

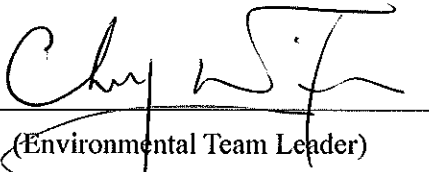
**Civil Engineering and Development Department**

**Contract No. KL/2008/02**

**Kai Tak Development- Decommissioning of  
the remaining parts (Ex-GFS Building and  
Radar Station) of the former Kai Tak  
Airport)**

Environmental Monitoring and Audit Monthly Report  
(version 1.1)

October 2009

Approved By   
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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## **ABBREVIATION AND ACRONYM**

AL Levels	Action and Limit Levels
CEDD	Civil Engineering & Development Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
TSP	Total Suspended Particulates
QA/QC	Quality Assurance / Quality Control
WMP	Waste Management Plan

**EXECUTIVE SUMMARY****Introduction**

1. This is the Environmental Monitoring and Audit (EM&A) Report for the month of October 2009, prepared by Cinotech Consultants Limited for the *Kai Tak Development-Decommissioning of the remaining parts (Ex-GFS Building and Rader Station) of the former Kai Tak Airport* with Contract No. KL/2008/02. This report documents the findings of EM&A Works conducted in October 2009.
2. The site activities undertaken in the reporting month included:
  - Submission of revised copy of the Remediation Method Statement (RMS) to EPD.

**Environmental Monitoring and Audit Works**

Environmental monitoring and audit works for the Project were performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. The implementation of the environmental mitigation measures and environmental complaint handling procedures were also checked.

**Environmental Licenses and Permits**

3. Licenses/Permits granted to the Project include the Environmental Permit (Environmental Permit No. EP-339/2009/A) for the Project. No Construction Noise Permit (CNP) and Water Discharge License (WDL) were issued to the Project by EPD in the reporting month.
4. Registration of Chemical Waste Producer (License: 5213-247-K2822-02).

**Key Information in the Reporting Month**

5. Summary of key information in the reporting month is tabulated in Table I.

**Table I Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly EM&A Report for September 09	Submitted to EPD on 14 October 2009 (EP condition 4.3)	Verified by IEC	---

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---
<p><b><u>Future Key Issues:</u></b></p> <ul style="list-style-type: none"> <li>• Excavation of contaminated soil in Ex-GFS Building for Biopiling; and</li> <li>• Cement solidification in Dec, 09.</li> </ul>					

## 1. INTRODUCTION

### Background

- 1.1 The decommissioning of the ex-Government Flying Service (GFS) building and the Radar Station within the former Kai Tak Airport that are classified as Designated Project (DP) under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (hereafter referred as “the DP3a Project” in this section). The remaining sites within the former Kai Tak Airport yet to be decommissioned include the ex-GFS building and the Radar Station in the South Apron area, the Hong Kong Aviation Club (HKAC) and the EMSD Headquarters in the North Apron area. The scope of the DP3a Project is limited to the decommissioning of the remaining facilities, structures and buildings of the ex-GFS building and Radar Station within the former Kai Tak Airport which were not covered under the previous EIAs on decommissioning of former Kai Tak Airport registered under the EIAO (namely EIA on Decommissioning of the former Kai Tak Airport other than the North Apron and EIA on Kai Tak Airport North Apron Decommissioning). The scope of the decommissioning of the Hong Kong Aviation Club is limited to disuse its function. It is also identified that no soil remediation works would be necessary and no building demolition is anticipated. The general layout of the Project site is shown in **Figure 1.1**
- 1.2 An Environmental Impact Assessment (EIA) Study for the Project has been undertaken in accordance with the EIA Study Brief (No. ESB-152/2006) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). An EIA Report was approved by the Environmental Protection Department (EPD) on 4 March 2009.
- 1.3 An Environmental Permit (EP) No. EP-339/2009/A was issued on 18 June 2009 for the decommissioning designated project to Civil Engineering and Development Department (CEDD) as the Permit Holder. Cinotech Consultants Ltd. was commissioned by CEDD to undertake the Environmental Monitoring and Audit works for the Former Kai Tak Airport Decommissioning of the remaining parts (Ex-GFS Building and Rader Station).
- 1.4 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for the Project under EP condition 2.1. This is monthly EM&A report summarizing the EM&A works for the Project in October 2009.

### Project Organizations

- 1.5 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Civil Engineering and Development Department (CEDD)
  - Engineer (E) / Engineer’s Representative (ER) – Maunsell Consultants Asia Ltd
  - Environmental Team (ET) – Cinotech Consultants Limited.
  - Independent Environmental Checker (IEC) – Nature & Technologies (HK) Limited
  - Environmental Protection Department (EPD) – Environmental Regulations Enforcer
  - Contractor – Kin Wing Construction Co., Ltd
- 1.6 The responsibilities of respective parties are detailed in Sections 1.4.1 to 1.4.9 of the approved EM&A Manual of the Project.
- 1.7 The key contacts of the Project are shown in Table 1.1 and the organization chart is shown in Figure 1.2.

**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.	Fax No.
CEDD	Permit Holder	Mr. Patrick Chan	Senior Engineer	23011464	23694980
MCAL	Engineer	Mr. Johnny Leung	Resident Engineer	27980771	27980783
		Mr. Patrick Ko	Assistant Resident Engineer		
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	31071388
		Ms. Cara Heung	Project Coordinator & Audit Team Leader	2151 2078	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
Nature & Technologies	Independent Environmental Checker	Ir Dr Gabriel C K Lam	Independent Environmental Checker	2877 3122	25110922
Kin Wing	Contractor	Mr. Eric Wong	Site Agent	2637 5066	27259316
		Mr. W.P Wong	General Foreman		



### **Construction Programme**

1.8 The site activities undertaken in the reporting month included:

- Submission of revised copy of the RMS to EPD.

### **Summary of EM&A Requirements**

1.9 The EM&A programme requires environmental site audit for decommissioning activities. The EM&A requirements for each parameter are described in the following sections, including:

- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.10 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 3 of this report.

**2. ENVIRONMENTAL AUDIT****Site Audits**

- 2.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix A**.
- 2.2 Site audits were conducted on 2<sup>nd</sup>, 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup> and 29<sup>th</sup> October 2009 for the Project of Kai Tak Development - Decommissioning of the remaining parts (Ex-GFS Building and Rader Station) of the former Kai Tak Airport. No non-compliance was observed during the site audits.
- 2.3 Appointment was made for the site visit for Radar Station, the tentative date is agreed on 4 November 2009 with the IEC, Contractor and the responsible party.

**Status of Environmental Licensing and Permitting**

- 2.4 All permits/licenses obtained for the Projects are summarized in Table 2.1.

**Status of Waste Management**

- 2.5 No Waste was generated by the activities of the Projects in this reporting month.
- 2.6 The amount of wastes generated by the activities of the Project in October 09 is shown in **Appendix B**.

**Table 2.1 Summary of Environmental Licensing and Permit Status**

Permit No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-339/2009/A	18/06/09	N/A	Decommissioning of the remaining parts (Ex-GFS Building, Radar Station and Hong Kong Aviation Club) of the former Kai Tak Airport	Valid
<b>Registration of Chemical Waste Producer</b>				
5213-247-K2822-02	---	N/A	Chemical waste types: Spent lubricating oil and oil contaminated materials	Valid

### Implementation Status of Environmental Mitigation Measures

- 2.7 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations are summarized in Table 2.2.

**Table 2.2 Observations and Recommendations of Site Inspections**

Parameters	Date	Observations and Recommendations	Follow-up
N/A	N/A	N/A	N/A

**Table 2.3 Observations and Recommendations of Site Audits Followed Up of Previous Month**

Parameters	Date	Observations and Recommendations	Follow-up
N/A	N/A	N/A	N/A

### Non-compliance Recorded during Site Inspections

- 2.8 No non-compliance was recorded in the reporting month.

### Summary of Mitigation Measures Implemented

- 2.9 The Contractor has implemented the mitigation measures as recommended in the EIA and the updated EM&A Manual in the reporting month except those mitigation measures not applicable at this stage.
- 2.10 According to the Approved EM&A Manual, mitigation measures are required to be implemented. An updated summary of the EMIS is provided in **Appendix C**.

### Implementation Status of Event Action Plans

- 2.11 The Event Action Plans for air quality is presented in **Appendix D**.

### Summary of Complaints and Prosecutions

- 2.12 No environmental prosecution and complaint was received in the reporting month.
- 2.13 There was no environmental complaint and no prosecution received since the commencement of the Project. The Complaint Log is attached in **Appendix E**.

### 3. FUTURE KEY ISSUES

#### Key Issues for the Coming Month

3.1 Key environmental issues in the coming month include:

- Wastewater and runoff discharge from site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Watering for dry unpaved area and exposed stockpile;
- Accumulation of general and construction waste on site;
- Fugitive emissions of dust or any air pollutants from the biopile(s);
- Runoff from the stockpiled soils at the biopile(s); and
- Connecting the vented air from the biopile(s) to blower and carbon adsorption system.

#### Construction Program for the Next Month

3.2 The site activities would undertake in the next reporting month included:

- Excavation of contaminated soil in Ex-GFS Building for Biopiling; and
- Cement solidification in Dec, 09.

### 4. CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on a weekly basis. The monitoring results of the reporting month were reviewed and checked.
- 4.2 No environmental prosecution and complaint was received in the reporting month.

#### Recommendations

- 4.3 According to the environmental audit performed in the reporting month, the following recommendations were made:

##### *Dust Impact*

- To implement dust suppression measures on all haul roads, stockpiles, dry surfaces and excavation works.
- To implement dust control measures for the dust generation work such as cement mixing and excavation works.
- To ensure water spray being applied for the dust emissive works, such as loading and unloading of soil materials and excavation works.
- To cover soil stockpiles and exposed slope surface by impervious tarpaulin sheets or

other means.

- To ensure that all vehicles carrying dusty material are properly covered before leaving the site.
- To maintain the machinery and vehicles in a good working condition on site.
- To ensure that all vehicles use wheel washing facility or equivalent measures before leaving the site.

#### *Noise Impact*

- To inspect the noise sources inside the site.
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.
- To review the works sequence of site activities so as to reduce the number of noisy equipment in concurrent operation.
- To employ quiet powered mechanical equipment if possible.

#### *Water Impact*

- To prevent contaminated surface runoff discharge into drainage system.
- To ensure properly maintenance for de-silting facilities
- To review the capacity of de-silting facilities for discharge.
- To identify any wastewater discharges from site.
- To avoid accumulation of stagnant and ponding water on site.

#### *Waste/Chemical Management*

- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.

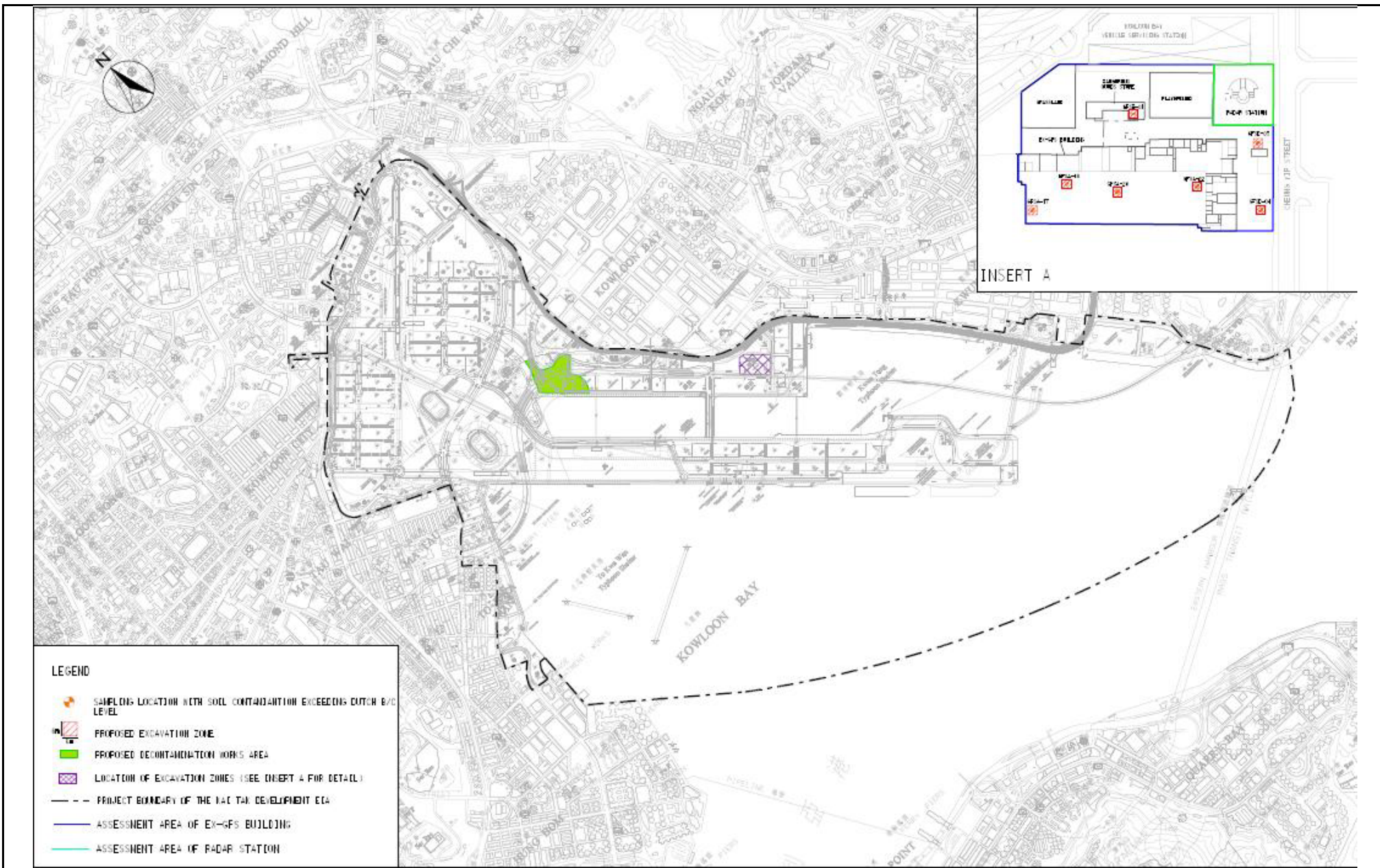
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



## FIGURES

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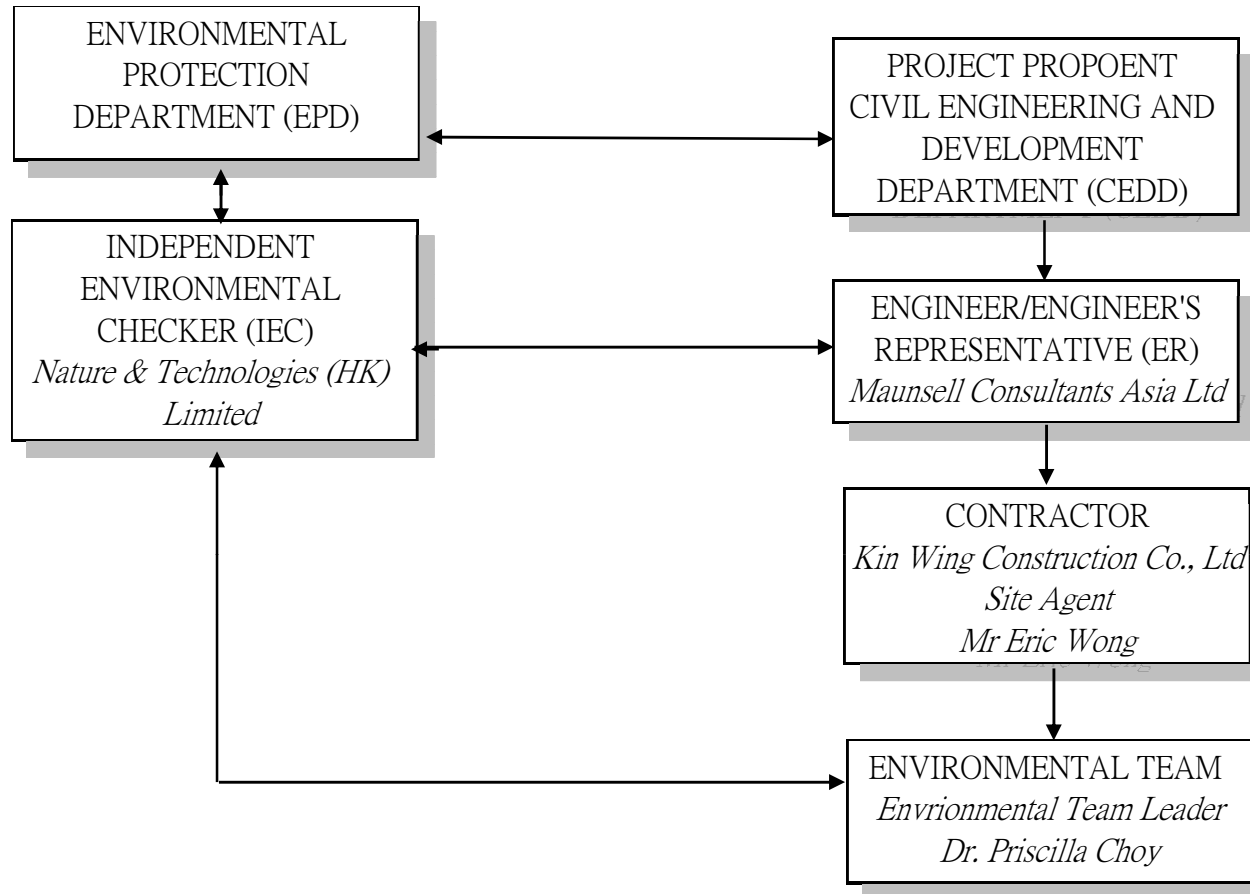
**LEGEND**

-  SAMPLING LOCATION WITH SOIL CONTAMINATION EXCEEDING DUTCH B/C LEVEL
-  PROPOSED EXCAVATION ZONE
-  PROPOSED DECONTAMINATION WORKS AREA
-  LOCATION OF EXCAVATION ZONES (SEE INSERT A FOR DETAIL)
-  PROJECT BOUNDARY OF THE KAI TAK DEVELOPMENT ECA
-  ASSESSMENT AREA OF EX-GFS BUILDING
-  ASSESSMENT AREA OF RADAR STATION

Title	Contract No. KL/2008/02 Kai Tak Development- Decommissioning of the remaining parts (Ex-GFS Building and Rader Station) of the former Kai Tak Airport)
Layout Plan of Project Site	

Scale	N.T.S	Project No.	MA8017
Date	Oct-09	Figure	1.1





LEGEND

↔ COMMUNICATION CHANNEL

→ LINE OF PROJECT MANAGEMENT RESPONSIBILITY

Title Contract No. KL/2008/02  
KAI TAK DEVELOPMENT- DECOMMISSIONING AND DECONTAMINATION WORKS AT  
THE SOUTH APRON OF THE FORMER KAI TAK AIRPORT

Project Organization Chart

Scale  
N.T.S

Project  
No. MA8017

Date  
Jan-09

Figure  
1.2





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**APPENDIX A  
SITE AUDIT SUMMARY**

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*Kai Tak Development-*

*Environmental Team for Decommissioning of the remaining parts (Ex-GFS building and Rader Station) of the Former Kai Tak Airport*

*Contract No. KL/2008/02*



Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	91002
Date	2 October 2009
Time	10:30-11:00a.m.

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li><li></li></ul> <p><b>C. Land Contamination</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>D. Construction Noise Impact</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>E. Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>F. Reminders</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>G. Permit / Licenses</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>H. Others</b></p> <ul style="list-style-type: none"><li>Follow-up of previous audit session (Ref. 90924), no environmental deficiency was identified.</li></ul>	

	Name	Signature	Date
Recorded by	Cara Heung		5 October 2009
Checked by	Dr. Priscilla Choy		5 October 2009

**Kai Tak Development-**

**Environmental Team for Decommissioning of the remaining parts (Ex-GFS building and Rader Station) of the Former Kai Tak Airport**

**Contract No. KL/2008/02**



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	91008
Date	8 October 2009
Time	14:30-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li><li>•</li></ul> <p><b>C. Land Contamination</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>D. Construction Noise Impact</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>E. Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>F. Reminders</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>G. Permit / Licenses</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>H. Others</b></p> <ul style="list-style-type: none"><li>• Follow-up of previous audit session (Ref. 91002), no environmental deficiency was identified.</li></ul>	

	Name	Signature	Date
Recorded by	Cara Heung		13 October 2009
Checked by	Dr. Priscilla Choy		13 October 2009

***Kai Tak Development-***

***Environmental Team for Decommissioning of the remaining parts (Ex-GFS building and Rader Station) of the Former Kai Tak Airport***

***Contract No. KL/2008/02***



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	91015 v2
Date	15 October 2009
Time	14:45-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b><i>A. Water Quality</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>B. Air Quality</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li><li>•</li></ul> <p><b><i>C. Land Contamination</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>D. Construction Noise Impact</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>E. Waste / Chemical Management</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>F. Reminders</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>G. Permit / Licenses</i></b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b><i>H. Others</i></b></p> <ul style="list-style-type: none"><li>• Follow-up of previous audit session (Ref. 91008), no environmental deficiency was identified.</li></ul>	

	Name	Signature	Date
Recorded by	Cara Heung		28 October 2009
Checked by	Dr. Priscilla Choy		28 October 2009

***Kai Tak Development-  
Environmental Team for Decommissioning of the remaining parts (Ex-GFS building and Rader  
Station) of the Former Kai Tak Airport  
Contract No. KL/2008/02***



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	91022
Date	22 October 2009
Time	14:30-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> <li></li> </ul> <p><b>C. Land Contamination</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Reminders</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>G. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>H. Others</b></p> <ul style="list-style-type: none"> <li>Follow-up of previous audit session (Ref. 91015), no environmental deficiency was identified.</li> </ul>	

	Name	Signature	Date
Recorded by	Cara Heung		28 October 2009
Checked by	Dr. Priscilla Choy		28 October 2009

**Kai Tak Development-**

**Environmental Team for Decommissioning of the remaining parts (Ex-GFS building and Rader Station) of the Former Kai Tak Airport**

**Contract No. KL/2008/02**



**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	91029
Date	29 October 2009
Time	16:00-17:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li><li>•</li></ul> <p><b>C. Land Contamination</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>D. Construction Noise Impact</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>E. Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>F. Reminders</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>G. Permit / Licenses</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>H. Others</b></p> <ul style="list-style-type: none"><li>• Follow-up of previous audit session (Ref. 91022), no environmental deficiency was identified.</li></ul>	

	Name	Signature	Date
Recorded by	Cara Heung		2 November 2009
Checked by	Dr. Priscilla Choy		2 November 2009

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**APPENDIX B  
WASTE GENERATED QUANTITY**

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Name of Department: CEDD

Contract No.: KL/2008/02**Monthly Summary Waste Flow Table for 2009 (year) \***

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.170	0.100	0.070	0.000	0.000	3.308	0.000	0.000	0.000	0.000	0.000
Feb	0.030	0.000	0.030	0.000	0.000	5.900	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000
Apr	0.060	0.030	0.030	0.000	0.000	0.200	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.260	0.130	0.130	0.000	0.000	9.414	0.000	0.000	0.000	0.000	0.000
July	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sept	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Dec	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total	13.909	6.959	6.950	0.000	0.000	12.920	0.000	0.000	0.000	2.000	0.000

Forecast of Total Quantities of C & D Materials to be Generated from the Contract											
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse	
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )	
18.704	7.150	7.150	0.000	0.000	16.000	11.000	0.000	0.000	2.250	0.200	

- Notes:
- (1) The performance targets are given in the PS Clause 6(14)
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site
  - (3) Plastics refer to plastics bottles/containers, plastic sheets/foam from packaging materia
  - (4) The contractor shall also submit the latest forecast of the total amount of C & D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C & D materials expected to be generated from the Works is equal to or exceeding 50,000m<sup>3</sup>. (PS Clause 1.105(4)(b) refer)

\* This waste flow table is shared by both Projects [Kai Tak Development- Decommissioning and Decontamination works at South Apron of the Former Kai Tak Airport and Decommissioning of the remaining parts (E GFS Building and Rader Station) of the former Kai Tak Airport]



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**APPENDIX C  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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**Appendix C Environmental Mitigation Implementation Schedule (EMIS)**

**Appendix C1 Implementation Schedule for Land Contamination Measures**

Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
			Des	De	Ex	Tre	
<p><b><u>Excavation and decontamination works</u></b></p> <ul style="list-style-type: none"> <li>Personal protective equipment (PPE) shall be used by site workers during soil excavation / free product skimming.</li> <li>When free product is detected at groundwater surface during excavation, the free product shall be skimmed off, drummed properly, stored in a designated drum storage area with containment and collected by a licensed chemical waste collector for proper disposal.</li> <li>All contaminated soil within the Project area shall be excavated and treated on-site at a centralized decontamination works area located at the northern part of the south apron.</li> <li>After excavation, confirmation sampling and testing shall be conducted to ensure complete excavation of contaminated soils.</li> <li>Contaminated soils shall be sorted and handled with respect of their contamination.</li> </ul>	Excavation zones / During excavation	Contractor			√	√	^
	Excavation zones / During excavation	Contractor			√		^
	Excavation zones / During excavation	Contractor	√		√	√	^
	Excavation zones / During excavation	Contractor	√		√		^
	Excavation zones / During excavation	Contractor			√		^

Environmental Protection Measures / Mitigation Measures		Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
<ul style="list-style-type: none"> <li>Health and safety plan for excavation shall be followed.</li> <li>The following remediation processes shall be applied for different types of soil contamination:                             <ul style="list-style-type: none"> <li>- Biopiling for TPH/VOCs/SVOC contamination;</li> <li>- Solidification/stabilization for metal contamination</li> <li>- Biopiling and solidification/stabilization for TPH and metal contamination</li> </ul> </li> </ul>	Excavation zones / During excavation	Contractor			√		^	
	Decontamination works area / During excavation	Contractor	√		√	√	^	
<p><b><u>To minimise the potentially adverse environmental impacts arising from the handling of potentially contaminated materials.</u></b></p> <p><b><i>Free Product Recovery</i></b></p> <ul style="list-style-type: none"> <li>The skimmed free product should be drummed properly, stored in a designated drum storage area with containment and collected by a licensed chemical waste collector for proper disposal. The storage of skimmed free product should comply</li> </ul>	Excavation zones and / During excavation, soil treatment	Contractor			√		^	
	Excavation zones and decontamination	Contractor	√		√			

**Kai Tak Development-  
Decommissioning of the remaining parts  
(Ex-GFS Building and Rader Station) of the former Kai Tak Airport**

Environmental Protection Measures / Mitigation Measures		Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
with the requirements in the Waste Disposal (Chemical Waste) (General) Regulation including the type of drum and containment measures.		works area/ During excavation, soil treatment						
<p><b>Excavation and Transportation</b></p> <ul style="list-style-type: none"> <li>Excavation profiles must be properly designed and executed.</li> <li>Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be properly covered by impermeable sheeting to reduce dust emission. If this is not practicable due to frequent usage, regular misting shall be applied. Watering shall be avoided on stockpiles of contaminated soil to minimise contaminated runoff.</li> <li>Stockpiles of contaminated soil should be properly covered by impermeable sheeting to minimize contaminated runoff from the stockpiles.</li> <li>Excavation and stockpiling shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils.</li> <li>Supply of suitable clean backfill material is needed after excavation.</li> <li>Vehicles containing any excavated materials should be suitably covered to limit potential</li> </ul>								
		Excavation zones and decontamination	Contractor	√			√	

Environmental Protection Measures / Mitigation Measures		Location / Timing	Implementation Agent	Implementation Stages*				Status																		
				Des	De	Ex	Tre																			
dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet conditions.		works area/ During excavation, soil treatment						^																		
<ul style="list-style-type: none"> <li>Speed control for the trucks carrying contaminated materials should be enforced;</li> <li>Vehicle wheel and body washing facilities at the site's exist points shall be established and used.</li> </ul>														^												
<b>Biopiling</b>																				^						
<ul style="list-style-type: none"> <li>To avoid fugitive emissions of dust or any air pollutants from the biopile(s) and to minimise runoff from the stockpiled soils, the stockpiled soils at the biopiles shall be covered by impermeable sheeting such that not longer than 5m of the biopile is exposed to open air.</li> <li>Impermeable sheeting shall be placed at the bottom of the biopiles and leachate collection sump shall be constructed along the perimeter of the biopiles to prevent leachate from contaminating the underlying soil/groundwater. All leachate generated from the operation of biopiling shall be collected and recycled to the biopile.</li> <li>The vented air from the biopile(s) shall be connected to blower and carbon adsorption system for treatment before release to the atmosphere. Exhaust air from the blower and carbon adsorption system shall be monitored</li> </ul>																										^

Environmental Protection Measures / Mitigation Measures		Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	for VOCs regularly. <ul style="list-style-type: none"> <li>Spend activated carbon of the carbon adsorption system shall be replaced at appropriate intervals such that the VOC emission rate from the system is acceptable.</li> <li>Silencers shall be installed at the biopile blowers to minimise noise impact.</li> <li>Contaminated runoff from biopile(s) shall be prevented by constructing a concrete bund along the perimeter of the biopiles.</li> </ul>	works area/ During excavation, soil treatment						^
	<p><b>Solidification / Stabilization</b></p> <ul style="list-style-type: none"> <li>Mixing process and other associated material handling activities should be properly scheduled to minimise potential noise impact.</li> <li>Mixing of contaminated soils and cement / water / other additive(s) should be undertaken at a solidification plant to minimise the potential for leaching.</li> <li>Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area.</li> </ul>	Excavation zones and decontamination works area/ During design decommissioning, excavation and soil treatment		√			√	^
								N/A
								N/A
								N/A

**Appendix C2 Implementation Schedule for Waste Management Measures**

Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
			Des	De	Ex	Tre	
<p><b><u>Good Site Practices</u></b></p> <p>Recommendations for good site practices during the decommissioning works 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 waste handling procedures;</li> <li>• provision of sufficient waste disposal points and regular collection for disposal;</li> <li>• appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>• regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>• a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).</li> </ul>	Work site / During decommissioning	Contractor		√			^  ^  ^  ^  ^  ^

Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
			Des	De	Ex	Tre	
<p><b><u>Waste Reduction Measures</u></b></p> <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>• sort C&amp;D waste from demolition of the remaining structures to recover recyclable portions such as metals</li> <li>• segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>• to encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force;</li> <li>• any unused chemicals or those with remaining functional capacity shall be recycled;</li> <li>• proper storage and site practices to minimise the potential for damage or contamination of construction materials; and</li> <li>• plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	<p>Work site / During design stage, decommissioning, excavation and soil treatment</p>	<p>Contractor</p>	√	√	√	√	^
							^
							N/A
							^
							N/A
							N/A



Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
			Des	De	Ex	Tre	
<p><b><u>Construction and Demolition Material</u></b></p> <ul style="list-style-type: none"> <li>C&amp;D material should be sorted on-site into inert C&amp;D material (that is, public fill) and C&amp;D waste. The inert C&amp;D material would require disposal to the designated public fill reception facility. C&amp;D material should be transported from the site by barge wherever possible to reduce environmental impacts associated with road transportation. C&amp;D waste, such as steel and other metals should be re-used or recycled and, as a last resort, disposed of to landfill. It is recommended that a suitable area be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials</li> <li>In order to monitor the disposal of public fill and C&amp;D waste at the designated public fill reception facility and landfill, respectively, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system</li> </ul>	Work site / During decommissioning	Contractor		√			^
	Work site / During decommissioning	Contractor and Independent Environmental Checker		√			^

Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
			Des	De	Ex	Tre	
<p><b><u>General Refuse</u></b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material.</li> <li>Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem..</li> </ul>	Work site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^
<p><b><u>Chemical Wastes</u></b></p> <ul style="list-style-type: none"> <li>After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	Work site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^

- Des – Design, De – Decommissioning, Ex – Excavation, and Tre – Soil Treatment

**Appendix C3 Implementation Schedule for Water Quality Measures**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
<b>Decontamination Processes</b>								
	<p><b>Soil Excavation</b></p> <ul style="list-style-type: none"> <li>During excavation, all exposed pits shall be whenever possible backfilled immediately or covered. Where it is unavoidable to transiently pile up soils next to the excavation pit, the transient pile shall be bottom-lined, bunded and covered with impervious membrane during rain event in order to avoid generation of contaminated runoff.</li> <li>Final surfaces after excavation shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels and partial shelters shall be provided where necessary to prevent rainwater from collecting within trenches or footing excavations.</li> </ul>	Work site / During excavation	Contractor			√		^
		Work site / During excavation	Contractor			√		^

**Kai Tak Development-  
Decommissioning of the remaining parts  
(Ex-GFS Building and Rader Station) of the former Kai Tak Airport**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Decontaminated Water and Wastewater from Wheel Washing</u></b></p> <ul style="list-style-type: none"> <li>During excavation, dump trucks or excavators shall be decontaminated before they leave the site to ensure that no contaminated earth, mud or debris is deposited by them on roads. A wheel washing bay shall be provided at every site exit that equipped with an adequately sized centralized wastewater treatment unit. The wastewater treatment unit shall deploy suitable treatment processes to settle out sands/ silts with contaminants cohered and remove other contaminants in wheel washes and decontamination water. The polluting parameters in effluent of the wastewater treatment unit shall be in compliance with the discharge standards stipulated in the TM-DSS before the effluent being discharged into the storm drains. The installation and operation of the wastewater treatment unit shall be licensed and subject to the effluent monitoring as required under the WPCO which is under the ambit of regional office (RO) of EPD. In any case, discharge of wheel wash water shall be minimized and recycled where possible. The selection of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent surface runoff from entering public road drains.</li> </ul>	Work site / During excavation	Contractor			√		^

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Operation of Solidification / Stabilization Facility</u></b></p> <ul style="list-style-type: none"> <li>The solidification facility shall be sheltered and area of soil unloading / loading shall be provided with shed to avoid contaminated runoff. Excessive addition of water shall be avoided during the solidification process.</li> <li>Any pit used for solidification area shall be shallower than the water table to minimize the leaching of the contaminated soils. An impermeable membrane / sheet shall be placed at the bottom of any solidification pit during the solidification process.</li> <li>Any leachate generated from the solidification process shall be collected and treated in the centralized wastewater treatment unit before being discharged. The polluting parameters in effluent of the wastewater treatment unit shall be in compliance with the discharge standards stipulated in the TM-DSS before the effluent being discharged. The installation and operation of the wastewater treatment unit shall be licensed and subject to the effluent monitoring as required under the WPCO.</li> </ul>	Decontamination works area / During soil treatment	Contractor				√	N/A
		Decontamination works area / During soil treatment	Contractor				√	N/A
		Decontamination works area / During soil treatment	Contractor				√	N/A

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Operation of Biopiling</u></b></p> <ul style="list-style-type: none"> <li>Impermeable liner shall be placed at the bottom of the biopiles and leachate collection sump shall be constructed along the perimeter of the biopiles to prevent leachate from contaminating the underlying soil/ groundwater. Concrete bund shall be constructed along the perimeter of biopiles to prevent the runoff coming out from the contaminated soil. Biopiles after formation and during rain shall be covered by anchored low permeability geotextiles to prevent contaminated runoff. It is proposed that the exposed biopile section at any time shall not be more than 5 m in length.</li> </ul>	Decontamination works area / During soil treatment	Contractor				√	^
	<ul style="list-style-type: none"> <li>All leachate generated from the operation of biopiling shall be collected and recycled to the biopile to avoid effluent discharge.</li> </ul>	Decontamination works area / During soil treatment	Contractor				√	N/A

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Groundwater Cleanup</u></b></p> <ul style="list-style-type: none"> <li>Floating oil/free product (of TPH) has only been found in the apron area of the Ex-GFS site. It is proposed that where free product is detected at the groundwater surface at excavated area, only the free product shall be skimmed off from the water surface. The skimmed free product shall be drummed properly and collected by a licensed chemical waste collector for disposal. The storage of skimmed free product should comply with the requirements in the Waste Disposal (Chemical Waste) (General) Regulation including the type of drum and containment measures.</li> </ul>	Work site / During excavation	Contractor			√		^
	<p><b><u>TPH Removal</u></b></p> <ul style="list-style-type: none"> <li>Petrol interceptor should be adopted, where appropriate, as the first tier of treatment to removal TPH contaminant from contaminated runoff and effluent discharge from the decontamination works area.</li> </ul>	Work site / During the decommissioning, excavation and soil treatment	Contractor		√	√	√	N/A

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	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Failure of Centralized Wastewater Treatment Unit</u></b></p> <ul style="list-style-type: none"> <li>In the event of wastewater treatment unit failure, all decontamination activities should be ceased to avoid emergency discharge.</li> </ul>	Work site / During the decommissioning, excavation and soil treatment	Contractor		√	√	√	N/A
<b>Demolition Works</b>								
	<ul style="list-style-type: none"> <li>The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion.</li> </ul>	Work site / During decommissioning	Contractor		√			N/A
	<ul style="list-style-type: none"> <li>There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Regular monitoring of the treated effluent quality from the centralized wastewater treatment unit and stormwater discharges from major storm outfalls within the works areas will be conducted. Monitoring parameters should constantly include SS, turbidity, oil and grease, COD and less frequently include</li> </ul>	Work site / During decommissioning	Contractor		√			N/A



**Kai Tak Development-  
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(Ex-GFS Building and Rader Station) of the former Kai Tak Airport**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	TPH, BTEX and selected metals. Parameters included in the WPCO licence, will also be included in the monitoring programme. The chemical testing of water samples collected in the monitoring programme should be undertaken by a Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory. Detail monitoring programme / plan will be submitted at later stage for EPD's agreement.							
<b>Sewage from Workforce</b>								
	<ul style="list-style-type: none"> <li>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities.</li> </ul>	Work site / During the decommissioning, excavation and soil treatment	Contractor		√	√	√	N/A
<b>Accumulation of Solid Waste and Accidental Spillage</b>								
	<ul style="list-style-type: none"> <li>Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other construction materials should be kept covered when not being used.</li> </ul>	Work site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^
	<ul style="list-style-type: none"> <li>Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby harbour waters, all</li> </ul>	Work site / During the decommissioning, excavation and soil	Contractor		√	√	√	^

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.	treatment						
<b>Site Inspection</b>								
	Regular site inspections shall be undertaken to inspect the works areas in order to ensure that the recommended mitigation measures are properly implemented.	Work site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^

\* Des - Design, De - Decommissioning, Ex – Excavation, and Tre - Soil Treatment

**Appendix C4 Implementation Schedule for Air Quality Measures**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Good site practices to minimise dust and other air pollutants impacts during soil excavation, transportation, loading and unloading the excavated contaminated soils</u></b></p> <ul style="list-style-type: none"> <li>Excavation profiles should be properly designed and executed.</li> <li>The excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work.</li> <li>The exposed excavated area shall be covered by the tarpaulin during night time.</li> <li>The top layer soils shall be sprayed with fine misting of water immediately before the excavation.</li> <li>Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be properly covered by impermeable sheeting to reduce dust and other air pollutants emission.</li> <li>Misting for the dusty material shall be carried out before being loaded into the vehicle.</li> <li>Any vehicle with an open load carrying area shall have properly fitted side and tail boards.</li> <li>Material having the potential to create dust shall not be loaded from a level higher than the side and tail boards and shall be dampened and covered by a clean tarpaulin.</li> </ul>	Work site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^  ^  ^  ^  ^  ^  ^

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<ul style="list-style-type: none"> <li>The tarpaulin shall be properly secured and shall extend at least 300 mm over the edges of the sides and tailboards. The material shall also be dampened if necessary before transportation.</li> <li>The vehicles shall be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On-site unpaved roads shall be compacted and kept free of lose materials.</li> <li>Vehicle washing facilities should be provided at every vehicle exit point.</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>Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.</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 three sides.</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>							<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">^</p>

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Operation of solidification / Stabilization</u></b></p> <ul style="list-style-type: none"> <li>The solidification pit/area shall be provided with dust suppression measures.</li> <li>Handling and mixing of cement shall follow Air Pollution Control (Construction Dust) Regulation to limit cement emission.</li> <li>The bin should be covered during residence period after mixing process.</li> </ul>	Decontamination works area / During soil treatment	Contractor			√	√	N/A  N/A  N/A
	<p><b><u>Operation of biopiling</u></b></p> <ul style="list-style-type: none"> <li>During the course of biopile formation, the stockpiled soils at the biopiles shall be covered by tarpaulin or low permeable sheet to avoid fugitive emissions of dust or any air pollutants from the biopiles affecting the surrounding environment and to minimise runoff from the stockpiled soils. Biopile(s) shall be covered by impermeable sheeting (such that no longer than 5m of a biopile shall be exposed to open air) to avoid fugitive emissions of dust or any pollutants from the biopile(s).</li> <li>Upon formation of a biopile, the biopile shall be covered by low permeable geotextiles to prevent dust emission and runoff.</li> <li>During the operation of biopile, the biopiles shall be fully covered to control the extraction of VOCs.</li> </ul>	Decontamination works area / During soil treatment	Contractor			√	√	^  *  N/A
		C-20						

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<ul style="list-style-type: none"> <li>Carbon absorber with 99% control efficiency shall be installed for the biopiling system to treat the off-gas prior to discharge and the location of the exhaust of the carbon filter should be sited as far away as possible from the nearby ASRs.</li> <li>Spent activated carbon of the carbon absorber shall be replaced regularly such that the VOC emission rate from the system is acceptable (i.e. the measured TVOC is below 20 ppm). The carbon adsorption system should also be monitored regularly to check the performance of the carbon filter.</li> <li>Gas samples at the exhaust of the carbon filter for VOCs should be monitored regularly. The biopile operation shall be terminated when unacceptable air quality is monitored at the site boundary. Resumption of biopiling will only be allowed after confirmation and implementation of appropriate mitigation measures.</li> </ul>							^
								^
								^

\*Des - Design, De - Decommissioning, Ex – Excavation, and Tre - Soil Treatment

**Appendix C5 Implementation Schedule for Noise Measures**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
	<p><b><u>Good site practices to be implemented:</u></b></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>• Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>• Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</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.</li> <li>• Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Work Site / During decommissioning, excavation and soil treatment	Contractor		√	√	√	^
								^
								^
								^
								^

\* Des - Design, De - Decommissioning, Ex – Excavation, and Tre - Soil Treatment

**Appendix C6 Implementation Schedule for Marine Ecological Measures**

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Status
				Des	De	Ex	Tre	
-	<ul style="list-style-type: none"> <li>As no significant ecological impact on marine habitats and associated wildlife is predicted, no necessary mitigation measure is considered as required in this assessment. The mitigation measures recommended in the water quality assessment to control water quality would serve also to protect marine ecological resources from indirect impacts and ensure no adverse impact on marine life would be resulted from the Project.</li> </ul>	N/A	N/A					N/A

\* Des - Design, De - Decommissioning, Ex – Excavation, and Tre - Soil Treatment

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;  
 N/A Not Applicable; • Non-compliance but rectified by the contractor;  
 \* Recommendation was made during site audit but improved/rectified by the contractor;  
 # Non-compliance but rectified/improved by the contractor and awaiting IEC’s further comment.



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**APPENDIX D**  
**EVENT ACTION PLANS**

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## APPENDIX D - Event and Action Plan

**Table D- 1 Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1.Action Level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Inform Contractor, IEC and ER;</li> <li>3. Repeat measurement to confirm finding.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET; and</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice; and</li> <li>2. Amend working methods if appropriate.</li> </ol>
2. Action Level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Inform Contractor, IEC and ER;</li> <li>3. Increase monitoring frequency to daily;</li> <li>4. Discuss with IEC and Contractor on remedial actions required;</li> <li>5. Assess the effectiveness of Contractor's remedial actions;</li> <li>6. If exceedance continues, arrange meeting with IEC and ER; and</li> <li>7. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures; and</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise implementation of remedial measures; and</li> <li>5. Conduct meeting with ET and IEC if exceedance continues.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and IEC on proper remedial actions;</li> <li>2. Submit proposals for remedial actions to ER and IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals; and</li> <li>4. Amend proposal if appropriate</li> </ol>
<b>LIMIT LEVEL</b>				
1.Limit Level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Inform Contractor, IEC, ER and EPD;</li> <li>3. Repeat measurement to confirm finding; and</li> <li>4. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures; and</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise implementation of remedial measures; and</li> <li>5. Conduct meeting with ET and IEC if exceedance continues.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Discuss with ET and IEC on proper remedial actions;</li> <li>3. Submit proposals for remedial actions to ER and IEC within 3 working days of notification; and</li> <li>4. Implement the agreed proposals.</li> </ol>
2. .Limit Level being	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Repeat measurement to confirm findings;</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
exceeded by two or more consecutive sampling	<ul style="list-style-type: none"> <li>3. Carry out analysis of Contractor's working procedures to investigate the causes of exceedance;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Arrange meeting with IEC, ER and Contractor to discuss the remedial actions to be taken;</li> <li>6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and ER informed of the results; and</li> <li>7. If exceedance stops, cease additional monitoring</li> </ul>	<ul style="list-style-type: none"> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ER, ET and Contractor on possible remedial measures; and</li> <li>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>2. Notify Contractor;</li> <li>3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise implementation of remedial measures; and</li> <li>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ul>	<ul style="list-style-type: none"> <li>2. Discuss with ET, ER and IEC on proper remedial actions;</li> <li>3. Submit proposals for remedial actions to ER and IEC within 3 working days of notification;</li> <li>4. Implement the agreed proposals;</li> <li>5. Submit further proposals for remedial actions if problem still not under control; and</li> <li>6. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.</li> </ul>

**Table D-2 Event and Action Plan for Biopiling System Discharge Emissions Monitoring and Ambient VOC Monitoring**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform Contactor, IEC and ER;</li> <li>3. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Inform Contractor, IEC, ER and EPD;</li> <li>3. Discuss with IEC and Contractor on remedial actions required;</li> <li>4. Assess the effectiveness of Contractor's remedial actions;</li> <li>5. If exceedance continues, arrange meeting with IEC and ER.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise implementation of remedial measures;</li> <li>5. Conduct meeting with ET and IEC if exceedance continues and instruct the Contractor to slow down or stop the process until the exceedance is abated..</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and IEC on proper remedial actions;</li> <li>2. Submit proposals for remedial actions to ER and IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Slow down or stop the process as determined by the ER until the exceedance is abated.</li> </ol>

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**APPENDIX E  
COMPLAINT LOG**

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**APPENDIX E – COMPLAINT LOG**

**Reporting Month:** October 2009

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/Mitigation Action</b>	<b>Status</b>
N/A	N/A	N/A	N/A	N/A	N/A

**Remarks:** No environmental complaint was received in the reporting month.