JOB NO.: TCS00310/06

DRAINAGE SERVICES DEPARTMENT (DSD) CONTRACT NO. DC/2005/02

CONSTRUCTION OF SEWERS, RISING MAINS & SEWAGE PUMPING STATION AT KAM TIN, NAM SANG WAI AND AU TAU IN YUEN LONG

MONTHLY EM&A REPORT FOR FEBRUARY 2008 DESIGNATED ELEMENTS (NO. 23) (CONSTRUCTION PHASE)

Revision: 0

PREPARED FOR

LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index

Date	Reference No.
08 March 2008	TCS/00310/06/600/R0502

Prepared By	Reviewed By	Certified By	Approved By	Verified By
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Environmental Site Inspection Checklist

Project:	***DSD Contract No. DC/2007/17*** ***Drainage Improvement Works in Cheung Po, Ma On Kong, Yuen Kong San Tsuen and Tin Sam Tsuen of Yuen Long District and Sewerage at Tseng Tau Chung Tsuen, Tuen Mun***	**Inspected by**	**Checklist No.** DC0717-110308
		IEC/IEC's Representative:	COLEMAN NG
		RE/RE's Representative:	TC LAM
Inspection		**ETL/ ET's Representative:**	TW TAM
Date:	**11 March 2008**	**EO/EO's Representative:**	GARY CHOW
Time:	10:00AM	**Contractor's Representative:**	GARY CHOW

PART A: **GENERAL INFORMATION**

Weather: ☑ Sunny ☐ Fine ☐ Cloudy ☐ Rainy ☐ Calm

Temperature: 17 °C

Humidity: ☐ High ☑ Moderate ☐ Low

Wind: ☐ Strong ☐ Breeze ☑ Light ☐

Environmental Permit No.

☐ **EP-231/2005/A**

☐ **EP-263/2007**

☑ **N/A**

Channel	
KT12	No construction activity
KT13	No construction activity
KT14A	No construction activity
KT14B	No construction activity
KT14C	No construction activity

Area Inspected

KT12, KT13, KT14A, KT14B, KT14C and Site office compound

PART B: **SITE AUDIT**

Note: **Not Obs.**: Not Observed; **Yes**: Compliance; **No**: Non-Compliance; **Follow Up**: Observations requiring follow-up actions **N/A**: Not Applicable		**Not Obs.**	**Yes**	**No**	**Follow Up**	**N/A**	**Photo/ Remarks**
Section 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?	☐	☐	☐	☐	☑	
1.02	Is the effluent discharged in accordance with the discharge licence?	☐	☐	☐	☐	☑	
1.03	Is the discharge of turbid water avoided?	☐	☐	☐	☐	☑	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	☐	☐	☐	☐	☑	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	☐	☐	☐	☐	☑	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	☐	☐	☐	☐	☑	
1.07	Is drainage system well maintained?	☐	☐	☐	☐	☑	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	☐	☐	☐	☐	☑	
1.09	Are temporary exposed slopes properly covered?	☐	☐	☐	☐	☑	
1.10	Are earthworks final surfaces well compacted or protected?	☐	☐	☐	☐	☑	
1.11	Are manholes adequately covered or temporarily sealed?	☐	☐	☐	☐	☑	
1.12	Are there any procedures and equipment for rainstorm protection?	☐	☐	☐	☐	☑	
1.13	Are wheel washing facilities well maintained?	☐	☐	☐	☐	☑	
1.14	Is runoff from wheel washing facilities avoided?	☐	☐	☐	☐	☑	
1.15	Are there toilets provided on site?	☐	☐	☐	☐	☑	
1.16	Are toilets properly maintained?	☐	☐	☐	☐	☑	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	☐	☐	☐	☐	☑	
1.18	Is the oil leakage or spillage avoided?	☐	☐	☐	☐	☑	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	☐	☐	☐	☐	☑	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	☐	☐	☐	☐	☑	

Environmental Site Inspection Checklist

Note:	**Not Obs.**: Not Observed; **Yes**: Compliance; **No**: Non-Compliance; **Follow Up**: Observations requiring follow-Up actions **N/A**: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/ Remarks
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	☐	☐	☐	☐	☑	
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	☐	☐	☐	☐	☑	
1.25	No excavation is undertaken in the settlement area.	☐	☐	☐	☐	☑	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☐	☐	☐	☐	☑	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.	☐	☐	☐	☐	☑	
1.25	License collector should be employed for handling the sewage of mobile toilet.	☐	☐	☐	☐	☑	
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☐	☐	☐	☑	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	☐	☐	☐	☐	☑	
2.03	Are the excavated materials sprayed with water during handling?	☑	☐	☐	☐	☐	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	☐	☑	☐	☐	☐	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	☐	☐	☐	☐	☑	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	☐	☐	☐	☐	☑	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☐	☐	☐	☑	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	☐	☐	☐	☐	☑	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	☐	☐	☐	☐	☑	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	☐	☐	☐	☐	☑	
2.11	Is dark smoke emission from plant/equipment avoided?	☐	☐	☐	☐	☑	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	☐	☐	☐	☐	☑	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	☐	☐	☐	☐	☑	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	☐	☐	☐	☐	☑	
2.15	Is open burning avoided?	☐	☐	☐	☐	☑	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	☐	☐	☐	☐	☑	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	☐	☐	☐	☐	☑	
3.02	Is silenced equipment adopted?	☐	☐	☐	☐	☑	
3.03	Is idle equipment turned off or throttled down?	☐	☐	☐	☐	☑	
3.04	Are all plant and equipment well maintained and in good condition?	☐	☐	☐	☐	☑	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	☐	☐	☐	☐	☑	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	☐	☐	☐	☐	☑	
3.07	Are air compressors fitted with valid noise emission labels during operation?	☐	☐	☐	☐	☑	

Environmental Site Inspection Checklist

Note:	**Not Obs.**: Not Observed; **Yes**: Compliance; **No**: Non-Compliance; **Follow Up**: Observations requiring follow-up actions **N/A**: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/ Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☐	☐	☐	☑	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	☐	☐	☐	☐	☑	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	☐	☐	☐	☐	☑	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	☐	☐	☐	☐	☑	
Section 4: Waste/Chemical Management							
4.01	Waste Management Plan had been submit to Engineer for approval.	☐	☑	☐	☐	☐	
4.02	Are receptacles available for general refuse collection?	☐	☐	☐	☐	☑	
4.03	Is general refuse sorting or recycling implemented?	☐	☐	☐	☐	☑	
4.04	Is general refuse disposed of properly and regularly?	☐	☐	☐	☐	☑	
4.05	Is the Contractor registered as a chemical waste producer?	☐	☐	☐	☐	☑	
4.06	Are the chemical waste containers properly labelled?	☐	☐	☐	☐	☑	
4.07	Are the chemical wastes stored in proper storage areas?	☐	☐	☐	☐	☑	
4.08	Is the chemical waste storage area properly labelled?	☐	☐	☐	☐	☑	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☐	☐	☐	☑	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☐	☐	☐	☑	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☐	☐	☐	☑	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☐	☐	☐	☑	
4.13	Are chemical/fuel storage areas bunded?	☐	☐	☐	☐	☑	
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☐	☐	☐	☑	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☐	☐	☐	☑	
4.16	Are construction wastes reused?	☐	☐	☐	☐	☑	
4.17	Are construction wastes disposed of properly?	☐	☐	☐	☐	☑	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☐	☐	☐	☑	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☐	☐	☐	☑	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☐	☐	☐	☑	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☐	☐	☐	☑	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	☐	☐	☐	☐	☑	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	☐	☐	☐	☐	☑	

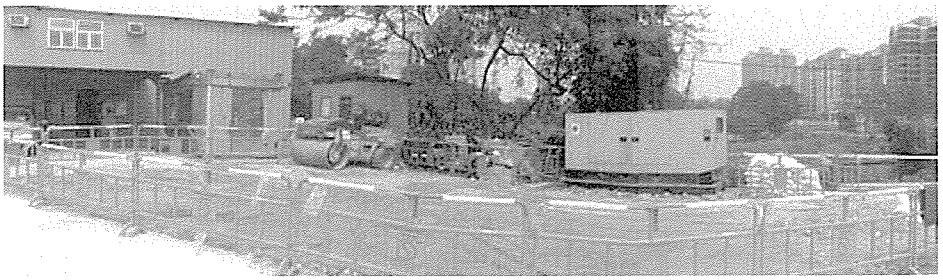
Environmental Site Inspection Checklist

Note:	**Not Obs.**: Not Observed; **Yes**: Compliance; **No**: Non-Compliance; **Follow Up**: Observations requiring follow-Up actions **N/A**: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/ Remarks
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☐	☐	☐	☑	
5.02	Are retained and transplanted trees properly protected?	☐	☐	☐	☐	☑	
5.03	Are surgery works carried out for the damaged trees?	☐	☐	☐	☐	☑	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☐	☐	☐	☑	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☐	☐	☐	☑	
Section 6: Ecology							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?	☐	☐	☐	☐	☑	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?	☐	☐	☐	☐	☑	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?	☐	☐	☐	☐	☑	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☐	☐	☐	☑	

Remarks

1 No construction activities were undertaken during the site inspection. No environmental impacts were observed.

2 Stockpiles of dusty materials was managed properly.



3 Site office compound was kept clean and tidy.

IEC's representative	*RE's representative*	*ET's representative*	*EO's representative*	*Contractor's representative*
( )	( )	(T.W. Tam)	( )	( )

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Executive Summary

ES.01 Leader Civil Engineering Corporation Limited (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project requires an Environmental Monitoring and Audit (EM&A) program to be implemented by an Environmental Team (ET) throughout the contract period in compliance with the requirements as stated in the project Environmental Permit (EP-220/2005) and the Project's Updated EM&A (Designated Elements) Manual.

ES.02 This Monthly Environmental Monitoring & Audit (EM&A) Report for **February 2008 (No. 23)** present the environmental impact monitoring and audit (EM&A) program conducted from **01** to **29 February 2008** for the Designated Elements. The EM&A program in **February 2008** were covered air quality, construction noise and waste management.

Breach of Action and Limit (AL) Levels

ES.03 No Action/Limit Level exceedance was recorded in this reporting month. All the monitoring results were complied with standard.

Complaint Log

ES.04 No environmental complaint was received in this reporting month.

Notification of Any Summons and Successful Prosecution

ES.05 There was no environmental summon or prosecution in this reporting month.

Reporting Changes

ES.06 There are no changes to be reported in this reporting month.

Future Key Issues

ES.07 Construction activities to be undertaken in **March 2008** include backfilling, concreting and extract sheet pile at Kam Tin Pumping Station (P1); backing filling at Sha Po Pumping Station (P2); backfilling and concreting at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at both Nam Sang Wai Road(S4) and Pok Wai South Road(S5 &S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

1.0 BASIC PROJECT INFORMATION

1.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project is part of the Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKTSSD) Scheme. A site layout map showing the site boundary and the work areas is shown in **Annex A**.

1.02 This 23rd Monthly Construction Phase EM&A Report for **February 2008 (Report No. 23)** summarizes the impact monitoring results and audit findings in the reporting month from **01** to **29 February 2008**.

PROJECT ORGANIZATION

1.03 The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in **Annex B**.

CONSTRUCTION PROGRAM OF THE REPORTING MONTH

1.04 A construction program showing the construction work undertaken in this reporting month was shown in **Annex C**. Environmental mitigation measures implemented are shown in **Table 2-1.**

MANAGEMENT STRUCTURE

1.05 The management structure of the Project is shown in **Annex B**.

CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE REPORTING MONTH

1.06 The major construction activities undertaken during the reporting month under the Environmental Permit (EP-220/2005) were shown as follows:

Kam Tin Pumping Station (P1)
- Backfilling
- Concreting

Sha Po Pumping Station (P2)
- Backfilling

Nam Sang Wai Pumping Station (P3)
- Backfilling
- Concreting

Nam Sang Wai Road (S4)
- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Extract sheet pile

Pok Wai South Road (S5 and S6)
- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Extract sheet pile

2.0 ENVIRONMENTAL STATUS

WORK UNDERTAKEN IN THE REPORTING MONTH WITH ILLUSTRATIONS

2.01 A summary of the work undertaken in this reporting month with illustrations and environmental mitigation measures implemented is shown in **Table 2-1**.

Table 2-1 Work Undertaken in the Reporting Month with Illustrations of Mitigation Measures

Location	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	• Sheet piling • Footing construction	• Erect 2.4m high noise barrier hoarding around the works area at P1, P2 and P3	A1 & F6
		• Remove dust and spray water at the construction access	A2
		• Cover the stockpiles of dusty material properly	A3
		• Spray water to all dusty materials immediately before loading and unloading	A4
P2 (Sha Po Pumping Station)	• Hoarding erection	• Wash the wheels of vehicles before leaving the site	A5
P3 (Nam Sang Wai Pumping Station)	• Pipe jacking	• Install and use power-operated cover at the dump trucks	A6
		• Spray water at the pavement breaking locations	A7
		• Spray the working area of excavation frequently	A8
		• Maximize the use of quiet PME on site	B1, B2 & F5
S4 (Nam Sang Wai Road)	• Drilling and grouting	• Apply and obtain appropriate waste disposal licenses	D1
		• Handle, store and dispose of chemical wastes as per relevant regulations	D2, D3 & D4
		• Implement trip-ticket system for waste disposal	D5
		• Restrict open fires and provide fire fighting equipment in the works area	F9
S5 & S6 (Pok Wai South Road)	• Pipe jacking	• Perform weekly inspection with ET and monthly audit with IEC	H1
		• Conduct noise and dust monitoring as per EM&A manual during construction	I1 & I2
		• Provide sedimentation tanks for treating site discharge.	-
		• Recycle wheel washing water and provide sedimentation tanks for treating site discharge.	-

2.02 Photographic records showing the implemented 2.4m high noise barrier at the pumping station (S3) are shown in **Annex D**.

PROJECT DRAWINGS

2.03 Drawings showing the work areas under EP-220/2005 and the locations of the designated monitoring stations are presented in **Annex E**.

2.04 There are four designated air quality (AM1, AM5, AM6 & AM7) and four noise monitoring stations (AM1, AM5, AM6 & AM7) under the project EP. Locations of the monitoring stations and description are summary in the **Table 2-2**.

Table 2-2 Description of the Monitoring Stations

Station ID	Nature of Premise	Site Work Description	Station Coordinates
AM1	Site Boundary in NSW	Sheet piling and trench excavation.	835829 N 822910 E
AM5	Site Boundary in FKH		835121 N 823515 E
AM6	Site Boundary in KT		833308 N 823987 E
AM7	Site Boundary in NSW		836171 N 822586 E
NM3	Village House in NSW		835808 N 822817 E
NM4	Village House in NSW		835282 N 822811 E
NM6	Village House in KT		833288 N 823999 E
NM7	Village House in FKH		835121 N 823495 E

2.05 In this reporting month, the impact monitoring was carried out at four designated air stations and four noise monitoring locations in according to the monitoring schedule.

3.0 SUMMARY OF EM&A REQUIREMENTS

MONITORING PARAMETERS

3.01 Environmental monitoring and audit requirements are set out in the Updated EM&A manual. Air quality and construction noise have been identified to be the key monitoring parameters during the impact phase for the construction of the project.

3.02 A summary of the impact EM&A requirements for air quality and construction noise as per the project Updated EM&A Manual are shown in **Table 3-1**.

Table 3-1 Summary of EM&A Requirements

Environmental Aspect	Monitoring Parameters
Air Quality	24-Hour TSP
Construction Noise	Leq 30min day time 07:00 to 19:00 (Supplementary L10 and L90 for reference.)

ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

3.03 A summary of the Action/Limit (A/L) Levels for air quality and construction noise is shown in **Tables 3-2** and **3-3**.

Table 3-2 Action and Limit Levels for Air Quality

Monitoring Locations	Action Level ($\mu g/m^3$)		Limit Level ($\mu g/m^3$)	
	1-Hour TSP	24-Hour TSP	1-Hour TSP	24-Hour TSP
AM1	> 391	> 184	> 500	> 260
AM5	> 353	> 237	>500	> 260
AM6	> 329	> 183	> 500	> 260
AM7	> 383	> 204	> 500	> 260

Table 3-3 Action and Limit Levels for Construction Noise

Monitoring Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one or more documented complaints are received	> 75 dB(A)

EVENT AND ACTION PLANS

3.04 An Event Action Plan for air quality and construction noise has been implemented for this project. Details of the Event Action Plan are presented in **Annex F**.

ENVIRONMENTAL MITIGATION MEASURES

3.05 The project EIA report has recommended environmental mitigation measures to minimize potential environmental impacts arising from the construction of the project. A full list of the mitigation measures is detailed in **Annex G**.

ENVIRONMENTAL REQUIREMENTS IN CONTRACT DOCUMENTS

3.06 The environmental requirements in the contract documents generally refer to the compliance of the requirements as stipulated in the project EP (EP-220/2005) and the updated EM&A Manual.

4.0 IMPLEMENTATION STATUS

4.01 The implementation status of environmental protection and pollution control/mitigation measures as recommended in the project EIA report are summarized in **Table 2-1** and the implementation schedule as shown in **Annex G**.

4.02 The status of permits, licences, and/or notifications related to environmental protection under this Project during the reporting month is presented in **Table 4-1**.

Table 4-1 Status of Environmental Licenses and Permits

Items	Item Description	License/Permit Status
1	Environmental Permit No.: EP-220/2005	Issued in June 2005
2	Air Pollution Control (Construction Dust)	Notified EPD on 24 Dec 2005
3	Chemical Waste Producer Registration (No. 5213-528-L2544-08)	Registration on 27 Jan 2006
4	Water Pollution Control (Discharge License No. 1U434/1)	Issued on 08 May 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005
6	Piling Permit (CNP No. PP-RN0004-07)	Valid (7 May 2007 to 06 Feb 2008)
7	Construction Noise Permit (CNP No. GW-RN0355-07)	Valid (24 Aug 2007 to 23 Feb 2008)
8	Construction Noise Permit (CNP No. GW-RN0379-07)	Valid (09 Sep 2007 to 02 Mar 2008)
9	Construction Noise Permit (CNP No. GW-RN0479-07)	Valid (06 Nov 2007 to 05 May 2008)

5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

5.01 The 24-Hour TSP monitoring was carried out by a High Volume Air Sampler (HVAS) in compliance with the updated EM&A Manual. The HVAS employed complied with the PS specifications including.

- Power supply of 220v/50 Hz for 24-Hour continuous operation;
- 0.6-1.7 m^3/min (20-60 SCFM) adjustable flow rate;
- A 7-day mechanical timer for 24-Hour operation;
- An elapsed time indicator with ±2 minutes accuracy for 24-Hour operation;
- Minimum exposed area of 63 in^2;
- Flow control accuracy of ±2.5% deviation over 24-Hour operation;
- An anodized aluminum shelter to protect the filter and sampler;
- A motor speed-voltage control to control mass flow rate with accuracy of ±2.5% deviation over 24-Hour sampling period;
- Provision of a flow recorder for continuous monitoring;
- Provision of a peaked roof inlet;
- Incorporation with a manometer; and
- An 8”x10” stainless steel filter holder to hold, seal and easy to change the filter paper.

5.02 The filter papers used in 24-Hour TSP monitoring were of size 8"x10" and provided by a local HOKLAS-accredited laboratory, ALS Techichem Pty (HK) Limited (HOKLAS No. 66). The filters papers after measurements were returned to the laboratory for the required treatment and analysis. The validation of all monitoring practices and data were following the in-house QA/QC procedures. Blank filters samples were collected and delivered to the HOKLAS-accredited laboratory for QA/QC check.

5.03 The meteorological information during the reporting month was obtained from Lau Fau Shan Station of the Hong Kong Observatory (HKO).

METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

5.04 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (Leq) measured in decibels (dB). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.

5.05 Hand-held sound level meters (B&K Model 2238) and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specification were used for taking the baseline noise measurements.

5.06 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq).

5.07 No noise measurement was made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s.

LABORATORY AND MONITORING EQUIPMENT USED

5.08 A local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66), is responsible for the analytical testing of the 24-Hour TSP filter papers.

5.09 Monitoring equipment used in the impact EM&A program is presented in **Table 5-1**.

Table 5-1 Monitoring Equipment Used in Impact EM&A Program

Env. Aspect	Parameters	Monitoring Equipment
Air Quality	24-Hour TSP	Greasby Anderson GMWS2310 High Volume Air Sampler
Noise	Leq30min	B&K Sound Level Meter Type 2238
	On-site Calibration	B&K Noise Calibrator Type 4231

EQUIPMENT CALIBRATION

5.10 Initial calibration of the HVAS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference.

5.11 The sound level meters were calibrated using an acoustic calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.

5.12 The renew calibration certificates of the monitoring equipment used during the impact monitoring program in this month are attached in **Annex H**.

PARAMETERS MONITORED

5.13 The environmental parameters monitoring in this reporting month were compliance with the monitoring requirements as in **Table 3-1**.

MONITORING LOCATIONS

5.14 There are four designated air quality and four noise monitoring stations under the project EP. For this reporting month, monitoring was carried out at four designated air (AM1, AM5, AM6 & AM7) and four noise (NM3, NM4, NM6 & NM7) monitoring stations. The locations of the designated monitoring stations are shown in **Table 5-2** and geographically in **Annex E**.

Table 5-2 Location of Air Quality and Construction Noise Monitoring Stations/Locations

Air Quality (4 Stations)	
AM1	Worksite boundary facing scattered house in Nam Sang Wai
AM5	Worksite boundary facing Fung Kat Heung
AM6	Worksite boundary facing scattered near Route 3
AM7	Worksite boundary facing scattered house in Nam Sang Wai
Construction Noise (4 Locations)	
NM3	Village House in Nam Sang Wai
NM4	Village House in Nam Sang Wai
NM6	Scattered House near Route 3
NM7	Fung Kat Heung

MONITORING FREQUENCY AND PERIOD

5.15 The impact 24-Hour TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 20 monitoring events were carried out in this reporting month.

5.16 The impact noise monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 16 monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Table 5-3** to **5-7**. No Action/Limit Level exceedance of air quality and construction noise was recorded in this reporting month.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hour TSP (μg/m^3)			
	AM1	AM5	AM6	AM7
01-Feb-08	27	90	20	28
11-Feb-08	96	101	99	82
16-Feb-08	94	99	97	87
22-Feb-08	25	123	65	68
28-Feb-08	no power	123	86	100
Average (Range)	61 (25-96)	107 (90-123)	73 (20-99)	73 (28–100)

All 24-Hr TSP monitoring were preset to start at 00:00 on each monitoring date.
* Action/Limit Level exceedance was recorded.

Table 5-4 Summary of Noise Monitoring Results at NM3

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
04-Feb-08	15:06	51.7	52.4	51.9	51.5	50.1	50.3	51.4	54.4
13-Feb-08	13:42	43.8	43.3	44.4	45.8	45.5	47.3	45.2	48.2
19-Feb-08	10:33	48.6	47.7	48.8	47.7	44.3	45.5	47.4	50.4
25-Feb-08	11:23	56.6	55.5	55.4	55.0	55.7	55.4	55.6	58.6
Limit Level									**75**

* A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.

Table 5-5 Summary of Noise Monitoring Results at NM4

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
04-Feb-08	15:52	53.3	50.2	49.0	53.0	53.2	51.6	52.0	55.0
13-Feb-08	11:28	52.6	52.2	52.1	53.4	52.9	55.6	53.3	56.3
19-Feb-08	10:34	51.5	50.9	50.3	49.8	51.5	51.1	50.9	53.9
25-Feb-08	9:58	49.3	51.4	49.5	54.1	49.0	53.7	51.7	54.7
Limit Level									**75**

* A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.

Table 5-6 Summary of Noise Monitoring Results at NM6

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
04-Feb-08	13:01	59.0	58.2	62.1	63.2	61.4	61.3	61.2	
13-Feb-08	10:46	61.1	58.4	55.6	55.1	59.8	64.4	60.3	No
19-Feb-08	14:29	57.9	59.5	59.0	58.7	58.3	60.5	59.1	Correction
25-Feb-08	14:21	56.8	59.1	59.6	59.4	60.0	59.6	59.2	Required
Limit Level									**75**

* Noise monitoring was undertaken at the façade, correction was not necessary.

Table 5-7 Summary of Noise Monitoring Results at NM7

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
04-Feb-08	14:22	53.0	51.6	50.9	52.2	54.3	54.6	53.0	
13-Feb-08	14:26	58.1	57.8	56.3	56.5	57.3	56.8	57.2	No
19-Feb-08	11:17	55.0	58.4	55.9	56.1	52.9	54.6	55.8	Correction
25-Feb-08	13:00	54.6	53.9	56.8	53.6	51.4	54.2	54.4	Required
Limit Level									**75**

* Noise monitoring was undertaken at the façade, correction was not necessary.

5.18 The monitoring schedule for the next reporting month is shown in **Table 5-8**.

Table 5-8 Monitoring Schedule for the Next Reporting Month

Date		Air Quality	Noise Leq 30min
1-Mar-08	Sat		
2-Mar-08	Sun		
3-Mar-08	Mon		
4-Mar-08	Tue		
5-Mar-08	Wed		
6-Mar-08	Thu		
7-Mar-08	Fri		
8-Mar-08	Sat		
9-Mar-08	Sun		
10-Mar-08	Mon		
11-Mar-08	Tue		
12-Mar-08	Wed		
13-Mar-08	Thu		
14-Mar-08	Fri		
15-Mar-08	Sat		
16-Mar-08	Sun		
17-Mar-08	Mon		
18-Mar-08	Tue		
19-Mar-08	Wed		
20-Mar-08	Thu		
21-Mar-08	Fri		
22-Mar-08	Sat		
23-Mar-08	Sun		
24-Mar-08	Mon		
25-Mar-08	Tue		
26-Mar-08	Wed		
27-Mar-08	Thu		
28-Mar-08	Fri		
29-Mar-08	Sat		
30-Mar-08	Sun		
31-Mar-08	Mon		

	Monitoring Day
	Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING MONTH

5.19 The meteorological data during the monitoring month are summarized in **Annex I**.

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

5.20 The graphical plots of air quality and construction noise monitoring data are presented in **Annex J**.

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.21 The weather conditions at the time of monitoring were considered acceptable for monitoring activities and did not have significant impact on the monitoring results obtained.

OTHER FACTORS INFLUENCING THE MONITORING RESULTS

5.22 There were no other noticeable external factors generally affecting the monitoring results in this reporting month.

QA/QC RESULTS AND DETECTION LIMITS

5.23 Not applicable.

6.0 REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS OF SUMMONS (NoS) AND SUCCESSFUL PROSECUTIONS

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

6.01 There was no Action or Limit Level exceedance in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

6.02 There was no environmental complaint received in this reporting month.

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

6.03 There was no notification of summons or prosecution received in this reporting month.

REVIEW OF REASONS FOR AND IMPLICATIONS OF NC, COMPLAINTS AND NOS

6.04 No NC, complaints or NoS was received in this reporting month.

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.05 No NC, complaints or NoS was received in this reporting month.

7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in **March 2008** include backfilling, concreting and extract sheet pile at Kam Tin Pumping Station (P1); backing filling at Sha Po Pumping Station (P2); backfilling and concreting at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at both Nam Sang Wai Road(S4) and Pok Wai South Road(S5 &S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

SOLID AND LIQUID WASTE MANAGEMENT STATUS

7.02 The quantities of waste for disposal or reuse in this reporting month are summarized in **Tables 7-1** and **7-2**.

Table 7-1 Summary of Waste Quantities for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	2,744	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	0	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	21	Refuse Collector

Table 7-2 Summary of Waste Quantities for Reuse/Recycling

Type of Waste	Quantity	Disposal Location
Metals for Recycling (kg)	0	NA
Paper for Recycling (kg)	0	NA
Plastics for Recycling (kg)	0	NA

7.03 There was no site effluent discharged but an estimated volume of less than 50m^3 of surface runoff was discharged in the reporting month.

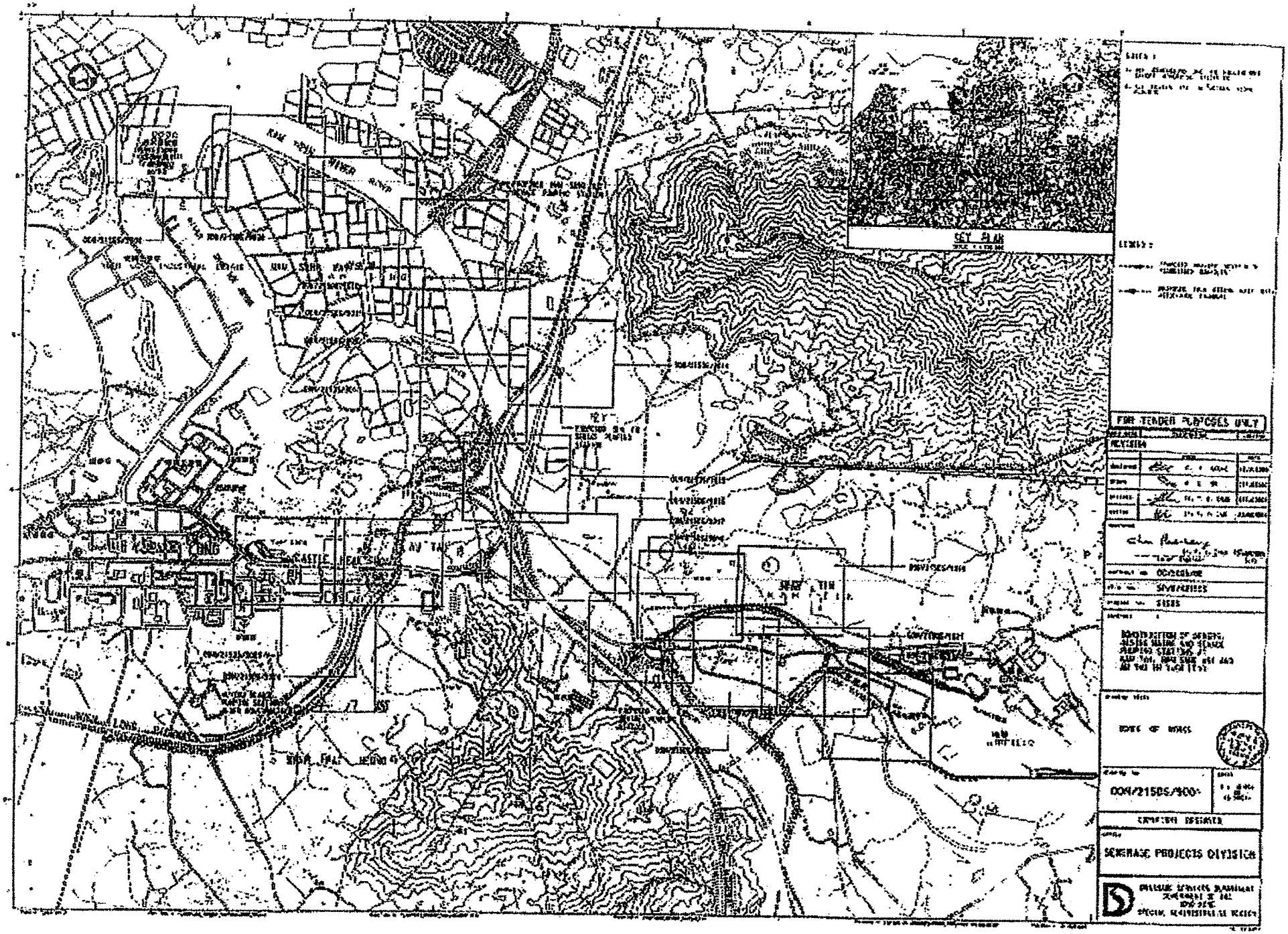
SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly joint site inspection on 05, 12, 22 and 26 February 2008 to evaluate the site environmental performance. The monthly IEC site audit for **February 2008** was proposed undertaken at the early of March 2008. No non-compliance was noted and five observations were recorded in weekly and monthly site inspection.

7.05 Proforma of the weekly ET site inspection activities are presented in **Annex K**.

Annex A

Project Site Layout

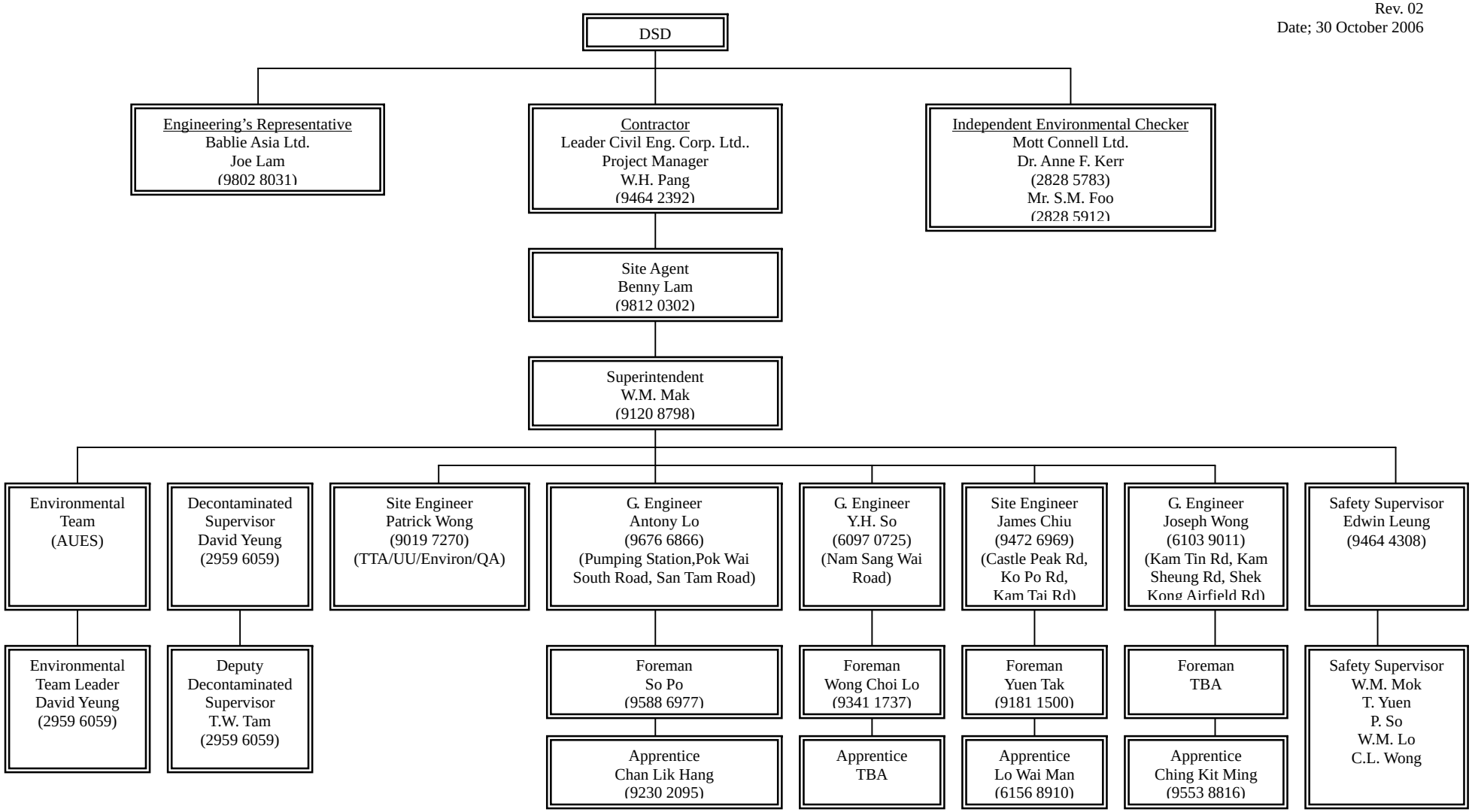

KEY PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

Annex B

Project Organization and Management Structure

DSD Contract No. DC/2005/02
Construction of Sewers, Rising Mains and Sewage Pimping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long
Project Environmental Organization Chart

Rev. 02
Date; 30 October 2006



Annex C

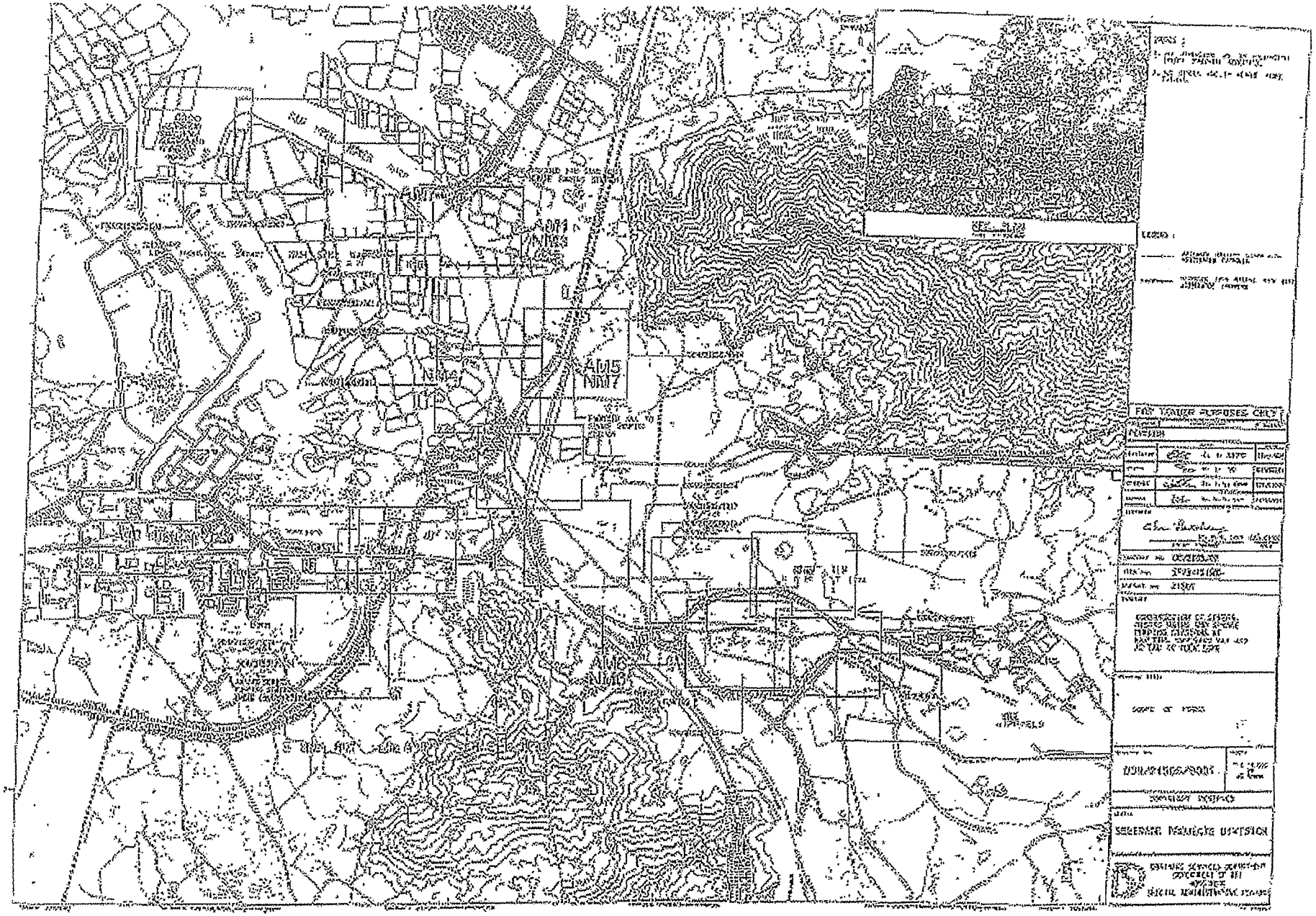
Construction Program

Annex D

Photographical Records – Noise Barrier On-Site

Annex E

Locations of Monitoring Stations



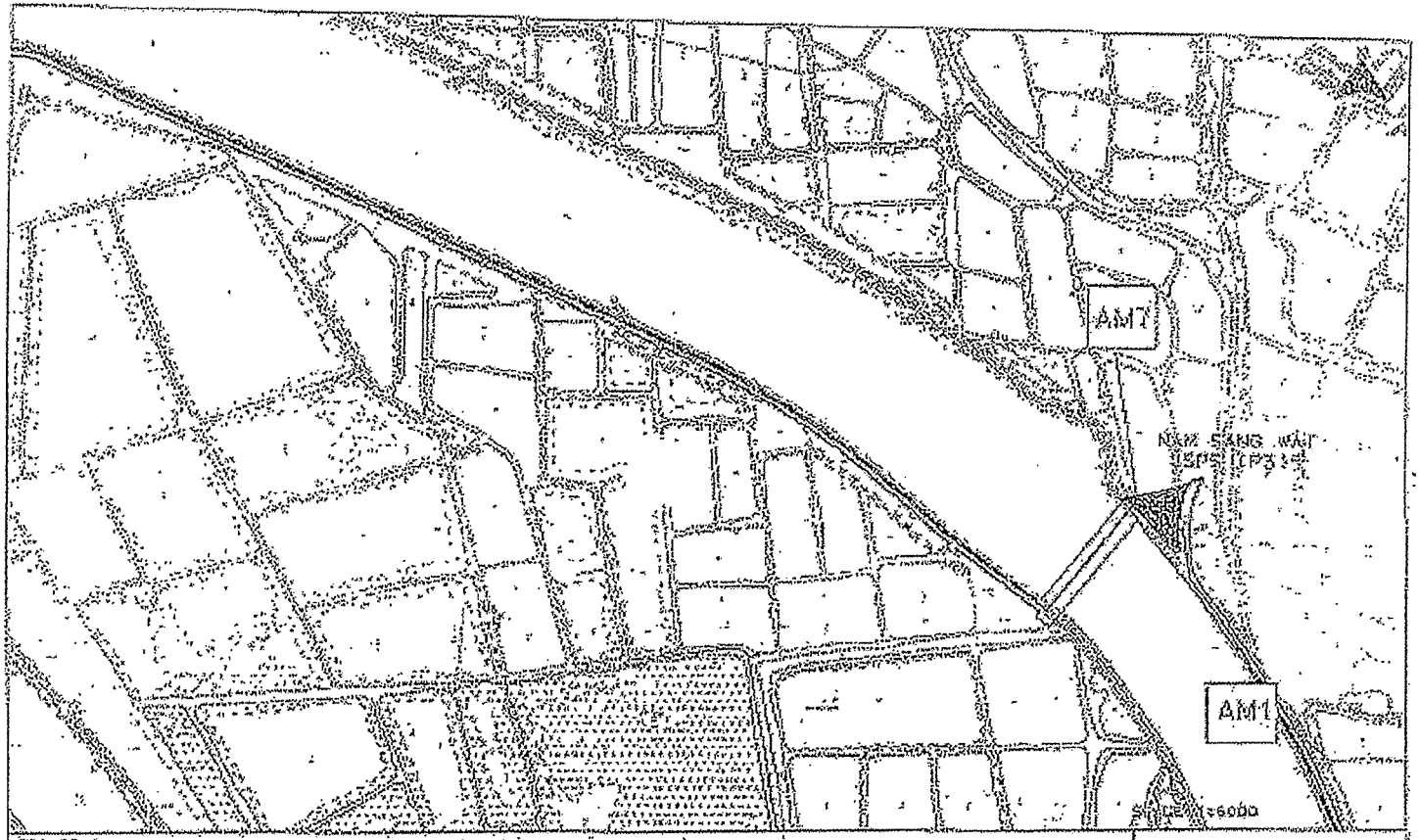


FIGURE 61 LOCATION OF DUST MONITORING STATIONS AM7 AND AM1

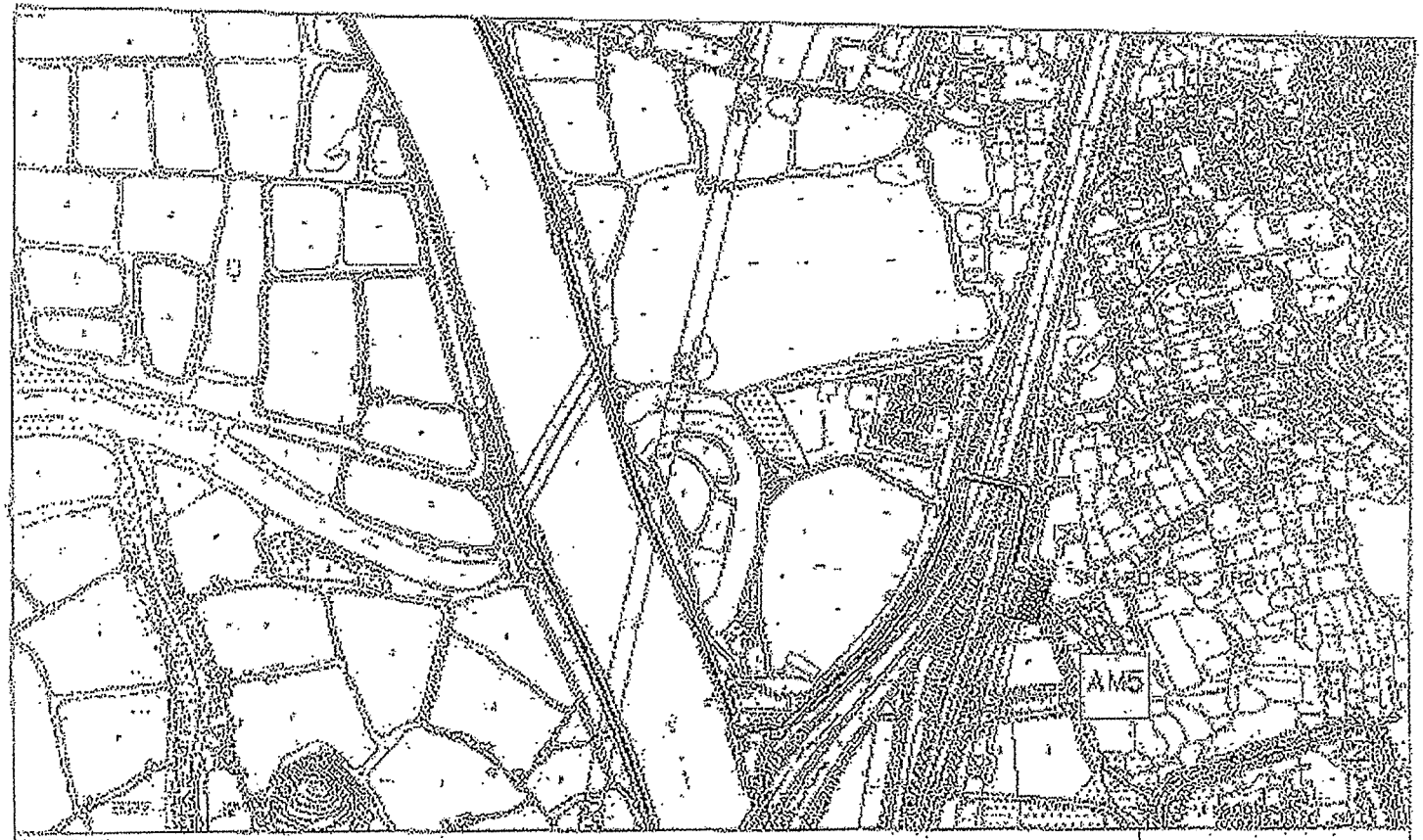


FIGURE 02

LOCATION OF DUST MONITORING STATION (AM5)

FIGURE 6.0 LOCATION OF DUST MONITORING STATIONS (AM1, AM5 & AM10)

FIGURE 4.1 LOCATION OF NOISE MONITORING STATIONS (NM1, NM2, NM3, NM4)

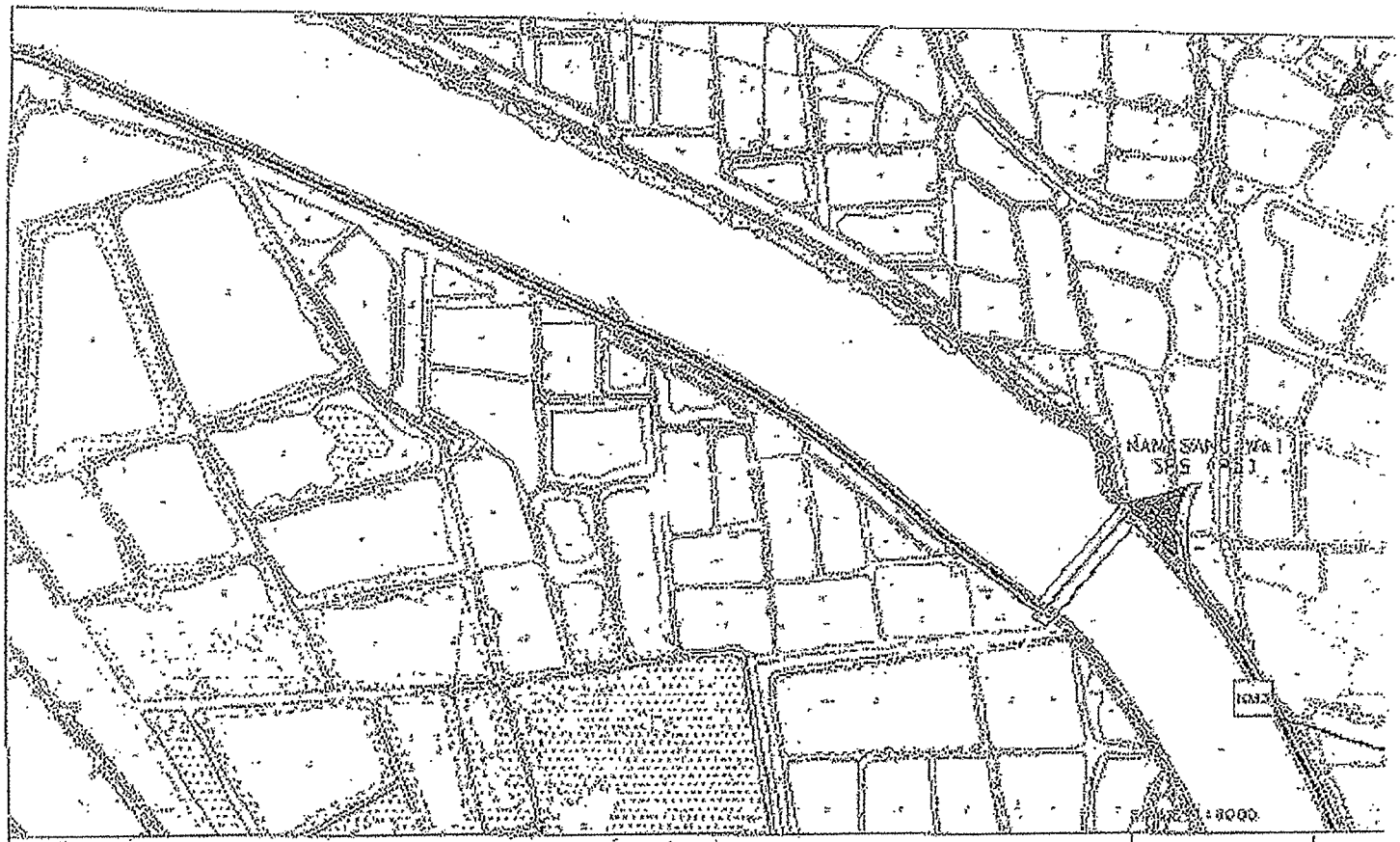


FIGURE 08

LOCATION OF NOISE MONITORING STATIONS (NMS - 5 & 6)

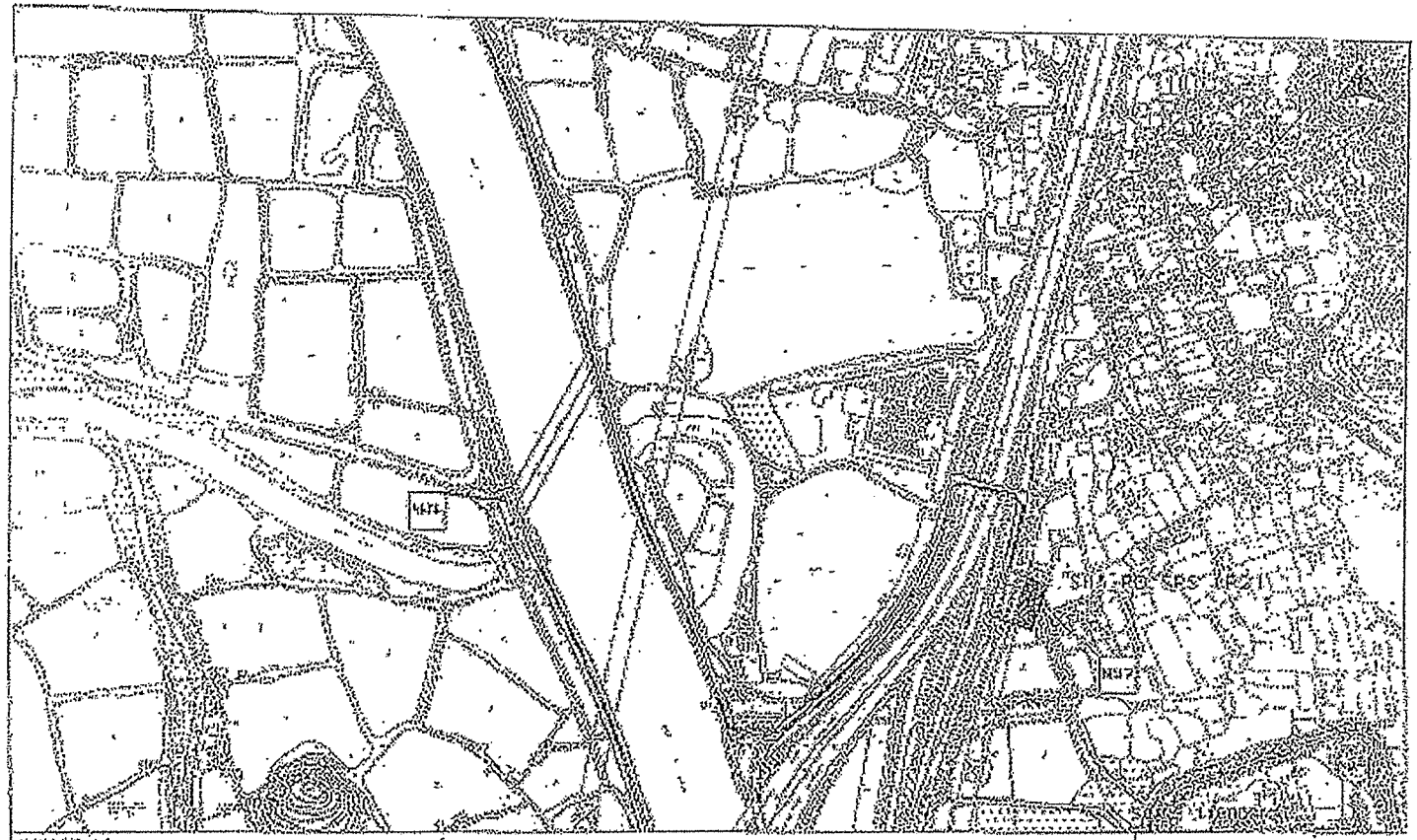


FIGURE 20.

LOCATION OF NOISE MONITORING STATIONS (1994 MAP)

Annex F

Event and Action Plan

Event and Action Plan for Construction Phase Air Quality

EVENT	ACTION			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Action Level				
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. Increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors working methods 3. Check and confirm Contractors proposed remedial actions and working methods are appropriate	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Inform complainant of actions taken, if necessary	1. Rectify any unacceptable practice 2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce dust impact 3. Amend working methods and remedial proposals if required by the Engineer or IEC 4. Implement the agreed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed 4. Discuss remedial actions with IEC and Contractor 5. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions 6. If exceedance stops, inform the Contractor and cease additional monitoring	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors working methods 3. Discuss with Contractor and Engineer on possible remedial measures 4. Check and confirm Contractors proposed remedial measures are appropriate 5. Determine the efficacy of remedial actions and keep the Engineer informed	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions
Limit Level				

Event and Action Plan for Construction Phase Air Quality

EVENT	ACTION			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. Increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, Engineer and EPD informed	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors working methods 3. Check and confirm Contractors proposed remedial actions and working methods are appropriate 4. Check and confirm Contractors proposed remedial measures are appropriate 5. Determine the efficacy of remedial actions and keep the Engineer informed	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC, 4. Ensure remedial measures are properly implemented 5. Inform complainant of actions taken, if necessary.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed 4. Discuss remedial actions with IEC and Contractor 5. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions 6. If exceedance stops, inform the Contractor and cease additional monitoring.	1. Discuss with Contractor and Engineer on possible remedial measures 2. Check and confirm Contractors proposed remedial measures are appropriate 3. Determine the efficacy of remedial actions and keep the Engineer informed	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated 6. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions

Event and Action Plan for Construction Noise				
EVENT	**ACTION**			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Limit Level				
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. If repeat measurements confirm exceedance ,increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed 5. If exceedance stops, inform Contractor and cease additional noise monitoring	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors working methods 3. Check and confirm Contractors proposed remedial actions and working methods are appropriate	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Inform complainant of actions taken, if necessary	1. Rectify any unacceptable practice 2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce noise impact 3. Amend working methods and remedial proposals if required by the Engineer or IEC 4. Implement the agreed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily 4. Discuss remedial actions with IEC, Engineer and the EPD 5. Assess the efficacy of remedial measures and keep the Contractor informed 6. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions 7. If exceedance stops, inform the Contractor and cease additional monitoring.	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors working methods 3. Discuss with Contractor and Engineer on possible remedial measures 4. Check and confirm Contractors proposed remedial measures are appropriate 5. Determine the efficacy of remedial actions and keep the Engineer informed	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated 6. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions 6. Stop the relevant portion of work as determined by the Engineer until the exceedance is abated

Annex G

Mitigation Implementation Schedule

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		CONSTRUCTION PHASE								
		AIR QUALITY - *Construction Phase*								
		The following measures are enforceable under the *Air Pollution Control (Construction Dust) Regulations*								
		Site boundary and entrance								
3.5	A1	• where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the boundaries of the seven pumping stations sites and the works area where the Engineer's site office and the Contractor's site office erected;	To prevent access to the site and control potential dust impacts from construction works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part III, Clause 13 (c), Air Pollution Control (Construction Dust) Regulations*
		Access Road								
3.5	A2	• the portion of any road leading only to a construction site that is within 30 m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;	To control potential dust impacts from vehicle movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part III, Clause 14, (b), Air Pollution Control (Construction Dust) Regulations*
		Stockpiling of Dusty Materials								
3.5	A3	• any stockpile of dusty materials should be either covered entirely by impervious sheeting and placed in an area sheltered on the top and the 3 sides or sprayed with water so as to maintain the entire surface wet;	To control potential dust impacts during excavation and stockpiling activities.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 18, (a, b & c), Air Pollution Control (Construction Dust) Regulations*
		Loading, unloading or transfer of dusty materials								
3.5	A4	• all dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading and unloading so as to maintain the dusty materials wet;	To control potential dust impacts during material handling and truck movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 19, Air Pollution Control (Construction Dust) Regulations*
		Use of vehicles								
3.5	A5	• every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site;	To control potential dust impacts from vehicle movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 21, (1), Air Pollution Control (Construction*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
3.5	A6	• where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	To control potential dust impacts during material transportation.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Dust) Regulations Part IV, Clause 21, (2), Air Pollution Control (Construction Dust) Regulations*
		Power-driven drilling, and cutting								
3.5	A7	• water should be continuously sprayed on the surface where any mechanical breaking operation that causes dust emission is carried out, unless the process is accompanied by the operation of an effective dusty extraction and filtering device;	To control potential dust impacts during mechanical breaking.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 22, Air Pollution Control (Construction Dust) Regulations*
		Excavation and earth moving								
3.5	A8	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet;	To control potential dust impacts arising from excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 24, Air Pollution Control (Construction Dust) Regulations*
		Construction of the superstructure of a building								
3.5	A9	• where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the round floor level of the SPS, or if a canopy is provided a the first floor level, from the first floor level, up to the highest level of the scaffolding; and	To control potential dust impacts from SPS building construction works.	Full duration of SPS construction contract.	The Contractor		✓			*Part I, Clause 6, (a), Air Pollution Control (Construction Dust) Regulations*
3.5	A10	• any skip hoist for material transport should be totally enclosed by the impervious sheeting.	To control potential dust impacts during material transportation.	Full duration of SPS construction contract.	The Contractor		✓			*Part I, Clause 6, (b), Air Pollution Control (Construction Dust) Regulations*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		NOISE - *Construction Phase*								
		General Site Clearance – Demolition Works								
4.7.1	B1	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997 (Examples of these PME are shown in Table F2)*,	To control potential noise impacts during site clearance and demolition works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Construction of Sewage Pumping Stations P1, P2 & P3								
4.7.1	B2	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To minimise potential noise impacts arising during the construction of *P1, P2 & P3*	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		• Adoption of temporary noise barrier, in the form of a site hoarding (with a superficial density of at least 20kg/m2, with no substantial gaps), along the site boundary of the pumping station sites.	To minimise potential noise impacts arising during the construction of *P1, P2 & P3*	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Sewers and Rising Mains using Open Trench Method								
4.7.1	B3	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts during excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
4.7.1	B4	• Use of handheld breakers for all initial road opening activities, when breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached.	To control potential noise impacts during road opening activities.	Where there are NSRs located within 50m of the line of sight. Throughout the full duration of the road opening activities.	The Contractor		✓			
4.7.1	B5	• Use of movable noise barriers or 3 sided enclosures for all initial road opening activities	To control potential noise impacts during road opening	Where there are NSRs located within 50m of the	The Contractor		✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		enclosures for all initial road opening activities (breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached), where there are NSRs located within 50m of the line of sight from the works area.	activities.	line of sight. Throughout the full duration of the road opening activities.						
		Sewers and Rising Mains using Pipe Jacking Method								
4.7.1	B6	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts from PME during construction works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Road Pavement and Finishes								
4.7.1	B7	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts from PME during pavement and finish works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		WATER QUALITY - *Construction Phase*								
		No water quality monitoring is required under this study.								
		WASTE - *Construction Phase*								
6.6.2	D1	The Contractor shall obtain the necessary waste disposal permits from the appropriate authorities for the disposal of chemical and C&D waste, • Chemical Waste Producer and Chemical Waste Disposal Licence *(Waste Disposal (Chemical Waste) (General) Regulations); and* • Dumping Licence (*Land (Miscellaneous Provisions) Ordinance (Cap 28))*	To monitor the collection, handling and disposal of chemical waste and C&D waste, and in compliance with relevant Hong Kong Standards and Regulations.	Site wide and throughout the full duration of the construction contract.	The Contractor	✓	✓			*Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), the Land (Miscellaneous Provisions) Ordinance (Cap 28))*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		Chemical Waste								
6.6.2	D2	Chemical waste that is produced, as defined by Schedule 1 of the *Waste Disposal (Chemical Waste) (General) Regulation,* should be handled in accordance with the regulations and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. All chemical waste producers should be registered with the EPD.	To control the handling, storage and disposal of chemical waste, in order to minimise potential spillages/leakages and human health and environmental impacts.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part II, (6) Waste Disposal (Chemical Waste) (General) Regulation*
		Storage, Packaging and Labelling of Chemical Waste								
6.6.2	D3	Containers used for storage of chemical wastes should: • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.	To ensure the proper storage, packaging and labelling of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (9, 10, 11 & 12) Waste Disposal (Chemical Waste) (General) Regulation*
		Storage of chemical waste								
6.6.2	D4	The storage area for chemical wastes should: • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and • be arranged so that incompatible materials are	To ensure the proper storage of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (13,14, 15, 16, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		adequately separate								
		Disposal of chemical waste • The Contractor should ensure that the disposal of chemical waste is via a licensed Waste Collector and in accordance with the *Waste Disposal (Chemical Waste) (General) Regulations*.	To control the disposal of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (20 -25) Waste Disposal (Chemical Waste) (General) Regulation*
6.6.2	D5	*Management of Waste Disposal* A trip-ticket system should be established which monitors the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping, in accordance with *Land (Miscellaneous Provisions) Ordinance (Cap28)* and the *Works Bureau Technical Circular No. 5/99.*	To monitor the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase.	The Engineer/ Contractor		✓			*Land (Miscellaneous Provisions) Ordinance (Cap 295) and Works Bureau Technical Circular No. 5/99.*
		LAND CONTAMINATION- *Construction Phase*								
7.5.6	E1	A revised CAP should be submitted to the EPD for approval before the commencement of the construction works. Following receipt of the EPD's approval, the CAP shall be implemented and the findings of the investigations will be reported in the Contaminated Assessment Report (CAR), before ground disturbance is allowed at the concerned sites. If land contamination is confirmed, a Remediation Action Plan (RAP) shall be prepared, and both the CAR and the RAP shall be submitted as a combined report to the EPD for approval before disturbing the ground of the concerned sites. If applicable and required in consultation with the	To determine the presence of soil and groundwater contamination and remedy any potential concerns to acceptable levels.	To be implemented before the commencement of the construction works.	To be Implemented by DSD or their sub-consultants at the Detailed Design Stage, depending upon when site access can be gained.	✓				*EIAO TM Annex 19/3.1.1 & 3.1.2*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		EPD, the contaminated site(s) shall be remediated in accordance with the approved CAR/RAP.								
		ECOLOGY - *Construction Phase*								
		Mitigation Measures Adopted - Avoidance								
8.7.1	F1	Construction activities shall be prohibited during the winter season (November to March) along the section of the proposed sewerage alignment, which fall within the Deep Bay Wetland Conservation Area and the Deep Bay Wetland Buffer Area (WCA and WBA) and close to the locations of ecologically sensitive species (including Intermediate Egret, Black-faced Spoonbill, Buzzard, Imperial Eagle and Avocet). (See Figure 8.7a attached). Regular site inspections (at least twice a month) should be conducted by the Environmental Team during the winter season (November to March) to ensure proper implementation of this restriction	To schedule construction works in order to minimise potential impacts to winter visiting birds. To be confirmed by regular site inspections.	At identified location (*Figure 8.7a*) for the full duration of the construction contract.	The Contractor		✓			
		Mitigation Measures Adopted - Minimisation								
8.7.2	F2	Pipe jacking method should be used instead of dredging where sewers and rising mains cross over existing MDC within the WCA and WBA.	To minimise potential construction noise impacts to ecological sensitive receivers within the WCA/WBA.	For the full duration of the construction contract.	The Contractor		✓			
8.7.2	F4	Regular inspections (at least twice a month) should be conducted by the ET during the winter season (November to March) for the remaining sections of the proposed sewerage alignment (including parts of S4, S5 and S6) within the WCA and WBA, where construction activities cannot be rescheduled. The site inspections shall check and report the number of workfronts and implementation of	To schedule noisy construction activities to minimise potential impacts to winter visiting birds.	Work fronts other than identified sections within WBA & WCA (see *Figure 8.7a* attached) throughout the full duration of the construction contract.	The Contractor		✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		mitigation measures (i.e. erection of movable noise barriers with a suitable footing along the sites) in the monthly EM&A reports.								
		Mitigation Measures Adopted								
8.7.3	F5	Quietened construction plant and equipment (as shown in *Table F2*) should be used for the construction of pumping stations (P3 and P2) and sewerage alignment (S4, S5 and S6) located within the WCA and WBA.	Quiet construction plant shall minimise potential noise impacts to the wildlife, particularly rare birds including Black-faced Spoonbill, Buzzard, Hobby, Imperial Eagle, Intermediate Egret, Avocet and Black-eared Kite	At described locations and throughout the full duration of the construction contract.	The Contractor		✓			
8.7.4	F6	Erection of fences along the boundary of pumping station construction sites (P1 to P3) before the commencement of construction works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent areas, and P2 to avoid disturbance to the remaining pond areas (0.7 ha);	To erect fences to prevent encroachment of construction activities onto adjacent areas.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F7	No filling and dumping to the remaining abandoned fishpond at P2.	To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	At P2 for full duration of the construction contract	The Contractor		✓			
8.7.4	F8	Installation and operation of silt removal facilities at construction sites of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage. The minimal total combined volume of the silt removal facilities at Nam Sang Wai SPS (P3) should be 15m^3.	To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F9	No open fires within the site boundary during	To prohibit open fires, thereby	Site wide and throughout	The Contractor		✓			*Air Pollution Control*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		construction and provide temporary fire fighting equipment in the work areas.	minimising potential damage to trees and shrubs.	the full duration of the construction contract.						*(Open Burning) Regulation*
8.7.4	F7	No filling and dumping to the remaining abandoned fishpond at P2.	To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	At P2 for full duration of the construction contract	The Contractor		✓			
8.7.4	F8	Installation and operation of silt removal facilities at construction sites of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage.	To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F9	No open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas.	To prohibit open fires, thereby minimising potential damage to trees and shrubs.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Air Pollution Control (Open Burning) Regulation*
		FISHERIES - *Construction Phase* No specific mitigation measures are required for inclusion in the EP.								
		CULTURAL HERITAGE – Not Applicable for Package 1A-1T (DC/2005/02)								
		LANDSCAPE AND VISUAL - ***Construction Phase***								
	H1	The site inspections shall check and report the implementation of mitigation measures (i.e. top-soil are reused and new compensatory planting works are carried out immediately after the construction of the civil structure) in the monthly EM&A reports. The first monthly EM&A Report should also report the appearance of the temporary hoarding barriers.	To minimise potential landscape and visual impacts.	To be implemented during the construction phases of the project.	The Contractor		✓			
	H2	Prior to application for an Environmental Permit, a set of landscape plans and building elevations of the proposed pumping stations should be	To minimise potential landscape and visual impacts.	To be implemented during the design and construction phases of the	DSD and The Contractor	✓	✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		submitted for approval by the EPD. The landscape plans and pumping station elevations should demonstrate that the following elements are considered: • existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting		project.						
		• incorporate information on materials, details and textures so as to be as visually recessive as possible and in a style that fits with the surrounding village buildings. • colour should be of low chromatic intensity to reduce the potential contrast between the structures and their background. The external finishing of the Pumping Stations shall be designed in conjunction with the landscape scheme. • a minimum screen planting of 3m width and use of trees with a dense canopy of up to 5 m in height subject to constraints such as engineering and land availability. • felling of mature trees are kept to a minimum.								
		EM&A REQUIEMENTS - *Construction Phase* *Air Quality*								
3.7	I1	Subject to the Environmental Protection Departments (EPDs) agreement, construction phase dust monitoring shall be undertaken at the following locations in accordance with the recommendations of the EIA. • Worksite boundary facing Scattered house in Nam Sang Wai (AM1); • Worksite boundary facing Fung Kat Heung (AM5); • Worksite boundary facing Scattered House near Route 3 (AM6);	Installations of the dust monitoring stations to ensure the action and limit levels are not exceeded.	At specified dust monitoring locations for the duration of the construction works.	To be undertaken by the Environmental Team (ET) and reviewed and audited by the Engineer /DSD		✓			*Air Pollution Control (Construction Dust) Regulations*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		• at any additional locations, where considered necessary, in agreement with EPD.								
4.9.1	I2	*Construction Noise* Subject to the Environmental Protection Departments (EPDs) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations of the EIA. • (NM3) Scattered House in Nam San Wai (D12); • (NM4) Scattered House in Nam San Wai (D11); • (NM6) Scattered House near Route 3 (D17); • (NM7) Fung Kat Heung (D19); • and at any additional locations, where considered necessary, in agreement with EPD	Installations of the noise monitoring stations to ensure the action and limit levels are not exceeded.	At specified noise monitoring locations throughout the duration of the construction works.	To be undertaken by the Environmental Team (ET) and reviewed and audited by the Engineer		✓			*Noise Control Ordinance*
Des = Design, C = Construction, O = Operation, Dec = Decommissioning										

Annex H

Equipment Calibration Certificates

Equipment Calibration List for Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Project

Items	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1*	Air	Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	19 Feb 08	19 May 08
2		Greasby Anderson GMWS2310 High Volume Sampler	0355 (AM5)	12 Jan 08	12 Apr 08
3		Greasby Anderson GMWS2310 High Volume Sampler	10394 (AM6)	02 Jan 08	02 Apr 08
4*		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	19 Feb 08	19 May 08
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2292168	17 Apr 07	17 Apr 08
6		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285721	17 Apr 07	17 Apr 08

Note: Calibration certificates will only be provided if monitoring equipment is re-calibrated or new.
* Calibration done in this reporting month, see calibration certificate attached.

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Nam Sang Wai	Date of Calibration:	19-Feb-08
Location ID :	AM 1	Next Calibration Date:	19-May-08
Serial No:	0329	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1024.9	Corrected Pressure (mm Hg)	768.675
Temperature (^{o}C)	14.9	Temperature (K)	288

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	0285		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.5	4.5	9	2.001	54	56.21	Slope = 48.1053
13	3.8	3.8	7.6	1.839	48	49.97	Intercept = -39.7625
10	2.7	2.7	5.4	1.552	33	34.35	Corr. coeff. = 0.9975
7	2	2	4	1.338	22	22.90	
5	1.3	1.3	2.6	1.081	13	13.53	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

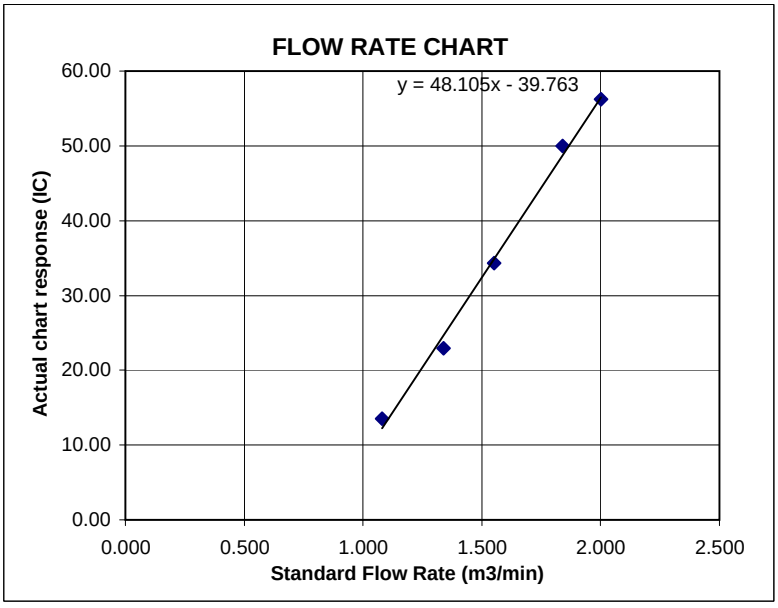
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Nam Sang Wai	Date of Calibration:	19-Feb-08
Location ID :	AM 7	Next Calibration Date:	19-May-08
Serial No:	1283	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1024.9	Corrected Pressure (mm Hg)	768.675
Temperature (^{o}C)	14.9	Temperature (K)	288

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	0285		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	4.7	4.7	9.4	2.044	44	45.80
13	3.7	3.7	7.4	1.815	36	37.48
10	2.5	2.5	5	1.494	27	28.11
7	1.8	1.8	3.6	1.270	20	20.82
5	1.2	1.2	2.4	1.039	15	15.61

LINEAR REGRESSION

Slope = 30.1760
Intercept = -16.6844
Corr. coeff. = 0.9978

Calculations :

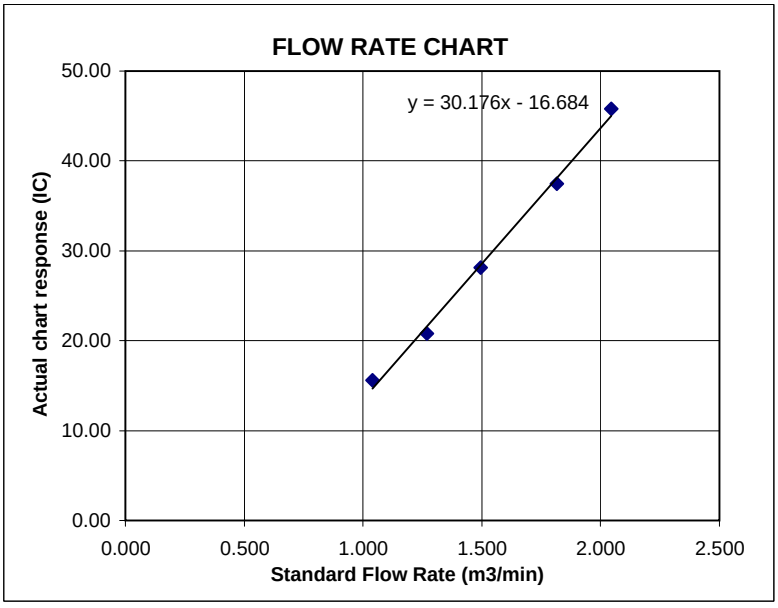
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



Annex I

Meteorological Data in the Reporting Month

Meteorological Data Extracted From the HK Observatory at Lau Fau Shan Weather Station

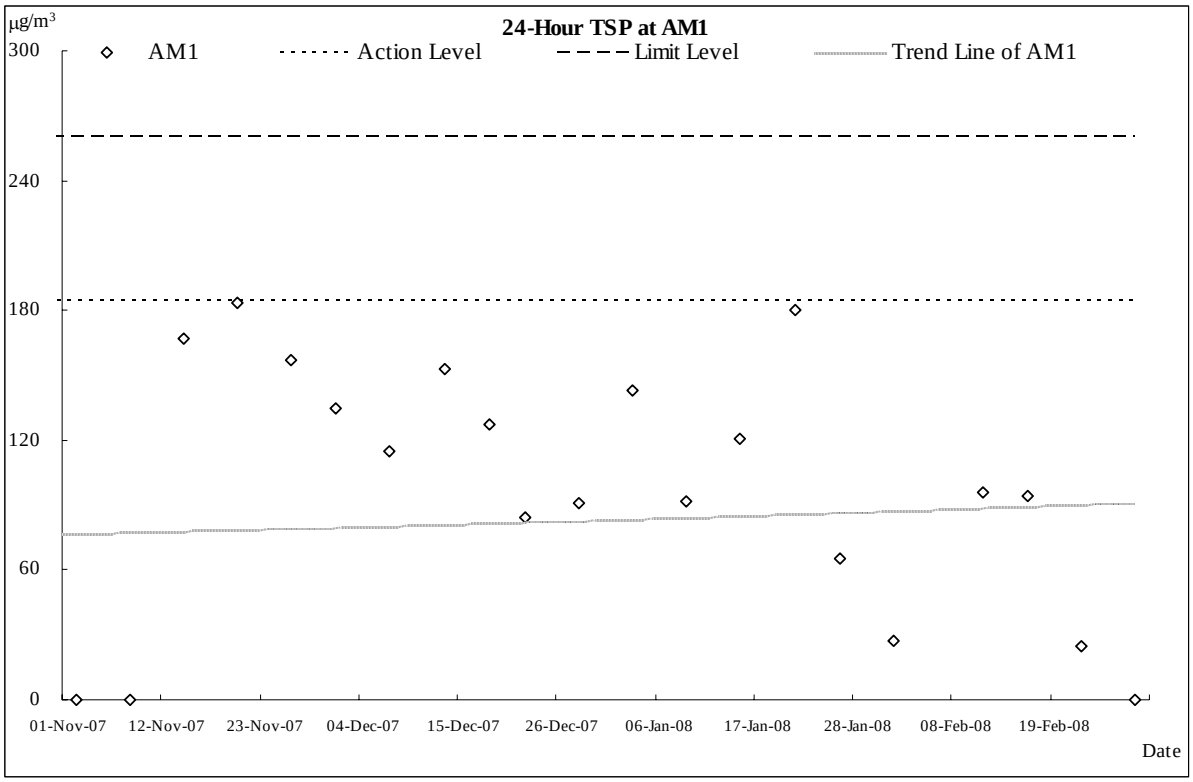
Date		Weather	Lau Fau Shan Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Feb-08	Fri	cold/cloudy/rain/moderate/fresh	0	8.8	13.2	82.5	E/NE
2-Feb-08	Sat	overcast/rain/cold/moderate/fresh/strong	12.3	6.8	15.5	83	N/NE
3-Feb-08	Sun	cloudy/cold/rain/moderate	0.3	10	12.2	61.5	W/SW
4-Feb-08	Mon	cloudy/cold/rain/moderate	Trace	9.5	10.5	75	E/NE
5-Feb-08	Tue	cold/rain/moderate	1.6	10.4	9.5	79.5	E/NE
6-Feb-08	Wed	sunny periods/cloudy/cold/moderate	0.3	10.6	18	71.5	N/NE
7-Feb-08	Thu		Holiday				
8-Feb-08	Fri		Holiday				
9-Feb-08	Sat		Holiday				
10-Feb-08	Sun	cloudy/dry/cold/moderate	0	10.6	12	49	N/NE
11-Feb-08	Mon	cloudy/dry/cold/moderate	Trace	8.8	12	52	N/NE
12-Feb-08	Tue	very dry/sunny periods/cold/moderate/fresh	Trace	10.2	18.5	60	N/NE
13-Feb-08	Wed	cold/very dry/sunny periods/cloudy/moderate	Trace	11.4	16	36.5	NE
14-Feb-08	Thu	cloudy/cold/dry/moderate	Trace	12.2	12	44	N/NE
15-Feb-08	Fri	cloudy/very dry/cold/moderate	0.3	13.2	12	49.5	N
16-Feb-08	Sat	cloudy/rain/cold/moderate	Trace	12.8	12	48.5	E
17-Feb-08	Sun	sunny periods/moderate	0.4	14.8	14	70	W/SW
18-Feb-08	Mon	sunny periods/moderate	0	16.4	13.5	71.5	E/NE
19-Feb-08	Tue	cloudy/sunny periods/moderate	Trace	15.6	11.5	70	E
20-Feb-08	Wed	fine/dry/haze/moderate	0	15.2	12.5	71.5	E/NE
21-Feb-08	Thu	fine/dry/haze/moderate	0	15.9	12	66.5	E
22-Feb-08	Fri	cloudy/rain/moderate	3.8	17.6	12.5	72.5	E
23-Feb-08	Sat	cloudy/rain/moderate/cool	7.1	18.4	7.5	84	E/SE
24-Feb-08	Sun	cloudy/rain/cool/fresh/strong	0.4	15.2	17.5	79	E
25-Feb-08	Mon	cloudy/rain/fresh/strong	0.5	16.2	12	83	E/NE
26-Feb-08	Tue	cloudy/misty/rain/moderate/fresh/strong	Trace	14.6	16	79.5	E/NE
27-Feb-08	Wed	fine/dry/moderate/fresh	Trace	13.6	23	70	N/NE
28-Feb-08	Thu	fine/dry/haze/moderate	0	14.2	12	60	E
29-Feb-08	Fri	cloudy/dry/haze/rain/moderate	0.6	9.8	10	54.5	W/SW

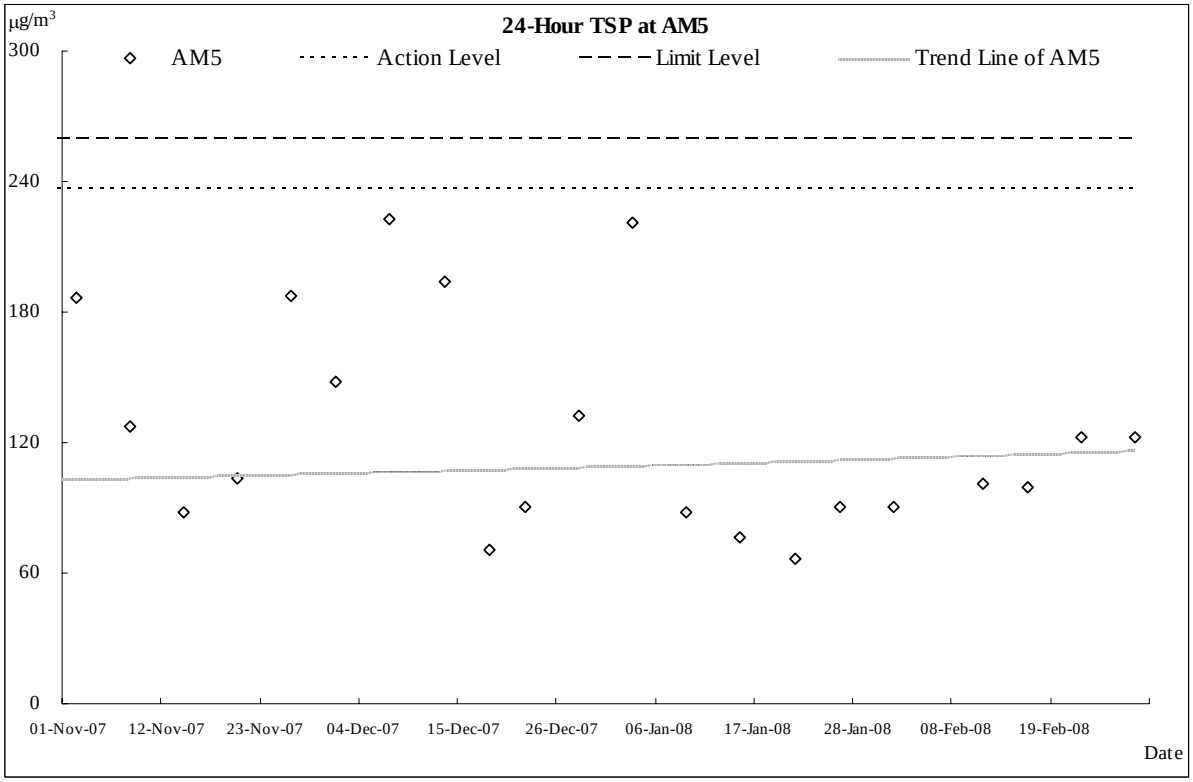
Annex J

Graphical Plots of Air Quality and Construction Noise Monitoring Results

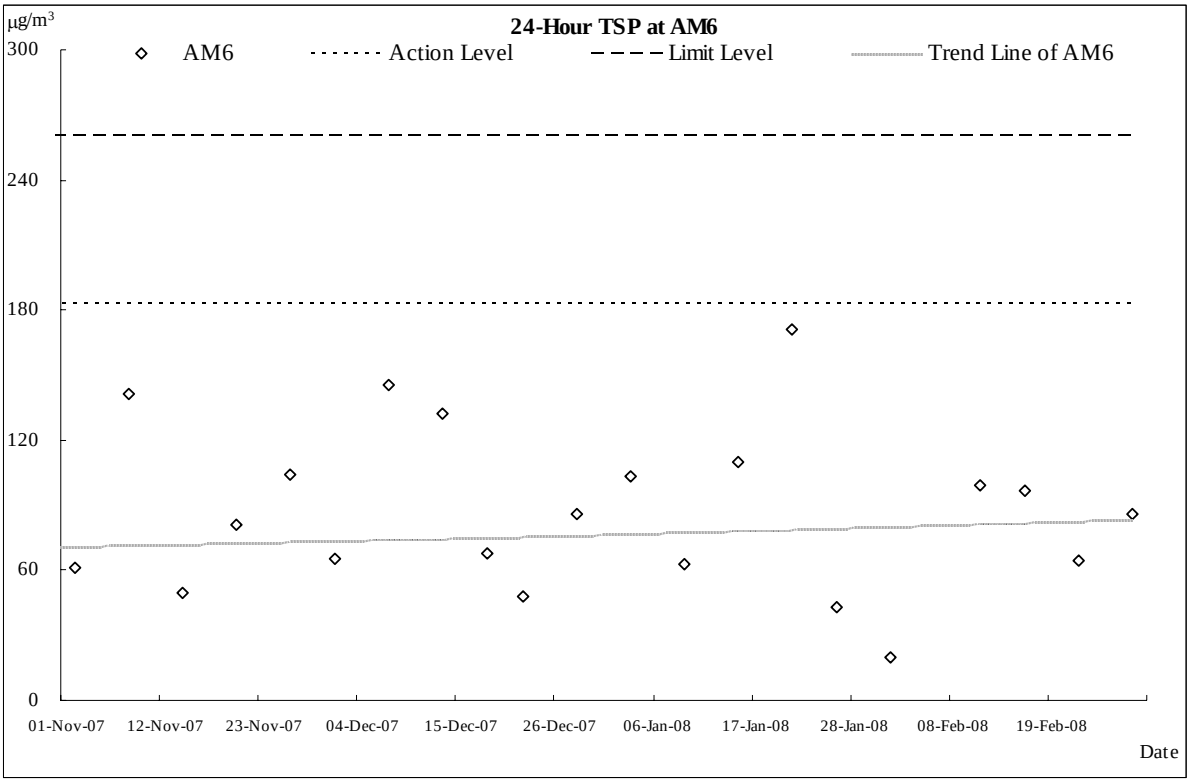
Air Quality

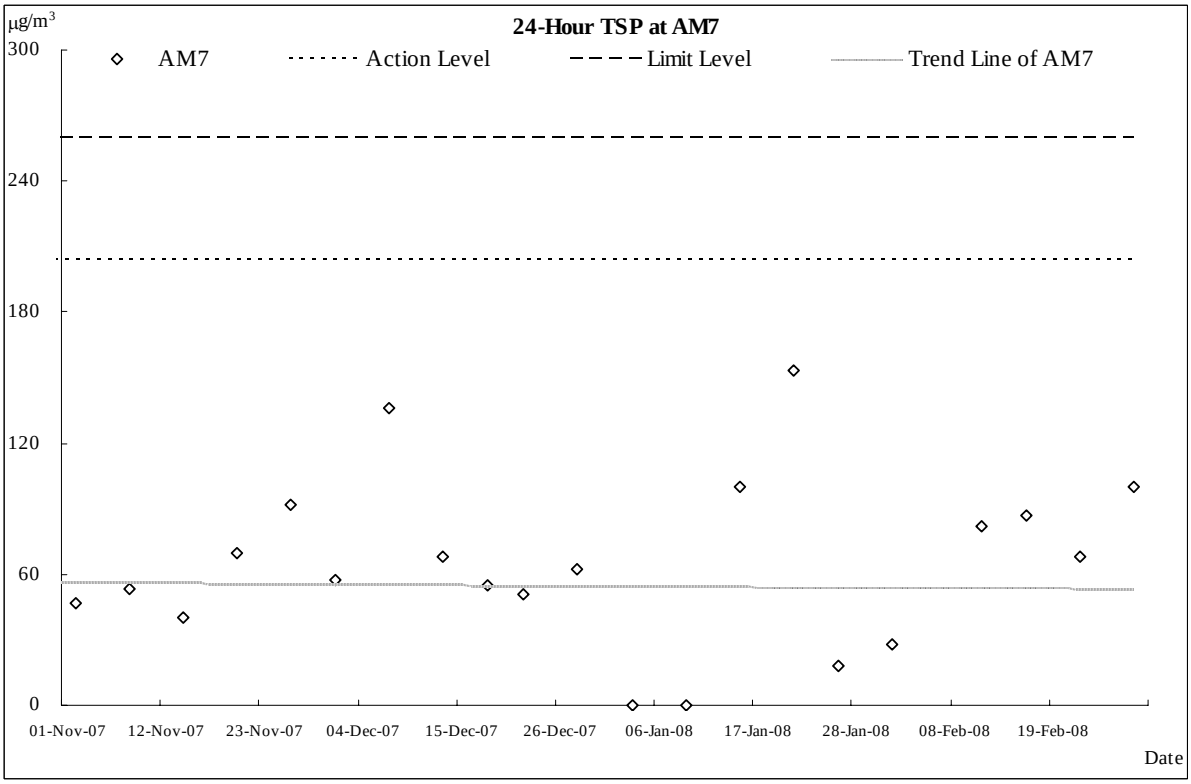
Air Quality Monitoring Results





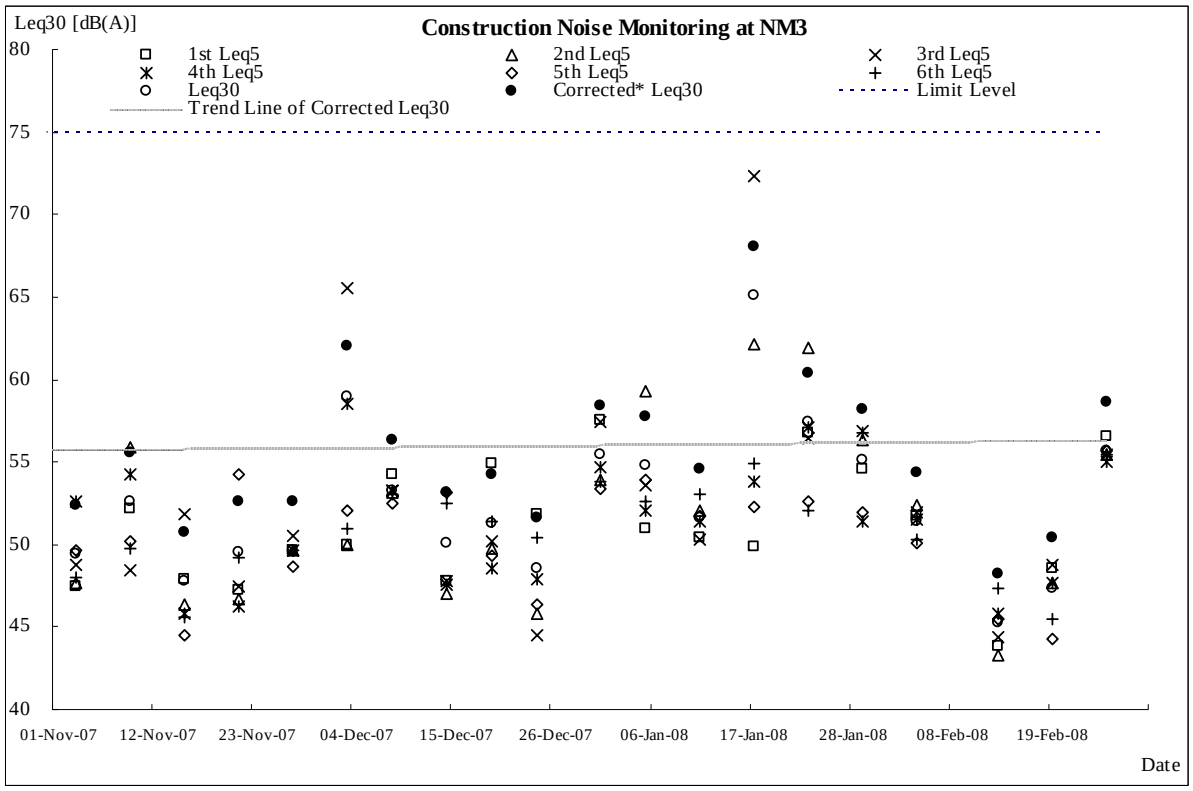
Air Quality Monitoring Results

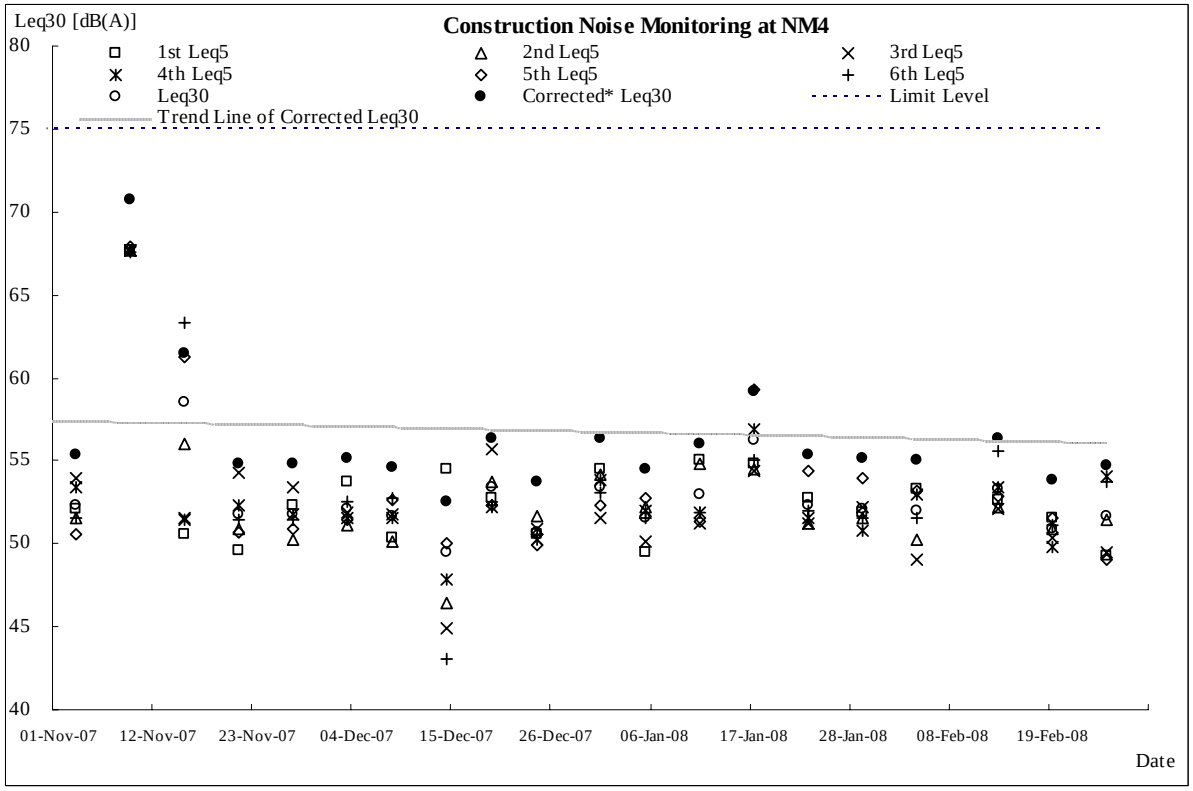




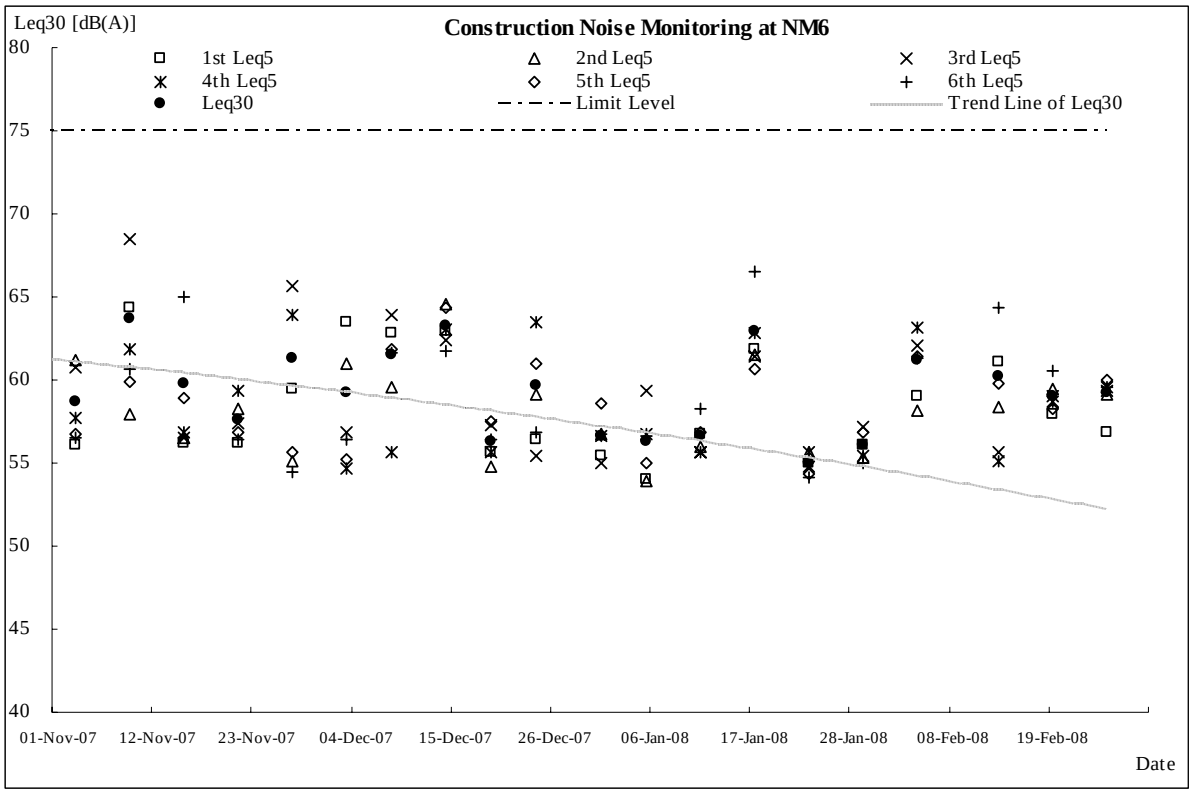
Construction Noise

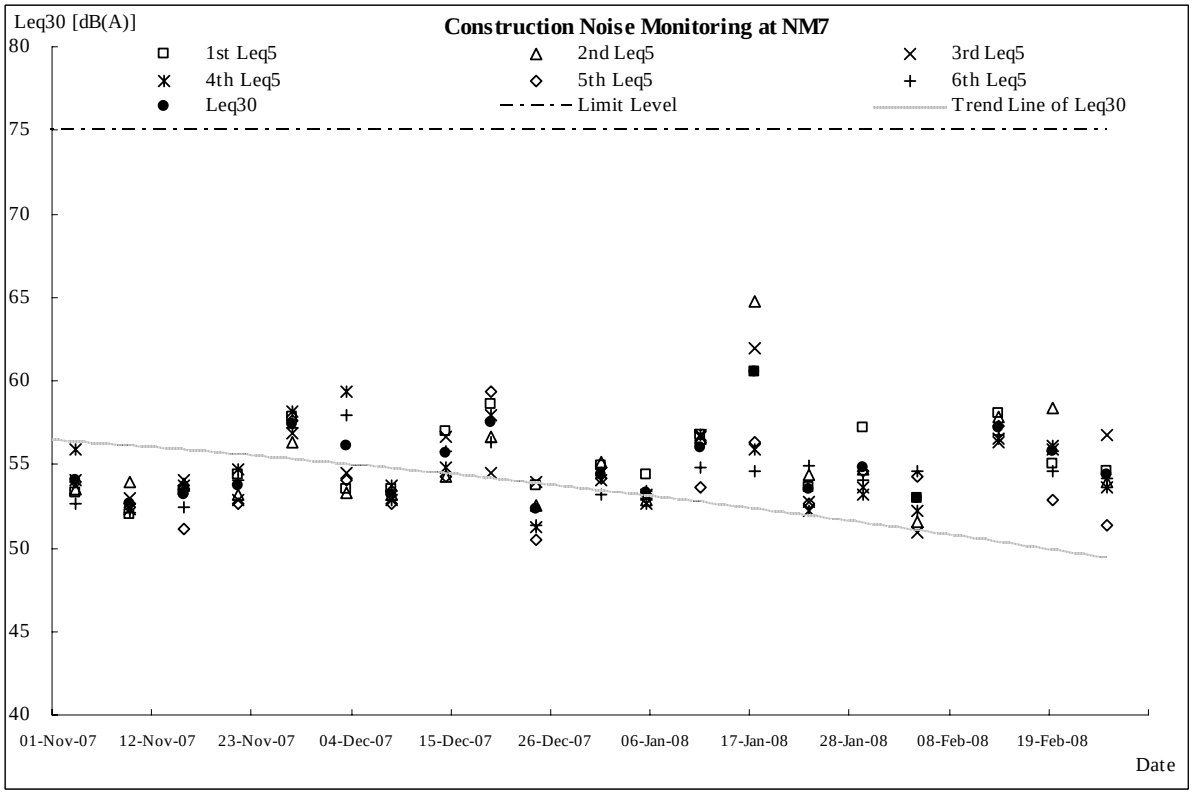
Construction Noise Monitoring Results





Construction Noise Monitoring Results





Annex K

Proforma of Site Inspection & IEC Audit in the Reporting Month

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Benny/Edwin**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**05 February 2008 (10:00)**
	RE's Rep: **Mr. Hui**	**Checklist Reference No.:**	**DSD-AT050208**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [14] °C

Humidity: [✓] High (RH > 90%) [ ] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [✓] Light [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	✓					
Is silenced equipment used where appropriate?	✓					
Are noise enclosures or noise barriers used where necessary?	✓					
Does specified equipment has valid noise label?	✓					
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

Water Quality & Drainage		Yes	NO	NA	NC	Follow-up	Remarks
Is a wastewater discharge license obtained for the Project?		✓					
Is site effluent discharged in accordance with the discharge license?		✓					
Is the discharge of silty water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?		✓					
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?	✓					
	Is chemical waste stored properly?	✓					
	Is there proper disposal?	✓					
	Is chemical waste license available for inspection?	✓					
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

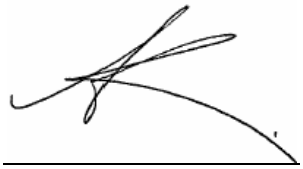
Previous Audit Follow-up:

Nil

Observations Recorded in this Site Inspection:

No environmental issue was observed during the inspection.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name :Ken Wong	Name:	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Benny/Edwin**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**12 February 2008 (10:00)**
	RE's Rep: **Mr. Hui**	**Checklist Reference No.:**	**DSD-AT120208**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [12] °C

Humidity: [✓] High (RH > 90%) [ ] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [✓] Light [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

Construction Noise						
Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	✓					
Is silenced equipment used where appropriate?	✓					
Are noise enclosures or noise barriers used where necessary?	✓					
Does specified equipment has valid noise label?	✓					
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

Water Quality & Drainage		Yes	NO	NA	NC	Follow-up	Remarks
Is a wastewater discharge license obtained for the Project?		✓					
Is site effluent discharged in accordance with the discharge license?		✓					
Is the discharge of silty water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?		✓					
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?	✓					
	Is chemical waste stored properly?	✓					
	Is there proper disposal?	✓					
	Is chemical waste license available for inspection?	✓					
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

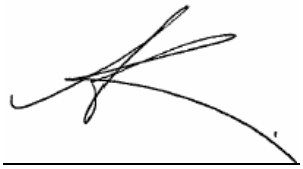
Previous Audit Follow-up:

Nil

Observations Recorded in this Site Inspection:

No environmental issue was observed during the inspection.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name :Ken Wong	Name:	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Benny/Edwin**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**22 February 2008 (10:00)**
	RE's Rep: **Mr. Fong**	**Checklist Reference No.:**	**DSD-AT220208**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [16] °C

Humidity: [✓] High (RH > 90%) [ ] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [✓] Light [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	✓					
Is silenced equipment used where appropriate?	✓					
Are noise enclosures or noise barriers used where necessary?	✓					
Does specified equipment has valid noise label?	✓					
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

Water Quality & Drainage		Yes	NO	NA	NC	Follow-up	Remarks
Is a wastewater discharge license obtained for the Project?		✓					
Is site effluent discharged in accordance with the discharge license?		✓					
Is the discharge of silty water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?		✓					
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?		✓				Remarks 3
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?		✓				Remarks 1
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?	✓					
	Is chemical waste stored properly?	✓					
	Is there proper disposal?		✓				Remarks 2
	Is chemical waste license available for inspection?	✓					
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

Previous Audit Follow-up:

Nil

Observations Recorded in this Site Inspection:

1. Some C&D material scattered on-site was observed at Nam San Wai Pumping Station, the Contractor was reminded to tight up the working area.
2. Emptied painting cans were observed at Nam San Wai Pumping Station, The Contractor should be disposed of according to chemical waste ordinance.
3. Some General waste scattered on-site (the stream) was observed at Sha Po Pumping Station, the Contractor was reminded to tight up the working area.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name :Ben Tam	Name:	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Benny/Edwin**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**26 February 2008 (10:00)**
	RE's Rep: **Mr. Chung**	**Checklist Reference No.:**	**DSD-AT260208**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [15] °C

Humidity: [ ] High (RH > 90%) [✓] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [✓] Light [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	✓					
Is silenced equipment used where appropriate?	✓					
Are noise enclosures or noise barriers used where necessary?	✓					
Does specified equipment has valid noise label?	✓					
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

Water Quality & Drainage		Yes	NO	NA	NC	Follow-up	Remarks
Is a wastewater discharge license obtained for the Project?		✓					
Is site effluent discharged in accordance with the discharge license?		✓					
Is the discharge of silty water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?		✓				Remarks 4
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?		✓					
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					Remarks 3
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					Remarks 1
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?	✓					
	Is chemical waste stored properly?	✓					
	Is there proper disposal?	✓					Remarks 2
	Is chemical waste license available for inspection?	✓					
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in bunded area?		✓				Remarks 5
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

Previous Audit Follow-up:

1. C&D material at Nam San Wai Pumping Station was cleared and the working area was tight up.
2. Emptied painting cans at Nam San Wai Pumping Station were removed.
3. General waste at Sha Po Pumping Station was cleared.

Observations Recorded in this Site Inspection:

4. Sedimentation tank at Nam San Wai Road Portion H was full of sediment, the Contractor was reminded to clean more frequency to maintain the efficiency of the tank.
5. Free standing oil drum was observed at Sha Po Pumping Station, The Contractor was reminded to provide drip tray for all free standing oil drums.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name :Ben Tam	Name:	Name:	Name: