

Hip Hing Joint Venture

Hong Kong Convention and  
Exhibition Centre Expansion  
Project:

*Monthly Environmental Monitoring  
and Audit Report for March 2009*

April 2009

**Environmental Resources Management**

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ENVIRONMENTAL MONITORING &  
AUDIT REPORT

Hip Hing Joint Venture

Hong Kong Convention and  
Exhibition Centre Expansion  
Project:

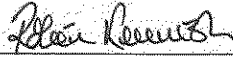
*Monthly Environmental Monitoring  
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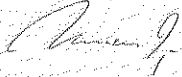
Reference 0050690

For and on behalf of  
ERM-Hong Kong, Limited

Approved by: Dr Robin Kennish

Signed: 

Position: Director

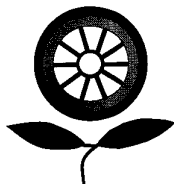
Certified by:   
(Environmental Team Leader - Marcus Ip)

Date: 21 April 2009

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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21 April 2009

Maunsell Consultants Asia Ltd  
Grand Central Plaza, Tower 2  
138 Shatin Rural Committee Road  
Shatin, N.T., Hong Kong

Attn: Ms Vera Chan

Dear Sir/Madam,

**Hong Kong Convention Centre Expansion Project**  
**Monthly EM&A Audit Report for March 2009**  
**(Environmental Permit No. EP-239/2006/B)**

With reference to the captioned document concerning the Monthly EM&A report for March 2009 received from ERM revised on 20 April 2009, we are pleased to provide our verification for the document pursuant to condition 3 of the Environmental Permit (EP) No. EP-239/2006/B.

Yours faithfully,  
Nature & Technologies (HK) Limited

Ir Dr Gabriel C K Lam  
Independent Environmental Checker

cc: - Hong Kong Trade Development Council (Attn: Mr. K. F. Chan)  
- Hip Hing Ngo Kee Joint Venture (Attn: Mr. Eric Lau & Mr. William Tam)  
- ERM (Attn: Mr. Marcus Ip)

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## EXECUTIVE SUMMARY

The construction works for Hong Kong Convention and Exhibition Centre Expansion Project (EIAO Register No: AEIAR-100/2006) commenced on 1 August 2006. This is the thirty-second monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A work carried out during the period from 1 to 31 March 2009 in accordance with the EM&A Manual.

### Summary of Construction Works undertaken during the Reporting month

The major construction works undertaken during this reporting month included the installation of building structure, the erection of steel posts for the west and east façades, the application of waterproofing on internal structures, the installation of façade panel/louvers, fire shutter, smoke curtain, doors, wall granite, false ceiling, HVAC, partition walls, plumbing and town gas systems, escalators, electrical and fire services system and the erection of staircases.

### Environmental Monitoring and Audit Progress

A summary of the monitoring activities in this reporting month is listed below:

24-hour Total Suspended Particulates (TSP) monitoring	5 sets
1-hour TSP monitoring	16 sets
Environmental site auditing	4 times

### Air Quality

Five sets of 24-hour and sixteen sets of 1-hour TSP monitoring were carried out at the designated monitoring stations (AM1 & AM2) during this reporting month. There were no exceedances recorded during this reporting month.

### Water Quality

Marine water quality monitoring at the designated monitoring stations (W3, W4 and W5) was not conducted during this reporting month subsequent to the completion of installation of marine piles on 23 April 2007. Additional water quality monitoring in the marine channel for the dry season was also completed on 14 December 2007.

### Construction Waste Management

A total of 305 tonnes of inert C&D materials and 1,181.65 tonnes of C&D wastes were generated during this reporting month. The C&D wastes and inert C&D materials generated from the Project were disposed of at SENT Landfill / Tseung Kwan O Area 137 Fill Bank and the public fill barging point at Quarry Bay respectively. Three (3) tonnes of steel materials were sent to recyclers within this reporting month.

### Environmental Site Auditing

Four weekly environmental site audits were carried out by the ET. Details of the audit findings and implementation status are presented in *Section 6*.

### Environmental Non-conformance

No environmental non-compliance was identified during this reporting month.

No environmental complaint or summons was received during this reporting month.

### Future Key Issues

Major works to be undertaken in the coming month will be the construction of miscellaneous builders' work, installation of building services and the extraction of marine piles.

Potential environmental impacts arising from the construction activities in the coming month are mainly associated with dust, site runoff, marine water quality and waste.

# 1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by Hip Hing Joint Venture as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for Hong Kong Convention and Exhibition Centre Expansion Project (the Project).

## 1.1 PURPOSE OF THE REPORT

This is the thirty-second EM&A report which summarises the impact monitoring results and audit findings of the EM&A programme during the reporting month from **1 to 31 March 2009**.

## 1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : **Introduction**

details the scope and structure of the report.

Section 2 : **Project Information**

summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.

Section 3 : **Environmental Monitoring Requirement**

summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels and Event / Action Plans.

Section 4 : **Implementation Status on Environmental Mitigation Measures**

summarises the implementation of environmental protection measures during the reporting month.

Section 5 : **Monitoring Results**

summarises the monitoring results obtained in the reporting month.

Section 6 : **Environmental Site Auditing**

summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 7 : **Environmental Non-conformance**

summarises any environmental exceedance, environmental complaints and environmental summons received within the reporting month.



Section 8 : **Future Key Issues**

summarises the impact forecast and monitoring schedule for the next three months.

Section 9 : **Review of EM&A Data and EIA Predictions**

compares and contrasts the EM&A data in the month with the EIA predictions and annotates with explanation for any discrepancies.

Section 10 : **Conclusion**

## 2.1 BACKGROUND

The Hong Kong Trade Development Council (HKTDC) is expanding its existing facilities to provide additional space for Hong Kong's leading trade fairs to be held at the Hong Kong Convention and Exhibition Centre (HKCEC). The Project is located in North Wan Chai and will occupy the aerial space between Phase I and Phase II of the HKCEC. The new Atrium Link Extension (ALE) will span across the water channel between Phase I and Phase II of the HKCEC to accommodate 3 main levels of Exhibition Hall Extensions. The level of the main roof of the Extension will be of similar height as that of the podium roof of the Phase I building. A northern row of permanent supporting columns will be located on land close to Expo Drive Central and similarly a southern row will land near to Convention Avenue. There will be no permanent intermediate columns in the waterway.

The major works activities for the ALE will comprise the following:

- Construction and demolition of the temporary footbridge;
- Demolition of the existing Atrium Link;
- Construction and demolition of a temporary working platform;
- Construction of foundations and pile caps for the ALE; and
- Construction of superstructure for the ALE.

The potential environmental impacts of the Project have been studied in the *"Hong Kong Convention and Exhibition Centre, Atrium Link Extension – Environmental Impact Assessment Report"* (EIAO Register No: AEIAR-100/2006). The EIA was approved on 21 April 2006 under the *Environmental Impact Assessment Ordinance* (EIAO). An Environmental Permit (EP-239/2006) for the works was granted on 12 May 2006. An application for variation of the Environmental Permit was made on 25 January 2007, an amended Environmental Permit (EP-239/2006/A) was granted on 12 February 2007. An application for further variation of the Environmental Permit was made on 18 April 2008, and an amended Environmental Permit (EP-239/2006/B) was granted on 12 May 2008. Under the requirements of Condition 3.1 of Environmental Permit EP-239/2006/B, an EM&A programme as set out in the EM&A Manual and its supplement is required to be implemented.

The construction works commenced on 1 August 2006 and are scheduled to be completed by June 2009.

## 2.2 *SITE DESCRIPTION*

The works areas of the Project are illustrated in *Annex A*.

## 2.3 *CONSTRUCTION ACTIVITIES*

A summary of the major construction activities undertaken in this reporting month is shown in *Table 2.1*. The locations of the construction activities are shown in *Annex B*.

*Table 2.1 Summary of Construction Activities Undertaken during the Reporting Month*

<b>Construction Activities Undertaken</b>
<ul style="list-style-type: none"><li>• Building Structure</li><li>• Steel Post Erection for Façade (West)</li><li>• Steel Post Erection for Façade (East)</li><li>• Installation of Façade Panel/Louvre</li><li>• Installation of Partition Wall</li><li>• Erection of Staircase</li><li>• Installation of Fire Shutter</li><li>• Installation of Smoke Curtain</li><li>• Door Installation</li><li>• Application of Waterproofing for Internal Structures</li><li>• Installation of Wall Granite</li><li>• Installation of False Ceiling</li><li>• Installation of HVAC</li><li>• Installation of Electrical Facilities</li><li>• Installation of Fire Services</li><li>• Installation of Plumbing and Town Gas</li><li>• Installation of Escalators</li></ul>

## 2.4 *PROJECT ORGANISATION*

The Project organisation chart and contact details are shown in *Annex C*.

## 2.5 *STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS*

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since August 2006 is presented in *Table 2.2*.

**Table 2.2 Summary of Environmental Licensing, Notification and Permit Status**

<b>Permit/ Licenses/ Notification</b>	<b>Reference</b>	<b>Validity Period</b>	<b>Remarks</b>
Environmental Permit	EP-239/2006/B	Throughout the Contract	Environmental Permit (EP) EP-239/2006 granted originally on 12 May 2006. Since then the EP have been varied twice. The latest revised EP was issued on 12 May 2008
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	--	--	Notification on 23 June 2006
Discharge Licence under Water Pollution Control Ordinance	EP860/W10/XY0 145	N/A	-
Chemical Waste Producer Registration	WPN5213-134-H3125-01	N/A	Chemical waste types: spent paint, acid, alkaline, adhesive, diesel fuel, lubricating oil and bitumen.
Valid Construction Noise Permit for area inside the Atrium Link	GW-RS0713-08 GW-RS0755-08 GW-RS10345-08 GW-RS0207-09	Valid from 15 Oct 2008 to 15 Mar 2009 Valid from 31 Oct 2008 to 31 Mar 2009. Valid from 31 Dec 2008 to 31 May 2009 Valid from 18 Mar to 31 Jul 2009	

### 3.1 AIR QUALITY MONITORING

#### 3.1.1 Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour Total Suspended Particulates (TSP) levels were conducted at the monitoring stations listed in *Table 3.1*. Maps and photographs showing the monitoring stations are presented in *Annex D*.

**Table 3.1** *Air Monitoring Stations*

Monitoring Station	Description
AM1	Pedestrian Plaza
AM2	Renaissance Harbour View Hotel Hong Kong

#### 3.1.2 Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 3.2*). The monitoring programme for this and next three months is shown in *Annex E*.

**Table 3.2** *TSP Monitoring Parameter and Frequency*

Parameter	Frequency
24-hour TSP	Once every 6 days
1-hour TSP	3 times every 6 days

#### 3.1.3 Action and Limit Levels

The Action and Limit levels were established in accordance with the EM&A Manual and are presented in *Table 3.3*.

**Table 3.3** *Action and Limit Levels for Air Quality*

Parameter	Air Monitoring Station	Action Level, $\mu\text{gm}^{-3}$	Limit Level, $\mu\text{gm}^{-3}$
24-hour TSP	AM1	161	260
	AM2	168	260
1-hour TSP	AM1	327	500
	AM2	329	500

#### 3.1.4 Monitoring Equipment

Continuous 24-hour and 1-hour TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complies with the standard method "Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B).

Table 3.4 summarises the equipment that was used in the 24-hour and 1-hour TSP monitoring.

**Table 3.4** *TSP Monitoring Equipment*

Monitoring Station	Equipment	Model (HVS, Calibration Kit)
AM1 (for 24-hr TSP)	HVS, Calibration Kit	GMW-9503, Tisch TE-5025A
AM2 (for 24-hr TSP)	HVS, Calibration Kit	GMW-9795, Tisch TE-5025A
AM1 (for 1-hr TSP)	HVS, Calibration Kit	GMW-9864, Tisch TE-5025A
AM2 (for 1-hr TSP)	HVS, Calibration Kit	GMW-8115, Tisch TE-5025A

### 3.1.5 *Monitoring Methodology*

#### *Installation*

The HVS's at AM1 and AM2 were placed at about 1.3 m above local ground level and about 4.3 m above local ground respectively. All of the HVS's were free-standing with no obstruction.

The following criteria were considered in the installation of the HVS's:

- horizontal platform with appropriate support to secure the samplers against gusty wind were provided at AM1 & AM2;
- a minimum of 2 m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues were nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

#### *Preparation of Filter Papers by ETS-Testconsult Ltd*

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was 40%; and
- ETS-Testconsult Ltd, a HOKLAS accredited laboratory, implements comprehensive quality assurance and quality control programmes.

#### *Field Monitoring*

- the power supply was checked to ensure that the HVS's were working properly;
- the filter holder and the area surrounding the filter were cleaned;

- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- then the shelter lid was closed and secured with the aluminium strip;
- the HVS's were warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rate of the HVS's was checked and adjust at around 0.6 -1.44 m<sup>3</sup>/min. The range specified in the EM&A Manual was between 0.6 - 1.7 m<sup>3</sup>/min;
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact;
- it was then placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to ETS-Testconsult Ltd for analysis.

### 3.1.6 *Maintenance and Calibration*

The HVS's and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.

The flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator. Initial calibration of the dust monitoring equipments was conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVS's using Tisch TE-5025A Calibration Kit. The calibration records for the HVS's are given in *Annex F*.

### 3.1.7 *Event Action Plan*

The Event / Action Plan (EAP) for air quality monitoring is presented in *Annex H*.

## 3.2 *MARINE WATER QUALITY MONITORING*

### 3.2.1 *Marine Water Quality Monitoring during Installation and Removal of Marine Piles*

In accordance with the EM&A Manual, the marine water quality monitoring should be conducted at three designated monitoring stations during the installation and removal of temporary marine piles. The installation of temporary marine piles was completed on 23 April 2007 and therefore marine water quality monitoring for marine pile installation works was not conducted during this reporting month. Extraction of temporary marine piles in the marine channel is anticipated in the fourth week of April 2009, and marine water quality monitoring will be resumed in the next reporting month.

### 3.2.2 *Additional Water Quality Monitoring in Marine Channel during Installation of Marine Piles*

As part of the Application for Variation of Environmental Permit (Application No. VEP-227/2007) submitted on 25 January 2007, the Permit Holder undertook additional water quality monitoring in the marine channel in connection with the installation of temporary marine piles.

The installation of temporary marine piles was completed on 23 April 2007 and four weeks of additional water quality monitoring was also completed on 21 May 2007 after the completion of marine piling works. In accordance with the additional water quality programme submitted to the EPD on 4 April 2007, four weeks of additional water quality monitoring during the dry season was undertaken and was completed on 14 December 2007.



## ***IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS***

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of environmental mitigation and status of relevant required submissions under the EP are reported as part of the monthly EM&A report <sup>(1)</sup>. Relevant submissions made on these measures and requirements during the reporting month are summarised in *Annex I*.

<sup>(1)</sup> The last Monthly EM&A Report for February 2009 was submitted to the EPD on 18 March 2009.

## 5 MONITORING RESULTS

### 5.1 AIR QUALITY

The monitoring data at AM1 and AM2 were provided by ETS-Testconsult Ltd. Five sets of 24-hour and sixteen sets of 1-hour TSP monitoring were carried out at the designated monitoring stations (AM1 & AM2) during this reporting month. The monitoring results from both the 24-hour and 1-hour TSP monitoring were below the respective Action and Limit Levels. The monitoring data for the 24-hour TSP and 1-hour TSP together with wind data and graphical presentations are presented in *Annex G*. In addition, the monitoring results can also be found at the web-site (<http://www.hkcecema.com/index.html>).

Monitoring of air samples were carried out under both sunny and rainy conditions. The local impacts observed near the monitoring stations were mainly vehicle emissions along Convention Avenue and Fleming Road.

### 5.2 MARINE WATER QUALITY

Marine water quality monitoring for marine pile installation works was not conducted during this reporting month at the designated monitoring stations (W3, W4 and W5) subsequent to the completion of installation of marine piles on 23 April 2007. Extraction of temporary marine piles in the marine channel is anticipated in the fourth week of April 2009, and the marine water quality monitoring results at the same designated monitoring stations will be presented in the next reporting month.

### 5.3 WASTE MANAGEMENT

Waste generated from this Project includes inert construction and demolition (C&D) materials and non-inert C&D wastes. Reference has been made on the Monthly Summary Waste Flow Table prepared by Hip Hing Joint Venture (*Annex J*). With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting quarter are summarised in *Table 5.1*. The C&D wastes and inert C&D materials generated from the Project were disposed of at SENT Landfill / Tseung Kwan O Area 137 Fill Bank and the public fill barging point at Quarry Bay respectively.

**Table 5.1 Quantities of Waste Generated from the Project**

Month / Year	Quantity		
	C&D Materials (inert) <sup>(a)</sup>	C&D Materials (non-inert) <sup>(b)</sup>	Chemical Waste
March 2009	305.0 tonnes	1,181.65 tonnes (3 tonnes of steel materials were sent to recyclers this month)	0

**Notes:**

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. No inert C&D material was reused in this Project during the reporting period. Non-reused inert C&D materials were disposed of at the public fill barging point at Quarry Bay.

(b) C&D wastes include steel materials generated from demolition of footbridge, the existing Atrium Link and working platform, paper / cardboard packaging waste, chemical waste and other wastes such as general refuse. The C&D wastes other than general refuse were disposed of at SENT Landfill / Tseung Kwan O Area 137 temporary construction waste sorting facility.

**5.4 QUARTERLY EFFLUENT DISCHARGE SAMPLING**

In accordance with the discharge licence issued under WPCO, water sampling should be conducted quarterly to ensure that the quality of treated effluent at three designated discharge points complies with the requirements set out in the discharge licence. One water sample <sup>(1)(2)</sup> at discharge point 3 was taken on 19 March 2009. Table 5.2 shows that the quality of the effluents discharged from the Project were in compliance with the discharge limits stipulated in the WPCO Discharge Licence. The laboratory testing reports for the water samples and the map showing the locations of discharge points are presented in Annex L.

**Table 5.2 Results of Effluent Discharge Sampling**

Sampling Location	Parameter	Test Result	Discharge Limit
Discharge Point 3	pH	8.7	6-9
(H200605 WT-21)	Total Suspended Solids (TSS) Dried at 103-105°C (mg/L)	<3	≤30
	Chemical Oxygen Demand (COD) (mgO <sub>2</sub> /L)	<50	≤80

<sup>(1)</sup> Discharge point 1 is designated for discharge of treated effluents from plant room construction works near gate no.4 on Expo Drive Central. Effluents are no longer discharged upon completion of respective works, and therefore further effluent sampling and testing at Discharge point 1 are no longer conducted.

<sup>(2)</sup> Discharge point 2 is designated for discharge of treated effluents from works near gate no.1 on Expo Drive Central. Effluents are no longer discharged upon completion of works in the area, and therefore no further effluent sampling are conducted.

Weekly site inspections were carried out by the ET. Four site inspections were conducted on 6, 12, 19 and 26 March 2009, respectively. There was no non-compliance event recorded in this reporting month.

The following reminders were given to the Contractor during this reporting month:

- (i) On 6 March 2009, the wheel washing bay near the entrance/exit of gate no.1 on the western end of work site was observed to be full with water. The Contractor was reminded to clear the washing bay regularly and to ensure that all collected water is properly treated by silt removal facilities prior to discharge.
- (ii) On 6 March 2009, inert wastes were observed to be mixed with non-inert waste and recyclable materials (plastic bottles and aluminum cans) on the ground adjacent to a waste skip near gate No.4 on the eastern marine platform. The Contractor was reminded to store wastes in waste skips and properly segregate wastes.
- (iii) On 6 March 2009, rubbish and debris were observed on the wire gauze screen under the gully on the access road near gate no.1 on the western end of work site. The Contractor was reminded to clear the gully regularly to avoid rubbish and debris from entering the storm drainage system.
- (iv) On 12 March 2009, the waste skip near gate no.4 on the eastern marine platform was observed to be full. Some inert wastes were also observed on the ground adjacent to the waste skip. The Contractor was reminded to arrange ad-hoc waste collections when waste quantity was higher than normal.
- (v) On 12 March 2009, general wastes were piled up on the ground near gate no.1 under the atrium link extension on the western marine platform. The Contractor was reminded to provide waste skip for the temporary storage of general wastes on site.
- (vi) On 12 and 19 March 2009, a drum of unlabelled chemical was laid on the ground on its side near gate no.1 on the western marine platform. The Contractor was reminded to provide spillage containment for the temporary storage of chemicals on site. Toolbox talks should also be provided to brief workers about proper chemical management procedures on site.
- (vii) On 19 March 2009, general wastes were piled up on the ground near gate no.1 under the atrium link extension on the western marine platform. Some inert wastes were also observed to be mixed with non-inert wastes at the same location. The Contractor was reminded to provide waste skip for the temporary storage of general wastes on site. The Contractor was also reminded to segregate inert and non-inert wastes accordingly to avoid disposal of recyclables at landfills.
- (viii) On 19 March 2009, construction and general wastes were observed in the marine channel on the eastern end of Site. The Contractor was

reminded to handle wastes properly to prevent water pollution in the marine channel and arrange ad hoc collection of waste from the channel as required.

- (ix) On 19 March 2009, a lot of dust was generated from stone cutting works near gate no.1 on the eastern marine platform. The Contractor was recommended to implement appropriate dust suppression measures to avoid deterioration of air quality in the waterfront area of HKCEC.
- (x) On 26 March 2009, general and non-inert construction wastes were piled up on the ground near gate no.1 and no.4 under the atrium link extension on the western and eastern marine platform respectively. The Contractor was reminded to provide toolbox talks to brief workers about proper waste management practices on Site. The Contractor was also reminded to segregate general and construction wastes accordingly to avoid disposal of recyclables at landfills.

#### *Landscape and Visual Monitoring*

In accordance with *Section 6.7* of the EM&A Manual, bi-weekly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The monitoring has commenced since January 2007 and is conducted by Earthasia Limited. Landscape and visual mitigation measures were implemented by the Contractor and the implementation status is given in *Annex I*.

## 7 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 SUMMARY OF ENVIRONMENTAL EXCEEDANCE

No exceedance of the Action and Limit Levels of 24-hour and 1-hour TSP was recorded at monitoring stations during this reporting period.

### 7.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

No non-compliance event was recorded during this reporting month.

### 7.3 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during this reporting month.

### 7.4 SUMMARY OF ENVIRONMENTAL SUMMONS AND PROSECUTION

No summons or prosecution on environmental matters was received during this reporting month.

### 8.1 KEY ISSUES FOR THE COMING MONTH

Works to be carried out for the coming monitoring period are summarised in *Table 8.1*.

**Table 8.1 Construction Works to be Undertaken in the Coming Month**

<b>Work to be taken</b>
• Miscellaneous Builder's Work
• Installation of Building Services
• Extraction of Temporary Marine Piles

Potential environmental impacts arising from the above construction activities are mainly associated with dust, site runoff, marine water quality and waste management.

### 8.2 MONITORING SCHEDULE FOR THE COMING MONTHS

The tentative schedule of TSP monitoring for next month is presented in *Annex E*. The environmental monitoring will be conducted at the same monitoring locations as those for this reporting month.

The extraction of temporary marine piles is anticipated to be started in the fourth week of April 2009, and water quality monitoring will be conducted during the extraction of temporary marine piles. The tentative schedule of water quality monitoring from the fourth week of April 2009 onwards is presented in *Annex E*.

The construction programme for the next three months is presented in *Annex K*.

## 9.1 AIR QUALITY

Since the EIA only have qualitative assessment of dust impact during construction phase, the comparison was made between the monitoring results and the Hong Kong Air Quality Objectives (HKAQO) (Table 9.1).

**Table 9.1 Comparison of the HKAQO and Air Quality Monitoring Results**

Monitoring Station	Corresponding ASR in EIA	HKAQO, $\mu\text{g m}^{-3}$	Measured 24-hour TSP Monitoring Results, $\mu\text{g m}^{-3}$ (a) (b)	
		24 hour <sup>(1)</sup>	Average	Range
AM1	AM8	260	83	23 - 160
AM2	AM6	260	74	14 - 161

**Notes:**

(a) Only 24-hour TSP monitoring results were compared as there is no 1 hour TSP criterion in HKAQO.

(b) Average and range of data were calculated between the commencement of construction works and this reporting month.

The monitoring results show that the average and range of 24-hour TSP levels recorded since the commencement of the construction works were well below the 24-hour TSP criterion in the HKAQO. Recommended mitigation measures in Section 4.24 of EIA were implemented throughout the construction period and were considered effective.

## 9.2 WASTE MANAGEMENT

The estimated amount of waste generated in this Project and the accumulated quantities of waste generated up to this reporting month are presented in Table 9.2. Recommended mitigation measures in Sections 6.35 to 6.41 of the EIA were implemented during the construction stage and regarded as effective.



**Table 9.2 Comparison of Estimated and Actual Amounts of Waste Generated**

Type of Material	Estimated Amount of C&D Materials in EIA (inert & non-inert)	Accumulated Actual Amount of C&D Materials Recorded <sup>(a)</sup> (inert & non-inert)
Demolition of temporary footbridge	585 tonnes	0
Demolition of existing Atrium Link	4,680 tonnes	2,681.5 tonnes
Demolition of temporary working platform	390 tonnes	0
Construction of foundations and pile caps	20,000 tonnes	25,494.9 tonnes
General Refuse	Insignificant	5378.4 tonnes
Chemical Waste	Small	288 litres

Note:

(a) The actual amount of C&D Materials was recorded since the commencement of construction works.

### 9.3 CONCLUSION OF REVIEW

The EIA predictions and the monitoring results since the commencement of construction works have been reviewed. The EIA concluded that the Project would not cause adverse impacts to the environment, and the monitoring results also indicated that the construction of the Project has not caused adverse impacts to the environment. Recommendations given in the EIA are also considered to be adequate and effective for minimising the environmental impacts.

The Environmental Monitoring and Audit (EM&A) Report presents the EM&A work undertaken during the period from 1 to 31 March 2009 in accordance with the EM&A Manual and the requirements under EP-239/2006/B.

No exceedance of the Action and Limit Levels of 24-hour and 1-hour TSP was recorded at the monitoring stations during this reporting month.

No non-compliance event was recorded during this reporting month.



No complaint and summons/prosecution was received during this reporting month.

The ET will keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

## Locations of Works Areas

**Key**

-  Proposed Atrium Link Extension
-  Existing Atrium Link

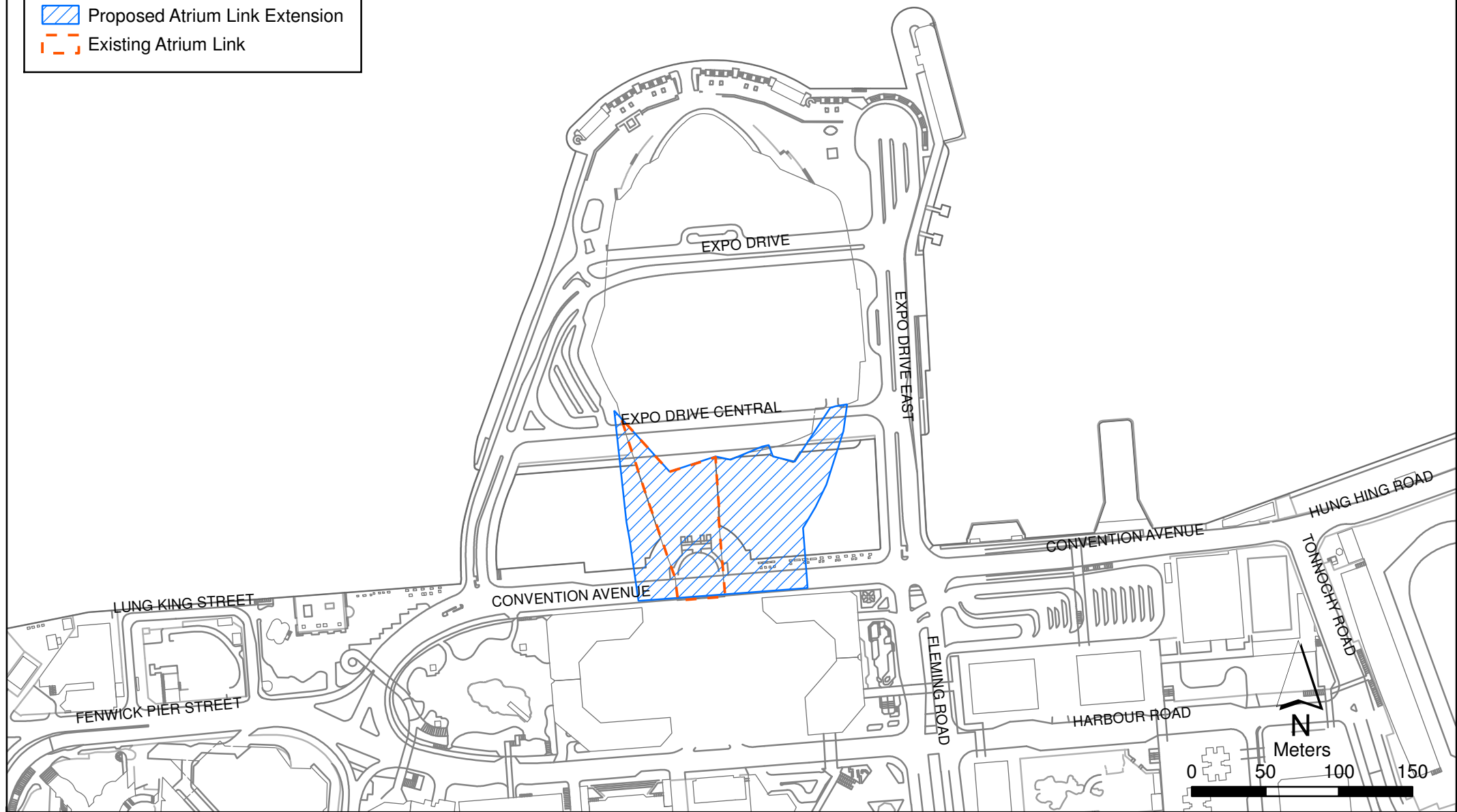


Figure A1

Location of Atrium Link Extension


Annex B

Location of Construction  
Activities during the  
Reporting Month

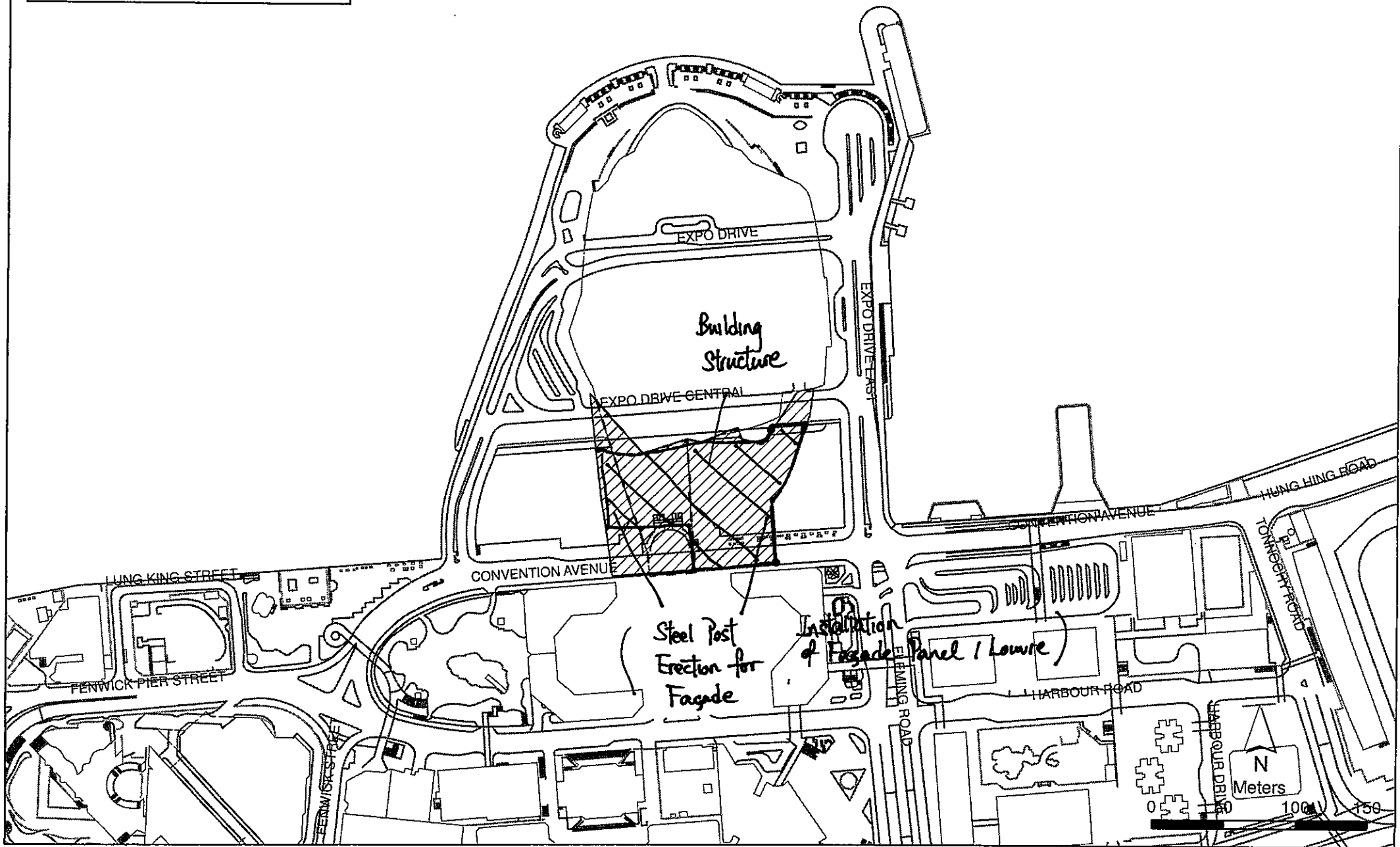
## Summary of Works for March 2009

<b>Description</b>	<b>Location</b>
Building Structure	Grid A1-E
Installation of Façade Panel/Louvre	West and East Façade
Steel CHS Post Erection for Façade	West Façade
Steel Post RHS Erection for Façade	East Façade
Partition Wall	
Staircase Erection	
Fire Shutter Installation	
Smoke Curtain Installation	
Door Installation	
Waterproofing (Internal)	
Wall Granite	
False Ceiling	
HVAC Installation	
Electrical Installation	
F.S. Installation	
Plumbing and Town Gas Installation	
Escalator Installation	

Key

 Proposed Atrium Link Extension

 Existing Atrium Link

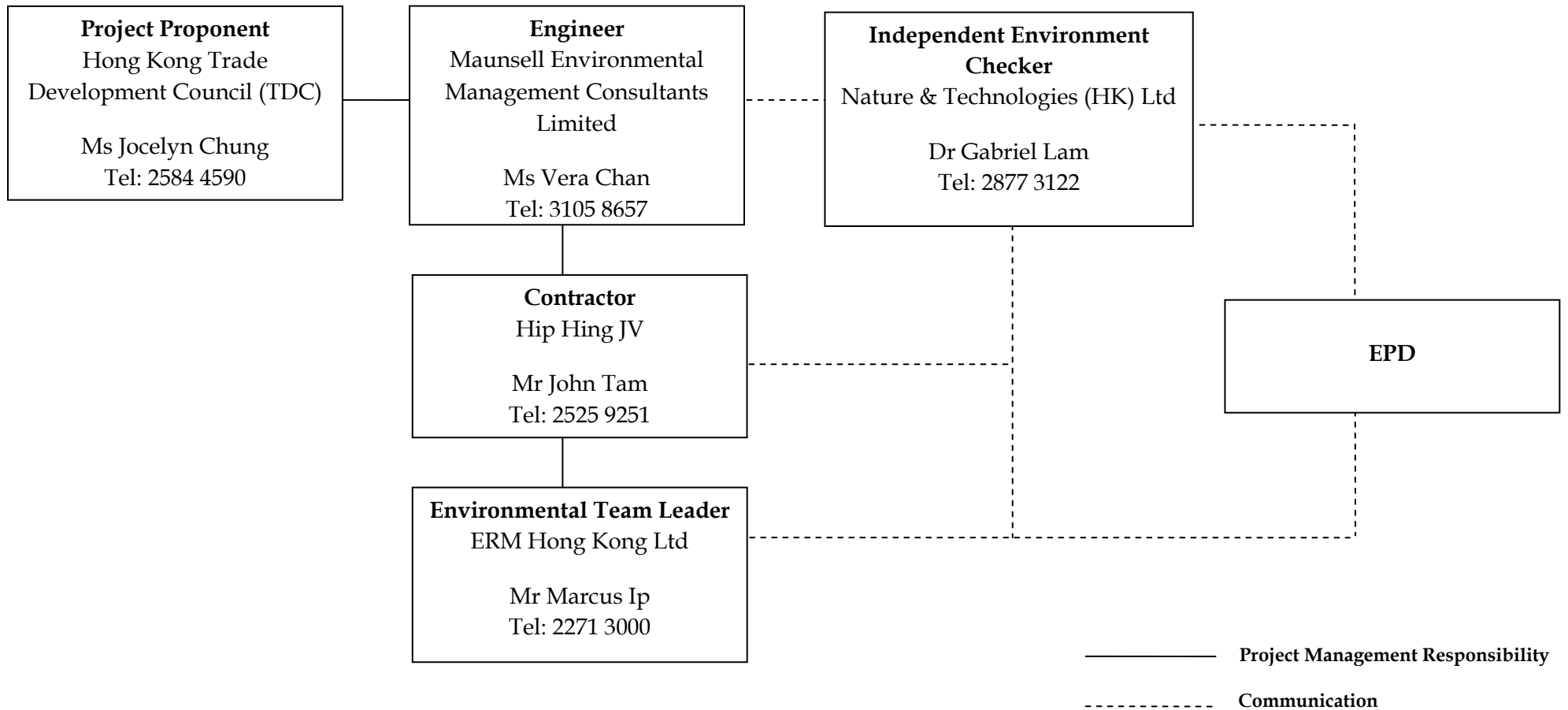


Annex C

## Project Organisation

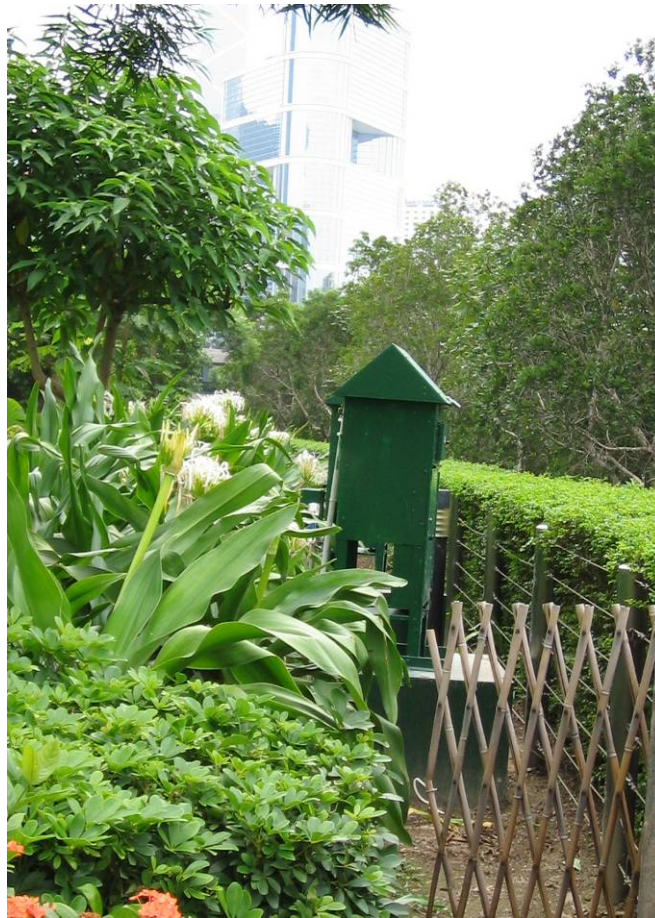


***Project Organization (with contact details)***



Annex D

## Locations of Air Quality Monitoring Stations



Air Quality Monitoring Station (AM1)



Air Quality Monitoring Station (AM2)

Annex E

## Monitoring Schedule for the Reporting Month and Next Month

**Hong Kong Convention and Exhibition Centre, Atrium Link Extension  
Air Quality Monitoring Schedule - December 2008**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec
	1hr and 24hr TSP		1 hr TSP		1 hr TSP	1hr and 24hr TSP
7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec
	1hr TSP		1 hr TSP		1hr and 24hr TSP	
14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
	1 hr TSP		1 hr TSP	1hr and 24hr TSP	1hr TSP	
21-Dec	22-Dec	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec
	1 hr TSP		1hr (2X) and 24hr TSP			
28-Dec	29-Dec	30-Dec	31-Dec			
	1 hr TSP	1hr and 24hr TSP	1 hr TSP			

**Hong Kong Convention and Exhibition Centre, Atrium Link Extension  
Air Quality Monitoring Schedule - January 2009**

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

**Hong Kong Convention and Exhibition Centre, Atrium Link Extension  
Air Quality Monitoring Schedule - February 2009**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb
	1hr TSP		1hr and 24hr TSP		1hr TSP	
8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb
	1 hr TSP	1hr and 24hr TSP	1 hr TSP		1hr TSP	
15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb
	1hr and 24hr TSP		1hr TSP		1 hr TSP	24 hr TSP (only AM2) and 1 hr TSP
22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb
	1 hr TSP (Only AM2)		1 hr TSP (Only AM2)		1hr and 24hr TSP 1 hr TSP (only AM1) X2	

**Hong Kong Convention and Exhibition Centre, Atrium Link Extension  
Air Quality Monitoring Schedule - March 2009**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar
	1hr TSP		1hr TSP	1hr and 24hr TSP	1hr TSP	
8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar
	1 hr TSP		1hr and 24hr TSP		1hr TSP	
15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar
	1hr TSP	1hr and 24hr TSP	1hr TSP		1 hr TSP	
22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar
	1hr and 24hr TSP		1hr TSP		1hr TSP	1hr and 24hr TSP
29-Mar	30-Mar	31-Mar				
	1hr TSP					



**Hong Kong Convention and Exhibition Centre, Atrium Link Extension  
Air Quality Monitoring Schedule - April 2009**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Apr	2-Apr	3-Apr	4-Apr
			1hr TSP		1hr and 24hr TSP	
5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr
	1 hr TSP		1 hr TSP	1hr (2X) and 24hr TSP		
12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr
		1 hr TSP	1hr and 24hr TSP		1 hr TSP	
19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr
	1 hr TSP	1hr and 24hr TSP	1hr TSP		1hr TSP	
26-Apr	27-Apr	28-Apr	29-Apr	30-Apr		
	1hr and 24hr TSP		1hr TSP	1hr (2X) and 24hr TSP		

## Hong Kong Convention and Exhibition Centre Atrium Link Extension Impact Water Quality Monitoring Schedule - April 2009

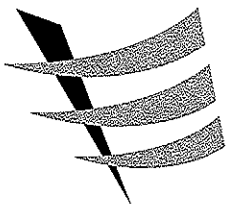
Reference Tidal Station: Quarry Bay (source: HK Observatory Department)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Apr	2-Apr	3-Apr	4-Apr
						<i>Holiday</i>
5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr
					<i>Holiday</i>	<i>Holiday</i>
12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr
	<i>Holiday</i>					
19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr
	<b>Mid-Ebb 9:42</b> Start 9:00 <b>Mid-Flood 14:26</b> Start 13:30 <i>Impact Monitoring</i>		<b>Mid-Ebb 10:50</b> Start 10:00 <b>Mid-Flood 16:31</b> Start 15:45 <i>Impact Monitoring</i>		<b>Mid-Ebb 11:48</b> Start 11:00 <b>Mid-Flood 18:12</b> Start 17:30 <i>Impact Monitoring</i>	
26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	1-May	2-May
	<b>Mid-Flood 6:52</b> Start 7:00 <b>Mid-Ebb 13:42</b> Start 13:00 <i>Impact Monitoring</i>		<b>Mid-Flood 7:58</b> Start 7:30 <b>Mid-Ebb 15:26</b> Start 14:30 <i>Impact Monitoring</i>		<i>Holiday</i>	<i>Holiday</i>

- Remark:
- (a) WQM monitoring will be carried out during the time window of 1.5 hours before and after the mid-tide.
  - (b) As mid-flood / mid-ebb tides are not occurring during the diurnal working period (07:00-19:00), WQM will be started at round 07:00 and 17:30.**
  - (c) The schedule will be revised after reviewing the progress of the construction works or due to adverse (safety, weather etc) conditions.

Annex F

## Calibration Reports for HVSs



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong

Tel : 2695 8318

E-mail : etl@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

**TEST REPORT**

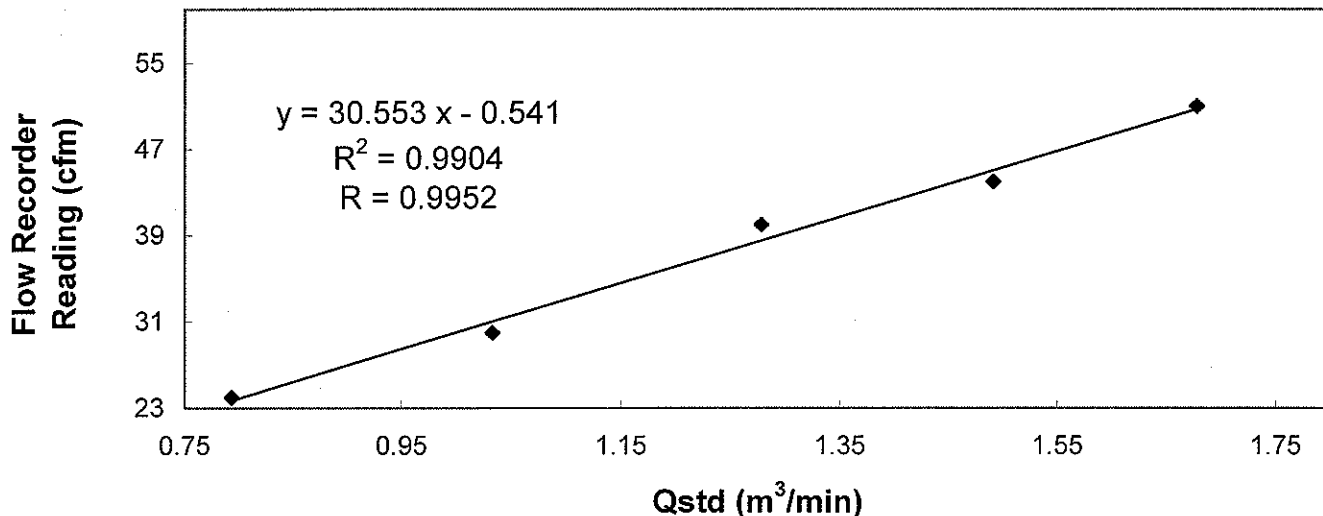
**Calibration Report  
of  
High Volume Air Sampler**

**Manufacturer** : Graseby GMW                      **Date of Calibration** : 02 March 2009  
**Serial No.** : 9864 ( ET / EA / 003 / 19 )                      **Calibration Due Date** : 01 May 2009  
**Method** : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

**Results** :

Flow recorder reading (cfm)	51	44	40	30	24
Qstd (Actual flow rate, m <sup>3</sup> /min)	1.68	1.49	1.28	1.03	0.79
Pressure :	765.81 mm Hg			Temp. :	292 K

**Sampler 9864 Calibration Curve  
Site: Wan Chai (AM-1)**

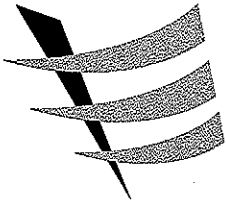


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies\* / ~~does not comply\*~~ with the specified requirements and is deemed acceptable\* / unacceptable\* for use.

Calibrated by :   
LI, Wan Lung  
(Technician)

Approved by :   
CHOW, Hoi Tat  
(Assistant Environmental Officer)



**東業德勤測試顧問有限公司**  
**ETS-TESTCONSULT LIMITED**

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
 Tel : 2695 8318 E-mail : etl@ets-testconsult.com  
 Fax : 2695 3944 Web site : www.ets-testconsult.com

**TEST REPORT**

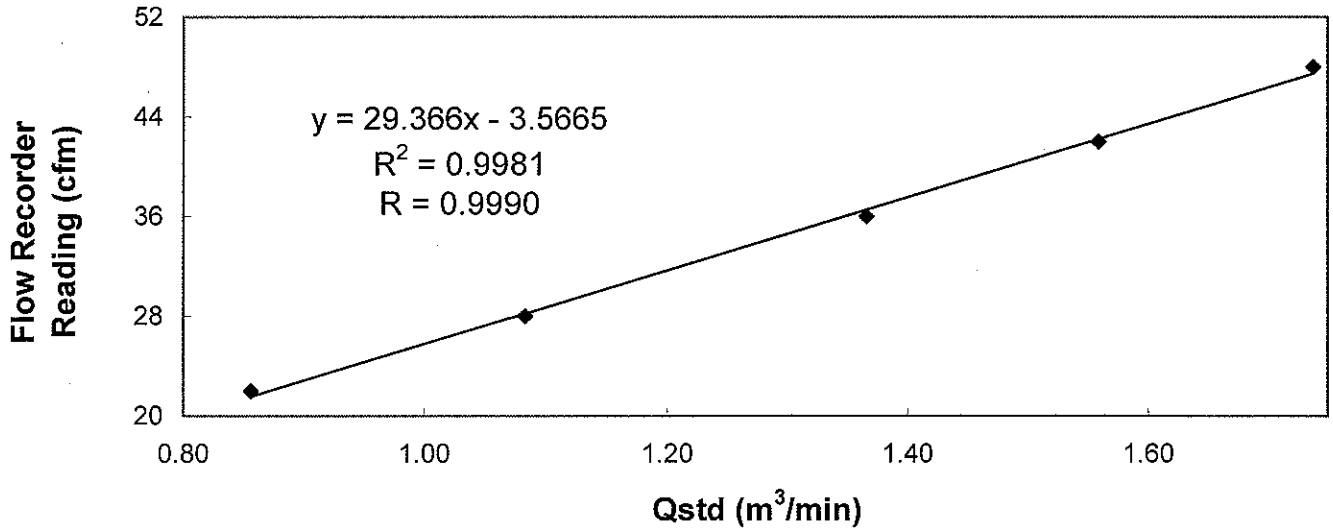
**Calibration Report**  
 of  
**High Volume Air Sampler**

**Manufacturer** : Graseby GMW **Date of Calibration** : 02 March 2009  
**Serial No.** : 9795 (ET/EA/003/18) **Calibration Due Date** : 01 May 2009  
**Method** : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

**Results** :

Flow recorder reading (cfm)	48	42	36	28	22
Qstd (Actual flow rate, m <sup>3</sup> /min)	1.74	1.56	1.37	1.08	0.86
Pressure :	765.81 mm Hg			Temp. :	292 K

**Sampler 9795 Calibration Curve**  
 Site: Wan Chai (AM-2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies\* / ~~does not comply\*~~ with the specified requirements and is deemed acceptable\* / unacceptable\* for use.

Calibrated by :   
 LI, Wan Lung  
 (Technician)

Approved by :   
 CHOW, Hoi Tat  
 (Assistant Environmental Officer)

Annex G

## 24-hour and 1-hour TSP Monitoring Results

## 24-hour TSP Monitoring Results

### 24-hour TSP Monitoring Results at Station AM1 (Nearby The Grand Hyatt)

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
	Initial	Final	Initial	Final	Initial	Final							
5/3/2009 to 6/3/2009	2.8174	2.8981	1.0651	1.0651	14817.37	14841.37	24.0	53	Rainy	19.1	0.0807	1.0651	1533.74
11/3/2009 to 12/3/2009	2.7726	2.9465	1.1305	1.1305	14844.37	14868.37	24.0	107	Sunny	18.7	0.1739	1.1305	1627.92
17/3/2009 to 18/3/2009	2.8667	3.0370	1.1633	1.1633	14871.37	14895.37	24.0	102	Sunny	21.3	0.1703	1.1633	1675.15
23/3/2009 to 24/3/2009	2.7870	2.9974	1.1960	1.1960	14898.37	14922.37	24.0	122	Sunny	23.4	0.2104	1.1960	1722.24
28/3/2009 to 29/3/2009	2.7956	2.9002	1.1305	1.1305	14925.37	14949.37	24.0	64	Rainy	20.7	0.1046	1.1305	1627.92
								Min	53				
								Max	122				
								Average	90				

### 24-hour TSP Monitoring Results at Station AM2 (Nearby Renaissance Harbour View Hotel)

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
	Initial	Final	Initial	Final	Initial	Final							
5/3/2009 to 6/3/2009	2.8367	2.9445	1.3133	1.3133	13170.59	13194.59	24.0	57	Rainy	19.1	0.1078	1.3133	1891.15
11/3/2009 to 12/3/2009	2.7822	2.9686	1.3133	1.3133	13197.56	13221.60	24.0	98	Sunny	18.7	0.1864	1.3133	1894.30
17/3/2009 to 18/3/2009	2.8055	2.9633	1.3133	1.3133	13224.60	13248.60	24.0	83	Sunny	21.3	0.1578	1.3133	1891.15
23/3/2009 to 24/3/2009	2.7794	2.9821	1.3133	1.3133	13251.60	13275.60	24.0	107	Sunny	23.4	0.2027	1.3133	1891.15
28/3/2009 to 29/3/2009	2.7931	2.8910	1.3133	1.3133	13278.60	13302.60	24.0	52	Rainy	20.7	0.0979	1.3133	1891.15
								Min	52				
								Max	107				
								Average	80				

### 1-hour TSP Monitoring Results

#### 1-hour TSP Monitoring Results at Station AM1 (Nearby The Grand Hyatt)

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
	Initial	Final	Initial	Final	Initial	Final							
02 Mar 09	2.7924	2.8046	1.0468	1.0468	14814.37	14815.37	1.00	194	Sunny	18.3	0.0122	1.0468	62.81
04 Mar 09	2.8505	2.8632	1.0323	1.0323	14815.37	14816.37	1.00	205	Rainy	17.8	0.0127	1.0323	61.94
05 Mar 09	2.8422	2.8503	0.9996	0.9996	14816.37	14817.37	1.00	135	Rainy	19.1	0.0081	0.9996	59.98
06 Mar 09	2.8110	2.8230	1.0651	1.0651	14841.37	14842.37	1.00	188	Rainy	16.5	0.0120	1.0651	63.91
09 Mar 09	2.8052	2.8151	1.0323	1.0323	14842.37	14843.37	1.00	160	Sunny	17	0.0099	1.0323	61.94
11 Mar 09	2.8421	2.8518	1.0323	1.0323	14843.37	14844.37	1.00	157	Sunny	18.7	0.0097	1.0323	61.94
13 Mar 09	2.8532	2.8699	1.0978	1.0978	14868.37	14869.37	1.00	254	Sunny	20.1	0.0167	1.0978	65.87
16 Mar 09	2.8813	2.8929	1.0651	1.0651	14869.37	14870.37	1.00	182	Sunny	20.1	0.0116	1.0651	63.91
17 Mar 09	2.8107	2.8275	1.0323	1.0323	14870.37	14871.37	1.00	271	Sunny	21.3	0.0168	1.0323	61.94
18 Mar 09	2.8137	2.8234	1.1305	1.1305	14895.37	14896.37	1.00	143	Sunny	22	0.0097	1.1305	67.83
20 Mar 09	2.8286	2.8405	1.0651	1.0651	14896.37	14897.37	1.00	186	Sunny	23.7	0.0119	1.0651	63.91
23 Mar 09	2.8062	2.8168	1.0651	1.0651	14897.37	14898.37	1.00	166	Sunny	23.4	0.0106	1.0651	63.91
25 Mar 09	2.7768	2.7949	1.0651	1.0651	14922.37	14923.37	1.00	283	Rainy	18	0.0181	1.0651	63.91
27 Mar 09	2.8022	2.8200	1.0651	1.0651	14923.37	14924.37	1.00	279	Rainy	19.2	0.0178	1.0651	63.91
28 Mar 09	2.7787	2.7902	1.0651	1.0651	14924.37	14925.37	1.00	180	Rainy	20.7	0.0115	1.0651	63.91
30 Mar 09	2.7605	2.7699	1.0651	1.0651	14949.37	14950.37	1.00	147	Sunny	18.8	0.0094	1.0651	63.91
								Min	135				
								Max	283				
								Average	196				

#### 1-hour TSP Monitoring Results at Station AM2 (Nearby Renaissance Harbour View Hotel)

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
	Initial	Final	Initial	Final	Initial	Final							
02 Mar 09	2.8136	2.8233	1.3389	1.3389	13167.59	13168.59	1.00	121	Sunny	18.3	0.0097	1.3389	80.33
04 Mar 09	2.8432	2.8628	1.2793	1.2793	13168.59	13169.59	1.00	255	Rainy	17.8	0.0196	1.2793	76.76
05 Mar 09	2.8385	2.8504	1.2793	1.2793	13169.59	13170.59	1.00	155	Rainy	19.1	0.0119	1.2793	76.76
06 Mar 09	2.8232	2.8386	1.3133	1.3133	13194.59	13195.59	1.00	195	Rainy	16.5	0.0154	1.3133	78.80
09 Mar 09	2.8143	2.8309	1.2793	1.2793	13195.59	13196.59	1.00	216	Sunny	17	0.0166	1.2793	76.76
11 Mar 09	2.8383	2.8489	1.2793	1.2793	13196.59	13197.56	0.97	142	Sunny	18.7	0.0106	1.2793	74.46
13 Mar 09	2.8913	2.9083	1.2793	1.2793	13221.60	13222.60	1.00	221	Sunny	20.1	0.0170	1.2793	76.76
16 Mar 09	2.8680	2.8862	1.2452	1.2452	13222.60	13223.60	1.00	244	Sunny	20.1	0.0182	1.2452	74.71
17 Mar 09	2.8149	2.8345	1.2452	1.2452	13223.60	13224.60	1.00	262	Sunny	21.3	0.0196	1.2452	74.71
18 Mar 09	2.8049	2.8166	1.2793	1.2793	13248.60	13249.60	1.00	152	Sunny	22	0.0117	1.2793	76.76
20 Mar 09	2.8149	2.8314	1.2452	1.2452	13249.60	13250.60	1.00	221	Sunny	23.7	0.0165	1.2452	74.71
23 Mar 09	2.8114	2.8281	1.2111	1.2111	13250.60	13251.60	1.00	230	Sunny	23.4	0.0167	1.2111	72.67
25 Mar 09	2.7772	2.7906	1.2793	1.2793	13275.60	13276.60	1.00	175	Rainy	18	0.0134	1.2793	76.76
27 Mar 09	2.7699	2.7908	1.2793	1.2793	13276.60	13277.60	1.00	272	Rainy	19.2	0.0209	1.2793	76.76
28 Mar 09	2.7720	2.7864	1.2793	1.2793	13277.60	13278.60	1.00	188	Rainy	20.7	0.0144	1.2793	76.76
30 Mar 09	2.7708	2.7802	1.3474	1.3474	13302.60	13303.60	1.00	116	Sunny	18.8	0.0094	1.3474	80.84
								Min	116				
								Max	272				
								Average	198				



## Meteorological Data Extracted from King's Park Stations of the Hong Kong Observatory

Date	Weather	King's Park Station				
		Average Air Temperature (°C)	Average Relative Humidity (%)	Total Rainfall (mm)	Wind Direction (Degree)	Average Wind Speed (km/h)
02 Mar 09	Sunny	18.3	79	0.0	100	8.7
04 Mar 09	Rainy	17.8	90	1.0	100	15.1
05 Mar 09	Rainy	19.1	96	40.5	100	9.5
06 Mar 09	Rainy	16.5	88	13.5	20	5.9
09 Mar 09	Sunny	17	73	0.5	10	5.4
11 Mar 09	Sunny	18.7	84	0.0	100	17.6
13 Mar 09	Sunny	20.1	83	0.0	110	9.7
16 Mar 09	Sunny	20.1	73	0.0	110	6.1
17 Mar 09	Sunny	21.3	80	0.0	100	4.8
18 Mar 09	Sunny	22	85	0.0	100#	3.6#
20 Mar 09	Sunny	23.7	85	0.0	270	4.9
23 Mar 09	Sunny	23.4	92	0.0	110	8.6
25 Mar 09	Rainy	18	89	32.5	100	9.7
27 Mar 09	Rainy	19.2	94	6.5	110	13.2
28 Mar 09	Rainy	20.7	95	0.5	110	13.0
30 Mar 09	Sunny	18.8	79	0.0	100	12.0

# - missing (less than 24 hourly observations a day)

NA - not available

Figure G1 - Measured 24-hour TSP Concentration ( $\mu\text{gm}^{-3}$ ) at AM1

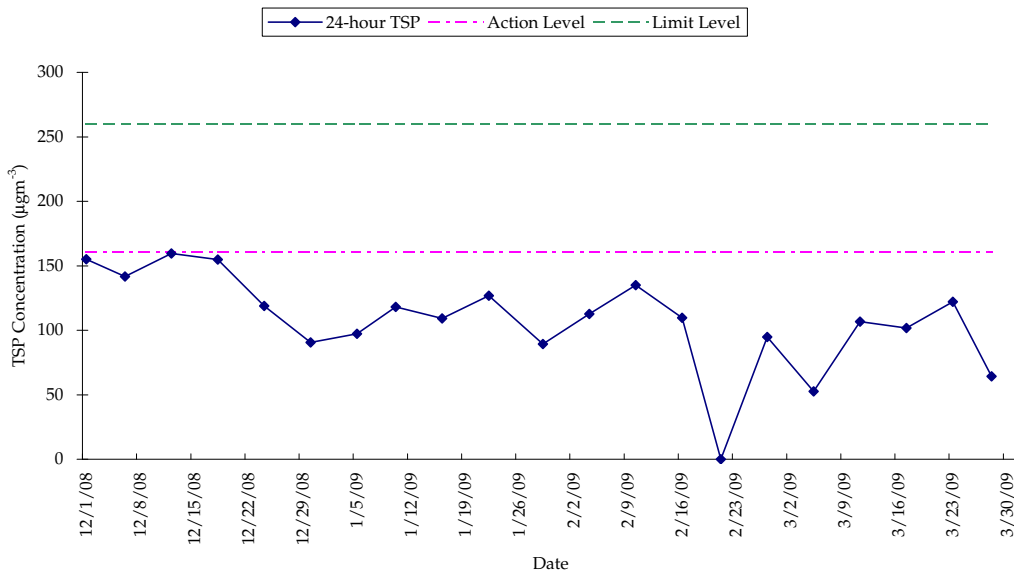


Figure G2 - Measured 24-hour TSP Concentration ( $\mu\text{gm}^{-3}$ ) at AM2

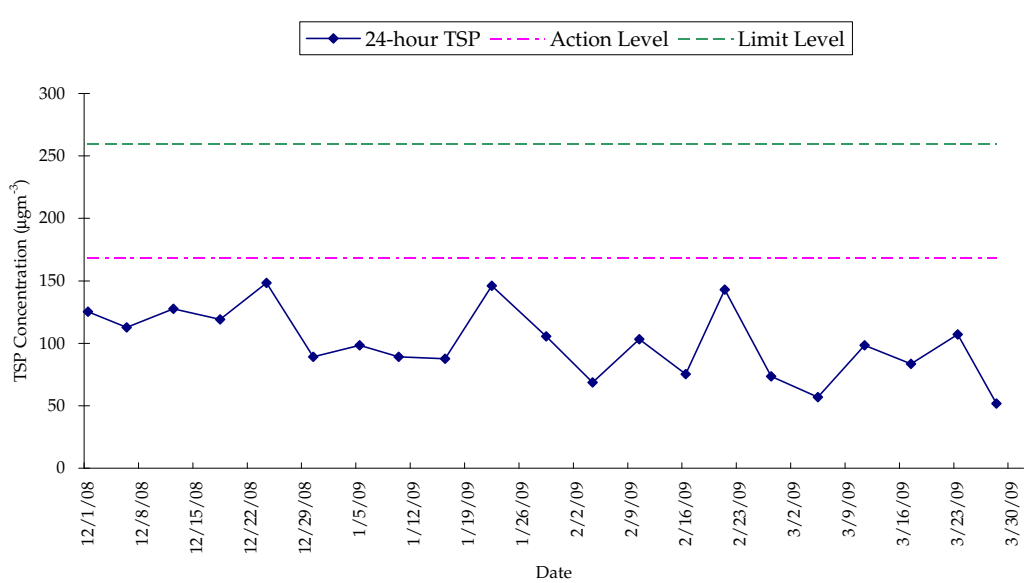


Figure G3 - Measured 1-hour TSP Concentration ( $\mu\text{g}\text{m}^{-3}$ ) at AM1

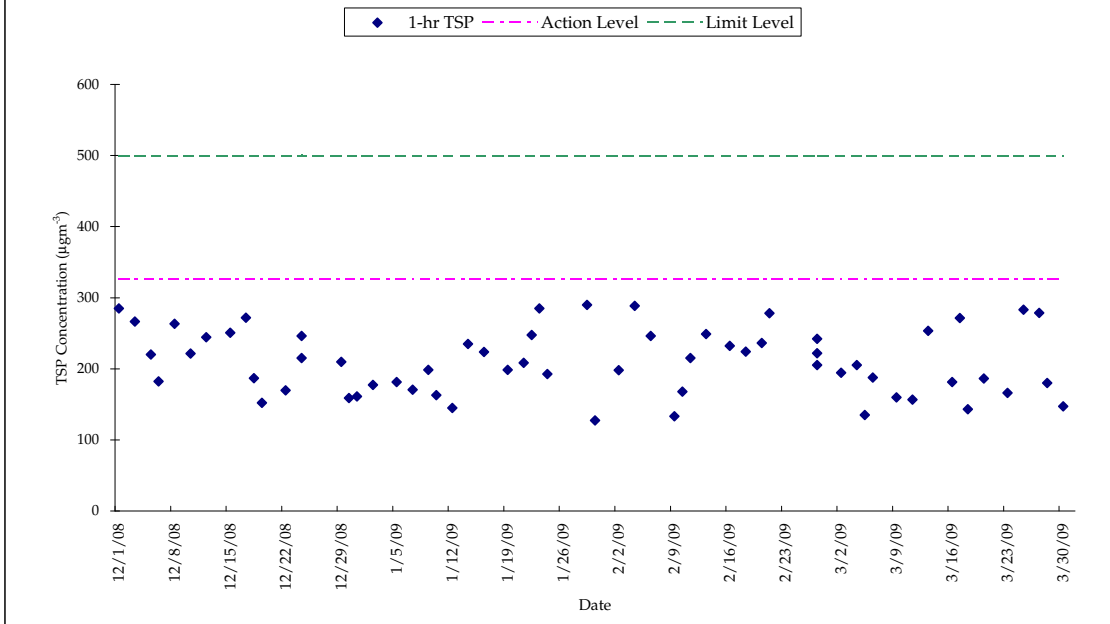
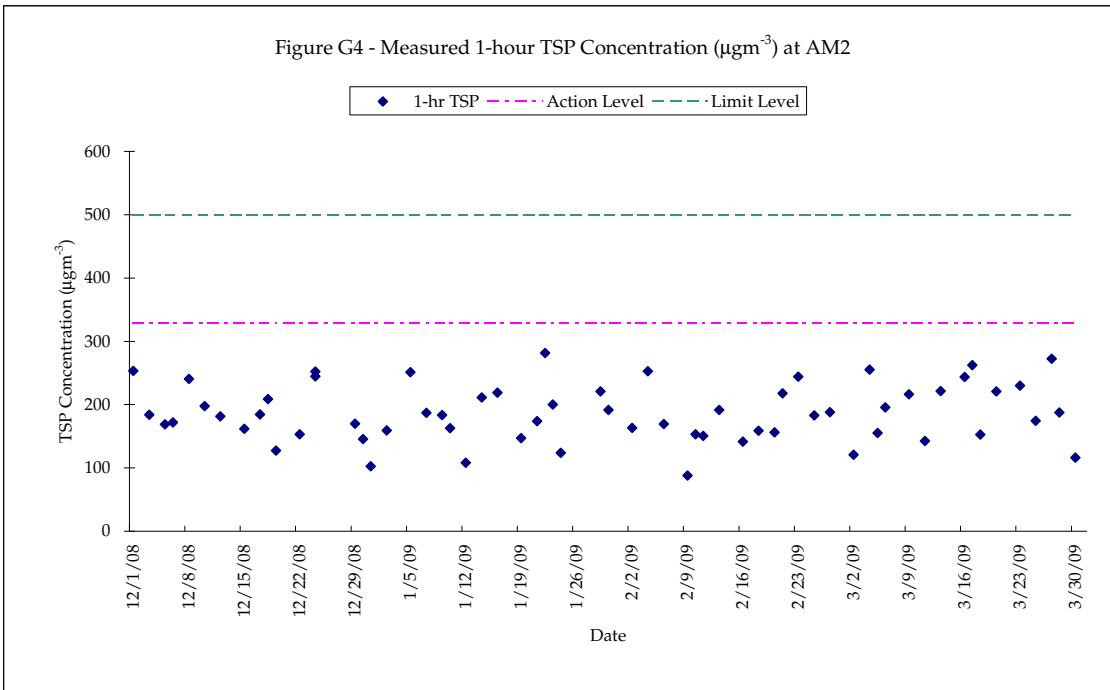


Figure G4 - Measured 1-hour TSP Concentration ( $\mu\text{g}\text{m}^{-3}$ ) at AM2



Annex H

## Event Action Plans for Air Quality Monitoring

**Table H1 Event Action Plans for Air Quality**

Event Action Level	Action			
	ET	Contractor	ER	IEC
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Notify IEC, ER and Contractor within 1 working day after receiving the laboratory results.</li> <li>3. Conduct additional monitoring to investigate the causes.</li> <li>4. Report the investigation results and if exceedance is due to contractor's construction works to the IEC, ER and Contractor.</li> <li>5. Increase monitoring frequency to once per 2 days for 24-hour TSP and daily for 1-hour TSP until exceedance stops if exceedances are considered related to contractor's construction works and report the results to IEC, ER and Contractor within 1 working day after receiving the laboratory results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance and rectify any unacceptable practice.</li> <li>2. Submit air mitigation proposal to IEC and ER for agreement within 3 working days if ET indicated that exceedance is related to the construction works</li> <li>3. Implement agreed proposal within a time scale agreed with ER and IEC.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify Contractor.</li> <li>3. Require Contractor to submit air mitigation proposal.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review monitoring data and investigation report submitted by ET.</li> <li>2. Review Contractor's air mitigation proposal and advise the ER accordingly.</li> <li>3. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results</li> <li>3. Conduct additional monitoring to investigate the causes.</li> <li>4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring.</li> <li>5. Increase monitoring frequency to daily for 24-hour TSP and 1-hour TSP if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results.</li> <li>6. If exceedances continue after 1-week monitoring events, request ER to arrange meeting with ER, IEC and contractor to discuss remedial actions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance and rectify any unacceptable practice</li> <li>2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works</li> <li>3. Implement agreed proposal within a time scale agreed with ER and IEC.</li> <li>4. Amend working methods if appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify Contractor.</li> <li>3. Require Contractor to submit air mitigation proposal.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review monitoring data and investigation report submitted by ET.</li> <li>2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal.</li> <li>3. Review Contractor's air mitigation proposal and advise the ER accordingly.</li> <li>4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.</li> </ol>

Event Limit Level	Action			
	ET	Contractor	ER	IEC
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results</li> <li>3. Conduct additional monitoring to investigate the causes.</li> <li>4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring.</li> <li>5. Increase monitoring frequency to daily if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance and rectify any unacceptable practice</li> <li>2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works</li> <li>3. Implement agreed proposal within a time scale agreed with ER and IEC.</li> <li>4. Amend working methods if appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify Contractor.</li> <li>3. Require Contractor to submit air mitigation proposal.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review monitoring data and investigation report submitted by ET.</li> <li>2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal.</li> <li>3. Review Contractor's air mitigation proposal and advise the ER accordingly.</li> <li>4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results</li> <li>3. Conduct additional monitoring to investigate the causes.</li> <li>4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring.</li> <li>5. Increase monitoring frequency to daily if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results.</li> <li>6. If exceedances continue after 2 consecutive monitoring events, request ER to arrange meeting with IEC and contractor to discuss remedial actions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance and rectify any unacceptable practice</li> <li>2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works</li> <li>3. Implement agreed proposal within a time scale agreed with ER and IEC.</li> <li>4. Amend working methods and proposal if appropriate.</li> <li>5. Stop relevant portion(s) of works as required by ER, ET and IEC</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify Contractor.</li> <li>3. Require Contractor to submit air mitigation proposal.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>5. If exceedances continue arrange meeting with Contractor, IEC and ET and to consider what portion(s) of works should be further mitigated or have to stop.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review monitoring data and investigation report submitted by ET.</li> <li>2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal.</li> <li>3. Review Contractor's air mitigation proposal and advise the ER accordingly.</li> <li>4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.</li> </ol>

Annex I

## Summary of Implementation Status

## Annex I - Summary of Environmental Protection / Mitigation Activities

Environmental Permit No. EP-239/2006/B

EP Condition Ref	Submission	Action Required by the Permit Holder	Implementation Status
<b>Measures for Mitigating Water Quality Impact</b>			
2.4	Method statement on silt screens for seawater intakes (including design and maintenance requirements)	2 weeks before commencement of marine pile installation works	Method statement was submitted to the EPD on 21/6/06. Method statement (Revision A) was submitted to the EPD on 29/9/06. Method statement (Revision B) and supplementary information was submitted to the EPD on 23/5/07 and 18/6/07 respectively.
2.5	Method statement on silt curtain system for marine piling works (including design and maintenance requirements)	2 weeks before commencement of marine pile installation works	Method statement was submitted to the EPD on 15/9/06.
2.8	Design drawings specifying pile dimension and layout	2 weeks before commencement of marine pile installation works	Marine pile layout (final stage) was submitted to the EPD on 15/2/07.  Revised marine pile layout (final stage) was submitted to the EPD on 26/3/07.
<b>Measures for Mitigating Air Quality Impact</b>			
2.9	Design drawings of ventilation facility for fresh air intakes (req'd only before operation of Project)	2 weeks before commencement of installation of ventilation facility	---
<b>Measures for Mitigating Landscape and Visual Impact</b>			
2.10	Implementation programme for landscape and visual mitigation measures (for both construction and operational phases of Project)	Within 6 months after commencement of construction of Project	Implementation programme (CM01, CM04 and CM05) was submitted to the EPD on 8/12/06.
2.10	Details of each landscape and visual mitigation measures package (incl plans)	2 weeks before implementation of a particular mitigation package	Proposal on protection and transplantation of existing trees was submitted to the EPD on 8/12/06. Proposal for CM03 was submitted to the EPD on 8/12/06. Proposal for CM01, CM04 and CM05 was submitted to the EPD on 15/12/06. CM01 Rev 1 was submitted to the EPD on 22/1/07. Proposal CM02 was submitted to the EPD on 13/3/07. Proposal for OM01 was submitted to the EPD on 15/11/07.
3.2	Baseline Monitoring Report	One week before the commencement of construction	Report was submitted to the EPD on 24/7/06 and comments from the EPD was received on 3/8/06. Revised report was submitted to EPD on 17/8/06 and no further comments received.



## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Construction Phase</i>			
Air Quality	<p>The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. A number of practical measures are listed below:</p> <ul style="list-style-type: none"> <li>• skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site;</li> <li>• 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;</li> <li>• where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit;</li> <li>• every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides;</li> <li>• all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet;</li> <li>• the height from which excavated materials dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading;</li> <li>• 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; and</li> <li>• instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.</li> </ul>	Work site / during construction	Δ

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Operational Phase</i>			
Air Quality	Some fresh air intakes of the Hong Kong Convention and Exhibition Centre Phase I, Renaissance Harbour View Hotel and Grand Hyatt Hotel (ASRs A4, A5 and A6) should be re-diverted to the new air vent shaft provided for Atrium Link Extension where fresh air intake located at +55.8mPD.	Location of ASRs A4, A5 & A6 / Design & Operation Stage (Long-term and Interim Scenario)	Measures not required until commencement of operational phase
Air Quality	Monitoring of NO <sub>2</sub> concentration underneath the Atrium Link Extension should be conducted.	Underneath the deckover / The first six months upon completion of the ALE.	Measures not required until commencement of operational phase
<i>Construction Phase</i>			
Noise	<p>Good Site Practice:</p> <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>• silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program;</li> <li>• mobile plant, if any, should be sited as far from NSRs as possible;</li> <li>• machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>• 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; and</li> <li>• material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities;</li> </ul> <p>Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented.</p>	Construction work areas / Construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Operational Phase</i>			
Noise	<p>The following noise reduction measures should be considered as far as practicable during detailed design:</p> <ul style="list-style-type: none"> <li>• choose quieter plant such as those which have been effectively silenced;</li> <li>• include noise levels specification when ordering new plant;</li> <li>• locate fixed plant away from any NSRs as far as practicable;</li> <li>• locate fixed plant in plant rooms with thick walls or specially designed enclosure;</li> <li>• locate noisy machines in basement or a completely separate building; and</li> <li>• develop and implement a regularly scheduled plant maintenance programme in order to maintain controlled level of noise.</li> </ul>	Plant Room / Design and Operation Stage	Relevant design and plant procurement procedures to commence at a later stage
<i>Construction Phase</i>			
Water Quality	There should be no permanent structure in the water channel.	At the ALE sea channel / during operational phase	√
Water Quality	No dredging and no reclamation should be carried out for the Project.	At work sites / during construction phase	√
Water Quality	The marine pile layout as shown in Figure 3 of the Environmental Permit should be adopted. No more than approximately 80 numbers of temporary marine piles should be installed in the ALE sea channel during the construction phase. The dimension of each temporary marine pile should be 800mm nominal diameter. These piles should be driven into position and internal space should not be excavated, i.e. left as soil. No dredging or soil /sediment excavation should be carried out. Marine piles would be removed by reverse driving.	At work sites / during construction phase	√
Water Quality	Two layers of silt curtain should be installed around each of the marine piling and pile extraction locations. The proposed silt curtain should be extended to seabed with sinker blocks and regularly inspected and maintained to ensure it is serviceable.	At marine work sites and nearby seawater intakes / during marine piling and marine pile extraction	The installation of temporary marine piles was completed on 23 April 2007.

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	All marine works should be carried out in a controlled manner such that release of sediments into the marine environment would be minimized. All wastewater generated from the piling activities should be collected and be treated before controlled discharge. Spoil should also be properly collected for proper disposal.		
Water Quality	In view of the close vicinity of the seawater intakes to the work site, silt screens are recommended to be deployed at the seawater intakes shown in Figure 5.2 of the EIA report during the whole construction period. Silt screens to be provided at seawater intakes should be regularly checked and maintained to ensure that they are serviceable. Refuse collection vessel should be mobilized on a need basis to collect any floating refuse lost from/ trapped at the work site during the construction period.	At seawater intakes / during the whole construction period	The installation of temporary marine piles was completed on 23 April 2007. Silt screens were removed as requested by the intake owners. Silt screens will be reinstalled at seawater intakes prior to the removal of marine piles.
Water Quality	Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept storm runoff from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks. Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains. Minimum distances of 100 m should be maintained between the discharge points of construction site runoff and the nearby saltwater intakes.	Works areas / construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	<p>There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimize water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. It is anticipated that only a small quantity of wastewater would be generated from the works areas. Any effluent discharge from the construction activities should be diverted away from the sea channel so as to avoid adverse water quality impact. Construction works should be programmed to minimize excavation works in rainy seasons (April to September). If excavation in soil could not be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.</p>	Works areas / construction period	√
Water Quality	<p>Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.</p> <p>Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations</p>	Works areas / construction period	Δ

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>should be discharged into storm drains via silt removal facilities.</p> <p>Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</p> <p>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.</p>		
Water Quality	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Works areas / construction period	Δ
Water Quality	Under normal circumstances, groundwater pumped out of wells, etc. for the lowering of ground water level in basement or foundation construction should be discharged into storm drains after the removal of silt in silt removal facilities.	Works areas / construction period	√
Water Quality	Water used in ground boring and drilling or rock /soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	Works areas / construction period	√
Water Quality	Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum.	Works areas / construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an on-line standby pump of adequate capacity and with automatic alternating devices.</p> <p>Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment.</p>		
Water Quality	<p>All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</p> <p>A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.</p>	Works areas / construction period	√
Water Quality	<p>Bentonite slurries used in diaphragm wall and bore-pile construction should be reconditioned and reused wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.</p> <p>If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards.</p>	Works areas / construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>Water used in water testing to check leakage of structures and pipes should be reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.</p> <p>Sterilization is commonly accomplished by chlorination. Specific advice from EPD should be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water should be reused wherever practicable. Discharge of sterilization effluent should be properly pre-treated for compliance with TM/WPCO requirements, such as but not limited to total residual chlorine.</p>	Works areas / construction period	
Water Quality	<p>Effluent discharges from building construction and other construction site activities are subject to WPCO control. Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains.</p> <p>Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary.</p>	Works areas / construction period	√
Water Quality	<p>Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater should be tinkered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters.</p>	Works areas / construction period	No acidic wastewater will be generated.
Water Quality	<p>Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, should be discharged into foul</p>	Works areas / construction period	√



## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>sewer via grease traps capable of providing at least 20 minutes retention during peak flow.</p> <p>Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptors with peak storm bypass.</p> <p>Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor. Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance.</p>		
Water Quality	<p>It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30 m from the seafront or any watercourse. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.</p> <p>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment. Regular environmental audit on the construction site can provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site.</p>	Works areas / construction period	√
Water Quality	<p>Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.</p>	Works areas / construction period	√
Water Quality	<p>Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and</p>	Works areas / construction period	Δ

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</p> <p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> <li>• suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> <li>• chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>• storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>		
Water Quality	<p>To minimize the potential water quality impacts from the construction works located at or near the storm system or seafront, the following mitigation measures should be adopted:</p> <ul style="list-style-type: none"> <li>• the use of less or smaller construction plants may be specified to reduce the disturbance to the seabed;</li> <li>• temporary sewerage system should be designed to prevent wastewater from entering the storm system and sea;</li> <li>• temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works;</li> <li>• stockpiling of construction materials and dusty materials should be covered and located away from any water courses;</li> <li>• construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers;</li> <li>• construction activities, which generate large amount of</li> </ul>	Works areas / construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>wastewater, should be carried out in a distance away from the waterfront, where practicable;</p> <ul style="list-style-type: none"> <li>mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff;</li> <li>construction effluent, site run-off and sewage should be properly collected and/or treated;</li> <li>proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/sea; and</li> <li>supervisory staff should be assigned to station on site to closely supervise and monitor the works.</li> </ul>		
Water Quality	If monitoring of the treated effluent quality from the Works Areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. The contractor should submit detailed monitoring programme to EPD for approval before commencement of the construction activities.	Works areas / construction period	√
Water Quality	Monitoring of the water quality at the seawater intakes inside the ALE sea channel should be conducted.	ALE sea channel / Before construction period and during installation and removal of temporary marine piles.	√
Water Quality	All barges should be fitted with tight seals to their bottom opening to prevent leakage of materials. The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard. Loading of barges should be controlled to prevent splashing of materials to the surrounding environment and barges should under no circumstances be filled to a level which would cause overflowing of material or sediment laden water during loading and transportation. All barges should maintain adequate clearance between vessels and the seabed at all states of the tide and	Works areas / construction period	No barge will be required for the project.

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	should operate at a reduced speeds to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.		
Water Quality	Connection of sewage generated from the ALE will be connected to the existing public sewer. For handling, treatment and disposal of other operational stage effluent, the practices outlined in ProPECC PN 5/93 should be adopted where applicable. Consensus from DSD should be sought on technical details of the drainage and sewerage proposals.	Project site / design and construction period	Relevant works have yet to be commenced / completed
<i>Construction Phase</i>			
Waste	<p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• training of site personnel in proper waste management and chemical handling procedures;</li> <li>• provision of sufficient waste disposal points and regular collection of waste;</li> <li>• appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>• regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> </ul>	Work site / during the construction period	√
Waste	<p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>• sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (ie soil, broken concrete, metal, etc);</li> <li>• segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or</li> </ul>	Work site / during the construction period	Δ

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>recycling of materials and their proper disposal;</p> <ul style="list-style-type: none"> <li>• encourage collection of aluminum cans by individual collectors by providing separate labeled bins to enable this waste to be segregated from other general refuse generated by the work force;</li> <li>• proper storage and site practices to minimize the potential for damage to contamination of construction materials; and</li> <li>• plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>		
Waste	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work site / during the construction period	Δ
Waste	<p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>• In order to minimize the impact resulting from collection and transportation of C&amp;D material for off-site disposal, the C&amp;D material from the following construction activities should be reused and recycled as far as possible to reduce the net amount of C&amp;D material generated from the Project;</li> <li>• a Waste Management Plan should be prepared in accordance with ETWB TCW No. 19/2005;</li> <li>• a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed;</li> <li>• in order to monitor the disposal of C&amp;D and solid wastes at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make</li> </ul>	Work site / during the construction period	√

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>reference to ETWB TCW No.31/2004 for details;</p> <ul style="list-style-type: none"> <li>the large amount of C&amp;D waste generated is mainly due to the piling works of large diameter piles' excavation at the sea front site. If however marine sediment is found during pile excavation, the handling and disposal of such wastes will be managed in accordance with the requirements of the DASO and the current ETWB Tech. Circular no. 34/2002.</li> </ul>		
Waste	<p><u>Chemical Wastes</u></p> <p>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i>. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. For this Project, the amount of chemical wastes produced would be small.</p>	Work site / during the construction period	√
<i>Operational Phase</i>			
Waste	<p><u>General Refuse</u></p> <p>Similar to the existing situation, the main waste type generated during the operation stage of the Project will be general refuse generated by the public and staff. These include waste paper, food wrappings and beverage containers. The disposal of future waste arisings generated at the HKCEC would follow the existing handling and disposal arrangement. Provided proper</p>	Work site / during the construction period	Measures not required until commencement of operational phase

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	arrangements are made with licensed contractors to collect the generated waste, adverse waste-related impact is not anticipated during the operation stage. It is expected that there will be a 5-7% increase ratio in the future operations.		
<i>Construction Phase</i>			
Landscape & Visual	Due consideration of appearance and view to 'hide' the construction through careful use of: (a) hoarding design; (b) temporary partition walls; (c) screen for hotels; and (d) temporary footbridge.	Entire works area and adjacent hotels	√
Landscape & Visual	Due consideration to protect existing trees.	Entire works area	√
Landscape & Visual	Due consideration of visual impact from construction activities: (a) construction workers access to reach construction areas without passing through hotels and existing HKCEC; and (b) construction light.	Entire works area	√
<i>Operational Phase</i>			
Landscape & Visual	Sensitive soft and hard landscape design for exposed rooftop garden and shady covered area underneath the Atrium Link Extension. Maximize greening opportunity via various in-situ planting and potted planting to achieve 30% of the roof area as planting area for the project.	Roof top and area underneath the Atrium Link Extension	Mitigation measures to be implemented during operational phase
Landscape & Visual	Sensitive building architecture to visually reduce the bulkiness of the building structure, to visually break down the scale of the facades, and to create rooftops for greening opportunities.	Building of the Atrium Link Extension	Mitigation measures to be implemented during operational phase
Landscape & Visual	Appearance and view considerations: (a) avoid industrial feel of building service elements;	Entire proposed works and adjacent hotels	Mitigation measures to be implemented during operational phase

## Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	(b) interior visual screens for lower levels of the hotels; (c) consider relocation of facilities of interior spaces of hotels; and (d) careful lighting design at roofs and for building façade to avoid night-time glare.		
Landscape & Visual	Transplanting of trees to adjacent locations.	Convention Avenue	Mitigation measures to be implemented during operational phase
Landscape & Visual	Reinstatement of existing waterfront public footpaths along Convention Avenue and the existing open spaces near Fenwick Street.	Convention Avenue and Fenwick Street	Mitigation measures to be implemented during operational phase

### Remark:

- √ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Hip Hing JV
- Δ Deficiency of Mitigation Measures but rectified by Hip Hing JV



Annex J

## Waste Flow Table

## HKCEC – Expansion Project

**Name of Project Proponent: HKTDC**

**Project Commencement Date: 1 Aug 2006**

**Construction Completion Date: March 2009**

### Monthly Summary Waste Flow Table for Year 2009

Year	Actual Quantities of inert C&D Materials (in 10 <sup>3</sup> Kg) <sup>(1)(2)</sup>					Actual Quantities of C&D Wastes (in 10 <sup>3</sup> Kg) <sup>(4)</sup>									
	Total Quantity Generated	Broken Concrete <sup>(3)</sup>	Reused in the Contract	Reused in other Projects <sup>(3)</sup>	Disposed as Public Fill	Steel Materials				Paper/cardboard packaging		Chemical Waste (L)		General refuse	Other waste <sup>(6)</sup>
						Demolition of existing Atrium Link		Demolition of existing working platform		Recycle	Disposal	Recycle	Disposal	Recycle	Disposal
(a)	(b)	(c)	(d)	(a)-(b)-(c)-(d)	Recycle	Disposal	Recycle	Disposal	Recycle	Disposal	Recycle	Disposal	Disposal	Disposal	
January	485.8	0	0	0	485.8	6 <sup>(5)</sup>	0	0	0	0.3	0.05	0	0	815	370.5
February	105.0	0	0	0	105.0	0	0	0	0	0.3	0.05	0	0	1610	586.5
March	305.0	0	0	0	305.0	0	0	3.0	0	0.3	0.05	0	0	927.5	250.8
April															
May															
June															
July															
August															
Sep															
October															
November															
December															
<b>Total</b>	895.8	0	0	0	895.8	6 <sup>(5)</sup>	0	3.0	0	0.9	0.15	0	0	3352.5	1207.8

Note: <sup>(1)</sup> Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.

<sup>(2)</sup> Inert C&D material mainly generated from demolition of atrium link.

<sup>(3)</sup> Broken concrete fro recycling into aggregates.

<sup>(4)</sup> C&D wastes include steel materials generated from demolition, paper / cardboard packaging waste, chemical waste and other wastes such as general refuse. Wastes other than general refuse will be disposed of at Tsung Kwan O Area 137 temporary construction waste sorting facility.

<sup>(5)</sup> Waste from demolition of steel structure at existing Atrium Link of HKCEC (Phase 2).









<sup>(6)</sup> Wastes include materials associated with additional and alternation (A&A) works of HKCEC (e.g. demolition of E&M equipment and finishing materials, bamboo scaffolding) and piling works.

Annex K

## Construction Programme for Next Three Months

Hong Kong Convention and Exhibition Centre  
Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09











ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1	<b>PROJECT WIDE</b>	42%	May 26 '06	NA	May 26 '06	3/31/09			
2	<b>Critical Dates</b>	42%	May 26 '06	NA	May 26 '06				
3	<b>Project Milestones</b>	99%	May 26 '06	NA	May 26 '06				
26	Power On	100%	Jan 17 '09	Jan 17 '09	Dec 10 '08				
28	Submit Form WWO46 Part IV for Plumbing	100%	Feb 16 '09	Feb 16 '09	Jan 23 '09				
29	Submit Form 501 (FS & Ventilation)	100%	Jan 15 '09	Jan 15 '09	Jan 12 '09				
30	FS Water Certificate Obtained	100%	Mar 5 '09	Mar 5 '09	Jan 12 '09				
31	Portable Water Certificate Obtained	100%	Mar 2 '09	Mar 2 '09	Feb 25 '09				
33	Fire Certificate Obtained (ALL)	100%	Mar 25 '09	Mar 25 '09	Mar 2 '09				
155	<b>Design Submission &amp; Approval (Permanent Works)</b>	99%	May 25 '06	NA	May 25 '06				
234	<b>Architectural Design</b>	99%	Aug 26 '06	NA	Aug 17 '06				
329	<b>Exhibition Halls / Service Counters and Organiser's Offices</b>	100%	Sep 29 '06	Apr 25 '08	Sep 29 '06				
340	<b>Exhibition Halls</b>	100%	May 30 '07	Apr 24 '08	May 30 '07				
350	<b>Food Concession Area</b>	100%	Jun 14 '07	Apr 25 '08	Jun 14 '07				
359	<b>Door schedule (incl. sliding and acoustic doors)</b>	100%	Sep 30 '06	Apr 16 '08	Sep 30 '06				
368	<b>Ironmongery schedule</b>	100%	Jan 3 '07	May 6 '08	Jan 3 '07				
377	<b>Maintenance access system - Gondola + BMU</b>	100%	Oct 4 '06	Apr 24 '08	Oct 4 '06				
424	<b>Signage &amp; Electronic Sign (Permanent)</b>	99%	Jun 26 '07	NA	Jun 26 '07				
425	Detailed Design Preparation	100%	Jun 26 '07	Feb 7 '09	Jun 26 '07				
426	Design Check by Design Checker	100%	Mar 28 '08	Feb 7 '09	Aug 1 '07				
427	RIP/DDR for Signage by PM	95%	Dec 22 '08	NA	Aug 17 '07				
439	<b>Landscape Works</b>	100%	Oct 16 '06	Feb 23 '09	Oct 16 '06				
454	Design Check by Design Checker	100%	Dec 12 '07	Jan 11 '08	Nov 27 '07				
455	DDR for Landscape by PM	100%	Jan 12 '08	Feb 23 '09	Dec 11 '07				
456	DDR for Landscaping Plan	100%	Feb 23 '09	Feb 23 '09	Dec 24 '07				
466	<b>Miscellaneous Details</b>	98%	Apr 6 '07	NA	Apr 6 '07				
477	<b>Carpark, Driveway/loading and unloading areas</b>	100%	Jun 14 '07	Mar 4 '08	Jun 14 '07				
482	<b>Expansion Joint and wall expansion details for Ph I &amp; II</b>	100%	Apr 6 '07	Aug 14 '08	Apr 6 '07				

Project: 3 Month Rolling Programme based on revised Master Programme Rev Date: 31/03/2009	Task		Summary		Group By Summary	
	Critical Task		Split		Baseline 1	
	Progress		External Tasks			
	Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre  
Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09

ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
515	Structural Design	100%	May 26 '06	Sep 10 '09	May 26 '06	3/31/09			
522	Details Design Review	100%	Jun 7 '06	Sep 10 '09	Jun 7 '06				
641	External façade Design (Structural)	100%	Jan 29 '07	Feb 15 '08	Jan 29 '07				
652	BS Design	100%	Jun 1 '06	Aug 20 '08	Jun 1 '06				
653	BS - HVAC	100%	Jul 14 '06	Jan 7 '08	Jul 14 '06				
665	Details Design Review	100%	Sep 5 '06	Jan 7 '08	Sep 5 '06				
671	HVAC Layout	100%	May 30 '07	Jan 7 '08	May 30 '07				
676	BS - Electrical	100%	Jul 21 '06	Feb 6 '08	Jul 21 '06				
677	Electrical loading calculation & Generator Sizing, Schematic design of electrical system & lighting system	100%	Jul 21 '06	Feb 6 '08	Jul 21 '06				
695	Lighting Installation	100%	Jul 21 '06	Jan 31 '08	Jul 21 '06				
723	BS - Fire Services	100%	Jun 14 '06	Nov 13 '07	Jun 14 '06				
735	Details Design Review	100%	Nov 3 '06	Nov 13 '07	Nov 3 '06				
741	Stage 2	100%	Jun 14 '07	Nov 13 '07	Jun 14 '07				
746	BS - Plumbing and Drainage	100%	Jun 2 '06	Dec 7 '07	Jun 2 '06				
747	Reivew In Principle	100%	Jun 2 '06	Nov 27 '06	Jun 2 '06				
821	BS - Diversion	100%	Jun 1 '06	Aug 20 '08	Jun 1 '06				
874	BS Diversion Plan for A&A works at Phase II	100%	Sep 24 '07	Feb 20 '08	Sep 24 '07				
884	BS Design for Additional Slab at Level 5 & 7 at Phase II	100%	Jun 15 '07	Jan 28 '08	Jun 15 '07				
937	Curtain Wall / Cladding	99%	Apr 20 '07	NA	Apr 20 '07				
940	Visual and Performance Mock Up Test	100%	Nov 21 '07	Dec 24 '08	Oct 4 '07				
941	Production & Delivery of Steel Post & frames (transom + mullion), Aluminium components, glazing anels, metal louvres & features & granite cladding for West façade	100%	Apr 7 '08	Mar 16 '09	Dec 4 '07				
942	Production & Delivery of Inserts & Anchors	100%	May 5 '08	Feb 2 '09	Oct 4 '07				
943	Commence Installation of Inserts & Anchors	100%	Jun 30 '08	Feb 20 '09	Dec 13 '07				
944	Production & Delivery of Steel Post & frames (transom + mullion), Aluminium components, glazing anels, metal louvres & features & granite cladding for east façade	100%	Apr 7 '08	Mar 16 '09	Dec 4 '07				
991	Site Works	92%	Jun 19 '06	NA	Jun 19 '06				

Project: 3 Month Rolling Programme based on revised Master Programme Rev  
Date: 31/03/2009

Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre  
Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09

ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1017	<b>A &amp; A Works to Existing HKCEC Phase 1 and 2</b>	96%	Jul 26 '06	NA	Jul 26 '06	3/31/09			
1021	<b>HK CEC Phase 1 - New Atrium Link Connection</b>	93%	Apr 30 '07	NA	Apr 30 '07				
1028	New Finishing works for (G.L. 25/A1-A)	90%	Jan 21 '09	NA	Mar 14 '08				
1032	Termination for Existing E&M Services	100%	Jun 5 '08	Jun 20 '08	Jan 19 '08				
1036	New Finishing Works For (G.L.25/B-D)	90%	Jan 21 '09	NA	Jun 27 '08				
1037	Modification Works for E&M Services (G.L.25/B-D)	100%	Jul 15 '08	Jul 25 '08	Jul 7 '08				
1055	<b>HKCEC Phase 2 - New Additional Slab At L5 &amp; L7</b>	98%	Nov 1 '07	NA	Nov 16 '07				
1061	New Builders' & Finishing Works	100%	Dec 22 '07	Feb 29 '08	Feb 1 '08				
1062	E&M works	100%	Dec 22 '07	Feb 29 '08	Feb 1 '08				
1073	<b>Demolition of Existing Artrium Link</b>	100%	Mar 14 '07	Nov 4 '08	Mar 14 '07				
1079	<b>Demolition of Existing Atrium Link</b>	100%	Mar 14 '07	Nov 4 '08	Mar 14 '07				
1093	<b>New Atrium Link Extension</b>	91%	Jun 27 '06	NA	Jun 27 '06				
1176	<b>Superstructure</b>	100%	Nov 30 '06	Jan 10 '09	Nov 30 '06				
1177	<b>Columns to Steel Truss - Grid 17</b>	100%	Dec 4 '06	Jan 28 '08	Dec 4 '06				
1218	<b>Steel Roof Trusses and Superstructure</b>	100%	Nov 30 '06	Jan 10 '09	Nov 30 '06				
1219	<b>Panel Truss A1</b>	100%	Nov 30 '06	Dec 24 '08	Nov 30 '06				
1221	<b>Steel Structure for Grid A1 to Existing Façade Truss</b>	100%	Nov 30 '06	Dec 24 '08	Nov 30 '06				
1237	<b>Level 5 +29.40 deferred portion GL24-25/A1</b>	100%	Jul 11 '08	Nov 23 '08	Mar 25 '08				
1241	<b>Level 6 +36.90</b>	100%	Sep 20 '08	Dec 24 '08	Mar 25 '08				
1246	<b>Level 7 +44.40</b>	100%	Sep 10 '08	Dec 24 '08	Apr 16 '08				
1251	<b>Roof Level +51.80</b>	100%	Nov 8 '08	Dec 13 '08	May 6 '08				
1281	<b>Temporary Works for Sliding &amp; Heavy Lifting</b>	100%	Sep 8 '07	Jan 10 '09	Sep 8 '07				
1283	Remove Sliding Beams & Equipment From HL	100%	Jun 2 '08	Jan 10 '09	Dec 15 '07				
1289	<b>Roof Truss A</b>	100%	Oct 14 '07	Jun 29 '08	Oct 10 '07				
1298	<b>Roof Truss B</b>	100%	Nov 14 '07	Aug 17 '08	Oct 10 '07				
1307	<b>Roof Truss C</b>	100%	Dec 20 '07	Aug 31 '08	Nov 14 '07				
1313	<b>Roof Truss D</b>	100%	Feb 4 '08	Sep 7 '08	Nov 14 '07				
1319	<b>Panel Truss E</b>	100%	Apr 9 '08	Jun 3 '08	Jan 21 '08				

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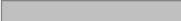


ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1321	Steel Structure for Existing Façade to Grid B	100%	Jan 8 '08	Jan 10 '09	Sep 4 '07				
1322	Strengthening Works, Removal of Replacement Truss	100%	Apr 1 '08	Nov 4 '08	Sep 4 '07				
1327	Hanger Columns and Main Truss () Erection	100%	May 9 '08	Jul 16 '08	Jan 29 '08				
1329	Level 2 +14.40 (Existing Façade to Grid A)	100%	Jan 8 '08	Dec 13 '08	Apr 19 '08				
1334	Level 2 +14.40 (Grid A to B)	100%	Apr 23 '08	Dec 18 '08	Apr 9 '08				
1337	Level 3 +21.40	100%	Aug 26 '08	Dec 19 '08	Mar 25 '08				
1341	Level 3M +25.95	100%	Aug 9 '08	Dec 24 '08	Apr 3 '08				
1345	Level 5 +29.40	100%	Aug 27 '08	Jan 10 '09	Apr 10 '08				
1349	Level 6 +36.90 & L6 Mezz.	100%	Jul 25 '08	Jan 10 '09	Apr 25 '08				
1353	Level 7 (lower level) +40.90	100%	Nov 1 '08	Jan 10 '09	May 3 '08				
1356	Level 7 +44.40	100%	Jun 20 '08	Jan 10 '09	May 3 '08				
1360	Level 7M +51.55	100%	Nov 5 '08	Jan 10 '09	May 17 '08				
1364	Roof Level +55.65	100%	Aug 4 '08	Dec 24 '08	May 24 '08				
1368	Steel Structure for Grid B to D	100%	Jun 1 '08	Jan 10 '09	Feb 8 '08				
1369	Hanger Columns and Main Truss Erection	100%	Jun 9 '08	Oct 31 '08	Feb 8 '08				
1372	Level 2 +14.40	100%	Aug 27 '08	Dec 18 '08	Apr 3 '08				
1376	Level 3 +21.90	100%	Oct 1 '08	Dec 25 '08	Apr 18 '08				
1380	Level 5 +36.90	100%	Jul 30 '08	Jan 10 '09	Apr 24 '08				
1384	Level 6 +36.90 & Level 6 Mezz.	100%	Oct 12 '08	Dec 6 '08	May 9 '08				
1388	Level 7 +44.35	100%	Jul 29 '08	Jan 10 '09	May 15 '08				
1392	Level 7M +51.80	100%	Sep 15 '08	Dec 19 '08	May 29 '08				
1396	Roof Level +55.80	100%	Jun 1 '08	Dec 24 '08	Jun 5 '08				
1399	Steel Structure for Grid D to E	100%	Apr 12 '08	Dec 31 '08	Mar 5 '08				
1403	Grid D to E	100%	Apr 12 '08	Dec 31 '08	Mar 18 '08				
1404	Level 2 +14.40 and Below Level 2	100%	Aug 29 '08	Dec 13 '08	Mar 18 '08				
1411	Level 3 +22.90	100%	Apr 12 '08	Dec 22 '08	Apr 7 '08				
1416	Level 3M +24.90	100%	Jul 8 '08	Dec 29 '08	Apr 25 '08				
1421	Level 5 +29.40	100%	May 14 '08	Dec 24 '08	May 14 '08				

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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1426	Level 6 +36.90	100%	Aug 8 '08	Dec 20 '08	May 31 '08			3/31/09	
1431	Level 7 +41.0 & +44.35	100%	Aug 7 '08	Dec 31 '08	Jun 19 '08				
1436	Level 7M +51.75	100%	Oct 10 '08	Dec 24 '08	Jul 8 '08				
1441	Roof Level +55.65	100%	Oct 11 '08	Dec 24 '08	Jul 18 '08				
1446	Architectural Finishes & Fittings	82%	Sep 14 '07	NA	Sep 14 '07				
1447	External Walling - Curtain Wall / Glass Wall / Window	74%	Jul 18 '08	NA	May 12 '08				
1448	West Side for Atrium Link Extension	74%	Aug 4 '08	NA	May 12 '08				
1449	Stage 1 (GL 20 to 25)	75%	Aug 4 '08	NA	May 12 '08				
1450	Survey & Setting out Works	99%	Aug 4 '08	NA	May 12 '08				
1451	Framing Installation for Curtain Wall and Cladding	100%	Aug 28 '08	Feb 20 '09	May 20 '08				
1452	Glazing Works for Curtain Walls & Cladding	99%	Jan 6 '09	NA	Jul 8 '08				
1454	Metal Cladding Installation	99%	Jan 10 '09	NA	Oct 6 '08				
1455	Sub-frame Louvre	100%	Jan 12 '09	Mar 13 '09	May 20 '08				
1456	Louvres Installation	99%	Jan 15 '09	NA	Jul 2 '08				
1459	Stage 2 (GL 15 to 20)	73%	Aug 11 '08	NA	Jul 16 '08				
1460	Survey & Setting out Works	99%	Aug 11 '08	NA	Jul 16 '08				
1461	Framing Installation for Curtain Wall and Cladding	98%	Nov 23 '08	NA	Jul 16 '08				
1462	Glazing Works for Curtain Walls & Cladding	98%	Jan 20 '09	NA	Aug 20 '08				
1465	Metal Cladding Installation	95%	Jan 20 '09	NA	Oct 8 '08				
1466	Sub-frame Louvre	99%	Jan 19 '09	NA	Jul 16 '08				
1467	Louvres Installation	99%	Jan 21 '09	NA	Aug 26 '08				
1469	East Side & South Side Façade for Atrium Link Extension	72%	Jul 18 '08	NA	Jul 29 '08				
1470	Survey & Setting out Works	99%	Jul 18 '08	NA	Jul 29 '08				
1471	Framing Installation for Curtain Wall and Cladd'g	99%	Aug 28 '08	NA	Jul 29 '08				
1472	Sub-frame Louvre	99%	Nov 15 '08	NA	Sep 12 '08				
1473	Glazing Works for Curtain Walls & Cladding	98%	Nov 15 '08	NA	Sep 12 '08				
1476	Granite Installation (L2-Roof)	98%	Dec 5 '08	NA	Jul 29 '08				
1480	Roofing Work	93%	Dec 16 '08	NA	Dec 18 '08				

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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Month			
						Jan	Feb	Mar	Apr
1481	Waterproofing preparation work	98%	Dec 16 '08	NA	Dec 18 '08				3/31/09
1482	Waterproofing work & Testing	100%	Dec 22 '08	Mar 2 '09	Dec 30 '08				
1483	Roof floor finish	90%	Jan 4 '09	NA	Jan 21 '09				
1495	<b>ABWF - Internal Partitions and Doors</b>	<b>96%</b>	<b>Jul 25 '08</b>	<b>NA</b>	<b>Jun 16 '08</b>				
1496	<b>For Area between Grid A1 and A</b>	<b>99%</b>	<b>Oct 15 '08</b>	<b>NA</b>	<b>Jun 16 '08</b>				
1497	<b>L2 to Roof</b>	<b>99%</b>	<b>Oct 15 '08</b>	<b>NA</b>	<b>Jun 16 '08</b>				
1498	Setting Out Works	100%	Oct 15 '08	Mar 2 '09	Jun 16 '08				
1499	Frame Works for Block & Dry Wall	100%	Oct 20 '08	Jan 30 '09	Jun 24 '08				
1500	Sub-Framing Works for Doors	100%	Oct 30 '08	Feb 7 '09	Jun 24 '08				
1501	Partitioning for Block & Dry Wall	100%	Nov 11 '08	Feb 7 '09	Aug 5 '08				
1502	Plastering / Painting work for plant rooms	95%	Nov 20 '08	NA	Aug 13 '08				
1503	Steel & Metal Works	98%	Nov 20 '08	NA	Jun 24 '08				
1504	Frame Wks for Prop. Toilet and Shower Cubicles	95%	Mar 10 '09	NA	Sep 10 '08				
1505	<b>For Area between Grid 24 and 25</b>	<b>98%</b>	<b>Dec 10 '08</b>	<b>NA</b>	<b>Jul 8 '08</b>				
1506	Setting Out Works	100%	Dec 10 '08	Feb 16 '09	Jul 8 '08				
1507	Frame Works for Block & Dry Wall	100%	Dec 12 '08	Jan 21 '09	Jul 14 '08				
1508	Sub-Framing Works for Doors	100%	Jan 4 '09	Jan 13 '09	Jul 14 '08				
1509	Partitioning for Block & Dry Wall	100%	Dec 11 '08	Feb 14 '09	Aug 6 '08				
1510	Steel & Metal Works	95%	Dec 11 '08	NA	Jul 14 '08				
1511	<b>For Area between Grid D and E</b>	<b>97%</b>	<b>Jul 25 '08</b>	<b>NA</b>	<b>Jul 29 '08</b>				
1512	<b>L2 to Roof</b>	<b>97%</b>	<b>Jul 25 '08</b>	<b>NA</b>	<b>Jul 29 '08</b>				
1513	Setting Out Works	100%	Jul 25 '08	Dec 18 '08	Jul 29 '08				
1514	Frame Works for Block & Dry Wall	100%	Jul 28 '08	Feb 16 '09	Aug 6 '08				
1515	Sub-Framing Works for Doors	100%	Aug 5 '08	Mar 16 '09	Aug 6 '08				
1516	Partitioning for Block & Dry Wall	100%	Aug 12 '08	Feb 16 '09	Sep 17 '08				
1517	Plastering / Painting work for plant rooms	95%	Aug 26 '08	NA	Sep 25 '08				
1518	Miscellaneous Steel & Metal Works	90%	Dec 15 '08	NA	Aug 6 '08				
1519	Frame Wks for Prop. Toilet and Shower Cubicles	100%	Jan 5 '09	Mar 13 '09	Nov 28 '08				











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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1520	<b>For Area between Grid A and D / Grid 16 and 24</b>	<b>94%</b>	<b>Oct 9 '08</b>	<b>NA</b>	<b>Jul 2 '08</b>	3/31/09			
1521	Setting out works	100%	Oct 9 '08	Jan 3 '09	Jul 8 '08				
1523	Frame Wks for Acoustic Operable Partition	100%	Nov 10 '08	Feb 28 '09	Jul 14 '08				
1524	Frame Works for Block & Dry Wall	100%	Oct 10 '08	Feb 28 '09	Jul 16 '08				
1525	Sub-Framing Works for Doors	100%	Nov 10 '08	Feb 28 '09	Jul 16 '08				
1526	Partitioning for Block & Dry Wall	100%	Nov 4 '08	Feb 28 '09	Aug 26 '08				
1527	Plastering for plant room	100%	Nov 10 '08	Mar 20 '09	Sep 1 '08				
1528	Miscellaneous Steel & Metal Works	100%	Oct 20 '08	Mar 20 '09	Jul 28 '08				
1529	Frame Wks for Prop. Toilet and Shower Cubicles	95%	Jan 5 '09	NA	Oct 2 '08				
1530	<b>ABWF - Internal Finishes</b>	<b>82%</b>	<b>Nov 1 '08</b>	<b>NA</b>	<b>Aug 29 '08</b>				
1531	<b>For Area between Grid A1 and A</b>	<b>87%</b>	<b>Nov 2 '08</b>	<b>NA</b>	<b>Sep 10 '08</b>				
1532	<b>L2 to Roof</b>	<b>87%</b>	<b>Nov 2 '08</b>	<b>NA</b>	<b>Sep 10 '08</b>				
1533	Waterproofing Works	100%	Nov 22 '08	Mar 16 '09	Sep 10 '08				
1534	Plastering & Screeding	100%	Dec 1 '08	Mar 27 '09	Sep 10 '08				
1535	Skim coat of Ceiling/Walling	80%	Feb 4 '09	NA	Sep 22 '08				
1536	Painting	50%	Feb 11 '09	NA	Oct 10 '08				
1537	Ceiling Grid Installation	95%	Nov 15 '08	NA	Sep 29 '08				
1538	Smoke Curtain Installation	98%	Nov 10 '08	NA	Nov 10 '08				
1539	Stone Floor Finishing / Tiling Works	95%	Nov 10 '08	NA	Oct 10 '08				
1540	Glass/Metal Balustrade Installation	95%	Nov 2 '08	NA	Nov 10 '08				
1541	<b>Fitting Out for Open Lobbys/Foyer</b>	<b>79%</b>	<b>Feb 9 '09</b>	<b>NA</b>	<b>Nov 10 '08</b>				
1542	Ceiling installation	80%	Feb 9 '09	NA	Nov 10 '08				
1543	Wall finishing work	85%	Feb 12 '09	NA	Nov 18 '08				
1544	Floor finishing work	70%	Feb 17 '09	NA	Dec 11 '08				
1545	Ceiling Panel Installation for internal area	80%	Feb 16 '09	NA	Oct 15 '08				
1546	<b>For Area between Grid 24 and 25</b>	<b>89%</b>	<b>Dec 15 '08</b>	<b>NA</b>	<b>Aug 29 '08</b>				
1547	Waterproofing Works	100%	Jan 5 '09	Jan 30 '09	Aug 29 '08				
1548	Plastering & Screeding	100%	Jan 12 '09	Mar 6 '09	Sep 16 '08				

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ID	Task Name	% Complett	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1549	Skim coat of Ceiling/Walling	50%	Mar 10 '09	NA	Oct 17 '08				
1550	Ceiling Grid Installation	90%	Dec 20 '08	NA	Nov 15 '08				
1551	Smoke Curtain Installation	100%	Jan 12 '09	Mar 9 '09	Nov 15 '08				
1552	Stone Wall Cladding Works	90%	Feb 9 '09	NA	Oct 17 '08				
1554	Glass/Metal Balustrade Installation	95%	Jan 14 '09	NA	Nov 15 '08				
1555	Miscellenous Fitting-out work	70%	Dec 15 '08	NA	Nov 15 '08				
1556	Ceiling Panel Installation	95%	Feb 10 '09	NA	Dec 9 '08				
1557	<b>For Area between Grid D and E</b>	<b>63%</b>	<b>Nov 5 '08</b>	<b>NA</b>	<b>Oct 14 '08</b>				
1558	Waterproofing Works	100%	Nov 5 '08	Mar 13 '09	Oct 14 '08				
1559	Plastering & Screeding	95%	Dec 2 '08	NA	Oct 14 '08				
1560	Skim coat of Ceiling/Walling	90%	Mar 2 '09	NA	Oct 18 '08				
1561	Painting	50%	Nov 12 '08	NA	Nov 4 '08				
1563	Smoke Curtain Installation	100%	Nov 15 '08	Mar 9 '09	Nov 11 '08				
1569	<b>For Area between Grid A and D / Grid 16 and 24</b>	<b>95%</b>	<b>Nov 1 '08</b>	<b>NA</b>	<b>Oct 2 '08</b>				
1571	Plastering & Screeding	95%	Dec 15 '08	NA	Oct 2 '08				
1573	Ceiling Grid Installation	100%	Dec 16 '08	Mar 9 '09	Nov 19 '08				
1574	Smoke Curtain Installation	100%	Nov 3 '08	Mar 9 '09	Nov 19 '08				
1575	Stone Wall Cladding / Tiling Works	100%	Nov 1 '08	Mar 13 '09	Nov 12 '08				
1576	Stone Floor Finishing / Tiling Works	100%	Jan 5 '09	Mar 13 '09	Nov 12 '08				
1577	Miscellensou Fitting Out Works for Hall	90%	Nov 15 '08	NA	Nov 19 '08				
1578	Ceiling Panel Installation	80%	May 15 '09	NA	Dec 12 '08				
1579	<b>ABWF - Fitting and Fixtures</b>	<b>70%</b>	<b>Dec 2 '08</b>	<b>NA</b>	<b>Dec 9 '08</b>				
1580	Door frame & Door installation	98%	Dec 2 '08	NA	Dec 9 '08				
1581	Ironmongery installation	60%	Dec 15 '08	NA	Dec 30 '08				
1582	<b>ABWF - Fitting and Fixtures</b>	<b>30%</b>	<b>Dec 20 '08</b>	<b>NA</b>	<b>Dec 10 '08</b>				
1585	Toilet/Shower Partitions for toilet	95%	Dec 20 '08	NA	Dec 10 '08				
1586	Glazing / Mirrors	100%	Dec 20 '08	Mar 28 '09	Jan 12 '09				
1588	<b>ABWF - Signages</b>	<b>20%</b>	<b>Mar 2 '09</b>	<b>NA</b>	<b>Dec 11 '08</b>				











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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Month			
						Jan	Feb	Mar	Apr
1589	Signage delivery & installation	20%	Mar 2 '09	NA	Dec 11 '08	3/31/09			
1590	<b>ABWF - Shutter</b>	<b>100%</b>	<b>Nov 28 '08</b>	<b>Mar 27 '09</b>	<b>Jun 24 '08</b>				
1591	Subframe delivery and installation	100%	Nov 28 '08	Feb 2 '09	Jun 24 '08				
1592	Fire shutter installation	100%	Jan 12 '09	Feb 13 '09	Sep 3 '08				
1593	Remain shutter installation	100%	Feb 6 '09	Mar 27 '09	Oct 10 '08				
1594	<b>Works to be executed by F&amp;B S/C after FS Inspection</b>	<b>40%</b>	<b>Mar 2 '09</b>	<b>NA</b>	<b>Feb 23 '09</b>				
1596	Installation of Loose Kitchen Appliance	30%	Mar 2 '09	NA	Feb 23 '09				
1597	Fixing of False Ceiling Panel with relative Finishes Work	80%	Mar 2 '09	NA	Feb 23 '09				
1598	Final Fixing / Adjustment of Fixture & Fittings at False Ceiling	50%	Mar 10 '09	NA	Feb 23 '09				
1599	<b>Building Services Installation</b>	<b>91%</b>	<b>Mar 8 '07</b>	<b>NA</b>	<b>Mar 8 '07</b>				
1600	<b>Major Plant Room Handover Summary</b>	<b>100%</b>	<b>Jan 28 '08</b>	<b>Jan 23 '09</b>	<b>Mar 15 '08</b>				
1601	Chiller Plant Room & Chiller Pump Room	100%	Jan 28 '08	Jan 28 '08	Mar 15 '08				
1602	AHU Rooms (West Side)	100%	Dec 5 '08	Jan 15 '09	Aug 13 '08				
1603	AHU Rooms (East Side)	100%	Oct 21 '08	Jan 15 '09	Oct 3 '08				
1604	Smoke Extraction Fan Room (L6)	100%	Nov 21 '08	Nov 21 '08	Sep 15 '08				
1605	3/F Main Switch Room	100%	Oct 3 '08	Nov 15 '08	Aug 7 '08				
1606	Level 1 Gease Trap & Pump Room	100%	Jan 23 '09	Jan 23 '09	May 30 '08				
1607	Electrical (Riser duct, telcom closet at West side)	100%	Dec 15 '08	Jan 15 '09	Jul 28 '08				
1608	Electrical (Riser duct, telcom closet at East side)	100%	Nov 27 '08	Jan 15 '09	Nov 5 '08				
1614	<b>Transformer Installation Grid D-E</b>	<b>100%</b>	<b>Jul 4 '08</b>	<b>Jan 17 '09</b>	<b>Jun 5 '08</b>				
1618	<b>Handover of Transformer Room to HKE</b>	<b>100%</b>	<b>Oct 21 '08</b>	<b>Oct 21 '08</b>	<b>Jul 21 '08</b>				
1621	<b>Handover of Cable Draw Pit to HKE</b>	<b>100%</b>	<b>Oct 21 '08</b>	<b>Oct 21 '08</b>	<b>Jul 28 '08</b>				
1624	Energisation	100%	Jan 15 '09	Jan 15 '09	Oct 25 '08				
1625	Power On	100%	Jan 17 '09	Jan 17 '09	Dec 10 '08				
1626	<b>Transformer Installation at Level 1 Phase 2</b>	<b>100%</b>	<b>Jun 1 '07</b>	<b>Oct 10 '08</b>	<b>Jun 1 '07</b>				
1638	<b>Lift and Escalator Installation</b>	<b>85%</b>	<b>May 2 '07</b>	<b>NA</b>	<b>May 2 '07</b>				
1639	<b>Fireman's Lift (F1 to F4)</b>	<b>100%</b>	<b>Nov 13 '08</b>	<b>Feb 6 '09</b>	<b>Jun 17 '08</b>				
1642	Fireman's Lift Installation (F1 + F3)	100%	Dec 30 '08	Jan 23 '09	Jul 12 '08				

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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Gantt Chart			
						Jan	Feb	Mar	Apr
1645	Fireman's Lift Installation (F2 + F4)	100%	Dec 30 '08	Jan 3 '09	Aug 22 '08		3/31/09		
1646	Power On	100%	Jan 17 '09	Jan 17 '09	Dec 10 '08				
1647	Testing & Commission (Fireman's Lifts)	100%	Jan 17 '09	Jan 30 '09	Sep 23 '08				
1648	Submit Form 5	100%	Jan 30 '09	Jan 30 '09	Oct 16 '08				
1649	EMSD Inspection	100%	Feb 5 '09	Feb 5 '09	Oct 31 '08				
1650	Obtain Form 6 (Fireman's Lift)	100%	Feb 6 '09	Feb 6 '09	Dec 1 '08				
1651	<b>Passenger's Lift &amp; Services Lift (P1 &amp; P2, S1 &amp; S2)</b>	<b>100%</b>	<b>Nov 7 '08</b>	<b>Mar 10 '09</b>	<b>Jun 16 '08</b>				
1654	Passengers Lift Installation (P1 & P2)	100%	Dec 30 '08	Feb 2 '09	Jul 16 '08				
1657	Services Lift Installation (S1 & S2)	100%	Dec 17 '08	Feb 2 '09	Aug 27 '08				
1658	Power On	100%	Jan 17 '09	Jan 17 '09	Dec 10 '08				
1659	Testing & Commission (Passengers / Services' Lifts)	100%	Jan 30 '09	Feb 7 '09	Oct 2 '08				
1660	Submit Form 5 (P1,P2,S1 & S2)	100%	Feb 11 '09	Feb 11 '09	Oct 21 '08				
1661	EMSD Inspection	100%	Mar 2 '09	Mar 2 '09	Nov 5 '08				
1662	Obtain Form 6 (P1,P2,S1 & S2)	100%	Mar 10 '09	Mar 10 '09	Dec 5 '08				
1663	<b>Escalator &amp; General System</b>	<b>74%</b>	<b>May 2 '07</b>	<b>NA</b>	<b>May 2 '07</b>				
1673	Handover Escalator Pits	100%	Nov 20 '08	Dec 15 '08	Sep 11 '08				
1674	Escalators Installation (E5 to E19)	100%	Nov 20 '08	Feb 13 '09	Sep 11 '08				
1675	Submit Form 5	100%	Feb 9 '09	Feb 9 '09	Nov 4 '08				
1676	EMSD Inspection	100%	Mar 2 '09	Mar 2 '09	Nov 19 '08				
1677	Obtain Form 6	100%	Mar 4 '09	Mar 4 '09	Dec 12 '08				
1678	Central Computerized L&E Monitoring Sys-1st Fix	80%	Mar 10 '09	NA	Sep 23 '08				
1681	<b>Electrical Installation</b>	<b>93%</b>	<b>Mar 8 '07</b>	<b>NA</b>	<b>Mar 8 '07</b>				
1682	<b>Area for Grid A1-A</b>	<b>95%</b>	<b>Mar 8 '07</b>	<b>NA</b>	<b>Mar 8 '07</b>				
1683	Modification of Electrical Sys. at Phase I & II	97%	May 19 '07	NA	May 19 '07				
1685	Electrical Installation - 1st Fix	98%	Oct 15 '08	NA	May 7 '08				
1686	Electrical Installation- 2nd & Final Fix	80%	Dec 20 '08	NA	Jul 25 '08				
1687	Lighting Installation	80%	Dec 22 '08	NA	Dec 15 '08				
1688	<b>Area for Grid A - D</b>	<b>92%</b>	<b>Sep 17 '08</b>	<b>NA</b>	<b>Apr 18 '08</b>				

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Date: 31/03/2009

Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre  
Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09

ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Gantt Chart			
						Jan	Feb	Mar	Apr
1690	Electrical Installation - 1st Fix	98%	Oct 6 '08	NA	May 24 '08				
1691	Electrical Installation- 2nd & Final Fix	80%	Oct 31 '08	NA	Sep 22 '08				
1692	Lighting Installation	80%	Dec 22 '08	NA	Dec 15 '08				
1693	<b>Area for Grid D - E</b>	<b>93%</b>	<b>Jul 2 '08</b>	<b>NA</b>	<b>Apr 7 '08</b>				
1695	Electrical Installation - 1st Fix	98%	Aug 6 '08	NA	Aug 9 '08				
1696	Electrical Installation- 2nd & Final Fix	80%	Dec 20 '08	NA	Oct 29 '08				
1697	Lighting Installation	80%	Jan 12 '09	NA	Jan 5 '09				
1698	Main Switch Room Installation	95%	Oct 3 '08	NA	Sep 27 '08				
1699	Testing & Commissioning - Electrical Installation	60%	Jan 8 '09	NA	Dec 11 '08				
1700	<b>Fire Services Installation</b>	<b>100%</b>	<b>Mar 8 '07</b>	<b>Mar 25 '09</b>	<b>Mar 8 '07</b>				
1701	<b>Area for Grid A1-A</b>	<b>100%</b>	<b>Mar 8 '07</b>	<b>Mar 23 '09</b>	<b>Mar 8 '07</b>				
1703	FS Installation - 1st Fix	100%	Oct 20 '08	Mar 23 '09	May 7 '08				
1704	FS Installation - 2nd Fix	100%	Dec 20 '08	Mar 23 '09	Jul 26 '08				
1705	<b>Area for Grid A-D</b>	<b>100%</b>	<b>Sep 17 '08</b>	<b>Mar 23 '09</b>	<b>Apr 18 '08</b>				
1707	FS Installation - 1st Fix	100%	Oct 6 '08	Mar 23 '09	Jun 9 '08				
1708	FS Installation - 2nd Fix	100%	Oct 31 '08	Mar 23 '09	Sep 22 '08				
1709	<b>Area for Grid D-E</b>	<b>100%</b>	<b>Jul 2 '08</b>	<b>Mar 23 '09</b>	<b>Apr 7 '08</b>				
1711	FS Installation - 1st Fix	100%	Aug 6 '08	Mar 23 '09	Jul 9 '08				
1712	FS Installation - 2nd Fix	100%	Dec 20 '08	Mar 23 '09	Sep 24 '08				
1713	Upgrading / Modification of FS Control Panel	100%	Jan 23 '09	Feb 5 '09	Sep 25 '08				
1714	Testing & Commissioning - Fire Services	100%	Jan 23 '09	Mar 25 '09	Oct 14 '08				
1715	<b>Form Submission</b>	<b>100%</b>	<b>Jan 15 '09</b>	<b>Mar 25 '09</b>	<b>Dec 11 '08</b>				
1716	Submit Form WWO46	100%	Jan 15 '09	Jan 15 '09	Dec 11 '08				
1717	FS WA Inspection	100%	Feb 19 '09	Feb 19 '09	Dec 12 '08				
1719	Submit Form 501	100%	Jan 15 '09	Jan 15 '09	Jan 12 '09				
1720	FS Inspection/Re-inspection	100%	Feb 5 '09	Mar 3 '09	Jan 22 '09				
1722	<b>Plumbing and Drainage Installation</b>	<b>99%</b>	<b>Mar 8 '07</b>	<b>NA</b>	<b>Mar 8 '07</b>				
1723	<b>Area for Grid A1-A</b>	<b>100%</b>	<b>Mar 8 '07</b>	<b>Mar 10 '09</b>	<b>Mar 8 '07</b>				

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Critical Task		Split		Baseline 1	
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ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1				
						Jan	Feb	Mar	Apr
1725	P&D Installation - 1st Fix	100%	Oct 20 '08	Jan 16 '09	May 7 '08				
1726	P&D Installation - 2nd Fix	100%	Dec 20 '08	Feb 6 '09	Jul 26 '08				
1727	Sanitaryware, Fittings & Accessories Installat'n	100%	Jan 15 '09	Mar 10 '09	Nov 8 '08				
1728	<b>Area for Grid A-D</b>	<b>100%</b>	<b>Sep 17 '08</b>	<b>Mar 10 '09</b>	<b>Apr 18 '08</b>				
1730	P&D Installation - 1st Fix	100%	Oct 6 '08	Jan 16 '09	Jun 9 '08				
1731	P&D Installation - 2nd Fix	100%	Oct 31 '08	Feb 6 '09	Sep 22 '08				
1732	Sanitaryware, Fittings & Accessories Installat'n	100%	Dec 20 '08	Mar 10 '09	Dec 9 '08				
1733	<b>Area for Grid D-E</b>	<b>100%</b>	<b>Jul 2 '08</b>	<b>Mar 10 '09</b>	<b>Apr 7 '08</b>				
1735	P&D Installation - 1st Fix	100%	Aug 6 '08	Jan 13 '09	Jul 29 '08				
1736	P&D Installation - 2nd Fix	100%	Oct 24 '08	Jan 31 '09	Oct 16 '08				
1737	Sanitaryware, Fittings & Accessories Installat'n	100%	Dec 15 '08	Mar 10 '09	Dec 30 '08				
1738	Pump Room Installations	100%	Jan 15 '09	Mar 30 '09	Oct 17 '08				
1739	Testing & Commissioning	80%	Jan 29 '09	NA	Oct 29 '08				
1740	<b>Form Submission</b>	<b>100%</b>	<b>Feb 16 '09</b>	<b>Mar 6 '09</b>	<b>Jan 23 '09</b>				
1741	Submit Form WWO46	100%	Feb 16 '09	Feb 16 '09	Jan 23 '09				
1742	WA Inspection	100%	Feb 20 '09	Feb 20 '09	Feb 5 '09				
1743	Water Certificate Obtained	100%	Mar 2 '09	Mar 2 '09	Feb 25 '09				
1744	DSD Completion Advice	100%	Mar 6 '09	Mar 6 '09	Feb 5 '09				
1745	<b>Town Gas</b>	<b>92%</b>	<b>Dec 15 '08</b>	<b>NA</b>	<b>Jul 29 '08</b>				
1746	Pipework Installation	92%	Dec 15 '08	NA	Jul 29 '08				
1747	<b>Heating / Ventilation and Air-Condition Installation</b>	<b>96%</b>	<b>Mar 8 '07</b>	<b>NA</b>	<b>Mar 8 '07</b>				
1748	<b>Sea Water System (at Phase II)</b>	<b>100%</b>	<b>Nov 5 '07</b>	<b>Apr 7 '08</b>	<b>Oct 15 '07</b>				
1756	<b>Chiller Plant Room Installation</b>	<b>98%</b>	<b>Jan 30 '08</b>	<b>NA</b>	<b>NA</b>				
1757	<b>HVAC - Chiller Plant Room Works</b>	<b>98%</b>	<b>Jan 30 '08</b>	<b>NA</b>	<b>NA</b>				
1772	CCMS System Alternation Works	85%	Aug 15 '08	NA	NA				
1773	Pipework Flushing & Treatment Works	100%	Dec 10 '08	Dec 30 '08	NA				
1778	<b>Electrical Installation</b>	<b>100%</b>	<b>Dec 15 '08</b>	<b>Dec 15 '08</b>	<b>NA</b>				
1779	Power On date to Chiller Plant Equipment	100%	Dec 15 '08	Dec 15 '08	NA				

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Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

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Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09

ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Month			
						Jan	Feb	Mar	Apr
1780	<b>Area for Grid A1-A</b>	96%	Mar 8 '07	NA	Mar 8 '07	[Gantt bar with arrowhead, ending at 3/31/09]			
1782	HVAC- 1st Fix	90%	Oct 20 '08	NA	May 7 '08	[Gantt bar with arrowhead]			
1783	HVAC - 2nd Fix	85%	Dec 20 '08	NA	Jul 26 '08	[Gantt bar with arrowhead]			
1784	AHU / Fan Room Installation	90%	Nov 11 '08	NA	Aug 30 '08	[Gantt bar with arrowhead]			
1785	<b>Area for Grid A-D</b>	92%	Sep 17 '08	NA	Apr 18 '08	[Gantt bar with arrowhead]			
1787	HVAC- 1st Fix	90%	Oct 6 '08	NA	May 27 '08	[Gantt bar with arrowhead]			
1788	HVAC - 2nd Fix	85%	Dec 20 '08	NA	Sep 9 '08	[Gantt bar with arrowhead]			
1789	<b>Area for Grid D-E</b>	93%	Jul 2 '08	NA	Apr 7 '08	[Gantt bar with arrowhead]			
1790	Structural Cast-in Conduit, Sleevs & Conduit	100%	Jul 2 '08	Dec 31 '08	Apr 7 '08	[Gantt bar with arrowhead]			
1791	HVAC- 1st Fix	90%	Aug 6 '08	NA	Jul 9 '08	[Gantt bar with arrowhead]			
1792	HVAC - 2nd Fix	85%	Oct 27 '08	NA	Sep 24 '08	[Gantt bar with arrowhead]			
1793	AHU / Fan Room Installation	100%	Nov 1 '08	Jan 20 '09	Oct 9 '08	[Gantt bar with arrowhead]			
1794	Testing & Commissioning	85%	Dec 1 '08	NA	Oct 9 '08	[Gantt bar with arrowhead]			
1795	<b>Form Submission</b>	100%	Jan 15 '09	Mar 25 '09	Jan 12 '09	[Gantt bar with arrowhead]			
1796	Submit Form 501 (Ventilation)	100%	Jan 15 '09	Jan 15 '09	Jan 12 '09	[Milestone diamond]			
1797	FS Inspection/Re-inspection	100%	Feb 5 '09	Feb 23 '09	Jan 22 '09	[Gantt bar with arrowhead]			
1799	<b>SMATV System and Public Address System</b>	86%	Apr 19 '07	NA	Apr 19 '07	[Gantt bar with arrowhead]			
1800	Relocation of Existing SMA System	100%	May 29 '07	Jan 15 '09	May 29 '07	[Gantt bar with arrowhead]			
1801	Divers'n & Modificat'n of Sys Cable link Up P1&2	100%	Apr 19 '07	Sep 22 '07	Apr 19 '07	[Gantt bar with arrowhead]			
1802	SMATV System - Cabling	80%	Jan 5 '09	NA	Oct 29 '08	[Gantt bar with arrowhead]			
1803	SMATV System - Installation	50%	Feb 25 '09	NA	Jan 2 '09	[Gantt bar with arrowhead]			
1804	Public Address System - Cabling	80%	Jan 5 '09	NA	Nov 19 '08	[Gantt bar with arrowhead]			
1805	Public Address System - Installation	50%	Feb 25 '09	NA	Jan 17 '09	[Gantt bar with arrowhead]			
1806	Structural Cabling System - Cabling	80%	Jan 5 '09	NA	Nov 19 '08	[Gantt bar with arrowhead]			
1807	Structural Cabling System - Installation	50%	Feb 25 '09	NA	Jan 20 '09	[Gantt bar with arrowhead]			
1808	PABX System - Cabling	80%	Jan 5 '09	NA	Nov 19 '08	[Gantt bar with arrowhead]			
1809	PABX System - Installation	50%	Jan 20 '09	NA	Jan 21 '09	[Gantt bar with arrowhead]			
1811	<b>Burglar Alarm and Security Installation</b>	72%	Apr 19 '07	NA	Apr 19 '07	[Gantt bar with arrowhead]			

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Progress		External Tasks			
Milestone		Project Summary			



Hong Kong Convention and Exhibition Centre  
Expansion Project  
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 31 March 09

ID	Task Name	% Complete	Actual Start	Actual Finish	Baseline Start 1	Gantt Chart			
						Jan	Feb	Mar	Apr
1814	Point Monitoring & Access Control Sys - Cabling	80%	Jan 5 '09	NA	Oct 29 '08				
1815	Point Monitoring & Access Control Sys Installation	50%	Feb 25 '09	NA	Dec 13 '08				
1816	Card Access Control System - Cabling	80%	Jan 5 '09	NA	Oct 29 '08				
1817	Card Access Control System - Installation	50%	Feb 25 '09	NA	Jan 2 '09				
1818	Closed Circuit Television System - Cabling	80%	Jan 5 '09	NA	Nov 11 '08				
1819	Closed Circuit Television System - Installation	50%	Feb 25 '09	NA	Jan 2 '09				
1821	2-Way Radio Communication - Cabling	80%	Jan 5 '09	NA	Oct 29 '08				
1824	<b>Emergency Generation Installation</b>	<b>100%</b>	<b>Apr 1 '08</b>	<b>Oct 25 '08</b>	<b>Jun 2 '08</b>				
1830	<b>Gondola / Window Cleaning Equipment</b>	<b>40%</b>	<b>Feb 6 '09</b>	<b>NA</b>	<b>Sep 3 '08</b>				
1831	Gondola/Window Cleaning Equip.- Railing	65%	Feb 6 '09	NA	Sep 3 '08				
1832	Gondola/Window Cleaning Equip.- Installation	50%	Mar 6 '09	NA	Oct 10 '08				
1834	<b>External Works</b>	<b>59%</b>	<b>Nov 20 '08</b>	<b>NA</b>	<b>Dec 29 '07</b>				
1835	Underground Services Construction	100%	Nov 20 '08	Jan 23 '09	Dec 29 '07				
1836	Fit-Out for Roof Garden & Roof Area	90%	Dec 26 '08	NA	Sep 18 '08				
1837	Construct Pedestrian Ways, Ext. Areas & Steps	50%	Dec 29 '08	NA	Oct 10 '08				
1839	Planters Construction	100%	Dec 26 '08	Feb 27 '09	Dec 30 '08				
1840	External Wall Finishes	60%	Jan 12 '09	NA	Feb 18 '09				
1841	External Ceiling Works	75%	Jan 12 '09	NA	Feb 18 '09				
1845	Landscaping Softworks	5%	Mar 30 '09	NA	Apr 20 '09				
1846	Building Services Installation	95%	Nov 20 '08	NA	Oct 10 '08				

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Date: 31/03/2009

Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Annex L

## Laboratory Result of Water Discharge Sampling



# ENVIRO LABS LIMITED

## 環境化驗有限公司

### TEST REPORT

JOB NO. : 903219  
 DATE OF ISSUE : 31 March 2009  
 PAGE : 1 of 1

#### 1. Customer

Hip Hing Construction Co. Ltd.  
 5/F, 38 Sheung On Street, Chai Wan, Hong Kong  
 Attn.: Mr. Ken Leung

#### 2. Sample Identification

Sample Description : One batch of water samples said to be wastewater was received in cool condition  
 Quantity of Sample : 1 x 1L in plastic bottles (for TSS) and 1 x 250mL in plastic bottles (for COD)  
 Sampling : Conducted by the staff of Enviro Labs Ltd.  
 Sampling Point : Outlet of Wastewater Treatment Facility (HKCEC Expansion Project, H200605)  
 Preservation : Stored under refrigerated condition, COD: conc. H<sub>2</sub>SO<sub>4</sub> was added to pH < 2  
 Sampling Date : 19 Mar 2009  
 Received Date : 19 Mar 2009  
 Testing Period : 19 - 24 Mar 2009

#### 3. Test Methods

Parameters	Reference Methods
(i) pH	Phenol Red Method.
(ii) Total Suspended Solids (TSS) Dried at 103-105°C	APHA <sup>1</sup> 17e 2540 D
(iii) Chemical Oxygen Demand (COD)	APHA <sup>1</sup> 20e 5220 C

1. APHA Standard Methods for the Examination of Water and Wastewater

#### 4. Test Results\*

Sample I.D. marked by the customer	Test Parameters	Sample No.	Test Results	Discharge Limits **	Units
HKCEC Expansion Project H200605	pH at 29°C	903219-1	8.7	6 - 9	-
	TSS	903219-1	< 3	≤30	mg/L
	COD	903219-2	< 50	≤80	mgO <sub>2</sub> /L


\* Test results relate only to the items received.

\*\* Information provided by the Customer. (It is not a test result, information for reference only).

— END OF REPORT —



APPROVED SIGNATORY:

  
 Kenneth Kar Kin LAM  
 (Laboratory Manager)