

**Contract No. : DE/99/12**  
**Outlying Islands Sewerage – Stage 1 Phase 1C**  
**Upgrading of Siu Ho Wan Sewage Treatment Plant**  
**– E&M Works**

**ENVIRONMENTAL MONITORING AND AUDIT**

**MONTHLY EM&A REPORT No. 17**

**BioEnviroLink Technologies Limited**  
**October 2004**

## **APPROVAL & DISTRIBUTION SHEET**

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### **APPROVAL**

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## **EXECUTIVE SUMMARY**

This is the seventeenth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/99/12 entitled “Upgrading of Siu Ho Wan STP – E&M Works Outlying Islands Sewerage – Stage 1 Phase 1C”. (Environmental Permit No. EP-076/2000)

This report contains the results and findings of site inspection activities and EM&A works carried out by the Environmental Team (ET) of the E&M Contractor as required in the contract during October 2004.

The site activities in the reporting period mainly consisted of Functional Testing for the major equipment, calibration of the level instrument and testing of the SCADA program at Primary Tank, Ferric Chloride Storage Area, Potable Water Pumping Station and other areas.

There were no complaints received or notifications of summons or successful prosecutions during October 2004.

The main planned activities for November 2004 with regard to E&M equipment installation consist of

1. Testing and Commissioning for the major equipment
2. Calibration of the level instrument
3. Testing of the SCADA program
4. Reliability testing of equipment

## **1. BACKGROUND INFORMATION**

### **1.1 Introduction**

This is the seventeenth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/99/12 entitled “Upgrading of Siu Ho Wan STP – E&M Works Outlying Islands Sewerage – Stage 1 Phase 1C”. The site layout plan, with the indication of a temporary storage of installation items as well as the designated waste storage area, is shown in Appendix 1. The report was prepared by the Environmental Team, BioEnviroLink Technologies Limited, of the E&M Contractor, Mitsubishi Corporation (Hong Kong) Limited. The report is to be submitted to the Contractor, the Engineer and the Environmental Protection Department.

This report presents the results of the environmental monitoring of the project activities conducted during the month of October 2004. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the EM&A Manual.

The E&M installation works has commenced in June 2003 and is anticipated to be completed in December 2004.

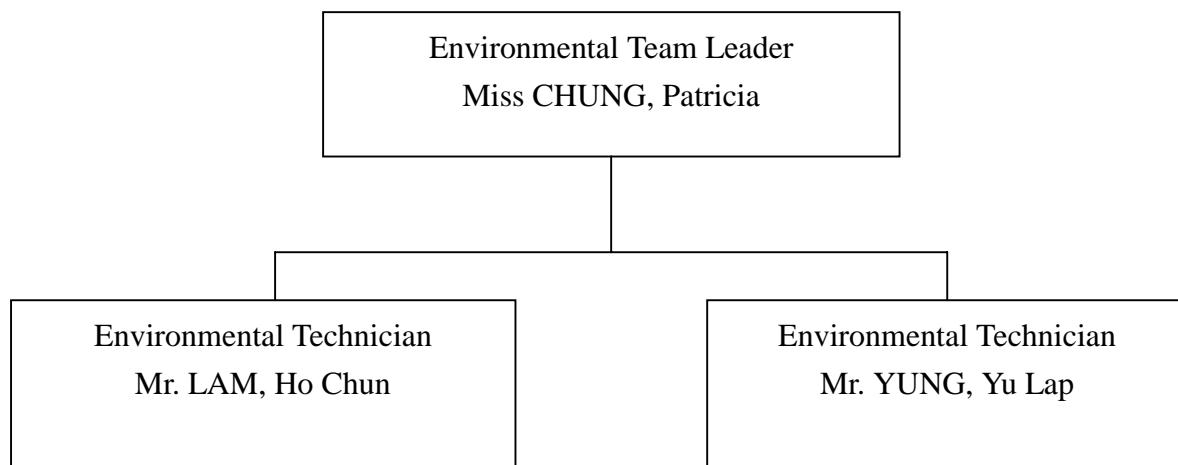
The contact persons and telephone number of key personnel for the captioned project are shown in Appendix 2.

### **1.2 Project Organization and Management**

The Environmental Team, which comprises the environmental team leader and the environmental technicians to undertake the environmental monitoring and audit work for this project, has commissioned BioEnviroLink Technologies Limited. The project Organization Chart of Environmental Team is shown in Figure 1.2.

Figure 1.2 Organization Chart of Environmental Team

Environmental Team Organization Chart



## 2. SUMMARY OF WORK ACTIVITIES

A summary of the site works in this month, with the information of locations, details of each activity, equipment/materials and dates of occurrence, is listed in Table 1.

Table 1: Work Activities for October 2004

<b>Item</b>	<b>Location</b>	<b>Work Activities</b>	<b>Date of Occurrence</b>
1	Primary Tank	- Testing and Commissioning for the major equipment - Calibration of the level instrument - Testing of the SCADA program	1 – 31 October 1 – 31 October 1 – 31 October
2	Ferric Chloride Storage Area	- Preparation of Functional Testing for the major equipment - Calibration of the level instrument - Testing of the SCADA program	1 – 31 October 1 – 31 October 1 – 31 October
3	Potable Water Pumping Station	- Testing and commissioning for the major equipment - Calibration of the level instrument - Testing of the SCADA program	1 – 31 October 1 – 31 October 1 – 31 October
4	Administration Building	- Testing and commissioning the Building services installation - Testing and commissioning the ICA system	1 – 31 October
5	Centrifuge Building	- Testing and commissioning the Building services, sludge trains, chemical preparation unit, centrifuge system and ICA system	1 – 31 October
6	Chemical Building	- Testing and commissioning the Building services, chemical preparation unit and Alum system	1 – 31 October
7	Other Area	- Preparation of the Function Test for the major equipment - Calibration of the level instrument - Testing of the SCADA program	1 – 31 October 1 – 31 October 1 – 31 October

### **3 IMPLEMENTATION OF WASTE MANAGEMENT PLAN**

A Waste Management Plan has been prepared for governing a good waste management, which is essential to avoid, minimize, salvage for reuse, recycle, dispose of waste and reduce the load on landfills to improve the standards of environmental protection.

The information and the implementation status of waste management are summarized in Table 2.



Table 2: Information and the implementation status of  
 Waste Management in October 2004

<b>Information of Waste Management Plan</b>	<b>Implementation Status</b>	<b>Remarks</b>
<p><u>Municipal Solid Waste Management</u>                      Sorting and classification of aluminum cans, plastics are required at site. Paper and cardboard generated from site office should be reused or recycled.</p>	<p>Sorting and classification of municipal solid waste are available at work site. Waste sorting facilities (bins) are provided.</p>	<p>Collection of municipal solid waste has been carried out since September 2003.</p>
<p><u>Construction &amp; Demolition (C&amp;D) Waste Management</u>                      Waste sorting and classification by using a 100 m<sup>2</sup> sorting shed at site are required.</p>	<p>No inert C&amp;D Wastes were produced at site up to October 2004. Waste dumper for temporary storage of C&amp;D Waste are provided.</p>	<p>The non-inert portion of C&amp;D Wastes has been appropriately handled since 14 October 2003.</p>
<p><u>Chemical Waste Management</u>                      A licensed chemical waste collector is engaged for collecting the chemical wastes generated from this project. Storage facilities must follow the Code of Practice.</p>	<p>No chemical wastes were generated in October 2004. The E&amp;M Contractor has registered with EPD as chemical waste producer. Chemical waste storage enclosure was provided in September 2003 located near the site office.</p>	<p>The permit has been issued in September 2003.                       Proper label and signage for Chemical waste storage enclosure and container(s) are provided.</p>
<p><u>Special Waste Management</u>                      A licensed subcontractor will be appointed for transportation and disposal of sludge waste at WENT Landfill. The contractor should complete Section E on copies of the Admission Ticket for each load of waste and submit to EPD.</p>	<p>No special waste were generated in October 2004                       Dewatered sludge waste will be collected and stored in 18m<sup>3</sup> ISO compatible containerized tanks.</p>	<p>The application for special waste disposal at WENT Landfill has been accepted on 30 Sept 2004.</p>
<p><u>Disposal and Recording</u>                      A complete record, in the format of compiled logbook, is maintained for every vehicle trip transporting C&amp;D materials. Adequate record of recycled and reused waste materials must be well kept.</p>	<p>Adequate record forms for recycled &amp; reused waste materials for municipal waste are available and are in proper use.                       C&amp;D wastes generated at site have been recorded and filed adequately.</p>	<p>C&amp;D waste collector was arranged to collect the wastes on 15 September 2004 and ET has escorted the waste collector to public landfill to ensure proper waste disposal                       C&amp;D wastes such as timbers are reused at site.</p>

## 4 STATUS OF ENVIRONMENTAL PROTECTION AND SITE INSPECTIONS

### 4.1 Site Inspections

The Environmental Team conducted four site inspections on 7, 14, 20 and 27 October 2004.

All environmental aspects in the work areas were inspected during the weekly site walk, including air dust, surface water quality, waste management, site tidiness and hygiene.

A detailed checklist of each site inspection together with comments, relevant photos and maps have been filed and kept in site office.

The findings and results of site inspections in October 2004 are provided in Section 4.2.

### 4.2 Status of Environmental Protection

#### Details of Permits / Licences

<b>Types of Permit / Licence</b>	<b>Status</b>
Wastewater Discharge Permit	Valid
Construction Noise Permit	Valid
Licence of Chemical Waste Producer	Valid

#### Air Dust

The Contractor has regularly spray water on open area around site office for dust suppression.

#### Surface Water Quality

In general, the E&M installation work does not cause significant environmental impact on surface water.

The Contractor has implemented the Weekly Mosquito Inspection Programme and has taken necessary action for mosquito suppression.

The Contractor has filled the Primary Tanks with water for equipment testing. The

contractor has regularly monitored the water quality at Primary tank and should carry out appropriate actions for mosquito suppression when necessary.

Two chemical toilets have been provided by a licensed contractor, of which sewage generated is collected weekly without causing contamination on surface water. Weekly records are kept properly for each sewage collection.

A wastewater discharge permit has been issued effective since 29 November 2003.

#### Noise

All installation activities were being carried out within normal working hours during October 2004. There are no existing sensitive receivers identified in the vicinity of Siu Ho Wan works. The new construction noise permit has been issued effective 16 July 2004 through 29 December 2004.

#### Special Waste - Sludge

No sewage sludge was produced in October 2004. It is anticipated that sewage sludge waste would be produced after 3 November 2004, after the commencement of process commissioning period (PCP).

The application of disposal of sewage sludge waste at WENT Landfill has been accepted by EPD on 30 September 2004 and will expire on 31 January 2005. The contractor should complete and submit Section E on copies of the Admission Ticket for each load of disposal. A copy is appended for reference (Appendix 4).

#### Waste / Chemical Waste

Site activity has started in June 2003. A designated waste storage area is provided for the storage of general wastes and C&D wastes, as specified in the waste management plan.

Wastes found in and around Primary tank is an urgent issue. The contractor should provide temporary waste collection facilities (bins) and warning signs around site area, especially Primary Tank, to remind proper waste disposal practices. The contractor should remove and properly dispose waste found in Primary Tank

immediately.

The Contractor is reminded to always keep the site works area tidy and clean.

No chemical waste was produced at site up to October 2004. An adequate chemical waste storage enclosure and containers for storage of chemical wastes in accordance with WMP have already been provided on-site (See Appendix 1).

The follow-up work for proper handling of C&D Wastes has been carried out in October. No *inert C&D Wastes* were produced at site up to October 2004. A C&D waste dumper has been provided since October 2003 for the disposal of the non-inert portion of C&D waste. ET has taken measures to ensure the waste collector has properly dumped the waste in public landfill; photos are taken for reference and record.

Sorting and classification of municipal solid wastes have been carried out at site during October 2004. Properly labeled waste collection bins are available for sorting and collecting aluminum cans, waste paper and plastic bottles.

Information of recycled and collected wastes (for the month of October 2004) are summarized as follows:

<b>Types of Waste Recycled</b>		<b>Estimated quantity</b>
Municipal	Paper	50 kg
Municipal	Aluminum Cans	4.5 kg
Municipal	Plastic Bottles	203 pcs

The Municipal wastes are temporarily stored in the sorting bins at site whereas C&D wastes, such as timber, are reused on-site. Records of recycled and collected wastes are properly kept and filed at site.

Registered waste collectors, as listed in the following table, have been arranged to collect and transport the wastes whenever necessary.

<b>Type of Wastes</b>	<b>Collector Company Name</b>	<b>Tel No.</b>
Municipal Waste Recycler	Luen Hop Environment Dev. Ltd.	6083 3208
C&D wastes	Strong Base Environmental Services & Engineering Co. Ltd.	2797 9812
Chemical waste	Enviropace Ltd.	2435 7700
	Strong Base Environmental Services & Engineering Co. Ltd.	2797 9812

## 5 SUMMARY OF DEFICIENCY, NON-COMPLIANCES AND REMEDIAL ACTIONS

<b>Deficiency</b>	<b>Action taken</b>
<ul style="list-style-type: none"><li>• Wastes were found in and around Primary Tank</li></ul>	<ul style="list-style-type: none"><li>• The Contractor properly dispose the wastes</li><li>• The Contractor should provide temporary collection facilities (bins) around site to collect waste and keep the site tidy and clean.</li><li>• The Contractor should erect warning signs to remind good waste disposal practices.</li></ul>

## 6. CUMULATIVE LOG OF COMPLAINTS AND REMEDIAL ACTION

There is no complaint received in association with installation activities during October 2004. The cumulative of complaints is referred in Appendix 3.

## 7. CUMULATIVE LOG OF NOTIFICATION OF SUMMONS AND PROSECUTIONS

No notification of summons and no prosecutions occurred during October 2004.

## 8. FUTURE KEY ISSUES

The planned activities for the coming two months (November 2004 & December 2004) and anticipated environmental issues with regard to E&M equipment are summarized as follows:

Item	Location	Works	Anticipated Environmental Issues
1	Administration Building	- Testing and commissioning the Building services installation - Testing and commissioning the ICA system	- No environmental issue is anticipated
2	Primary Tank	- Testing and commissioning the sludge scraper and scum collector	- Pesticide should be added for mosquito suppression if necessary
3	Chemical Building	- Testing and commissioning the Building services, chemical preparation unit and Alum system	- Chemical waste will be generated and should be disposed at containers in chemical waste storage enclosure
4	Centrifuge Building	- Testing and commissioning the Building services, sludge trains, chemical preparation unit, centrifuge system and ICA system	- Sludge waste will be generated and should be properly disposed in accordance with waste management plan
5	Sludge Transfer Chamber	- Testing and commissioning the Building services, sludge pumps and valves	- Pesticide should be added for mosquito suppression if necessary
6	Detritor	- Testing and commissioning the detritor and associate penstocks	- Pesticide should be added for mosquito suppression if necessary
7	Scum Pumping Station	- Testing and commissioning the scum pumps	- No environmental issue is anticipated

The site inspection schedule for the next month (November 2004) is designated on 4, 10, 17, and 24 November 2004.

## **9. CONCLUSION**

No non-compliances were found during the weekly site inspections being conducted. Also there is no summon nor prosecutions reported during October 2004.

The contractor has taken actions to meet environmental requirements such as applying pumping facilities to pump out stagnant water, proper sorting out and disposal of municipal wastes, reusing C&D wastes (timbers) at site, provision of chemical waste storage facility, C&D waste dumper, and application of relevant environmental permits.

The contractor was reminded to pay more efforts on environmental concerns and awareness such as maintaining site area cleanliness, especially at Primary Tank and Sludge Buffer Tank; provision of temporary waste collection facilities around site; removal of ponding water and suppression of mosquito breeding and proper management of site activities which may lead to any possible environmental impacts.

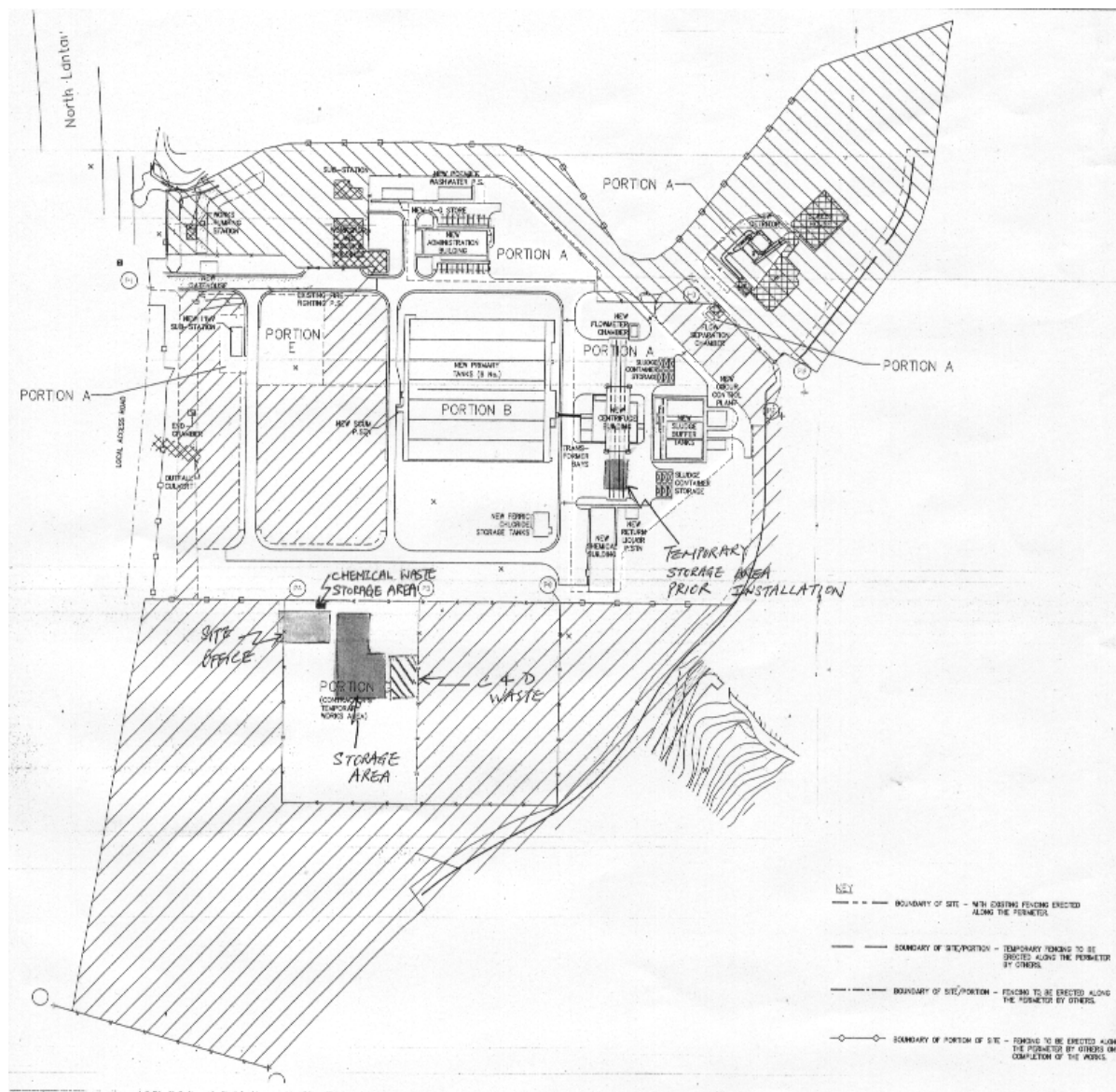
The application for sewage sludge disposal has been accepted by EPD on 30 September 2004 and will expire by 31 January 2005.

The environmental condition at site was fair in October 2004, though the contractor should make more effort to promptly rectify the deficiencies in future, especially regarding mosquito suppression measures.



# Appendix 1

## SITE INSPECTION CHECKLISTS AND SITE INSPECTION LAYOUT PLAN



Appendix 2

**THE CONTACT PERSONS, TELEPHONE NUMBERS OF KEY PERSONNEL  
FOR UPGRADE OF SIU HO WAN SEWAGE TREATMENT WORKS**

<b>Company/Department</b>	<b>Name</b>	<b>Position</b>	<b>Telephone</b>
Maunsell Environmental Management Consultants Limited	Mr. Christine Yuen	Independent Environmental Checker	61917256
Maunsell Environmental Management Consultants Limited	Mr. Titus Yeung	Resident Site Engineer	90209585
Mitsubishi Corporation (Hong Kong) Limited	Mr. W B Chu	Site Agent	29840779
Mitsubishi Corporation (Hong Kong) Limited	Mr. Stephen Gu	Site Engineer	29840779
BioEnviroLink Technologies Limited	Miss. Patricia Chung	Environmental Team Leader	2185 0123
BioEnviroLink Technologies Limited	Mr. Ho-Chun Lam	Environmental Technician	2185 0154

Appendix 3

**CUMULATIVE LOG OF COMPLAINTS**

<b>Environmental Parameters</b>	<b>Cumulative no. Brought forward</b>	<b>No. of complaint October 2004</b>	<b>Overall Total</b>
<b>Air</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Noise</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Water</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Waste</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

**DETAILS OF COMPLAINTS AND REMEDIAL ACTIONS**

<b>Log Ref.</b>	<b>Date of Complaint received</b>	<b>Location</b>	<b>Complainant /Date</b>	<b>Details of Complaint</b>	<b>Investigation /Mitigation Action</b>	<b>Investigated by/ Date</b>
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