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

17th Monthly Construction Phase EM&A Report for August 2007 (Designated Elements)

PREPARED FOR

Leader Civil Engineering Corporation Ltd

Quality Index

Date	Reference No.
01 September 2007	TCS/00310/06/600/R0395

Prepared by	Reviewed by	Certified by	Approved by	Verified by
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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 is the 17th Monthly Construction Phase EM&A Report (August 2007, Report No. 17) reporting the environmental impact monitoring and audit (EM&A) conducted from 01 to 31 August 2007. The EM&A program in August 2007 were covered air quality, 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 September 2007 include excavation & concreting at Kam Tin Pumping Station (P1), excavation at Sha Po pumping station (P2), excavation, backfilling & grouting at Nam Sang Wai pumping station (P3), sheeting piling, excavation, pipe laying, backfilling, concreting, pipe jacking, grouting and extract sheet pile at 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 17th Monthly Construction Phase EM&A Report (August 2007, Report No. 17) summarizes the impact monitoring results and audit findings in the reporting month from 01 to 31 August 2007.

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**.

Works Undertaken in the Reporting Month

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

Kam Tin Pumping Station (P1)
- Excavation

Sha Po Pumping Station (P2)
- Excavation

Nam Sang Wai Pumping Station (P3)
- Excavation
- Grouting

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

Pok Wai South Road (S5 and S6)
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Grouting
- 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.

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 during 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

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 in dB(A)	Limit Level in dB(A)
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 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 is summarized in **Table 2-1** and the implementation schedule as shown in **Annex G**.

4.02 A summary status of the permits, licences, and/or notifications on environmental protection for this Project in this reporting period is presented in **Table 4-1**.

Table 4-1 Status of Environmental Licenses and Permits

Item	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-RN0036-06)	Valid (8 Dec 2006 to 03 Sep 2007)
7	Piling Permit (CNP No. PP-RN0001-07)	Valid (7 Mar 2007 to 06 Dec 2007)
8	Piling Permit (CNP No. PP-RN0004-07)	Valid (7 May 2007 to 06 Feb 2008)
9	Construction Noise Permit (CNP No. GW-RN0083-07)	Valid (8 Mar 2007 to 07 Sep 2007)
10	Construction Noise Permit (CNP No. GW-RN0118-07)	Valid (28 Mar 2007 to 27 Sep 2007)
11	Construction Noise Permit (CNP No. GW-RN0183-07)	Valid (03 May 2007 to 02 Nov 2007)
12	Construction Noise Permit (CNP No. GW-RN0355-07)	Valid (24 Aug 2007 to 23 Feb 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 sampler (HVS) in compliance with the updated EM&A Manual. The HVS 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. In house QA/QC procedures for all monitoring practices to ensure the validity of monitoring data. Blank filters samples were collected and delivered to the HOKLAS-accredited laboratory for QA/QC check.

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

MONITORING METHODOLOGY OF 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 The 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 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 HVS 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 24 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 20 monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

5.17 The air quality monitoring data for this reporting month were summarized in **Table 5-3**.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hour TSP (μg/m^3)			
	AM1	AM5	AM6	AM7
2-Aug-07	28	36	28	16
8-Aug-07	27	96	73	60
14-Aug-07	62	127	24	25
20-Aug-07	36	25	48	44
25-Aug-07	46	68	44	39
31-Aug-07	27	50	33	25
Average (Range)	38 (27–62)	67 (25–127)	42 (24–73)	35 (16–60)

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

5.18 No Action/Limit Level exceedance was recorded in this reporting month.

5.19 The impact noise monitoring results are summarized in **Tables 5-4** to **5-7**.

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
03-Aug-07	10:57	48.9	46.5	48.9	46.3	47.7	52.7	49.1	52.1
09-Aug-07	10:35	50.2	47.7	48.5	49.5	51.2	48.2	49.4	52.4
15-Aug-07	11:29	57.6	58.5	59.6	54.4	57.9	55.9	57.6	60.6
21-Aug-07	11:27	53.8	54.2	51.3	51.8	54.4	50.9	53.0	56.0
27-Aug-07	10:51	53.2	50.6	49.1	49.4	50.2	56.4	52.4	55.4
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
3-Aug-07	10:53	52.6	53.5	52.5	53.8	51.9	52.3	52.8	55.8
9-Aug-07	13:28	54.1	53.2	55.7	54.6	54.3	53.2	54.3	57.3
15-Aug-07	10:34	51.4	52.5	53.7	52.0	53.1	55.4	53.2	56.2
21-Aug-07	10:20	55.6	52.7	56.7	55.1	55.6	58.5	56.0	59.0
27-Aug-07	9:52	53.6	53.1	55.3	62.1	62.1	63.0	60.0	63.0
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
3-Aug-07	14:28	58.8	58.7	57.9	59.3	58.3	62.7	59.6	
9-Aug-07	14:57	59.5	56.7	61.6	58.9	58.1	61.7	59.8	No
15-Aug-07	14:32	60.5	60.4	55.3	55.1	55.7	58.0	58.1	Correction
21-Aug-07	14:30	56.2	57.9	57.6	58.6	56.7	59.1	57.8	Required
27-Aug-07	15:00	58.1	56.7	57.7	58.6	59.2	60.2	58.6	
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
3-Aug-07	11:27	54.7	54.5	54.5	53.5	54.1	51.4	53.9	
9-Aug-07	14:19	57.4	57.5	60.6	58.9	59.2	58.2	58.8	No
15-Aug-07	11:21	53.8	52.6	55.1	53.4	53.3	53.5	53.7	Correction
21-Aug-07	11:17	59.3	57.4	58.0	57.6	56.2	58.4	57.9	Required
27-Aug-07	10:36	52.9	52.5	53.0	53.1	54.5	51.9	53.1	
Limit Level									**75**

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

5.20 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-Sep-07	Sat		
2-Sep-07	Sun		
3-Sep-07	Mon		
4-Sep-07	Tue		
5-Sep-07	Wed		
6-Sep-07	Thu		
7-Sep-07	Fri		
8-Sep-07	Sat		
9-Sep-07	Sun		
10-Sep-07	Mon		
11-Sep-07	Tue		
12-Sep-07	Wed		
13-Sep-07	Thu		
14-Sep-07	Fri		
15-Sep-07	Sat		
16-Sep-07	Sun		
17-Sep-07	Mon		
18-Sep-07	Tue		
19-Sep-07	Wed		
20-Sep-07	Thu		
21-Sep-07	Fri		
22-Sep-07	Sat		
23-Sep-07	Sun		
24-Sep-07	Mon		
25-Sep-07	Tue		
26-Sep-07	Wed		
27-Sep-07	Thu		
28-Sep-07	Fri		
29-Sep-07	Sat		
30-Sep-07	Sun		

	Monitoring Day
	Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING MONTH

5.21 The meteorological data on the monitoring dates are summarized in **Annex I**.

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

MAJOR ACTIVITY CARRIED OUT DURING THE MONITORING MONTH

5.23 There were construction activities of sheet piling and trench excavation undertaken during the monitoring month.

WEATHER CONDITIONS THAT AUGUST AFFECT THE MONITORING RESULTS

5.24 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

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

QA/QC RESULTS AND DETECTION LIMITS

5.26 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 received in this reporting month.

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

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

7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in September 2007 include excavation & concreting at Kam Tin Pumping Station (P1), excavation at Sha Po pumping station (P2), excavation, backfilling & grouting at Nam Sang Wai pumping station (P3), sheeting piling, excavation, pipe laying, backfilling, concreting, pipe jacking, grouting and extract sheet pile at 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 Quantities of Waste for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	5,157	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	3,620	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	60	NA
General Refuse (tons)	3	Refuse Collector

Table 7-2 Summary of Quantities of Waste 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.

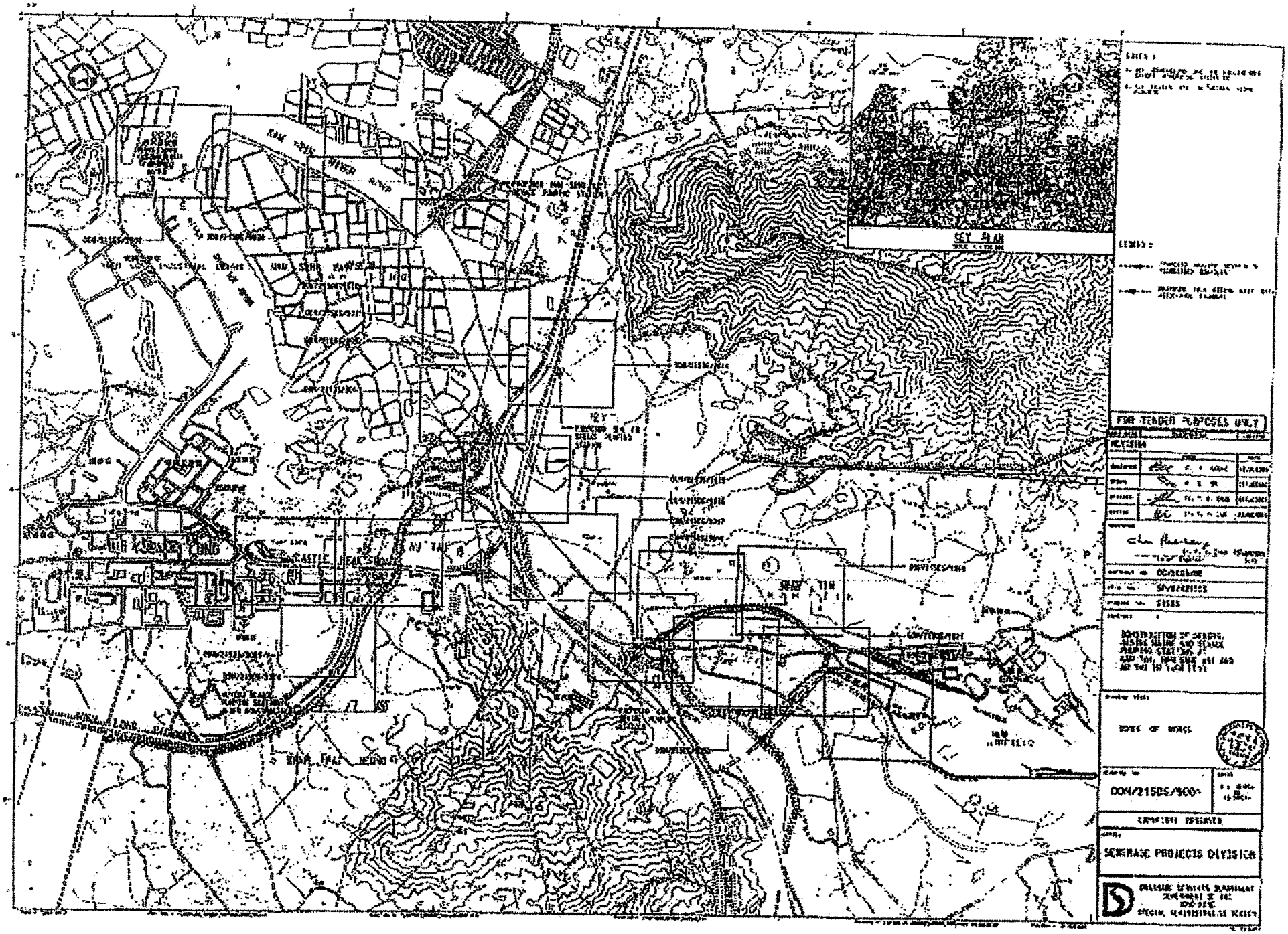
SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly joint site inspection on 07, 14, 23 and 27 August 2007 to evaluate the site environmental performance. The monthly IEC site inspection for August 2007 was held on 23 August 2007. No non-compliance was noted and eleven 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

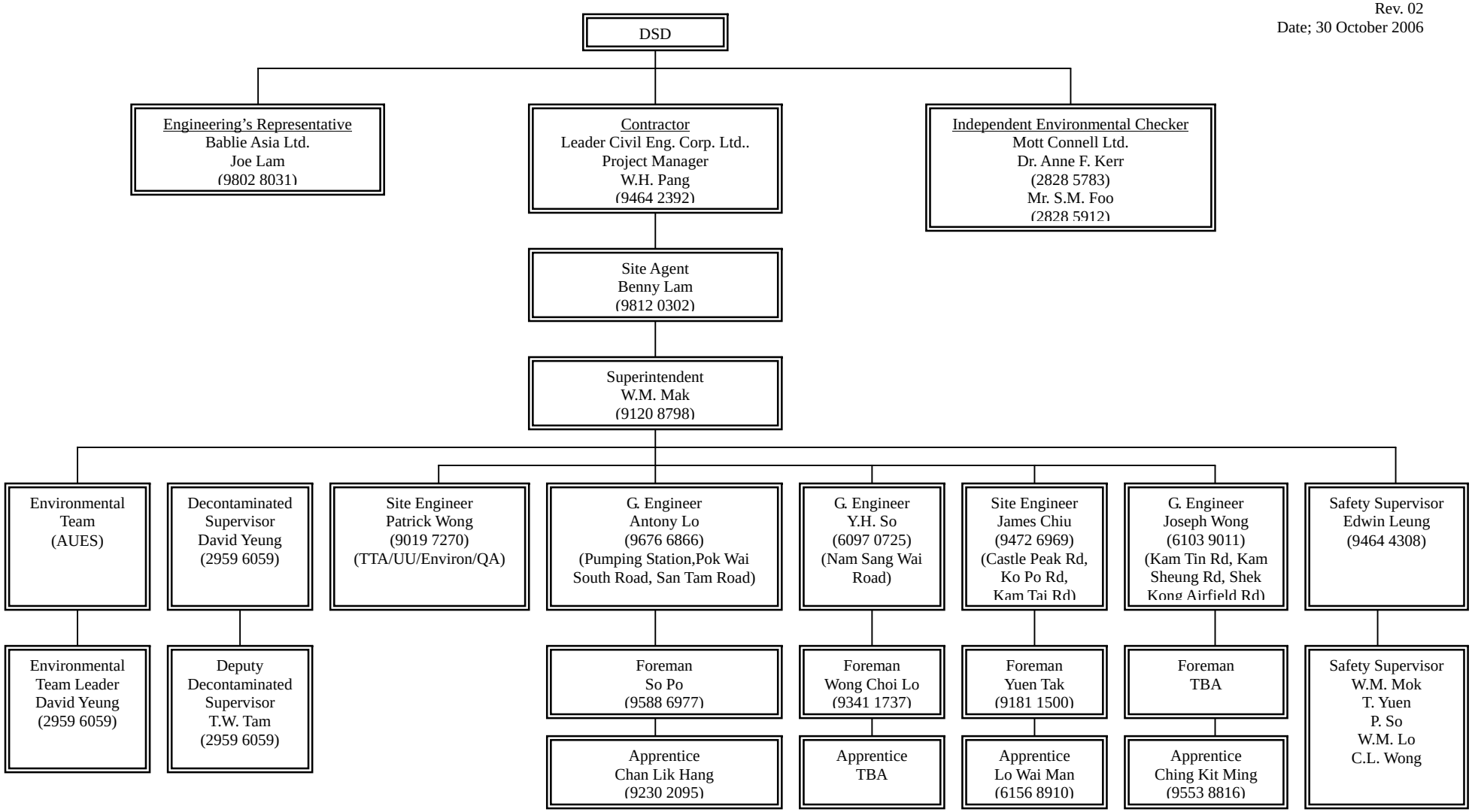

KEY PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

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

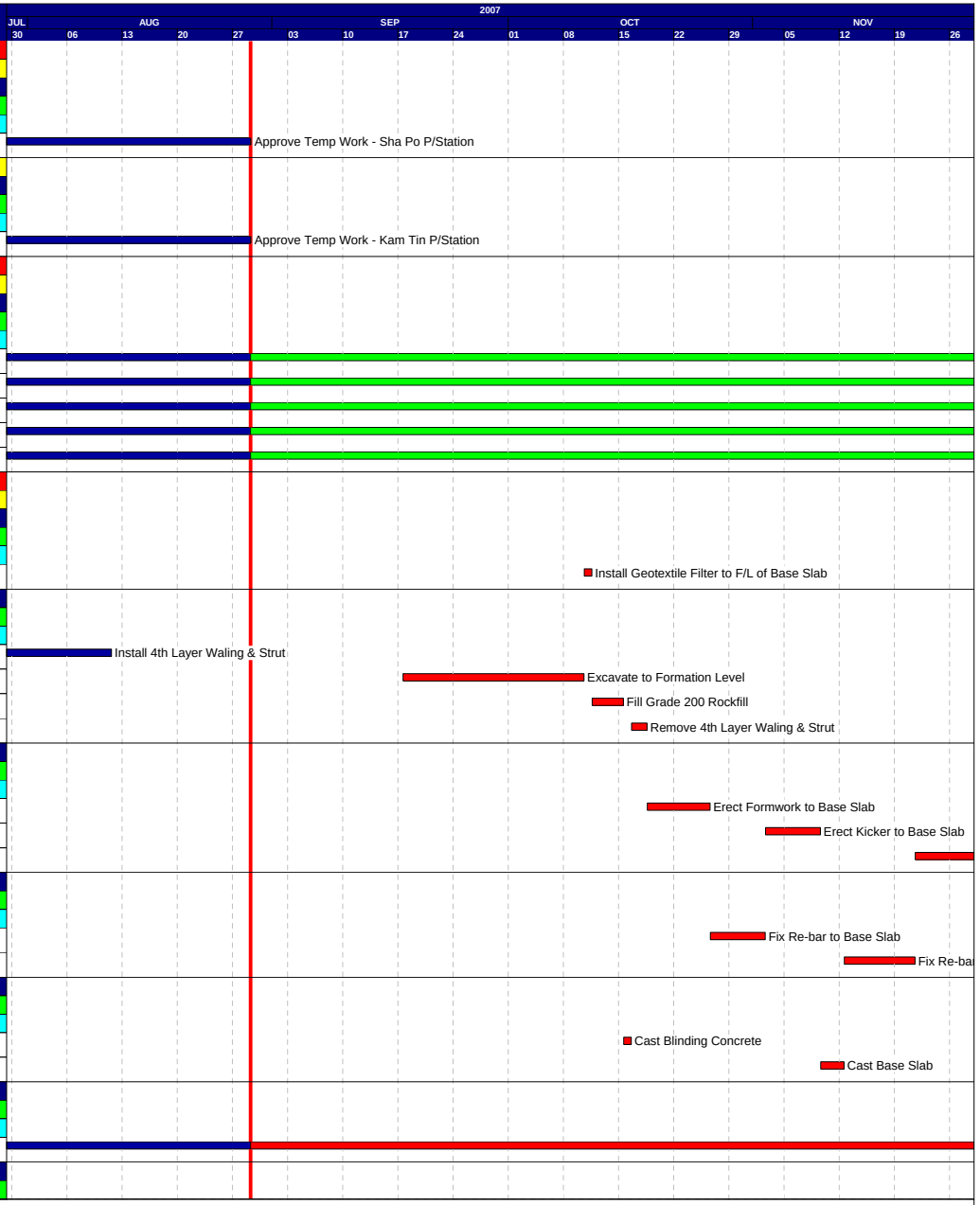
Rev. 02
Date; 30 October 2006



Annex C

Construction Program

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Submission								
Design Submission								
SUN1700	Approve Temp Work - Sha Po P/Station	6d	-57d	95	11JAN07 A	29AUG07	11JAN07 A	22JUN07
Method Statement Submission								
SUO1100	Approve Temp Work - Kam Tin P/Station	6d	-107d	95	10NOV06 A	29AUG07	10NOV06 A	21APR07
Preliminaries								
PR2900	Deliver Ductile Iron Pipe	800d	55d	54	29APR06 A	21NOV08	29APR06 A	30JAN09
PR3100	Deliver Precast Concrete Pipe	800d	70d	56	24APR06 A	04NOV08	24APR06 A	30JAN09
PR3300	Deliver Vitrified Clay Pipe	800d	41d	52	10APR06 A	09DEC08	10APR06 A	30JAN09
PR3400	Structural Monitoring by ISE	835d	33d	53	06APR06 A	17DEC08	06APR06 A	30JAN09
PR3500	Environmental monitoring by ET	814d	72d	57	06APR06 A	01NOV08	06APR06 A	30JAN09
Section 1 - Kam Tin Sewage Pumping Station								
Portion A								
Drainage and Ducts								
Trench Method								
S1AEA1600	Install Geotextile Filter to F/L of Base Slab	1d	-107d	0	10OCT07	11OCT07	04JUN07	04JUN07
Earthworks								
S1AG1800	Install 4th Layer Waling & Strut	4d		100	24JUL07 A	11AUG07 A	24JUL07 A	11AUG07 A
S1AG2100	Excavate to Formation Level	18d	-107d	0	17SEP07	10OCT07	12MAY07	02JUN07
S1AG2200	Fill Grade 200 Rockfill	3d	-107d	0	11OCT07	15OCT07	05JUN07	07JUN07
S1AG2250	Remove 4th Layer Waling & Strut	2d	-107d	0	16OCT07	18OCT07	09JUN07	11JUN07
Formwork								
S1AJ1000	Erect Formwork to Base Slab	6d	-107d	0	18OCT07	26OCT07	12JUN07	18JUN07
S1AJ1100	Erect Kicker to Base Slab	6d	-107d	0	02NOV07	09NOV07	27JUN07	04JUL07
S1AJ1200	Erect Formwork to Wall Stem of Void	12d	-107d	0	21NOV07	05DEC07	17JUL07	30JUL07
Steel Reinforcement								
S1AK1000	Fix Re-bar to Base Slab	6d	-107d	0	26OCT07	02NOV07	20JUN07	26JUN07
S1AK1100	Fix Re-bar to Wall Stem of Void	8d	-107d	0	12NOV07	21NOV07	07JUL07	16JUL07
In-Situ Concrete								
S1AL1000	Cast Blinding Concrete	1d	-107d	0	15OCT07	16OCT07	08JUN07	08JUN07
S1AL1100	Cast Base Slab	2d	-107d	0	09NOV07	12NOV07	05JUL07	06JUL07
Geotechnical works								
S1AP1000	Monitoring of Instruments	525d	-67d	39	16NOV06 A	24SEP08	16NOV06 A	05JUL08
Additonal Works / Disruption								



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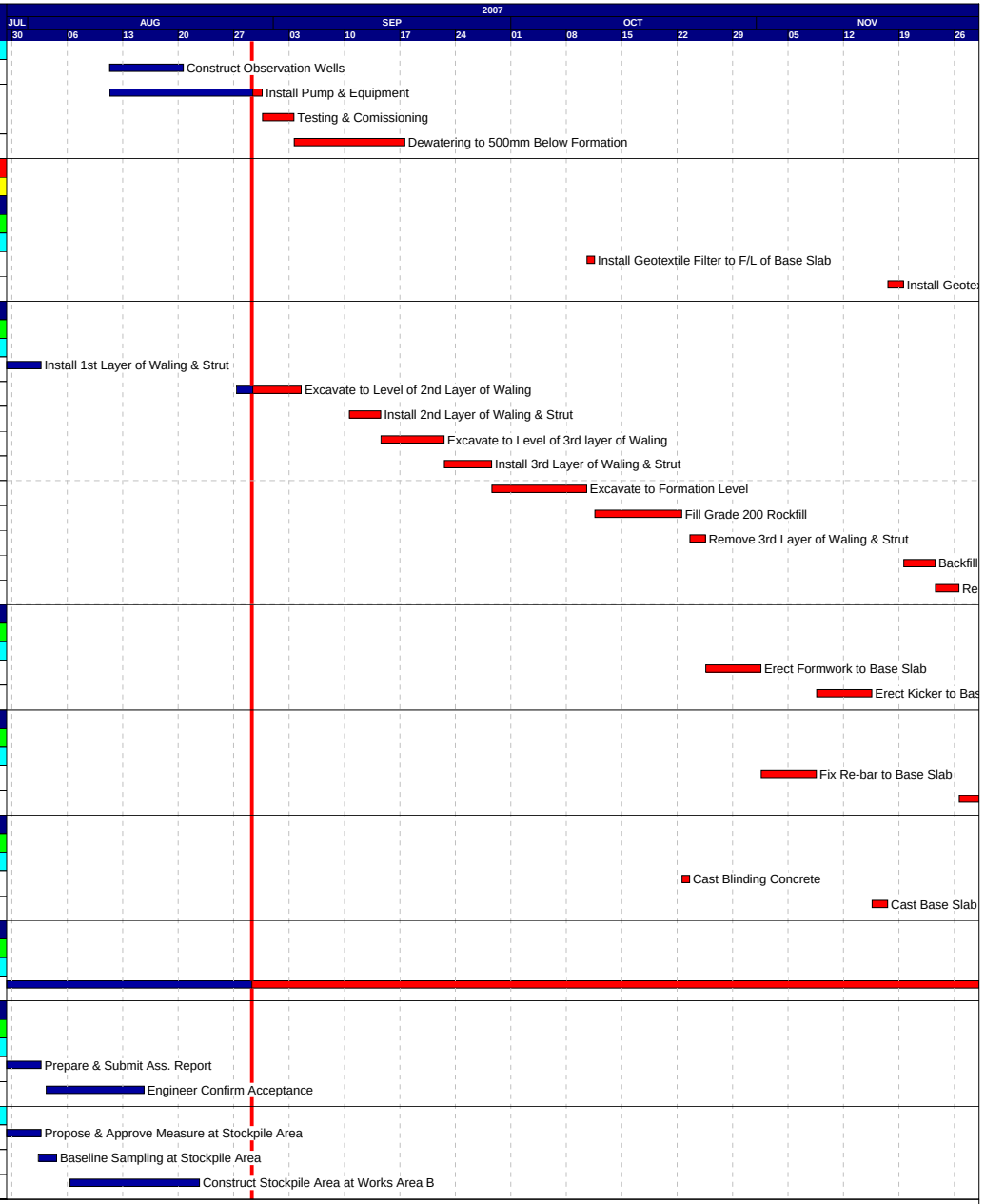
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
	Additional Dewatering at KT P/S (Claim No. 036)							
S1AV1200	Construct Observation Wells	8d		100	11AUG07 A	20AUG07 A	11AUG07 A	20AUG07 A
S1AV1210	Install Pump & Equipment	16d	-107d	90	11AUG07 A	30AUG07	11AUG07 A	23APR07
S1AV1220	Testing & Comissioning	3d	-107d	0	30AUG07	03SEP07	24APR07	26APR07
S1AV1230	Dewatering to 500mm Below Formation	12d	-107d	0	03SEP07	17SEP07	27APR07	11MAY07
Section 2 - Sha Po Sewage Pumping Station								
Portion B								
Drainage and Ducts								
Trench Method								
S2BEA1400	Install Geotextile Filter to F/L of Base Slab	1d	-62d	0	10OCT07	11OCT07	28JUL07	28JUL07
S2BEA1450	Install Geotextile Filter uo to -2.87mPD	1d	-62d	0	17NOV07	19NOV07	04SEP07	04SEP07
Earthworks								
S2BG1200	Install 1st Layer of Waling & Strut	4d		100	19JUL07 A	02AUG07 A	19JUL07 A	02AUG07 A
S2BG1300	Excavate to Level of 2nd Layer of Waling	6d	-57d	10	27AUG07 A	04SEP07	27AUG07 A	28JUN07
S2BG1400	Install 2nd Layer of Waling & Strut	4d	-62d	0	10SEP07	14SEP07	29JUN07	04JUL07
S2BG1500	Excavate to Level of 3rd layer of Waling	7d	-62d	0	14SEP07	22SEP07	05JUL07	12JUL07
S2BG1600	Install 3rd Layer of Waling & Strut	4d	-62d	0	22SEP07	28SEP07	13JUL07	17JUL07
S2BG1700	Excavate to Formation Level	9d	-62d	0	28SEP07	10OCT07	18JUL07	27JUL07
S2BG1800	Fill Grade 200 Rockfill	8d	-62d	0	11OCT07	22OCT07	30JUL07	07AUG07
S2BG1850	Remove 3rd Layer of Waling & Strut	2d	-62d	0	23OCT07	25OCT07	09AUG07	10AUG07
S2BG1860	Backfill to -2.87mPD	4d	-62d	0	19NOV07	23NOV07	05SEP07	08SEP07
S2BG1870	Remove 2nd Layer of Waling & Strut	2d	-62d	0	23NOV07	26NOV07	10SEP07	11SEP07
Formwork								
S2BJ1000	Erect Formwork to Base Slab	6d	-62d	0	25OCT07	01NOV07	11AUG07	17AUG07
S2BJ1100	Erect Kicker to Base Slab	6d	-62d	0	08NOV07	15NOV07	25AUG07	31AUG07
Steel Reinforcement								
S2BK1000	Fix Re-bar to Base Slab	6d	-62d	0	01NOV07	08NOV07	18AUG07	24AUG07
S2BK1100	Fix Re-bar to Wall Stem of Void	8d	-62d	0	26NOV07	05DEC07	12SEP07	20SEP07
In-Situ Concrete								
S2BL1000	Cast Blinding Concrete	1d	-62d	0	22OCT07	23OCT07	08AUG07	08AUG07
S2BL1100	Cast Base Slab	2d	-62d	0	15NOV07	17NOV07	01SEP07	03SEP07
Geotechnical works								
S2BP1000	Monitoring of Instruments	414d	-16d	36	26FEB07 A	19JUL08	26FEB07 A	28JUN08
Additonal Works / Disruption								
	Pumping Test at SP P/S (Claim No. 022)							
S2BV1090	Prepare & Submit Ass. Report	12d		100	11JUL07 A	02AUG07 A	11JUL07 A	02AUG07 A
S2BV1100	Engineer Confirm Acceptance	6d		100	03AUG07 A	15AUG07 A	03AUG07 A	15AUG07 A
	Disposal of Marine Deposit (MD) (Claim No. 048)							
S2BV1260	Propose & Approve Measure at Stockpile Area	13d		100	19JUL07 A	02AUG07 A	19JUL07 A	02AUG07 A
S2BV1270	Baseline Sampling at Stockpile Area	3d		100	02AUG07 A	04AUG07 A	02AUG07 A	04AUG07 A
S2BV1280	Construct Stockpile Area at Works Area B	15d		100	06AUG07 A	22AUG07 A	06AUG07 A	22AUG07 A



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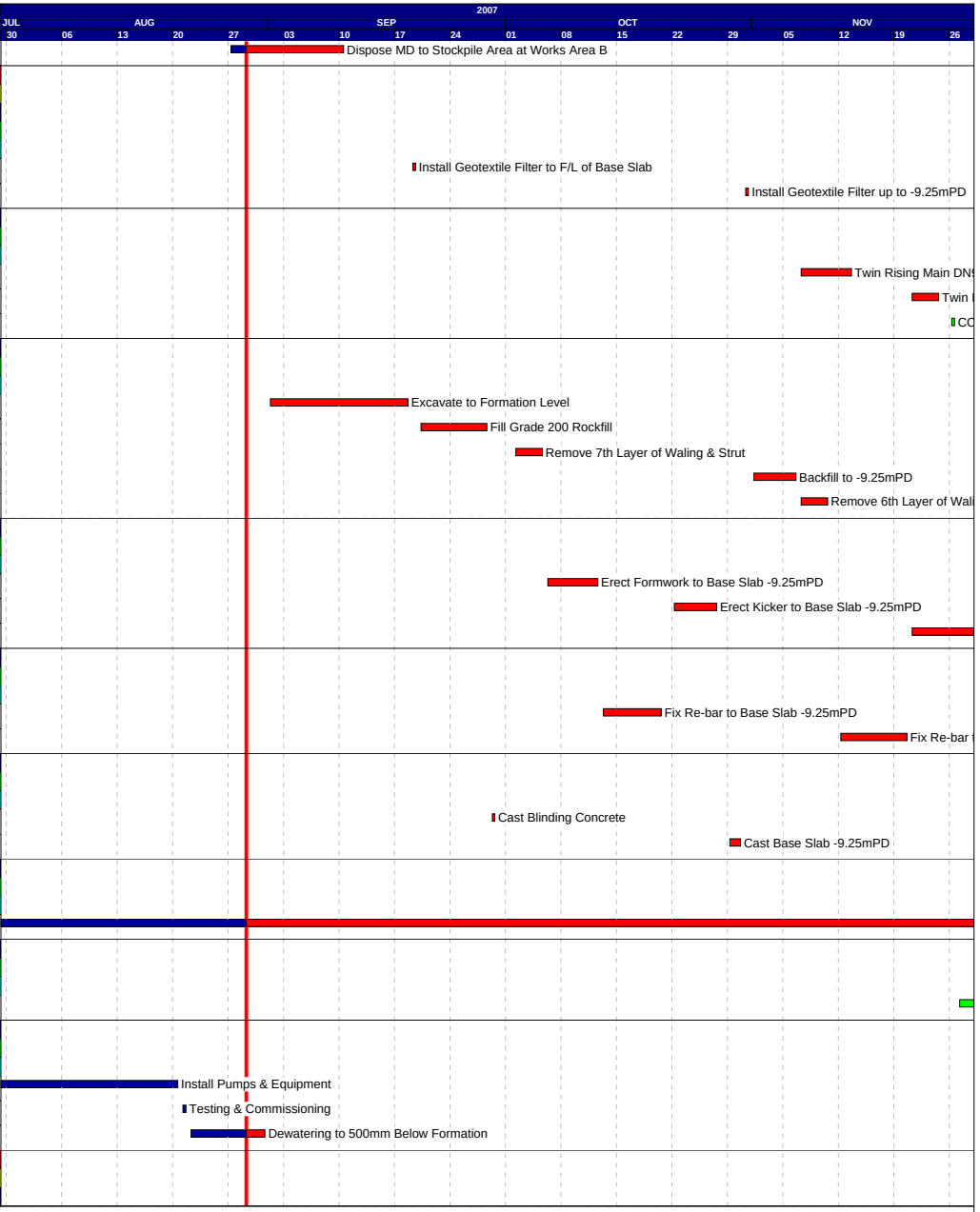
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S2BV1290	Dispose MD to Stockpile Area at Works Area B	12d	-62d	10	27AUG07 A	10SEP07	27AUG07 A	28JUN07
Section 3 - Nam Sang Wai Sewage Pumping Station								
Portion C								
Drainage and Ducts								
Trench Method								
S3CEA1700	Install Geotextile Filter to F/L of Base Slab	1d	-190d	0	19SEP07	19SEP07	27JAN07	27JAN07
S3CEA1750	Install Geotextile Filter up to -9.25mPD	1d	-190d	0	31OCT07	31OCT07	10MAR07	10MAR07
Pipework - Rising Main								
Trench Method								
S3CFA1000	Twin Rising Main DN900	6d	-176d	0	07NOV07	13NOV07	03APR07	13APR07
S3CFA1100	Twin Rising Main DN900 in Structure	4d	-182d	0	21NOV07	24NOV07	14APR07	18APR07
S3CFA1200	CCTV Inspection of Pipeline	1d	129d	0	26NOV07	26NOV07	07MAY08	07MAY08
Earthworks								
S3CG2300	Excavate to Formation Level	15d	-190d	0	01SEP07	18SEP07	10JAN07	26JAN07
S3CG2400	Fill Grade 200 Rockfill	7d	-190d	0	20SEP07	28SEP07	29JAN07	05FEB07
S3CG2420	Remove 7th Layer of Waling & Strut	4d	-190d	0	02OCT07	05OCT07	07FEB07	10FEB07
S3CG2450	Backfill to -9.25mPD	5d	-190d	0	01NOV07	06NOV07	12MAR07	16MAR07
S3CG2470	Remove 6th Layer of Waling & Strut	4d	-190d	0	07NOV07	10NOV07	17MAR07	21MAR07
Formwork								
S3CJ1000	Erect Formwork to Base Slab -9.25mPD	6d	-190d	0	06OCT07	12OCT07	12FEB07	21FEB07
S3CJ1100	Erect Kicker to Base Slab -9.25mPD	6d	-190d	0	22OCT07	27OCT07	01MAR07	07MAR07
S3CJ1200	Erect Formwork to -7.25mPD	12d	-190d	0	21NOV07	04DEC07	31MAR07	18APR07
Steel Reinforcement								
S3CK1000	Fix Re-bar to Base Slab -9.25mPD	6d	-190d	0	13OCT07	20OCT07	22FEB07	28FEB07
S3CK1100	Fix Re-bar to -7.25mPD	8d	-190d	0	12NOV07	20NOV07	22MAR07	30MAR07
In-Situ Concrete								
S3CL1000	Cast Blinding Concrete	1d	-190d	0	29SEP07	29SEP07	06FEB07	06FEB07
S3CL1100	Cast Base Slab -9.25mPD	2d	-190d	0	29OCT07	30OCT07	08MAR07	09MAR07
Geotechnical works								
S3CP1000	Monitoring of Instruments	771d	-143d	54	06APR06 A	10NOV08	06APR06 A	21MAY08
Testing								
S3CS1000	Pressure Testing to Twin Rising Main DN900	12d	129d	0	27NOV07	10DEC07	08MAY08	21MAY08
Additonal Works / Disruption								
Additional Dewatering at NSW P/S (Claim No. 037)								
S3CV1450	Install Pumps & Equipment	6d		100	25JUL07 A	20AUG07 A	25JUL07 A	20AUG07 A
S3CV1460	Testing & Commissioning	1d		100	21AUG07 A	21AUG07 A	21AUG07 A	21AUG07 A
S3CV1470	Dewatering to 500mm Below Formation	6d	-190d	50	22AUG07 A	31AUG07	22AUG07 A	09JAN07
Section 4 - Sewers & RM in Portion D, F, G, H, I								
Portion D								
Ground Investigation								



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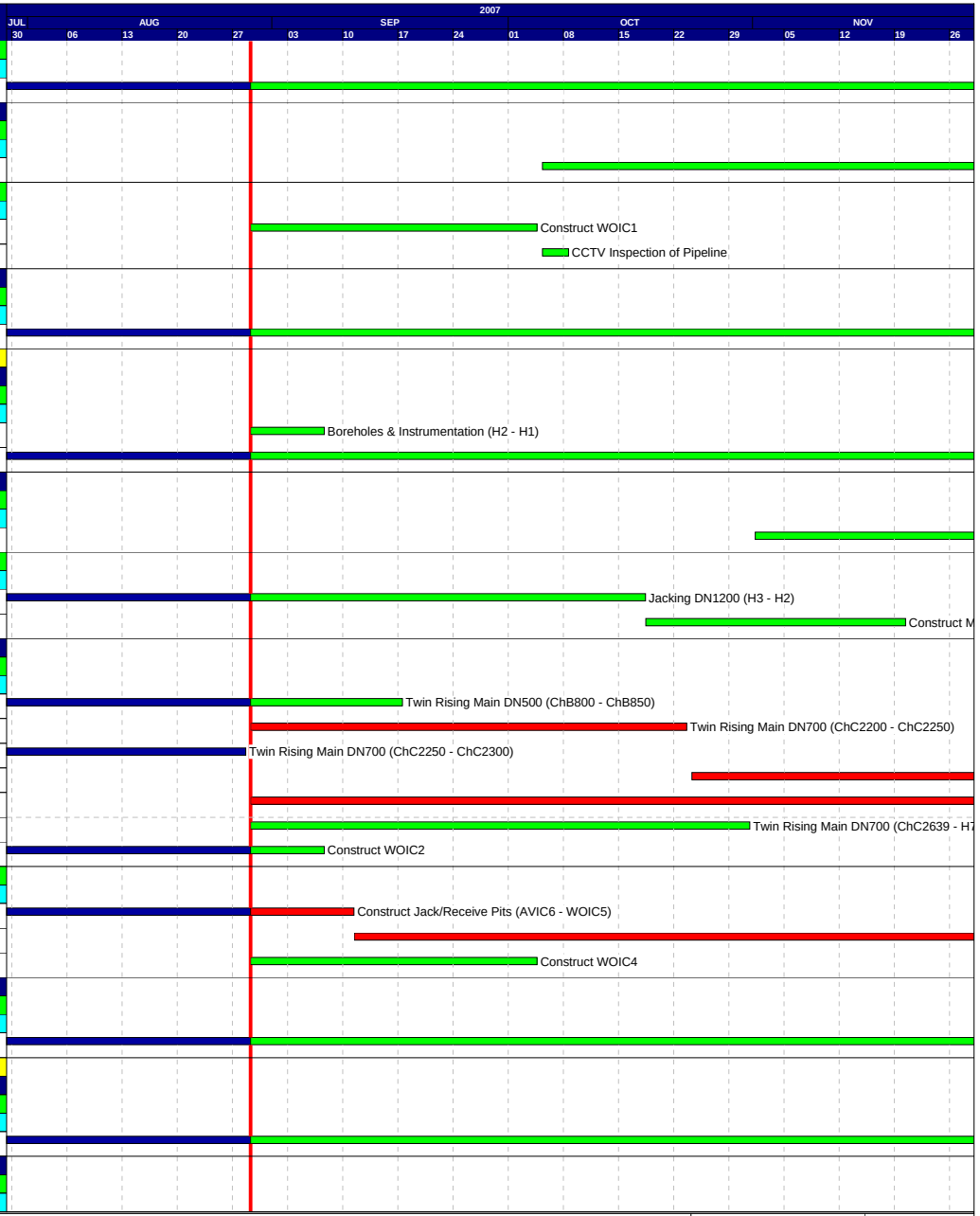
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4DB1300	Install Settlement Markers	589d4h	254d	73	31OCT06 A	14MAR08	31OCT06 A	17JAN09
Pipework - Rising Main								
Trench Method								
S4DFA1100	Twin Rising Main DN900 (ChA1850- WOIC1)	101d	75d	0	05OCT07	04FEB08	05JAN08	10MAY08
Trenchless Method								
S4DFB1100	Construct WOIC1	30d	75d	0	29AUG07	04OCT07	28NOV07	04JAN08
S4DFB1200	CCTV Inspection of Pipeline	3d	370d	0	05OCT07	08OCT07	31DEC08	03JAN09
Geotechnical works								
S4DP1000	Monitoring of Instruments	556d	103d	44	02NOV06 A	16SEP08	02NOV06 A	17JAN09
Portion F								
Ground Investigation								
S4FB1020	Boreholes & Instrumentation (H2 - H1)	9d	19d	0	29AUG07	07SEP07	20SEP07	02OCT07
S4FB1500	Install Settlement Markers	730d4h	116d	59	27APR06 A	30AUG08	27APR06 A	17JAN09
Drainage and Ducts								
Trench Method								
S4FEA1000	DN900 Pipe & Manhole (H8 - H7) 1st Stage	53d	136d	0	01NOV07	04JAN08	19APR08	21JUN08
Trenchless Method								
S4FEB1120	Jacking DN1200 (H3 - H2)	46d	17d	10	18JUL07 A	18OCT07	18JUL07 A	07NOV07
S4FEB1140	Construct Manhole H3	27d	315d	0	18OCT07	20NOV07	08NOV08	09DEC08
Pipework - Rising Main								
Trench Method								
S4FFA1100	Twin Rising Main DN500 (ChB800 - ChB850)	120d	277d	86	01JUN07 A	17SEP07	01JUN07 A	23AUG08
S4FFA1800	Twin Rising Main DN700 (ChC2200 - ChC2250)	45d	0	0	29AUG07	23OCT07	29AUG07	23OCT07
S4FFA1900	Twin Rising Main DN700 (ChC2250 - ChC2300)	45d		100	11JUL07 A	28AUG07 A	11JUL07 A	28AUG07 A
S4FFA2000	Twin Rising Main DN700 (ChC2300 - ChC2350)	45d	0	0	24OCT07	14DEC07	24OCT07	14DEC07
S4FFA2200	Twin Rising Main DN700 (ChC2400 - WOIC4)	93d	-3d	0	29AUG07	18DEC07	25AUG07	14DEC07
S4FFA2300	Twin Rising Main DN700 (ChC2639 - H7)	52d	136d	0	29AUG07	31OCT07	14FEB08	18APR08
S4FFA2500	Construct WOIC2	30d	335d	70	11JUL07 A	07SEP07	11JUL07 A	24OCT08
Trenchless Method								
S4FFB1100	Construct Jack/Receive Pits (AVIC6 - WOIC5)	57d	-37d	80	08JAN07 A	11SEP07	08JAN07 A	28JUL07
S4FFB1120	Jacking Twin DN700 (AVIC6 - WOIC5)	90d	-37d	0	11SEP07	31DEC07	30JUL07	14NOV07
S4FFB1200	Construct WOIC4	30d	60d	0	29AUG07	04OCT07	10NOV07	14DEC07
Geotechnical works								
S4FP1000	Monitoring of Instruments	774d	8d	47	05JUN06 A	09JAN09	05JUN06 A	17JAN09
Portion G								
Ground Investigation								
S4GB1500	Install Settlement Markers	748d4h	98d	58	21APR06 A	22SEP08	21APR06 A	17JAN09
Pipework - Rising Main								
Trench Method								



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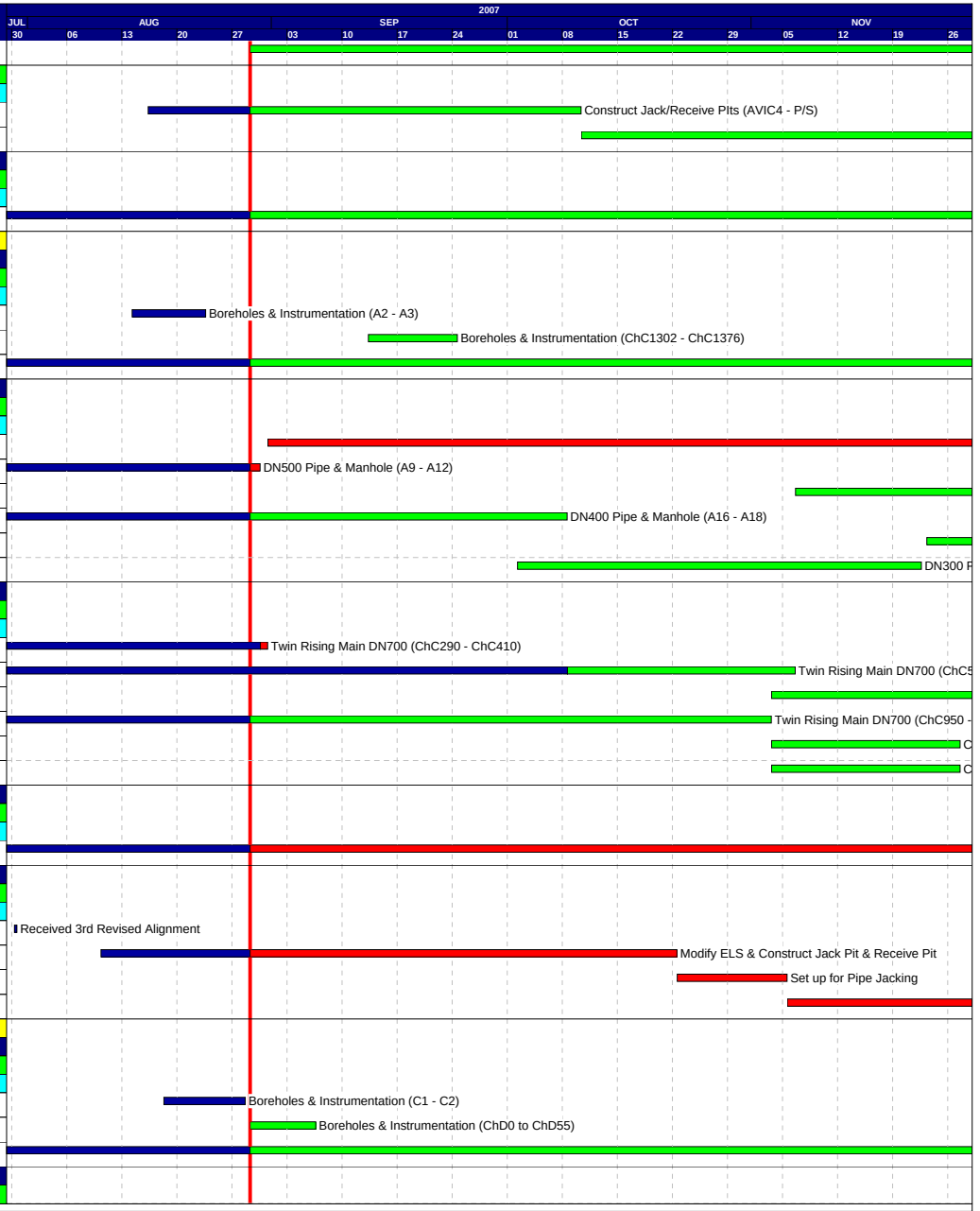
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4GFA1300	Twin Rising Main DN500 (ChB450 - ChB550)	84d	280d	0	29AUG07	07DEC07	08AUG08	17NOV08
Trenchless Method								
S4GFB1000	Construct Jack/Receive PIts (AVIC4 - P/S)	57d	44d	40	16AUG07 A	10OCT07	16AUG07 A	30NOV07
S4GFB1020	Jacking Twin DN500 (AVIC4 - P/S)	73d	44d	0	10OCT07	08JAN08	01DEC07	01MAR08
Geotechnical works								
S4GP1000	Monitoring of Instruments	768d	49d	52	22APR06 A	19NOV08	22APR06 A	17JAN09
Portion H								
Ground Investigation								
S4HB1020	Boreholes & Instrumentation (A2 - A3)	10d		100	14AUG07 A	23AUG07 A	14AUG07 A	23AUG07 A
S4HB1040	Boreholes & Instrumentation (ChC1302 - ChC1376)	10d	76d	0	13SEP07	24SEP07	14DEC07	27DEC07
S4HB1300	Install Settlement Markers	727d4h	118d	59	26MAY06 A	27AUG08	26MAY06 A	17JAN09
Drainage and Ducts								
Trench Method								
S4HEA1100	DN500 Pipe & Manhole (A6 - A9)	100d	-31d	0	31AUG07	02JAN08	27JUL07	23NOV07
S4HEA1200	DN500 Pipe & Manhole (A9 - A12)	90d	-31d	98	03JUL06 A	30AUG07	03JUL06 A	26JUL07
S4HEA1400	DN500 Pipe & Manhole (A14 - A16)	109d	39d	0	06NOV07	19MAR08	21DEC07	09MAY08
S4HEA1500	DN400 Pipe & Manhole (A16 - A18)	73d	39d	55	04JUN07 A	08OCT07	04JUN07 A	23NOV07
S4HEA1900	DN300 Pipe & Manhole (B4 - B6)	67d	111d	0	23NOV07	15FEB08	12APR08	02JUL08
S4HEA2000	DN300 PIpe & Manhole (B6 - B8)	44d	111d	0	02OCT07 *	22NOV07	16FEB08	11APR08
Pipework - Rising Main								
Trench Method								
S4HFA1200	Twin Rising Main DN700 (ChC290 - ChC410)	45d	-31d	98	03JUL06 A	31AUG07	03JUL06 A	26JUL07
S4HFA1500	Twin Rising Main DN700 (ChC570 - ChC660)	42d	39d	43	04JUN07 A	06NOV07	04JUN07 A	21DEC07
S4HFA1800	Twin Rising Main DN700 (ChC850 - ChC950)	125d	5d	0	03NOV07	09APR08	09NOV07	15APR08
S4HFA1900	Twin Rising Main DN700 (ChC950 - ChC1050)	87d	5d	37	03MAY07 A	03NOV07	03MAY07 A	09NOV07
S4HFA3000	Construct AVIC9	20d	110d	0	03NOV07	27NOV07	18MAR08	15APR08
S4HFA3100	Construct WOIC8	20d	110d	0	03NOV07	27NOV07	18MAR08	15APR08
Geotechnical works								
S4HP1000	Monitoring of Instruments	846d	-55d	44	26MAY06 A	27MAR09	26MAY06 A	17JAN09
Additonal Works / Disruption								
Twin R/M DN700 ChC1620 - ChC1661 (Claim No. 026)								
S4HV1070	Received 3rd Revised Alignment	1d		100	30JUL07 A	30JUL07 A	30JUL07 A	30JUL07 A
S4HV1080	Modify ELS & Construct Jack Pit & Receive Pit	60d	-106d	27	10AUG07 A	22OCT07	10AUG07 A	14JUN07
S4HV1090	Set up for Pipe Jacking	12d	-106d	0	22OCT07	05NOV07	15JUN07	29JUN07
S4HV1100	Jack Twin DN1200 Sleeve Pipes	36d	-106d	0	05NOV07	17DEC07	30JUN07	11AUG07
Portion I								
Ground Investigation								
S4IB1020	Boreholes & Instrumentation (C1 - C2)	9d		100	18AUG07 A	28AUG07 A	18AUG07 A	28AUG07 A
S4IB1040	Boreholes & Instrumentation (ChD0 to ChD55)	8d	208d	0	29AUG07	06SEP07	14MAY08	22MAY08
S4IB1300	Install Settlement Markers	736d4h	109d	59	26JUN06 A	06SEP08	26JUN06 A	17JAN09
Drainage and Ducts								
Trench Method								



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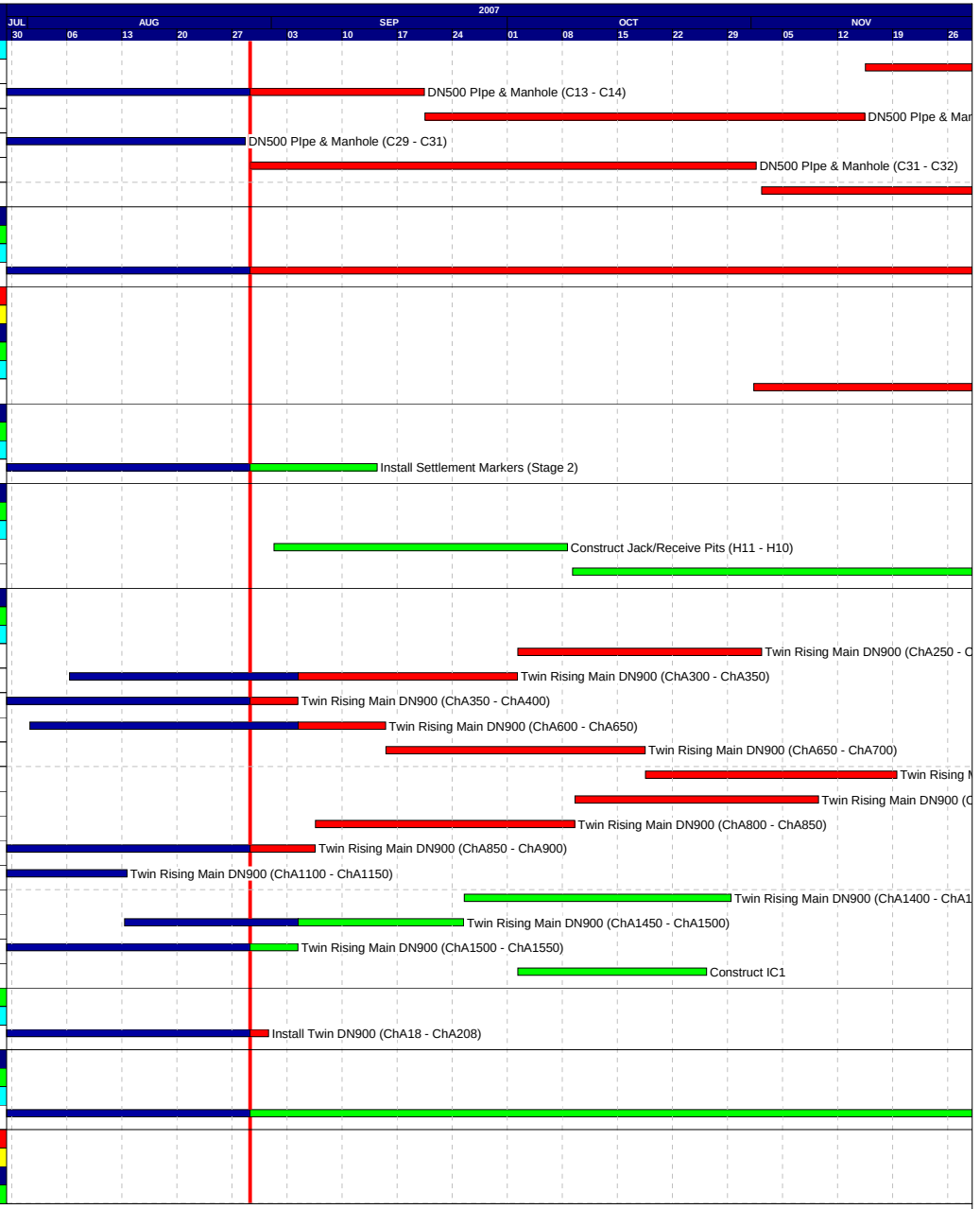
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4IEA1320	DN500 PIpe & Manhole (C10 - C12)	54d	-7d	0	15NOV07	21JAN08	08NOV07	12JAN08
S4IEA1500	DN500 PIpe & Manhole (C13 - C14)	81d	-7d	76	18MAY07 A	20SEP07	18MAY07 A	12SEP07
S4IEA1600	DN500 PIpe & Manhole (C14 - C15)	45d	-7d	0	20SEP07	15NOV07	13SEP07	07NOV07
S4IEA2300	DN500 PIpe & Manhole (C29 - C31)	54d		100	08MAR07 A	28AUG07 A	08MAR07 A	28AUG07 A
S4IEA2320	DN500 PIpe & Manhole (C31 - C32)	53d	-34d	0	29AUG07	01NOV07	20JUL07	19SEP07
S4IEA2400	DN500 PIpe & Manhole (C32 - C34)	70d	-34d	0	02NOV07	25JAN08	20SEP07	13DEC07
Geotechnical works								
S4IP1000	Monitoring of Instruments	766d	-3d	46	28JUN06 A	21JAN09	28JUN06 A	17JAN09
Section 5 - Sewers & RM in Portion E								
Portion E								
Preliminaries								
S5EA1200	Non Work Period 01 Nov 07 - 31 Mar 08	121d	0	0	01NOV07 *	31MAR08	01NOV07	31MAR08 *
Ground Investigation								
S5EB1400	Install Settlement Markers (Stage 2)	138d	38d	90	29MAR07 A	14SEP07	29MAR07 A	31OCT07 *
Drainage and Ducts								
Trenchless Method								
S5EEB1000	Construct Jack/Receive Pits (H11 - H10)	30d	96d	0	01SEP07 *	08OCT07	28DEC07	01FEB08
S5EEB1020	Jacking DN600 (H11 - H10)	95d	96d	0	09OCT07	31JAN08	02FEB08	31MAY08
Pipework - Rising Main								
Trench Method								
S5EFA1100	Twin Rising Main DN900 (ChA250 - ChA300)	26d	-1d	0	02OCT07	02NOV07	29SEP07	31OCT07 *
S5EFA1200	Twin Rising Main DN900 (ChA300 - ChA350)	26d	-1d	16	06AUG07 A	02OCT07	06AUG07 A	28SEP07
S5EFA1300	Twin Rising Main DN900 (ChA350 - ChA400)	26d	-16d	80	07JUL07 A	04SEP07	07JUL07 A	16AUG07
S5EFA1800	Twin Rising Main DN900 (ChA600 - ChA650)	26d	-16d	60	01AUG07 A	15SEP07	01AUG07 A	28AUG07
S5EFA1900	Twin Rising Main DN900 (ChA650 - ChA700)	26d	-16d	0	15SEP07	18OCT07	29AUG07	28SEP07
S5EFA2000	Twin Rising Main DN900 (ChA700 - ChA750)	26d	-16d	0	18OCT07	19NOV07	29SEP07	31OCT07 *
S5EFA2100	Twin Rising Main DN900 (ChA750 - ChA800)	26d	-8d	0	09OCT07	09NOV07	29SEP07	31OCT07 *
S5EFA2200	Twin Rising Main DN900 (ChA800 - ChA850)	26d	-8d	0	06SEP07	09OCT07	29AUG07	28SEP07
S5EFA2300	Twin Rising Main DN900 (ChA850 - ChA900)	26d	-8d	70	28JUL07 A	06SEP07	28JUL07 A	28AUG07
S5EFA2800	Twin Rising Main DN900 (ChA1100 - ChA1150)	26d		100	17JUL07 A	13AUG07 A	17JUL07 A	13AUG07 A
S5EFA3400	Twin Rising Main DN900 (ChA1400 - ChA1450)	26d	3d	0	25SEP07	29OCT07	29SEP07	31OCT07 *
S5EFA3500	Twin Rising Main DN900 (ChA1450 - ChA1500)	26d	3d	30	13AUG07 A	25SEP07	13AUG07 A	28SEP07
S5EFA3600	Twin Rising Main DN900 (ChA1500 - ChA1550)	26d	3d	80	27JUL07 A	04SEP07	27JUL07 A	06SEP07
S5EFA4100	Construct IC1	20d	140d	0	02OCT07	26OCT07	25MAR08	17APR08
Trenchless Method								
S5EFB1040	Install Twin DN900 (ChA18 - ChA208)	30d	-122d	90	14MAY07 A	31AUG07	14MAY07 A	02APR07
Geotechnical works								
S5EP1000	Monitoring of Instruments	535d	46d	62	01AUG06 A	10MAY08	01AUG06 A	05JUL08
Section 6 - Sewers in Portion J								
Portion J								
Ground Investigation								



Start date	19DEC05
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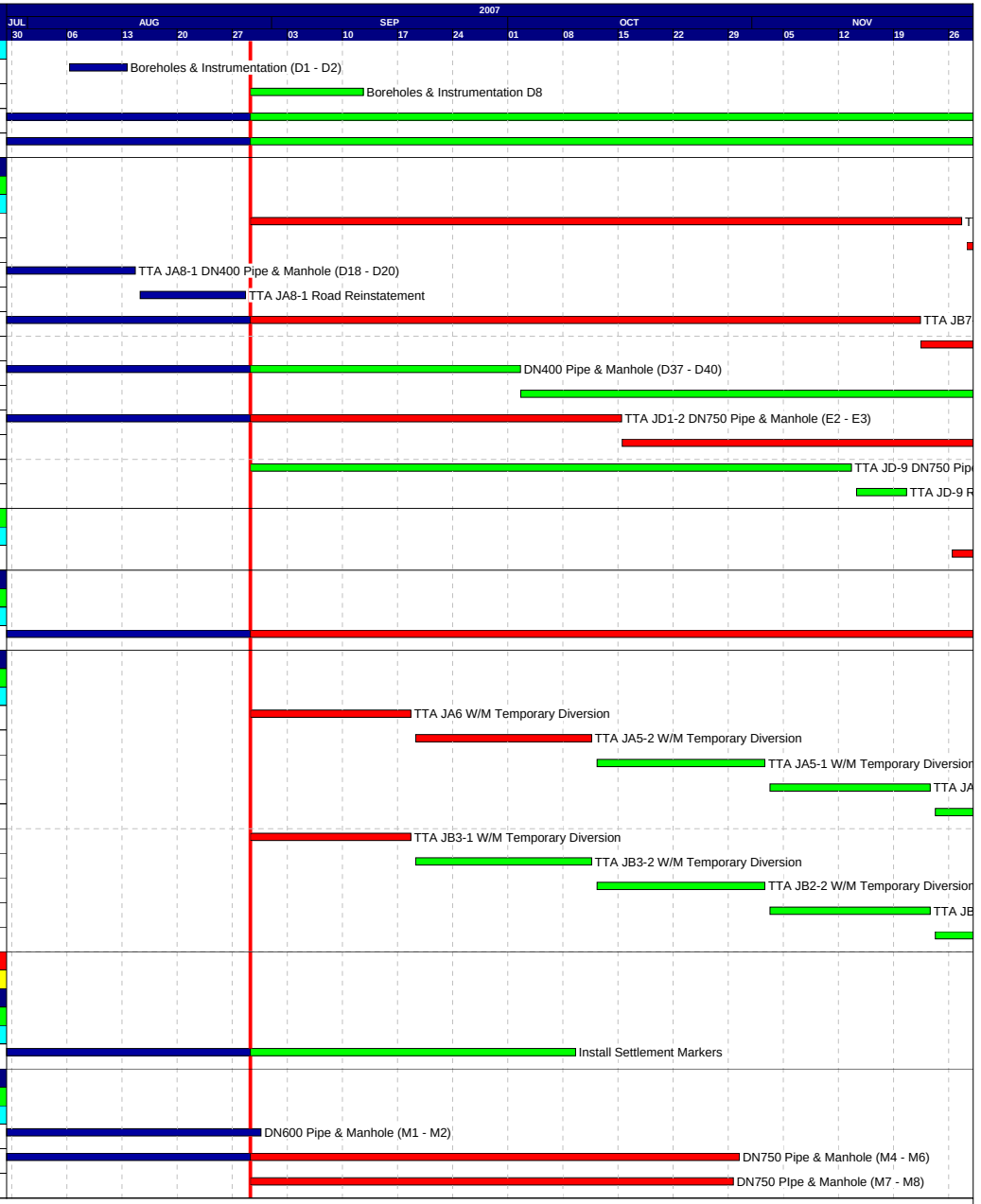
Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 29 August 2007

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S6JB1020	Boreholes & Instrumentation (D1 - D2)	13d		100	06AUG07 A	13AUG07 A	06AUG07 A	13AUG07 A
S6JB1060	Boreholes & Instrumentation D8	13d	52d	0	29AUG07	12SEP07	01NOV07	15NOV07
S6JB1500	Install Settlement Marker 1st Stage	765d	24d	53	20APR06 A	11NOV08	20APR06 A	09DEC08
S6JB2100	Install Settlement Markers 2nd Stage	600d4h	149d	55	07JUL06 A	30JUL08	07JUL06 A	29JAN09
Drainage and Ducts								
Trench Method								
S6JEA1800	TTA JA8-2 DN400 Pipe & Manhole (D16 - D18)	75d	-268d	0	29AUG07	27NOV07	30SEP06	02JAN07
S6JEA1810	TTA JA8-2 Road Reinstatement	6d	-268d	0	28NOV07	04DEC07	03JAN07	09JAN07
S6JEA1820	TTA JA8-1 DN400 Pipe & Manhole (D18 - D20)	81d		100	29JAN07 A	14AUG07 A	29JAN07 A	14AUG07 A
S6JEA1830	TTA JA8-1 Road Reinstatement	6d		100	15AUG07 A	28AUG07 A	15AUG07 A	28AUG07 A
S6JEA2520	TTA JB7-1 DN400 Pipe & Manhole (D31 - D32)	88d	-367d	20	06JUN07 A	22NOV07	06JUN07 A	26AUG06
S6JEA2530	TTA JB7-1 Road Reinstatement	6d	-367d	0	22NOV07	29NOV07	28AUG06	02SEP06
S6JEA3100	DN400 Pipe & Manhole (D37 - D40)	87d	24d	68	28MAR07 A	02OCT07	28MAR07 A	31OCT07
S6JEA3200	DN300 Pipe & Manhole (D40 - D42)	65d	24d	0	02OCT07	18DEC07	31OCT07	18JAN08
S6JEA3920	TTA JD1-2 DN750 Pipe & Manhole (E2 - E3)	55d	-328d	30	31MAR07 A	15OCT07	31MAR07 A	05SEP06
S6JEA4000	TTA JD2 DN750 Pipe & Manhole (E3 - E5)	74d	-328d	0	15OCT07	14JAN08	06SEP06	04DEC06
S6JEA4700	TTA JD-9 DN750 Pipe & Manhole (E14 - E15)	63d	278d	0	29AUG07	13NOV07	06AUG08	21OCT08
S6JEA4710	TTA JD-9 Road Reinstatement	6d	278d	0	14NOV07	20NOV07	22OCT08	28OCT08
Trenchless Method								
S6JEB1100	Construct Jack/Receive Pits (D6 - D7)	28d	-37d	0	26NOV07	31DEC07	12OCT07	14NOV07
Geotechnical works								
S6JP1000	Monitoring of Instruments	1178d	-352d	34	21APR06 A	30MAR10	21APR06 A	29JAN09
Additonal Works / Disruption								
Kam Tin Road A/C Watermain (Claim No. 019)								
S6JV1350	TTA JA6 W/M Temporary Diversion	18d	-46d	0	29AUG07	18SEP07	06JUL07	26JUL07
S6JV1370	TTA JA5-2 W/M Temporary Diversion	18d	-9d	0	19SEP07	11OCT07	08SEP07	29SEP07
S6JV1390	TTA JA5-1 W/M Temporary Diversion	18d	17d	0	12OCT07	02NOV07	02NOV07	22NOV07
S6JV1410	TTA JA4-1 W/M Temporary Diversion	18d	38d	0	03NOV07	23NOV07	18DEC07	10JAN08
S6JV1430	TTA JA4-2 W/M Temporary Diversion	18d	68d	0	24NOV07	14DEC07	19FEB08	10MAR08
S6JV1530	TTA JB3-1 W/M Temporary Diversion	18d	-60d	0	29AUG07	18SEP07	18JUN07	10JUL07
S6JV1550	TTA JB3-2 W/M Temporary Diversion	18d	50d	0	19SEP07	11OCT07	20NOV07	10DEC07
S6JV1570	TTA JB2-2 W/M Temporary Diversion	18d	85d	0	12OCT07	02NOV07	24JAN08	16FEB08
S6JV1590	TTA JB2-1 W/M Temporary Diversion	18d	135d	0	03NOV07	23NOV07	21APR08	12MAY08
S6JV1610	TTA JB1-1 W/M Temporary Diversion	18d	185d	0	24NOV07	14DEC07	12JUL08	01AUG08
Section 7 - Sewers in Portion K								
Portion K								
Ground Investigation								
S7KB1500	Install Settlement Markers	423d4h	36d	92	08MAY06 A	09OCT07	08MAY06 A	21NOV07
Drainage and Ducts								
Trench Method								
S7KEA1000	DN600 Pipe & Manhole (M1 - M2)	51d		100	13JUN07 A	30AUG07 A	13JUN07 A	30AUG07 A
S7KEA1200	DN750 Pipe & Manhole (M4 - M6)	126d	-74d	60	03APR07 A	30OCT07	03APR07 A	31JUL07
S7KEA1390	DN750 PIpe & Manhole (M7 - M8)	50d	-36d	0	29AUG07	29OCT07	18JUL07	13SEP07



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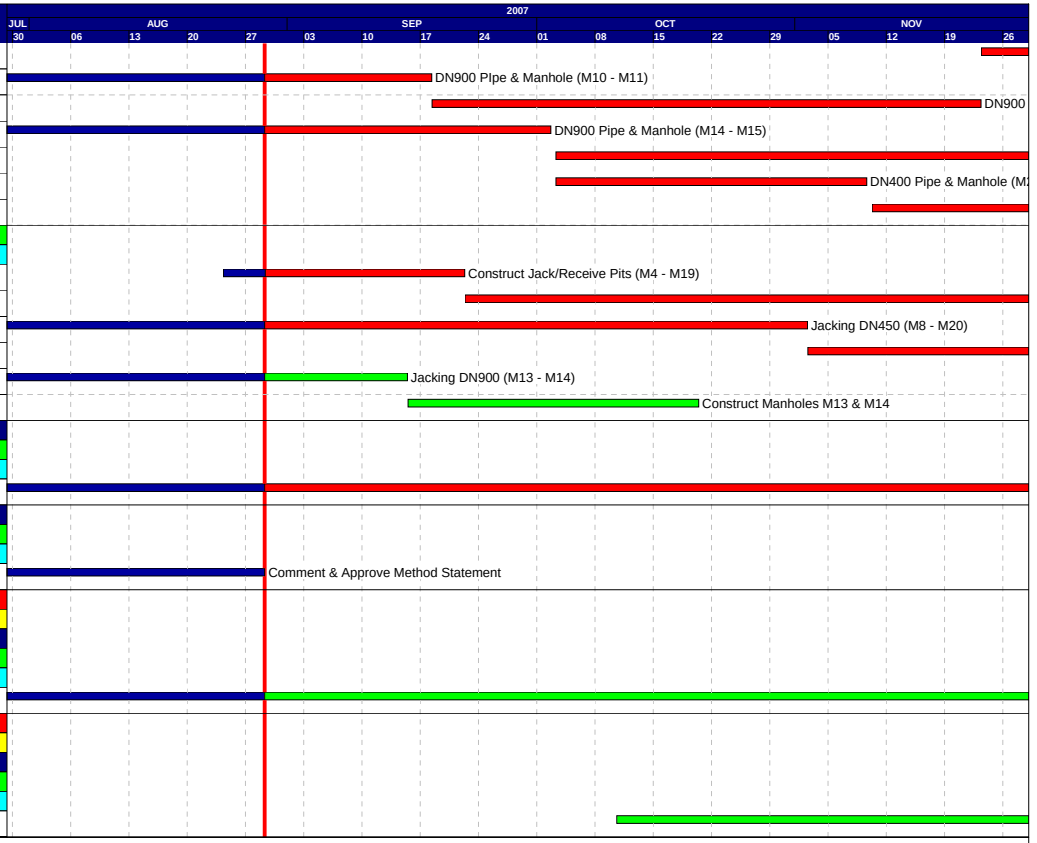
Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 29 August 2007

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S7KEA1400	DN900 Pipe & Manhole (M8 - M10)	51d	-57d	0	23NOV07	25JAN08	14SEP07	15NOV07
S7KEA1500	DN900 PIpe & Manhole (M10 - M11)	57d4h	-57d	70	23JAN07 A	18SEP07	23JAN07 A	12JUL07
S7KEA1610	DN900 Pipe & Manhole (M11 - M12) Stage 2	54d	-57d	0	18SEP07	23NOV07	13JUL07	13SEP07
S7KEA1800	DN900 Pipe & Manhole (M14 - M15)	51d	-102d	45	27DEC06 A	02OCT07	27DEC06 A	31MAY07
S7KEA1900	DN900 Pipe & Manhole (M15 - M16)	93d	-102d	0	03OCT07	23JAN08	01JUN07	19SEP07
S7KEA2000	DN400 Pipe & Manhole (M21 - M16a)	32d	-67d	0	03OCT07	09NOV07	14JUL07	20AUG07
S7KEA2020	DN375 Pipe & Manhole (S1 - S2)	24d	-67d	0	10NOV07	07DEC07	21AUG07	17SEP07
Trenchless Method								
S7KEB1000	Construct Jack/Receive Pits (M4 - M19)	30d	-144d	30	24AUG07 A	22SEP07	24AUG07 A	28MAR07
S7KEB1020	Jacking DN600 (M4 - M19)	72d	-144d	0	22SEP07	19DEC07	29MAR07	28JUN07
S7KEB1120	Jacking DN450 (M8 - M20)	97d4h	-40d	45	18NOV06 A	02NOV07	18NOV06 A	13SEP07
S7KEB1140	Construct Manholes M8 & M20	27d	-13d	0	02NOV07	04DEC07	18OCT07	19NOV07
S7KEB1220	Jacking DN900 (M13 - M14)	48d4h	26d	68	02DEC06 A	15SEP07	02DEC06 A	17OCT07
S7KEB1240	Construct Manholes M13 & M14	27d	26d	0	15SEP07	20OCT07	18OCT07	19NOV07
Geotechnical works								
S7KP1000	Monitoring of Instruments	569d	-122d	66	24MAY06 A	23APR08	24MAY06 A	21NOV07
Additonal Works / Disruption								
Conflict of Ext. Util. at M/H M4 (Claim No. 052)								
S7KV2210	Comment & Approve Method Statement	30d	-144d	90	28JUL07 A	29AUG07	28JUL07 A	03MAR07
Section 8 - Preservation and Protection of Trees								
All Portions								
Landscape Softworks and Establishment Works								
S8QR1100	Preservation & Protection of Preserved Trees	744d	0	43	29JUL06 A	29JAN09	29JUL06 A	29JAN09
Decontamination Works								
Portion B								
Decontamination								
S9BU1000	Decontamination Works	48d	164d	0	10OCT07	06DEC07	03MAY08	28JUN08



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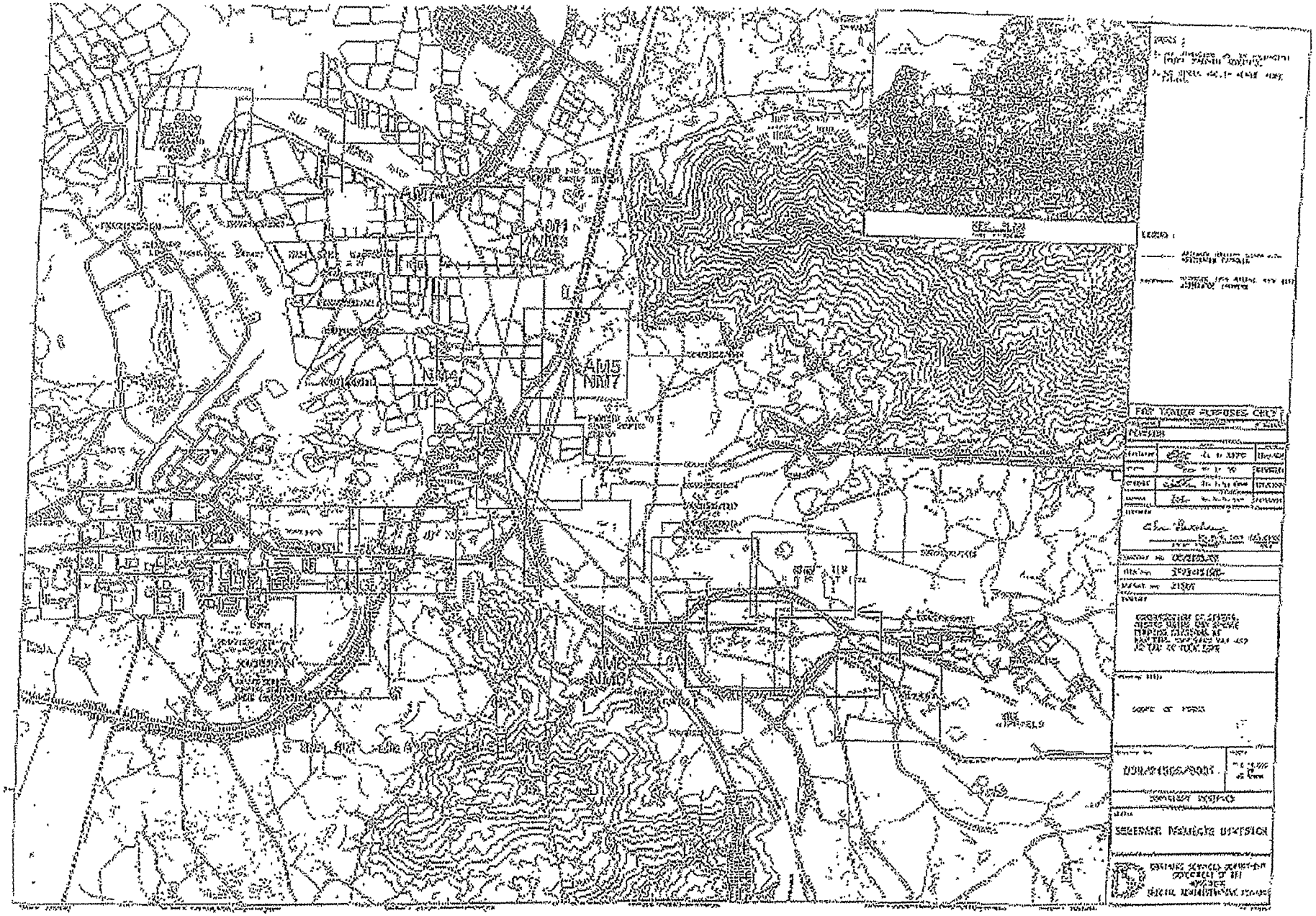
- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Annex D

Photographical Records – Noise Barrier On-Site

Annex E

Locations of Monitoring Stations



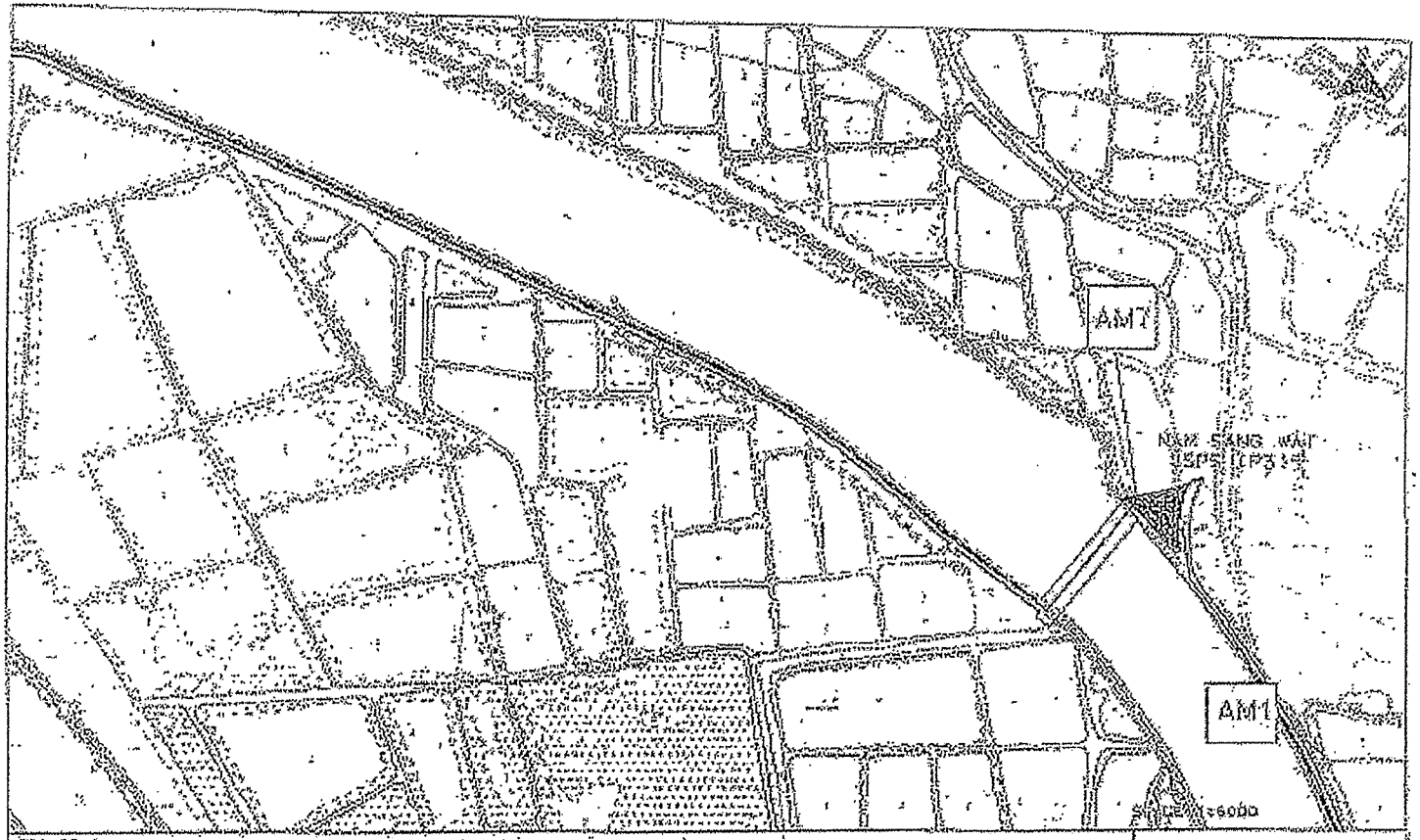


FIGURE 61 LOCATION OF DUST MONITORING STATIONS AM7 AND AM1

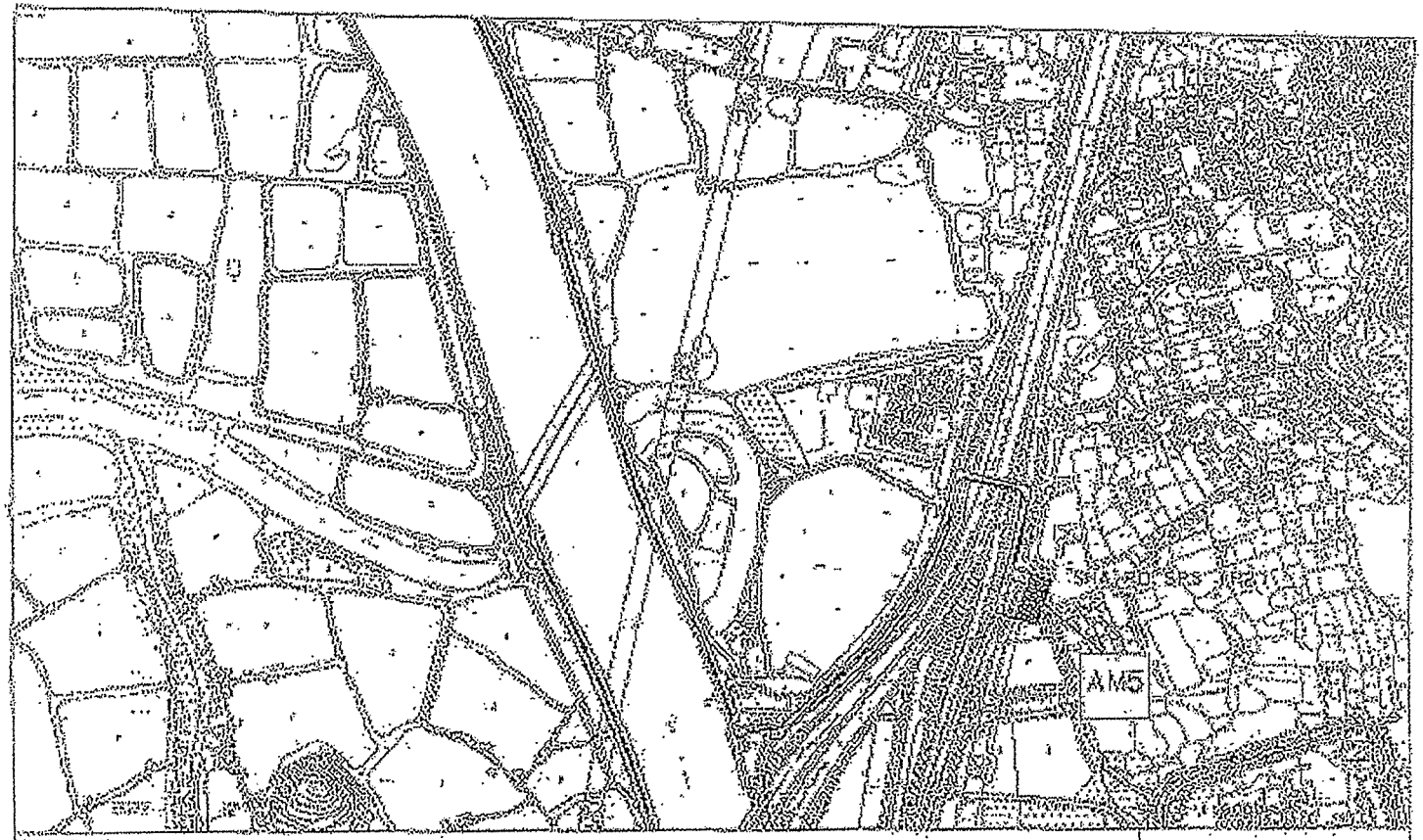


FIGURE 02

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)

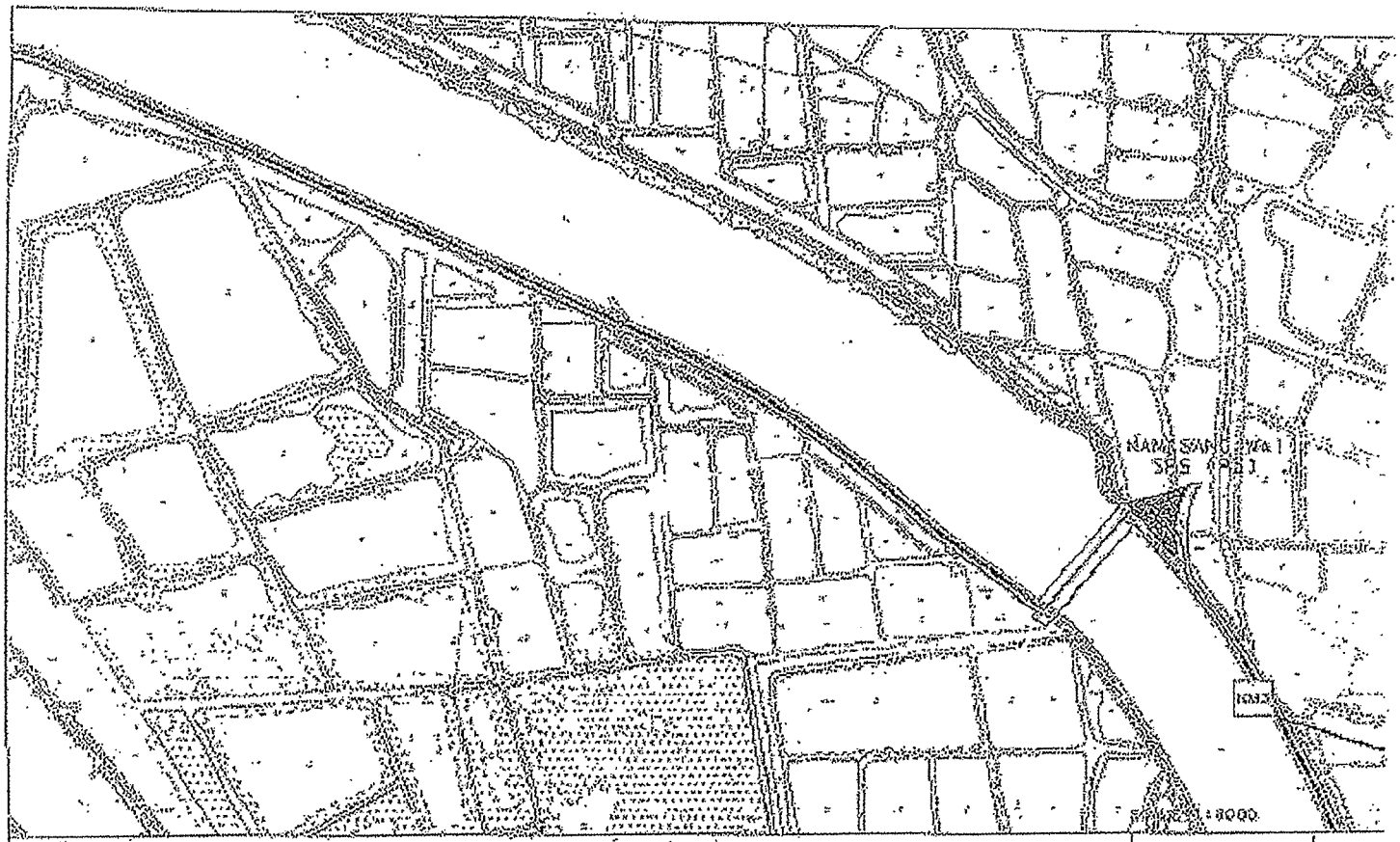


FIGURE 08

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

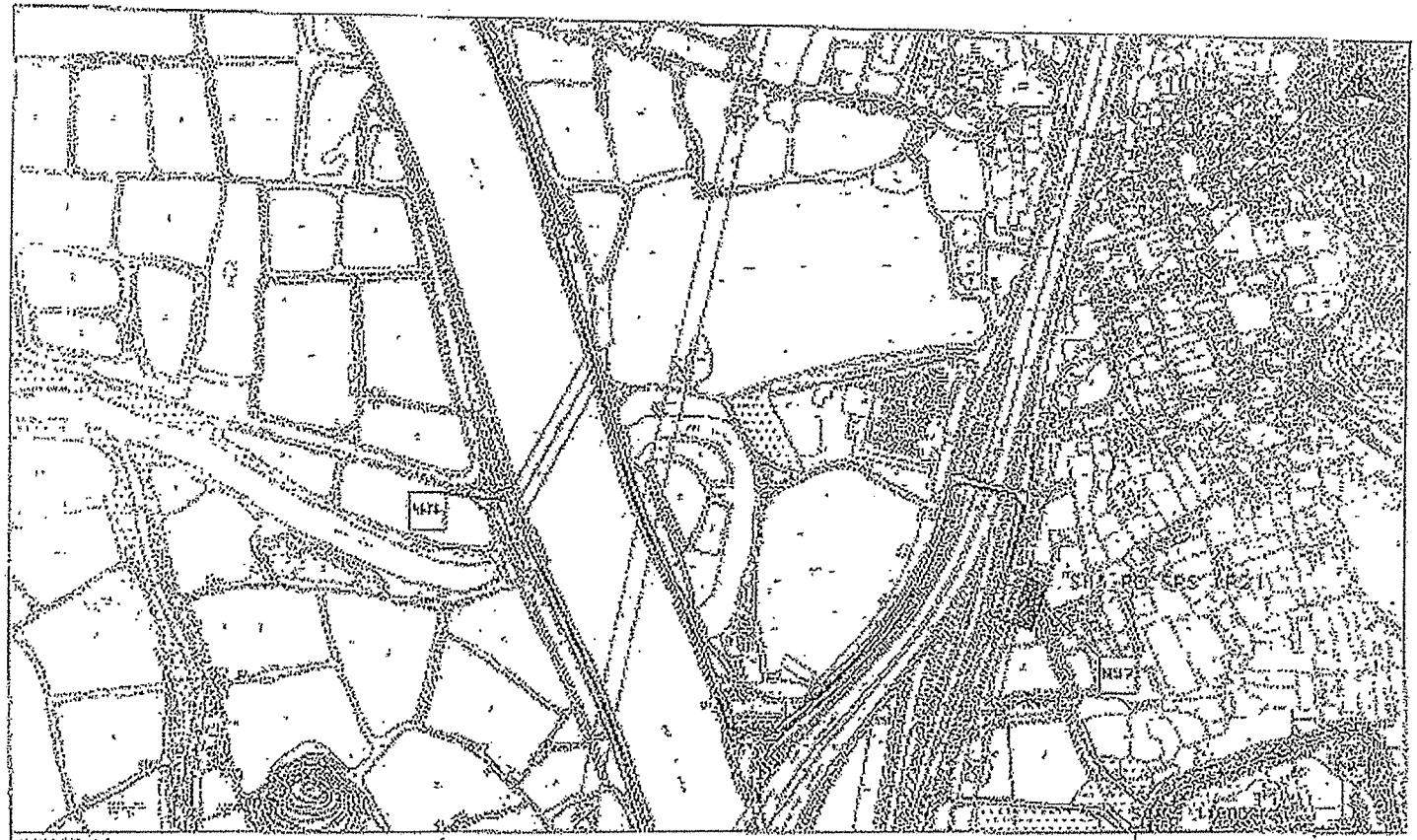


FIGURE 20.

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

Item	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1*	Air	Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	19 Aug 07	19 Nov 07
2		Greasby Anderson GMWS2310 High Volume Sampler	0355 (AM5)	13 Jul 07	13 Oct 07
3		Greasby Anderson GMWS2310 High Volume Sampler	10394 (AM6)	01 Jul 07	01 Oct 07
4*		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	19 Aug 07	19 Nov 07
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-Aug-07
Location ID :	AM 1	Next Calibration Date:	19-Nov-07
Serial No:	0329	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1016.2	Corrected Pressure (mm Hg)	762.15
Temperature (^{o}C)	19.8	Temperature (K)	293

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	2.019	56	57.08
13	4.1	4.1	8.2	1.886	50	50.96
10	3.1	3.1	6.2	1.642	38	38.73
7	2.4	2.4	4.8	1.446	31	31.60
5	1.4	1.4	2.8	1.108	12	12.23

LINEAR REGRESSION

Slope =	48.5396
Intercept =	-40.5180
Corr. coeff. =	0.9980

Calculations :

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

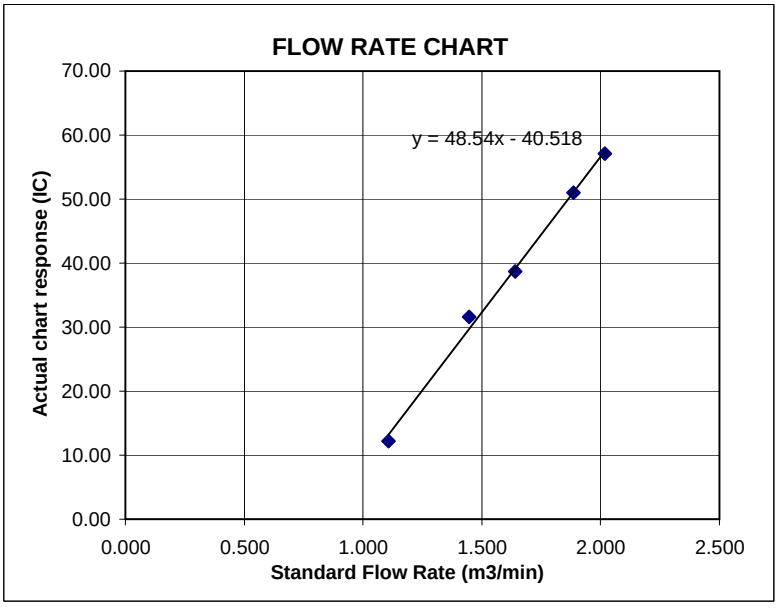
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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-Aug-07
Location ID :	AM 7	Next Calibration Date:	19-Nov-07
Serial No:	1283	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1016.2	Corrected Pressure (mm Hg)	762.15
Temperature (^{o}C)	19.8	Temperature (K)	293

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	2.019	45	45.86
13	3.7	3.7	7.4	1.792	36	36.69
10	2.4	2.4	4.8	1.446	25	25.48
7	2	2	4	1.321	21	21.40
5	1.2	1.2	2.4	1.026	12	12.23

LINEAR REGRESSION

Slope = 33.6160
Intercept = -22.7944
Corr. coeff. = 0.9988

Calculations :

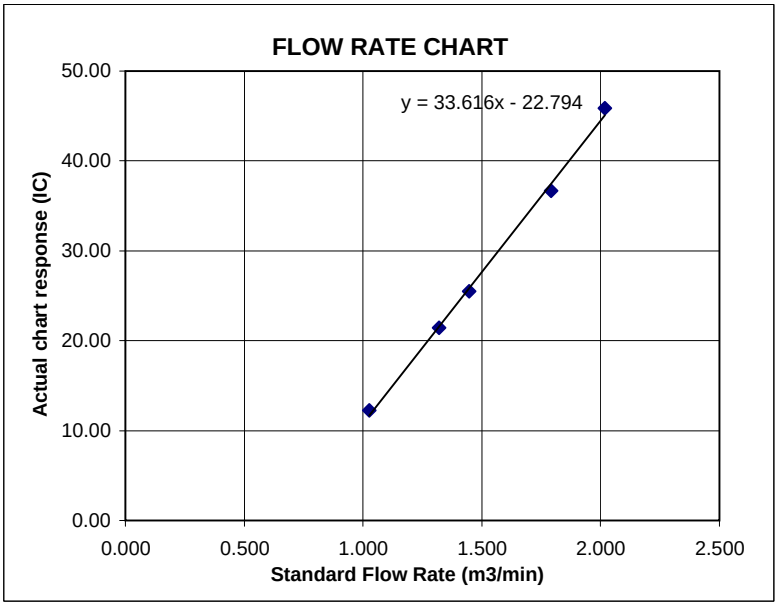
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

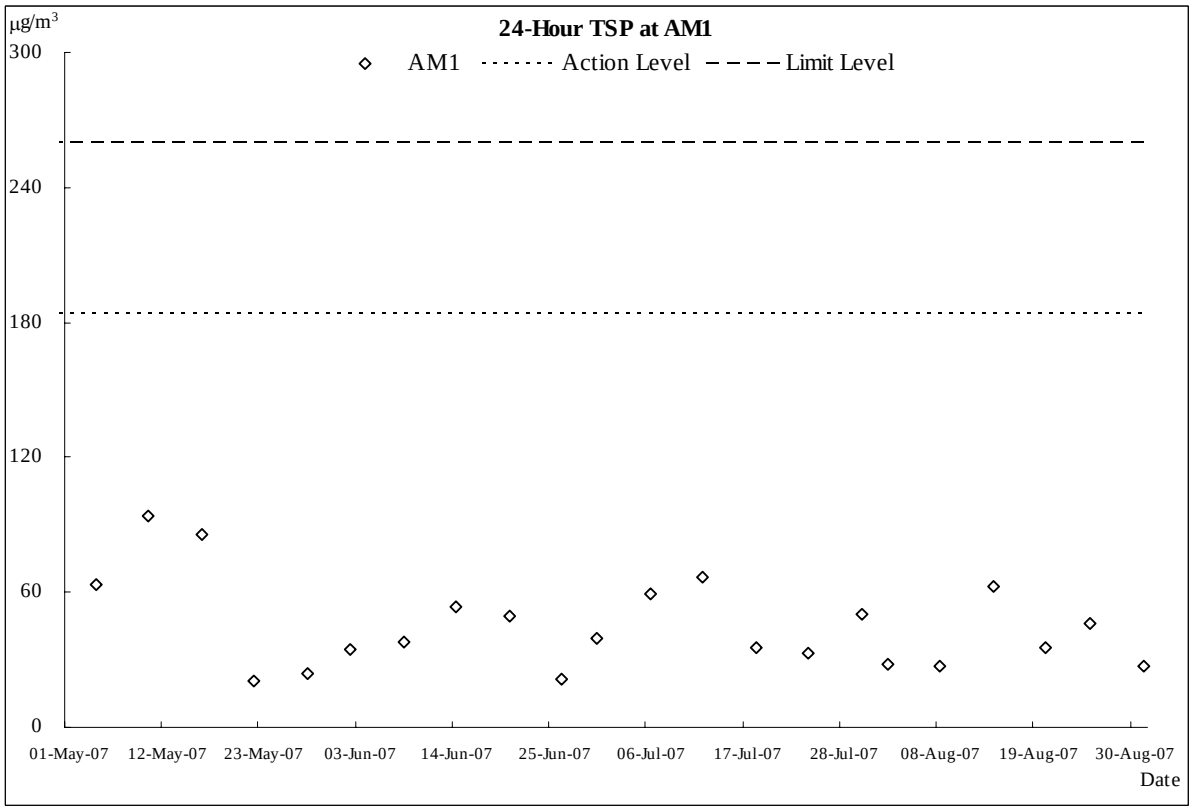
Date		Weather		Lau Fau Shan Station			
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Aug-07	Wed	fine/very hot/isolated showers/thunderstorms/light winds	0	29.7	17	77	S/SE
2-Aug-07	Thu	fine/very hot/isolated showers/light winds	0	30.1	17.5	77	S/SE
3-Aug-07	Fri	fine/very hot/light winds	0	31	13	72.5	S/SE
4-Aug-07	Sat	fine/very hot/a few showers/moderate	0	30.3	15	66	E
5-Aug-07	Sun	hot/isolated showers/squally thunderstorms	7.7	30.8	10.5	73.5	E/SE
6-Aug-07	Mon	cloudy/scattered showers/squally thunderstorms/moderate/fresh	100.4	27.3	14	88	E/NE
7-Aug-07	Tue	cloudy/a few showers/thunderstorms/sunny intervals/moderate/fresh	17.4	29	13.5	82	E
8-Aug-07	Wed	cloudy/haze/squally showers/thunderstorms/moderate/fresh/strong	17.9	29.7	10.5	73	E/SE
9-Aug-07	Thu	cloudy/overcast/rain/squalls/fresh	33.6	28.2	22	78.5	E/NE
10-Aug-07	Fri	cloudy/overcast/squally showers/moderate/fresh/strong	57.8	25.5	16	85	E/SE
11-Aug-07	Sat	cloudy/rain/fresh/strong/squally thunderstorms	39.9	25.6	23.5	89.5	S/SW
12-Aug-07	Sun	cloudy/rain/mist/moderate	5.3	26.7	8	91.5	W/SW
13-Aug-07	Mon	cloudy/a few showers/thunderstorms/moderate	Trace	28.3	13	89	S/SE
14-Aug-07	Tue	cloudy/overcast/rain/squally thunderstorms/moderate	14.7	26.3	21.5	85	W/SW
15-Aug-07	Wed	cloudy/rain moderate	10.9	27.7	14	85	NW
16-Aug-07	Thu	cloudy/a few showers/moderate	60.7	25.6	12	81	E/NE
17-Aug-07	Fri	sunny intervals/a few showers/fresh/strong	27.9	27.8	13.5	81.5	E
18-Aug-07	Sat	fine/very hot/haze/moderate/squally thunderstorms/moderate	1.2	28.5	13.5	79.5	W/NW
19-Aug-07	Sun	fine/very hot/light winds	0	29	17.7	71	W/SW
20-Aug-07	Mon	cloudy/scattered showers/squally thunderstorms/fresh	Trace	27.4	25.5	84	SW
21-Aug-07	Tue	cloudy/moderate/fresh/scattered showers/squally thunderstorms	Trace	28.1	21	79	S/SW
22-Aug-07	Wed	cloudy/fresh/moderate/squally thunderstorms/scattered showers	15.1	26.6	25	85.5	S/SW
23-Aug-07	Thu	cloudy/scattered showers/squally thunderstorms/light winds	Trace	28.3	16	84.5	S/SE
24-Aug-07	Fri	fine/isolated showers/light winds	15.3	28.1	17	85	E/SE
25-Aug-07	Sat	a few showers/sunny periods/light winds	10.3	28	12.5	82.5	E/SE
26-Aug-07	Sun	sunny intervals/a few showers/moderate	Trace	27.9	12	73	S/SE
27-Aug-07	Mon	a few showers/sunny intervals/moderate	25	28.5	12	78	E
28-Aug-07	Tue	a few showers/sunny intervals/moderate	25.9	28.5	13	83.5	E
29-Aug-07	Wed	sunny periods/isolated showers/moderate	1.3	29.3	12	80	E
30-Aug-07	Thu	fine/isolated showers/thunderstorms/light winds	0.1	28.1	12	79.5	SE
31-Aug-07	Fri	fine/hot/isolated showers/light winds	0	28.4	14	79.5	SE

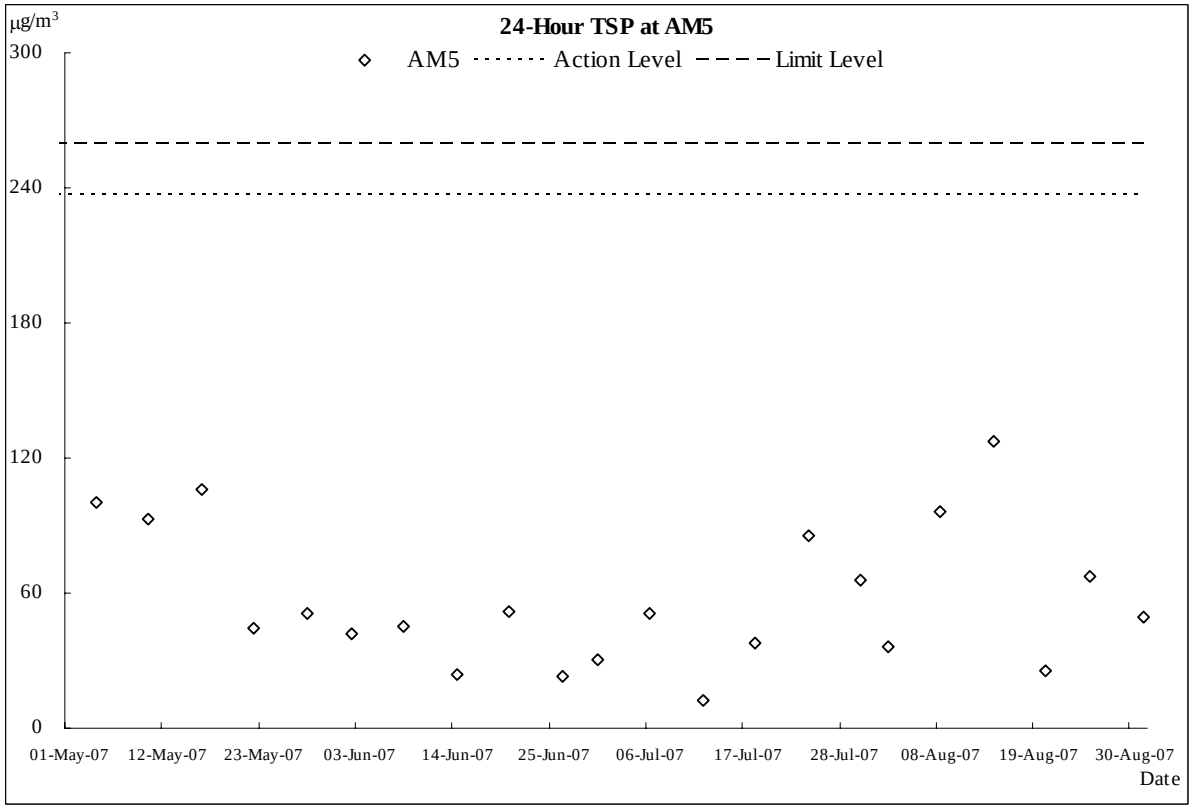
Annex J

Graphical Plots of Air Quality and Construction Noise Monitoring Results

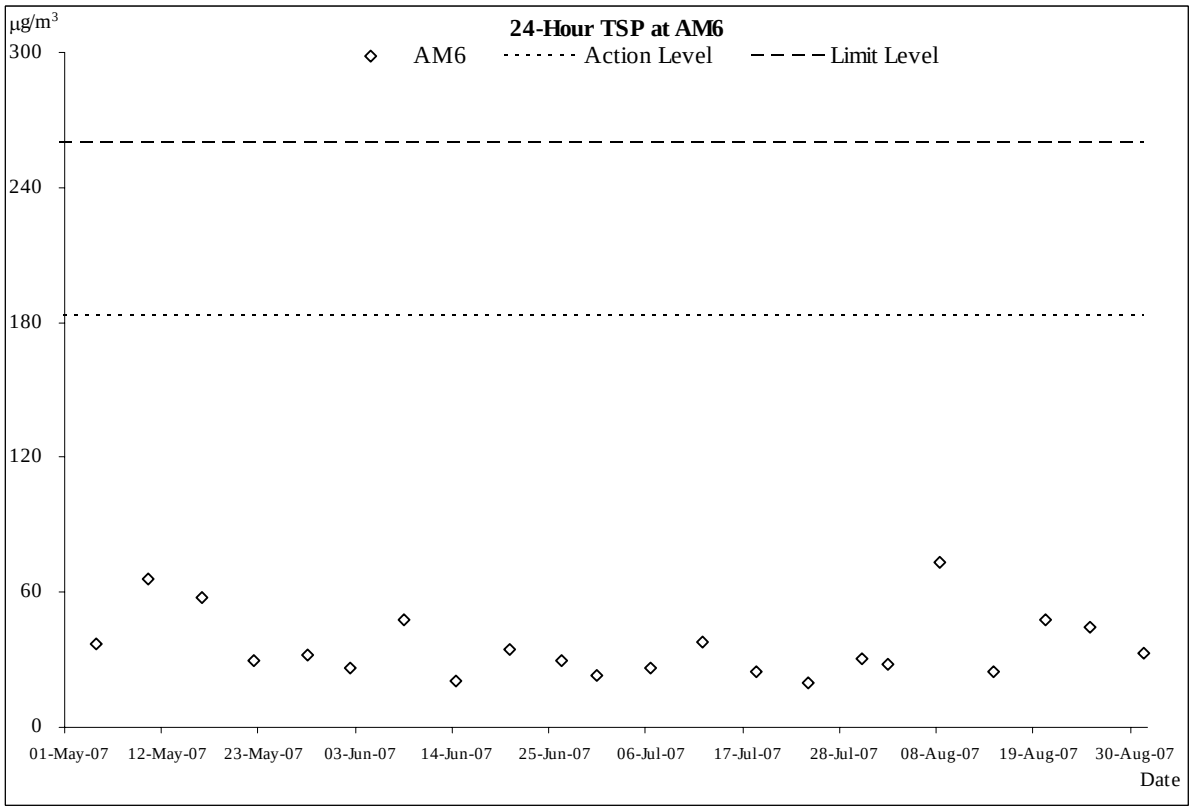
Air Quality

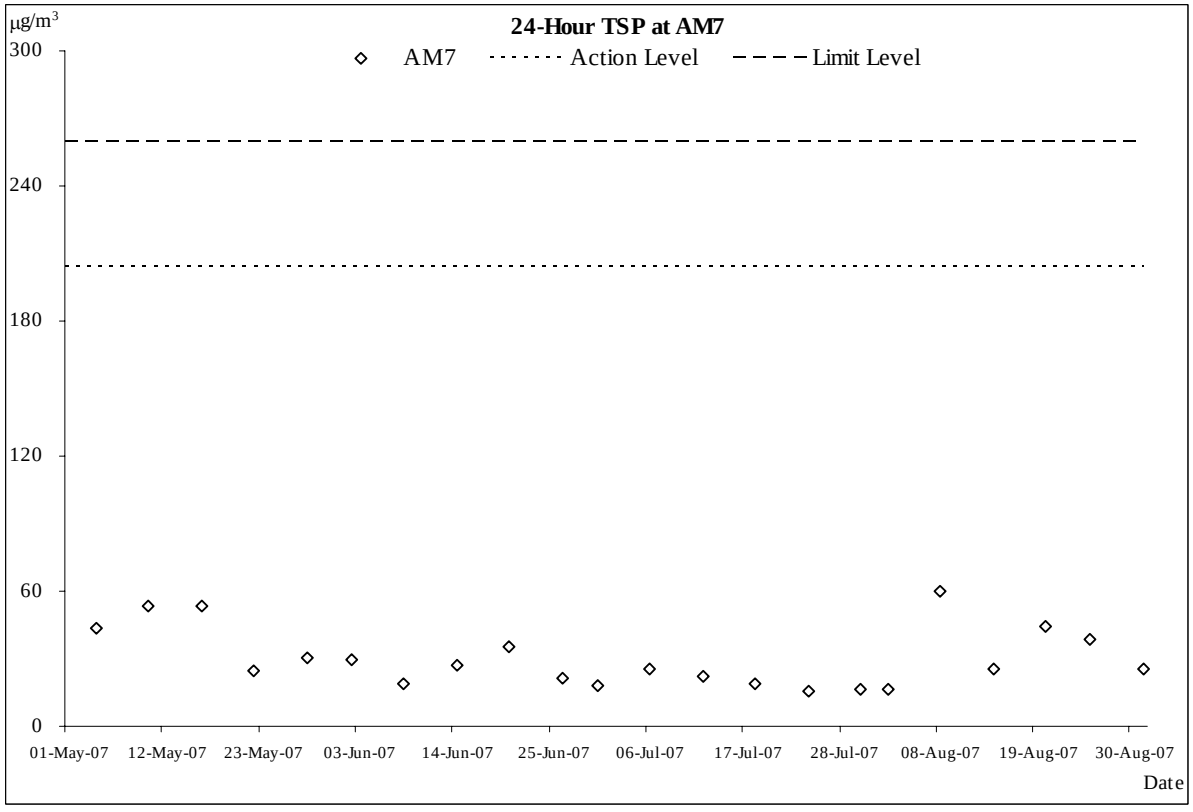
Air Quality Monitoring Results





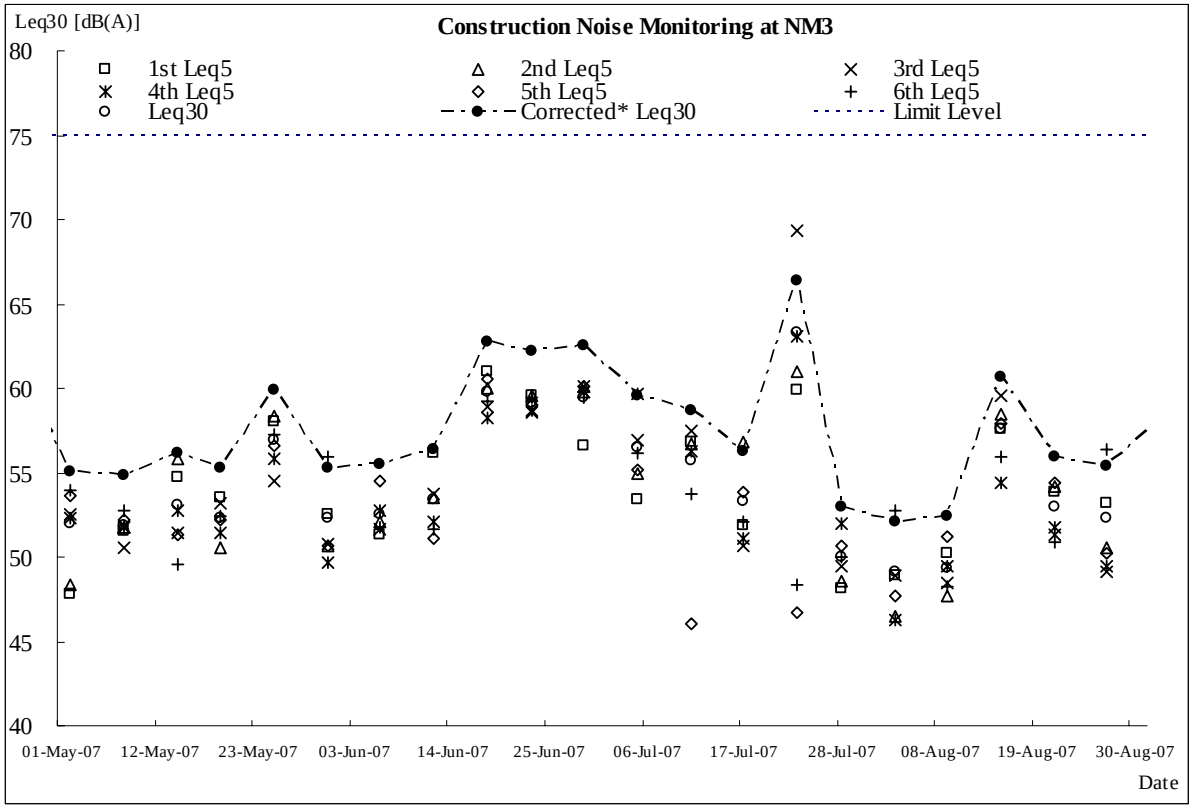
Air Quality Monitoring Results

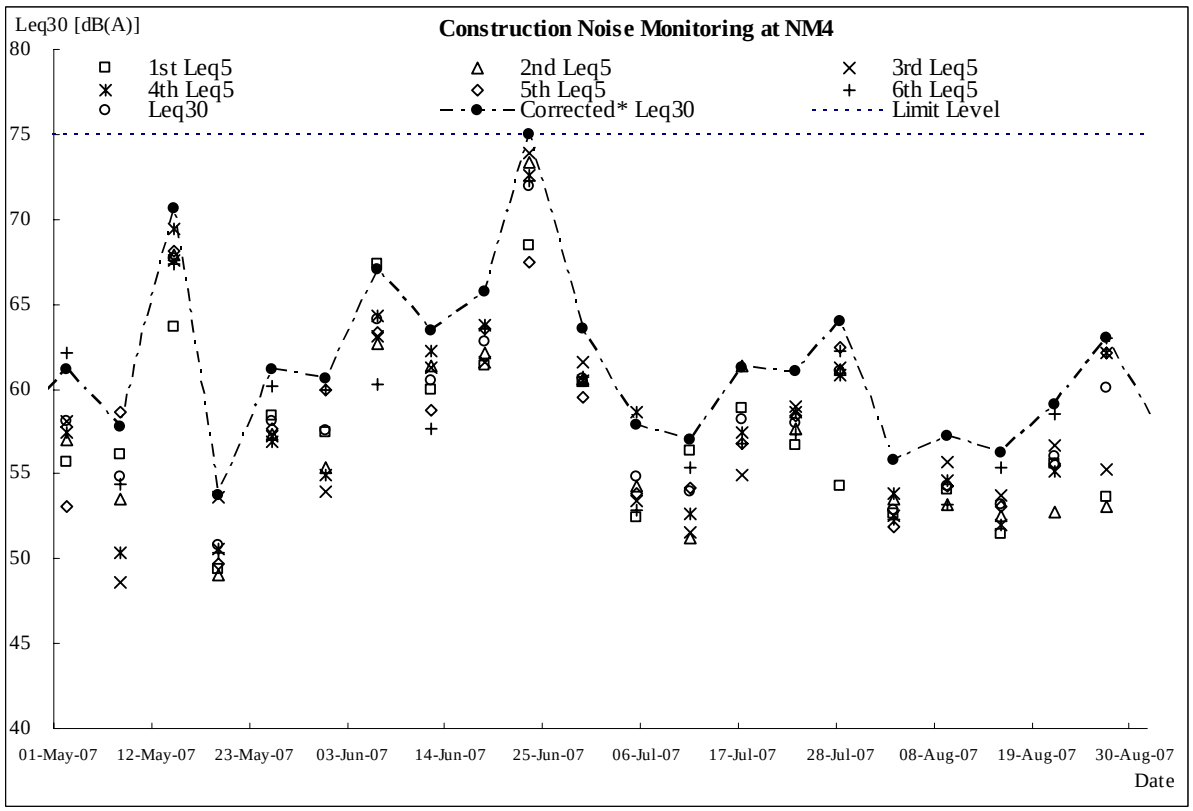


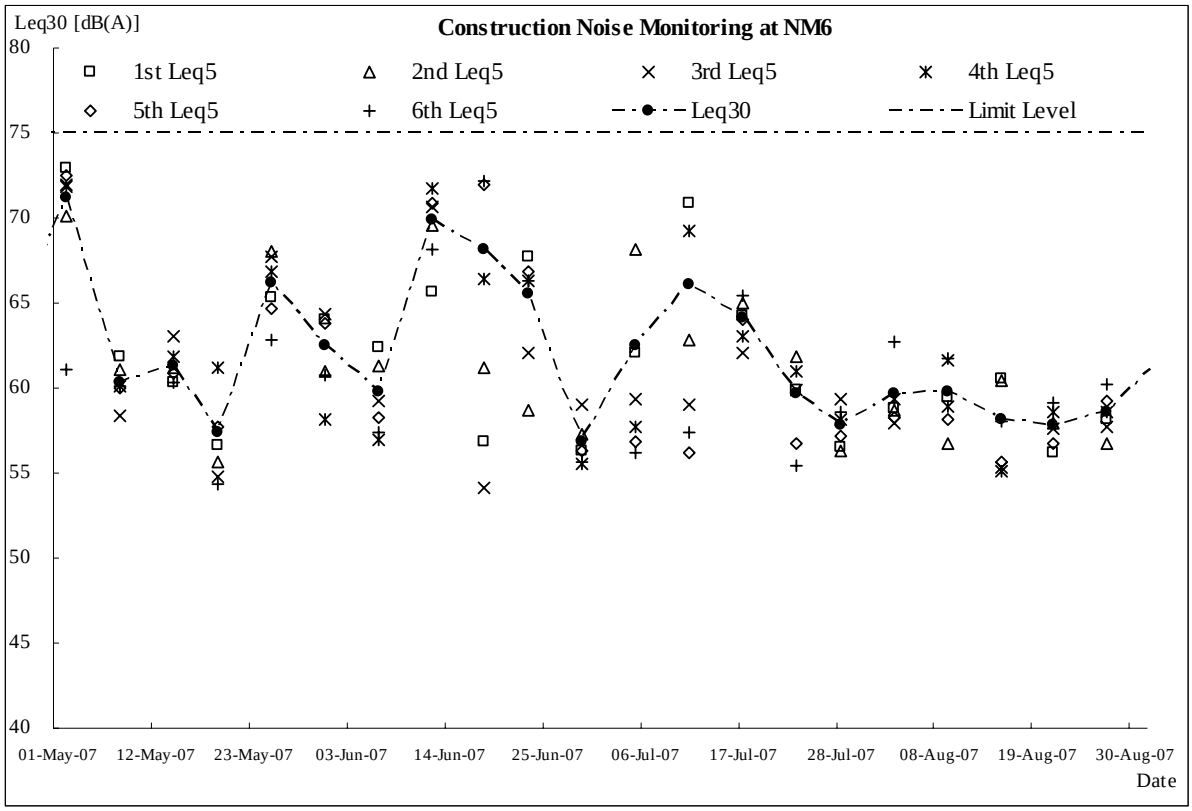


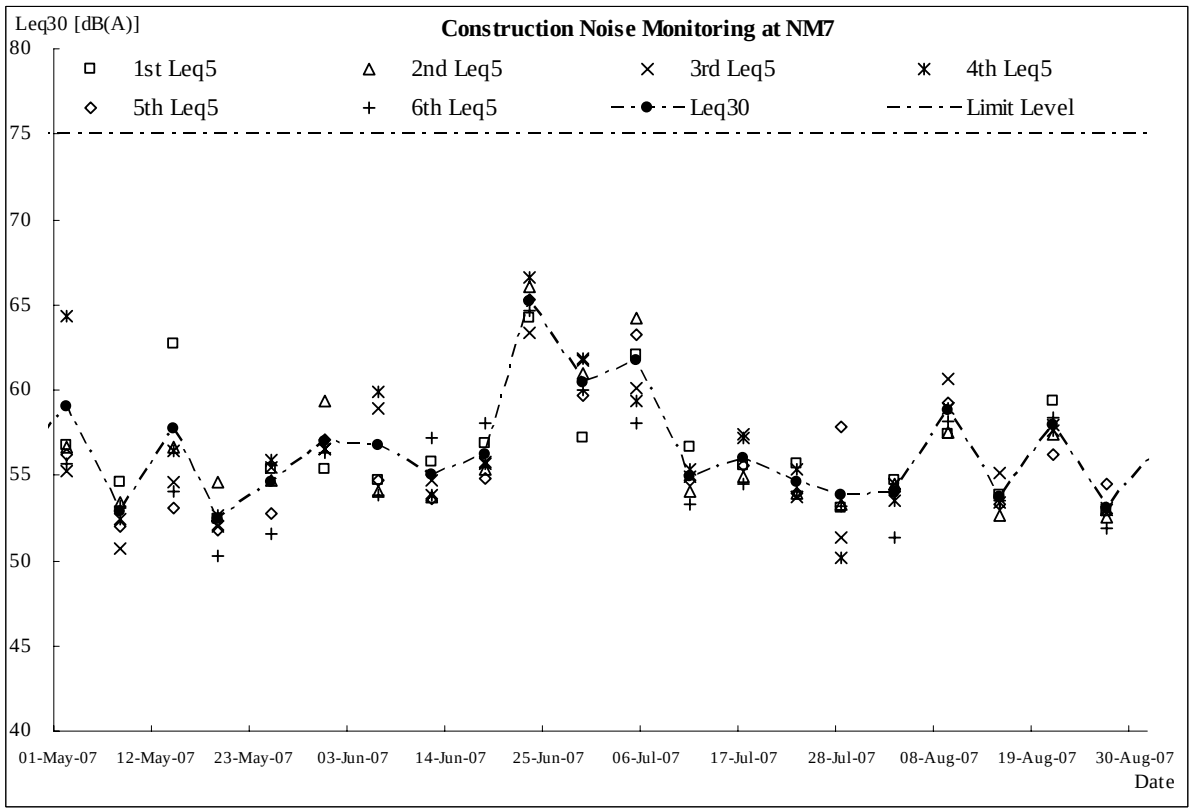
Construction Noise

Construction Noise Monitoring Results






Leq30 [dB(A)]
Construction Noise Monitoring at NM6
1st Leq5
2nd Leq5
3rd Leq5
4th Leq5
5th Leq5
6th Leq5
Leq30
Limit Level
80
75
70
65
60
55
50
45
40
01-May-07
12-May-07
23-May-07
03-Jun-07
14-Jun-07
25-Jun-07
06-Jul-07
17-Jul-07
28-Jul-07
08-Aug-07
19-Aug-07
30-Aug-07
Date


Leq30 [dB(A)]
Construction Noise Monitoring at NM7
1st Leq5
2nd Leq5
3rd Leq5
4th Leq5
5th Leq5
6th Leq5
Leq30
Limit Level
80
75
70
65
60
55
50
45
40
01-May-07
12-May-07
23-May-07
03-Jun-07
14-Jun-07
25-Jun-07
06-Jul-07
17-Jul-07
28-Jul-07
08-Aug-07
19-Aug-07
30-Aug-07
Date

Annex K

Proforma of Site Inspection and 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: Edwin/Benny	**Environmental Team:**	Action-United Environmental Services & Consulting
	IEC's Rep:	**Inspection Date & Time:**	07 August 2007
	RE's Rep: Mr. Hui	**Checklist Reference No.:**	DSD-AT070807

General Meteorological Information

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

Temp: [30] °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?	✓					
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?	✓					
Is 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 of site

[ ] Construction activities outside of site [ ] Others

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?		✓					

AUES **Site Inspection Checklist (SF-17)**

Remarks:

Previous Audit Follow-up:

No debris/rubbish and C&D wastes scattered within the Kam Tai Road work front was found.

Observations Recorded in this Site Inspection:

1. Oil drums without drip tray place on bared ground were found at Caste Peak Road Fish Market and Nam San Wai Road works fronts, the Contractor was reminded to provide enough drip tray and handling in proper manner.
2. Excavated soil deposit on the site entrance and public road was observed at the Nam San Wai Road work front, the Contractor was reminded to clean up immediately.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Name :Ken Wong	Name: Rebecca Lam	Name	Name: S. L. HUI

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: Edwin/Benny	**Environmental Team:**	Action-United Environmental Services & Consulting
	IEC's Rep:	**Inspection Date & Time:**	14 August 2007
	RE's Rep: Mr. Hui	**Checklist Reference No.:**	DSD-AT140807

General Meteorological Information

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

Temp: [29] °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?	✓					
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?	✓					
Is 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 of site

[ ] Construction activities outside of site [ ] Others

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?		✓					

AUES **Site Inspection Checklist (SF-17)**

Remarks:

Previous Audit Follow-up:

No oil drums without drip tray place on bared ground were observed at Caste Peak Road Fish Market and Nam San Wai Road works fronts.

No excavated soil deposit on the site entrance and public road was observed at the Nam San Wai Road work front

Observations Recorded in this Site Inspection:

1. Silty water discharge from the sedimentation tank was observed at the Pok Wai South Road work front, the Contractor was reminded to improve the efficiency and provide regular maintenance.
2. Wastewater directly discharge into the drainage without divert to the sedimentation tank was found at the Castle Peak Road work front, the Contractor was reminded to provide sedimentation tank and divert all wastewater into the sedimentation tank prior discharge into the drainage system.

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:** **Ken Wong**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin/Benny**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **SM Foo**	**Inspection Date & Time:**	**23 August 2007**
	RE's Rep: **Mr. Hui**	**Checklist Reference No.:**	**DSD-AT230807**

General Meteorological Information

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

Temp: [29] °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?	✓					
Is 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 of site

[ ] Construction activities outside of site [ ] Others

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:

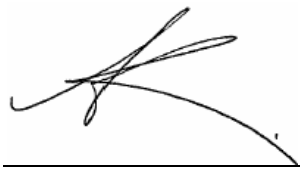
No silty water discharge from the sedimentation tank was observed at the Pok Wai South Road.

Sedimentation tank was deployed at the Castle Peak Road work front.

Observations Recorded in this Site Inspection:

1. Excavated soil accumulated onsite without covered by the tarpaulin sheet was observed at the Ko Po Road work front. To avoid silty runoff in the rainy season, the Contractor was reminded to cover it by the tarpaulin sheet or impermeable materials.
2. Silty water seepage into the Kam Tin River from the excavation pit at CH4250 was found. The Contractor was reminded to divert all wastewater into the desilting facilities prior discharge into drainage system.

Signatures:

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

Agreement No. CE37/2005 (EP)
Environmental Monitoring and Audit for
Kam Tin Trunk Sewerage Phase 1 and Au Tau trunk sewers

MONTHLY SITE INSPECTION CHECKLIST

Inspection Date	23/8/2007	Time	9.30am	Inspected By	Leader: Benny Lam ET: Ken Wong DSD: SL Hui IEC: SM Foo
Site Location	Yuen Long Kam Tin.				

Weather

Condition		Sunny	✓	Fine		Overcast		Drizzle		Rain		Storm		Hazy
Temperature	29°C				Humidity	✓	High		Moderate		Low		
Wind		Calm	✓	Light		Breeze		Strong		Direction	SW		

EIA ref:		Close-out on last comments Y/N	N/A or not obs	Yes	No	Photo/Remarks
	Construction Phase					
	Air Quality - Construction Phase					
3.5	• Are hoardings of not less than 2.4m high provided along the site boundary?			✓		
3.5	• Is the portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit kept clear of dusty materials?			✓		
3.5	• Are stockpiled dusty materials covered by impervious sheeting and placed in an area sheltered on top and 3 sides or sprayed with water?			✓		
3.5	• Are dusty material loads on vehicles sprayed with water prior to loading and unloading?			✓		
3.5	• Are all vehicles washed to remove dusty materials from its body and wheels before leaving site?			✓		
3.5	• Are vehicles which are carrying dusty materials covered entirely by impervious sheeting when leaving site?			✓		
3.5	• Are surfaces where any mechanical breaking operation takes place sprayed?		✓			
3.5	• Are working area of any excavation sprayed with water, immediately before, during and immediately after the operation?			✓		
3.5	• Where a scaffolding is erected around the perimeter of a building under construction, are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the SPS, or a canopy from the first floor level up to the highest level of the scaffolding?		✓			
3.5	• Are skip hoists for material transport totally enclosed?		✓			

3.7	• Have dust monitors been provided at the following locations: • Boundary facing scattered house in NSW (AM1) • Boundary facing Fung Kat Heung (AM5) • Boundary facing scattered house near route 3 (AM6)			✓		
	Construction Noise					
	Demolition works					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?		✓			
	Sewage Pumping Stations P1, P2 & P3					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?			✓		
4.7.1	• Are temporary noise barrier, in the form of a site hoarding (with superficial density of at least 20kg/m2, with no substantial gaps), along the site boundaries of the pumping station sites adopted?			✓		
	Sewers and Rising Mains using Open Trench					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?			✓		
4.7.1	• Are handheld breakers used for all initial road opening activities, when breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached?			✓		
4.7.1	• Are movable noise barriers or 3 sided enclosures installed for all initial road opening activities (breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached) where there NSRs within 50m of the line of sight?		✓			
	Sewers and Rising Mains using Pipe Jacking					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?		✓			
	Road Pavement and Finishes					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?			✓		
4.9.1	• Have noise monitors been provided at the following locations: • (NM3) Scattered house in NSW • (NM4) Scattered house in NSW • (NM6) Scattered house near Route 3 • (NM7) Fung Kat Heung			✓		
	Construction Runoff and Site Drainage					
	• Are perimeter cut-off drains to direct off-site water around the site constructed with internal drainage works and erosion and sedimentation control facilities implemented. Are channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers provided on site to direct stormwater to silt removal facilities?			✓		
	• Are dikes or embankments for flood protection implemented around the boundaries of earthwork areas. Are sediment/silt traps incorporated in the permanent drainage channels to enhance deposition rates?			✓		
	• Are silt removal facilities provided with retention time for silt/sand traps of 5 minutes under maximum flow conditions?			✓		
	• Are construction works programmed to minimize surface excavation works during the rainy seasons (April to September)?			✓		
	• Are slopes minimised and erosion potential reduced?			✓		
	• Is deposited silt and grit removed regularly and disposed of by spreading evenly over stable, vegetated areas?		✓			

	• Are measures taken to minimise the ingress of site drainage into excavations? Is water pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?				✓	See photos 0002, 0003 & 0008.
	• Are open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 covered with tarpaulin or similar fabric during rainstorms?			✓		
	• Are manholes (including newly constructed ones) adequately covered and temporarily sealed?			✓		
	• Are precautions taken before rainstorms?			✓		
	• Are all vehicles and plant cleaned before leaving site?			✓		
	• Is solid waste, debris and rubbish on site appropriately collected, handled and disposed of properly to avoid water quality impacts?			✓		
	• Are all fuel tanks and storage areas provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby?			✓		
	Sewage Effluent - Construction Phase					
	1) Are portable chemical toilets and sewage holding tanks provided? Is handling the construction sewage generated for collection and disposal of this waste? Is a licensed contractor employed?			✓		
	Waste Management - Construction Phase					
6.6.2	• Are the necessary waste disposal permits from the appropriate authorities in placed for chemical and C&D wastes, in accordance with the Waste Disposal (Chemical Waste) (General) Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap 28)?			✓		
6.6.2	• Is chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, being handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes?			✓		
6.6.2	• Are containers used for the storage of chemical wastes 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 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation?			✓		
6.6.2	• Is the storage area for chemical wastes clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated?			✓		
6.6.2	• Is disposal of chemical waste via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD?			✓		
6.6.2	• Are trip tickets for disposal available to monitor disposal of C&DM and solid wastes at public filling and landfills, and to control fly tipping?			✓		

	Land Contamination - *Construction Phase*					
7.5.6	• Is a revised CAP submitted to the EPD before commencement of construction works? Is the CAP implemented and findings of the investigations reported in the CAR, before ground disturbance is allowed?		✓			
7.5.6	• If land contamination is confirmed, has a RAP been prepared and submitted to EPD?		✓			
7.5.6	• Are contaminated sites remediated in accordance with the approved CAR/RAP?		✓			
	Ecology - *Construction Phase*					
8.7.1	• Are construction activities prohibited during November to March for the sections of works within the WCA and WBA, and close to locations of ecologically sensitive species.		✓			
8.7.1	• During November to March periods, are regular site inspections (at least twice a month) undertaken by ET to ensure proper implementation of this restriction?		✓			
8.7.2	• Is pipe jacking method used for sewers and rising mains crossing over MDC within the WCA and WBA?		✓			
8.7.2	• During November to March, are regular site inspections (at least twice a month) undertaken by ET for the remaining sewerage sections (including parts of S4, S5 and S6) within the WCA and WBA where construction activities cannot be rescheduled?		✓			
8.7.2	• The site inspections shall check and report the number of workfronts and implementation of mitigation measures in the monthly EM&A Report.			✓		
8.7.3	• Are quietened construction plant and equipment used for PS (P2 and P3) and sewers (S4, S5, S6) within the WCA and WBA?			✓		
8.7.4	• For P1-P3, have fences along the boundary of the pumping stations construction sites been erected?			✓		
8.7.4	• There shall be no filling and dumping to the remaining abandoned fishpond at P2.		✓			
8.7.4	• Are silt removal facilities, designed to the ProPECC Note PN1/94, installed and operated at the P1 to P3 sites? The minimal total combined volume of the silt removal facilities at P3 (NSW SPS) should be 15m3.		✓			
8.7.4	• There shall be no open fires within the site boundary.			✓		
8.7.4	• Have temporary fire fighting equipment provided in the works areas.			✓		
	Landscape and Visual - *Construction Phase*					
	• Have the implementation of mitigation measures (i.e., top soil reused, new compensatory planting) been reported in the monthly EM&A?		✓			
	• The first monthly EM&A Report should report on the appearance of the temporary hoarding barriers.			✓		
	• Are screen planting (3m wide) and trees with dense canopy (up to 5m) provided?		✓			
	• Is felling of mature trees kept to a minimum?			✓		

OTHER OBSERVATIONS

Ko Po Road

0002 : The Contractor was reminded to ensure that no site water is discharged into the drainage system.

Kam Tin Road

0003 : The Contractor was reminded not to discharge untreated site water directly into the drain.

Sha Po Pumping Station

0008 : The Contractor was reminded to ensure that site water from the pumping station pit is properly treated before discharge.

DSD Representative	Contractor Representative	ETL	IEC
( )	( )	( )	(SM Foo)

Agreement No. CE37/2005 (EP)
Environmental Monitoring and Audit for
Kam Tin Trunk Sewerage Phase 1 and Au Tau trunk sewers

MONTHLY SITE INSPECTION PHOTOS
23 August 2007
Environmental Observations

This month's observations

This month's observations	This month's observations
Ko Po Road	
	
0002: The Contractor was reminded to ensure that no site water is discharged into the drainage system.	
Kam Tin Road	
	
0003: The Contractor was reminded not to discharge untreated site water directly into the drain.	
Sha Po Pumping Station	
	
0008: The Contractor was reminded to ensure that site water from the pumping station pit is properly treated before discharge.	

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: **Edwin/Benny**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **-**	**Inspection Date & Time:**	**27 August 2007**
	RE's Rep: **Mr. Hui**	**Checklist Reference No.:**	**DSD-AT270807**

General Meteorological Information

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

Temp: [28] °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 of site [ ] Construction activities outside of site [ ] Others

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:

No excavated soil accumulated onsite without covered by tarpaulin sheet was found at Ko Po Road.

No silty water seepage into the Kam Tin River from the excavation pit was observed.

Observations Recorded in this Site Inspection:

1. Silty water discharge from the sedimentation tank was observed at the Nam Sang Wai Road work front. The Contractor was reminded to clean up the sedimentation tank and maintain the efficient in proper condition.
2. Muddy water discharge into the gully due to the wheel washing was observed at the Yuen Ching Road site entrance. The Contractor was reminded to instruct the divers undertaken the wheel washing without the site area to prevent any mud tails at the public road.

Signatures:

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