



EVENT		ACTION		
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by more than one consecutive sampling days	 Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified) 	 Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Review the working methods and consider additional measures such as use of frame- type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures; As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after the exceedance is identified)



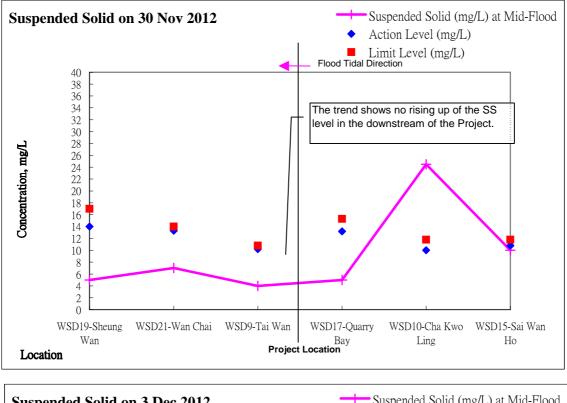
Appendix 5.2

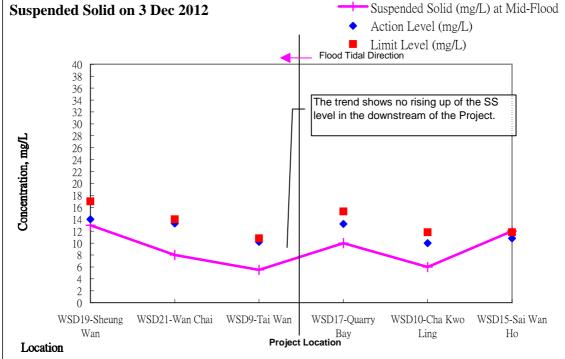
Graphic Presentation of SS Results against to Tidal Movement along Victoria Harbour

Contract no. KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development Summary of Recorded Exceedances in Reporting Quarter

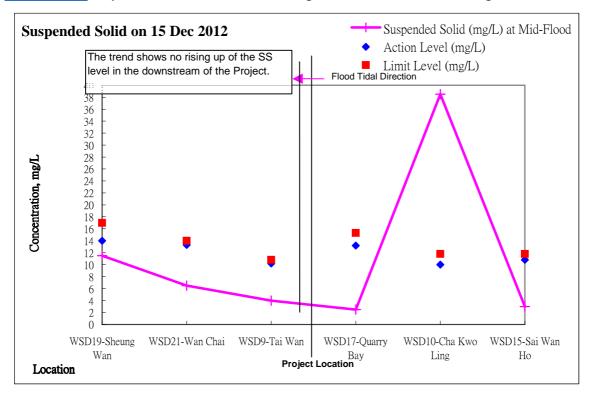
Date	Tide	Station	Parameter	Exceedan ce	Turbidity (NTU) / SS (mg/L) value	Possible Cause Exceedance	Turbidity (NTU) / SS (mg/L) value in the nearest upstream station
30/11/2013	Mid-flood	WSD10	SS (mg/L) / Turbidity (NTU)	LL / LL	24.5mg/L / 15.4NTU	Upstream of the Project	N/A
3/12/2013	Mid-flood	WSD15	SS (mg/L)	LL	12.0mg/L	Upstream of the Project	N/A
15/12/2013	Mid-flood	WSD10	SS (mg/L) / Turbidity (NTU)	LL / LL	38.5mg/L / 17.7NTU	Upstream of the Project	N/A
9/1/2013	Mid-flood	WSD10	SS (mg/L)	LL	12.0mg/L	Upstream of the Project	N/A
4/2/2013	Mid-ebb	WSD21	SS (mg/L) / Turbidity (NTU)	LL / LL	27.0mg/L / 22.9NTU	Upstream of the Project	N/A
6/2/2013	Mid-ebb	WSD21	SS (mg/L)	LL	14.5mg/L	Upstream of the Project	N/A

Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour

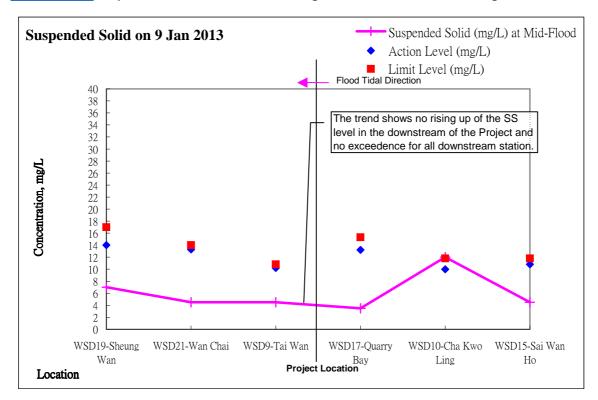




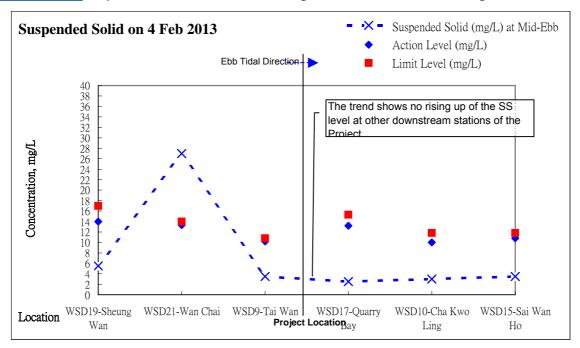
Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour

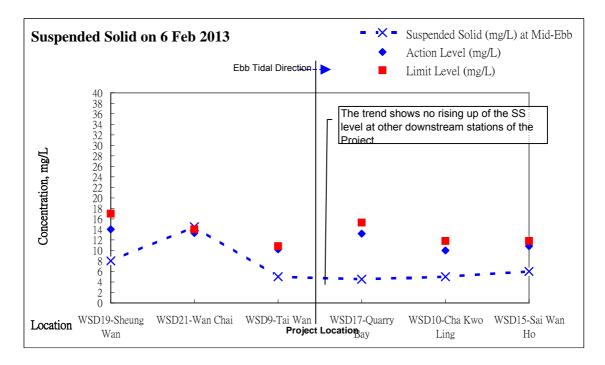


Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour



Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour



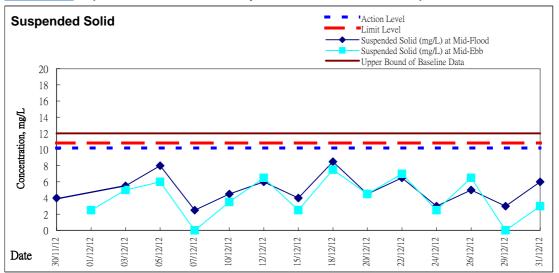




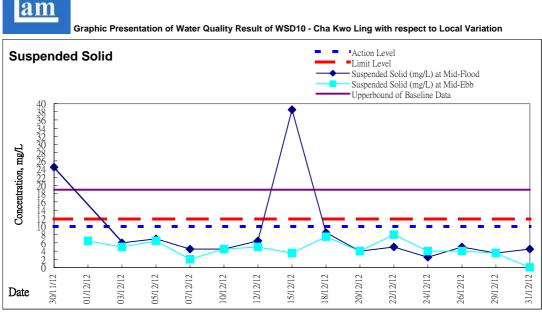
Appendix 5.3

Graphic Presentation of Water Quality Result with respect to Local Variation

Graphic Presentation of Water Quality Result of WSD9 - Tai Wan with respect to Local Variation

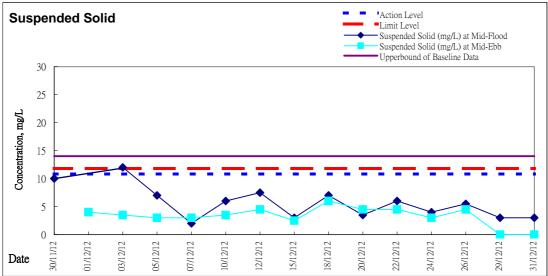


Remarks: WSD9 is located at upstream during the ebb tides while at downstream during flood tides.

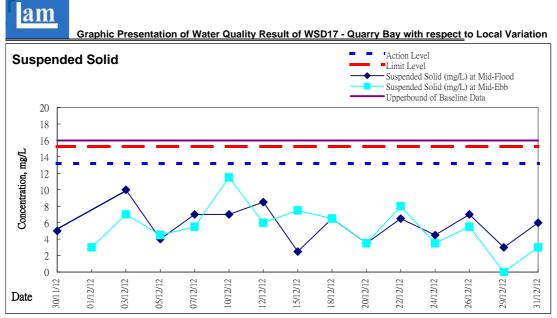


Remarks: WSD10 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho with respect to Local Variation



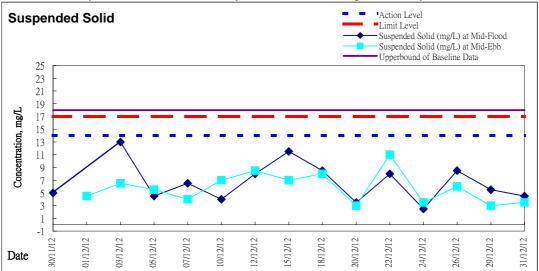
Remarks: WSD15 is located at upstream during the flood tides while at downstream during ebb tides.

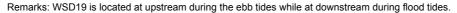


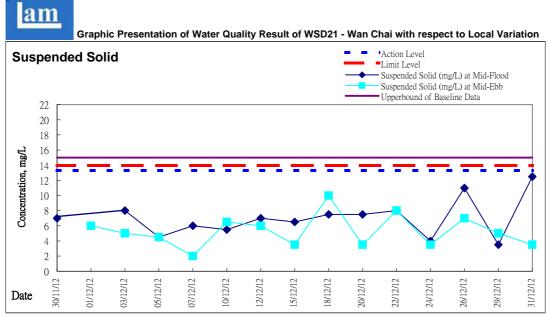
Remarks: WSD17 is located at upstream during the flood tides while at downstream during ebb tides.





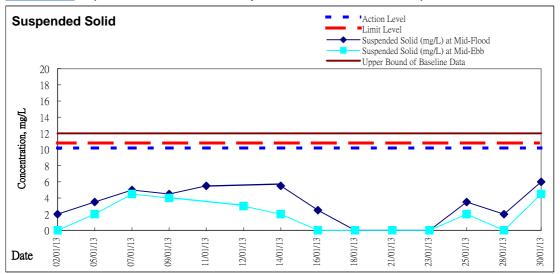




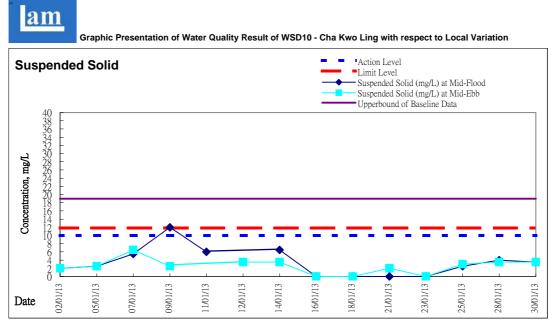


Remarks: WSD21 is located at upstream during the ebb tides while at downstream during flood tides.

Graphic Presentation of Water Quality Result of WSD9 - Tai Wan with respect to Local Variation

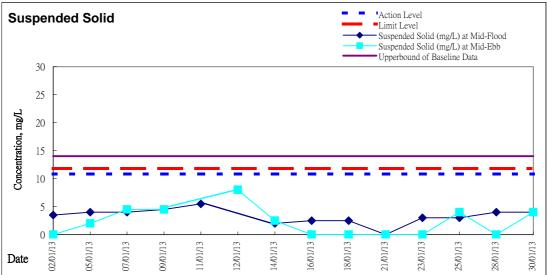


Remarks: WSD9 is located at upstream during the ebb tides while at downstream during flood tides.

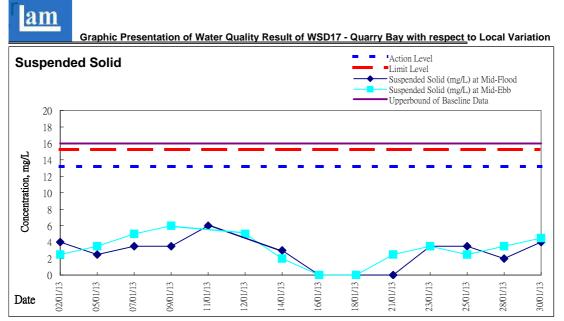


Remarks: WSD10 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho with respect to Local Variation

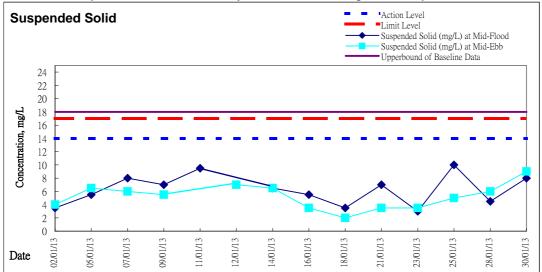


Remarks: WSD15 is located at upstream during the flood tides while at downstream during ebb tides.

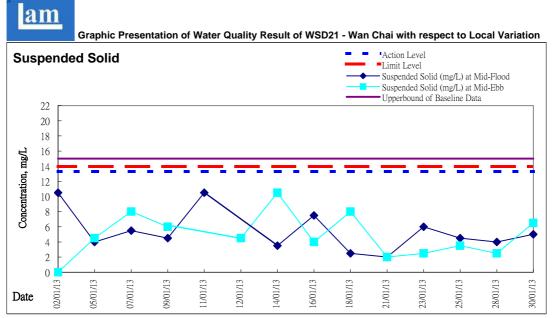


Remarks: WSD17 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan with respect to Local Variation

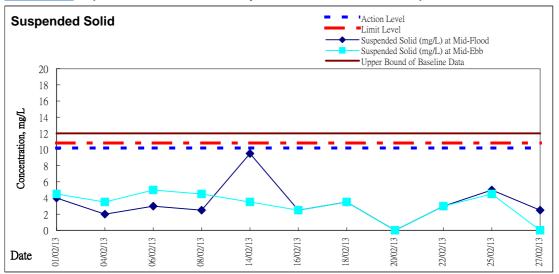


Remarks: WSD19 is located at upstream during the ebb tides while at downstream during flood tides.

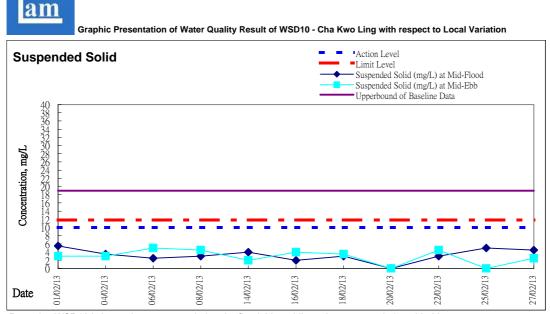


Remarks: WSD21 is located at upstream during the ebb tides while at downstream during flood tides.

Graphic Presentation of Water Quality Result of WSD9 - Tai Wan with respect to Local Variation

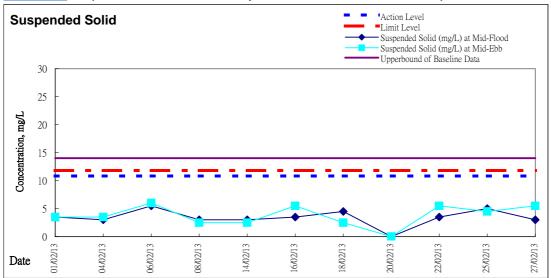


Remarks: WSD9 is located at upstream during the ebb tides while at downstream during flood tides.

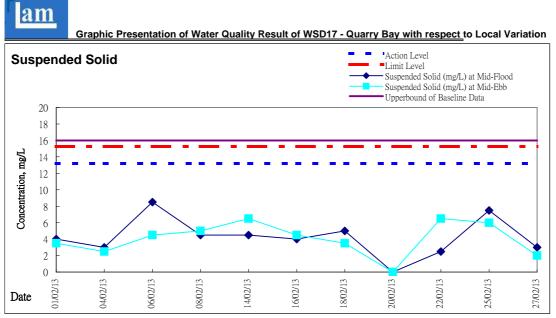


Remarks: WSD10 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho with respect to Local Variation



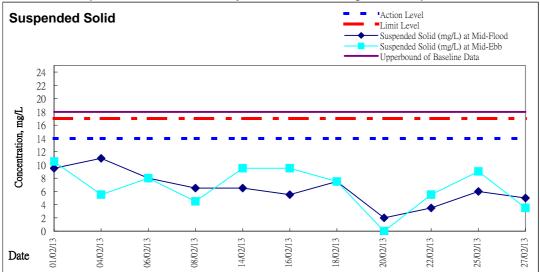
Remarks: WSD15 is located at upstream during the flood tides while at downstream during ebb tides.



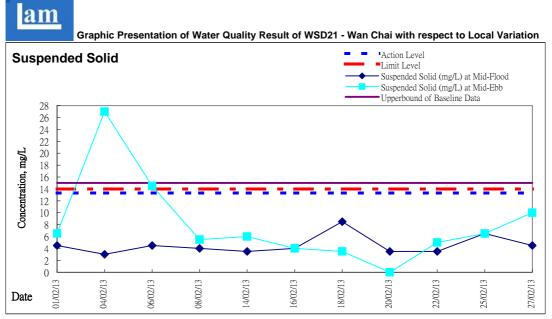
Remarks: WSD17 is located at upstream during the flood tides while at downstream during ebb tides.



Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan with respect to Local Variation



Remarks: WSD19 is located at upstream during the ebb tides while at downstream during flood tides.



Remarks: WSD21 is located at upstream during the ebb tides while at downstream during flood tides.



Appendix 7.1

Construction Programme for Reporting Quarter

Activity	Activity	Orig	Early	Late	Early	Late	Total	%		JAN	FEB			2013 MAR	
	Description	Dur	Start	Start	Finish	Finish	Float	Comp	4	21 28	4 11 18	25 4	₁ 11	18	25
	mation KT Cruise Terminal Develo	opmen	t								8 8	1			
Contract		4 107		001111001		00104144						i			
PD1100	Contract Period	1,495	30/11/09A	30/11/09A	29/12/13	02/01/14	4	11	Comra	orr chou	I				
	aries & General Requirements											1			
Works Interf	aces EMSD Installation of Gangway - Phase 1 Berth	242	09/10/124	09/10/12A	20/05/13	30/05/13*	10	50				1			
		242	05/10/12/	03/10/12/	20/03/13	30/03/13	10			-	1	1			
TA1060	Servicing of Temp Accommodation for the Engineer	1,406	28/01/10A	28/01/10A	22/12/13	02/01/14	11	76	Gervien	ייייסטא קווושר וס פוו	notation for the Engineer				
TA1070	Maintenance of Traffic Flow	1,344	28/02/10A		08/12/13	02/01/14	25	76	mainter	nance of traine Fio	 				
Environmen	tal and Site Safety Monitoring							and the				1			
ES1050	Monthly Update of SSP & EMP	1,422	07/12/09A	07/12/09A	26/12/13	02/01/14	7	76	monting	propulate of oor a l		1	12 AM	the second	
ES1110	Impact Monitoring for Water Quality	1,380	05/02/10A		16/12/13	02/01/14	17			nomeoring for Man					
ES1125	Maintenance of Silt Screen at WSD Intakes	1,380	31/01/10A	31/01/10A	16/12/13	02/01/14	17	76	manner	nance of one ocreer	at woo manes	1			
and the second se	& Site Clearance	4 404	00111100.0	00444004	444040	00/04/44	00	70	-		i 1				
MP1020	Routine Site Cleanliness and Tidiness	1,484		30/11/09A	11/12/13	02/01/14	22	78	-	one oleaniness a		i			
MP1060 MP1070	Disposal of Surplus C&D Material	695		10/03/10A 26/03/10A	16/08/13 27/11/13	02/01/14	139 36		4	y conting of out the	Г Г.	1			100 March 100
MP1070	Primary Sorting of C&D Material Surplus Rock Disposal in Area 1 & 2	1,200 700		15/02/11A	21/12/13	02/01/14	12	52	-	y conting of oup in					
Sorting of C		100	15/02/11A	15/02/11A	21/12/13	02/01/14	12	52			1	!			
SM1130	Bay M - Sorting and Mixing C&D Material	100	06/08/12A	06/08/12A	29/01/13	25/02/13	27	90			ay M - Sorting and Mixing C&D Materia	al			
SM1140	Bay NDA - Sorting and Mixing C&D Material	100		04/10/12A	10/03/13	28/04/13	49	50					VBa	y NDA - Sorti	ng and M
SM1160	PortionDZB-Sorting and Mixing C&D Material(toe)	700	02/04/12A	02/04/12A	30/03/13	02/01/14	278	90				1			
Preparato	ory Works										1	1			
Contraction of the local division of the loc	of Precast Units		Status an	With Law Par				R. Konte				I I			
Precast Plank	s for Decking											Į.			
PW.4.1050	Deliver to Portion MQ4	0	20/01/13	03/01/14			348	0	•	Deliver to Portion	MQ4	1			
Section 2	- Portions MQ2, LS1, LS2, SDA & DZA	1										1			
Portion LS2					and The						1 1 1	1			
Road & Drain		00	00/40/404	00/40/404	07/04/40	42/02/42	47	60		VBasa	Course				
SW.24.1060 SW.24.1070	Base Course Wearing Course	20	20/01/12A	06/10/12A 04/02/13	27/01/13 03/02/13	13/02/13 18/02/13	17	60		Dase	Wearing Course	1			
SW.24.1070	Road Marking	15	30/01/13	14/02/13	05/02/13	20/02/13	15	0			Road Marking	1			
SW.24.1000	Street Furniture & Lighting	10	04/02/13	19/02/13	13/02/13	28/02/13*	15	0			∆ Street Furniture	& Lighting			
	- Portion MQ3	10	o nozi to				1					1			
Portion MQ3				19972 199								1			
New Seawall			and the second secon					at many	1		5 5 5	1			
SW.3.4075	Scour Protection Layer (6500m3)	77	24/09/12A	24/09/12A	03/02/13	30/05/13	116	80			Scour Protection Layer (6500m	3)			
RC Deck Cons	truction										9 9 9	1			
SW.3.5061	Bay H - Site Clearance	4		20/09/12A	21/01/13	30/05/13	129	50	-	Bay H - Site Cl	1	1			
SW.3.5151	Bay I - Site Clearance	4		20/12/12A	21/01/13	29/05/13	128	50	4	Bay I - Site Cle	1	1			
SW.3.5160	Bay I - Protective Coating	7	01/11/12A	01/11/12A	22/01/13	30/05/13	128	90			ctive Coating				
Miscellaneous SW.3.6020		20	23/12/12A	23/12/12A	05/02/13	30/05/13	114	40			✓Installation of Marine Fitting	s (Fender etc	.)		
SW.3.6020	Installation of Marine Fittings (Fender etc) T&C of Corrision Monitoring System	28	20/01/13	10/05/13	09/02/13	30/05/13	114	40			T&C of Corrision Mon				
SW.3.6040	Installation of Navigation Light Post	21	20/01/13	03/05/13	16/02/13	30/05/13	103	0		I	√Installation				
SW.3.6050	Flexible Surfacing	28	20/01/13	26/04/13	16/02/13	23/05/13	96	0			Flexible Su	1	-		
SW.3.6060	Road Marking	7	17/02/13	24/05/13	23/02/13	30/05/13	96	0			⊽	Road Markin	g		
Section 4	- Portions MQ4, LS3, NDA & DZB				2.0123	DEN AS		in the second			1				
	(Bays J - M) & LS3		A REAL PROPERTY.			TOTAL TOTAL									
	k & Removal of Existing Seawall								1		1	l			
SW.4.3065	Bay M - Existing Seawall Rockfill (20000m3)	35	10/07/12A	10/07/12A	23/01/13	23/01/13	0	90			sting Seawall Rockfill (20000m3)	1			
SW.4.3070	Bay M - Excavation Within MQ2 (25000m3)	35	18/07/12A	18/07/12A	23/01/13	23/01/13	0	90		Bay M - Exc	cavation Within MQ2 (25000m3)	Î			
						ICTAD.					Ohari 44 - 701	BOLLE			
				Ear	ly Bar	KTAP		P	enta-O	Ocean Construction		^B Start Date Finish Date			
				Targ								Data Date			
				-	gress Bar		Site Fo			Contract No. KL Kai Tak Cruise T	/2009/01 erminal Development	Run Date			25
	五洋建設	and the second		Crit	ical Activity	Т					bruary 2013- April 2013)				
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Activity	Activity	Orig	Early	Late	Early	Late	Total	%						1	20	013	
ID	Description	Dur	Start	Start	Finish	Finish		Comp	4	JAN 21 28	4 (FEB	8 25	4	11	MAR 18	25
New Seawall	Construction								-		1						
SW.4.4060	Bay M - Filter 1 (2150m3)	11	02/01/13A	02/01/13A	31/01/13	31/01/13	0	30			Bay M - Filter 1	(2150m3)		I T			
SW.4.4065	Bay M - Filter 2 (2150m3)	10	07/01/13A	07/01/13A	31/01/13	31/01/13	0	20	Constants.		Bay M - Filter 2	(2150m3)		1			
SW.4.4070	Bay M - Secondary Armour 0.16T ~ 0.25T (3000m3)	14	10/01/13A	10/01/13A	05/02/13	05/02/13	0	10	1.19		Bay M -	Secondary	Armour 0.16T ~	0.25T (3000	m3)		
SW.4.4075	Bay M - Primary Armour 2.3T (1650m3)	10	13/01/13A	13/01/13A	05/02/13	05/02/13*	0	5			Bay M -	Primary Arn	nour 2.3T (1650	m3)			
RC Deck Cons	struction										1			1			
SW.4.5030	Bay J - RC Topping Concreting	7	20/01/13	24/09/13	26/01/13	30/09/13*	247	0		<mark>∆ </mark>	- RC Topping Cor	ncreting		1			
SW.4.5031	Bay J - Site Clearance	4	10/02/13	28/12/13	13/02/13	31/12/13	321	0				-VBay J -	Site Clearance				
SW.4.5035	Bay J - Protective Coating	7	19/12/12A	19/12/12A	15/02/13	02/01/14	321	70			1	Bay	J - Protective C	Coating			
SW.4.5068	Bay K (N) - Deck Beam Concreting	35	18/01/13A	18/01/13A	06/02/13	21/02/13	15	50	4		Bay K	(N) - Deck E	Beam Concretin	ģ			
SW.4.5070	Bay K - Precast Planks / Fix Rebar	15	07/02/13	22/09/13	21/02/13	06/10/13	227	0			Δ		Bay K - Pi	recast Plank	s / Fix Rel	bar	
SW.4.5075	Bay K - RC Topping Concreting	7	22/02/13	07/10/13	28/02/13	13/10/13*	227	0			1		Δ	Bay K - RC	Topping	Concreting	
SW.4.5076	Bay K - Site Clearance	4	15/03/13	09/12/13	18/03/13	12/12/13	269	0			1			1		<mark>∕</mark> ∇Bay	K - Site
SW.4.5080	Bay K - Protective Coating	7	19/03/13	13/12/13	25/03/13	19/12/13	269	0			-			1		<u> </u>	V
SW.4.5085	Bay K - Dismantling Working Platform	14	26/03/13	20/12/13	08/04/13	02/01/14	269	0			1			 			
SW.4.5090	Bay L - Erection of Suspension Working Platform	28	17/01/13A	17/01/13A	01/04/13	05/07/13	95	50	4		1			1			
SW.4.5095	Bay L - Formwork	30	19/01/13A	19/01/13A	25/04/13	29/07/13	95	20						1			
SW.4.5100	Bay L - Rebar Fixing	30	26/04/13	30/07/13	25/05/13	28/08/13	95				-						
SW.4.5135	Bay M - Erection of Suspension Working Platform	20	13/03/13	13/03/13	01/04/13	01/04/13	0	0			1			I I			
SW.4.5140	Bay M - Formwork	30	23/03/13	23/03/13	21/04/13	21/04/13	0	0			1			1			4
SW.4.5145	Bay M - Rebar Fixing	30	12/04/13	12/04/13	11/05/13	11/05/13	0	0			1			1			
Miscellaneous											1			1			
SW.4.6010	Bay J- Utilities Trough/Sewerage Inside Deck	35	20/01/13	29/11/13	23/02/13	02/01/14	313	0		<u>4</u>	1	and the second second	✓Bay J-	Utilities Tro	ugh/Sewe	rage Inside	Deck
SW.4.6012	Bay K- Utilities Trough/Sewerage Inside Deck	35	07/02/13	29/11/13	13/03/13	02/01/14	295	0			<u>۸</u>			1	V	Bay K- Utilit	ies Tro
Portion NDA	(Bay NDA)						1.15				-			1			
Dredging Wor	k & Removal of Existign Seawall										I			1			
SW.41.3010	Removal of Existing Seawall Rockfill (16500m3)	35	11/12/12A	11/12/12A	02/02/13	24/02/13	22	60			Removal of	Existing Sea	wall Rockfill (1	6500m3)			
SW.41.3020	Excavation Within MQ4 (22000m3)	35	15/11/12A	15/11/12A	02/02/13	24/02/13	22	60			Excavation V	Within MQ4 (22000m3)	1			
New Seawall (Construction																
SW.41.4000	Filter 1 - (2000m3)	11	03/02/13	25/02/13	13/02/13	07/03/13	22	0			Δ		- (2000m3)				
SW.41.4010	Filter 2 - (2000m3)	10	14/02/13	08/03/13	23/02/13	17/03/13	22	0				Δ	Filter 2	2 ₁ - (2000m3)			
SW.41.4020	Secondary Armour 0.16T - 0.25T (2500m3)	21	24/02/13	18/03/13	16/03/13	07/04/13	22	0			1		Δ	1		Second	lary Ar
SW.41.4030	Primary Armour 2.3T (1500m3)	21	17/03/13	08/04/13	06/04/13	28/04/13	22	0			-						
SW.41.4040	Scour Protection Layer (3250m3)	42	07/04/13	22/11/13	18/05/13	02/01/14	229	0			 			i I			
Concrete Bloc	k Seawall										1			1			
SW.41.7000	Filters & Rockfill Under Seawall Blocks	42	03/02/13	26/07/13	16/03/13	05/09/13	173	0			Δ					Filters	& Rock
SW.41.7010	Secondary Armour 0.16T - 0.25T	21	17/03/13	06/09/13	06/04/13	26/09/13	173	0			1			1		Δ	
SW.41.7020	Primary Armour 2.3T	21	07/04/13	27/09/13	27/04/13	17/10/13	173	0			1			1			
SW.41.7030	Leveling Stone	21	28/04/13	18/10/13	18/05/13	07/11/13	173	0			1			1			
Section !	5 - Portion CA3, CA5B & WA1A										1			1			
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LS1030	Preservation & Protection of Existing Trees	1,300	03/05/10A	03/05/10A	14/11/13	23/11/13	9	77	Freser	ation & Frotection	TOI Existing Trees	-		1			
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V Early Bar Target V Progress Bar Critical Activity

KTAP

Penta-Ocean Construction Co., Ltd.

Sheet 2A of 2B Start Date Finish Date Data Date Run Date

CEDD Contract No. KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development Three Months Rolling Programme (February 2013- April 2013)

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