

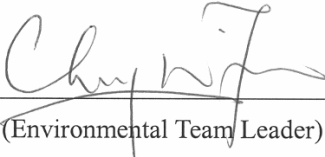
Barbican Construction Co. Ltd.

DSD Contract No. DC/2000/19

**Regulation of Shenzhen River Stage III Phase I
Reprovisioning of Border Road and Fence at Yuen
Leng Chai and Man Kam To**

**Environmental Monitoring and Audit
Quarterly Report
(Version 01)**

September – November 2003

Verified By	 (Environmental Team Leader)
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REMARKS:

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

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

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EXECUTIVE SUMMARY

This is the fifth Environmental Monitoring and Audit (EM&A) Quarterly Summary Report prepared by Cinotech Consultants Limited for the “Regulation of Shenzhen River Stage III Phase I – Re-provisioning of Border Road and Fence at Yuen Leng Chai and Man Kam To” (the Project). This summary report presents EM&A work performed in the period between 26th August 2003 and 25th November 2003.

The construction activities undertaken in the reporting quarter were:-

- Excavation and backfill at Fish pond (Portion A);
- Construction of Reinforced Fill Wall;
- Construction of Box Culvert;
- Construction of Transformer Room;
- Construction of Drain Pipe;
- Construction of Toe Wall;
- Cable duct laying;
- Construction of U-channel and Catch Pit;
- Erection of Security Fence; and
- Installation of Coping.

Environmental Monitoring Works

Environmental monitoring for the Project was performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

Air Quality

1-hour TSP Monitoring

All 1-hour TSP monitoring was conducted as scheduled. A total of 3 Limit Level exceedances were recorded at Village House near pumping station (IM1A), Nga Yiu Tsuen (IM2) and Muk Wu Tsuen (IC) on 3rd November 2003. Smog was observed by our field staff and Air Pollution Index was ranked as “Very High” (112-175) at the nearest air monitoring station (Yuen Long) on 3rd November 2003. ET concluded that the exceedances were due to poor ambient air quality over the region. Therefore, there were no direct evidence shows that the exceedances were due to the construction activities under Contract No. DC/2000/19 and the exceedances were considered to be invalid.

24-hour TSP Monitoring

All 24-hour TSP monitoring was conducted as scheduled. No Action/Limit Level exceedance was recorded during the reporting quarter.

Construction Noise

All construction noise monitoring was conducted as scheduled. No Action/Limit Level exceedance was recorded during the reporting quarter.

Environmental Complaint and Prosecution

One complaint has been received since the commencement of the Project and no complaint and prosecution was recorded in the reporting period.

Environmental Licensing and Permitting

License/Permits granted to the Project include the Environmental Permit (EP) for the Project, Waste Disposal (Chemical Waste) License and Construction Noise Permit.

Future Key Issues

Major construction site activities for the coming month which may cause environmental impact include: Fish pond excavation and backfill, construction of U-channel and catch pit, construction of Reinforced Fill Wall, construction of Transformer Room and Erection of security fence. The anticipated environmental impact will be mainly on dust and noise.

1. INTRODUCTION

- 1.1 Cinotech Consultants Limited (hereinafter called the “ET”) was commissioned by Barbican Construction Co., Ltd. (hereinafter called the "Contractor") to undertake the Environmental Monitoring and Audit (EM&A) works for the Project “Shenzhen River Regulation Project Stage III Phase I – Re-provisioning of Border Road and Fence at Yuen Leng Chai and Man Kam To” (the Project).
- 1.2 The scope of the works in the project comprises:-
- Re-provisioning of border road and border fence;
 - Re-construction and re-surfacing of existing border road;
 - Ancillary road and drainage works; and
 - Landscaping works.
- 1.3 The Project is the Phase I of the Designated Project under the Environmental Impact Assessment Ordinance (Cap. 449) and an environmental impact assessment report titled “Shenzhen River Regulation Project Stage III, Environmental Impact Assessment (EIA) Study” (Register No. AEIAR – 035/2000) has been approved and deposited with Environmental Protection Department (EPD). An Environmental Permit (EP) No. EP-078/2000/B has been issued by EPD for the construction of the proposed works under the Project.
- 1.4 Figure 1 shows the layout plan of the Project. The works have been commenced under DSD Contract No. DC/2000/19. Under the requirements of Conditions 5 of the EP, EM&A programme as set out in the EM&A Manual, environmental monitoring of air quality and noise are required for the construction phase of the project.
- 1.5 Barbican Construction Co., Ltd. was awarded for the project as the Contractor. This is the fifth quarterly EM&A report summarizes the impact EM&A works for the Project between 26th August 2003 and 25th November 2003 (25th of each month as the cut-off day).

Project Organization and Contacts of Key Management

- 1.6 An organization structure and the line of communication were set up for the Project between the Engineer/Engineer Representative (ER), the Contractor and Environmental Team (ET). The contact details of the project are shown in Appendix A.

Construction Programme and Synopsis of Work

1.7 The site activities during the reporting period are summarized in Table 2.1

Table 2.1 Summary of Works Undertaken in the Reporting Months

Item	Work Activity	2003		
		September	October	November
1.	Excavation and backfill at Fish pond	√	√	√
2.	Construction of Reinforced Fill Wall	√	√	√
3.	Construction of Box Culvert	√	---	---
4.	Construction of Transformer Room	√	√	√
5.	Construction of Drain Pipe	√	√	---
6.	Construction of Toe Wall	√	√	√
7.	Cable duct laying	---	---	√
8.	Construction of U-channel and Catch Pit	---	---	√
9.	Erection of Security Fence	---	---	√
10.	Installation of Coping	---	---	√

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality and noise due to the Project. The Project area and monitoring locations are depicted in Figure 1. Appendix B gives details of monitoring requirements.

Monitoring Methodology and Calibration Details

2.2 Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

2.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in Appendix C.

Environmental Mitigation Measures

2.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to adopt.

3. MONITORING RESULTS

Weather Conditions

- 3.1 The weather during monitoring sessions was mainly sunny or cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets.

Air Quality

1-hour TSP

- 3.2 All 1-hour TSP monitoring was conducted as scheduled. A total of 3 Limit Level exceedances were recorded at Village House near pumping station (IM1A), Nga Yiu Tsuen (IM2) and Muk Wu Tsuen (IC) on 3rd November 2003. Smog was observed by our field staff and Air Pollution Index was ranked as “Very High” (112-175) at the nearest air monitoring station (Yuen Long) on 3rd November 2003. ET concluded that the exceedances were due to poor ambient air quality over the region. Therefore, there were no direct evidence shows that the exceedances were due to the construction activities under Contract No. DC/2000/19 and the exceedances were considered to be invalid.

24-hour TSP

- 3.3 All 24-hour TSP monitoring was conducted as scheduled. No Action/Limit Level exceedance was recorded during the reporting quarter.

Noise

- 3.4 All Construction noise monitoring was conducted as scheduled. No Action/Limit Level exceedance was recorded during the reporting quarter.

4. AUDIT RESULTS

Site Audits

Air Quality

- 4.1 No violation was observed during site inspections.

Noise

- 4.2 No violation was observed during site inspections.

Water Quality

- 4.3 During the reporting quarter, accumulated sand and silt was occasionally observed inside the wheel washing bay. The contractor was recommended to desilt the wheel washing bay regularly.

Chemical and Waste Management

- 4.4 Oil dripping onto the ground was occasionally observed within the site area. The Contractor was recommended to prevent oil leakage from machinery.
- 4.5 Oil stained soil was observed on the slope near the chemical storage area on 30th October. The Contractor has removed the oil stained soil on 20th November 2003.
- 4.6 On 30th October 2003, water and oil mixture was accumulated inside drip tray at portion F near site entrance. The Contractor has rectified the situation after the audit session.

Status of Environmental Licensing and Permitting

- 4.7 Environmental licenses and permits including Environmental Permit for the Project, Construction Noise Permit and Waste Disposal (Chemical Waste) License were in place and valid during the reporting quarter. A summary status of licenses and permits is given in Appendix G.

5. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

- 5.1 A total of 3 Limit Level exceedances of 1-hr TSP monitoring were recorded at Village House near pumping station (IM1A), Nga Yiu Tsuen (IM2) and Muk Wu Tsuen (IC) on 3rd November 2003. Smog was observed by our field staff and Air Pollution Index was ranked as “Very High” (112-175) at the nearest air monitoring station (Yuen Long) on 3rd November 2003. ET concluded that the exceedances were due to poor ambient air quality over the region. Therefore, there were no direct evidence shows that the exceedances were due to the construction activities under Contract No. DC/2000/19 and the exceedances were considered to be invalid.
- 5.2 No exceedance of noise limit level was recorded during the reporting quarter.

Review of the Reasons for and the Implications of Non-compliance

- 5.3 There were no non-compliances from the site audits in the reporting quarter.

Summary of Actions Taken

- 5.4 In this reporting quarter, the following mitigation measures were implemented:
- Drip trays for storage of oil buckets have been provided;
 - The water spray system of water truck has been improved; and
 - Oil dripping from the drip tray has been rectified.

6. ENVIRONMENTAL COMPLAINTS

Complaints Log

- 6.1 One complaint has been received since the commencement of the Project and no complaint and prosecution was recorded in the reporting period.

7. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 7.1 No notification of summons and successful prosecutions were recorded during the reporting quarter.

8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

- 8.1 Fish pond excavation and backfill, construction of U-channel and catch pit, construction of Box Culvert, construction of Drain Pipe, construction of Reinforced Fill Wall, construction of Transformer Room and Erection of security fence were the major construction activities undertaken during the reporting quarter. No significant impact on air quality and noise was identified.