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Serco Guardian JV

EcoPark Operation EM&A

Quarterly Report

May 2009 to July 2009



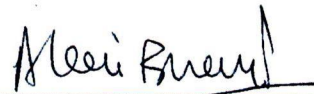
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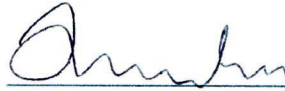
Quarterly Report

May 2009 to July 2009

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EcoPark Operation EM&A

Quarterly Report

May 2009 to July 2009

Author Hilda MOK / Carman CHUNG

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Report No EB000198-R12-02

Date 14 Aug 2009

This report has been prepared for Serco Guardian JV in accordance with the terms and conditions of appointment for *EcoPark Operation EM&A* dated 24 January 2007. Hyder Consulting Limited (Company Number 126012) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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1 SUMMARY

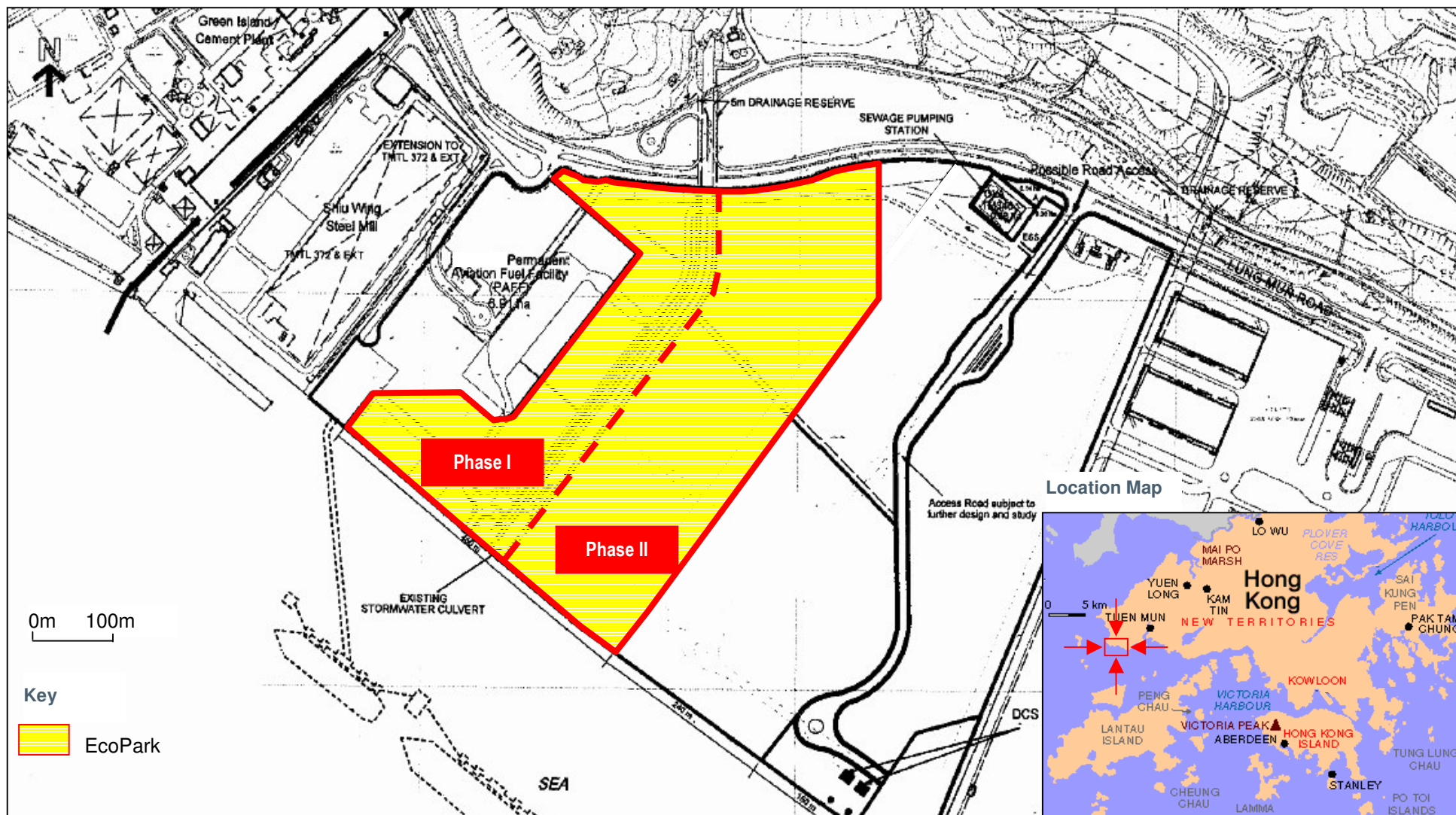
EcoPark is a key element in the Government's waste management policy that aims to promote the local recycling industry and jump-start a circular economy to provide a sustainable solution to our waste problems. EcoPark is being developed in two phases at a site in Tuen Mun Area 38 (see **Figure 1-1**). In November 2006, the seven-year contract for the operation of EcoPark – *EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38* – was awarded to Serco Guardian JV (SGJV) by the Environmental Protection Department (EPD). SGJV, the “Operator” of EcoPark have engaged Hyder Consulting as their Environmental Team (ET) to carry out the Environmental Monitoring and Audit (EM&A) required by the EM&A Manual in accordance with the conditions of the Environmental Permit.

This is the ninth quarterly EM&A report prepared for the operation phase of EcoPark and covers May 2009 to July 2009. To-date, there have been no complaints received; no notifications of summons; and no successful prosecutions.

In terms of monitoring, only quarterly monitoring of landfill gas (LFG) is required during operation phase EM&A and “following construction”. Since construction of Phase 1 of EcoPark has been completed, operation phase LFG monitoring for Phase I will be carried out in October 2009 and the LFG monitoring results will be reported in next quarter. LFG monitoring for Phase II of EcoPark continues to be carried out by the works contractor.

In terms of auditing, all of the tenants' recycling activities are to be audited on a monthly basis, and the results are to be summarised in this report. At present, however, while a number of tenants have already signed their tenancy agreements, none are carrying out formal recycling activities within their lots (although five lots are currently being prepared by incumbent tenants).

As such, no formal recycling activities are being carried out and to there is nothing to report at this time. Notwithstanding, the ET has conducted monthly site inspections and some general observations have been made.



2 BASIC PROJECT INFORMATION

2.1 Overview

In the document "A Policy Framework for the Management of Municipal Solid Waste (2005-2014)" the Government set out a comprehensive policy to support the recycling industry. This included allocating suitable land, encouraging research and development, introducing environmental legislation and providing effective support measures. To this end, EcoPark is a key element that aims to promote the local recycling industry and jump-start a circular economy to provide a sustainable solution to our waste problems. By encouraging and promoting the reuse, recovery and recycling of our waste resources and returning them to the consumption loop, EcoPark will help realize the full potential of the local recycling industry and alleviate the heavy reliance on the export of recyclable materials recovered from Hong Kong.

EcoPark is to be developed in two phases at a site in Tuen Mun Area 38 (see **Figure 1-1**). The construction contract for EcoPark – *EP/SP/52/06 Development of EcoPark in Tuen Mun Area 38* – was awarded to Kaden Construction in June 2006 by EPD. This contract covers development of Phase I (completed) and extends to Phase II (ongoing).

In November 2006, the seven-year contract for the operation of EcoPark – *EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38* – was awarded to Serco Guardian JV (SGJV) by EPD. SGJV, the "Operator" of EcoPark have engaged Hyder as their Environmental Team (ET) to carry out the Environmental Monitoring and Audit (EM&A) required by the EM&A Manual in accordance with the conditions of the Environmental Permit.

2.2 SGJV Organisation

Organisation of SGJV is shown in **Figure 2-1**, below.

2.3 Operation Programme

As end of July 2009, no tenants have yet commenced formal recycling activities within their lots and so there is no operation programme to report at this time. Five tenants (Hong Kong Hung Wai Wooden Board Company, Champway Technology Limited, Li Tong Group, Hong Kong Telford Envirotech Group Limited and Shiu Wing Steel Limited) have commenced preparatory works within their lots but have not yet commenced recycling activities.

Shiu Wing took possession of their lot on 16 June 2009. Tenancy agreement was signed with Cosmos Star Holdings Co. Ltd on 25 May 2009 and the lot will be handed over to Cosmos on 15 August 2009.

2.4 EM&A Organisation

The EM&A is carried out by the ET, but SGJV and the Independent Environmental Checker (IEC) are also involved. **Figure 2-2**, below, illustrates the current EM&A organisation:

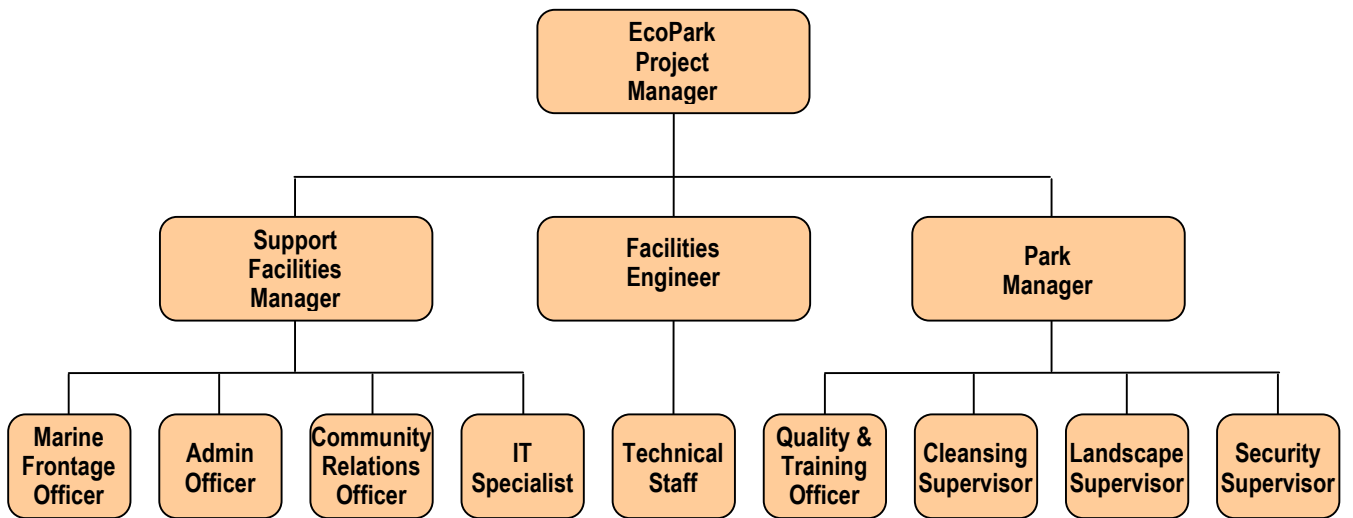


Figure 2-1 SGJV Organisation

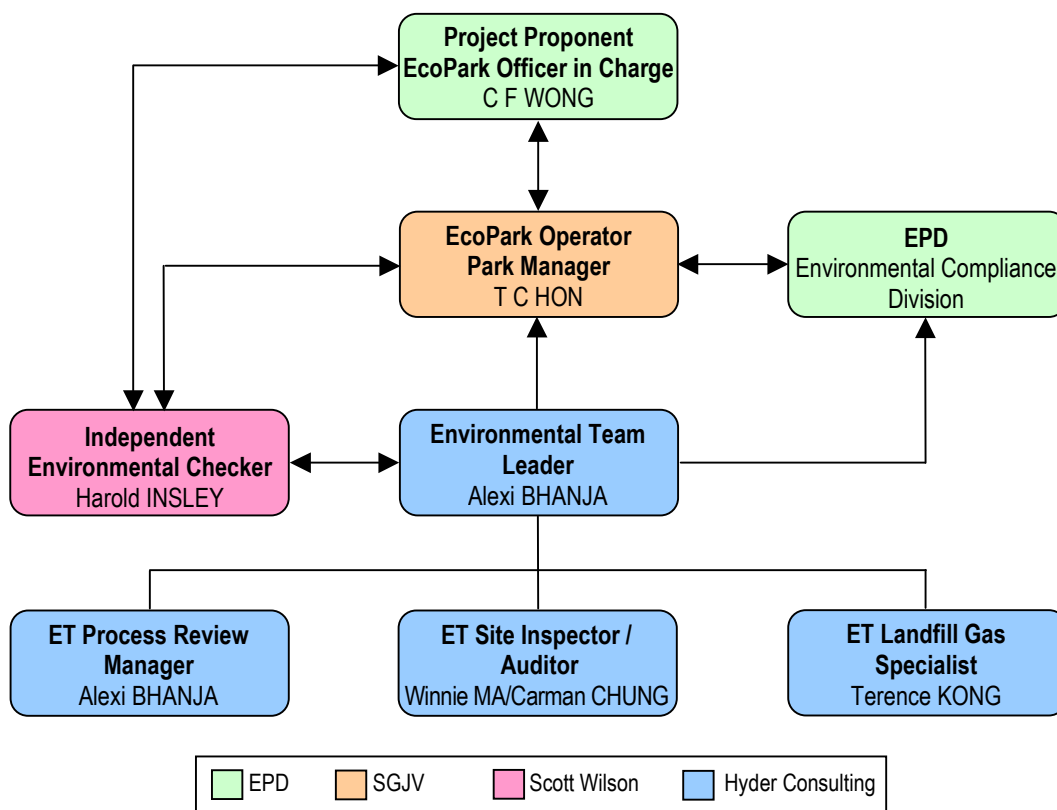


Figure 2-2 EM&A Organisation

3 SUMMARY OF EM&A REQUIREMENTS

3.1 Monitoring Parameters

The only parameter to be monitored as part of the operation phase EM&A programme is Landfill Gas (LFG).

Following completion of Phase I construction, routine monitoring is required at service voids and utility boxes. Since construction of Phase I of EcoPark has now been completed, LFG monitoring will be carried out by the ET, starting in the next quarter.

The location for monitoring was not specified in the EM&A Manual since the final design of EcoPark had not been completed when the EM&A Manual was approved. Therefore, during the joint site inspection on 27 July 2009, three monitoring locations were identified and agreed as suitable monitoring locations by the ET, IEC and SGJV. These three monitoring locations are listed in **Table 3-1** and shown in **Figure 3-1**.

Monitoring Station ID	Type of Monitoring Station	Locations
EP1-1	LFG vent pipe with cap	Inside the landscaping area of Administration Building
EP1-2	Service void	PCCW below-ground chamber outside Lot EP08-01
EP1-3	Service void	HGC Broadband below-ground chamber outside Lot EP08-03

Table 3-1 Operation Phase LFG Monitoring Locations in EcoPark Phase I

Figure 3-2 is a replacement page for the EM&A Manual, in accordance with footnote to Figure 6.1 in the approved EM&A Manual, and shall be deemed to be included in the EM&A Manual.

Routine monitoring shall be carried out on a quarterly basis, however, should EPD alert the Operator that high LFG levels had been detected during monthly monitoring under the Siu Lang Shui Landfill restoration contract, then the Operator may be required to increase LFG monitoring to monthly until such time as EPD inform the Operator that quarterly monitoring can be resumed.

Since operation phase LFG monitoring is required “following construction” and construction has not yet been completed for Phase II, construction phase LFG monitoring for Phase II is ongoing and is reported in the Monthly EM&A Reports prepared by the construction contractor’s ET. These reports can be downloaded from:

http://www.epd.gov.hk/eia/english/register/index8/vep2212006_content.html

3.2 Environmental Quality Performance Limits and EAP

The Action/Limit Levels and Event Action Plan (EAP) for LFG are shown below in **Table 3-2**. These refer to LFG detected in excavations, utilities and any enclosed on-site areas. No other A/L Levels or EAPs are specified in the EM&A Manual for operation phase EM&A.

Parameter	Level	Action
Oxygen (O ₂)	Action Level <19% O ₂	Ventilate trench/void to restore O ₂ to > 19%
	Limit Level <18% O ₂	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O ₂ to > 19%
Methane (CH ₄)	Action Level >10% LEL	Post "No Smoking" signs Prohibit hot works Increase ventilation to restore CH ₄ to <10% LEL
	Limit Level >20% LEL	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH ₄ to <10% LEL
Carbon Dioxide (CO ₂)	Action Level >0.5% CO ₂	Ventilate to restore CO ₂ to < 0.5%
	Limit Level >1.5% CO ₂	Stop works Evacuate personnel / prohibit entry Increase ventilation to restore CO ₂ to <0.5%

Table 3-2 Action Levels, Limit Levels and Event and Action Plan for LFG

3.3 Environmental Audit of Non-monitored Parameters

Site inspections provide a direct means to trigger and enforce the environmental protection and pollution control measures specified in the EIA Report and are undertaken routinely by the ET to inspect operational practice. Regular site inspections are carried out by the ET once per month, and the ET is accompanied by the IEC once per quarter. *Ad hoc* site inspections are also carried out if significant environmental problems are identified. Inspections may also be required subsequent to receipt of an environmental complaint, or as part of the investigation work, as specified in the EAP. The following parameters are required to be audited as part of the operation phase EM&A programme:

- Air Quality
- Water Quality
- Waste Management
- Land Contamination

3.4 Environmental Mitigation Measures

Environmental mitigation measures applicable to the operation phase EM&A as stated in the Implementation Schedule are summarised in **Appendix 1**.

3.5 Environmental Requirements in Tenancy Agreements

Environmental requirements specified in tenancy agreements are summarised in **Appendix 2**.

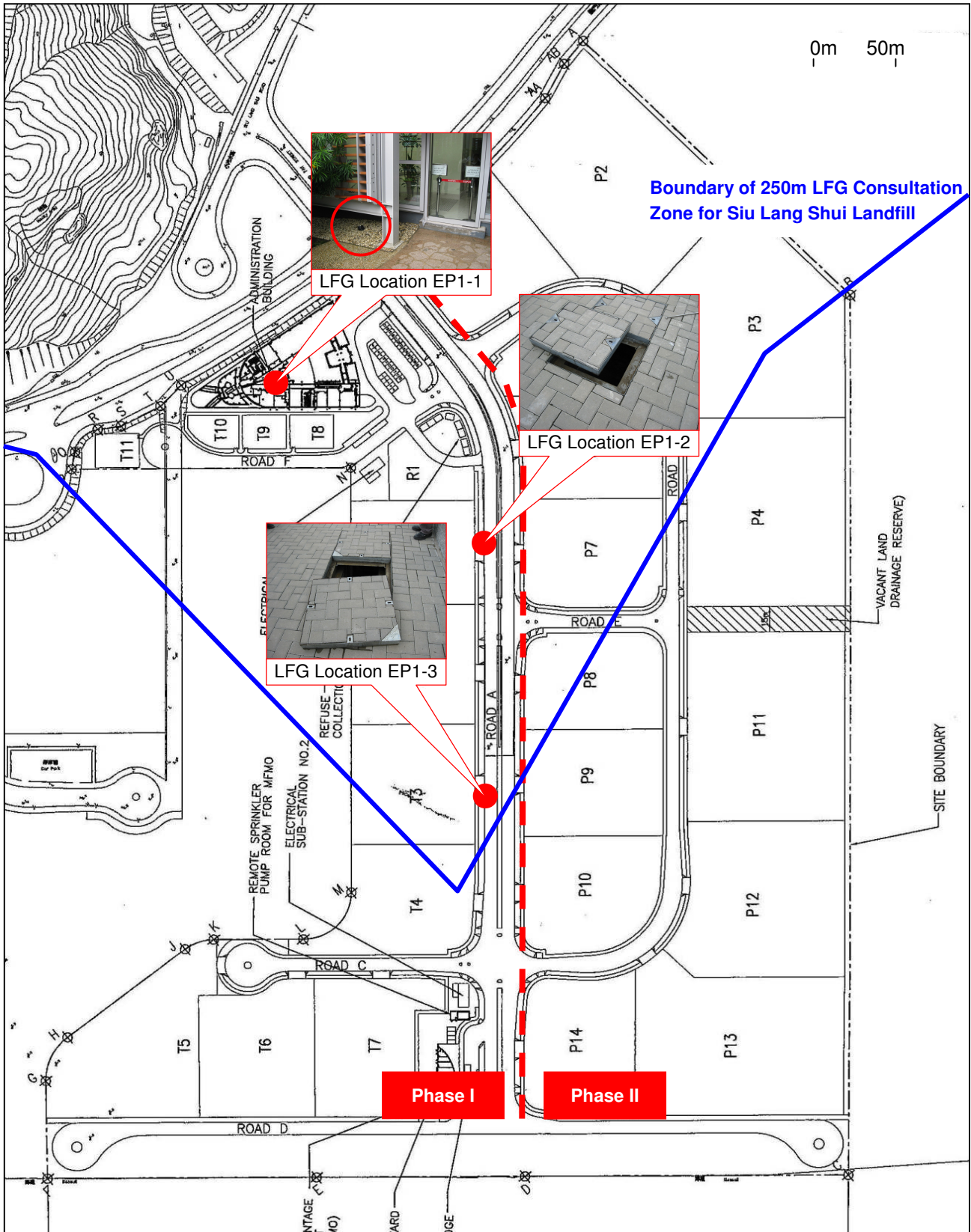


Figure 3-1 LFG Monitoring Locations within EcoPark Phase I

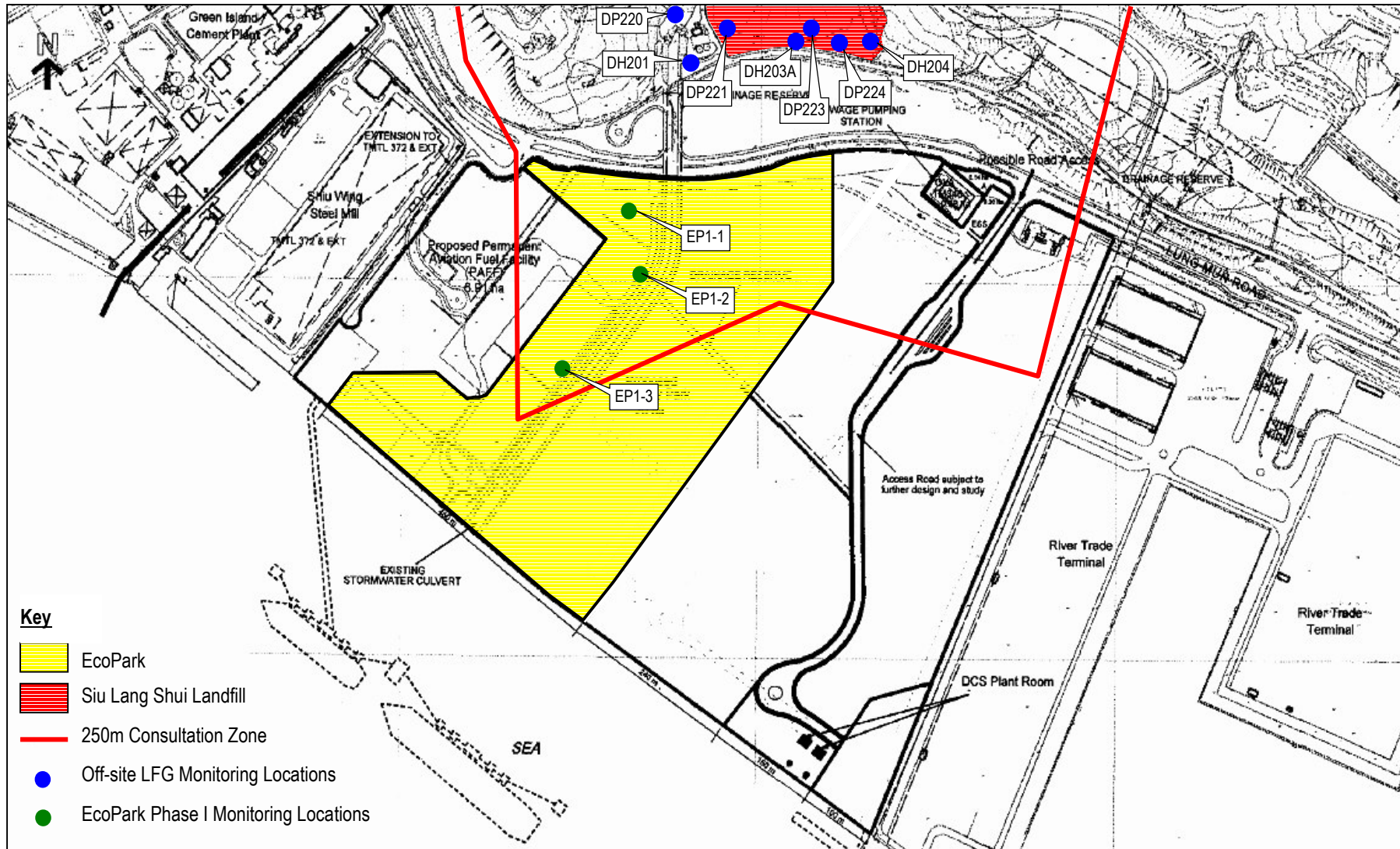


Figure 3-2 Replacement Figure for EM&A Manual Figure 6.1

4 OPERATION STATUS

Figure 4-1 shows the location of lots within EcoPark, the tenancy numbers and tenant names.

4.1 Tenants and Processes

4.1.1 Tenancy EP06-034

- **Lot Size:** Approx. 5,000m²
- **Activity:** Recycling of Waste Wood
- **Tenant:** Hong Kong Hung Wai Wooden Board Company

Formal recycling activities have not yet commenced. Preparatory works within the tenant lot are still in progress. All building submissions have been approved by Buildings Department (BD) in May 2009. Drainage Plan has been submitted but has not been approved by Drainage Services Department. Building contractors were invited to submit tenders during June 2009 but no construction was carried out by the end of reporting quarter.

4.1.2 Tenancy EP07-02

- **Lot Size:** Approx. 6,500m²
- **Activity:** Recycling of WEEE
- **Tenant:** Li Tong Group

Phase 1 construction works for foundations commenced on 1 June 2009. As end of July 2009, the tenant has not yet commenced formal recycling activities. Construction work has been commenced since 1 June 2009.

4.1.3 Tenancy EP07-03

- **Lot Size:** Approx. 6,000m²
- **Activity:** Recycling of Organic Waste (Waste Cooking Oil)
- **Tenant:** Champway Technology Limited

The wastewater discharge licence application was submitted in May and approved in July 2009. A proposal for waste storage in vessels was submitted in early June 2009. No chemical waste producer registration will be required if the tenant can fully recover the alcohol in the product. Public notice for the application of Specified Process Licence was published in July 2009 and one public comment related to emission issue was received. The Specified Process Licence is still under hearing as of 31 July 2009 and the application for a Dangerous Goods Licence is pending.

As of 31 July 2009, the tenant has not yet commenced formal recycling activities, however, waste cooking oil has been delivered to the site for simple treatment and treated waste cooking oil was generated. Trial run and phase 1 operation is expected to take place in September 2009. Details of waste throughput are provided in **Section 4.2**.

4.1.4 Tenancy EP08-01

- **Lot Size:** Approx. 5,000m²
- **Activity:** Recycling of Waste Plastics
- **Tenant:** Hong Kong Telford Envirotech Group Limited

The tenant took over the lot on 30 June 2008. As of end-July 2009, the tenant has commenced preparatory works but has not yet commenced recycling activities. Building Plans have been submitted to BD on 12 June 2009 for approval. The Process Review Checklist was signed off in May 2009. Details of PRC can be referred **Appendix 3**. The tenant has brought in equipment and stockpiling waste plastic bags in July 2009. Details of waste throughput are provided in **Section 4.2**.

4.1.5 Tenancy EP08-03

- **Lot Size:** Approx. 9,500 m²
- **Activity:** Recycling of Waste Metals
- **Tenant:** Shiu Wing Steel Limited

The possession date of Shiu Wing's lot was 16 June 2009 and site clearance works, such as excavation works and electricity cable installation, commenced in July 2009. The Building Plans and Structural Plans have been approved by BD on 2 and 9 July 2009, respectively. Drainage Plans have been submitted on 8 July 2009 for approval. The Process Review Checklist is being prepared, pending receipt of further information from the tenant.

4.1.6 Tenancy EP08-04

- **Lot Size:** Approx. 4,000 m²
- **Activity:** Recycling of materials arising from industrial and commercial activities
- **Tenant:** Cosmos Star Holdings Co., Limited

The Tenancy Agreement has been signed by Cosmos Star Holdings Co., Limited on 25 May 2009. As certain documents relating to the tenancy have not yet been completed, the handover of tenant lot is still pending until further notice. The Process Review Checklist will be prepared once information is available from the tenant.

4.2 Throughput Statistics

As advised by the Operator, no waste wood was delivered to Hung Wai's site in the reporting quarter. For Champway, 311,452 kg of cooking oil was delivered to the site in the reporting quarter and the output was 289,650 kg of treated cooking oil. For Telford, 20,000 kg of waste plastic was sent to the site in July.

However, as of 31 July 2009 no tenants have yet commenced formal recycling activities within their lots.

Throughput details are shown in **Appendix 4**.

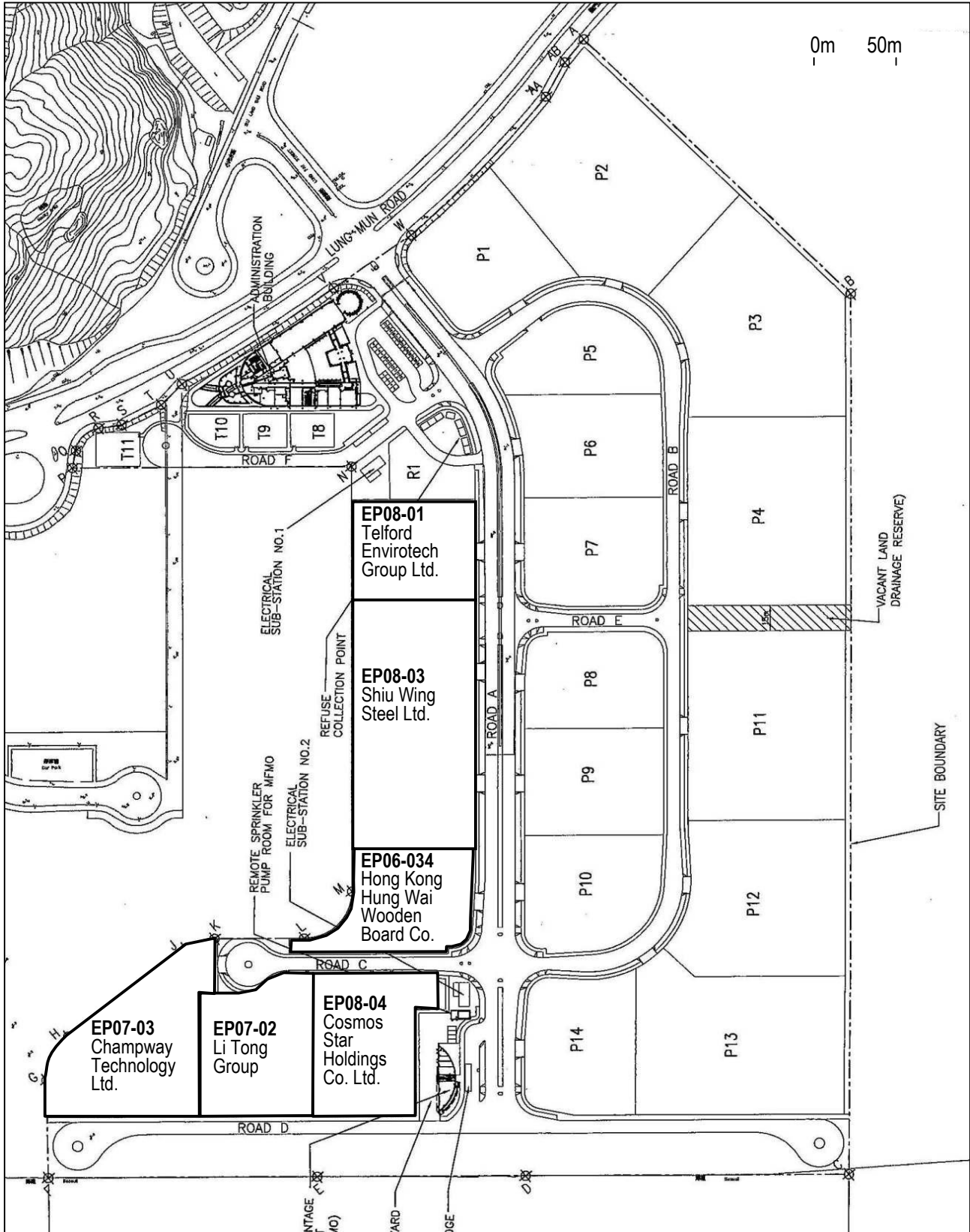


Figure 4-1 Current Lot Usage Within EcoPark

5 IMPLEMENTATION STATUS OF ENVIRONMENTAL PROTECTION MEASURES

Environmental mitigation measures applicable to the operation phase EM&A as stated in the Implementation Schedule are summarised in **Appendix 1**. Environmental requirements specified in Tenancy Agreements are summarised in **Appendix 2**.

As of 31 July 2009, no tenants have yet commenced formal recycling activities within their lots and so no environmental protection measures need to be implemented.

During the next quarter, commencing 1 August 2009, it is likely that one or more of the tenants will commence formal recycling. As such, it is considered appropriate to commence formal audit of EcoPark from the next quarter onwards. To this end, an Audit Checklist has been developed by the ET and agreed with the IEC and will be used during the monthly audits, commencing in August 2009. A sample copy of the Audit Checklist is provided in **Appendix 5** for reference.

6 MONITORING RESULTS

The only parameter to be monitored as part of the operation phase EM&A programme is LFG. Following completion of Phase I construction, routine monitoring is required at service voids and utility boxes. Since construction of Phase I of EcoPark has now been completed, LFG monitoring will be carried out by the ET, starting in the next quarter, at the locations agreed with the IEC. Further details of the LFG monitoring were provided in **Section 3.1**.

7 WASTE GENERATION STATISTICS

As of 31 July 2009, no tenants have commenced formal recycling activities within their lots. However, Champway conducted a simple treatment for waste cooking oil which generates a total of 21,801 kg of waste including 15,572 kg of organic waste and 6,229 kg of water waste, including semi-solid and slurry, in the reporting quarter.

The collected waste cooking oil was heated up and separated into organic waste and cooking oil. No wastewater was discharged but water waste such as semi-solid and slurry were generated from the separation process. These organic waste and water waste were collected by licence collectors and disposed of at WENT Landfill as general refuse.

Waste generation details are shown in **Appendix 4**.

8 SUMMARY OF ENVIRONMENTAL AUDIT

8.1 May 2009

The environmental audit was carried out by the ET on 24 May 2009. At this time, construction of EcoPark Phase I was completed and no tenants were yet carrying out formal recycling activities within EcoPark. As such, there were no processes to be audited. No significant observations were made.

8.2 June 2009

The environmental audit was carried out by the ET on 29 June 2009. At this time, construction of EcoPark Phase I was completed and no tenants were yet carrying out formal recycling activities within EcoPark. As such, there were no processes to be audited.

Soil deposits in U channels was observed at Champway. The tenant was reminded to clean up the deposits.

8.3 July 2009

The environmental audit was carried out by the ET and IEC on 27 July 2009. At this time, construction of EcoPark Phase I was completed and no tenants were yet carrying out formal recycling activities within EcoPark. As such, there were no processes to be audited.

During the joint site inspection on 27 July 2009, three monitoring locations for LFG were identified and agreed as suitable monitoring locations by the ET, IEC and SGJV. These three monitoring locations are listed in **Table 3-1** and shown in **Figure 3-1** and will be used for LFG monitoring from the next quarter onwards.

The deposits of soil in the U channels of Champway's lot have been cleaned up. During the joint site inspection, Champway was reminded to obtain all necessary licences before operation and to ensure that stop-logs for the perimeter drainage system are readily available for use in the event of liquid chemical spillage within their site.

9 COMPLAINTS

As of 31 July 2009, no tenants have yet commenced formal recycling activities within their lots and no complaints have been received related to recycling activities.

10 CONCLUSIONS

As of 31 July 2009, no tenants have yet commenced formal recycling activities within their lots and so there are no conclusions to draw relating to the operation of the operation phase EM&A programme at this time.

Appendix 1

Environmental Mitigation Measures
(from the Implementation Schedule)

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
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General

5.5.23 to 5.5.25, 10.2.24 & 10.2.37	4.2.5 to 4.2.8	The Operator shall develop and implement an Emergency Response Plan (ERP) that lists the procedures to be followed in case of fire, fuel or chemical spillage or other emergency within the EcoPark.	Throughout the duration of the operation.	Operator	
12.2	7.2	No process shall be allowed to operate within EcoPark without approval from WFBU. Approval will be based on the ten-step Process Review, which may include a Design Audit if deemed to be necessary.	Throughout the duration of the operation.	ET IEC Project Proponent	
	8.1.2	All reports (including Process Review Checklists and any Design Audits) shall be prepared and certified by the ET, verified by the IEC and approved by the Project Proponent.	Throughout the duration of construction works until construction is substantially completed. Throughout the duration of the operation.	ET IEC Project Proponent	
12.3	7.3	The Operator shall prepare and implement an Environmental Management Plan (EMP) to define mechanisms for achieving the environmental requirements specified in the EIA, EP and in statutory regulations.	Throughout the duration of the operation.	Operator	

Air Quality

13.2		The Operator shall ensure that the EcoPark “base case” assumptions for air quality shown in Table 13.1 of the Final EIA Report are met by tenants, as a whole.	Throughout the duration of the operation.	Operator	Table 13.1 of the Final EIA Report
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Water Quality

5.4.11 & 5.6.7		To minimise the chance of accidental spillage during loading and unloading, and thereby reduce marine water quality impacts, well established cargo handling guidelines should be followed.	Adjacent to EcoPark marine frontage when loading or unloading goods.	Operator Operators of bulk carriers	Sections 5 and 6 of <i>IMO Code of Practice for the Safe Loading/Unloading of Bulk Carriers</i>
5.5.19		Contaminated water collected in the surface drainage systems shall be treated at the WTF or other appropriate treatment facility.	Within EcoPark throughout the life of the facility.	Operator	

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
5.5.23 to 5.5.25	4.2.5 to 4.2.7	An Emergency Response Plan (ERP) will be formulated to address various accident scenarios. The ERP will be certified by the Environmental Team (ET) and verified by the Independent Environmental Checker (IEC) under the operation EM&A programme.	Within EcoPark throughout the life of the facility.	Operator	
5.6.4		For uncovered areas where recovery process identified as causing potentially high level of contamination are located, stop-logs will be installed in the perimeter drainage system to isolate contamination.	Within EcoPark throughout the life of the facility.	Operator	
	4.2.2	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	

Waste Management

6.8.7	5.2.4	The Operator should register with EPD as a chemical waste producer.	Within EcoPark throughout the life of the facility.	Operator	Waste Disposal (Chemical Waste) (General) Regulation
6.8.16		The dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.	Within EcoPark throughout the life of the facility.	Operator	Practice Note for disposal of dusty waste at landfills & Admission Ticket System
6.8.18 & 6.8.22	5.2.4	Sludge will be disposed of at WENT landfill, or at any future dedicated sludge treatment facility. Sludge will be collected by a Licensed collector at regular intervals, as determined by the operation of the WTF	Within EcoPark throughout the life of the facility.	Operator	
6.8.21	5.2.4	Chemical wastes shall be stored in appropriate containers in a covered area. "No Smoking" signs will be clearly displayed to prevent accidental ignition of any flammable materials. Drip trays capable of storing 110% of the volume of the largest container will be used to mitigate possible leakage.	Within EcoPark throughout the life of the facility.	Operator	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
	5.2.3 & 5.2.5	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
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Prevention of Contaminated Land

7.3.1	5.3.2	Any spillages of contaminating material shall be cleaned up immediately through the use of an absorbent. Any such used material should then be considered chemical waste and disposed of appropriately.	Within EcoPark throughout the life of the facility.	Operator	
7.3.3		Any areas within the lot to be used for recycling processes shall be concrete paved before recycling activities commence.	Within EcoPark throughout the life of the facility.	Operator	
7.3.5	5.3.2	<p>During operation, the greatest risk of land contamination will come from the storage of chemical wastes, therefore the following measures should be followed :</p> <ul style="list-style-type: none"> ▪ All chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil and chemicals from contaminating the ground. ▪ Management of chemical waste is implemented through the control of waste storage, labelling of waste, transportation and treatment of chemical waste at an appropriate facility. ▪ Chemical wastes will be collected, stored and disposed of in accordance with the Regulation. Disposal of other construction waste will be undertaken by Licensed contractors in accordance with applicable statutory requirements in the WDO. ▪ Chemical wastes shall be handled according to the relevant code of practice. Spent chemicals shall be stored and collected by an approved operator for disposal at a licensed facility in accordance with the relevant regulation. 	Within EcoPark throughout the life of the facility.	Operator	<p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chem Wastes & Chemical Waste (General) Regulation</p>

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
	5.3.3	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	

Landfill Gas

8.7.10 & 8.7.11	6.1.2	<ul style="list-style-type: none"> ▪ Alert workers and visitors of possible LFG hazards ▪ Prohibit smoking and open fires on site ▪ Conduct regular (quarterly) LFG monitoring at mobile offices, equipment stores, etc. 	Within EcoPark throughout the life of the facility.	Operator	
	6.4.3	Following construction, routine monthly monitoring may be required at service voids and utility boxes. The monitoring requirement and specific locations of monitoring points shall be established based on the findings of the monitoring carried out during construction (i.e. if no LFG is detected during construction then no routine monitoring is required). The need for continued monitoring shall, however, be reviewed through discussion with EPD.	Within EcoPark throughout the life of the facility.	Operator	

Hazard to Life

10.4.3		Building height limit within EcoPark shall be applied to structures within which people may work at elevated levels.	Within EcoPark throughout the life of the facility.	Operator	EIA Report Table 10.2
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Landscape and Visual

9.4.4		It recommended that this commonality be promoted throughout EcoPark by the Operator and adopted by tenants, if practicable.	Within EcoPark throughout the life of the facility.	Operator	
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Appendix 2

Environmental Requirements in Tenancy Agreement

GENERAL ENVIRONMENTAL RESPONSIBILITIES

- 9.1 The Tenant shall at its own cost(s) comply with and shall ensure that the Premises is used, designed, constructed, operated and maintained in accordance with:-
- (a) All relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes and abatement notices for the time being in force in Hong Kong including those relating to the environment and governing the control of any form of pollution (see specific Ordinances mentioned hereinbelow) and licensing requirements under relevant Ordinances and regulations.
 - (b) All information, mitigation measures, prohibitions, restrictions, recommendations and requirements under the Environmental Impact Assessment Report for Development of an EcoPark in Tuen Mun Area 38 with Appendices, i.e. the EIA Report (Register No.: AEIAR-086/2005) dated April 2005, the Final EM&A Manual dated April 2005, the application documents including all attachments (Application No. AEP-226/2005) and other relevant documents in the Register (or in any other places, any internet websites or by any other means as specified by the Director), including the prohibitions and mitigation measures for processes in Table 14.1 and the material throughputs, processes and remarks in Table B.1 of the EIA Report (in so far as applicable).
 - (c) All information, conditions, submissions, mitigation measures, orders, notices, requirements, prohibitions, restrictions and time limits under the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No. VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit) and all mitigation measures recommended and to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No. VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit). The Tenant shall refer to, inter alia, Conditions 4.1 to 4.14 (and Annexes A and B) and Conditions 3.7 and 3.8 (and Figures 2 and 3) of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No. VEP-221/2006 regarding measures to mitigate air quality impact, measures to mitigate hazard to life impact, measures to prevent land contamination, measures to mitigate landfill gas hazard, maintenance of landscape and visual measures (see also hereinbelow regarding Condition 5 of the Environmental Permit and specified Ordinances).
 - (d) All information, conditions, submissions, mitigation measures, orders, notices and requirements under on going surveillance and monitoring activities during all stages of the Project and during the tenancy under the Tenancy Agreement (e.g. any additional mitigation measures recommended and to be recommended under the Process Review and Design Audit (carried out and to be carried out in accordance with the EM&A Manual) for various environmental impacts including, but not limited to, noise pollution, air quality, hazard to life, landfill gas hazard, landscape and visual measures, waste management and land contamination).
 - (e) All recommendations referred to in the documents of the EIAO Register which are not expressly referred to in Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No. VEP-221/2006 and any amended Environmental Permit (unless expressly excluded or impliedly amended in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No. VEP-221/2006 and any amended Environmental Permit).
- 9.2 Further to Condition Nos. 6 and 8 hereinabove, the Tenant shall at its own cost provide relevant environmental monitoring data, information, documents and assistance to the Director and/or the Environmental Protection Department and shall permit authorised representatives of the

Environmental Protection Department to access, inspect, take samples and monitor the Premises and operations for the Process Review and the Design Audit carried out and/or to be carried out pursuant to Conditions 4.1 and 5 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (and any updated Permit, amended permit and further permit).

- 9.3 If the Tenant's operations (i.e. activities and facilities for recovery and/or recycling and/or reprocessing) are not covered by the EIA Report and/or deviate from the development parameters mentioned in inter alia the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including the parameters at Annex A) and/or any environmental licence (e.g. the Water Treatment Facility (“WTF”) Discharge Licence), and if additional mitigation measures are not available or are not effective in the opinion of the Director, to ensure compliance with the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the relevant environmental licence(s), the Tenant shall comply with any modified parameters and/or the Tenant shall immediately modify its operations in such a way that the findings and requirements of the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the environmental licence(s) are complied with and shall immediately cease to continue the offending part of the operations or activity in question.
- 9.4 The Tenant shall at its own cost(s) apply for, obtain, renew, maintain and comply with all the relevant licences related to compliance with all relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes, abatement notices and the environmental permits for the time being in force in Hong Kong (including those relating to the environment and governing the control of any form of pollution). The Tenant shall obtain, renew and comply with all the said licences within the relevant time limits (in any event, within one (1) calendar month of the date of signing and/or execution of the Tenancy Agreement), shall comply with all abatement notices, orders, directions and requests of the relevant authorities and public officers and shall be responsible for paying all relevant fees, costs, fines and penalties.
- 9.5 The Tenant shall not do anything or omit to do anything which would cause, contribute to or involve a breach or potential breach by the Director relating to any of the matters mentioned in Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow).
- 9.6 The Tenant shall fully indemnify the Government and/or the Director for any fees, costs, damages, expenses, fines, penalties, losses and claims arising (a) out of any breach of any of the matters mentioned in inter alia Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow) or (b) from the use of the Premises or (c) out of any works carried out at any time during the term to or at the Premises or (d) out of anything now or during the term attached to or projecting from the Premises or (e) from any neglect or default by the Tenant or by its respective servants or agents or by any express licensee of the Tenant.

SPECIFIC ENVIRONMENTAL RESPONSIBILITIES

Air Pollution

10. Save with an appropriate exemption under the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, the Tenant shall not install or permit or suffer to be installed upon the Premises or any part thereof or any building(s) or structure(s) or part of any building(s) or structure(s) erected or to be erected thereon any furnace, oven, chimney or flue or any other combustion equipment or use or permit or suffer to be used any fuel or any method or process of manufacture or treatment that might in any circumstance result in, cause or contribute to the discharge or emission of any pollutant or any noxious, harmful or corrosive matter, whether it be in the form of gas, smoke, liquid, solid or otherwise (including but not limited to

air pollutant as defined in Section 2 of the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong)), which exists or which is imminent, without the prior written approval of the Director.

11. No alteration to the installation and method of manufacture shall be made without the prior written consent of the Director. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.2 to 4.7 and Annex A of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding design, installation and operation of chimney, location of fresh air intakes and use of ultra-low sulphur or other cleaner fuel(s) as agreed by the Director (and the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate air quality impact), good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Noise Pollution

12. The Tenant shall take all necessary measures as may be required by and to the satisfaction of the Director to ensure that the operation of all plant and equipment, installed or used on the Premises or in any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon, will not result, not cause and/or will not contribute any noise (which exists or which is imminent) which disturbs or annoys the residents or occupiers of any adjoining or neighbouring lot or lots or premises, or causes and/or contributes to disturbance to the general public under the Noise Control Ordinance (Cap. 400 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation.
13. The decision of the Director as to whether any such plant and equipment are causing disturbance or annoyance as aforesaid shall be final and binding on the Tenant.

Waste Management

14. The Tenant shall not permit, allow or suffer any fuel or chemical and any sewage, waste water or effluent containing sand, cement, silt or any suspended or dissolved material to flow, escape or run from the Premises onto any adjoining land or allow any waste matter which does not form part of the recovery and/or recycling and/or reprocessing operation or is not part of the final product of such operation to be deposited, kept, held or stored anywhere within the Premises and other areas of EcoPark. The Tenant shall at its own cost(s) have all such matters and all waste arising from recycling activities, chemical waste arising from maintenance of plant and equipment, sewage sludge (from WTF) and general daily waste from the operation removed from the Premises or any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon in a proper manner to the satisfaction of the Director.
15. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.11 and 4.12 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding paving all areas of the Premises with concrete/using concrete hardstanding and siting all fuel tanks and chemical storage areas on the specified sealed areas, respectively (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to prevent land contamination). The Tenant shall at its own cost(s) comply with relevant provisions of the Waste Disposal Ordinance (Cap.354 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Water Pollution

16. In the event that the Tenant produces, generates, permits, causes, allows or suffers any discharge which is subject to control under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, and is not covered by a WTF Discharge Licence issued under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) the Tenant shall apply to the Director for a licence and comply with the terms and conditions stipulated in the licence and the WTF Discharge Licence at the Tenant's own cost(s). Otherwise, the Tenant is not allowed to discharge directly or indirectly or to produce, generate,

permit, cause, allow or suffer any discharge into any public sewer, storm-water drain, channel, stream-course, sea or any area inside or outside the Premises any trade effluent or foul or contaminated water or cooling or hot water. Subject to the said licence from the Director and WTF Discharge Licence, the Tenant shall at its own cost(s) separate, collect, discharge and send all process or industrial wastewater to the WTF for treatment to the standard required for discharge into a sewer leading to the sewage treatment works at Pillar Point or other treatment works specified in the licence.

17. Subject to obtaining advance written approval of the Director, the Tenant shall at its own cost(s) provide, install, operate and maintain its own waste water pre-treatment plants within the Premises if such process or industrial wastewater could not meet the influent limits / exceeds the maximum influent criteria of the WTF (in accordance with paragraph 7.2.9 of the Final E&MA Manual). The Tenant shall at its own cost(s) separate, collect, discharge and send all domestic wastewater (i.e. other than process or industrial wastewater) to the Pillar Point Sewage Treatment Works directly for treatment or other treatment works specified in the licence.
18. In any event, the Tenant shall prevent any spilled materials from entering the surface water drainage system and prevent contamination of the sea at its own cost(s) by, inter alia, providing, installing, operating and maintaining stop-logs or interceptors in the surface water drainage system and at the marine frontage area, respectively, or as required by the licence. The Tenant shall at its own cost comply with relevant provisions of the Dumping at Sea Ordinance (Cap 466 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Hazard to Life Impact

19. To mitigate hazard to life impact, the Tenant shall comply with, inter alia, Conditions 4.8 to 4.10 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact) and shall not:-
 - (a) Bring, keep, store or transport chlorine within the Premises and other areas of EcoPark;
 - (b) Bring, keep, store, locate or transport dangerous goods, substances and fuels supporting combustion including oxygen, acetylene, hydrogen peroxide, rubber tyres and diesel within 10 metres from the boundary of the site of EcoPark; and
 - (c) Exceed the building height restrictions for buildings on the Premises which are on/near the western boundary of the site of EcoPark as mentioned in Annex B to the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit).

Landfill Gas Hazard

20. To mitigate landfill gas hazard, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.13 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding raising clear of the ground all buildings and enclosed structures as specified in inter alia Condition 3.7 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact).

Landscape and Visual Impacts

21. To mitigate landscape and visual impacts, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.14 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding maintaining landscape, planting, treatment and mitigation measures as specified in inter alia Condition 3.8 and Figure 3 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate landscape and visual impacts).

Appendix 3

Process Review Checklist for
Hong Kong Telford Envirotech Group Limited

EcoPark Process Review Checklist

General Details

PRC No. 004 (PRC 1 of 1)
Tenant Ref. No. _____
Tenant Name Hong Kong Telford Envirotech Group Ltd
EcoPark Lot No. EPO8-01
Related Processes PRC _____

Process Overview and Throughput

Material Type Plastic
Process Name Plastic extrusion & Plastic Wood Composite (PWC) manufacture
Process Specifics Plastic sorting, flaking and washing
 Plastic cooling and cutting and centrifugal drying
 PWC Manufacturing
Details Attached Yes (attached) No, not required

Associated Material Throughput (incl. DGs, if any)

Material	In/Out	Throughput (tonnes/yr)
Mixed Plastics (Phase I)	In	12,480
Mixed Plastics (Phase II)	In	20,448
PO, PE, PET, PWC etc. (Phase I)	Out	13,728
PO, PE, PET, PWC etc. (Phase II)	Out	8,976
Other waste	Out	10,224

Throughput < EIA Limit? Yes No, exceeds by _____
Risk Assessment Yes (attached) No, not required

Impact Assessment

Process has already been assessed in the EIA (from EIA Table 14.1):

Impacts to:

AQ Yes No Fugitive dust and VOC controls
WQ Yes No Process water / cooling water treated at WTP
WM Yes No Minimal non plastic / plastic waste
CL Yes No None

Note : AQ=Air Quality | WQ = Water Quality | WM = Waste Management | CL=Contaminated Land

EcoPark Process Review Checklist



Impact Assessment (continued)

Proposed Mitigation Wastewater Treatment Plant (WTP) is proposed to treat wastewater and minimal wastewater will be discharged as the treated water will be reused in the process. Hydraulic driven system is proposed to suppress dust generated during extrusion process and the water will be treated in WTP. VOC emission will be mitigated by UV photolysis.

Includes Chimney ? Yes No

If Yes, Complies with EIA Table 13.1? Yes No Pending Confirmation

Process has not been assessed in the EIA but is unlikely to warrant a full Design Audit because:

Summary

- Process meets EP Conditions
- ① Process meets EIA requirements (see above).
- ② Process is unlikely to warrant a full Design Audit (see above)
- No unacceptable environmental impacts – allow process to operate
- ③ Unacceptable/undetermined environmental impacts – do not allow process to operate until Design Audit has been completed and approved

Note : ①, ② and ③ relate to the process review flowchart, EIA Report Figure 12.1

Sign-off Requirements

	ET	IEC	EPD	Operator
Name	Hyder Consulting	Scott Wilson	Waste Reduction & EcoPark Group	Serco Guardian Joint Venture
Sign-off	Certified	Verified	Approved	Tenant Advised
Date	15/5/09	15/5/2009	20/5/2009	20/5/2009
Signed	Alexi BHANJA	Harold Insley	Lawrence WONG	T C HON
Role	ET Leader	IEC	Principal EPO	Park Manager
Signature				



香港德福環保科技集團有限公司
Hong Kong Telford Envirotech Group Ltd

編號: dc0903051/li

致：安誠工程顧問有限公司
彭卓凡先生

2009年3月5日

感謝貴司提出環保園內工序檢討問題，敝公司非常樂意提供有關資料。查在投標書內，因未能在設置塑膠注塑工序數量上作出評估，未能有合適處理報價。

現附上裝設資料供貴司參考。該項設置針對敝司單一排放在塑料熔化過程中所產生廢氣裝置設備及流程圖，在其它工序例如：破碎清洗，因由水力帶動物料處理淨化，過程中無排放揚塵及揮發性有機化合物。在標書內已有污水排放設施。敝公司保證排放揮發性有機化合物。將達至環保園內要求。

隨函附上廢氣排放設備流程圖一份供貴司參考。

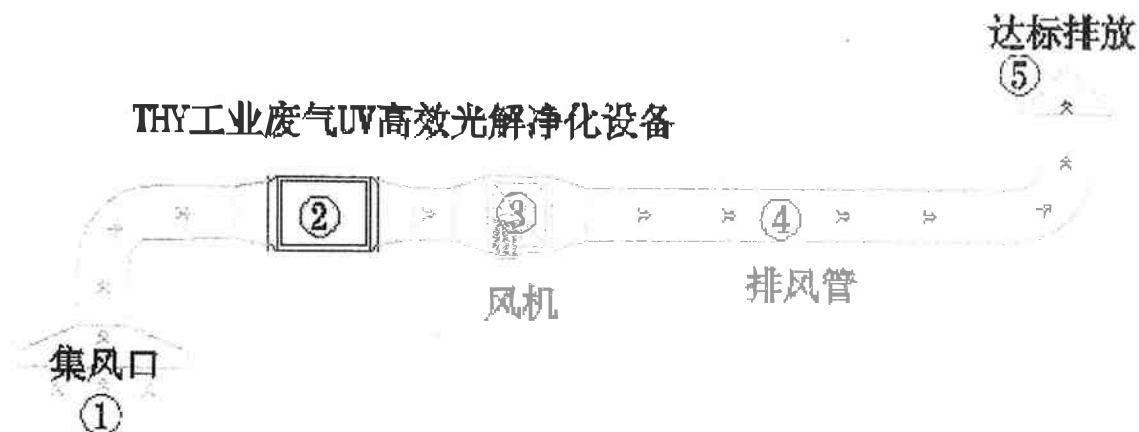
香港德福環保科技集團
李慶德

Date received			
6 MAR 2009			
Reg. no. 2009-7262			
Div/Dep ENV			
Manager AB			
Date received in Div/Dep			
For Action	For Info	Sign	Date
	WMT		
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Reply date			
File ref 2009-7262-20			

4.2 工业废气处理工艺流程

塑料熔化过程中产生的废气通过引风机抽出，进入 THY-EQ60500 工业废气 UV 高效光解净化设备内，经高能紫外线光束裂解/臭氧氧化处理后，最终通过管道排放到大气中。

工业废气净化处理的工艺流程：（如下图所示）



4.3 技术原理

紫外线/臭氧光解氧化技术是一种新型废气治理技术，其基本原理：废气一方面在高能紫外线照射下，使挥发性有机物（VOCs）开环和断裂等多种反应，降解转变成 CO_2 ， H_2O 等低分子化合物；一方面利用高能紫外光照射空气中的氧气生成臭氧，臭氧吸收紫外线生成氧自由基和氧气，氧自由基与空气中的水蒸气作用生成羟基自由基，一种更强的氧化剂，与醇、醛、羧酸等有机废气，彻底氧化为水、二氧化碳等无机物。另外，未吸收紫外线的臭氧也是一种强氧化剂，与一些有机废物接触后将其氧化生成水、二氧化碳等无机物。

5. 净化处理设备及其参数

5.1 废气净化处理设备

THY-EQ60500 工业废气 UV 高效光解净化设备

数量：1 套

功率：7900w/220v

设备尺寸 mm：1700×1500×2100

风口尺寸 mm：1500×700

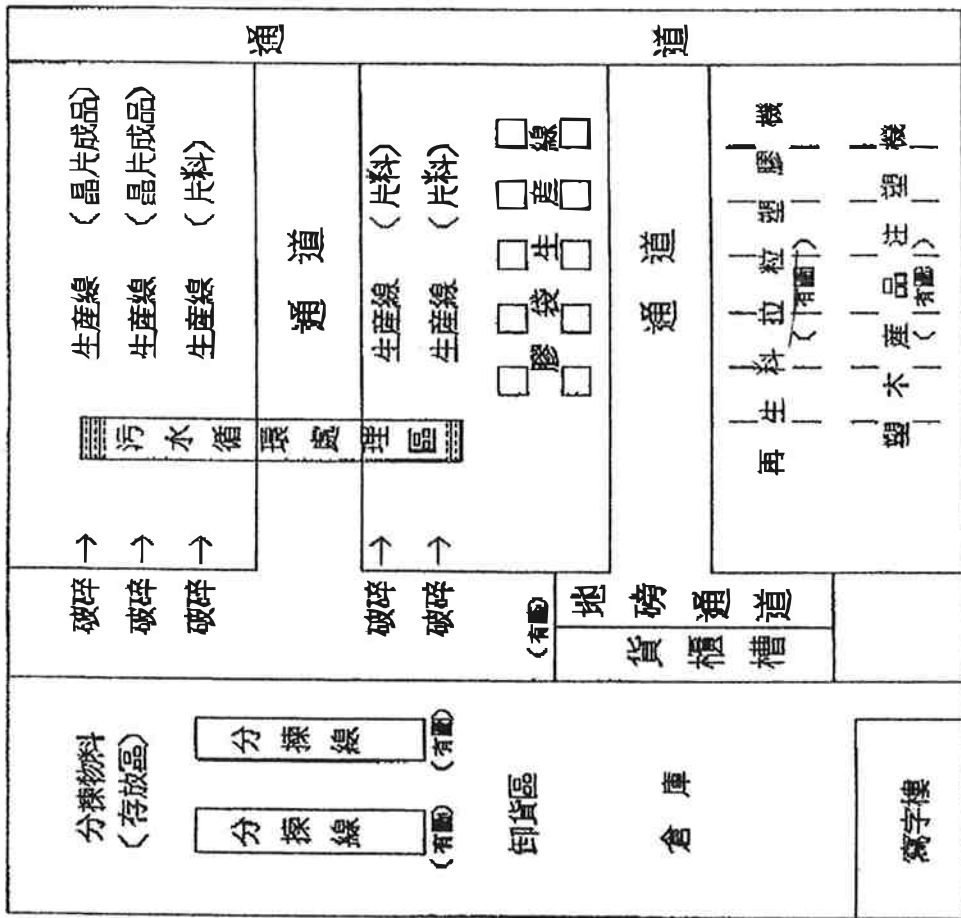
5.2 废气排风机

选择风量为 $15000\text{m}^3/\text{h}$ 左右的中压风机

5.3 废气排放管道

管道材料建议选择钢板，净化设备后排风管道尺寸 mm：800×800

为达到最佳净化效果，需有 2~3 秒反应时间，THY 净化设备后排风管道长度需 20 米以

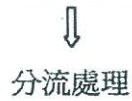


生產線分佈圖

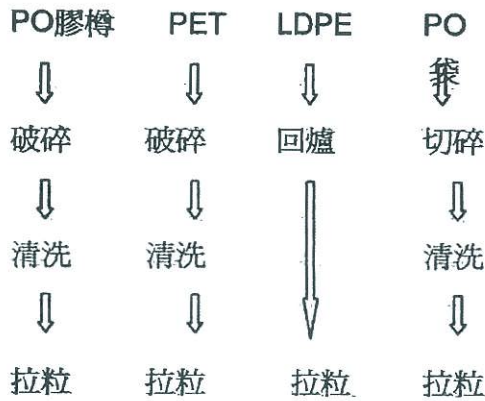
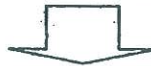
屯門38區環保園
循環再生項目
(循環處理流、全港十八區廢塑膠)



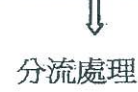
(A項) 軟膠 (膠樽, 膠紙)



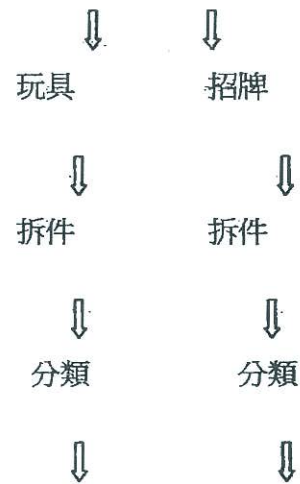
(B項) 軟膠 (迴圈處理過程)



硬膠 (玩具, 招牌, 影音產品)



硬膠 (迴圈處理過程)



注：PET樽 = 礦泉水樽, 汽水樽

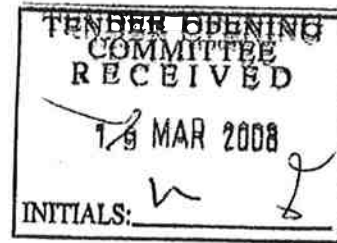
PO樽 = 洗潔精樽 + 果汁樽, 牛奶樽

LDPE = 包裝膠紙

PO袋 = 膠袋

破碎, 清洗
ABS, PMMA

破碎, 清洗
PS, PC 拉粒

B1 (5)**廢塑料處理/回收量**

第一期: 每月外判運輸回收量: 520 噸

2 班外判運輸回收量 : 520 噸 x 2 = 1040 噸

第二期: 每月外判運輸回收量: 852 噸

2 班外判運輸回收量: 852 噸 x 2 = 1704 噸

每季回收/處理量:

第一期 每季回收/處理量:	第一、二期每季共回收/處理量
第一班: 520 噸 x 3 月 = 1560 噸	第一班: 852 噸 x 3 月 = 2556 噸
第二班: 1040 噸 x 3 月 = 3120 噸	第二班: 1704 噸 x 3 月 = 5112 噸

每區每月回收量:

第一班 每月回收量:	第一、二班 每月共回收量:
一班: 520 噸 / 18 區 = 28.8 噸/月	一班: 852 噸 / 18 區 = 47.3 噸/月
二班: 1040 噸 / 18 區 = 57.7 噸/月	二班: 1704 噸 / 18 區 = 94.6 噸/月

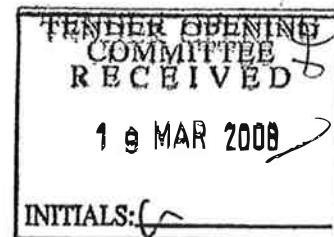
第一班生產量	第二班生產量
每月生產: 18.4(T) x 26 日 = 478 (T)	每月生產: 32.8(T) x 26 日 = 852(T)
每月每天 2 班工作計算: 478(T) x 2 = 956(T)	每月每天 2 班工作計算: 852(T) x 2 = 1704(T)

B1(5)

處理量

第一期生產表(一班計算)8小時

產品	每天產量(8小時)	每月產量	每季產量
PO 樽 (再生粒料)	2.4(T)	62.4 噸	187.2噸
PE(再生粒料)	1.6(T)	41.6噸	124.8噸
膠袋(成品)	2.8(T)	72.8噸	218.4噸
PO生產線	4(T)	104噸	312噸
PE生產線	3.6(T)	93.6噸	280.8噸
PET生產線	3.6(T)	93.6噸	280.8噸
膠袋粒料	2(T)	52噸	156噸
塑木生產線	2(T)	52噸	156噸



第一期1班每月生產量:

22噸 x 26天 = 572噸

第一期2班每月生產量:

572噸 x 2班 = 1144噸

第一期2班每季生產量:

1144噸 x 3個月 = 3442噸

第二期機械投入後每月生產量:

第二期機械投資後1班生產量:

14.4噸 x 26天 = 374.4噸

第二期機械投入後2班生產量:

374.4噸 x 2班 = 748噸

第二期機械投入後2班每季生產量:

748噸 x 3個月 = 2244噸

* 每季處理量可達 5686噸

Appendix 4

Summary of EcoPark Throughputs

Throughput of Hong Kong Hung Wai Wooden Board Company (EP06-034)

Date	Waste Input (kg)		Product Output (kg)*		Waste Disposal (kg)*	
	Waste Wood	Cum Total	Wooden Board	Cum Total	General Refuse	Cum Total
Jun-08	21,000	21,000	-	-	-	-
Jul-08	7,000	28,000	-	-	-	-
Aug-08	-	28,000	-	-	-	-
Sep-08	8,000	36,000	-	-	-	-
Oct-08	1,000	37,000	-	-	-	-
Nov-08	1,000	38,000	-	-	-	-
Dec-08	-	38,000	-	-	-	-
Jan-09	60	38,060	-	-	-	-
Feb-09	60	38,120	-	-	-	-
Mar-09	-	38,120	-	-	-	-
Apr-09	-	38,120	-	-	-	-
May-09	-	38,120	-	-	-	-
Jun-09	-	38,120	-	-	-	-
Jul-09	-	38,120	-	-	-	-

Note: * Tenant has not yet commenced formal recycling activities within the lot

Throughput of Champway Technology Limited (EP07-03)

Date	Waste Input (kg)				Product Output (kg)*					Waste Disposal (kg)*				
	Cooking Oil	Grease Trap Waste	Total	Cum Total	Treated Cooking Oil	Biodiesel	Glycerin	Total	Cum Total	Inorganic Waste	Organic Waste	Water Waste^	Total	Cum Total
Oct-08	120,000	-	120,000	120,000	-	-	-	-	-	-	-	-	-	-
Nov-08	8,000	-	8,000	128,000	-	-	-	-	-	-	-	-	-	-
Dec-08	2,000	-	2,000	130,000	-	-	-	-	-	-	-	-	-	-
Jan-09 [#]	93,454	-	93,454	223,454	86,912	-	-	86,912	86,912	-	4,673	1,869	6,542	6,542
Feb-09	86,855	-	86,855	310,309	80,775	-	-	80,775	167,687	-	4,343	1,737	6,080	12,622
Mar-09	88,883	-	88,883	399,192	82,661	-	-	82,661	250,348	-	4,444	1,778	6,222	18,844
Apr-09	82,530	-	82,530	481,722	76,753	-	-	76,753	327,101	-	4,127	1,650	5,777	24,621
May-09	91,022	-	91,022	572,744	84,650	-	-	84,650	411,751	-	4,551	1,820	6,371	30,992
Jun-09	114,143	-	114,143	686,887	106,153	-	-	106,153	517,904	-	5,707	2,283	7,990	38,982
Jul-09	106,287	-	106,287	793,174	98,847	-	-	98,847	616,751	-	5,314	2,126	7,440	46,422

Notes:* Tenant has not yet commenced formal recycling activities within the lot

[#] Tenant revised the amount of waste cooking oil input in January 2009 from 4,443 kg to 93,454 kg

[^] Water waste includes slurry and semi-solid waste and is disposed of at landfill

Throughput of Hong Kong Telford Envirotech Group Limited (EP08-01)

Date	Waste Input (kg)		Product Output (kg)*		Waste Disposal (kg)*	
	Waste Plastic	Cum Total	PO, PE, PET, PWC	Cum Total	General Refuse	Cum Total
Jul-09	20,000	20,000	-	-	-	-

Note: * Tenant has not yet commenced formal recycling activities within the lot

Appendix 5

Sample Audit Checklist

AUDIT DETAILS

Tenant:			
Ref. No.:			
Inspection Date:		Time :	
Lot No:			
Weather Condition:	Sunny / Fine / Hazy / Overcast / Drizzle / Rain	Temperature:	
Wind:	Calm / Light / Breeze / Strong	Humidity:	High / Moderate / Low

IEC Joint Inspection	Yes / No
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SIGN-OFF
ET's Rep.
EcoPark Operator's Rep.
Tenant's Rep.
IEC's Rep. (if joint Inspection)

 Name :

 Name :

 Name :

 Name :

1. GENERAL

Item	Description	Yes	No	N/A	Remarks
1.1	EP for Tenant displayed on notice boards / at entrance?				EP No.:
1.2	Environmental Policy documented?				
1.3	Environmental Management Plan updated?				
1.4	a. Emergency Response Plan (ERP) documented?				
	b. Drill / training records available?				
1.5	Employee's training record available?				
1.6	Any record of prosecution / complaint?				
1.7	Waste Management Plan?				

2. WATER QUALITY

Item	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				
2.2	Any wastewater treatment facility prior to effluent discharge?				
	If yes, facility is properly maintained and function normally?				
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				
	b. Monitoring frequency met the license requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
2.4	Surface run-off control measures in place and adequately maintained?				
2.5	Surface run-off discharging into drainage system?				
2.6	All manholes are covered?				
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				
2.8	Drainage system is well maintained to prevent flooding and overflow?				
2.9	Processes with high Risk of Contamination a. Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				
	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				
2.10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				
2.11	Oil interceptor provided for drainage discharging from maintenance area?				
	If yes, oil and grease removed regularly?				
	Collected by licenced collector?				
2.12	Cargo Handling a. Cargo Handling Guideline is available and followed to minimize the chance of accidental spillage during loading and unloading?				
	b. Materials and bulk cargo are properly packed?				

3. AIR QUALITY

Item	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				SP No.
	b. SP License conditions / monitoring requirements met?				
3.2	Odour a. Any odour detected?				
	b. If yes, can the source be identified?				
	c. Odorous materials are covered?				
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?				
3.4	Dust Monitoring a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?				
3.7	Dark smoke emitted from chimney or powered plant is avoided?				
3.8	Vehicles and equipment are switched off while not in use?				
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour				Cert. No.
	b. >35kg of conventional solid fuel per hour				
	c. >1,150 MJ of any gaseous fuel per hour				
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	a. Approval from Authority for the use of controlled refrigerant?				
	b. If yes, record of refrigeration equipment service available?				
3.13	All air pollution control systems are properly maintained and function normally?				
3.14	Only Ultra-Low Sulphur Diesel is used?				

4. WASTE / CHEMICAL MANAGEMENT

Item	Description	Yes	No	N/A	Remarks
4.1	Chemical Waste Producer Registration completed?				Reg. No.
4.2	Provision of sufficient waste disposal points/ receptacles?				
4.3	Waste disposed of regularly and properly?				
4.4	Sorting of materials on-site for reuse or disposal to designated outlet?				
4.5	Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection?				
4.6	Sludge is collected by a licensed collector at regular intervals?				
4.7	Packaging of Chemical Waste a. Stored in suitable container?				
	b. Container properly closed or sealed?				
	c. Spillage cleaned up immediately through the use of an absorbent?				
	d. Approval obtained for capacity of containers > 450L?				
4.8	Labelling of Chemical Waste a. Label is securely attached, clean and visible?				
	b. Label is in proper dimension and bilingual?				
	c. Information is accurate and sufficient?				
4.9	Storage of Chemical Waste a. Proper "Chemical Waste" signs are displayed?				
	b. Incompatible wastes separated by an impermeable partition?				
	c. Containers kept in cabinet or receptacle of suitable material and construction (<i>if quantity < 50L</i>) <u>or</u> drip trays capable of storing 110% of the volume of the largest (<i>if quantity > 50L</i>) ?				
	d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers?				
	e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry?				
	f. Adequacy of area ventilation?				
	g. Outdoors storage area should be covered?				
4.10	Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months)				
4.11	Liquid Waste Storage a. Storage area floor/surface permeation-proof?				
	b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage?				
	c. Walls or partitions of stacked container storage area constructed of impermeable material?				

5. OTHER ISSUES

Item	Description	Yes	No	N/A	Remarks
5.1	Landfill Gas Hazard (within LFG Consultation Zone) a. Workers and visitors alerted to possible LGF hazards?				
	b. Smoking and open fires prohibited?				
5.2	Security lighting directed downward into the work areas to prevent glare to the surrounding receivers?				
5.3	Good housekeeping?				
5.4	Any areas within the lot to be used for recycling processes are concrete paved?				
5.5	Valid calibration certificate for any monitoring equipment?				
5.6	Dangerous Goods a. Valid license for manufacturing / storing dangerous goods?				License No.
	b. Storage area in compliance with the approved plan?				
	c. Storage area(s) has been securely locked?				
	d. Total storage capacity in compliance with the relevant statutory requirement?				
	e. Proper Labelling?				
	f. Dangerous goods properly packaged?				
5.7	Potential stagnant pools cleared and mosquito breeding prevented?				

6. OBSERVATIONS / FOLLOW UP / PHOTOGRAPHS

No.	Observation (Please include location and recommended remedial action)	Expected Date for Action Taken	Photo Ref. No.
No.	Follow-up from Previous Audit Dated _____ (Please state date of previous audit)	Completed / Outstanding?	Photo Ref. No.

[Photographs Attached]