
Contract No. : DC/99/10

**Upgrading of Siu Ho Wan
Sewage Treatment Plant - Civil Works**

**Environmental Monitoring & Audit
Monthly Monitoring Report, No.22**

June 2003

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EXECUTIVE SUMMARY

This is the twenty-two monthly EM&A Report for Contract No. DC/99/10- Upgrading of Siu Ho Wan Sewage Treatment Plant Civil Works, which records the results and findings of all EM&A work required in the EM&A Manual for the month of June 2003.

Environmental Monitoring and Inspection

There was no routine environmental monitoring required during the construction period in accordance with the EM&A Manual. Joint site inspection was conducted regularly on weekly basis to ensure the environmental mitigation measures were performed timely and properly and the environmental requirement of the contract and environmental legislation in Hong Kong are complied. Ad hoc site inspections will be carried out if environmental problems are identified or upon receipt of complaints.

Status of Implementation of Mitigation Measures

Drainage works along the building, internal blockworks and finishing works, pipe laying, construction of manholes, water tightness test, laying cable trenches and road works were carried out in June 2003. The corresponding mitigation measures were implemented such as a wheel washing bay was provided at the site exit; water hoses, water truck and water sprinklers were provided for watering the dusty areas and perimeter channels were provided to intercept the surface runoff. The implementation status of the mitigation measures was overall satisfactory although minor deficiencies were observed. However, the deficiencies were not likely causing any immediate environmental problem and would be rectified by the Contractor in the short term.

Status of Licences and Permits

Construction noise permits, water discharge license and registration of chemical waste producer were valid in the reporting period.

Environmental Complaints and Legislation

No complaint was received during the reporting period and thus no action to be taken. There was also no notification of summonses and successful prosecutions.

Future Key Issues

Laying of drain pipes, construction of manholes, water tightness test, laying cable trenches and road works will proceed next month. With the wet season had approached, the Contractor should maintain road gullies, catchpits and U-channel in good condition to avoid flooding during rainstorm. Apart from that, the Contractor should take precautionary measures to prevent spread of Denger Fever such as avoiding accumulation of rainwater through proper site management and clearing stagnant water promptly to eliminate mosquitoes breeding place. Moreover, the Contractor should renew the construction noise permit since it expires next month.

The Contractor should continue implement appropriate environmental mitigation in accordance with the contract requirement and the waste management plan.

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1 ENVIRONMENTAL STATUS

1.1 Site Environmental Monitoring and Audit

The EM&A Manual requires no routine environmental monitoring for air quality, noise level and water quality during construction phase.

The EM&A Manual stated that ET leader should carry out site audit at least once per week to ensure that all mitigation measures were implemented timely and properly, and the contract requirement and environmental laws are fully complied. Ad hoc site inspection will be carried out if any non-compliances are identified or upon receipt of an environmental complaint. Apart from the regular site audit, the ET Leader will review the progress of the works with respect to pollution control and anticipated environmental issues and check the status of solid and liquid waste management with reference to the waste management plan.

The ET Leader also reviews the proposals for mitigation measures and the relevant method statement submitted by the Contractor in respect of environmental protection.

1.2 Summary of Non-compliances

Four regular site audits were conducted in the reporting month. It was observed that some mitigation measures had not been fully implemented or the extent was insufficient. They included:

- It was noted that the enclosure of chemical storage place was broken. The Contractor should repair it or provide a new one and cover it with tarpaulin sheet before repairing.
- It was noted that a lot of rain water was accumulated in the site after recent heavy rainfall. The Contractor was reminded to drain off accumulated water after sedimentation to prevent breeding of mosquitoes and contamination of surface runoff or ground water.
- It was observed that the sandbags placed around the manholes in the access road for filtration of muddy runoff near the RE'S site office was damaged. The Contractor should replace the broken sangbags with the new ones to filtrate the surface runoff before they enter the storm drains during rainy days.

1.3 Summary of complaint

No complaint was received during the monitoring period and thus no action to be taken. A detailed summary of complaint was shown in Appendix A.

1.4 Breach of Environmental Regulation

In this reporting period, there was no conviction for breach of environmental legislation and regulations and thus no action was taken.

1.5 Solid and Liquid Waste Management Status

The status of management of solid and liquid waste in accordance with the waste management plan is presented in Table 1.1 below:

Table 1.1 Status of Management of Solid and Liquid Waste

Management of Solid and Liquid Waste	Status
Disposal of Liquid Waste	<ul style="list-style-type: none"> -Sewage generated by the site office was discharged into adjacent Siu Ho Wan Sewage Treatment Plant. -Surface runoff and groundwater were treated by sand bags or de-silting tank before discharging into nearby storm drains, if any. Some surface runoff was infiltrated through the sediment. -Muddy effluent generated from a wheel washing bay via a silt trap before discharging into nearby storm drains. -Portable toilet was provided on site.
Disposal of Construction & Demolition Material <ul style="list-style-type: none"> - Public Fill - Construction & Demolition (C&D) Waste 	<ul style="list-style-type: none"> - No public fill material was disposed. - No C&D waste was disposed.
Disposal of Hazarding Waste	<ul style="list-style-type: none"> - Chemical Waste <p>-Chemical waste was being stored in the chemical containers and housed in a proper place.</p> <p>-The Contractor had appointed Wing Tat Transportation Company (waste collector) to disposed of spent lube oil (~200L) at Dunwell Ind. (Holding) Ltd (Reception point).</p>
Avoidance/ Minimization of Waste <ul style="list-style-type: none"> - Reuse of Material - Recycle of Material - Disposal of General Refuse 	<ul style="list-style-type: none"> -Excavated material had been used for backfilling. -Waste material was segregated into different categories. -Separated recycling bins were provided for collection of aluminum cans, plastic bottles and waste paper. The Contractor has delivered recycled materials (Plastic bottles (2 pcs), Waste paper (6 kg) & Aluminum cans (8 pcs)) to the collector on 30 June 2003. -The refuse bins and refuse container were provided.

1.6 Status of License and Permit

All permits / licenses / notification validated in the monitoring period are summarised in Table 1.2.

Table 1.2 Environmental Licenses and Permits

Description	Permit/ Reference No.	From	To	Section/PME	Status
Application for chemical waste producer registration	TS20011042-001	Whole period		Construction Site	Valid
Notification of const. Work under APCO (CONST DUST)	TS20010805-001	Whole period		Construction Site	Valid
Construction Noise Permit	GW-UW0408-02	06/1/03	05/7/03	Concrete lorry mixer(4), Dump truck(2), Excavator, tracked(2),poker (4), Generator, compactor vibratory, lorry with crane, crane, power rammer, roller vibratory, concrete dump (2), saw, circular, wood(4)	Valid
Water Discharge License@	EP742/972/0031261	19/6/02	30/6/07	Discharge point	Valid

@ No water was sampled for analysis since the Contractor had stopped discharging construction effluent at the discharge point.

2 ENVIRONMENTAL ISSUES AND ACTIONS

2.1 Review of Follow-up Actions for Non-compliances

The following actions have been taken in response to the deficiencies:

- The Contractor had removed the rain water, which accumulated at site area after rainy days.
- The Contractor had put the new sandbags around the manholes in the access road although one of them still absent of sandbags.

2.2 Status of Implementation of Mitigation Measures

Four regular site audits were conducted in the reporting month to check the implementation status of the mitigation measures recommended in the Environmental Permit, the EIA Report, the EM&A Manual and the contract document. The implementation status of the mitigation measures was detailed in the site inspection records, which were kept by the Contractor on site and available for inspection. The implementation status of the mitigation measures was overall satisfactory. Particular implemented mitigation measures are described as follows:

- A wheel washing bay was provided at the site exit. Water sprinklers, water truck and water hoses were provided on site to suppress the dust emission. The Contractor had provided more water sprinklers at the dusty areas.
- Chemical waste containers and chemical waste storage place were provided although the housing of chemical waste storage room was currently broken.
- A portable toilet, refuse bins and refuse container were provided on site.
- Construction waste was segregated. Aluminum cans, plastic bottles and waste paper were separately collected and delivered to the collector for recycling.
- Perimeter channels were provided at the site boundary to intercept the surface runoff.

3 FUTURE KEY ISSUES

Laying cable trenches and drain pipe, water tightness test, construction of manholes and road works will proceed next month. The potential environmental impact and the corresponding environmental mitigation measures are summarised in Table 3.1.

Table 3.1 Construction Activities and Their Corresponding Environmental Mitigation Measures in the Coming Month

Construction Activities	Environmental Impact	Environmental Mitigation Measures
Laying of drain pipes, water tightness test, construction of manholes and laying cable trenches will proceed next month.	Dust Impact & Wastewater	Water the site areas more frequently especially on dry weather days. Cover the exposed surfaces with tarpaulin sheets. Operate wheel washing bay and clear the wheel washing bay regularly. To treat the muddy water in de-silting facilities before discharging into nearby storm drains.
General activities	Waste oil & Construction materials	Properly handle and treat the construction waste, municipal waste and chemical waste. Dispose of municipal waste and waste engine oil by licensed collector

4 CONCLUSIONS

Four regular site audits were conducted in the reporting month to check the implementation status of the mitigation measures and any non-compliance with the environmental requirements.

The implementation status of the mitigation measures was overall satisfactory although minor deficiencies were observed. The deficiencies were not likely causing any immediate environmental problem. Overall, the environmental condition of the site was satisfactory.

The Contractor should take precautionary measures to prevent spread of Denger Fever such as avoiding accumulation of rainwater through proper site management and clearing stagnant water promptly to eliminate mosquitoes breeding place. In addition, the Contractor should keep the whole site clean and remove the garbage from the site regularly and spraying insecticide and mosquitoes oil on the dirty areas to prevent attraction of pest and mosquitoes. Apart from that, the recycling record showed that the recycled quantities of plastic bottles and aluminum cans were unreasonably small. The Contractor should remind their site staff to recycle material on the site as far as practicable.

No complaint was received during the reporting period. There was also no notification of summonses and successful prosecutions.

Summary of Complaints**Appendix A**

Environmental Parameters	Cumulative no. Brought forward	No. of complaint June 2003	Overall total
Noise	0	0	0
Air	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Details of Complaints

Date	Complainant	Detail	Action taken
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Details of Outstanding Issues / Deficiencies

Appendix B

Outstanding Issues / Deficiencies	Action taken
<ul style="list-style-type: none">● It was noted that the enclosure of chemical storage place was broken. The Contractor should repair it or provide a new one and cover it with tarpaulin sheet before repairing.● It was noted that a lot of rain water was accumulated in the site after recent heavy rainfall. The Contractor was reminded to drain off accumulated water after sedimentation to prevent breeding of mosquitoes and contamination of surface runoff or ground water.● It was observed that the sandbags placed around the manholes in the access road for filtration of muddy runoff near the RE'S site office was damaged. The Contractor should replace the broken sangbags with the new ones to filtrate the surface runoff before they enter the storm drains during rainy days.	<ul style="list-style-type: none">● The Contractor agreed to repair it as soon as possible.● The Contractor had removed the rain water, which accumulated at site area after rainy days.● The Contractor had put the new sandbags around the manholes in the access road although one of them still absent of sandbags.

Site Audit Schedule for July 2003

Appendix C

4 July 2003	11 July 2003	18 July 2003	25 July 2003
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Waste Disposal Record

Appendix D

To be submitted in final report