


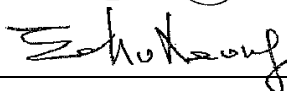
# China Harbour Engineering Company Limited

Contract No. HY/2010/02

## Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works

Quarterly EM&A Report for  
December 2014- February 2015

[10/2015]

	Name	Signature
Prepared & Checked:	Y T Tang	
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Version:	Rev. 0	Date: 30 October 2015
<p><b>Disclaimer</b></p> <p>This report is prepared for China Harbour Engineering Company Limited and is given for its sole benefit in relation to and pursuant to Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities-Reclamation Works and may not be disclosed to, quoted to or relied upon by any person other than China Harbour Engineering Company Limited without our prior written consent. No person (other than China Harbour Engineering Company Limited) into whose possession a copy of this report comes may rely on this report without our express written consent and China Harbour Engineering Company Limited may not rely on it for any purpose other than as described above.</p>		

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30 October 2015

By Fax (3698 5999) and By Post

Ove Arup & Partners  
Chief Resident Engineer's Office  
5 Ying Hei Road, Tung Chung, Lantau  
Hong Kong

Attention: Mr. Paul Appleton

Dear Sir,

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

**Contract No. HY/2010/02 – HZMB HKBCF – Reclamation Works  
Quarterly EM&A Report for December 2014 to February 2015**

Reference is made to the Environmental Team's submission of the Quarterly Environmental Monitoring & Audit Report for December 2014 to February 2015 certified by the ET Leader (ET's ref.: "60249820/C/RMKY15103002" dated 30 October 2015) and provided to us via e-mail on 30 October 2015.

We are pleased to inform you that we have no adverse comment on the captioned Quarterly Environmental Monitoring & Audit Report for December 2014 to February 2015.

Please ensure the detailed density surface modelling report be separately provided as per the timeframe stated in this report.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,  
For and on behalf of  
Ramboll Environ Hong Kong Limited



Raymond Dai  
Independent Environmental Checker

c.c.	HyD	Mr. Matthew Fung	(By Fax: 3188 6614)
	HyD	Mr. Wai-Ping Lee	(By Fax: 3188 6614)
	AECOM	Ms. Echo Leong	(By Fax: 2317 7609)
	CHEC	Mr. Lim Kim Chuan	(By Fax: 2578 0413)

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## EXECUTIVE SUMMARY

Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as “the Project”) mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL). It is a designated project and is governed by the current permits for the Project, i.e. the amended Environmental Permits (EPs) issued on 19 January 2015 (EP-353/2009/H) and 13 March 2015 (EP-354/2009/D) (for TMCLKL Southern Landfall Reclamation only).

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project’s reclamation works (i.e. the Engineer for the Project).

China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Project.

ENVIRON Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.

AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Project for carrying out the environmental monitoring and audit (EM&A) works.

The construction phase of the Project under the EPs was commenced on 12 March 2012 and will be tentatively completed by early Year 2016. The EM&A programme, including air quality, noise, water quality and dolphin monitoring and environmental site inspections, was commenced on 12 March 2012.

This report documents the findings of EM&A works conducted in the period between 1 December 2014 and 28 February 2015. As informed by the Contractor, major activities in the reporting quarter were:-

### **Marine-based Works**

- Cellular structure installation
- Capping Beams structures
- Conforming sloping seawalls
- Rock filling
- Sand filling
- Public filling
- Band drain installation
- Surcharge remove & laying
- Deep Cement Mixing
- Geotechnical Instrumentation works
- Precast Yard for seawall blocks & culverts
- Maintenance of silt curtain & silt screen at sea water intake of HKIA

### **Land-based Works**

- Maintenance works of Site Office at Works Area WA2
- Maintenance works of Public Works Regional Laboratory at Works Area WA3
- Maintenance of Temporary Marine Access at Works Area WA2

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

24-hour Total Suspended Particulates (TSP) monitoring	17 sessions
1-hour TSP monitoring	17 sessions
Noise monitoring	13 sessions
Impact water quality monitoring	39 sessions
Impact dolphin monitoring	6 surveys
Joint Environmental site inspection	13 sessions

### **Breaches of Action and Limit Levels for Air Quality**

Three (3) action level exceedances of 24-hr TSP were recorded AMS2, AMS3B and AMS7A on 12 February 2015. After investigation, there is no adequate information to conclude the recorded action level exceedances are related to this Contract. No 24-hr TSP Action and Limit Level exceedances were recorded on other monitoring date in the reporting period. All 1-Hour TSP results were below the Action and Limit Level in the reporting period.

### **Breaches of Action and Limit Levels for Noise**

For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.

### **Breaches of Action and Limit Levels for Water Quality**

A total of (17) seventeen exceedances were recorded in this reporting quarter:

One (1) limit level exceedance and one (1) action level exceedance were recorded at monitoring station IS17 and IS(Mf)9 respectively on 5 December 2014 during mid ebb tide; one (1) action level exceedance was recorded at IS10 and one (1) action level exceedance was recorded at SR5 respectively on 12 January 2015 during flood tide; one (1) action level exceedance was recorded at IS17 on 16 January 2015 during ebb tide; one (1) action level exceedance was recorded at IS17, SR5, SR6 and IS10 respectively, on 21 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11, SR10B(N) and SR7 respectively on 23 January 2015 during flood tide. One (1) limit level exceedance was recorded at SR10A and SR6 respectively on 23 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11 on 26 January 2015 during flood tide; one (1) Limit Level Exceedance of SS at IS(Mf)11 and one (1) Action Level Exceedance of SS at SR7 during Flood tide recorded on 23 February 2015.

After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.

### **Breaches of Action and Limit Levels for Impact Dolphin Monitoring**

One (1) Limit Level exceedance of dolphin monitoring was recorded in the reporting quarter. After investigation, it was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors. Event Action Plan for Impact Dolphin Monitoring was triggered. For detail of investigation, please refer to appendix L. Event Action Plan for Impact Dolphin Monitoring was triggered. For detail of investigation, please refer to appendix L.

### **Implementation Status and Review of Environmental Mitigation Measures**

Most of the recommended mitigation measures, as included in the EM&A programme, were implemented properly in the reporting quarter.

The recommended environmental mitigation measures effectively minimize the potential environmental impacts from the Project. The EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.

Moreover, regular review and checking on the construction methodologies, working processes and plants were carried out to ensure the environmental impacts were kept minimal and recommended environmental mitigation measures were implemented effectively.

**Complaint, Notification of Summons and Successful Prosecution**

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

## 1 INTRODUCTION

### 1.1 Background

- 1.1.1 Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as “the Project”) mainly comprises seawall construction and reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL).
- 1.1.2 The environmental impact assessment (EIA) reports (Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – EIA Report (Register No. AEIAR-145/2009) (HKBCFEIA) and Tuen Mun – Chek Lap Kok Link – EIA Report (Register No. AEIAR-146/2009) (TMCLKLEIA), and their environmental monitoring and audit (EM&A) Manuals (original EM&A Manuals), for the Project were approved by Environmental Protection Department (EPD) in October 2009.
- 1.1.3 EPD subsequently issued the Environmental Permit (EP) for HKBCF in November 2009 (EP-353/2009) and the Variation of Environmental Permit (VEP) in June 2010 (EP-353/2009/A), November 2010 (EP-353/2009/B), November 2011 (EP-353/2009/C), March 2012 (EP-353/2009/D), October 2012 (EP-353/2009/E), April 2013 (EP-353/2009/F), August 2013 (EP-353/2009/G) and January 2015 (EP-353/2009/H). Similarly, EPD issued the Environmental Permit (EP) for TMCLKL in November 2009 (EP-354/2009) and the Variation of Environmental Permit (VEP) in December 2010 (EP-354/2009/A), January 2014 (EP-354/2009/B), December 2014 (EP-354/2009/C) and March 2015 (EP-354/2009/D).
- 1.1.4 The Project is a designated project and is governed by the current permits for the Project, i.e. the amended EPs issued on 19 January 2015 (EP-353/2009/H) and 13 March 2015 (EP-354/2009/D) (for TMCLKL Southern Landfall Reclamation only).
- 1.1.5 A Project Specific EM&A Manual, which included all project-relation contents from the original EM&A Manuals for the Project, was issued in May 2012.
- 1.1.6 Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Project’s reclamation works (i.e. the Engineer for the Project).
- 1.1.7 China Harbour Engineering Company Limited (CHEC) was awarded by HyD as the Contractor to undertake the construction work of the Project.
- 1.1.8 ENVIRON Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO) for the Project.
- 1.1.9 AECOM Asia Co. Ltd. (AECOM) was appointed by CHEC to undertake the role of Environmental Team for the Project for carrying out the EM&A works.
- 1.1.10 The construction phase of the Project under the EPs was commenced on 12 March 2012 and will be tentatively completed by early Year 2016.
- 1.1.11 According to the Project Specific EM&A Manual, there is a need of an EM&A programme including air quality, noise, water quality and dolphin monitoring and environmental site inspections. The EM&A programme of the Project commenced on 12 March 2012.

### 1.2 Scope of Report

- 1.2.1 This is the twelfth quarterly EM&A Report under the Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Works. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for the Project from 1 December 2014 to 28 February 2015.



**1.3 Project Organization**

1.3.1 The project organization structure is shown in Appendix A. The key personnel contact names and numbers are summarized in Table 1.1.

**Table 1.1 Contact Information of Key Personnel**

Party	Position	Name	Telephone	Fax
Engineer's Representative (ER) (Ove Arup & Partners Hong Kong Limited)	Chief Resident Engineer	Roger Marechal	2528 3031	2668 3970
IEC / ENPO (ENVIRON Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3548 6988
	Environmental Project Office Leader	Y.H. Hui	3465 2868	3465 2899
Contractor (China Harbour Engineering Company Limited)	General Manager (S&E)	Daniel Leung	3157 1086	2578 0413
	Environmental Officer	Richard Ng	36932253	2578 0413
	24-hour Hotline	Alan C.C. Yeung	9448 0325	--
ET (AECOM Asia Company Limited)	ET Leader	Echo Leong	3922 9280	2317 7609

#### **1.4 Summary of Construction Works**

- 1.4.1 The construction phase of the Project under the EP commenced on 12 March 2012.
- 1.4.2 As informed by the Contractor, details of the major works carried out in the reporting quarter are listed below:-

##### ***Marine-based Works***

- Cellular structure installation
- Capping Beams structures
- Conforming sloping seawalls
- Laying geo-textile
- Rock filling
- Sand filling
- Public filling
- Band drain installation
- Surcharge remove & laying
- Deep Cement Mixing
- Geotechnical Instrumentation works
- Precast Yard for seawall blocks & culverts
- Maintenance of silt curtain & silt screen at sea water intake of HKIA

##### ***Land-based Works***

- Maintenance works of Site Office at Works Area WA2
  - Maintenance works of Public Works Regional Laboratory at Works Area WA3
  - Maintenance of Temporary Marine Access at Works Area WA2
- 1.4.3 The 3-month rolling construction programme of the Project is shown in Appendix B.
- 1.4.4 The general layout plan of the Project site showing the detailed works areas is shown in Figure 1.
- 1.4.5 The environmental mitigation measures implementation schedule are presented in Appendix C.

## 2 SUMMARY OF EM&A PROGRAMME REQUIREMENTS

### 2.1 Monitoring Parameters

- 2.1.1 The Project Specific EM&A Manual designated 4 air quality monitoring stations, 2 noise monitoring stations, 21 water monitoring stations (9 Impact Stations, 7 Sensitive Receiver Stations and 5 Control/Far Field Stations) to monitor environmental impacts on air quality, noise and water quality respectively. Pre-set and fixed transect line vessel based dolphin survey was required in two AFCD designated areas (Northeast and Northwest Lantau survey areas). The impact dolphin monitoring at each survey area should be conducted twice per month.
- 2.1.2 For impact air quality monitoring, monitoring locations AMS2 (Tung Chung Development Pier) and AMS7 (Hong Kong SkyCity Marriott Hotel) were set up at the proposed locations in accordance with Project Specific EM&A Manual. The conditional omission of Monitoring Station AMS6 was effective since 19 November 2012. For monitoring location AMS3 (Ho Yu College), as proposed in the Project Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact air quality monitoring was conducted at site boundary of the site office area in Works Area WA2 (AMS3B) respectively. Same baseline and Action Level for air quality, as derived from the baseline monitoring data recorded at Ho Yu College, was adopted for this alternative air quality location.
- 2.1.3 For impact noise monitoring, monitoring locations NMS2 (Seaview Crescent Tower 1) was set up at the proposed locations in accordance with Project Specific EM&A Manual. However, for monitoring location NMS3 (Ho Yu College), as proposed in the Project Specific EM&A Manual, approval for carrying out impact monitoring could not be obtained from the principal of the school. Permission on setting up and carrying out impact monitoring works at nearby sensitive receivers, like Caribbean Coast and Coastal Skyline, was also sought. However, approvals for carrying out impact monitoring works within their premises were not obtained. Impact noise monitoring was conducted at site boundary of the site office area in Works Area WA2 (NMS3B) respectively. Same baseline noise level, as derived from the baseline monitoring data recorded at Ho Yu College was adopted for this alternative noise monitoring location. Reference is made to ET's proposal of relocation of air quality monitoring station (AMS7) dated on 2 February 2015, with no further comment received from IEC on 2 February 2015 and no objection received from EPD on 5 February 2015, the impact air quality monitoring station AMS7 (Hong Kong SkyCity Marriott Hotel) has been relocated to AMS7A (Chu Kong Air-Sea Union Transportation Company Limited) on 3 February 2015. Action Level for air quality, as derived from the baseline monitoring data recorded at Hong Kong SkyCity Marriott Hotel, was adopted for this alternative air quality location.
- 2.1.4 In accordance with the Project Specific EM&A Manual, twenty-one stations were designated for impact water quality monitoring. The nine Impact Stations (IS) were chosen on the basis of their proximity to the reclamation and thus the greatest potential for water quality impacts, the seven Sensitive Receiver Stations (SR) were chosen as they are close to the key sensitive receives and the five Control/ Far Field Stations (CS) were chosen to facilitate comparison of the water quality of the IS stations with less influence by the Project/ ambient water quality conditions.
- 2.1.5 Due to safety concern and topographical condition of the original locations of SR4 and SR10B, alternative impact water quality monitoring stations, naming as SR4(N) and SR10B(N), were adopted, which are situated in vicinity of the original impact water quality monitoring stations (SR4 and SR10B) and could be reachable. Same baseline and Action Level for water quality, as derived from the baseline monitoring data recorded, were adopted for these alternative impact water quality monitoring stations.
- 2.1.6 The monitoring locations used during the reporting quarter are depicted in Figures 2, 3 and 4 respectively.
- 2.1.7 The Project Specific EM&A Manual also required environmental site inspections for air quality, noise, water quality, chemical, waste management, marine ecology and landscape and visual impact.

**2.2 Environmental Quality Performance (Action/Limit Levels)**

- 2.2.1 The environmental quality performance limits (i.e. Action and/or Limit Levels) of air and water quality monitoring were derived from the baseline air and water quality monitoring results at the respective monitoring stations, while the environmental quality performance limits of noise monitoring were defined in the EM&A Manual.
- 2.2.2 The environmental quality performance limits of air quality, noise and water monitoring are given in Appendix D.

**2.3 Environmental Mitigation Measures**

- 2.3.1 Relevant environmental mitigation measures were stipulated in the Particular Specification and EPs (EP-353/2009/H and EP-354/2009/D) (for TMCLKL Southern Landfall Reclamation only) for the Contractor to adopt. A list of environmental mitigation measures and their implementation statuses are given in Appendix C.

### 3 MONITORING RESULTS

#### 3.1 Air Quality Monitoring

- 3.1.1 In accordance with the Project Specific EM&A Manual, impact 1-hour Total Suspended Particulates (TSP) monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was carried out for at least once every 6 days at the 4 monitoring stations (AMS2, AMS3B, AMS6 and AMS7/AMS7A).
- 3.1.2 The monitoring locations for impact air quality monitoring are depicted in Figure 2. However, for AMS6 (Dragonair/CNAC (Group) Building), permission on setting up and carrying out impact monitoring works was sought, however, access to the premise has not been granted yet on this report issuing date.
- 3.1.3 Reference is made to ET's proposal of relocation of air quality monitoring station (AMS7/AMS7A) dated on 2 February 2015, with no further comment received from IEC on 2 February 2015 and no objection received from EPD on 5 February 2015, the impact air quality monitoring station AMS7 (Hong Kong SkyCity Marriott Hotel) has been relocated to AMS7A (Chu Kong Air-Sea Union Transportation Company Limited) on 3 February 2015. Action Level for air quality, as derived from the baseline monitoring data recorded at Hong Kong SkyCity Marriott Hotel, was adopted for this alternative air quality location.
- 3.1.4 The weather was mostly fine and sunny, with occasional cloudy in the reporting quarter. The major dust source in the reporting quarter included construction activities from the Project, as well as nearby traffic emissions.
- 3.1.5 The number of monitoring events and exceedances recorded in each month of the reporting quarter are presented in Table 3.1 and Table 3.2 respectively.

**Table 3.1 Summary of Number of Monitoring Events for 1-hr & 24-hr TSP Concentration**

Monitoring Parameter	Location	No. of monitoring events		
		December 14	January 15	February 15
1-hr TSP	AMS2	18	18	15
	AMS3B	18	18	15
	AMS7/7A*	18	18	15
24-hr TSP	AMS2	6	6	5
	AMS3B	6	6	5
	AMS7/7A*	6	6	5

\* The impact air quality monitoring station AMS7 has been relocated to AMS7A on 3 February 2015.

**Table 3.2 Summary of Number of Exceedances for 1-hr & 24-hr TSP Monitoring**

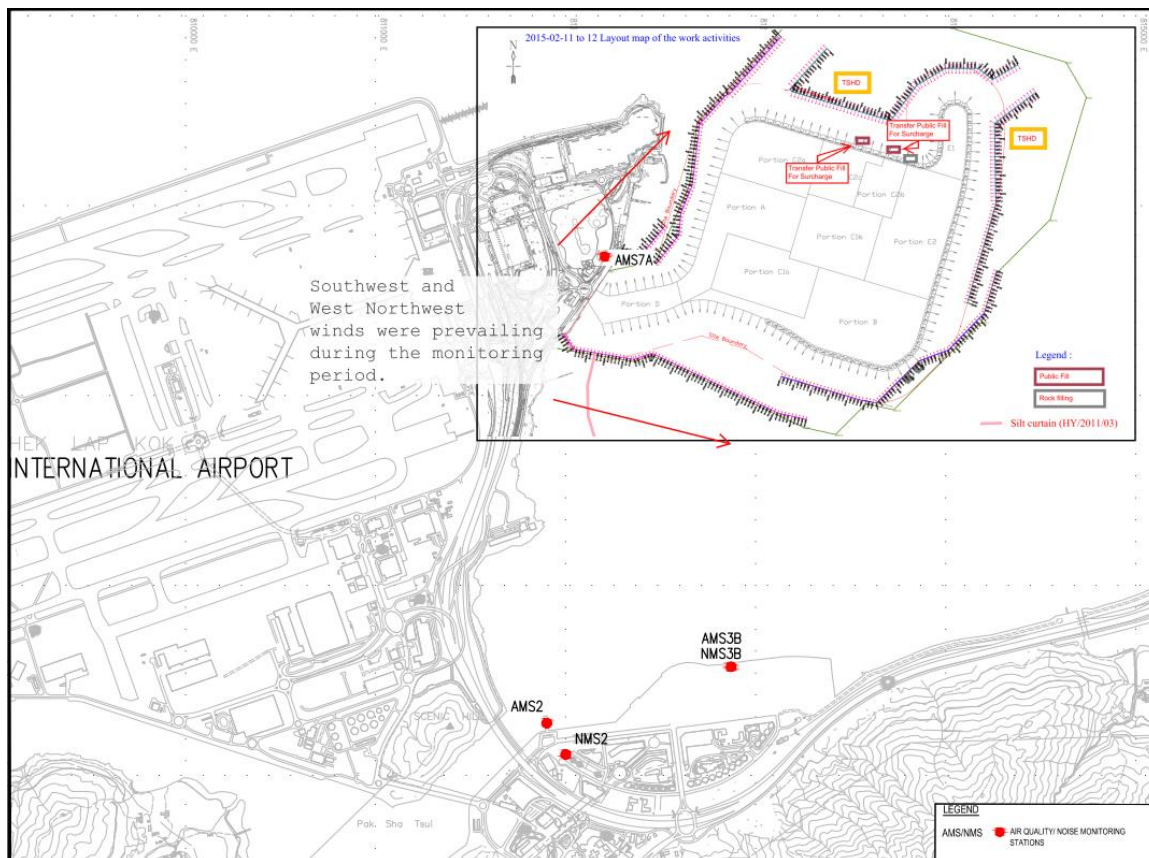
Monitoring Parameter	Location	Level of Exceedance	Numbers of Exceedance		
			December 14	January 15	February 15
1-hr TSP	AMS2	Action	0	0	0
		Limit	0	0	0
	AMS3B	Action	0	0	0
		Limit	0	0	0
	AMS7/7A*	Action	0	0	0
		Limit	0	0	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	
24-hr TSP	AMS2	Action	0	0	1
		Limit	0	0	0
	AMS3B	Action	0	0	1
		Limit	0	0	0
	AMS7/7A*	Action	0	0	1
		Limit	0	0	0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	

\* The impact air quality monitoring station AMS7 has been relocated to AMS7A on 3 February 2015.

3.1.6 Three action level exceedances of 24-hr TSP were recorded AMS2, AMS3B and AMS7A on 12 February 2015. After investigation, there is no adequate information to conclude the recorded action level exceedances are related to this Contract. No 24-hr TSP Action and Limit Level exceedances were recorded on other monitoring date in the reporting month. All 1-Hour TSP results were below the Action and Limit Level in the reporting month.

3.1.7 For the three action level exceedances of 24-hr TSP were recorded AMS2, AMS3B and AMS7A on 12 February 2015:

3.1.7.1 According to information provided by the Contractor, construction activities such as rock filling, transferring of public fill for surcharge and operation of TSHD for filling activity were undertaken at north of HKBCF reclamation works on 11 and 12 February 2015. Also refer to layout map below for location of works activities and monitoring stations AMS2, AMS3B and AMS7A on 11 and 12 February 2015.



3.1.7.2 Checking of Mitigation measures:

3.1.7.3 Watering record was checked and it shows that watering was implemented on HKBCF Reclamation works on 11 and 12 February 2015. Also refer to attached photo record taken on 9 February 2015 which shows implementation of dust control measure such as watering on HKBCF reclamation site.

3.1.7.4 Photo record taken on 12 February 2015 shows that roads were paved with hard surface and kept clear of dusty materials at Works Area at WA2.

3.1.7.5 Photo record taken on 5 February 2015 below showed that the Contractor implemented dust control measures at HKBCF reclamation works such as watering on exposed soil. The Contractor was reminded to continue to provide such dust control measure.



- 3.1.7.6 Photo record taken on 12 February 2015 showed that the Contractor implemented dust control measures such as hard paved roads at WA2. The Contractor was reminded to continue to provide such dust control measure.



- 3.1.7.7 Checking record shows that plant engine is operated by using ultra low sulphur diesel (ULSD) and these minimize the possibility of air pollution via plant operation.
- 3.1.7.8 Also, with reference to the weekly joint site inspection records of 5 and 12 February 2015, generation of dark smoke or fugitive dust was not observed and this indicates that plant engines were properly maintained and unlikely that work activities have contributed to the dust action level exceedance recorded on 12 February 2015.
- 3.1.7.9 Other references:
- 3.1.7.10 Functional checking on High Volume Sampler (HVS) at AMS2, AMS3B and AMS7A was done, air flow of the HVS was checked and the flow was steady during the 24-hr TSP sampling at AMS2, AMS3B and AMS7A. The filter paper was re-weighted by the assigned HOKLAS laboratory and the result was reconfirmed.
- 3.1.7.11 The 1-hr TSP values recorded on 12 February 2015 which are within the monitoring days of the 24-hr TSP, were  $73\mu\text{g}/\text{m}^3$ ,  $75\mu\text{g}/\text{m}^3$  and  $75\mu\text{g}/\text{m}^3$  respectively at AMS2;  $76\mu\text{g}/\text{m}^3$ ,  $77\mu\text{g}/\text{m}^3$  and



74 $\mu\text{g}/\text{m}^3$  respectively at AMS3B; 75 $\mu\text{g}/\text{m}^3$ , 77 $\mu\text{g}/\text{m}^3$  and 73 $\mu\text{g}/\text{m}^3$  respectively at AMS7A. All measured values are well below the Action and Limit Levels.

- 3.1.7.12 The wind data collected at wind station at Works Area WA2 during the monitoring period on 11 and 12 February 2015 shows that Southwest and West Northwest winds were prevailing during the monitoring period. This indicates that source of exceedance was unlikely to attribute to HKBCF Reclamation Works.
- 3.1.7.13 Information available on government's AQHI website shows that the short-term health risk of air pollution is very high in Tung Chung (with max value 9 to 10) on 11 and 12 February 2015 respectively indicating the air pollution at the background is relatively high during the monitoring period. The high level of background air pollution on 11 and 12 February 2015 may contribute to the high level of TSP recorded. Information available online:  
[http://www.aqhi.gov.hk/epd/ddata/html/history/2015/201502\\_Eng.csv](http://www.aqhi.gov.hk/epd/ddata/html/history/2015/201502_Eng.csv)
- 3.1.7.14 After investigation, there is no adequate information to conclude the recorded action level exceedances are related to this Contract.
- 3.1.7.15 The Contractor was recommended to continue implementing existing dust mitigation measures and the Contractor was reminded ensure to undertake watering at least 8 times per day on all exposed soil within the Project site and associated work areas throughout the construction phase.
- 3.1.8 The event action plan is annexed in Appendix K.
- 3.1.9 Meteorological information collected from the wind station during the monitoring periods on the monitoring dates, as shown in Figure 2, including wind speed and wind direction, is annexed in Appendix H of monthly EM&A report December 2014, January and February 2015 respectively.

## 3.2 Noise Monitoring

- 3.2.1 Impact noise monitoring was conducted at the 2 monitoring stations (NMS2 and NMS3B) for at least once per week during 07:00 – 19:00 in the reporting quarter.
- 3.2.2 The monitoring locations used during the reporting quarter are depicted in Figure 2.
- 3.2.3 No Action or Limit Level Exceedance of construction noise was recorded in the reporting quarter.
- 3.2.4 Major noise sources during the noise monitoring included construction activities of the Project and nearby traffic noise.
- 3.2.5 The number of impact noise monitoring events and exceedances are summarized in Table 3.3 and Table 3.4 respectively.

**Table 3.3 Summary of Number of Monitoring Events for Impact Noise**

Monitoring Parameter	Location	No. of monitoring events		
		December 14	January 15	February 15
	NMS2	5	4	4
	NMS3B	5	4	4

**Table 3.4 Summary of Number of Monitoring Exceedances for Impact Noise**

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance		
			December 14	January 15	February 15
	NMS2	Action	0	0	0
		Limit	0	0	0
	NMS3B	Action	0	0	0
		Limit	0	0	0
		<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

3.2.6 The graphical plots of the trends of the monitoring results are provided in Appendix F. No specific trend of the monitoring results or existence of persistent pollution source was noted.

3.2.7 The event action plan is annexed in Appendix K.

### 3.3 Water Quality Monitoring

3.3.1 The monitoring locations used during the reporting quarter are depicted in Figure 3.

3.3.2 A total of (17) seventeen exceedances were recorded in this reporting quarter:

3.3.3 One (1) limit level exceedance and one (1) action level exceedance were recorded at monitoring station IS17 and IS(Mf)9 respectively on 5 December 2014 during mid ebb tide. One (1) action level exceedance was recorded at IS10 and one (1) action level exceedance was recorded at SR5 respectively on 12 January 2015 during flood tide; one (1) action level exceedance was recorded at IS17 on 16 January 2015 during ebb tide; one (1) action level exceedance was recorded at IS17, SR5, SR6 and IS10 respectively, on 21 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11, SR10B(N) and SR7 respectively on 23 January 2015 during flood tide. One (1) limit level exceedance was recorded at SR10A and SR6 respectively on 23 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11 on 26 January 2015 during flood tide. One (1) Limit Level Exceedance of SS at IS(Mf)11 and one (1) Action Level Exceedance of SS at SR7 during Flood tide recorded on 23 February 2015. After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.

**Table 3.5 Summary of Water Quality Exceedances in December 2014 – February 2015**

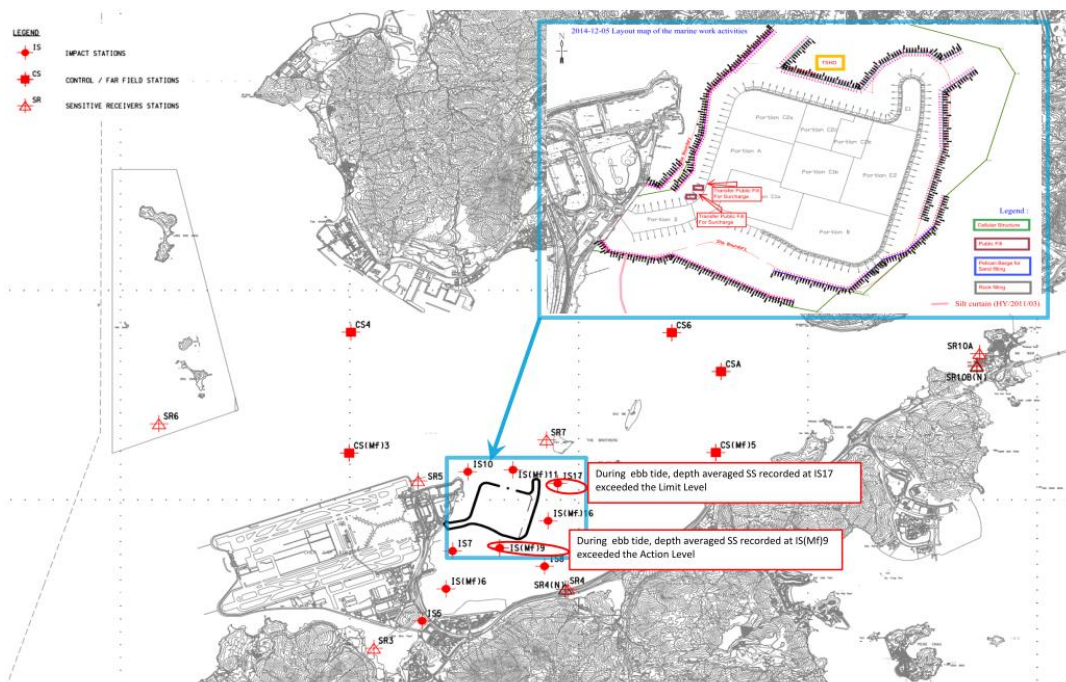
Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
IS5	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)6	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS7	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS8	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)9	Action	0	0	0	0	0	0	(1) 5 Dec 14	0	1	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS10	Action	0	0	0	0	0	0	0	(2) 12 & 21 Jan 15	0	2
	Limit	0	0	0	0	0	0	0	0	0	0
IS(Mf)11	Action	0	0	0	0	0	0	0	(2) 23 & 26 Jan 15	0	2
	Limit	0	0	0	0	0	0	0	(1) 23 Feb 15	0	1
IS(Mf)16	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
IS17	Action	0	0	0	0	0	0	(1) 16 Jan 15	(1) 21 Jan 15	1	1
	Limit	0	0	0	0	0	0	(1) 5 Dec 14	0	1	0
SR3	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0

Station	Exceedance Level	DO (S&M)		DO (Bottom)		Turbidity		SS		Total	
		Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood
SR4(N)	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
SR5	Action	0	0	0	0	0	0	0	(2) 12 & 21 Jan 15	0	2
	Limit	0	0	0	0	0	0	0	0	0	0
SR6	Action	0	0	0	0	0	0	0	(1) 21 Jan 15	0	1
	Limit	0	0	0	0	0	0	0	(1) 23 Jan 15	0	1
SR7	Action	0	0	0	0	0	0	0	(2) 23 Jan 15 and 23 Feb 15	0	2
	Limit	0	0	0	0	0	0	0	0	0	0
SR10A	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	(1) 23 Jan 15	0	1
SR10B (N)	Action	0	0	0	0	0	0	0	(1) 23 Jan 15	0	1
	Limit	0	0	0	0	0	0	0	0	0	0
Total	Action	0	0	0	0	0	0	2	11	13	
	Limit	0	0	0	0	0	0	1	3	4	

Note: S: Surface;  
 M: Mid-depth;

3.3.4 For water quality, one (1) action level and one (1) limit level exceedance were recorded at IS(Mf)9 and IS17 respectively on 5 December 2014 during mid ebb tide. No exceedance was recorded at all other monitoring stations in the reporting month. The exceedances were confirmed after checking against relevant control station(s) during ebb tide i.e. CS4 and CS(Mf)3 following the Action and Limit Levels for Water Quality.

3.3.4.1 Layout map below shows active works conducted on 5 December 2014 during ebb tide.



3.3.4.2 Exceedances recorded at IS17 and IS(Mf)9 during ebb tide are unlikely due to marine based construction activities of the Project because:

3.3.4.3 With refer to monitoring record, appearance of water was relatively more turbid at IS17 and IS(Mf)9 when compared with the appearance of water at IS(Mf)11, IS10, IS(Mf)16, IS7 and IS8 during monitoring at ebb tide on 05 December 2014.

3.3.4.4 However, with refer to the layout map attached, only public fill was being transferred as surcharge at near Portion A and since no marine filling was conducted during ebb tide on 5 December 2014, therefore, they are unlikely contribute to the exceedance of SS at IS17 and IS(Mf)9.

3.3.4.5 The location and type of active works conducted were almost the same on 5 and 8 December 2014 during ebb tide but no exceedance was recorded at IS17 and IS(Mf)9 on 8 December 2014. This indicates that the exceedances at monitoring station IS17 and IS(Mf)9 were unlikely to be contributed by active works.

3.3.4.6 In addition, with referred to monitoring record, no sediment plume has been observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain during ebb tide on 5 December 2014. (Please refer to photo record taken during ebb tide on 5 December 2015)

3.3.4.7 Photo record which shows the sea condition near Portion B, the southeast part of the HKBCF reclamation works at ebb tide on 5 December 2014.



- 3.3.4.8 Photo record which shows the sea condition near Portion E, the northeast part of the HKBCF reclamation works at ebb tide on 5 December 2014



- 3.3.4.9 Turbidity level recorded at IS17, IS(Mf)11, IS(Mf)16, IS(Mf)9, IS7 and IS8 on 5 December 2014 were below the action and limit level. This indicates the turbidity level at area near IS17 and IS(Mf)9 were not adversely affected.
- 3.3.4.10 The exceedances were likely due to local effects in the vicinity of IS17 and IS(Mf)9.
- 3.3.4.11 As such, the exceedances recorded at IS17 and IS(Mf)9 are unlikely to be project related.

3.3.4.12 Action taken under the action plan

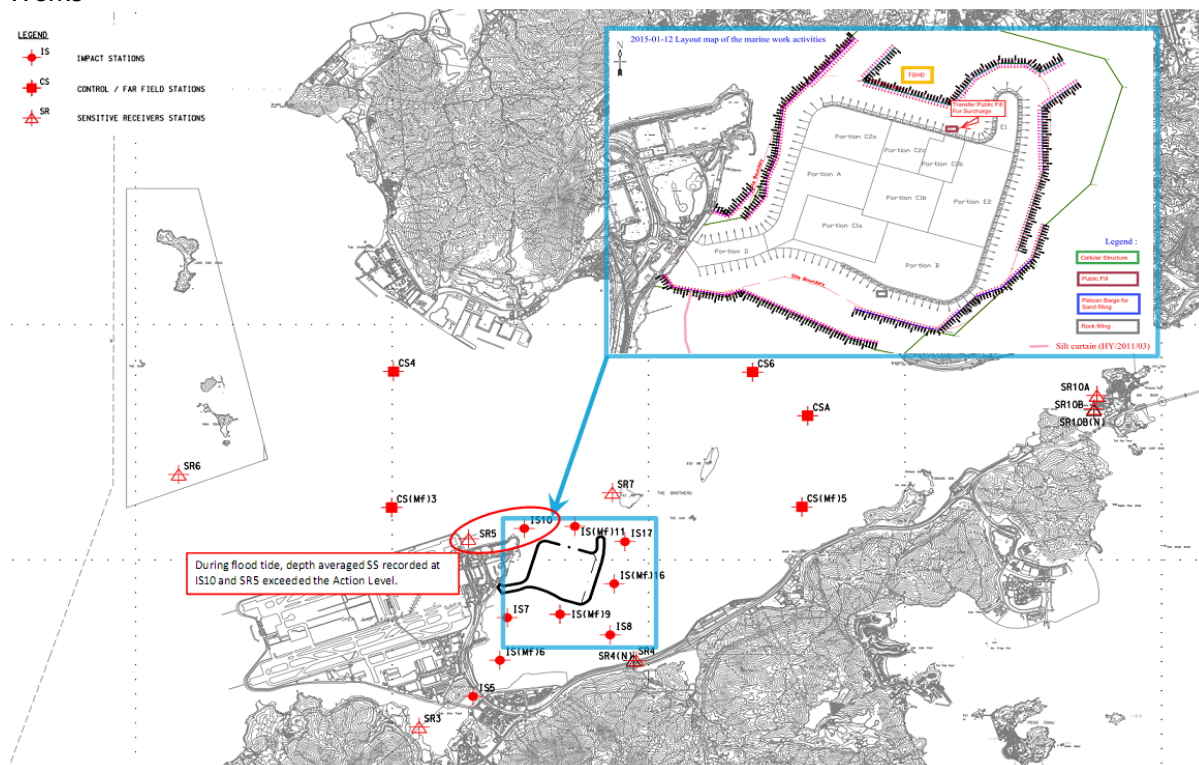
1. Not applicable as SS was not measured in situ;
2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedances were attributed to active construction activities of this Contract;
3. IEC, contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.

3.3.4.13 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.

3.3.4.14 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.5 For water quality, one (1) action level exceedance was recorded at IS10 and one (1) action level exceedance was recorded at SR5 respectively on 12 January 2015 during flood tide. The exceedances were confirmed after checking against relevant control station(s) during flood tide i.e. CS6, CSA and CS(Mf)5 following the Action and Limit Levels for Water Quality.

3.3.5.1 Attached layout map shows active works conducted on 12 January 2015. No marine based construction works such as filling were conducted at northwest part of the HKBCF Reclamation Works



3.3.5.2 Exceedance recorded at IS10 and SR5 during mid-flood tide are unlikely due to marine based construction activities of the Project because:

3.3.5.3 With reference to the silt curtain checking record, defects was not observed at northwest part of the perimeter silt curtain which are close to the IS10 and SR5.

3.3.5.4 No filling activities was observed in progress and no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted at IS10 and SR5. (Also see attached for sea condition observed on 12 January 2015 during flood tide.)



3.3.5.5 Photo record which shows the sea condition near Portion C2a, the northwest part of the HKBCF



3.3.5.6 Photo record which shows the sea condition near Portion C2a, the northwest part of the HKBCF

3.3.5.7 Also, turbidity level recorded at SR5, IS10 and IS(Mf)11 were below the action and limit level. This indicates the turbidity level at area near SR5 and IS10 was not adversely affected.

3.3.5.8 The exceedance was likely due to local effects in the vicinity of SR5 and IS10.

3.3.5.9 After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.

3.3.5.10 Action taken under the action plan

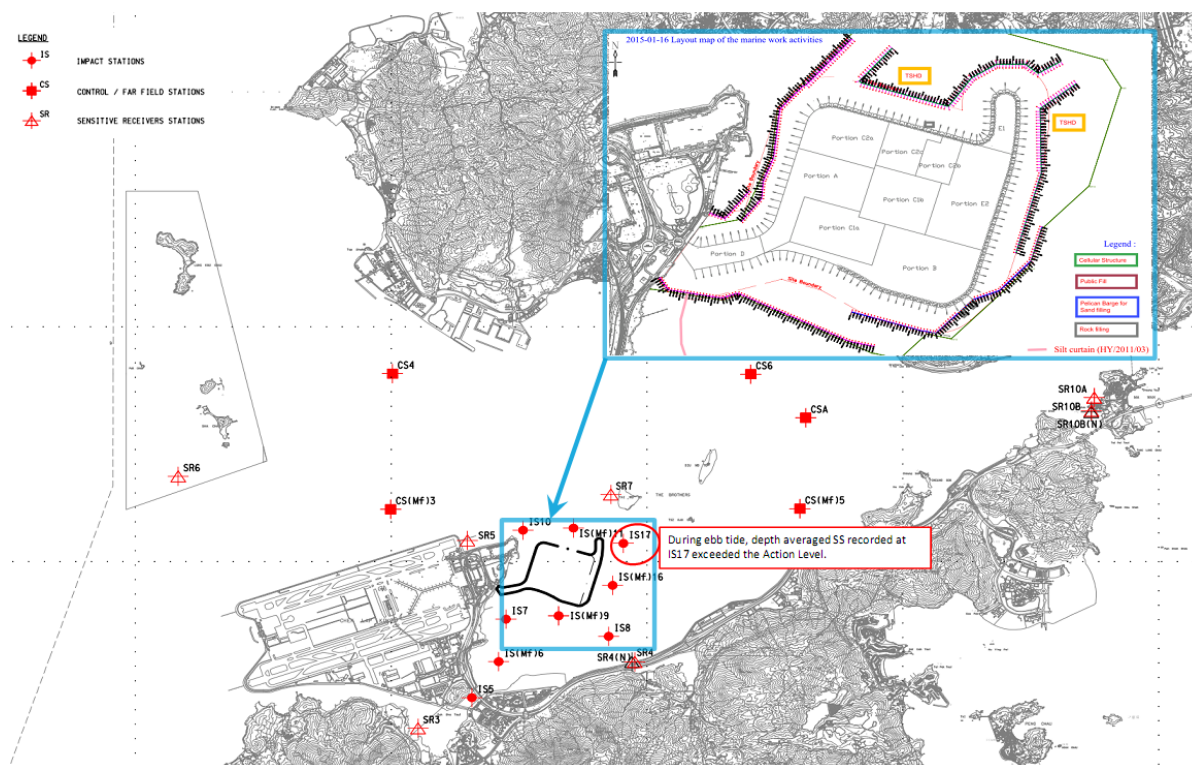
1. Not applicable as SS was not measured in situ;
2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedances were attributed to active construction activities of this Contract;
3. IEC, contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.

3.3.5.11 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.

3.3.5.12 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.6 For water quality, one (1) action level exceedance was recorded at IS17 on 16 January 2015 during ebb tide. The exceedance was confirmed after checking against relevant control station(s) during ebb tide i.e. CS4 and CS(Mf)3 following the Action and Limit Levels for Water Quality.

3.3.6.1 Attached layout map shows active works conducted on 16 January 2015. Marine based construction activities such as rock filling was conducted at north part of the HKBCF Reclamation Works.



3.3.6.2 Exceedance recorded at IS17 during ebb tide is unlikely due to marine based construction activities of the Project because:

3.3.6.3 Turbidity level recorded at IS17, IS(Mf)11, IS(Mf)16, IS(Mf)9, IS7 and IS8 on 16 January 2015 were below the action and limit level. This indicates the turbidity level at area near IS17 were not adversely affected.

3.3.6.4 With refer to the layout map attached, rock filling is the only marine based construction works conducted during ebb tide on 16 January 2015 at portion C2C which relatively far away from IS17, as such, it is unlikely to cause the exceedance of SS at IS17.

3.3.6.5 The location and type of active works conducted were almost the same on 19 January 2015 during ebb tide but no exceedance was recorded at IS17 on 19 January 2015. This indicates that the exceedances at monitoring station IS17 was unlikely to be contributed by active work.

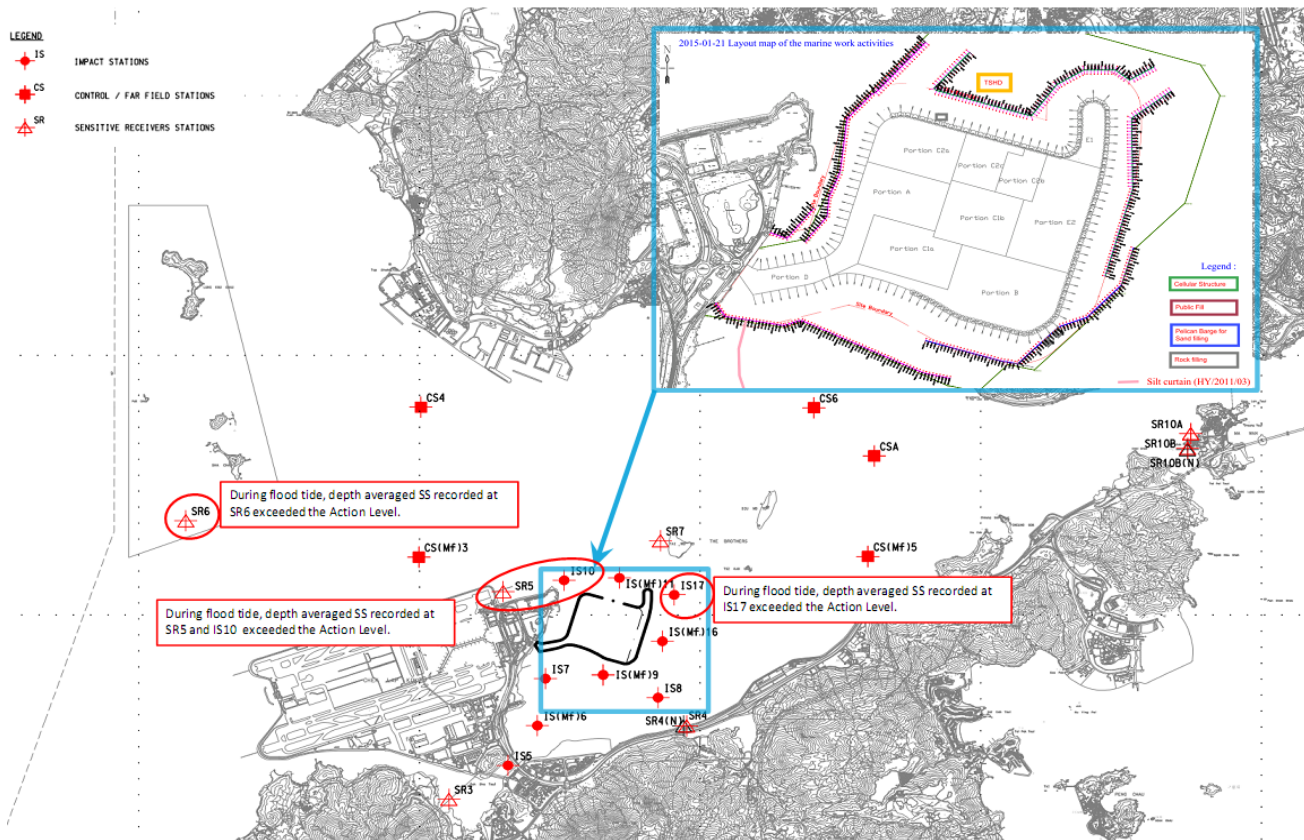
- 3.3.6.6 In addition, with referred to monitoring record, no sediment plume has been observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain during ebb tide on 16 January 2015. (Please refer to photo record taken during ebb tide on 16 January 2015)



- 3.3.6.7 The exceedance was likely due to local effects in the vicinity of IS17.
- 3.3.6.8 As such, the exceedance recorded at IS17 is unlikely to be project related.
- 3.3.6.9 Action taken under the action plan
1. Not applicable as SS was not measured in situ;
  2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedance was attributed to active construction activities of this Contract;
  3. IEC, contractor and ER were informed via email;
  4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
  5. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.
- 3.3.6.10 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.
- 3.3.6.11 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.7 For water quality, one (1) action level exceedance was recorded at IS17, SR5, SR6 and IS10 respectively, on 21 January 2015 during flood tide. The exceedance was confirmed after checking against relevant control station(s) during flood tide i.e. CS6, CSA and CS(Mf)5 following the Action and Limit Levels for Water Quality.

3.3.7.1 Attached layout map shows active works conducted on 21 January 2015. Construction works such as rock filling was conducted near portion C2a of the HKBCF Reclamation Works on 21 January 2015.



3.3.7.2 Exceedances recorded at IS10, SR5 and SR6 during mid-flood tide are unlikely due to marine based construction activities of the Project because:

3.3.7.3 With reference to the silt curtain checking record, defects were not observed at northwest part of the perimeter silt curtain which are close to the IS10 and SR5.

3.3.7.4 Rock filling was conducted near portion C2a during flood tide, but no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted. (Also see attached photo record for sea condition taken at west side of the HKBCF Reclamation Works on 21 January 2015 during flood tide.)

3.3.7.5 Also, turbidity level recorded at IS10, SR5, SR6 were below the action and limit level. This indicates the turbidity level at area near IS10, SR5, SR6 and IS17 were not adversely affected.

3.3.7.6 The exceedances were likely due to local effects in the vicinity of IS10, SR5 and SR6.

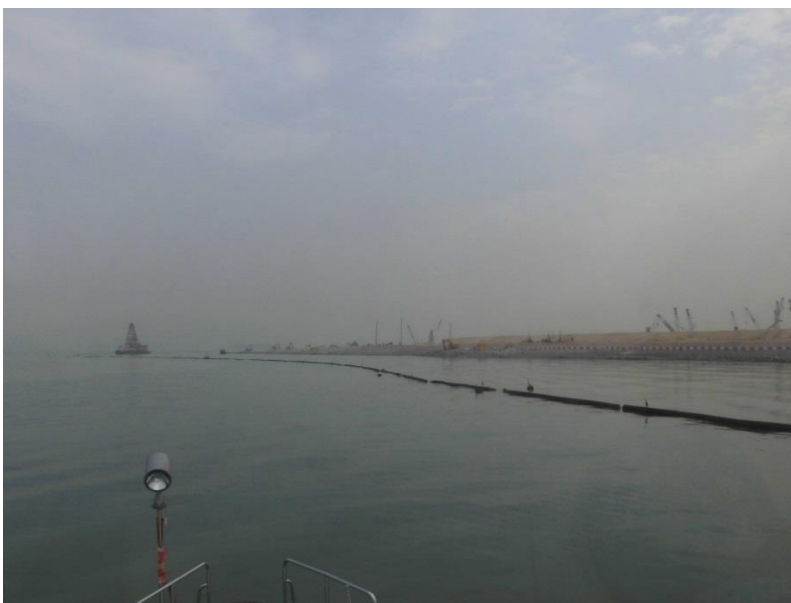
3.3.7.7 Exceedance recorded at IS17 during mid-flood tide is unlikely due to marine based construction activities of the Project because:

3.3.7.8 With reference to the silt curtain checking record, defects were observed at northeast part of the silt curtain.

- 3.3.7.9 Although rock filling was conducted near portion C2a during flood tide, no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted. (Also see attached photo record for sea condition on 21 January 2015 during northwest side of the HKBCF Reclamation Works during flood tide.)
  
- 3.3.7.10 Photo record which shows the sea condition near at northeast side of HKBCF Reclamation Works at flood tide on 21 January 2015.



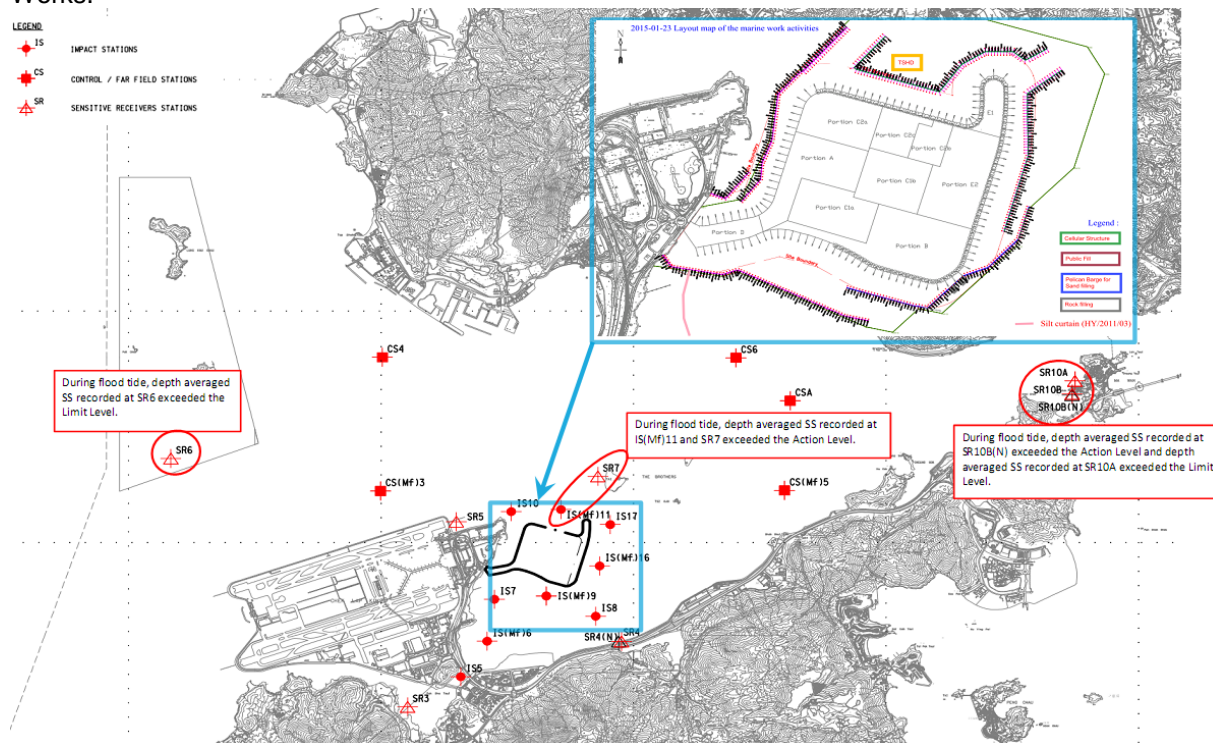
- 3.3.7.11 Photo record which shows the sea condition near at west side of HKBCF Reclamation Works at flood tide on 21 January 2015.



- 3.3.7.12 Also, turbidity level recorded at IS(Mf)11, IS17 and IS(Mf)16 were below the action and limit level. This indicates the turbidity level at area near IS17 was not adversely affected.
- 3.3.7.13 The exceedance was likely due to local effects in the vicinity of IS17.
- 3.3.7.14 After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.
- 3.3.7.15 Action taken under the action plan
1. Not applicable as SS was not measured in situ;
  2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedances were attributed to active construction activities of this Contract;
  3. IEC, contractor and ER were informed via email;
  4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
  5. Since it is considered that the SS exceedances are unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.
- 3.3.7.16 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.
- 3.3.7.17 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.8 For water quality, one (1) action level exceedance was recorded at IS(Mf)11, SR10B(N) and SR7 respectively on 23 January 2015 during flood tide. One (1) limit level exceedance was recorded at SR10A and SR6 respectively on 23 January 2015 during flood tide. The exceedance was confirmed after checking against relevant control station(s) during flood tide i.e. CS6, CSA and CS(Mf)5 following the Action and Limit Levels for Water Quality.

3.3.8.1 Attached layout map shows active works conducted on 23 January 2015. Marine based construction works such rock filling were conducted at southeast part of HKBCF Reclamation Works.



3.3.8.2 Exceedances recorded at SR10A and SR10B(N) during mid-flood tide are unlikely due to marine based construction activities of the Project because:

3.3.8.3 IS17, IS(Mf)16, CS6, CSA and CS(Mf)5 are closer to the active works than monitoring station SR10A and SR10B(N) during flood tide. Depth Averaged Suspended Solids (SS) values (in mg/L) recorded during flood tide on the same day at IS17, IS(Mf)16, CS6, CSA and CS(Mf)5 were below the Action and Limit Level which indicates HKBCF reclamation works is unlikely to contribute to the action level exceedances recorded at SR10A and SR10B(N).

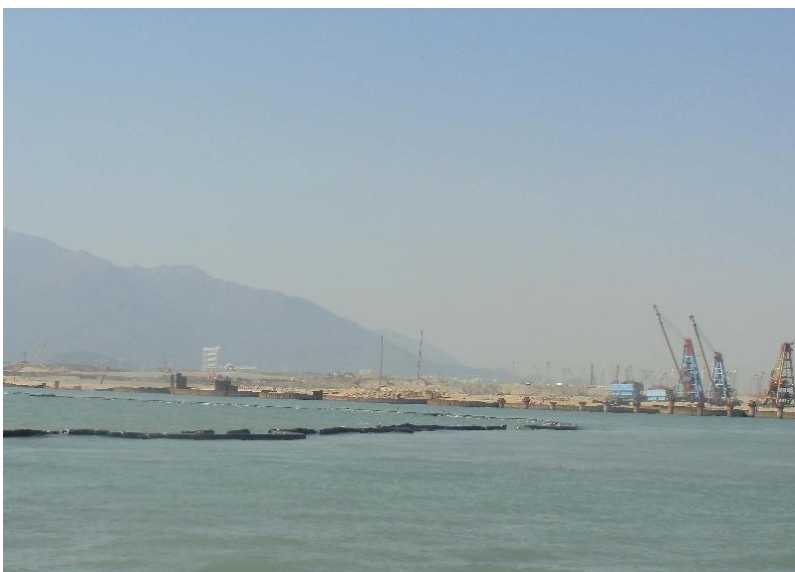
3.3.8.4 The monitoring location of monitoring station SR10B(N) are considered upstream and remote to the active works of this project during flood tide. Therefore it was unlikely that the exceedances recorded at SR10A and SR10B(N) during flood tide was due to HKBCF Reclamation Works.

3.3.8.5 The exceedances were likely due to local effects in the vicinity of SR10A and SR10B(N).

3.3.8.6 Exceedance recorded at SR6 during mid-flood tide is unlikely due to marine based construction activities of the Project because:

3.3.8.7 IS10 and SR5 are downstream and closer to the HKBCF Reclamation Works than monitoring station SR6 during flood tide. Depth Averaged Suspended Solids (SS) values (in mg/L) recorded during flood tide on the same day at IS10 and SR5 were below the Action and Limit Level which indicates HKBCF reclamation works is unlikely to contribute to the action level exceedance recorded at SR6.

- 3.3.8.8 The monitoring location of monitoring station SR6 are considered remote to the HKBCF Reclamation Works. Therefore it was unlikely that the exceedance recorded at SR6 during flood tide was due to HKBCF Reclamation Works.
- 3.3.8.9 The exceedance was likely due to local effects in the vicinity of SR6.
- 3.3.8.10 Exceedances recorded at IS(Mf)11 and SR7 during mid-flood tide are unlikely due to marine based construction activities of the Project because:
- 3.3.8.11 With reference to the silt curtain checking record, defects were observed at north and northwest part of the perimeter silt curtain which are close IS11.
- 3.3.8.12 With referred to the attached layout map, marine based construction works such rock filling were conducted at southeast part of the site, however no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted during flood tide. (Also see attached for sea condition observed on 23 January 2015 during flood tide.)
- 3.3.8.13 Photo record which shows the sea condition at northeast part of the HKBCF reclamation works during flood tide on 23 January 2015.





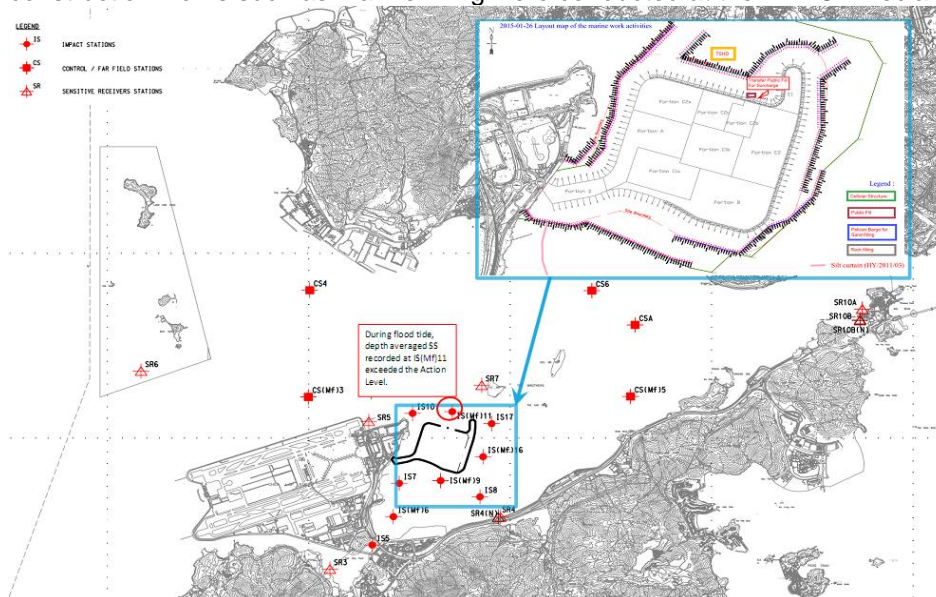
- 3.3.8.14 Photo record which shows the sea condition at the east part of the HKBCF reclamation works during flood tide on 23 January 2015.



- 3.3.8.15 Also, turbidity level recorded at IS(Mf)11, SR7, IS10 and IS17 were below the action and limit level. This indicates the turbidity level at or near IS(Mf)11 and SR7 was not adversely affected.
- 3.3.8.16 The exceedances were likely due to local effects in the vicinity of IS(Mf)11 and SR7.
- 3.3.8.17 After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.
- 3.3.8.18 Action taken under the action plan
1. Not applicable as SS was not measured in situ;
  2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedances were attributed to active construction activities of this Contract;
  3. IEC, contractor and ER were informed via email;
  4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
  5. Since it is considered that the SS exceedances are unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.
- 3.3.8.19 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.
- 3.3.8.20 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.9 For water quality, one (1) action level exceedance was recorded at IS(Mf)11 on 26 January 2015 during flood tide. The exceedance was confirmed after checking against relevant control station(s) during flood tide i.e. CS6, CSA and CS(Mf)5 following the Action and Limit Levels for Water Quality.

3.3.9.1 Attached layout map shows active works conducted on 26 January 2015. No marine based construction works such as marine filling were conducted at the HKBCF Reclamation Works.



3.3.9.2 Exceedance recorded at IS(Mf)11 during mid-flood tide are unlikely due to marine based construction activities of the Project because:

3.3.9.3 With reference to the silt curtain checking record, defect was observed at north part of the perimeter silt curtain which are close to the IS(Mf)11.

3.3.9.4 No filling activities was observed in progress and no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted at IS(Mf)11. (Also see attached for sea condition observed on 26 January 2015 during flood tide.

3.3.9.5 Photo record which shows the sea condition at north part of the HKBCF reclamation works during flood tide on 26 January 2015.



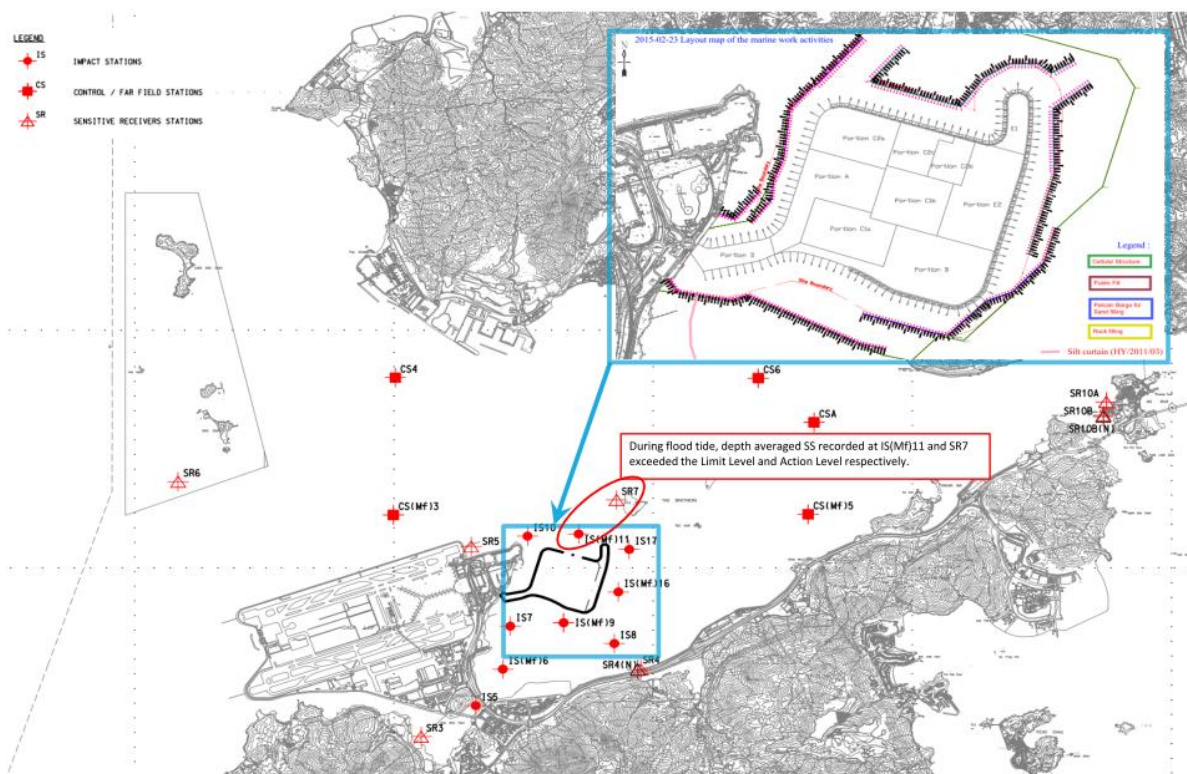
- 3.3.9.6 Also turbidity level recorded at IS(Mf)11, IS10, IS17 and SR7 were below the action and limit level. In addition, SS results at IS10, IS17 and SR7 were below the action and limit level. This indicates the turbidity and SS level at area near IS(Mf)11 were not adversely affected.
- 3.3.9.7 The exceedance was likely due to local effects in the vicinity of IS(Mf)11.
- 3.3.9.8 After investigation, there is no adequate information to conclude the recorded exceedance is related to this Contract.
- 3.3.9.9 Action taken under the action plan
1. Not applicable as SS was not measured in situ;
  2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedance was attributed to active construction activities of this Contract;
  3. IEC, contractor and ER were informed via email;
  4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
  5. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.
- 3.3.9.10 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.
- 3.3.9.11 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday.

3.3.10 For water quality, one (1) Limit Level Exceedance of SS at IS(Mf)11 and one (1) Action Level Exceedance of SS at SR7 during Flood tide recorded on 23 February 2015. The exceedances were confirmed after checking against relevant control station(s) during flood tide i.e. CS6, CSA and CS(Mf)5 following the Action and Limit Levels for Water Quality.

3.3.10.1 Exceedances recorded at IS(Mf)11 and SR7 during mid-flood tide on 23 February 2015 are unlikely due to marine based construction activities of the Project because:

3.3.10.2 With reference to the silt curtain checking record, defects were observed at north and northwest part of the perimeter silt curtain which are close IS(Mf)11.

3.3.10.3 With referred to the layout map below, no marine based construction work was conducted on site on 23 February 2015 and no silt plume was observed to flow from the inside of the perimeter silt curtain to the outside of the perimeter silt curtain when monitoring was conducted during flood tide. (Also see below photo record for sea condition observed on 23 February 2015 during flood tide.



3.3.10.4 Photo record which shows the sea condition at north part of the HKBCF reclamation works during flood tide on 23 February 2015:



- 3.3.10.5 Also, turbidity level recorded at IS(Mf)11, SR7, IS10 and IS17 were 24.9(NTU), 14.7(NTU), 5.7(NTU) and 23.9(NTU) respectively; Suspended solids level recorded at IS10 and IS17 were 23.2mg/L and 7.9mg/L respectively, which were all below the action and limit level. This indicates the turbidity level at or near IS(Mf)11 and SR7 and Suspended Solids level near IS(Mf)11 and SR7 were not adversely affected.
- 3.3.10.6 The exceedances were likely due to local effects in the vicinity of IS(Mf)11 and SR7.
- 3.3.10.7 After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.
- 3.3.10.8 Action taken under the action plan:
1. Not applicable as SS was not measured in situ;
  2. After considering the above mentioned investigation results, it appears that it was unlikely that the SS exceedances were attributed to active construction activities of this Contract;
  3. IEC, contractor and ER were informed via email;
  4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
  5. Since it is considered that the SS exceedance is unlikely to be project related, as such, actions 5-7 under the EAP are not considered applicable.
- 3.3.10.9 Nevertheless, the Contractor was reminded to ensure provision of ongoing maintenance to the silt curtains and to carry out maintenance work once defects were found.
- 3.3.10.10 Maintenance work of the silt curtain was carried out by the Contractor on a daily basis except Sunday and public holiday
- 3.3.11 The event action plan is annexed in Appendix K.

### 3.4 Dolphin Monitoring

- 3.4.1 In accordance with the Project Specific EM&A Manual, pre-set and fixed transect line vessel based dolphin survey was required in two AFCD designated areas (Northeast Lantau (NEL) and Northwest Lantau (NWL) survey areas). The impact dolphin monitoring at each survey area should be conducted twice per month.
- 3.4.2 The impact dolphin monitoring conducted is vessel-based and combines line-transect and photo-ID methodology, which have adopted similar survey methodologies as that adopted during baseline monitoring to facilitate comparisons between datasets.
- 3.4.3 The layout map of impact dolphin monitoring have been provided by AFCD and is shown in Figure 4.
- 3.4.4 The effort summary and sighting details during the reporting quarter are shown in the Appendix H. A summary of key findings of the dolphin surveys completed during the reporting quarter is shown below:

**Table 3.6 Summary of Key Dolphin Survey Findings in December 2014 – February 2015**

Number of Impact Surveys Completed^	6
Survey Distance Travelled under Favourable On- Effort Condition	657.6km
Number of Sightings	15 sightings (9 sightings are "on effort" (which are all under favourable condition), 6 "sightings are opportunistic")
Number of dolphin individual sighted	42 individuals (the best estimated group size)
Dolphin Encounter Rate#	NEL: 0 NWL: 2.1
Dolphin Group Size	Average of NEL: 0 Average of NWL: 2.8 Varied from 1-10 individuals
Most Often frequent dolphin sighting area	Northern Sha Chau and Lung Kwu Chau Marine Park, the western limit of NWL and Tai O area.

Remarks:

^ Completion of line transect survey of NEL and NWL survey area once was counted as one complete survey.  
 # Dolphin Encounter Rate = (Sum of 1<sup>st</sup> 2<sup>nd</sup>, 3<sup>rd</sup> month's total sighting/ Sum of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> month's total effort)\*100km (encounter rates are calculated using on effort sightings made under favourable conditions only.)

- 3.4.5 One (1) Limit Level exceedance of dolphin monitoring was recorded in the reporting quarter. After investigation, it was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors. Event Action Plan for Impact Dolphin Monitoring was triggered. For detail of investigation, please refer to appendix L.

**Table 3.7 Summary of STG and ANI encounter rates in December 2014 - February 2015**

	NEL	NWL	Level Exceeded
STG*	0	2.1	Limit
ANI**	0	4.3	

\*Quarterly Average Encounter Rate of Number of Dolphin Sightings (STG) presents averaged encounter rates of the three monitored months in terms of groups per 100km per survey event.

STG Encounter rate = (Average of (total number sighting/total effort) of 1st and 2nd completed survey# of 1st month+ Average of (total number sighting/total effort) of 1st and 2nd completed survey# of 2nd month + Average of (total number sighting/total effort) of 1st and 2nd completed survey# of 3rd month)/3\*100km

\*\*Quarterly Average Encounter Rate of Total Number of Dolphins (ANI) presents averaged encounter rates of the three monitored months in terms of individuals per 100km per survey event.

ANI Encounter rate = (Average of (total number of Individual/total effort) of 1st and 2nd completed survey# of 1st month+ Average of (total number of Individual/total effort) of 1st and 2nd completed survey# of 2nd month + Average of (total number of Individual/total effort) of 1st and 2nd completed survey# of 3rd month +)/3\*100km

- 3.4.6 Details of the comparison and analysis methodology and their findings and discussions are annexed in Appendix H.
- 3.4.7 A review of survey conditions was conducted. The works at lines 1 and 2 are progressing and permanent in water structures are in place. Given that these lines are now truncated due to these structures, it is advised that the start/end points of these lines be revised to reflect the new navigation required. A draft proposal to alter transect lines 1 and 2 was submitted to IEC/ENPO on 23 January 2015 to account for the permanent structures in the water. Further comments were given by IEC/ENPO on 26 February 2015 and the draft proposal was under ET's review in February 2015.

### **3.5 Environmental Site Inspection and Audit**

3.5.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. In the reporting quarter, 13 site inspections were carried out. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.

3.5.2 Particular observations during the site inspections are described below:

#### ***Air Quality***

3.5.3 A material storage tank of an idle grout production facility was observed not fully enclosed. Please be advised that the material storage tanks of a grout production facility should be fully covered / enclosed. The Contractor enclosed the grout production facility (Closed).

3.5.4 Recycle glass cullet for earthwork was observed stored on Portion C2a with and it is fully covered with tarpaulin or impervious sheets. The Contractor was reminded to continue to provide effective dust suppression measures. (Reminder)

3.5.5 Dark smoke from TSHD was observed. The Contractor was reminded ensure plants are kept in good condition and dark smoke emission from plant/equipment is avoided. The Contractor rectified the situation and kept plants in good condition and dark smoke emission from plant is avoided. (Closed)

#### ***Noise***

3.5.6 In general, please provide acoustic decoupling measures to air compressors and other noisy equipment when they are mounted on construction vessels. (Reminder)

#### ***Chinese White Dolphin***

3.5.7 No adverse observation was identified in the reporting quarter.

#### ***Water Quality***

3.5.8 No adverse observation was identified in the reporting month.

#### ***Chemical and Waste Management***

3.5.9 Oil drum was observed without label on barge SHB 209 and Portion D, the Contractor was reminded to provide proper labeling to oil drum. The Contractor provided labeling to oil drum on barge SHB 209. (Closed)

3.5.10 Oil and water mixture was observed accumulated inside drip tray. The Contractor was reminded to regularly clear it to prevent potential runoff. The Contractor cleared the oil and water mixture. (Closed)

3.5.11 Maintenance work of machine was observed. The Contractor was reminded to provide effective measures to contain potential oil spillage or leakage before handling oil on site and waste oil should be collected and disposed of as chemical waste. (Reminder)

3.5.12 Sand and equipment materials deposited inside the drip tray was observed at Portion C2A. The Contractor was reminded to clear the deposited sand and store the equipment materials properly. Contractor cleared the deposited materials and provided drip tray to the mechanical equipment. (Closed)

3.5.13 Oil drums were observed without drip tray at Portion C1a, on barge Sun Hung Ming, on floating grout production facility. The Contractor was reminded to provide drip tray to all oil drums. The Contractor provide drip tray to oil drums or removed the oil drums from the area. (Closed)



- 3.5.14 Water and oil mixture was observed full at one side of the drip tray on barge SHE7. The Contractor was advised to clear the water inside trip tray. The Contractor cleared the water inside trip tray. (Closed)
- 3.5.15 A gap was observed within the frame of the drip tray on barge SHE7. The Contractor was reminded to provide rectification and ensure no gap within the frame of drip tray. The Contractor provided rectification and ensures no gap within the frame of drip tray. (Closed)
- 3.5.16 It was observed that a generator was not put inside a drip tray. The Contractor was reminded to provide mitigation measures such as to put all generator inside drip tray. The Contractor provided mitigation measures such as to put all generator inside drip tray. (Closed)
- 3.5.17 General refuse were observed at Portion A, D, B, E1, C2a and other areas. The Contractor was reminded to regularly collect and dispose general refuse properly to keep the site clean and tidy. The Contractor cleared the general refuse and kept the site clean and tidy. (Closed)
- 3.5.18 Sand and equipment materials deposited inside the drip tray was observed at Portion C2A. The Contractor was reminded to clear the deposited sand and store the equipment materials properly. Contractor cleared the deposited materials and provided drip tray to the mechanical equipment. (Closed)
- 3.5.19 General refuse observed at sea area at south part of the HKBCF reclamation works, on land area of portion D and portion A. The Contractor was reminded to regularly clear general refuse within the site to keep the site clean and tidy. The Contractor rectified the situation and cleared general refuse at sea area within the site to keep the site clean and tidy. (Closed)
- 3.5.20 Defective drip trays such as drip tray with insufficient size or deformed frame were observed at portion B and on floating grout production facility, the Contractor is advised to properly provide mitigation measures such as drip trays to all PMEs. The Contractor rectified the situation and removed the generator from the area or from the defective drip tray or provided mitigation measures such as drip trays with sufficient size to the generator. (Closed)
- 3.5.21 Bags of dry cement were observed on barge SHB 402, the Contractor was reminded to properly handle them or dispose of properly. The Contractor removed and cleared the bags of dry cement. (Closed)

#### ***Landscape and Visual Impact***

- 3.5.22 No relevant adverse impact was observed in the reporting month.

#### ***Others***

- 3.5.23 Rectifications of remaining identified items are undergoing by the Contractor. Follow-up inspections on the status on provision of mitigation measures will be conducted to ensure all identified items are mitigated properly.

## **4 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS**

### **4.1 Summary of Solid and Liquid Waste Management**

- 4.1.1 The Contractor registered as a chemical waste producer for this project. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 4.1.2 As advised by the Contractor, 4,504,117m<sup>3</sup> of fill were imported for the Project use in the reporting period. 1.5kg of metal, 811kg of paper/cardboard packaging, 6,401kg plastics, 2,400kg of chemical waste and 149.5m<sup>3</sup> of general refuse were generated and disposed of in the reporting period. Monthly summary of waste flow table is detailed in Appendix I.
- 4.1.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system, dispose of C&D materials and wastes at designated ground and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 4.1.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

## **5 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES**

### **5.1 Implementation Status of Environmental Mitigation Measures**

- 5.1.1 In response to the site audit findings, the Contractors carried out corrective actions.
- 5.1.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in Appendix C. Most of the recommended mitigation measures are being upheld. Moreover, regular review and checking on the construction methodologies, working processes and plants were carried out to ensure the environmental impacts were kept minimal and recommended environmental mitigation measures were implemented effectively.
- 5.1.3 Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly.
- 5.1.4 Regarding the implementation of dolphin monitoring and protection measures (i.e. implementation of Dolphin Watching Plan, Dolphin Exclusion Zone and Silt Curtain integrity Check), regular checks were conducted by experienced MMOs within the works area to ensure that no dolphins were trapped by the silt curtain area. There were no dolphins spotted within the silt curtain during this quarter. The relevant procedures were followed and all measures were well implemented. The silt curtains were also inspected in accordance to the submitted plan.
- 5.1.5 Acoustic decoupling measures on noisy plants on construction vessels were checked regularly and the Contractor was reminded to ensure provision of ongoing maintenance to noisy plants and to carry out improvement work once insufficient acoustic decoupling measures were found.
- 5.1.6 Frequency of watering per day on exposed soil was checked; with reference to the record provided by the Contract, watering was conducted at least 8 times per day on reclaimed land. The frequency of watering is the mainly refer to water truck. Sprinklers are only served to strengthen dust control measure for busy traffic at the entrance of Portion D. As informed by the Contractor, during the mal-function period of sprinkler, water truck will enhance watering at such area. The Contractor was reminded to ensure provision of watering of at least 8 times per day on all exposed soil within the Project site and associated works areas throughout the construction phase.

5.1.7 As informed by the Contractor via email at 15:06 on 8 December 2014, oil was observed at sea area near western waters within the silt curtain at 15:00 on 8 December 2014. Following the spill response plan ET, IEC and the RSS were informed of the incident by the Contractor.

5.1.7.1 Investigation actions:

- Details of the oil spillage incident (8 December 2014) including size, location, time of the spillage and Contractor's action taken in response to the spill incident, have been reviewed.
- Joint site inspection was conducted on 11 December 2014 with the Contactor and RSS to observe the sea condition near sea area nearby western waters within the silt curtain.
- Impact water quality monitoring records of 8 and 10 December 2014 have been reviewed.

5.1.7.2 The oil spill was visually identified by the Contractor and RSS on 8 December 2014 as discrete, non-continuous source with approximately 25m<sup>2</sup> spread. (Also refer to photo record below)



5.1.7.3 The oil stain was no longer found when the emergency boat arrived the area about 15mins after the observation. And no sign of oil spillage was found on the nearby waters after. (Please see below photo record for reference).



- 5.1.7.4 The oil stain observed was limited at nearby western sea area within the silt curtain.
- 5.1.7.5 An joint site inspection was conducted with ET, Contractor and RSS on 11 December 2014 at perimeter of HKBCF Reclamation Works and no oil spillage was observed on site. (Also refer to photo record below).



- 5.1.7.6 Impact water quality monitoring records of 8 and 10 December 2014 have been reviewed; the IWQN location close to the oil spill is IS10, IS(Mf)11, SR5 and SR7. There is no exceedance of IWQM recorded at IS10, IS(Mf)11, SR5 and SR7 on 8 on 10 December 2014.
- 5.1.7.7 The contractor was reminded to continue to follow the spill response plan in the event of accidental oil spillage.

## **6 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT**

### **6.1 Summary of Exceedances of the Environmental Quality Performance Limit**

- 6.1.1 Three (3) action level exceedances of 24-hr TSP were recorded AMS2, AMS3B and AMS7A on 12 February 2015. After investigation, there is no adequate information to conclude the recorded action level exceedances are related to this Contract. No 24-hr TSP Action and Limit Level exceedances were recorded on other monitoring date in the reporting period. All 1-Hour TSP results were below the Action and Limit Level in the reporting period.
- 6.1.2 For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.
- 6.1.3 A total of (17) seventeen exceedances were recorded in this reporting quarter: One (1) limit level exceedance and one (1) action level exceedance were recorded at monitoring station IS17 and IS(Mf)9 respectively on 5 December 2014 during mid ebb tide; one (1) action level exceedance was recorded at IS10 and one (1) action level exceedance was recorded at SR5 respectively on 12 January 2015 during flood tide; one (1) action level exceedance was recorded at IS17 on 16 January 2015 during ebb tide; one (1) action level exceedance was recorded at IS17, SR5, SR6 and IS10 respectively, on 21 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11, SR10B(N) and SR7 respectively on 23 January 2015 during flood tide. One (1) limit level exceedance was recorded at SR10A and SR6 respectively on 23 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11 on 26 January 2015 during flood tide; one (1) Limit Level Exceedance of SS at IS(Mf)11 and one (1) Action Level Exceedance of SS at SR7 during Flood tide recorded on 23 February 2015.
- 6.1.4 After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.
- 6.1.5 One (1) Limit Level exceedance of dolphin monitoring was recorded in the reporting quarter. After investigation, it was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors. Event Action Plan for Impact Dolphin Monitoring was triggered. For detail of investigation, please refer to appendix L.
- 6.1.6 Cumulative statistics on exceedances is provided in Appendix J.

## **7 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS**

### **7.1 Summary of Environmental Complaints, Notification of Summons and Successful Prosecutions**

- 7.1.1 The Environmental Complaint Handling Procedure is annexed in Figure 5.
- 7.1.2 No complaint, notification of summons or prosecution was received in the reporting quarter.
- 7.1.3 Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix N.



## 8 COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

### 8.1 Comments on mitigation measures

8.1.1 According to the environmental site inspections performed in the reporting quarter, the following recommendations were provided:

#### ***Air Quality Impact***

- All working plants and vessels on site should be regularly inspected and properly maintained to avoid dark smoke emission.
- All vehicles should be washed to remove any dusty materials before leaving the site.
- Haul roads should be sufficiently dampened to minimize fugitive dust generation.
- Wheel washing facilities should be properly maintained and reviewed to ensure properly functioning.
- Temporary exposed slopes and open stockpiles should be properly covered.
- Enclosure should be erected for cement debagging, batching and mixing operations.
- Water spraying should be provided to suppress fugitive dust for any dusty construction activity.
- Regular review and provide maintenance to dust control measures such as sprinkler system.

#### ***Construction Noise Impact***

- Quieter powered mechanical equipment should be used as far as possible.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Proper and effective noise control measures for operating equipment and machinery on-site should be provided, such as erection of movable noise barriers or enclosure for noisy plants. Closely check and replace the sound insulation materials regularly
- Vessels and equipment operating should be checked regularly and properly maintained.
- Noise Emission Label (NEL) shall be affixed to the air compressor and hand-held breaker operating within works area.
- Acoustic decoupling measures should be properly implemented for all existing and incoming construction vessels with continuous and regularly checking to ensure effective implementation of acoustic decoupling measures.

#### ***Water Quality Impact***

- Regular review and maintenance of silt curtain systems, drainage systems and desilting facilities in order to make sure they are functioning effectively.
- Construction of seawall should be completed as early as possible.
- Regular inspect and review the loading process from barges to avoid splashing of material.
- Silt, debris and leaves accumulated at public drains, wheel washing bays and perimeter u-channels and desilting facilities should be cleaned up regularly.
- Silty effluent should be treated/ desilted before discharged. Untreated effluent should be prevented from entering public drain channel.

- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas.
- Exposed slopes and stockpiles should be covered up properly during rainstorm.

#### ***Chemical and Waste Management***

- All types of wastes, both on land and floating in the sea, should be collected and sorted properly and disposed of timely and properly. They should be properly stored in designated areas within works areas temporarily.
- All chemical containers and oil drums should be properly stored and labelled.
- All plants and vehicles on site should be properly maintained to prevent oil leakage.
- All kinds of maintenance works should be carried out within roofed, paved and confined areas.
- All drain holes of the drip trays utilized within works areas should be properly plugged to avoid any oil and chemical waste leakage.
- Oil stains on soil surface and empty chemical containers should be cleared and disposed of as chemical waste.
- Regular review should be conducted for working barges and patrol boats to ensure sufficient measures and spill control kits were provided on working barges and patrol boats to avoid any spreading of leaked oil/chemicals.

#### ***Landscape and Visual Impact***

- All existing, retained/transplanted trees at the works areas should be properly fenced off and regularly inspected.
- Control night-time lighting and glare by hooding all lights.

## **8.2 Recommendations on EM&A Programme**

- 8.2.1 The impact monitoring programme for air quality, noise, water quality and dolphin ensured that any deterioration in environmental condition was readily detected and timely actions taken to rectify any non-compliance. Assessment and analysis of monitoring results collected demonstrated the environmental impacts of the Project. With implementation of recommended effective environmental mitigation measures, the Project's environmental impacts were considered as environmentally acceptable. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended were effectively implemented.
- 8.2.2 The recommended environmental mitigation measures, as included in the EM&A programme, effectively minimize the potential environmental impacts from the Project. Also, the EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.

### 8.3 Conclusions

- 8.3.1 The construction phase and EM&A programme of the Project commenced on 12 March 2012.
- 8.3.2 Three (3) action level exceedances of 24-hr TSP were recorded AMS2, AMS3B and AMS7A on 12 February 2015. After investigation, there is no adequate information to conclude the recorded action level exceedances are related to this Contract. No 24-hr TSP Action and Limit Level exceedances were recorded on other monitoring date in the reporting period. All 1-Hour TSP results were below the Action and Limit Level in the reporting period.
- 8.3.3 For construction noise, no exceedance was recorded at all monitoring stations in the reporting period.
- 8.3.4 A total of (17) seventeen exceedances were recorded in this reporting quarter: One (1) limit level exceedance and one (1) action level exceedance were recorded at monitoring station IS17 and IS(Mf)9 respectively on 5 December 2014 during mid ebb tide; one (1) action level exceedance was recorded at IS10 and one (1) action level exceedance was recorded at SR5 respectively on 12 January 2015 during flood tide; one (1) action level exceedance was recorded at IS17 on 16 January 2015 during ebb tide; one (1) action level exceedance was recorded at IS17, SR5, SR6 and IS10 respectively, on 21 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11, SR10B(N) and SR7 respectively on 23 January 2015 during flood tide. One (1) limit level exceedance was recorded at SR10A and SR6 respectively on 23 January 2015 during flood tide; one (1) action level exceedance was recorded at IS(Mf)11 on 26 January 2015 during flood tide; one (1) Limit Level Exceedance of SS at IS(Mf)11 and one (1) Action Level Exceedance of SS at SR7 during Flood tide recorded on 23 February 2015. After investigation, there is no adequate information to conclude the recorded exceedances are related to this Contract.
- 8.3.5 One (1) Limit Level exceedance of dolphin monitoring was recorded in the reporting quarter. After investigation, it was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors. Event Action Plan for Impact Dolphin Monitoring was triggered. For detail of investigation, please refer to appendix L.
- 8.3.6 Environmental site inspection was carried out thirteen times in the reporting quarter. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 8.3.7 No complaint, notification of summons or prosecution was received in the reporting quarter.
- 8.3.8 As informed by the Contractor via email at 15:06 on 8 December 2014, oil was observed at sea area near western waters within the silt curtain at 15:00 on 8 December 2014. Following the spill response plan ET, IEC and the RSS were informed of the incident by the Contractor.
- 8.3.9 Apart from the above mentioned monitoring, most of the recommended mitigation measures, as included in the EM&A programme, were implemented properly in the reporting quarter.
- 8.3.10 The recommended environmental mitigation measures effectively minimize the potential environmental impacts from the Project. The EM&A programme effectively monitored the environmental impacts from the construction activities and ensure the proper implementation of mitigation measures. No particular recommendation was advised for the improvement of the programme.
- 8.3.11 Moreover, regular review and checking on the construction methodologies, working processes and plants were carried out to ensure the environmental impacts were kept minimal and recommended environmental mitigation measures were implemented effectively.