



CONTRACT NO. DE/2005/04

**SUPPLY AND INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT FOR
UPGRADING OF TING KOK ROAD PUMPING STATION NO. 5**

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT NO. 1

JUNE 2007

for

Biwater Man Lee Limited

Submitted by

Kingsford Environmental (H.K.) Ltd.

CONTROLLED DOCUMENT

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Approved by: SL

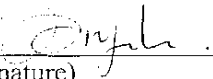
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CUSTOMER: **Biwater Man Lee Limited**

PROJECT NAME: **Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5**

PROJECT NO.: 81901

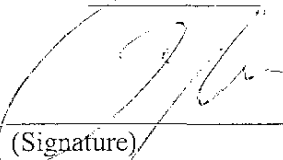
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Ms. A. Lau
(Name)

Date: 9/7/2007

Review and Approved by:


(Signature)

Mr. S. Lau
(Name)

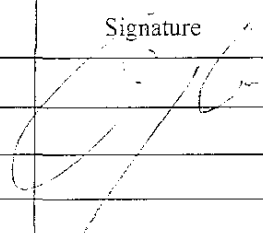
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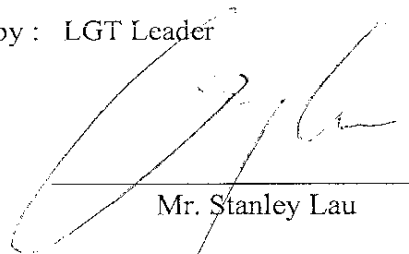
APPROVAL & DISTRIBUTION SHEET

DOCUMENT DATE: 9 July 2007

APPROVAL

Certified by : LGT Leader

Signature:



Mr. Stanley Lau

Date: 9 July 2007

DISTRIBUTION LIST

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E&M Contractor (Biwater Man Lee Limited)	Mr. Thomas Jim	1
Independent Checker (Landfill Gas) (CH2M HILL Hong Kong Limited)	Mr. K. S. Lee	1

EXECUTIVE SUMMARY

This is the first monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/04 entitled "Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5". The site handover date was on 15 May 2007 and no site work was conducted in May 2007 by Biwater Man Lee Limited. Therefore, Environmental Monitoring and Audit was commenced in June 2006. Biwater Man Lee Limited has employed an independent Landfill Gas Team (LGT), Kingsford Environmental (H.K.) Limited, to monitor landfill gas parameter and audit the implementation of the landfill gas hazard mitigation measures, as required in the contract.

The LGT's duties are to review/comment on the contractor's method statements regarding actions, investigate complaints, provide monthly and quarterly reports on the environmental status, and certification of reports and all submissions under the EP in accordance with the requirement of the Report on Landfill Gas Hazard Assessment as per section 8 and the Environmental Permit. The Independent Checker (Landfill Gas) (IC(LG)) for the project is to review and verify the reports and all submissions under the EP in accordance with the requirement of the Report on Landfill Gas Hazard Assessment as per section 8.2.4.

For the landfill gas monitoring activities, Action and Limit (A/L) Levels are defined levels of impact recorded which represent levels at which a prescribed response is required. Action Limit Level is provided by the baseline monitoring results documented in the baseline monitoring report (Report No. EA01284R002) for the Project. The A/L Level for the methane are 0.5%/1.0%, the A/L Level for the carbon dioxide are 0.5%/1.5% and the A/L Level for the oxygen are 19.0%/18.0%.

The works activity for June 2007 included the installations of E&M equipment at Transformer Room.

For the landfill gas monitoring, a total 40 numbers of readings were monitored at Transformer Room and Pumping Station by LGT technician in this month. In addition, weekly site inspections by Landfill Gas Team were carried out on 6, 14, 21 and 26 June 2007.

No exceedance of monitoring parameters was found and no deficiency was found during the site inspections in June 2007. Thus, the work activities and mitigation measures were in compliance with the environmental protection regulations, contract requirement and the requirement of the environmental permit.

Ir. Stanley Lau was approved by EPD and ER as the LGT Leader for the Drainage Services Department Contract No. DE/2005/04 entitled "Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5".

There was no complaint received in June 2007.

There was no reporting change during the reporting period.

The planned activities for July – September 2007 as regards E&M equipment are mainly the installation and T&C (if required) for the following two scheduled site works:- 1) Transformer Room, and 2) Pumping Station.

1 Introduction

This is the first monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/04 entitled "Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5". The report was prepared by the Landfill Gas Team, Kingsford Environmental (H.K.) Limited, of the E&M Contractor, Biwater Man Lee Limited. This report is submitted to the Client, the Drainage Services Department, and Independent Checker (Landfill Gas), CH2M HILL Hong Kong Limited, for the project. In addition, this report is to be submitted to the EPD in accordance with the requirement of the environmental permit (EP-212/2005) and Report on Landfill Gas Hazard Assessment as per section 8 (EM&A).

This report only presents the results of the landfill gas monitoring and environmental auditing of the project activities regarding to the E&M equipment site work conducted in the month of June 2007. The various landfill gas parameters at the beginning of each half working day for E&M installation work (i.e. morning and afternoon) was monitored and auditing works include mainly regular site inspections for verification of the mitigation measures implementation as recommended in the Report on Landfill Gas Hazard Assessment was conducted by LGT.

The auditing works include regular site inspections for verification of the mitigation measures implementation as recommended in the EM&A Manual and as detailed in the Project Profile for the project.

2 Basic Project Information

The site works for the E&M equipment and for testing and commissioning of the various systems were commenced on 15 May 2007 and schedule to be completed by 15 November 2007. The master construction program schedule is attached in Appendix 1. The major E&M work packages are listed below in Table 1.

The major parties involved in the project with respect to environmental protection are shown in Appendix 2 (Ref.: Report on Landfill Gas Hazard Assessment). These include Biwater Man Lee Limited, the Landfill Gas Team, the DSD Client and the Independent Checker (Landfill Gas) (IC(LG)). In addition, the management of Biwater Man Lee Limited and project team including Landfill Gas Team (LGT) is shown in Appendix 2. The LGT consists of an LGT Leader and 1-2 landfill gas technicians. The LGT will co-ordinate with the Site Agent of Biwater Man Lee Limited for site inspections.

Table 1: Master Construction Program for E&M Works

Section	Task Description	Date
I	- Submissions and approval of Major Equipment, Drawing and Design	16 Jan '06 – 15 May '06
II	- Equipment Manufacture and Delivery	15 May '07 – 15 Nov '07
	- Site installation, Public Utilities and T&C.	21 Jun '07 – 15 Nov '07

EM&A contact information for the key personnel is shown in Table 2 and the line of communication is attached in Appendix 2. Ir. Stanley Lau was approved by EPD and ER as the LGT Leader. The appointment letter of LGT Leader is attached in Appendix 3.

Table 2: EM&A contact information for Key Personnel

Name	Title	Telephone	Fax
Mr. Thomas Jim (BML)	Site Agent	26712350 / 90804998	26712351
Mr. Tommy Lo (BML)	Deputy Site Agent	24162828	24136278
Mr. Thomas Jim (BML)	Site Waste Manager / Co-ordinator	26712350 / 90804998	26712351
Mr. W. P. Kwong (BML)	Site Supervisor	97569316	24136278
Mr. Stanley Lau (KEL)	LGT Leader	2612-2817	2614-7012
Ms. Angela Lau (KEL)	LGT Assistance	2612-2817	2614-7012
Mr. C. W. Tse (DSD)	Engineer's Representative	25947309	28278532
Mr. K. S. Lee (CH2M)	The Independent Checker (Landfill Gas)	2507-2203	2507-2293

3 Environmental Requirements

The works performed for this contract shall comply with the relevant Hong Kong government ordinances, regulations, guidelines, practice notes, etc. as regards environmental protection, as detailed in the Report on Landfill Gas Hazard Assessment, section 8 (Environmental Monitoring and Audit) and Environmental Permit.

The environmental monitoring and audit (EM&A) requirements are detailed in the Report on Landfill Gas Hazard Assessment, Section 8, for the project. The Report on Landfill Gas Hazard Assessment requires that the E&M Contractor employs an independent Landfill Gas Team and that the Client employs an Independent Checker (Landfill Gas). The Report on Landfill Gas Hazard Assessment defines the responsibilities of each party, i.e. the E&M Contractor, Client, LGT, and IC(LG). The LGT's duties are to review/comment on the contractor's method statements regarding environmental aspects, perform regular site inspections, gas monitoring and data auditing, report deficiencies, develop remedial actions, investigate complaints, and provide monthly reports on the environmental status.

The EM&A stated in Report on Landfill Gas Hazard Assessment specifies environmental auditing to ensure that the mitigation measures recommended in the Report on Landfill Gas Hazard Assessment are effectively implemented. A summary of the required environmental protection and mitigation measures for the construction phase extracted from Appendix G of the Project Profile ("Implementation Schedule for Landfill Gas Hazard Mitigation Measures") is attached in Appendix 4.

The environmental aspects for the construction phase include plant noise, dust, water quality, waste materials (including chemicals) and landfill gas hazard. Landfill gas monitoring is required at the beginning of each half working day for the E&M installation work (i.e. morning and afternoon). Since no excavation work is carried out by Biwater Man Lee Limited. Therefore, impact monitoring of landfill gas is to be carried out at selected location (i.e. Transformer Room and Pumping Station). Landfill gas parameters to be monitored comprise methane, carbon dioxide and oxygen. In addition, temperature is also recorded. The gas analyzer equipment (Manufacture: Geotechnical Instrument GA 2000 and Serial No.: GA 08277) was used for landfill gas monitoring and the calibration records for the equipment used for landfill gas monitoring is attached in Appendix 5.

For the landfill gas monitoring activities, Action and Limit (A/L) Levels are defined levels of impact recorded which represent levels at which a prescribed response is required. Action Limit Level is provided by the baseline monitoring results documented in the baseline monitoring report (Report No. EA01284R002) for the Project. The Event and Action Plans (EAPs) is to provide, in association with the monitoring and audit activities, procedures for ensuring that if any significant environmental incident (either accidental or through inadequate implementation of mitigation measures) does occur, the cause will be quickly identified and remediated, and the risk of a similar event recurring is reduced. This also applies to the exceedances of A/L criteria identified in the Report on Landfill Gas Hazard Assessment. A summary of the event/action plan for the Project extracted from Report on Landfill Gas Hazard Assessment is attached in Appendix 4.

The Environmental Permit, i.e. section 6.21 of the Particular Specification, is attached in Appendix 6.

4 Work Activities during the Month

The works activity for June 2007 consisted of the installations of E&M equipment at Transformer Room. The Contractor's program for their activities, i.e. the master construction program, is shown in Appendix 1. The activities and dates of occurrence of each activity are summarized below in Table 3. The project area including the activities work area during this month is shown in Appendix 8.

Table 3: Work Activities for June 2007

<i>Transformer Room</i>	
Installations of E&M equipment	21 Jun '07 – 25 Sep '07*
<i>Pumping Station</i>	
Installations of E&M equipment	No site work in June 2007

* *Scheduled dates only for completion of the activities.*

5 Status of Environmental Protection

Noise, air quality, water quality and waste/ chemicals Management

The job nature of the E&M contractor, Biwater Man Lee Limited, is mainly for installation of E&M equipment inside the Transformer Room and Pumping Station, all hand-held's breakers, bulldozer, concrete lorry mixer, dump truck and hand-held's poker, vibratory would not be used so that the impact from noise and dust would be low. For water quality, appropriate mitigation measure e.g. regular removal of stagnant water and/or spraying larvicide will be implemented in place, if necessary.

The minor construction waste materials are preferred to be removed promptly from the site. No inert C&D materials will be generated from installation of E&M equipment whereas the minor non-inert C&D waste will be disposed to Tseung Kwan O landfill. Note that the C&D materials should be reduced, reused and recycled if possible, before disposal. Any substance identified as chemical waste would be disposed of properly by a licensed collector. A trip ticket system for the disposal of C&D waste should be conducted as required by the Particular Specification. Rubbish bins are provided on-site for collecting general refuses as necessary. The general refuse would be removed regularly and disposed to landfills by a licensed collector. A proper record of each waste disposal, including the new bar-coded disposal delivery form, would be kept to verify proper handling and disposal.

Landfill Gas Hazard

The installation of E&M equipment is carried out inside the Transformer House and Pumping Station and no excavation work will be carried out by Biwater Man Lee Limited.

Appropriate mitigation measure will be implemented in place e.g. smoking and naked flames are not allowed within the working area and worker is not allowed to work alone at any time in the confined area. In addition, Safety Officer, trained to familiar with gas detection equipment and landfill gas-related hazards, is appointed on site. Also, safe portable instruments, appropriately calibrated and capable of measuring the methane (0-100% LEL and 0-100% by volume), carbon dioxide (0-100%) and oxygen (0-21%) is provided.

For the confined space, welding, flame-cutting or other hot works are only allowed to be carried out in accordance with the requirement of the Report on Landfill Gas Hazard Assessment as per section 6 and mitigation measures for the construction phase extracted from Appendix G of the Project Profile (“Implementation Schedule for Landfill Gas Hazard Mitigation Measures”).

The temporary site offices or buildings that have enclosed spaces with the capacity to accumulate landfill gas, then they are located on an area which has been proven to be free of landfill gas and monitoring manually by the Safety Officer or an approved and appropriately qualified person to ensure that hazardous concentration of landfill gas does not occur; or be raised clear of the ground. Also, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets will be made available on site. Lastly, periodic environmental monitoring report with LFG control measures evaluation during construction phase should be provided by contractor.

6 Landfill Gas Monitoring Results

The landfill gas monitoring by Landfill Gas Team was carried out in June 2007 to monitor the landfill gas parameters comprising methane, carbon dioxide and oxygen. Note that temperature is also recorded. The site works of the E&M contractor, Biwater Man Lee Limited, is mainly for installation of E&M equipment inside the Transformer Room and Pumping Station and no excavation work is carried out by Biwater Man Lee Limited. Therefore, monitoring locations were selected at Transformer Room and Pumping Station.

The M1 (new deep borehole) and M3 (existing manhole) monitored by civil contractor (Maeda) was recorded for the analysis of potential risk and identify any adverse impacts arising from the boreholes to protect the worker safety.

The results are summarized below in Table 4 and the layout plan and the monitoring location code is shown in Appendix 7.

Table 4: Monitoring results by civil contractor (Maeda) at fixed location for June 2007

Fixed Monitoring Station	Date of measurement	Flammable gas Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Temp. (°C)	Remarks
M1	29-Jun-07	0.0	0.0	19.7	30.0	
M3	29-Jun-07	0.0	0.0	19.8	30.0	

The landfill gas monitoring was carried out according to the working area of E&M installation (inside Transformer Room and Pumping Station) at the beginning of each half working day for the E&M installation works (i.e. morning and afternoon).

For this month, the landfill gas was monitored at Transformer Room and Pumping Station by LGT technician. A total 40 numbers of readings at Transformer Room and Pumping Station were monitored. For this month, no site work was carried out at Pumping Station, thus Pumping Station was monitored for analysis the potential risk.

No exceedances for Action or Limit Level at any locations were recorded during the reporting period. Refer to field measurement recording sheet and monitoring location in Appendix 7.

7 Site Inspection

For this month, site inspections by an LGT technician were carried out on 6, 14, 21 and 26 of June 2007.

Weekly site inspections of the work areas by an LGT technician were conducted this month. An approved three-page checklist is used which lists all of the mitigation measures/key EM&A requirements that summarized from the Project Profile and Report on Landfill Gas Hazard Assessment. The locations inspected were marked on a layout plan and the location code was recorded on the checklist.

The works activity for June 2007 included the installations of E&M equipment at Transformer Room.

Whereas all of the landfill gas and environmental aspects were inspected in the work areas, the most applicable descriptions are addressed below.

Landfill Gas Hazard

Daily field measurement recording sheet was checked and no exceedances for Action or Limit Level at any locations were recorded during the reporting period. In addition, no hot work was carried out in this month. Adequate fire extinguishing equipments were made available on site.

Waste Management

Refuse bins and waste storage/sorting area were provided for the collection of general refuse and sorting the C&D materials.

No deficiencies were found during this month. Whereas all of the environmental aspects were inspected in the work areas, the applicable are refer to checklists in Appendix 8.

8 Summary of Deficiencies and Remedial Actions

There were no deficiencies noted from the site inspections of June 2007.

9 Summary of Complaints and Remedial Actions

No complaints were received in June 2007. In the event of complaints, the procedure for handling of the complaints is detailed in the Report on Landfill Gas Hazard Assessment.

10 Monthly Landfill Gas Monitoring and Auditing for the Coming Months

The landfill gas monitoring for the coming three months (July – September 2007) will be continued. In addition, the planned activities for the coming three months (July – September 2007) as regards E&M equipment consists of E&M equipment installation and T&C (if required), as listed below:-

- Transformer Room
- Pumping Station

The anticipated landfill gas issues for July – September 2007 will be as follows:-

- Transformer Room
 - No significant landfill gas issue.
- Pumping Station
 - No significant landfill gas issue.

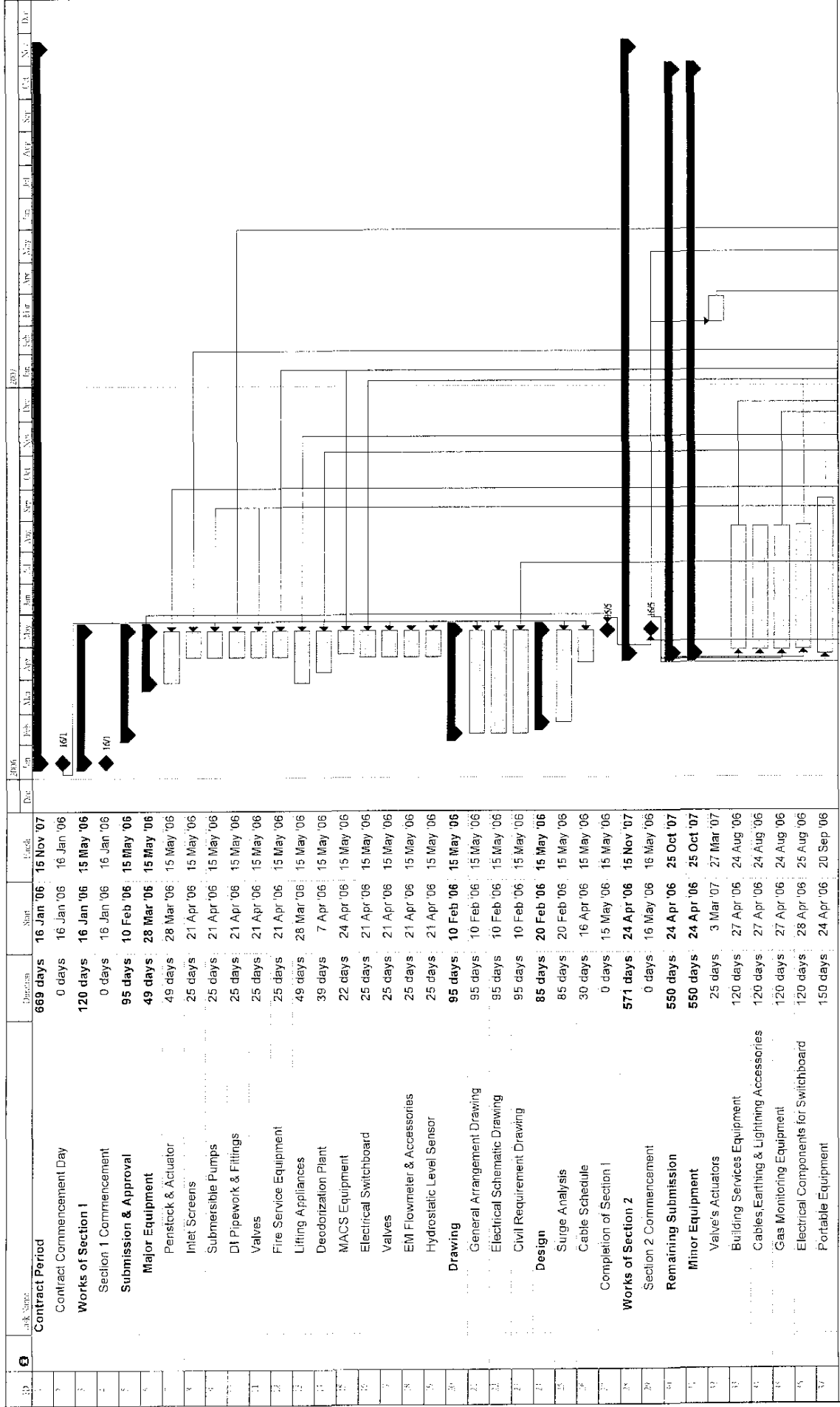
11 Conclusions and Comments

There have been no exceedances in A/L level at the fixed and variable monitoring locations. In addition, the required weekly site inspections have been conducted. No deficiencies, i.e. non-compliances, were noted.

Appendix 1

Master Construction Work Program

Contract DE/2005/04
Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5
WORKS PROGRAMME



Task Progress

Milestone Summary

Roll Up Task

Roll Up Milestone

Roll Up Progress

Split

External Tasks

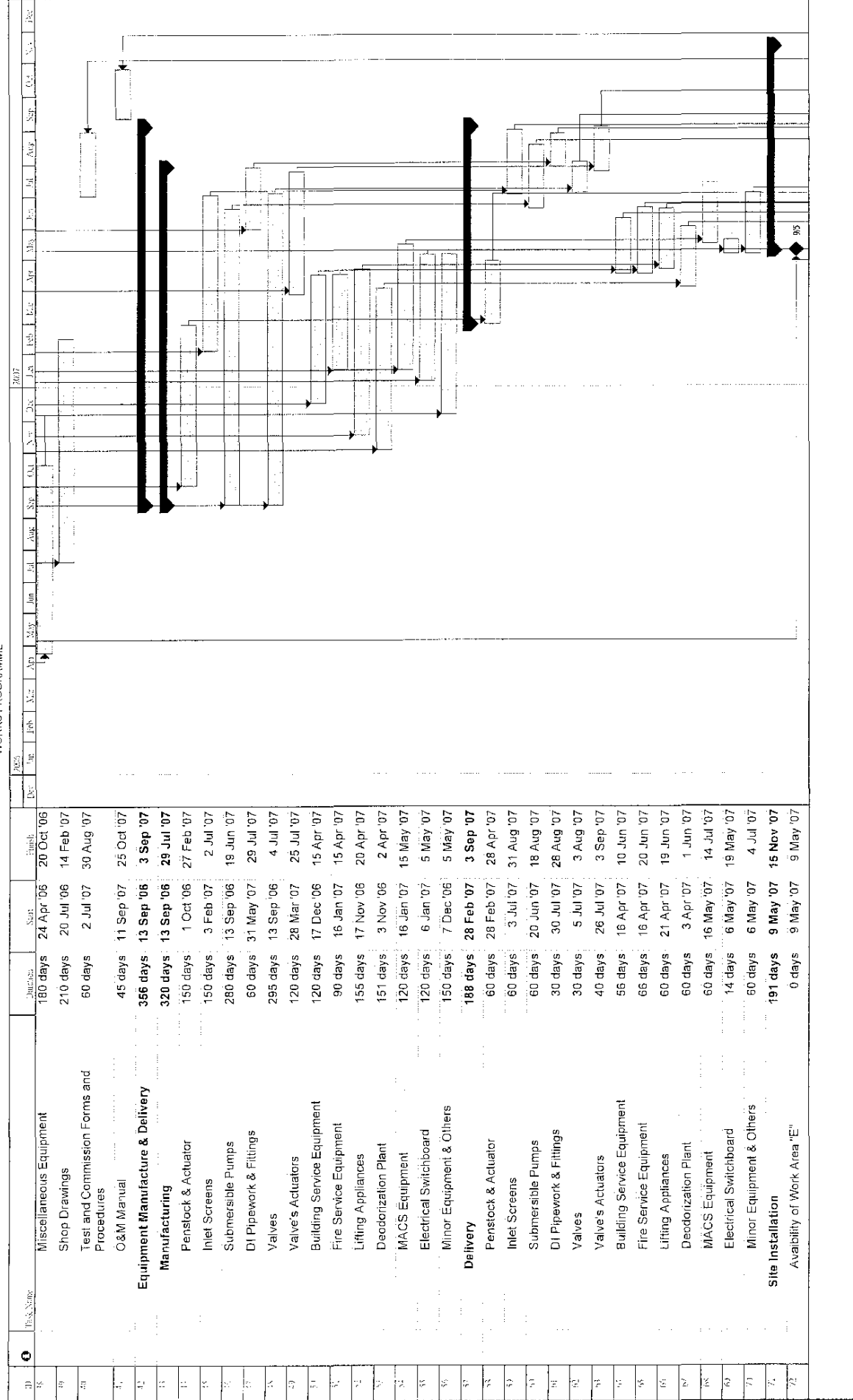
Project Summary

Group By Summary

Biwater Man Lee Limited

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Contract DE/2005/04
Supply and Installation of Electrical and Mechanical Equipment for Upgrading of Ting Kok Road Pumping Station No. 5
WORKS PROGRAMME



Task Progress Summary

Task: [] Milestone: [] Summary: []

Roll Up Milestone: []

Roll Up Task: []

Roll Up Progress: []

External Tasks: []

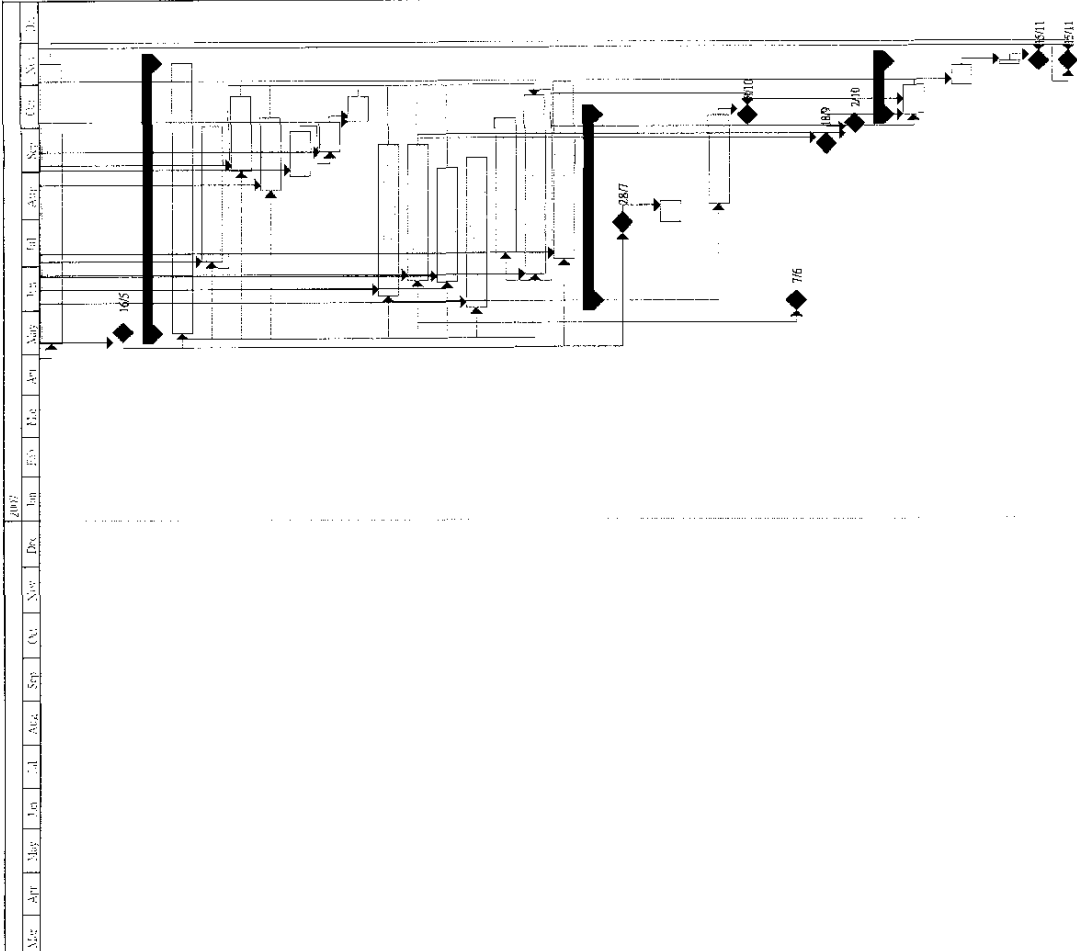
Project Summary: []

Group By Summary: []

Split: []

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ID	Task Name	Duration	Start	Finish	2006	2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Possession of storage area and Provide DSD container Office (assume handover to be agreed)	191 days	9 May '07	15 Nov '07																											
2	Site Handover for P/S & Transformer Rm.	0 days	16 May '07	16 May '07																											
3	Site Installation Period	184 days	16 May '07	15 Nov '07																											
4	Landfill Gas Monitoring	184 days	16 May '07	15 Nov '07																											
5	Penstock & Actuator	90 days	4 Jul '07	1 Oct '07																											
6	Inlet Screen	52 days	1 Sep '07	22 Oct '07																											
7	Submersible Pumps	50 days	19 Aug '07	7 Oct '07																											
8	DI Pipework & Fittings	30 days	29 Aug '07	27 Sep '07																											
9	Valves	21 days	14 Sep '07	4 Oct '07																											
10	Valve's Actuators	18 days	5 Oct '07	22 Oct '07																											
11	Building Service Equipment	100 days	11 Jun '07	18 Sep '07																											
12	Fire Service Equipment	90 days	21 Jun '07	18 Sep '07																											
13	Lifting Appliances	75 days	20 Jun '07	2 Sep '07																											
14	Deodorization Plant	100 days	2 Jun '07	9 Sep '07																											
15	MACS Equipment	90 days	9 Jul '07	6 Oct '07																											
16	Electrical Switchboard	120 days	25 Jun '07	22 Oct '07																											
17	Other Associated Equipment	120 days	5 Jul '07	1 Nov '07																											
18	Public Utilities	124 days	7 Jun '07	8 Oct '07																											
19	Builder's Completion of (Section 7) Sewers, cable/telephone duct & exterior	0 days	28 Jul '07	28 Jul '07																											
20	PCCW Telephone Line / Fire Link / Leased Line Available	14 days	29 Jul '07	11 Aug '07																											
21	Handover to CLP's Installation	60 days	10 Aug '07	8 Oct '07																											
22	Switchboard Power Energize (Assumed to be agreed with CLP)	0 days	8 Oct '07	8 Oct '07																											
23	FSI Form 314 Submission	0 days	7 Jun '07	7 Jun '07																											
24	FSI Form 501 Submission	0 days	18 Sep '07	18 Sep '07																											
25	FSD Inspection	0 days	2 Oct '07	2 Oct '07																											
26	Testing & Commissioning Period	38 days	9 Oct '07	15 Nov '07																											
27	Functional Testing of Individual System/ Equipment	21 days	9 Oct '07	29 Oct '07																											
28	Preparation and Continuous Commissioning Test Period	14 days	30 Oct '07	12 Nov '07																											
29	72 Hrs Continuous Commissioning Test	3 days	13 Nov '07	15 Nov '07																											
30	Finish of Section II	0 days	15 Nov '07	15 Nov '07																											
31	Completion of Contract	0 days	15 Nov '07	15 Nov '07																											



Task Progress: Milestone Summary

Roll Up Task: Roll Up Milestone

External Tasks: Project Summary

Group By Summary:

Split:

Appendix 2

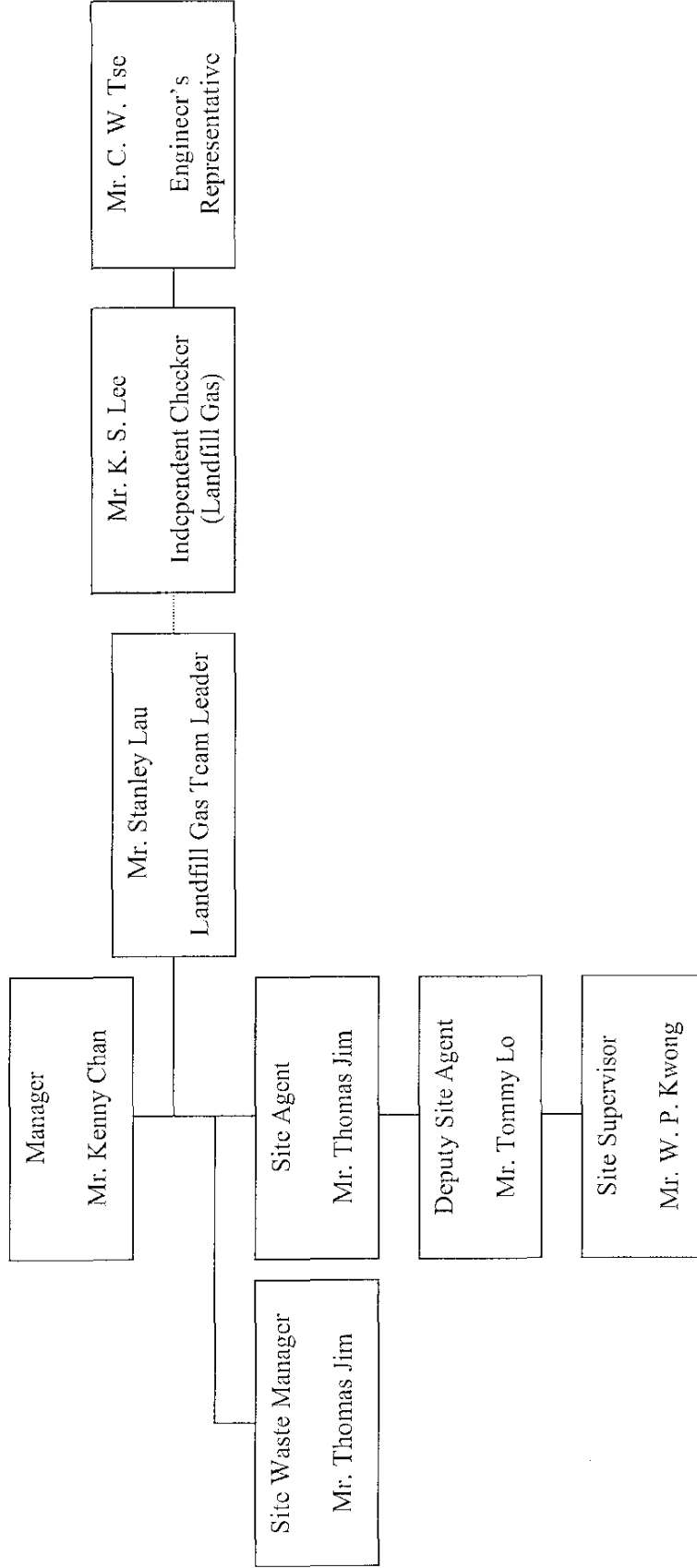
Management Structure and Key Personnel of EM&A Contact List

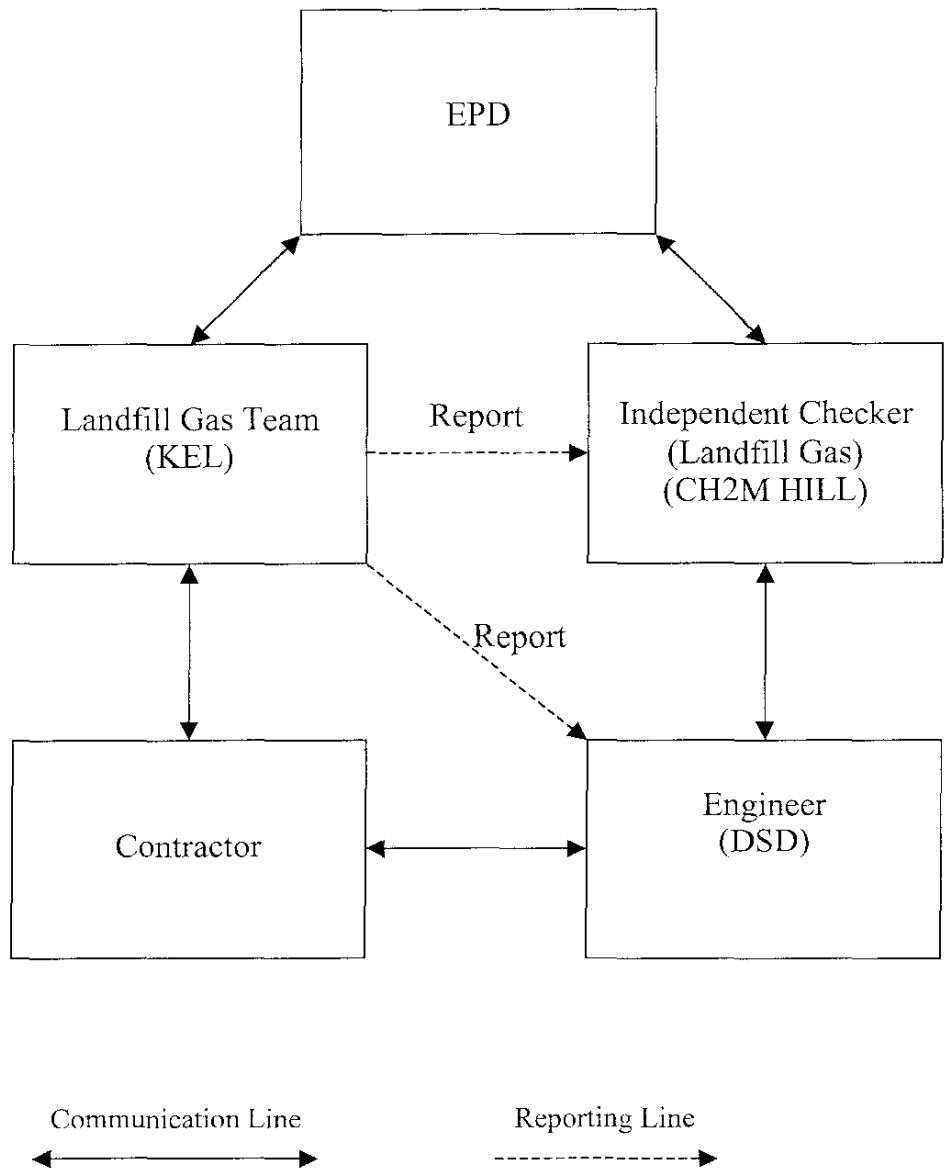
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Mr. Stanley Lau (KEL)	LGT Leader	2612-2817	2614-7012
Ms. Angela Lau (KEL)	LGT Assistance	2612-2817	2614-7012
Mr. C. W. Tse (DSD)	Engineer's Representative	25947309	28278532
Mr. K. S. Lee (CH2M)	The Independent Checker (Landfill Gas)	2507-2203	2507-2293

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SUPPLY AND INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT FOR
UPGRADING OF TING KOK ROAD PUMPING STATION NO. 5

Project Team Organization Chart relevant to EM&A





Upgrading of Ting Kok Road Pumping Station No. 5
Project Organization

Appendix 3

Appointment Letter of Landfill Gas Team Leader

本署編號 f(4) in EP2/NS/F/43 Pt.4
 OUR REF:
 來函檔號
 YOUR REF:
 電話
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 圖文傳真
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 電子郵件
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 網址
 HOMEPAGE: <http://www.epd.gov.hk>

Environmental Protection Department
Branch Office
 28th Floor, Southern Centre,
 130 Hennessy Road,
 Wan Chai, Hong Kong.



環境保護署分處
 香港灣仔
 軒尼詩道
 一百三十號
 修頓中心廿八樓

By Post & Fax : 2827 8532

14 May 2007

Drainage Services Department
 44/F, Revenue Tower
 5 Gloucester Road
 Wan Chai, Hong Kong
 (Attn : Mr. C W Tse, Engineer/Electrical & Mechanical Projects Division)

Dear Mr. Tse,

**Environmental Impact Assessment (EIA) Ordinance, Cap. 499,
 Environmental Permit No. EP-212/2005 for
Upgrading of Ting Kok Road Pumping Station No. 5**

Landfill Gas Team (LGT) Leader

I refer to your memo under reference DSD EM/8/DE0504/SM of 10 May 2007.

Having reviewed the information of Mr. Stanley C T LAU attached to your memo, I am satisfied that his EM&A experience met the requirements for LGT Leader set out in Section 8.2.2 of the Project Profile (No. PP-238/2005) for the captioned project. Pursuant to Section 8.2.2 of the Project Profile, I hereby approve Mr. Stanley C T LAU as the LGT Leader for the captioned project. Please ensure that he will be an independent party from the Contractor during the project while he is in the position of LGT Leader.

Yours sincerely,

(Maurice YEUNG)
 Principal Environmental Protection Officer
 for Director of Environmental Protection



Drainage Services Department
E & M Projects Division
44th floor, Revenue Tower, 5 Gloucester Road,
Wan Chai, Hong Kong.

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14 May 2007

Biwater Man Lee Ltd.
Suite 202, Block 1,
Hofai Commercial Centre,
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Tsuen Wan, N.T.

(Attn. : Thomas Jim)

Dear Sir,

Contract No. DE/2005/04
Supply and Installation of Electrical and Mechanical Equipment
For Upgrading of Ting Kok Road Pumping Station No. 5

Appointment of Landfill Gas Team Leader

I attach herewith a letter ref. f(4) in EP2/N5/F/43 Pt. 4 dated 14.5.2007 and would advise the approval of appointment of Mr. Stanley C T Lau as the landfill gas team leader for your reference. You are reminded of the duties and responsibilities of the landfill gas team stated in Clause 8.2.2 of the Project Profile and the independence of the leader from your company.

Yours faithfully,

Engineer's Representative
Electrical & Mechanical Projects Division
Drainage Services Department

c.c. CE/SP, DSD

(Attn. Messrs. Raymond Lee and Tim W Y Tsoi)

w/e



Appendix 4

EM&A Key Requirements and Complaint Procedure

charge of the Site.

- 6.21.8 The Contractor shall display a copy of these Environmental Permits (including the most updated Environmental Permit) on the Site at all vehicular site entrances/exits or at convenient location or as directed by the Engineer for public information at all times. The Contractor shall ensure that most updated information about the Environmental Permit, including any amended Permits, are displayed at such locations.
- 6.21.9 In accordance with the Permits as shown in Appendix VII, the Contractor shall establish an Landfill Gas Team (hereinafter referred to in this Clause as the "LGT") after handover of the Site from the Civil Contractor to undertake monitoring, analysis and reporting of landfill gas and other relevant works required by the Permits.
- 6.21.10 The Contractor shall provide assistance to LGT to undertake the landfill gas monitoring and audit and accompany joint site inspection undertaken by the LGT.
- 6.21.11 The LGT should report to the Contractor and be led and managed by the LGT Leader. The LGT Leader and the LGT should be employed to conduct the E&MA programme and ensure the Contractor's compliance with the project's landfill gas requirements during construction. The LGT Leader should be an independent party from the Contractor and has relevant professional qualifications, or have sufficient relevant experience in landfill gas hazards subject to approval of the ER and the EPD.
- 6.21.12 The duties and responsibilities of the LGT are defined in Appendix E Clause 8.2.2 of Project Profile (as mentioned in the EP) of Upgrading of Ting Kok Road Pumping Station No.5 which include the followings:
- (a) to monitor various landfill gas parameters as required;
 - (b) to analyse the landfill gas monitoring and audit data and review the success of EM&A programme to cost-effectively confirm the adequacy of mitigation measures implemented and to identify any adverse impacts arising;
 - (c) to carry out regular site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to landfill gas hazard, and effect proactive action to pre-empt problems;
 - (d) to carry out monthly EM&A report, quarterly E&MA summary report and final E&MA review report;
 - (d) to audit and prepare audit reports on the landfill gas monitoring data and its conditions;
 - (e) to report on the landfill gas monitoring and audit results to the relevant parties, the Engineer and EPD or its delegated representative;
 - (f) to recommend suitable mitigation measures to the Contractor in accordance with the Event and Action Plan; and
 - (g) to adhere to the procedures for carrying out complaint investigation.

Event and Action Plan (EAP) for Landfill Gas

The Event and Action Plan for landfill gas detected in utilities and any on-site areas following construction are shown in the table below.

Event and Action Plan for Landfill Gas

Parameter	Level	Action
Oxygen	<19%	- Ventilate to restore oxygen to >19%
	<18%	- Stop works - Evacuate personnel/prohibit entry - Increase ventilation to restore oxygen to >19%
Methane	>10% LEL (i.e. >0.5% by volume)	- Post "No Smoking" signs - Prohibit hot works - Ventilate to restore methane to <10% LEL
	>20% LEL (i.e. >1% by volume)	- Stop works - Evacuate personnel/prohibit entry - Increase ventilation to restore oxygen to <10% LEL
Carbon Dioxide	>0.5%	- Ventilate to restore carbon dioxide to <0.5%
	>1.5%	- Post "No Smoking" signs - Prohibit hot works - Increase ventilate to restore carbon dioxide to <0.5%

Appendix G
Implementation Schedule for LFG Hazard Mitigation Measures

Section	Environmental Protection Measures	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.1	<p>Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be appointed on site throughout the ground works phase. The Safety Officer should be provided with intrinsically safe portable instruments, appropriately calibrated and capable of measuring the following gases in the ranges indicated:</p> <p style="margin-left: 40px;">methane 0-100% LEL and 0-100% by volume; carbon dioxide 0-100%; and oxygen 0-21%</p>				<p><i>Code of Practice on Safety and Health at Work in Confined Space.</i></p> <p><i>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)</i></p>
6.2	No smoking and naked flames should be allowed.	Within the work site	Contractor	Construction	<p><i>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)</i></p>
6.2	No worker should work alone at any time in the confined area or any excavation trenches.				
6.2	Construction equipment should be equipped with a vertical exhaust at least 0.6m above ground level and/or with spark arrestors.				
6.2	Electrical motors and electrical extension cords should be explosion-proof or intrinsically safe.				
6.2	Welding, flame-cutting or other hot works should only be carried out in trenches or confined spaces when controlled by a 'permit to work' procedure, properly authorized by the Safety Officer.				
6.2	Forced ventilation should be required for workers, if in a trench deeper than 1m.				

Appendix G
Implementation Schedule for LFG Hazard Mitigation Measures

Section	Environmental Protection Measures	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.2	During piping assembly or conducting construction, all valves/seals should be closed as installed to prevent the migration of gases through the pipeline/conduit. Forced ventilation and gas monitoring should be performed before staff entering and working in large diameter pipe.				
6.2	The Safety Officer should set down the monitoring frequency and areas prior to commencement of construction works.				
6.2	Daily and routine monitoring should be carried out in all excavations.				
6.2	All measurements in excavations should be made with the extended monitoring tube located not more than 10mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters the area.				
6.2	For excavations deeper than 1m, measurements should be carried out: <ul style="list-style-type: none"> • at the ground surface before excavation commences; • immediately before any worker enters the excavation; • at the beginning of each half working day (i.e. morning and afternoon) for the entire period the excavation remains open; and • periodically through the working day whilst workers are in the excavation. 	Within the work site	Contractor	Construction	<i>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)</i>
6.2	For excavations between 300mm and 1m deep, measurements should be carried out: <ul style="list-style-type: none"> • directly after the excavation has been completed; and • periodically whilst the excavation remains open. 				

Appendix G
Implementation Schedule for LFG Hazard Mitigation Measures

Section	Environmental Protection Measures	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.2	The landfill gas precautionary measures involved with excavation and piping works should be included in the Safety Plan.				
6.3	The cracks on the ground level at the working area should be monitored during ground-works construction				
6.4	<p>Where there are any temporary site offices, or any other buildings that have enclosed spaces with the capacity to accumulate landfill gas, then they should either:</p> <ul style="list-style-type: none"> • Be located on an area which has been proven to be free of landfill gas and monitored manually by the Safety Officer or an approved and appropriately qualified person to ensure that hazardous concentration of landfill gas does not occur; or • Be raised clear of the ground. If buildings are raised clear of the ground, a minimum, clear separation distance should be 500mm. 	Within the work site	Contractor	Construction	<i>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)</i>
6.5	Such offices or buildings should be provided with some kinds of control of gas by mechanical means e.g. forced ventilation using fans or blowers.				
6.6	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.				
6.7	Periodic environmental monitoring report with LFG control measures evaluation during construction phase should be provided by contractor and submitted to SP/DSD and EPD.				

Appendix G
Implementation Schedule for LFG Hazard Mitigation Measures

Section	Environmental Protection Measures	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
7.1	When service voids, manholes or inspection chambers within the proposed site are entered for maintenance, monitoring and a checklist system of safety requirements should be performed before entry	Manhole/ chamber			
7.2	A procedure should be developed as part of the station operation to respond to gas detector alarms. The detection system should be maintained and calibrated regularly in accordance with the manufacturer's recommendations. In the event of a power failure, the detectors should have an 8-hour battery back-up system, and the procedures should indicate for manual monitoring in the station in the event of prolonged power failure (of longer than 8 hours).	Pumping station			
7.3	Forced ventilation should be used if methane of more than 0.5 % (by volume) in the internal atmosphere (e.g. in service voids, manholes, inspection chambers or rooms as mentioned above) is detected.		DSD	Operation	<i>Code of Practice on Safety and Health at Work in Confined Spaces</i>
7.4	No person should enter or remain in any confined spaces or trenches where the carbon dioxide concentration exceeds 1.5 % (by volume).	Manhole/ chamber/ Pumping station			
7.5	Oxygen concentration should be monitored and no person should enter or remain in any confined spaces or trenches where the oxygen content of air has fallen below 18 % by volume.				
7.6	All the access to these confined spaces would be restricted only to authorize personnel who should be aware of the LFG hazard. No member of general public should be permitted or allowed to access these confined spaces, manholes or inspection chambers.				

Landfill Gas Complaint

Landfill gas complaint should be referred to the LGT Leader for action. The LGT Leader should undertake the following procedures upon receipt of any complaint:

- log complaint and date of receipt onto the complaint database and inform the IC(LG) and the ER immediately;
- investigate the complaint to determine its validity, and assess whether the source of the problem is due to works activities;
- identify mitigation measures in consultation with the IC(LG) if a complaint is valid and due to works;
- advise the Contractor if mitigation measures are required;
- review the Contractor's response to identified mitigation measures, and the updated situation;
- if the complaint is transferred from the EPD, submit interim report to the EPD on status of the complaint investigation and follow-up action within the time frame assigned by the EPD;
- undertake additional monitoring and audit to verify the situation if necessary, and review that circumstances leading to the complaint do not recur;
- report investigation results and subsequent actions to complainant (if the source of complaint is EPD, the results should be reported within the timeframe assigned by the EPD); and
- record the complaint, investigation, the subsequent actions and the results in the monthly EM&A reports.

Appendix 5

Calibration records for equipment used for landfill gas monitoring



Hong Kong Productivity Council
香港生產力促進局

COPY

Environmental Management Division

CALIBRATION REPORT

Client : Maeda Corporation
Address : Tai Po Site Office,
Ting Kok Road,
Tai Po

Report No. : CR 000075
Page No. : 2 of 2
Issue Date : 23/08/2006

Received Date : 19/08/2006
Approved Signatory : Grace Ting
Remarks :

Completion Date : 22/08/2006

Calibration Results:

Item : Gas Analyser model GA 2009, Geotechnical Instruments
Serial No. : GA08277
Calibration Method : In house method (calibrated and checked with certified gas standards)
Date of Calibration : 22/08/2006
Results :

Carbon Dioxide

Expected, %	Reading, %
0.0	0.0
11.1	10.6
21.3	21.1
30.1	31.2
40.0	39.9

Approval Signatory:

Appendix 6

Permits

6.21 ENVIRONMENTAL PERMIT

- 6.21.1 The Works in Ting Kok Road Pumping Station No.5 are classified as a Designated Project under the Environmental Impact Assessment Ordinance (EIAO) and thus its construction and operation are to be governed by an Environmental Permit issued by Environmental Protection Department (EPD). In accordance with the Clause 30 of the General Conditions of Contract, the Contractor shall conform in all respects with the conditions of the Environmental Permit. The concerned Environmental Permit No. EP-212/2005 for Upgrading of Ting Kok Pumping Station No.5 under the Permit Holder of Sewerage Projects/Drainage Services Department is attached in Appendix VII.
- 6.21.2 For the purpose of this Contract, the "Environmental Permit" (EP) means any environmental permit issued by the Director of Environmental Protection in respect of the Works or project which the Works form a part thereof under the Environmental Impact Assessment Ordinance (Cap. 499) including any variation of the environmental permits. The Works of this Contract are therefore subject to the conditions stipulated in the Environmental Permit.
- 6.21.3 The Contractor shall observe and abide by the conditions set out in the EP attached at Appendix VII when carrying out the Works. The Contractor shall display the EP at the Site throughout the construction period. The Contractor needs not apply for a further environmental permit for the Works. The Engineer will coordinate any application for variation of the EP conditions where it is necessary and shall notify the contractor upon any change or variation approved by DEP. If the Contractor choose to apply for and hold a further EP for the Works for any reasons, he can do so but will be at his own risks and he will not be entitled to an extension or to any compensation or cost.
- 6.21.4 The Contractor shall ensure full compliance with all conditions of the EP before and during carrying out the Works. Any non-compliance may constitute a contravention of the EIAO (Cap. 499) and shall be definite ground for enforcement action. The Contractor shall assume all the responsibilities under the EP as if the Contractor is the Permit Holder as far as it is applicable to this Contract. The Contractor is required to indemnify the Employer against any charge for any non-compliance with the EP. The Contractor will not be compensated for any additional cost and/or time incurred due to the Contractor's non-compliance with any conditions of the EP.
- 6.21.5 The Contractor shall comply with all Enactments which shall include but not limited to the following:
- Noise Control Ordinance (Cap. 400);
 - Air Pollution Control Ordinance (Cap. 311);
 - Water Pollution Control Ordinance (Cap. 358);
 - Dumping at Sea Ordinance (Cap. 466); and
 - Water Disposal Ordinance (Cap. 354).
- 6.21.6 The Contractor shall make copies of this Environmental Permit available at all times for inspection by the Director of Environmental Protection at the Site.
- 6.21.7 The Contractor shall give a copy of this Environmental Permit to the person(s) in

charge of the Site.

- 6.21.8 The Contractor shall display a copy of these Environmental Permits (including the most updated Environmental Permit) on the Site at all vehicular site entrances/exits or at convenient location or as directed by the Engineer for public information at all times. The Contractor shall ensure that most updated information about the Environmental Permit, including any amended Permits, are displayed at such locations.
- 6.21.9 In accordance with the Permits as shown in Appendix VII, the Contractor shall establish an Landfill Gas Team (hereinafter referred to in this Clause as the "LGT") after handover of the Site from the Civil Contractor to undertake monitoring, analysis and reporting of landfill gas and other relevant works required by the Permits.
- 6.21.10 The Contractor shall provide assistance to LGT to undertake the landfill gas monitoring and audit and accompany joint site inspection undertaken by the LGT.
- 6.21.11 The LGT should report to the Contractor and be led and managed by the LGT Leader. The LGT Leader and the LGT should be employed to conduct the E&MA programme and ensure the Contractor's compliance with the project's landfill gas requirements during construction. The LGT Leader should be an independent party from the Contractor and has relevant professional qualifications, or have sufficient relevant experience in landfill gas hazards subject to approval of the ER and the EPD.
- 6.21.12 The duties and responsibilities of the LGT are defined in Appendix E Clause 8.2.2 of Project Profile (as mentioned in the EP) of Upgrading of Ting Kok Road Pumping Station No.5 which include the followings:
- (a) to monitor various landfill gas parameters as required;
 - (b) to analyse the landfill gas monitoring and audit data and review the success of EM&A programme to cost-effectively confirm the adequacy of mitigation measures implemented and to identify any adverse impacts arising;
 - (c) to carry out regular site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to landfill gas hazard, and effect proactive action to pre-empt problems;
 - (d) to carry out monthly EM&A report, quarterly E&MA summary report and final E&MA review report;
 - (d) to audit and prepare audit reports on the landfill gas monitoring data and its conditions;
 - (e) to report on the landfill gas monitoring and audit results to the relevant parties, the Engineer and EPD or its delegated representative;
 - (f) to recommend suitable mitigation measures to the Contractor in accordance with the Event and Action Plan; and
 - (g) to adhere to the procedures for carrying out complaint investigation.

ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE
(CHAPTER 499)

Section 10
環境影響評估條例
(第 499 章)
第 10 條

ENVIRONMENTAL PERMIT TO CONSTRUCT AND OPERATE
A DESIGNATED PROJECT
建造及營辦指定工程項目的環境許可證

PART A (MAIN PERMIT)
A 部 (許可證主要部分)

Pursuant to Section 10 of the Environmental Impact Assessment Ordinance (the Ordinance), the Director of Environmental Protection (the Director) grants this environmental permit to the Drainage Services Department (hereinafter referred as the "Permit Holder") to construct and operate the designated project described in Part B subject to the conditions specified in Part C. The issue of this environmental permit is based on the documents, approvals or permissions described below:

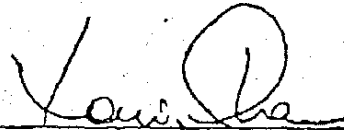
根據環境影響評估條例(本條例)第 10 條的規定，環境保護署署長(署長)將本環境許可證批予 渠務署(許可證持有人)以建造及營辦 B 部所說明的指定工程項目，但須遵守 C 部所列明的條件。本環境許可證依據下列文件、批准或許可而簽發：

Application No. 申請書編號	AEP-212/2005
Document in the Register: 登記冊上的文件:	<ol style="list-style-type: none">1. Project Profile - "Upgrading of Ting Kok Road Pumping Station No.5" (Register No.: PP-238/2005) 工程項目簡介 - "汀角路 5 號泵房擴建工程" (登記冊編號: PP-238/2005)2. Application for Environmental Permit submitted by the Permit Holder on 8 March 2005 (Application No.: AEP-212/2005) 許可證持有人於 2005 年 3 月 8 日提交的申請文件 (申請書編號: AEP-212/2005)

Application No. 申請證編號	AEP-212/2005
Director's Permission to Apply Directly for Environmental Permit 署長批准直接申請環境 許可證	Letter Reference: (15) in EP 2/NS/F/43 信件編號: (15) in EP 2/NS/F/43 Date: 25 February 2005 日期: 2005年2月25日

4 April 2005

Date
日期



(Louis P.L. CHAN)
Principal Environmental Protection Officer (Acting)
for Director of Environmental Protection
環境保護署署長
(署理首席環境保護主任 陳煥林代行)

PART B (DESCRIPTION OF DESIGNATED PROJECT)

B 部 (指定工程項目的說明)

Hereunder is the description of the designated project mentioned in Part A of this environmental permit (hereinafter referred to as "the Permit"):

下列為本環境許可證(下稱"許可證")A部所提述的指定工程項目的說明:

<p>Title of Designated Project 指定工程項目的名稱</p>	<p>Upgrading of Ting Kok Road Pumping Station No.5 [This designated project is hereinafter referred to as "the Project"] 汀角路5號泵房擴建工程 [這指定工程項目下稱"工程項目"]</p>
<p>Nature of Designated Project 指定工程項目的性質</p>	<p>Upgrading of the existing pumping station to cope with the sewerage needs of development along Ting Kok Road of Tai Po Industrial Estate up to Tai Mei Tuk 擴建現有汀角路5號泵房,使能應付由大埔工業邨至大尾督,沿汀角路一帶發展對污水收集系統的需要</p>
<p>Location of Designated Project 指定工程項目的地點</p>	<p>Ting Kok Road (adjacent to the Tai Po East Fire Station). The location of the Project is shown in Figure 1 of this Permit. 汀角路(毗鄰大埔東消防局)。工程項目的地點見載於本許可證夾附的圖一。</p>
<p>Scale and Scope of Designated Project 指定工程項目的規模和範圍</p>	<p>The design flow of the existing sewage pumping station is increased from 2,888 m³/day to 11,520 m³/day. The scope of works of the Project includes the following:</p> <ul style="list-style-type: none">i) To construct a new sewage pumping station of design capacity of 11,520 m³/day;ii) To install 350m long of 450mm diameter twin rising mains and 250m long of 600mm diameter gravity sewers extending to the Tai Po Sewage Treatment Works; andiii) To demolish the existing sewage pumping station upon commissioning of the new sewage pumping station. <p>污水泵房的設計流量將由每日 2,888 立方米增至 11,520 立方米。工程範圍包括:</p> <ul style="list-style-type: none">i) 興建一座每日設計流量為 11,520 立方米的污水泵房;ii) 安裝長 350 米直徑 450 毫米雙管式污水泵喉及長 250 米直徑 600 毫米無壓污水渠至大埔污水處理廠;及iii) 在新泵房啓用後,拆卸現有污水泵房的結構物。



PART C (PERMIT CONDITIONS)

I. General Conditions

- 1.1 The Permit Holder and any person working on the Project shall comply with all conditions set out in this Permit. Any non-compliance by any person may constitute a contravention of the Environmental Impact Assessment Ordinance (Cap.499) and may become the subject of appropriate action being taken under the Ordinance.
- 1.2 The Permit Holder shall ensure full compliance with all legislation from time to time in force including without limitation the Noise Control Ordinance (Cap. 400), Air Pollution Control Ordinance (Cap. 311), Water Pollution Control Ordinance (Cap. 358), Waste Disposal Ordinance (Cap. 354) and Country Parks Ordinance (Cap.208). This Permit does not of itself constitute any ground of defense against any proceedings instituted under any legislation or imply any approval under any legislation.
- 1.3 The Permit Holder shall make copies of this Permit together with all documents referred to in this Permit and the documents referred to in Part A of the Permit readily available at all times for inspection by the Director or his authorized officers at all sites/offices covered by this Permit. Any reference to the Permit shall include all documents referred to in the Permit and also the relevant documents in the Register.
- 1.4 The Permit Holder shall give a copy of this Permit to the person(s) in charge of the site(s) and ensure that such person(s) fully understands all conditions and all requirements incorporated in the Permit. The site(s) refers to site(s) of construction of the Project and shall mean the same hereafter.
- 1.5 The Permit Holder shall display conspicuously a copy of this Permit on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public's information at all times. The Permit Holder shall ensure that the most updated information about the Permit, including any amended Permit, is displayed at such locations. If the Permit Holder surrenders a part or the whole of the Permit, the notice he sends to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s).
- 1.6 The Permit Holder shall construct the Project in accordance with the project description in Part B of this Permit.
- 1.7 The Permit Holder shall ensure that the Project is designed and constructed in accordance with the information and recommendations described in the Project Profile (Register No. PP-238/2005) in the EIA Ordinance Register, the information and mitigation measures described in this Permit, and mitigation measures to be recommended under on-going surveillance and monitoring activities during all stages of the Project. Where recommendations referred to in the documents of the Register are not expressly referred to in this Permit, such recommendations are nevertheless to be implemented unless expressly excluded or impliedly amended in this Permit.
- 1.8 The Permit Holder shall notify the Director in writing the commencement date of construction of the Project no later than one month prior to the commencement of construction of the Project. The Permit Holder shall notify the Director in writing immediately if there is any change of the commencement date of the construction.
- 1.9 For the purpose of this Permit, "commencement of construction" does not include works related to site clearance and preparation, or other works as agreed by the Director.



2. Specific Conditions

- 2.1 Any pumping unit at the pumping station that is not functional properly shall be replaced immediately.
- 2.2 The Permit Holder shall keep and maintain in operation condition a standby pumping unit for the purpose of Condition 2.1.
- 2.3 The pumping station shall be provided with two duty and one standby pumps; one duty and one standby mechanical screens, and at least 1.5 hour emergency storage capacity. A telemetry system shall be provided to transmit signals showing irregularity or operation problem to the existing Tai Po Sewage Treatment Works.
- 2.4 The Permit Holder shall notify immediately the Director of Water Supplies of any sewage overflow from the pumping station into Tolo Harbour to avoid causing water quality impact on the Tai Po Salt Water Pumping Station.
- 2.5 The inlet chamber, screen chamber and wet well shall be located underground with cover, and enclosed by a reinforced concrete superstructure. Exhaust air from the pumping station shall be ventilated through a deodorizer capable of achieving at least 99% odour removal, prior to discharge at a direction away from the sensitive receivers at the southeastern and southwestern sides of the pumping station.
- 2.6 All pumps shall be enclosed inside the infrastructure of the pumping station.

Notes:

1. This Permit consists of three parts, namely, Part A (Main Permit), Part B (Description of Designated Project) and Part C (Permit Conditions). Any person relying on this permit should obtain independent legal advice on the legal implications under the Ordinance, and the following notes are for general information only.
2. If there is a breach of any conditions of this Permit, the Director or his authorized officer may, with the consent of the Secretary for the Environment, Transport and Works, order the cessation of associated work until the remedial action is taken in respect of the resultant environmental damage, and in that case the Permit Holder shall not carry out any associated works without the permission of the Director or his authorized officer.
3. The Permit Holder may apply under Section 13 of the Environmental Impact Assessment Ordinance (the "Ordinance") to the Director for a variation of the conditions of this Permit. The Permit Holder shall replace the original permit displayed on the Project site by the amended permit.
4. A person who assumes the responsibility for the whole or a part of the Project may, before he assumes responsibility of the Project, apply under Section 12 of the Ordinance to the Director for a further environmental permit.
5. Under Section 14 of the Ordinance, the Director may with the consent of the Secretary for the Environment, Transport and Works, suspend, vary or cancel this Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site.
6. If this Permit is cancelled or surrendered during construction of the Project, another environmental permit must be obtained under the Ordinance before the Project could be continued. It is an offence under Section 26 (1) of the Ordinance to construct a designated project listed in Schedule 2 of the Ordinance without a valid environmental permit.

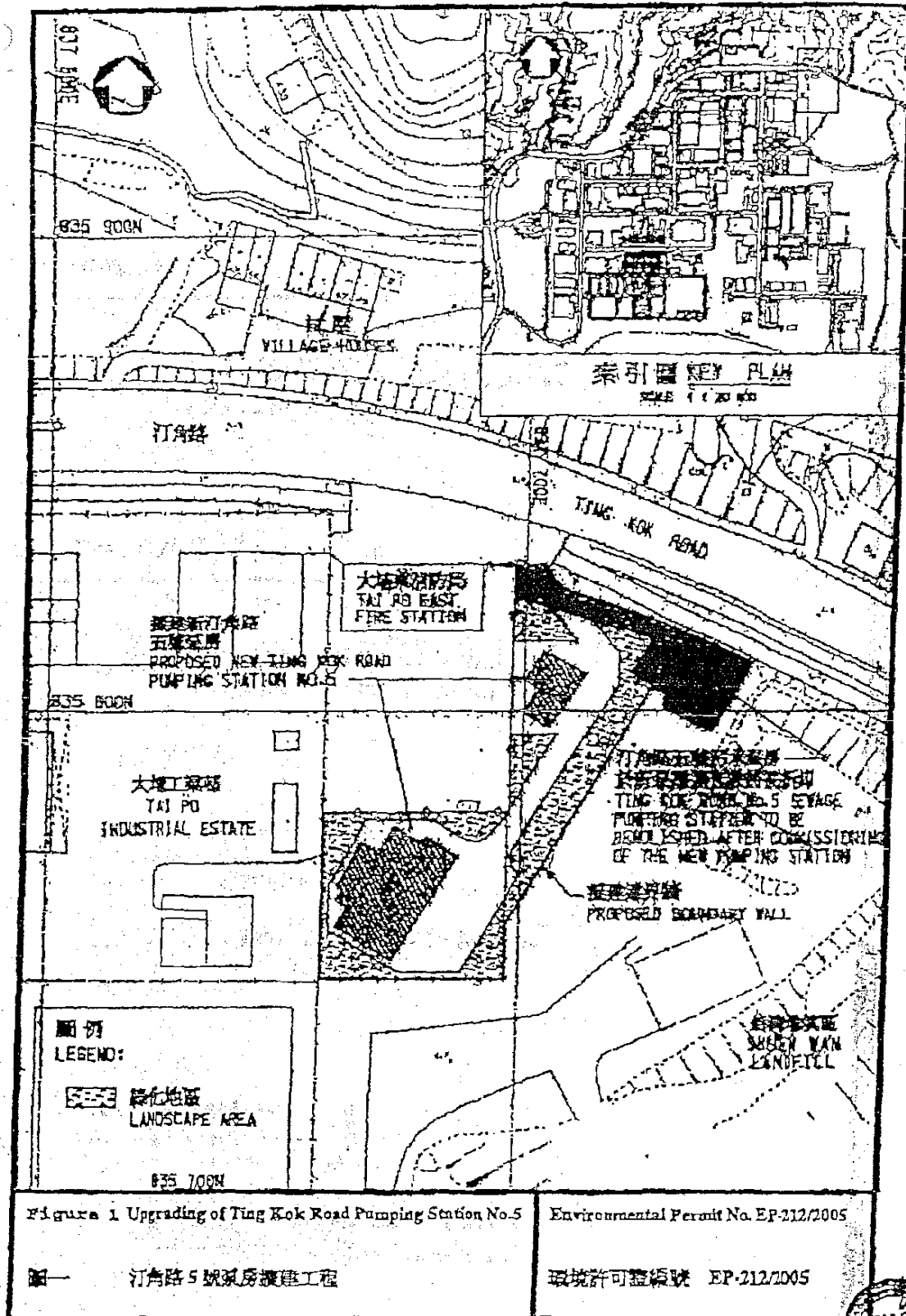


7. Any person who constructs the Project contrary to the conditions in the Permit, and is convicted of an offence under the Ordinance, is liable:
- (i) on a first conviction on indictment to a fine of \$2 million and to imprisonment for 6 months;
 - (ii) on a second or subsequent conviction on indictment to a fine of \$5 million and to imprisonment for 2 years;
 - (iii) on a first summary conviction to a fine at level 6 and to imprisonment for 6 months;
 - (iv) on a second or subsequent summary conviction to a fine of \$1 million and to imprisonment for 1 year; and
 - (v) in any case where the offence is of a continuing nature, the court or magistrate may impose a fine of \$10,000 for each day on which he is satisfied the offence continued.
8. The Permit Holder may appeal against any condition of this Permit under Section 17 of the Ordinance within 30 days of receipt of this Permit.
9. The Notes are for general reference only and that the Permit Holder should refer to the EIA Ordinance for details and seek independent legal advice.



Environmental Permit No. EP-212/2005

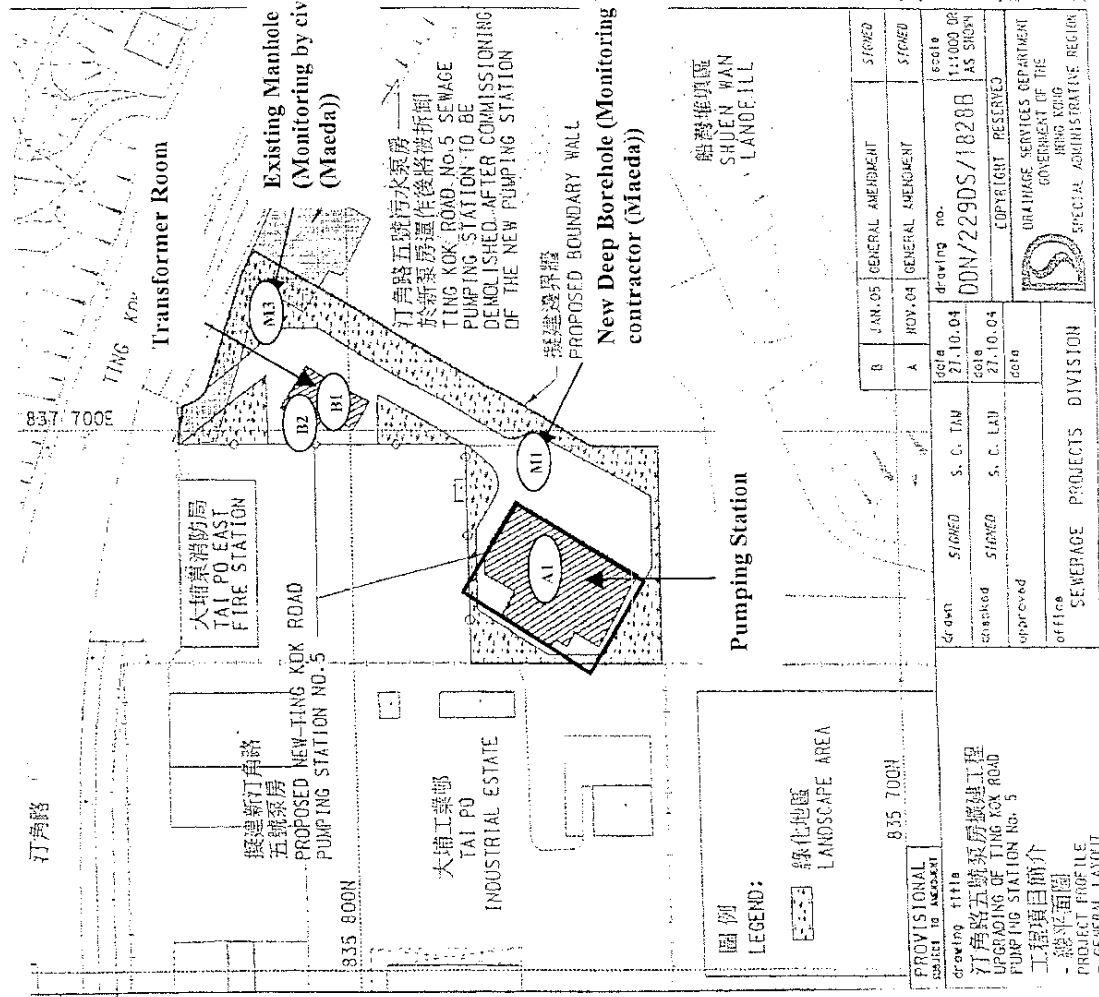
環境許可證編號 EP-212/2005




Appendix 7

Landfill Gas Monitoring Results

Ungrading Ting Kok Road Pumping Station No. 5 – E&M Works Landfill Gas Monitoring – June 2007 Site Layout



B	JAN-05	GENERAL AMENDMENT	STAGED
A	NOV-04	GENERAL AMENDMENT	STAGED
Drawn	SIGNED	S. C. TAN	21.10.04
checked	SIGNED	S. C. LAU	21.10.04
approved			
drawing no.		DDN/229DS/1828B	
scale		1:1,000 OR AS SHOWN	
COPYRIGHT RESERVED			
 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION			

office	SEWERAGE PROJECTS DIVISION
--------	----------------------------

PROVISIONAL
subject to approval

drawing title
汀角路五號泵房改建工程
UPGRADING OF TING KOK ROAD
PUMPING STATION NO. 5


工程項目簡介
- 綠化地區
- 綠化地區
- GENERAL LAYOUT

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 6 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes						Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)		
A1	6 June 2007	14:40	Overcast	79.3	0.0	0.0	20.6	32.0		
B1	6 June 2007	14:43	Overcast	79.3	0.0	0.0	20.6	32.0		

Field Technician: 
 (Site Agent)


Checked by: 
 (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 14 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Perimeter on-site and/or off-site monitoring holes									
Sample location	Date of measurement	Sampling time	Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)	Remark
A1	14 June 2007	13:54	Rain	79.3	0.0	0.0	20.6	27	
B1	14 June 2007	14:00	Rain	79.3	0.0	0.0	20.6	27	

Field Technician:  _____ (Site Agent)
 Checked by:  _____ (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 21 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes						Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)		
B1	21 June 2007	9:00	Sunny	79.3	0.0	0.0	20.6	30		
B2	21 June 2007	9:15	Sunny	79.4	0.0	0.0	20.5	31		
B1	21 June 2007	13:00	Sunny	79.4	0.0	0.0	20.6	31		
B2	21 June 2007	13:05	Sunny	79.4	0.0	0.0	20.6	31		

Field Technician: _____
 (Site Agent)

Checked by: Seay (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 22 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes					Temp (°C)	Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)			
B1	22 June 2007	9:00	Sunny	79.4	0.0	0.0	20.5		31	
B2	22 June 2007	9:15	Sunny	79.3	0.0	0.0	20.6		31	
B1	22 June 2007	13:00	Sunny	79.4	0.0	0.0	20.5		31	
B2	22 June 2007	13:05	Sunny	79.4	0.0	0.0	20.5		31	

Field Technician: [Signature]
 (Site Agent)

Checked by: [Signature]
 (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5

Date of measurement: 23 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes							Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)			
B1	23 June 2007	9:00	Sunny	79.3	0.0	0.0	20.6	32			
B2	23 June 2007	9:15	Sunny	79.3	0.0	0.0	20.6	32			
B1	23 June 2007	13:00	Sunny	79.3	0.0	0.0	20.5	33			
B2	23 June 2007	13:05	Sunny	79.3	0.0	0.0	20.5	33			

Field Technician: _____
(Site Agent)

Checked by: _____
(RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04– Ting Kok Road Pumping Station No. 5
 Date of measurement: 25 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes						
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)	Remark	
B1	25 June 2007	9:00	Sunny	79.4	0.0	0.0	20.5	31		
B2	25 June 2007	9:10	Sunny	79.4	0.0	0.0	20.5	31		
B1	25 June 2007	13:00	Sunny	79.3	0.0	0.0	20.6	32		
B2	25 June 2007	13:07	Sunny	79.3	0.0	0.0	20.6	32		

Field Technician: _____ (Site Agent)
Checked by: _____ (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 26 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument GA 2000	22 / 08 / 2006
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes							Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)			
B1	26 June 2007	9:00	Sunny	79.4	0.0	0.0	20.5	30			
B2	26 June 2007	9:10	Sunny	79.3	0.0	0.0	20.6	30			
B1	26 June 2007	13:00	Sunny	79.4	0.0	0.0	20.5	32			
B2	26 June 2007	13:08	Sunny	79.3	0.0	0.0	20.6	32			

Field Technician: _____ (Site Agent) Checked by: (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 27 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes					Temp (°C)	Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)			
B1	27 June 2007	9:00	Rain	79.4	0.0	0.0	20.6		29	
B2	27 June 2007	9:06	Rain	79.4	0.0	0.0	20.6		29	
B1	27 June 2007	12:57	Rain	79.3	0.0	0.0	20.5		30	
B2	27 June 2007	13:05	Rain	79.3	0.0	0.0	20.6		30	

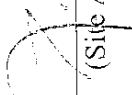
Field Technician: _____ (Site Agent)
Checked by: _____ (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 28 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes						Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)		
B1	28 June 2007	8:58	Rain	79.4	0.0	0.0	20.6	29		
B2	28 June 2007	9:07	Rain	79.4	0.0	0.0	20.6	29		
B1	28 June 2007	13:03	Rain	79.4	0.0	0.0	20.6	29		
B2	28 June 2007	13:09	Rain	79.4	0.0	0.0	20.6	29		

Field Technician: 
 (Site Agent)

Checked by: 
 (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 29 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes					Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)	
B1	29 June 2007	9:01	Rain	79.3	0.0	0.0	20.5	29	
B2	29 June 2007	9:06	Rain	79.4	0.0	0.0	20.6	29	
B1	29 June 2007	13:00	Rain	79.4	0.0	0.0	20.6	29	
B2	29 June 2007	13:05	Rain	79.3	0.0	0.0	20.5	29	

Field Technician: _____ (Site Agent)
 Checked by:  _____ (RSO)

Landfill Gas Monitoring – Field Measurement Recording Sheet

Name of Site: DE/2005/04- Ting Kok Road Pumping Station No. 5
 Date of measurement: 30 June 2007

Sampling equipment used:	Dates calibrated
Geotechnical Instrument	22 / 08 / 2006
GA 2000	
Serial No.: GA 08277	

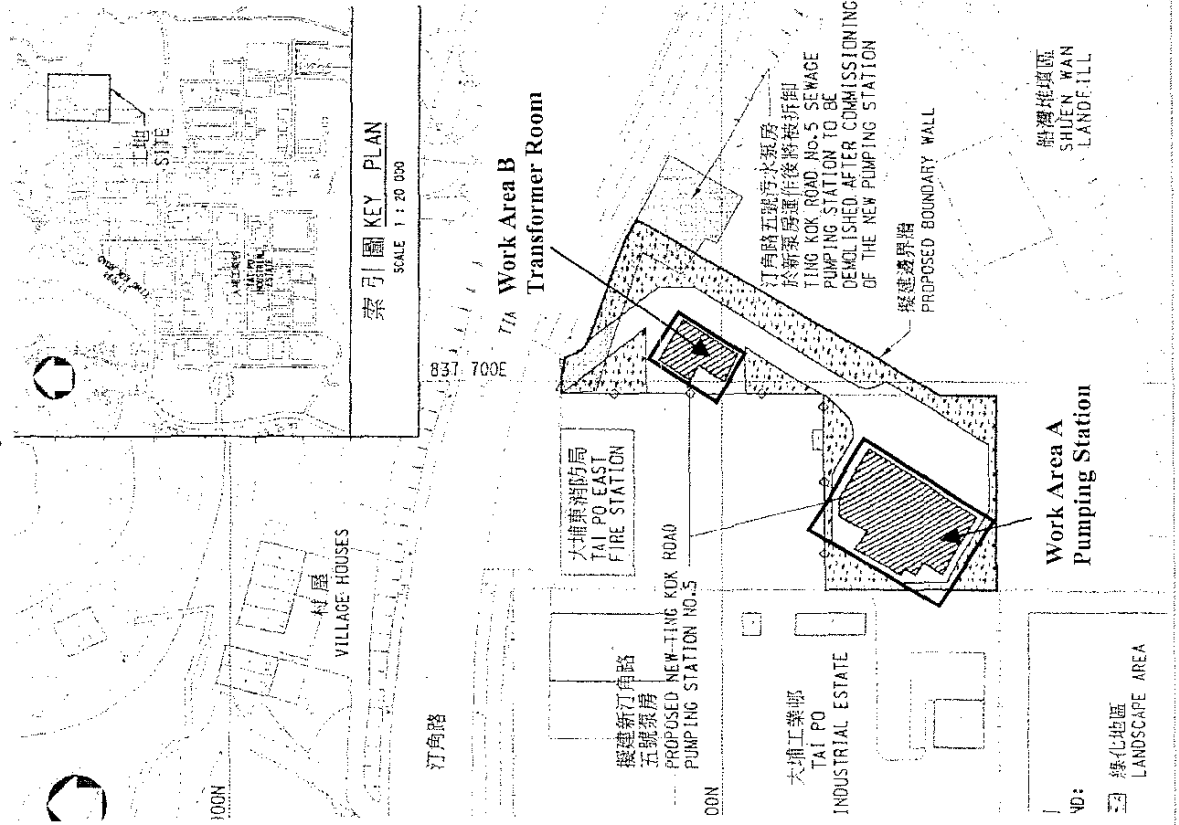
Sample location	Date of measurement	Sampling time	Weather condition	Perimeter on-site and/or off-site monitoring holes						Remark
				Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)		
B1	30 June 2007	9:00	Rain	79.3	0.0	0.0	20.5	29		
B2	30 June 2007	9:05	Rain	79.3	0.0	0.0	20.5	29		
B1	30 June 2007	13:01	Rain	79.4	0.0	0.0	20.6	29		
B2	30 June 2007	13:07	Rain	79.3	0.0	0.0	20.5	29		

Field Technician: (Site Agent)
Checked by: (RSO)

Appendix 8

Site Inspection Checklists

Ungrading Ting Kok Road Pumping Station No. 5 – E&M Works EM&A Site Inspection – June 2007 Site Layout



UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT

ENVIRONMENTAL SITE INSPECTION CHECKLIST

Inspection Date: June 6, 2007 Time: 14:40 - 15:00

Inspected By:

DSD Representative: ✓

E&M Contractor Representative: Thomas Jim

Landfill Gas Team Inspector: Angela Lau

Weather

Condition Sunny Fine Overcast Drizzle Rain Storm Hazy

Temperature °C Humidity %

Wind Calm Light Breeze Strong Direction

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
Water Quality							
1	Rainwater silt removal	A, B			/		
2	Groundwater silt removal				/		
3	Large object				/		
4	Sewage discharged				/		
5	Fuel/chemical storage				/		
6	Storage area condition				/		
7	Clean-up actions	↓			/		
Waste Disposal							
8	Construction wastes	A, B			/		
9	Licensed waste collector				/		
10	Removal of construction wastes				/		
11	Waste storage areas				/		
12	Windblown litter/dust				/		
13	Waste disposal permits				/		
14	Licensed waste disposal facilities	↓			/		

UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
 ENVIRONMENTAL MONITORING AND AUDIT

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
15	Careful design, planning & good site management	A, B			/		
16	Chemical wastes handling				/		
17	Chemical waste storage				/		
18	Condition of chemical waste storage area				/		
19	Disposal of chemical wastes				/		
20	General refuse				/		
21	Chemical waste separation				/		
22	Strictly prohibited of refuse burning		/				
23	Environmental Permit and other documents on-site		/				
24	Environmental Permit and license displayed		/				
25	Waste records	✓			/		
Landfill Gas Hazard							
26	S.O., trained in the use of gas detection equipment and landfill gas-related hazards.	A, B			/		
27	No smoking and naked flames				/		
28	No worker work alone at confined area or excavation trenches.				/		
29	Welding, flame-cutting or other hot works in trench or confined spaces controlled by a 'permit to work'				/		
30	Forced ventilation for trench deeper than 1m				/		
31	Enclosed spaces of temporary site offices, or any other building				/		
32	Provided control of gas by mechanical means				/		
33	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus	✓			/		

UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
 ENVIRONMENTAL MONITORING AND AUDIT

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
34	Periodic environmental monitoring report with LFG control measures evaluation	A, B	/				

Summary / Remarks⁽⁴⁾

- No major site activities were observed during the site inspection.

- No particular observation during the site inspection.

(Note: Refer to attached site layout)

Signatures

DSD Representative

E&M Contractor Representative

Name: M. H. YUEN (EII/E&MP)

Name: JIM EAK LP

Landfill Gas Team Leader

Name: Stephan Lee

(1) Refer to Site Inspection Checklist Attachment for complete description (Summarized Project Profile and Environmental requirement) of referenced mitigation measure or requirement.

(2) Indicate exact locations as indicated (by code) on the attached site layout.

(3) Note actions/plans and responsible party regarding any non-compliance in this column.

(4) To be filled out by the Landfill gas team.

**UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT**

ENVIRONMENTAL SITE INSPECTION CHECKLIST

Inspection Date: June 14, 2007 Time: 13:54 - 14:15

Inspected By:

DSD Representative: [Signature]

E&M Contractor Representative: Thomas Jinn

Landfill Gas Team Inspector: Angela Lau

Weather

Condition Sunny Fine Overcast Drizzle Rain Storm Hazy

Temperature °C Humidity %

Wind Calm Light Breeze Strong Direction

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
Water Quality							
1	Rainwater silt removal	A, B			/		
2	Groundwater silt removal				/		
3	Large object				/		
4	Sewage discharged				/		
5	Fuel/chemical storage				/		
6	Storage area condition				/		
7	Clean-up actions	↓			/		
Waste Disposal							
8	Construction wastes	A, B			/		
9	Licensed waste collector				/		
10	Removal of construction wastes				/		
11	Waste storage areas				/		
12	Windblown litter/dust				/		
13	Waste disposal permits				/		
14	Licensed waste disposal facilities	↓			/		

UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
 ENVIRONMENTAL MONITORING AND AUDIT

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾	
			Yes	No	N/A	Unk		
15	Careful design, planning & good site management	A, B			/			
16	Chemical wastes handling				/			
17	Chemical waste storage				/			
18	Condition of chemical waste storage area				/			
19	Disposal of chemical wastes				/			
20	General refuse				/			
21	Chemical waste separation				/			
22	Strictly prohibited of refuse burning		/					
23	Environmental Permit and other documents on-site		/					
24	Environmental Permit and license displayed		/					
25	Waste records	✓			/			
Landfill Gas Hazard								
26	S.O., trained in the use of gas detection equipment and landfill gas-related hazards.	A, B			/			
27	No smoking and naked flames				/			
28	No worker work alone at confined area or excavation trenches.				/			
29	Welding, flame-cutting or other hot works in trench or confined spaces controlled by a 'permit to work'				/			
30	Forced ventilation for trench deeper than 1m				/			
31	Enclosed spaces of temporary site offices, or any other building				/			
32	Provided control of gas by mechanical means				/			
33	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus	✓			/			

UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
34	Periodic environmental monitoring report with LFG control measures evaluation	A, B	/				

Summary / Remarks⁽⁴⁾

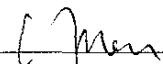
- No major site activities were observed during the site inspection.
- No particular observation during the site inspection.

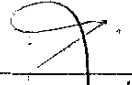
(Note: Refer to attached site layout)

Signatures

DSD Representative

E&M Contractor Representative

Name:  M. H. YUEN (EHE&MP)

Name:  JIM TAK UP

Landfill Gas Team Leader

Name:  Stanley Lo

- (1) Refer to Site Inspection Checklist Attachment for complete description (Summarized Project Profile and Environmental requirement) of referenced mitigation measure or requirement.
- (2) Indicate exact locations as indicated (by code) on the attached site layout.
- (3) Note actions/plans and responsible party regarding any non-compliance in this column.
- (4) To be filled out by the Landfill gas team.

**UPGRADING TING KOK ROAD PUMPING STATION NO. 5 - CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT**

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
15	Careful design, planning & good site management	A, B			/		
16	Chemical wastes handling				/		
17	Chemical waste storage				/		
18	Condition of chemical waste storage area				/		
19	Disposal of chemical wastes				/		
20	General refuse				/		
21	Chemical waste separation				/		
22	Strictly prohibited of refuse burning		/				
23	Environmental Permit and other documents on-site		/				
24	Environmental Permit and license displayed		/				
25	Waste records	✓			/		
Landfill Gas Hazard							
26	S.O., trained in the use of gas detection equipment and landfill gas-related hazards.	A, B	/				
27	No smoking and naked flames		/				
28	No worker work alone at confined area or excavation trenches.		/				
29	Welding, flame-cutting or other hot works in trench or confined spaces controlled by a 'permit to work'				/		
30	Forced ventilation for trench deeper than 1m				/		
31	Enclosed spaces of temporary site offices, or any other building				/		
32	Provided control of gas by mechanical means				/		
33	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus	✓	/				

**UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT**

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
34	Periodic environmental monitoring report with LFG control measures evaluation	A, B	/				

Summary / Remarks⁽⁴⁾

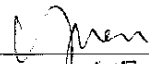
- Installation of E&M equipment was observed during the site inspection.
- No particular observation during the site inspection.

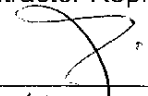
(Note: Refer to attached site layout)

Signatures

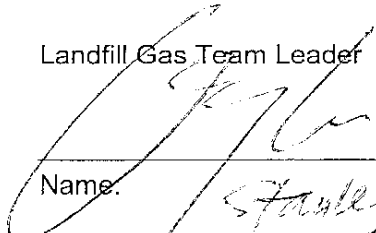
DSD Representative

E&M Contractor Representative


 Name: M.H. YUEN (EH/E&MP)


 Name: JIM TAK IP

Landfill Gas Team Leader


 Name: Stanley Lau

- (1) Refer to Site Inspection Checklist Attachment for complete description (Summarized Project Profile and Environmental requirement) of referenced mitigation measure or requirement.
- (2) Indicate exact locations as indicated (by code) on the attached site layout.
- (3) Note actions/plans and responsible party regarding any non-compliance in this column.
- (4) To be filled out by the Landfill gas team.

**UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT**

ENVIRONMENTAL SITE INSPECTION CHECKLIST

Inspection Date: June 26, 2007 Time: 14:30 - 14:40

Inspected By:

DSD Representative: _____

E&M Contractor Representative: Thomas Jim

Landfill Gas Team Inspector: Angela Lau

Weather

Condition Sunny Fine Overcast Drizzle Rain Storm Hazy

Temperature °C Humidity %

Wind Calm Light Breeze Strong Direction

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
Water Quality							
1	Rainwater silt removal	A, B			/		
2	Groundwater silt removal				/		
3	Large object				/		
4	Sewage discharged				/		
5	Fuel/chemical storage				/		
6	Storage area condition				/		
7	Clean-up actions	✓			/		
Waste Disposal							
8	Construction wastes	A, B			/		
9	Licensed waste collector				/		
10	Removal of construction wastes				/		
11	Waste storage areas				/		
12	Windblown litter/dust				/		
13	Waste disposal permits				/		
14	Licensed waste disposal facilities	✓			/		

**UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
ENVIRONMENTAL MONITORING AND AUDIT**

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
15	Careful design, planning & good site management	A, B			/		
16	Chemical wastes handling				/		
17	Chemical waste storage				/		
18	Condition of chemical waste storage area				/		
19	Disposal of chemical wastes				/		
20	General refuse				/		
21	Chemical waste separation				/		
22	Strictly prohibited of refuse burning		/				
23	Environmental Permit and other documents on-site		/				
24	Environmental Permit and license displayed		/				
25	Waste records	√			/		
Landfill Gas Hazard							
26	S.O., trained in the use of gas detection equipment and landfill gas-related hazards.	A, B	/				
27	No smoking and naked flames		/				
28	No worker work alone at confined area or excavation trenches.		/				
29	Welding, flame-cutting or other hot works in trench or confined spaces controlled by a 'permit to work'				/		
30	Forced ventilation for trench deeper than 1m				/		
31	Enclosed spaces of temporary site offices, or any other building				/		
32	Provided control of gas by mechanical means				/		
33	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus	√	/				

UPGRADING TING KOK ROAD PUMPING STATION NO. 5 – CONTRACT NO. DE/2005/04
 ENVIRONMENTAL MONITORING AND AUDIT

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activity Compliance				Action Required/ Responsible Party ⁽³⁾
			Yes	No	N/A	Unk	
34	Periodic environmental monitoring report with LFG control measures evaluation	A, B	/				

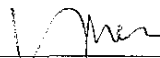
Summary / Remarks⁽⁴⁾

- Installation of E&M equipment was observed during the site inspection.
- No particular observation during the site inspection.


(Note: Refer to attached site layout)

Signatures

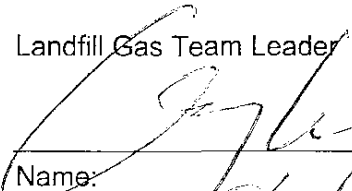
DSD Representative


 Name: M.H. YUEN (E&M/EMP)

E&M Contractor Representative


 Name: JIM TAK IP

Landfill Gas Team Leader


 Name: Stanley Lam

- (1) Refer to Site Inspection Checklist Attachment for complete description (Summarized Project Profile and Environmental requirement) of referenced mitigation measure or requirement.
- (2) Indicate exact locations as indicated (by code) on the attached site layout.
- (3) Note actions/plans and responsible party regarding any non-compliance in this column.
- (4) To be filled out by the Landfill gas team.

Appendix 9

Deficiency Investigation Reports

(Not Applicable)

Appendix 10

Complaint Reports

(Not Applicable)