JOB NO.: TCS00310/06

REVISION NO.: 2

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

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

MONTHLY ENVIRONMENTAL MONITORING & AUDIT (EM&A) REPORT FOR JUNE 2008 (NO. 27) (DESIGNATED ELEMENTS - CONSTRUCTION PHASE)

PREPARED FOR

LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index

Date	Reference No.
14 July 2008	TCS00310/06/600/R0590

Prepared By	Reviewed By	Certified By	Approved By	Verified By
Ben Tam	Ken Wong	David Yeung	TW Tam	Dr. Anne F Kerr
				
Environmental Consultant	Deputy Environmental Team Leader	Environmental Team Leader	General Manager	Independent Environmental Checker

Rev. No.	Date	Prepared By	Reviewed By	Certified By	Approved By	Remarks
1	11 Jul 08	Ben Tam	Ken Wong	David Yeung	TW Tam	First Submission
2	14 Jul 08	Ben Tam	Ken Wong	David Yeung	TW Tam	Revised with IEC comment received.

EXECUTIVE SUMMARY

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

ES.02 This Monthly Environmental Monitoring & Audit (EM&A) Report for **June 2008 (No. 27)** present the environmental impact monitoring and audit (EM&A) program conducted from **01** to **30 June 2008** for the Designated Elements. The EM&A program in **June 2008** were covered air quality, construction noise and waste management.

BREACH OF ACTION AND LIMIT (AL) LEVELS

ES.03 No Action or Limit Level exceedance of air quality and construction noise was recorded in this reporting month.

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

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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 27th Monthly EM&A Report for **June 2008 (No. 27)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from **01** to **30 June 2008**.

PROJECT ORGANIZATION

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

CONSTRUCTION PROGRAM OF THE REPORTING MONTH

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

MANAGEMENT STRUCTURE

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

CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE REPORTING MONTH

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

Kam Tin Pumping Station (P1)
- Backfilling
- Concreting
- Extract sheet pile

Sha Po Pumping Station (P2) and Nam Sang Wai Pumping Station (P3)
- Backfilling
- Concreting

Nam Sang Wai Road (S4) and Pok Wai South Road (S5 and S6)
- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Extract sheet pile

2.0 ENVIRONMENTAL STATUS

WORK UNDERTAKEN IN THE REPORTING MONTH WITH ILLUSTRATIONS

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

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

Locations	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	• Back filling • Extract sheet pile • Concreting	• 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) and P3 (Nam Sang Wai Pumping Station	• Back filling • Concreting	• Wash the wheels of vehicles before leaving the site	A5
		• 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
		• Apply and obtain appropriate waste disposal licenses	D1
S4 (Nam Sang Wai Road) and S5 & S6 (Pok Wai South Road)	• Sheet piling • Excavation • Pipe laying • Backfilling • Concreting • Pipe jacking • Extract sheet pile	• 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
		• 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 (NM3, NM4, NM6 & NM7) under the project EP. Locations of the monitoring stations and description are summary in the **Table 2-2**.

Table 2-2 Description of the Monitoring Stations

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

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

3.0 SUMMARY OF EM&A REQUIREMENTS

MONITORING PARAMETERS

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

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

Table 3-1 Summary of EM&A Requirements

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

ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

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

Table 3-2 Action and Limit Levels for Air Quality

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

Table 3-3 Action and Limit Levels for Construction Noise

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

EVENT AND ACTION PLANS

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

ENVIRONMENTAL MITIGATION MEASURES

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

ENVIRONMENTAL REQUIREMENTS IN CONTRACT DOCUMENTS

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

4.0 IMPLEMENTATION STATUS

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

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

Table 4-1 Status of Environmental Licenses and Permits

Items	Item Description	License/Permit Status
1	Environmental Permit No.: EP-220/2005	Issued in June 2005
2	Air Pollution Control (Construction Dust)	Notified EPD on 24 Dec 2005
3	Chemical Waste Producer Registration (No. 5213-528-L2544-08)	Registration on 27 Jan 2006
4	Water Pollution Control (Discharge License No. 1U434/1)	Issued on 08 May 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005
6	Piling Permit (PP No.RN0008-08)	Valid (22 May 2008 to 21 Feb 2009)

5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

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

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

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

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

METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

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

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

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

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

LABORATORY AND MONITORING EQUIPMENT USED

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

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

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

Env. Aspect	Parameters	Monitoring Equipment
Air Quality	24-Hour TSP	Greasby Anderson GMWS2310 High Volume Air Sampler
Noise		B&K Sound Level Meter (Type 2238) and Acoustics Calibrator (Type 4231)

EQUIPMENT CALIBRATION

5.10 Initial calibration of the HVAS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference. For this reporting month, no HVAS required to calibration. The AM5 and AM6 will calibrate in next reporting month. The calibration certificate is shown in **Annex H**.

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 No renew calibration certificates of the sound level meters used during the impact monitoring program in this month are provided

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. Due to the power supply failure was happened at AM1 (30 June 2008), AM6 (06 to 30 June 2008) and AM7 (06 and 12 June 2008), only **12** monitoring events of 24-Hour TSP were conducted in this reporting month. The 24-Hour TSP monitoring works would be resumed in accordance to the monitoring schedule once the power supply has been rectified by the Contractor.

5.16 The impact noise monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. Total of **20** monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Table 5-3** to **5-7**. Power failure at AM1, AM6 and AM7 were recorded due to the awfully rainy weather conditions. The 24-Hour TSP monitoring at AM1, AM6 and AM7 were resume upon the power supply available. No Action and Limit Level of air quality and construction noise were recorded in this reporting month.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hour TSP (μg/m^3)			
	AM1	AM5	AM6	AM7
6-June-08	37	101	Power Failure	Power Failure
12-June-08	29	40	Power Failure	Power Failure
18-June-08	25	17	Power Failure	37
24-June-08	37	44	Power Failure	49
30-June-08	Power Failure	37	Power Failure	32
Average (Range)	32 (25-37)	48 (17-101)	-	39 (32 – 49)
Action / Limit	> 184 / >260	> 237 / >260	> 183 / >260	> 204 / >260

Note: All 24-Hour TSP monitoring were preset to start at 00:00 on each monitoring date.
Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level.

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-Jun-08	13:09	47.9	48.2	47.9	47.7	50.7	49.8	48.9	51.9
10-Jun-08	11:21	52.8	50.5	50.4	49.6	50.9	50.8	51.0	54.0
16-Jun-08	11:21	53.2	53.2	55.0	55.4	53.8	53.4	54.1	57.1
21-Jun-08	10:10	48.7	48.5	50.6	49.5	48.5	49.6	49.3	52.3
27-Jun-08	10:37	52.1	52.3	50.7	49.7	50.8	50.3	51.1	54.1
Limit Level									**75**

Note: * 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-Jun-08	09:34	58.2	59.0	60.3	60.6	58.1	59.8	59.4	62.4
10-Jun-08	13:47	60.3	57.2	56.8	56.2	56.4	58.6	57.8	60.8
16-Jun-08	13:48	56.2	57.8	55.5	53.5	54.1	51.0	55.2	58.2
21-Jun-08	10:51	52.1	54.7	55.1	53.2	54.5	50.5	53.6	56.6
27-Jun-08	13:52	54.8	56.3	55.0	56.4	55.4	55.2	55.6	58.6
Limit Level									**75**

Note: * 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
03-Jun-08	11:10	58.1	71.3	64.0	64.9	63.2	60.4	65.8	No Correction Required
10-Jun-08	10:50	70.6	68.2	70.7	71.5	71.2	69.9	70.5	
16-Jun-08	10:38	73.5	75.9	72.6	71.0	73.8	71.5	73.4	
21-Jun-08	10:28	67.8	69.3	70.0	68.5	72.1	69.0	69.7	
27-Jun-08	10:40	75.2	75.1	69.8	64.8	72.5	75.3	73.3	
Limit Level									**75**

Note: * 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-Jun-08	14:04	55.2	56.3	53.8	55.2	56.8	57.9	56.1	No Correction Required
10-Jun-08	10:42	61.4	60.5	56.4	56.9	61.6	60.7	60.0	
16-Jun-08	14:52	54.8	54.1	55.4	57.8	58.7	54.6	56.3	
21-Jun-08	09:29	59.0	56.6	58.2	59.4	61.4	57.1	58.9	
27-Jun-08	09:28	55.8	57.1	54.1	53.7	54.8	54.3	55.1	
Limit Level									**75**

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

5.18 The tentative monitoring schedule for the coming month (**July 2008**) is shown in **Table 5-8**.

Table 5-8 Tentative Schedule of Monitoring for Next Reporting Month

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

✓	Monitoring Day
	Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING MONTH

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

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

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

OTHER FACTORS INFLUENCING THE MONITORING RESULTS

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

QA/QC RESULTS AND DETECTION LIMITS

5.23 Not applicable.

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

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

6.01 No Action or Limit Level exceedance of air quality was recorded in this reporting month.

6.02 No construction noise complaint (Action) or monitoring noise level exceed 75dB(A) (Limit) was recorded in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

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

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

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

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

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

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.06 As mention in Section 6.05, no NC, complaints or NoS was received in this reporting month. Therefore, no follow-up action was needed to undertake. The Contractor was reminded to implement the environmental mitigation measures as present in **Table 2-1** as necessary.

7.0 OTHERS

FUTURE KEY ISSUES

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

SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

Table 7-1 Summary of Waste Quantities for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	2.165	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	0.01	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	0.023	Refuse Collector

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

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

7.03 There was no site effluent discharged but an estimated volume of less than 50m3 of surface runoff was discharged in the reporting month. The sampling of effluent had been carried out by the Contractor in compliance with the Discharge License (No.1U434/1) requirement in the reporting month.

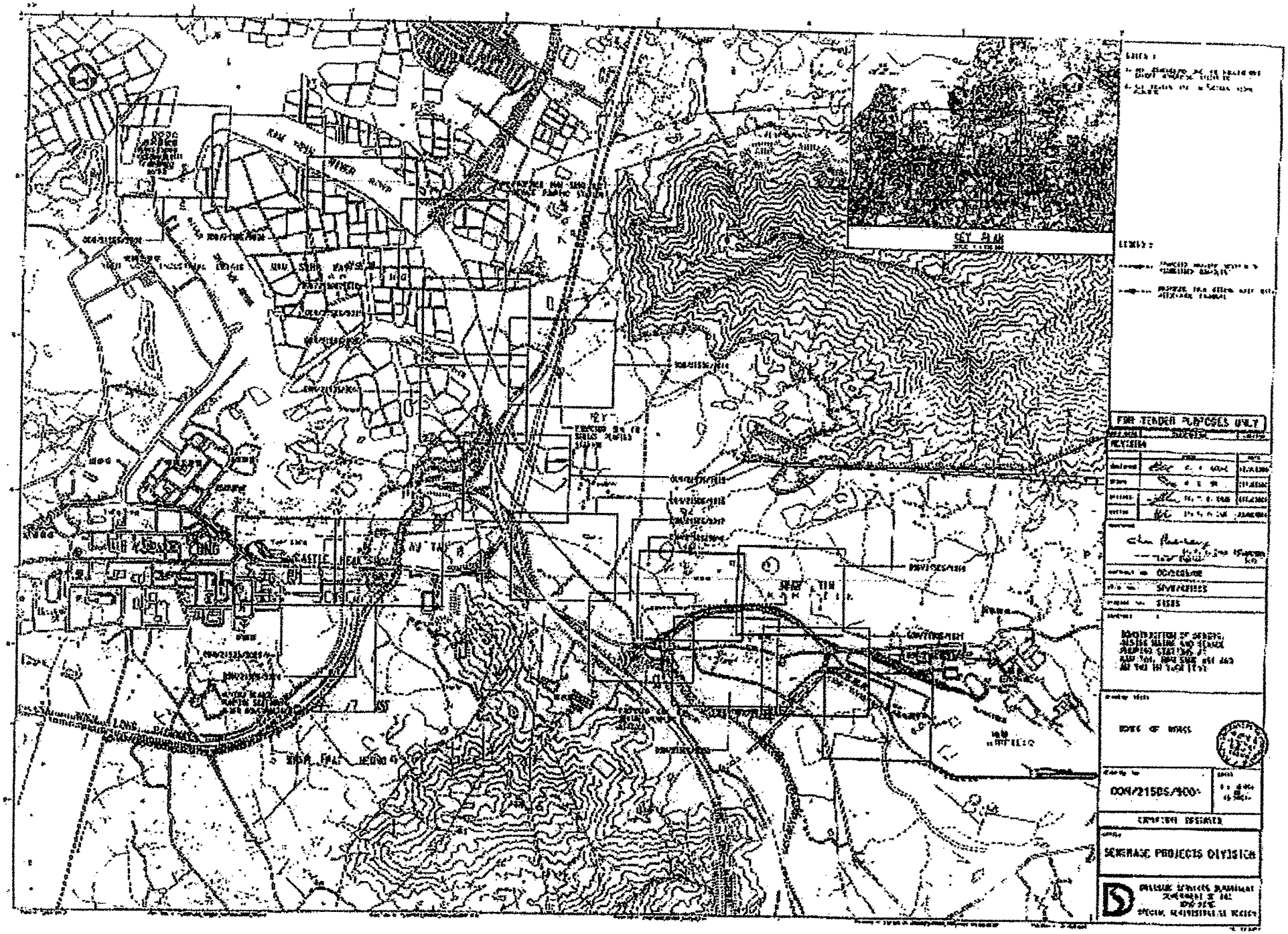
SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 03, 10, 18, 24 and 30 June 2008 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Total three observations were noted during the weekly site inspections. The monthly site audit for **June 2008** was undertaken on 30 June 2008 and eight observations were indicated by IEC.

7.05 Proforma of the weekly ET site inspection activities and monthly joint IEC site audit are presented in **Annex K**.

Annex A

Project Site Layout

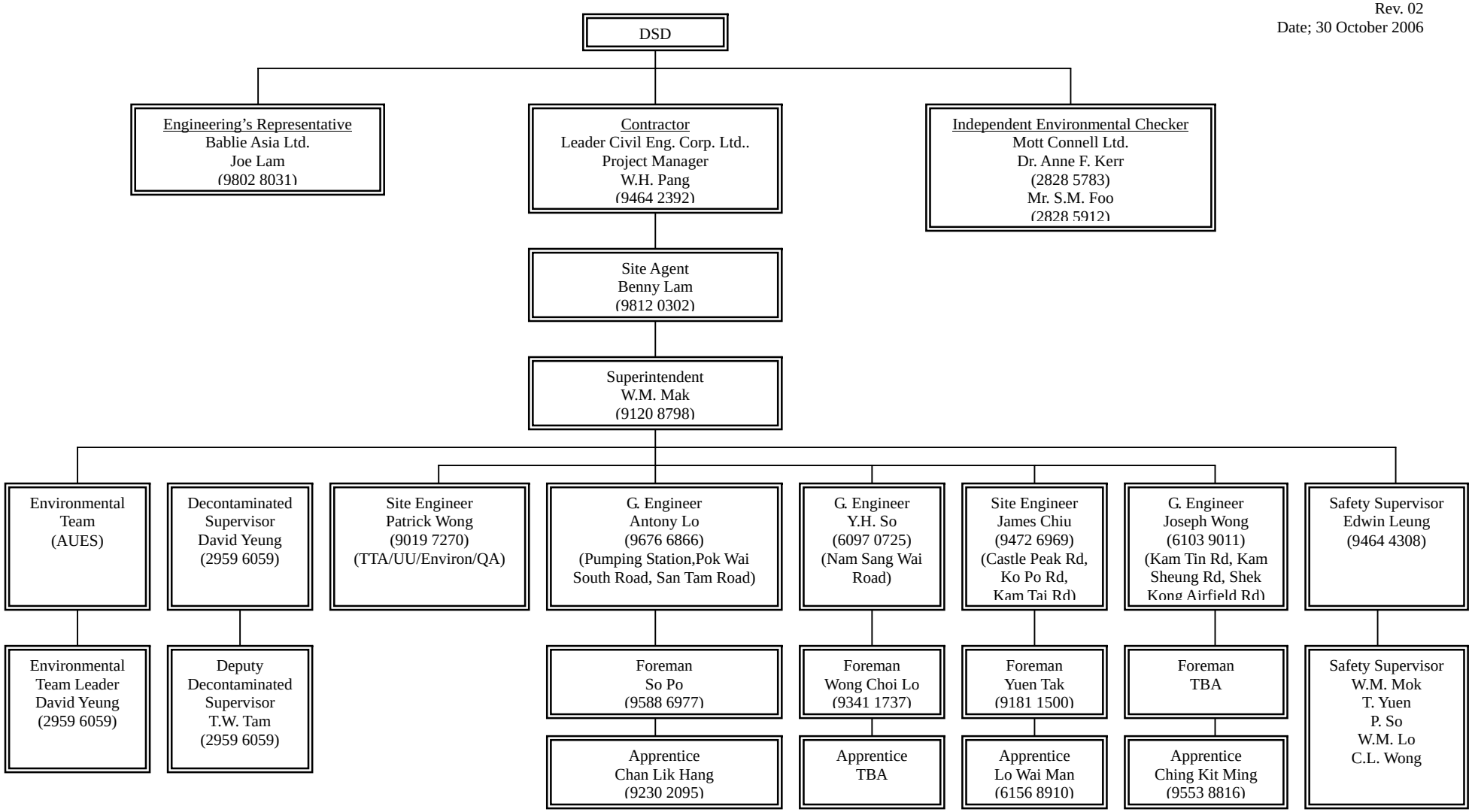

KEY PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

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

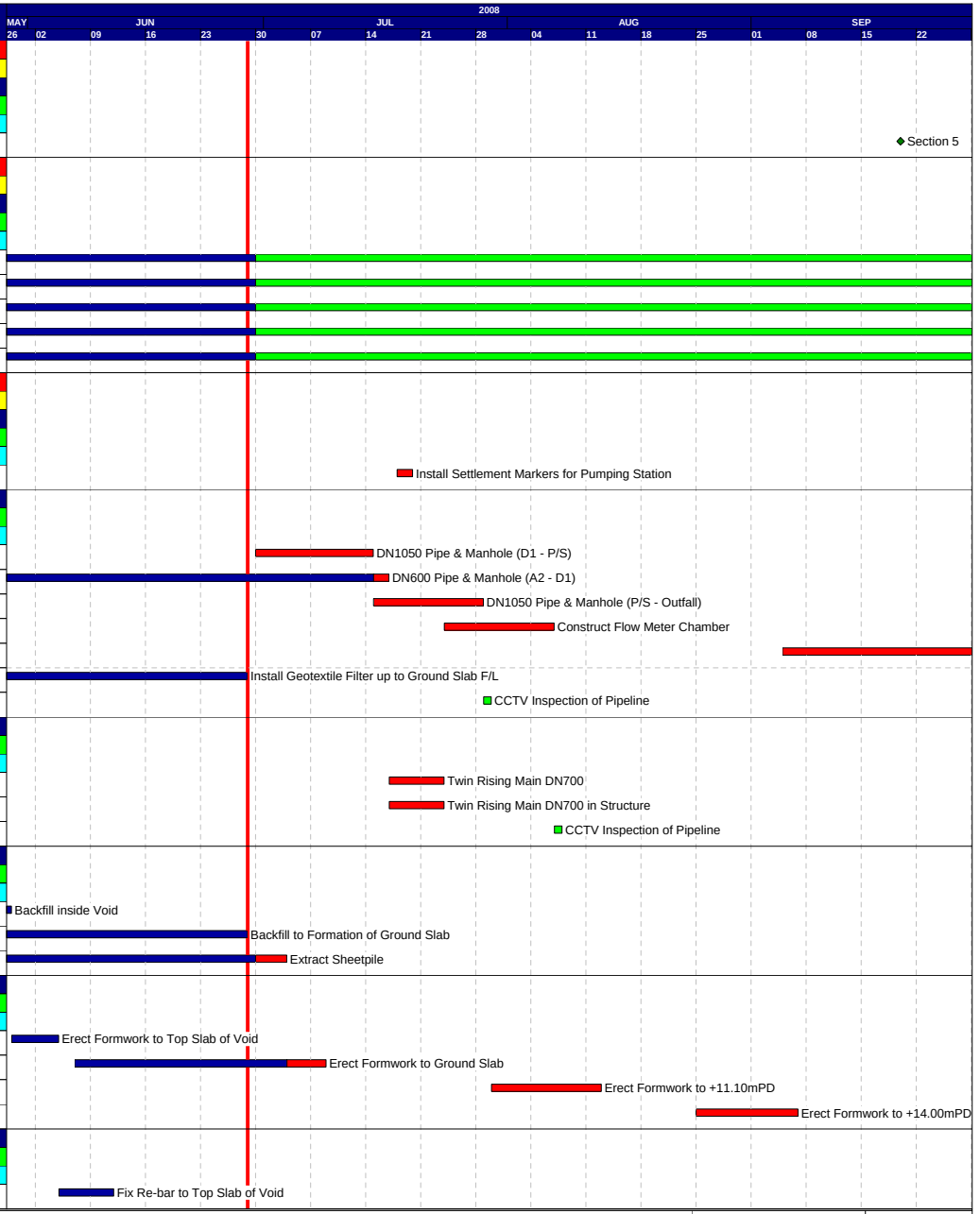
Rev. 02
Date; 30 October 2006



Annex C

Construction Program

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Section Completion / Key Date								
CD5000	Section 5	0	-9d	0		19SEP08		10SEP08 *
Preliminaries								
PR2900	Deliver Ductile Iron Pipe	800	132d	85	29APR06 A	24NOV08	29APR06 A	06MAY09
PR3100	Deliver Precast Concrete Pipe	800	148d	87	24APR06 A	05NOV08	24APR06 A	06MAY09
PR3300	Deliver Vitrified Clay Pipe	800	118d	83	10APR06 A	10DEC08	10APR06 A	06MAY09
PR3400	Structural Monitoring by ISE	835	111d	83	06APR06 A	18DEC08	06APR06 A	06MAY09
PR3500	Environmental monitoring by ET	814	150d	87	06APR06 A	03NOV08	06APR06 A	06MAY09
Section 1 - Kam Tin Sewage Pumping Station								
Portion A								
Ground Investigation								
S1AB1500	Install Settlement Markers for Pumping Station	2	-87d	0	18JUL08	19JUL08	02APR08	03APR08
Drainage and Ducts								
Trench Method								
S1AEA1000	DN1050 Pipe & Manhole (D1 - P/S)	12	-77d	0	30JUN08	14JUL08	27MAR08	10APR08
S1AEA1100	DN600 Pipe & Manhole (A2 - D1)	12	-77d	80	27FEB08 A	16JUL08	27FEB08 A	12APR08
S1AEA1200	DN1050 Pipe & Manhole (P/S - Outfall)	12	-69d	0	15JUL08	28JUL08	21APR08	05MAY08
S1AEA1300	Construct Flow Meter Chamber	12	-77d	0	24JUL08	06AUG08	21APR08	05MAY08
S1AEA1400	Construct U-Channel & Catchpits	30	-77d	0	05SEP08	13OCT08	05JUN08	11JUL08
S1AEA1800	Install Geotextile Filter up to Ground Slab F/L	1	-89d	90	27MAR08 A	28JUN08	27MAR08 A	08MAR08
S1AEA1900	CCTV Inspection of Pipeline	1	41d	0	29JUL08	29JUL08	16SEP08	16SEP08
Pipework - Rising Main								
Trench Method								
S1AFA1000	Twin Rising Main DN700	6	-77d	0	17JUL08	23JUL08	14APR08	19APR08
S1AFA1100	Twin Rising Main DN700 in Structure	6	-77d	0	17JUL08	23JUL08	14APR08	19APR08
S1AFA1200	CCTV Inspection of Pipeline	1	21d	0	07AUG08	07AUG08	01SEP08	01SEP08
Earthworks								
S1AG2300	Backfill inside Void	9		100	24MAY08 A	29MAY08 A	24MAY08 A	29MAY08 A
S1AG2500	Backfill to Formation of Ground Slab	14	-89d	95	27MAR08 A	28JUN08	27MAR08 A	08MAR08
S1AG2600	Extract Sheetpile	10	-89d	70	03APR08 A	03JUL08	03APR08 A	12MAR08
Formwork								
S1AJ1300	Erect Formwork to Top Slab of Void	4		100	30MAY08 A	04JUN08 A	30MAY08 A	04JUN08 A
S1AJ1600	Erect Formwork to Ground Slab	8	-89d	50	07JUN08 A	08JUL08	07JUN08 A	17MAR08
S1AJ1700	Erect Formwork to +11.10mPD	12	-87d	0	30JUL08	12AUG08	15APR08	28APR08
S1AJ1800	Erect Formwork to +14.00mPD & Roof Slab	12	-87d	0	25AUG08	06SEP08	13MAY08	26MAY08
Steel Reinforcement								
S1AK1200	Fix Re-bar to Top Slab of Void	2		100	05JUN08 A	11JUN08 A	05JUN08 A	11JUN08 A



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Early bar
Progress bar
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Start milestone point
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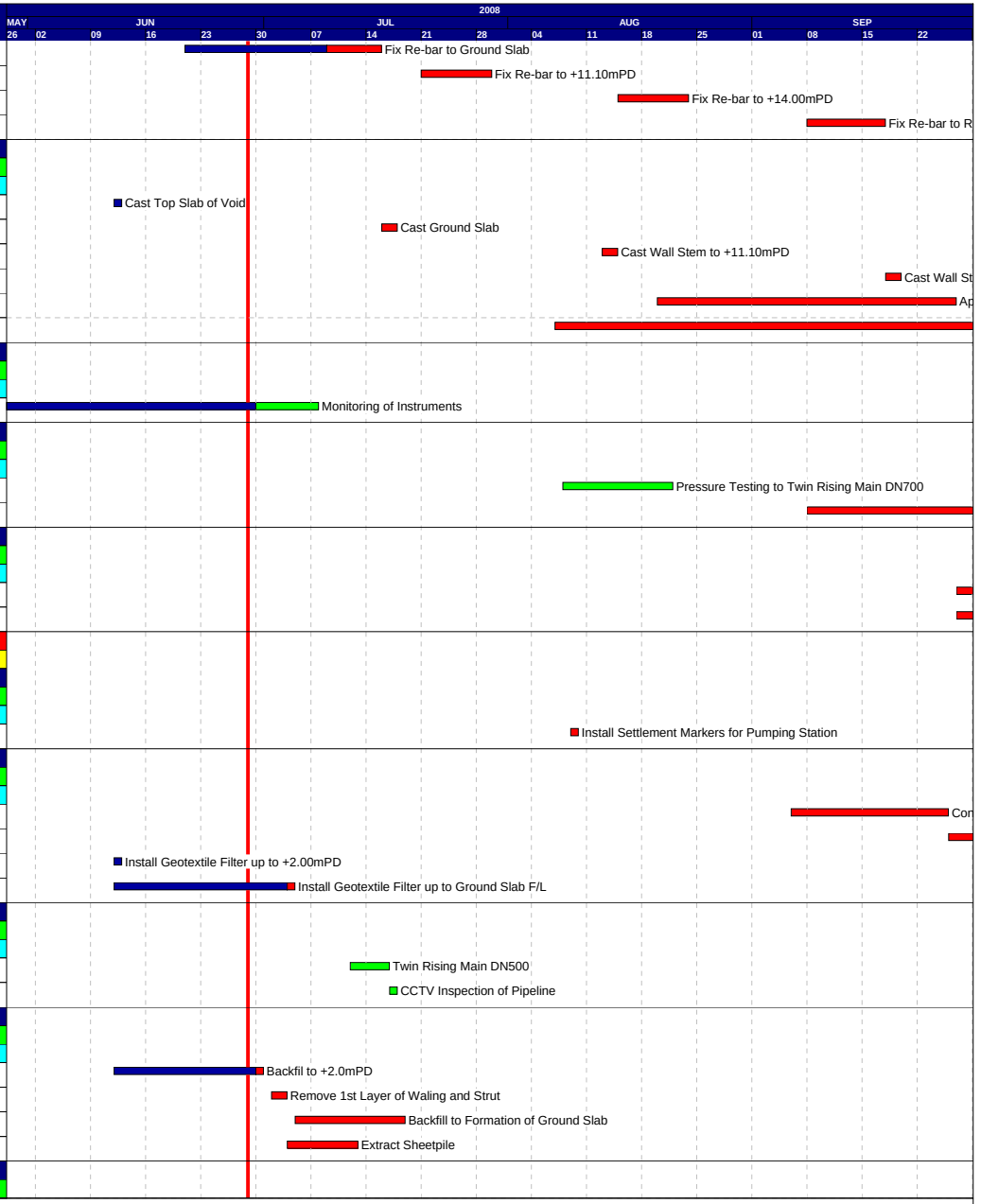
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S1AK1500	Fix Re-bar to Ground Slab	8	-89d	30	21JUN08 A	15JUL08	21JUN08 A	27MAR08
S1AK1600	Fix Re-bar to +11.10mPD	8	-87d	0	21JUL08	29JUL08	05APR08	14APR08
S1AK1700	Fix Re-bar to +14.00mPD	8	-87d	0	15AUG08	23AUG08	02MAY08	10MAY08
S1AK1800	Fix Re-bar to Roof Slab	8	-87d	0	08SEP08	17SEP08	27MAY08	04JUN08
In-Situ Concrete								
S1AL1300	Cast Top Slab of Void	2		100	12JUN08 A	12JUN08 A	12JUN08 A	12JUN08 A
S1AL1600	Cast Ground Slab	2	-89d	0	16JUL08	17JUL08	28MAR08	29MAR08
S1AL1700	Cast Wall Stem to +11.10mPD	2	-87d	0	13AUG08	14AUG08	29APR08	30APR08
S1AL1800	Cast Wall Stem to +14.00mPD & Roof Slab	2	-87d	0	18SEP08	19SEP08	05JUN08	06JUN08
S1AL1900	Apply Anticorrosion Concrete Coating System	32	-89d	0	20AUG08	26SEP08	05MAY08	12JUN08
S1AL2100	Construct Boundary Wall	45	-77d	0	07AUG08	29SEP08	06MAY08	28JUN08
Geotechnical works								
S1AP1000	Monitoring of Instruments	483	60d	99	16NOV06 A	07JUL08	16NOV06 A	16SEP08
Testing								
S1AS1000	Pressure Testing to Twin Rising Main DN700	12	21d	0	08AUG08	21AUG08	02SEP08	16SEP08
S1AS1100	Watertightness of Structure - Compartments	72	-89d	0	08SEP08	03DEC08	24MAY08	18AUG08
Miscellaneous								
S1AT1300	Plumbing Work	24	-57d	0	27SEP08	27OCT08	22JUL08	18AUG08
S1AT1500	Install FRP Water Storage Tanks	12	-45d	0	27SEP08	13OCT08	05AUG08	18AUG08
Section 2 - Sha Po Sewage Pumping Station								
Portion B								
Ground Investigation								
S2BB1400	Install Settlement Markers for Pumping Station	1	-60d	0	09AUG08	09AUG08	29MAY08	29MAY08
Drainage and Ducts								
Trench Method								
S2BEA1200	Construct U-channel & Catchpits	16	-73d	0	06SEP08	25SEP08	12JUN08	30JUN08
S2BEA1300	Lay Ducts & Construct Drawpit	6	-73d	0	26SEP08	03OCT08	02JUL08	08JUL08
S2BEA1550	Install Geotextile Filter up to +2.00mPD	1		100	12JUN08 A	12JUN08 A	12JUN08 A	12JUN08 A
S2BEA1600	Install Geotextile Filter up to Ground Slab F/L	1	-100d	30	12JUN08 A	04JUL08	12JUN08 A	29FEB08
Pipework - Rising Main								
Trench Method								
S2BFA1000	Twin Rising Main DN500	4	28d	0	12JUL08	16JUL08	14AUG08	18AUG08
S2BFA1100	CCTV Inspection of Pipeline	1	28d	0	17JUL08	17JUL08	19AUG08	19AUG08
Earthworks								
S2BG2020	Backfil to +2.0mPD	6	-323d	80	12JUN08 A	30JUN08	12JUN08 A	29MAY07
S2BG2040	Remove 1st Layer of Waling and Strut	2	-323d	0	02JUL08	03JUL08	30MAY07	31MAY07
S2BG2100	Backfill to Formation of Ground Slab	12	-100d	0	05JUL08	18JUL08	01MAR08	14MAR08
S2BG2200	Extract Sheetpile	8	-323d	0	04JUL08	12JUL08	01JUN07	09JUN07
Formwork								



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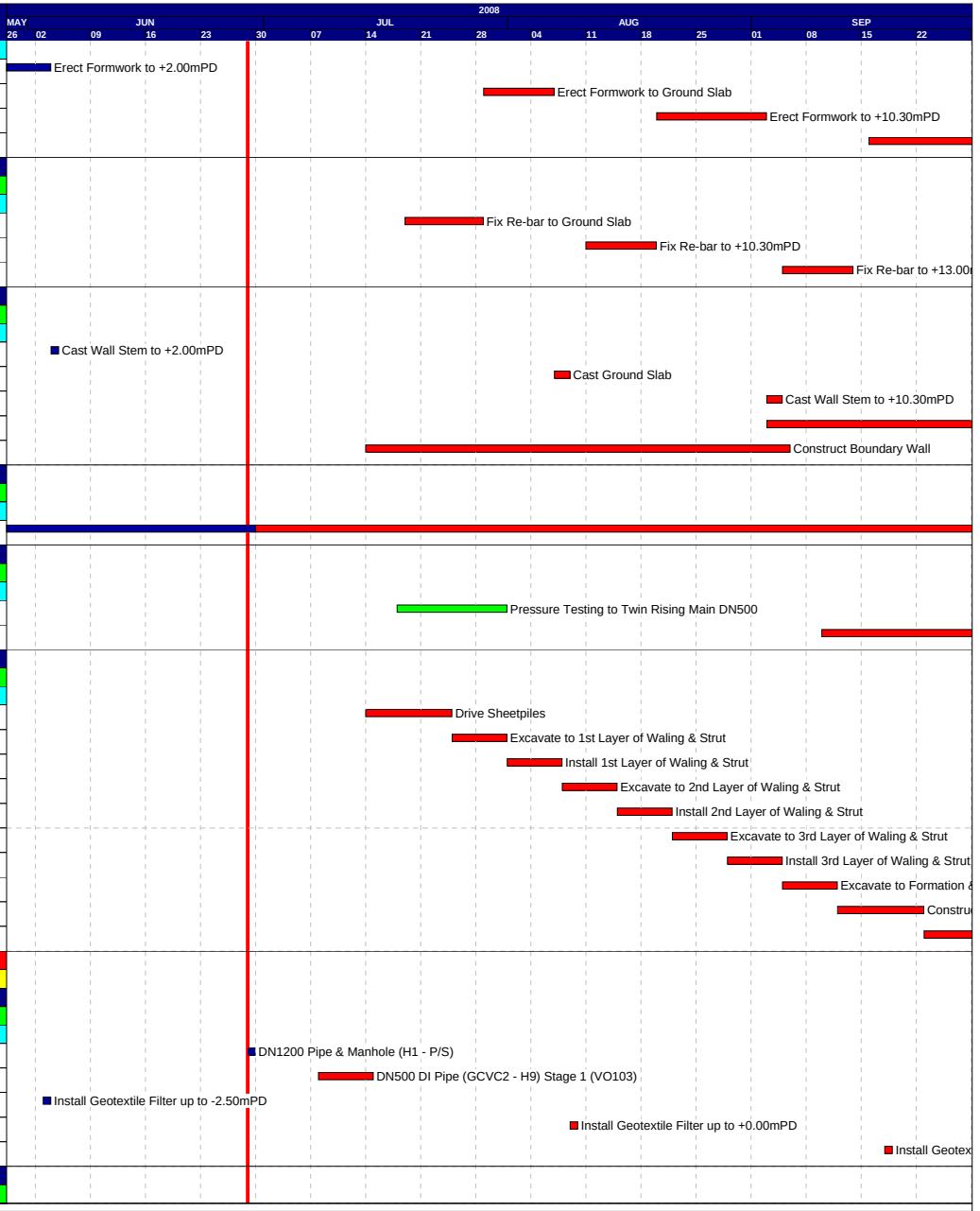
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S2BJ1400	Erect Formwork to +2.00mPD	12		100	24APR08 A	03JUN08 A	24APR08 A	03JUN08 A
S2BJ1500	Erect Formwork to Ground Slab	8	-100d	0	29JUL08	06AUG08	28MAR08	07APR08
S2BJ1600	Erect Formwork to +10.30mPD	12	-60d	0	20AUG08	02SEP08	10JUN08	23JUN08
S2BJ1700	Erect Formwork to +13.00mPD & Roof Slab	12	-60d	0	16SEP08	29SEP08	07JUL08	19JUL08
Steel Reinforcement								
S2BK1400	Fix Re-bar to Ground Slab	8	-100d	0	19JUL08	28JUL08	15MAR08	27MAR08
S2BK1500	Fix Re-bar to +10.30mPD	8	-60d	0	11AUG08	19AUG08	30MAY08	07JUN08
S2BK1600	Fix Re-bar to +13.00mPD	8	-60d	0	05SEP08	13SEP08	26JUN08	05JUL08
In-Situ Concrete								
S2BL1400	Cast Wall Stem to +2.00mPD	2		100	04JUN08 A	04JUN08 A	04JUN08 A	04JUN08 A
S2BL1500	Cast Ground Slab	2	-100d	0	07AUG08	08AUG08	08APR08	09APR08
S2BL1600	Cast Wall Stem to +10.30mPD	2	-60d	0	03SEP08	04SEP08	24JUN08	25JUN08
S2BL1800	Apply Anticorrosion Concrete Coating System	24	-100d	0	03SEP08	02OCT08	06MAY08	03JUN08
S2BL2000	Construct Boundary Wall	47	-73d	0	14JUL08	05SEP08	15APR08	11JUN08
Geotechnical works								
S2BP1000	Monitoring of Instruments	525	-74d	76	26FEB07 A	01DEC08	26FEB07 A	02SEP08
Testing								
S2BS1000	Pressure Testing to Twin Rising Main DN500	12	28d	0	18JUL08	31JUL08	20AUG08	02SEP08
S2BS1100	Watertightness of Structure - Compartments	66	-94d	0	10SEP08	28NOV08	21MAY08	07AUG08
Additonal Works / Disruption								
Revised B/Wall Details at SPPS (Claim No. 030)								
S2BV2000	Drive Sheetpiles	10	-323d	0	14JUL08	24JUL08	11JUN07	22JUN07
S2BV2010	Excavate to 1st Layer of Waling & Strut	6	-323d	0	25JUL08	31JUL08	23JUN07	29JUN07
S2BV2020	Install 1st Layer of Waling & Strut	6	-323d	0	01AUG08	07AUG08	30JUN07	07JUL07
S2BV2030	Excavate to 2nd Layer of Waling & Strut	6	-323d	0	08AUG08	14AUG08	09JUL07	14JUL07
S2BV2040	Install 2nd Layer of Waling & Strut	6	-323d	0	15AUG08	21AUG08	16JUL07	21JUL07
S2BV2050	Excavate to 3rd Layer of Waling & Strut	6	-323d	0	22AUG08	28AUG08	23JUL07	28JUL07
S2BV2060	Install 3rd Layer of Waling & Strut	6	-323d	0	29AUG08	04SEP08	30JUL07	04AUG07
S2BV2070	Excavate to Formation & Pour Blinding	6	-323d	0	05SEP08	11SEP08	06AUG07	11AUG07
S2BV2080	Construct Base Slab for Bay 1 & 3	8	-323d	0	12SEP08	22SEP08	13AUG07	21AUG07
S2BV2090	Construct Base Slab for Bay 2 & 4	6	-323d	0	23SEP08	29SEP08	22AUG07	28AUG07
Section 3 - Nam Sang Wai Sewage Pumping Station								
Portion C								
Drainage and Ducts								
Trench Method								
S3CEA1000	DN1200 Pipe & Manhole (H1 - P/S)	12		100	29JUN08	29JUN08	29JUN08	29JUN08
S3CEA1300	DN500 DI Pipe (GCVC2 - H9) Stage 1 (VO103)	6	-213d	0	08JUL08	14JUL08	16OCT07	23OCT07
S3CEA1900	Install Geotextile Filter up to -2.50mPD	1		100	03JUN08 A	03JUN08 A	03JUN08 A	03JUN08 A
S3CEA1950	Install Geotextile Filter up to +0.00mPD	1	-213d	0	09AUG08	09AUG08	19NOV07	19NOV07
S3CEA2000	Install Geotextile Filter up to Ground Slab F/L	1	-213d	0	18SEP08	18SEP08	29DEC07	29DEC07
Pipework - Rising Main								
Trench Method								



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Early bar
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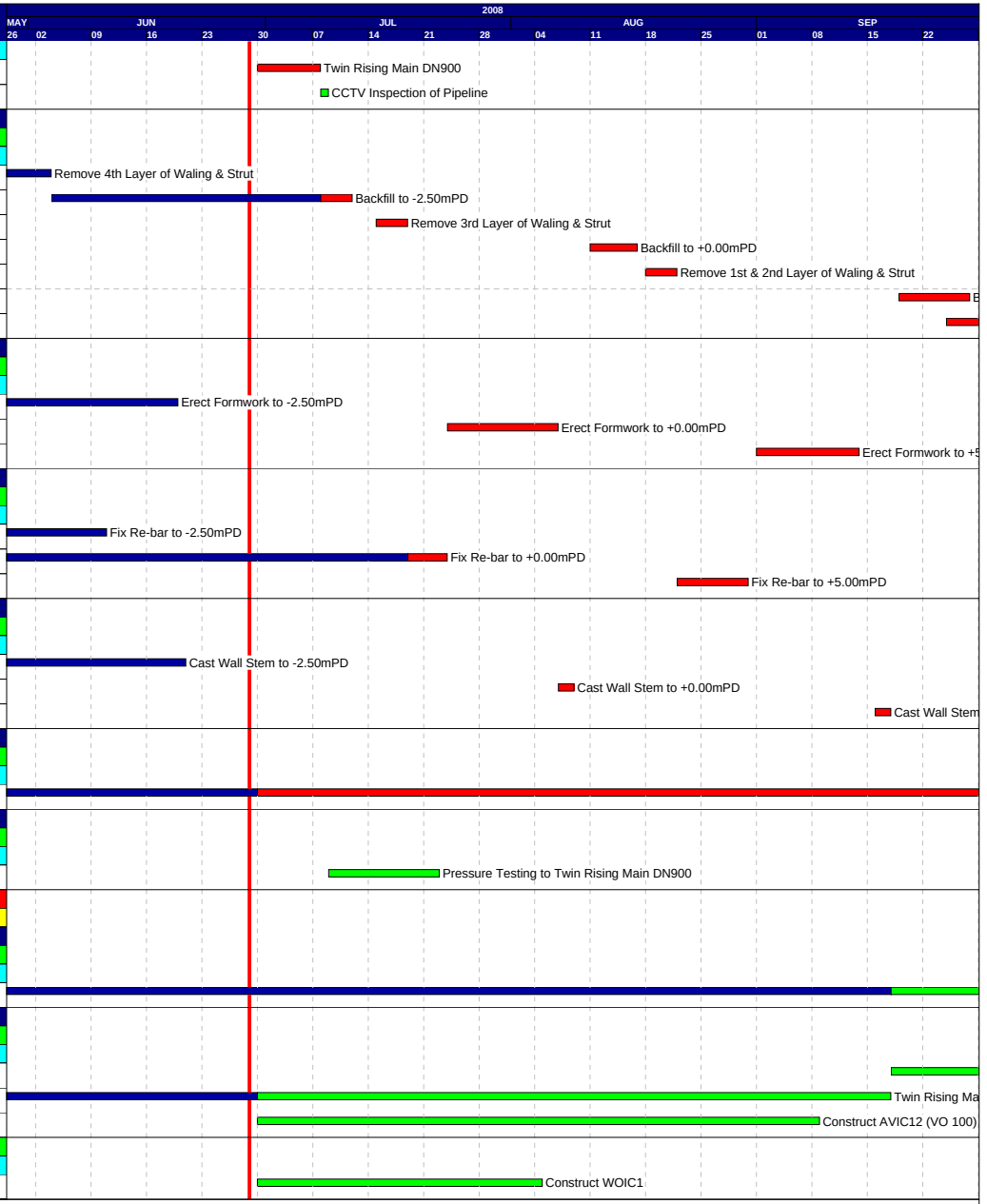
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S3CFA1000	Twin Rising Main DN900	6	-213d	0	30JUN08	07JUL08	09OCT07	15OCT07
S3CFA1200	CCTV Inspection of Pipeline	1	20d	0	08JUL08	08JUL08	31JUL08	31JUL08
Earthworks								
S3CG2670	Remove 4th Layer of Waling & Strut	4		100	21APR08 A	03JUN08 A	21APR08 A	03JUN08 A
S3CG2700	Backfill to -2.50mPD	6	-207d	30	04JUN08 A	11JUL08	04JUN08 A	27OCT07
S3CG2720	Remove 3rd Layer of Waling & Strut	4	-213d	0	15JUL08	18JUL08	24OCT07	27OCT07
S3CG2750	Backfill to +0.00mPD	6	-213d	0	11AUG08	16AUG08	20NOV07	26NOV07
S3CG2770	Remove 1st & 2nd Layer of Waling & Strut	4	-213d	0	18AUG08	21AUG08	27NOV07	30NOV07
S3CG2800	Backfill to Formation of Ground Slab	8	-213d	0	19SEP08	27SEP08	31DEC07	09JAN08
S3CG2900	Extract Sheetpile	11	-181d	0	25SEP08	09OCT08	16FEB08	28FEB08
Formwork								
S3CJ1400	Erect Formwork to -2.50mPD	12		100	28APR08 A	19JUN08 A	28APR08 A	19JUN08 A
S3CJ1500	Erect Formwork to +0.00mPD	12	-213d	0	24JUL08	06AUG08	02NOV07	15NOV07
S3CJ1550	Erect Formwork to +5.0mPD	12	-213d	0	01SEP08	13SEP08	11DEC07	24DEC07
Steel Reinforcement								
S3CK1300	Fix Re-bar to -2.50mPD	8		100	06MAY08 A	10JUN08 A	06MAY08 A	10JUN08 A
S3CK1400	Fix Re-bar to +0.00mPD	8	-213d	50	29MAY08 A	23JUL08	29MAY08 A	01NOV07
S3CK1450	Fix Re-bar to +5.00mPD	8	-213d	0	22AUG08	30AUG08	01DEC07	10DEC07
In-Situ Concrete								
S3CL1400	Cast Wall Stem to -2.50mPD	2		100	29MAY08 A	20JUN08 A	29MAY08 A	20JUN08 A
S3CL1500	Cast Wall Stem to +0.00mPD	2	-213d	0	07AUG08	08AUG08	16NOV07	17NOV07
S3CL1550	Cast Wall Stem to +5.00mPD	2	-213d	0	16SEP08	17SEP08	27DEC07	28DEC07
Geotechnical works								
S3CP1000	Monitoring of Instruments	787	-89d	84	06APR06 A	29NOV08	06APR06 A	14AUG08
Testing								
S3CS1000	Pressure Testing to Twin Rising Main DN900	12	20d	0	09JUL08	22JUL08	01AUG08	14AUG08
Section 4 - Sewers & RM in Portion D, F, G, H, I								
Portion D								
Drainage and Ducts								
Trench Method								
S4DEA1000	DN1200 Pipe & Manhole (G1-Treatment Plant)	60	138d	40	31MAR08 A	31OCT08	31MAR08 A	18APR09
Pipework - Rising Main								
Trench Method								
S4DFA1100	Twin Rising Main DN900 (ChA1850- WOIC1)	101	87d	0	18SEP08	19JAN09	03JAN09	06MAY09
S4DFA1200	Twin Rising Main DN900 (ChA2095 - ChA2215)	148	87d	55	20DEC07 A	17SEP08	20DEC07 A	02JAN09
S4DFA1210	Construct AVIC12 (VO 100)	60	165d	0	30JUN08	08SEP08	16JAN09	30MAR09
Trenchless Method								
S4DFB1100	Construct WOIC1	30	124d	0	30JUN08	04AUG08	26NOV08	02JAN09



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- Early bar
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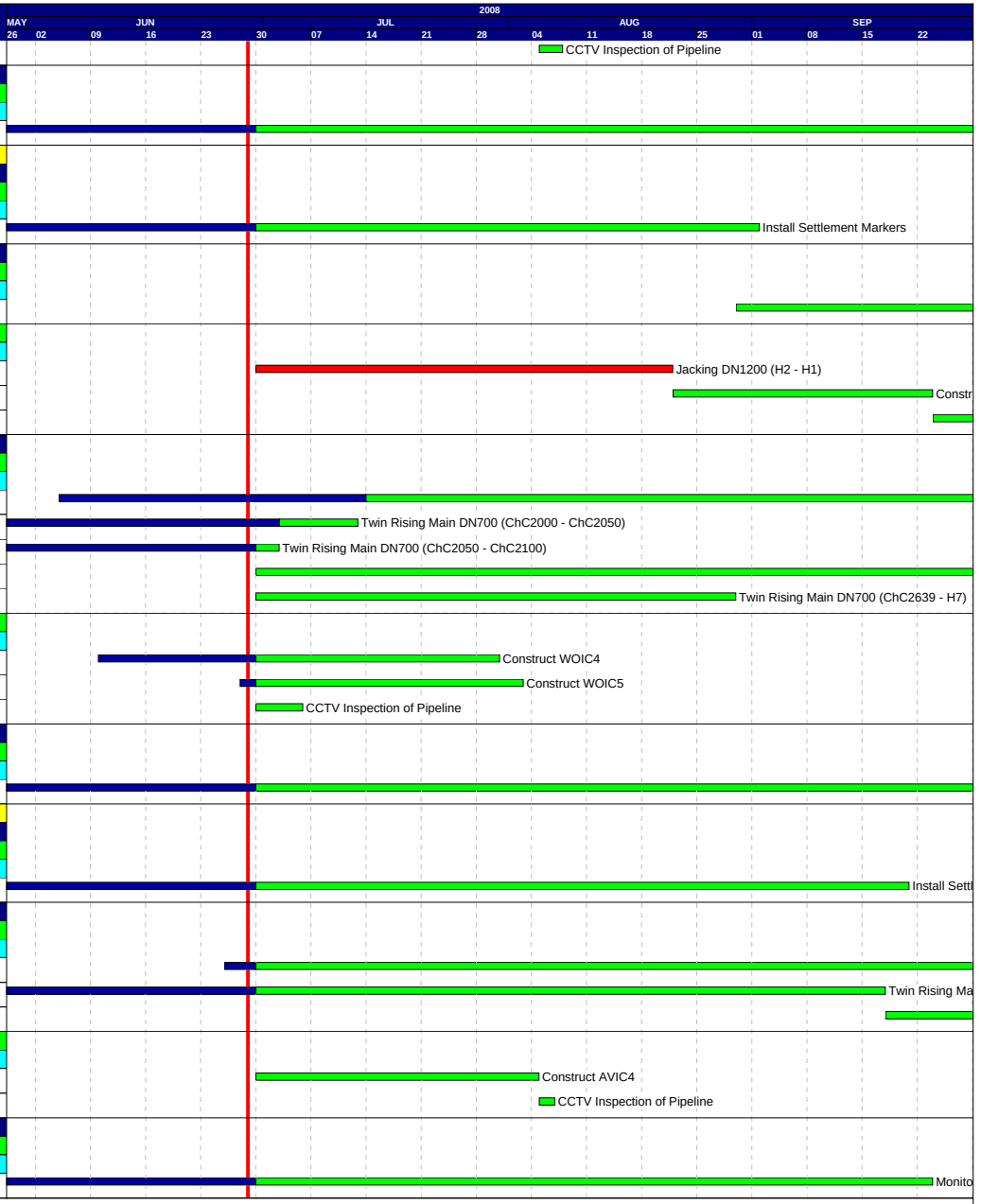
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4DFB1200	CCTV Inspection of Pipeline	3	197d	0	05AUG08	07AUG08	02APR09	06APR09
Geotechnical works								
S4DP1000	Monitoring of Instruments	602	129d	81	02NOV06 A	12NOV08	02NOV06 A	20APR09
Portion F								
Ground Investigation								
S4FB1500	Install Settlement Markers	698	188d	92	27APR06 A	01SEP08	27APR06 A	20APR09
Drainage and Ducts								
Trench Method								
S4FEA1000	DN900 Pipe & Manhole (H8 - H7) 1st Stage	53	36d	0	30AUG08	03NOV08	15OCT08	15DEC08
Trenchless Method								
S4FEB1020	Jacking DN1200 (H2 - H1)	45	-106d	0	30JUN08	21AUG08	19FEB08	15APR08
S4FEB1040	Construct Manhole H2 & H1	27	165d	0	22AUG08	23SEP08	13MAR09	14APR09
S4FEB1600	CCTV Inspection of Pipeline	5	165d	0	24SEP08	29SEP08	15APR09	20APR09
Pipework - Rising Main								
Trench Method								
S4FFA1300	Twin Rising Main DN700 (WOIC5 - ChC2000)	80	143d	15	05JUN08 A	02OCT08	05JUN08 A	26MAR09
S4FFA1400	Twin Rising Main DN700 (ChC2000 - ChC2050)	45	121d	80	05APR08 A	12JUL08	05APR08 A	04DEC08
S4FFA1500	Twin Rising Main DN700 (ChC2050 - ChC2100)	45	121d	95	12FEB08 A	02JUL08	12FEB08 A	24NOV08
S4FFA2200	Twin Rising Main DN700 (ChC2400 - WOIC4)	93	39d	0	30JUN08	20OCT08	15AUG08	04DEC08
S4FFA2300	Twin Rising Main DN700 (ChC2639 - H7)	52	36d	0	30JUN08	29AUG08	12AUG08	14OCT08
Trenchless Method								
S4FFB1200	Construct WOIC4	30	106d	15	10JUN08 A	30JUL08	10JUN08 A	04DEC08
S4FFB1300	Construct WOIC5	30	193d	5	28JUN08 A	02AUG08	28JUN08 A	26MAR09
S4FFB1400	CCTV Inspection of Pipeline	5	225d	0	30JUN08	05JUL08	31MAR09	06APR09
Geotechnical works								
S4FP1000	Monitoring of Instruments	772	84d	80	05JUN06 A	07JAN09	05JUN06 A	20APR09
Portion G								
Ground Investigation								
S4GB1500	Install Settlement Markers	748	172d	91	21APR06 A	20SEP08	21APR06 A	20APR09
Pipework - Rising Main								
Trench Method								
S4GFA1000	Twin Rising Main DN500 (AVIC4 - ChB250)	98	133d	10	26JUN08 A	14OCT08	26JUN08 A	25MAR09
S4GFA1300	Twin Rising Main DN500 (ChB450 - ChB550)	84	124d	20	16JAN08 A	17SEP08	16JAN08 A	18FEB09
S4GFA1700	Construct WOIC3	30	124d	0	18SEP08	24OCT08	19FEB09	25MAR09
Trenchless Method								
S4GFB1100	Construct AVIC4	30	191d	0	30JUN08	04AUG08	19FEB09	25MAR09
S4GFB1200	CCTV Inspection of Pipeline	2	198d	0	05AUG08	06AUG08	03APR09	06APR09
Geotechnical works								
S4GP1000	Monitoring of Instruments	720	170d	90	22APR06 A	23SEP08	22APR06 A	20APR09



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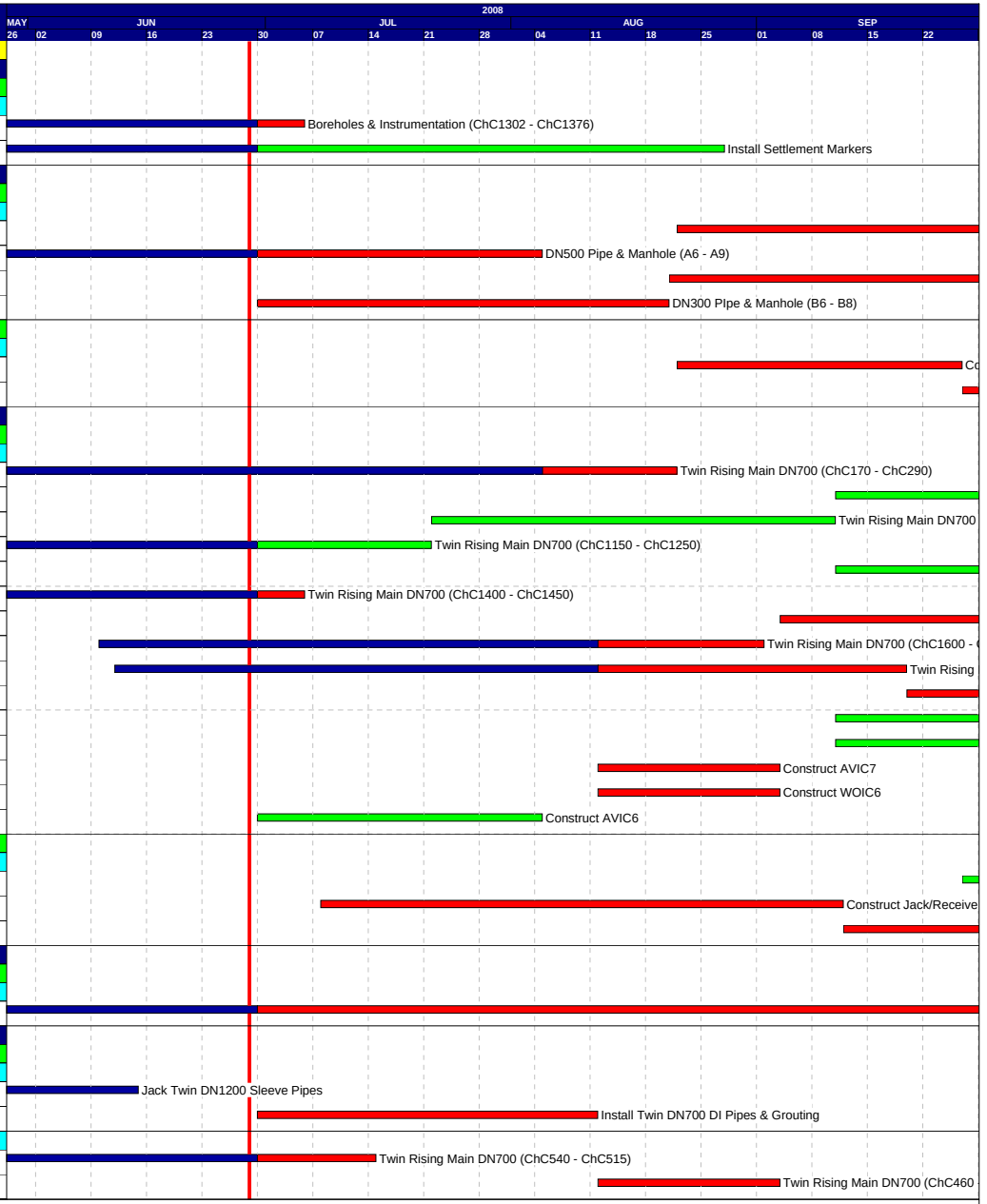
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Portion H								
Ground Investigation								
S4HB1040	Boreholes & Instrumentation (ChC1302 - ChC1376)	10	-34d	50	08APR08 A	05JUL08	08APR08 A	24MAY08
S4HB1300	Install Settlement Markers	727	192d	93	26MAY06 A	27AUG08	26MAY06 A	20APR09
Drainage and Ducts								
Trench Method								
S4HEA1000	DN500 Pipe & Manhole (A3 - A6)	90	-36d	0	22AUG08	08DEC08	11JUL08	27OCT08
S4HEA1100	DN500 Pipe & Manhole (A6 - A9)	100	-36d	70	25OCT07 A	04AUG08	25OCT07 A	21JUN08
S4HEA1900	DN300 Pipe & Manhole (B4 - B6)	67	-35d	0	21AUG08	10NOV08	11JUL08	27SEP08
S4HEA2000	DN300 PIpe & Manhole (B6 - B8)	44	-35d	0	30JUN08 *	20AUG08	19MAY08	10JUL08
Trenchless Method								
S4HEB1000	Construct Jack/Receive Pits (A2 - A3)	30	-36d	0	22AUG08	26SEP08	11JUL08	14AUG08
S4HEB1020	Jacking DN600 (A2 - A3)	57	-36d	0	27SEP08	04DEC08	15AUG08	23OCT08
Pipework - Rising Main								
Trench Method								
S4HFA1100	Twin Rising Main DN700 (ChC170 - ChC290)	50	-36d	70	25OCT07 A	21AUG08	25OCT07 A	10JUL08
S4HFA1800	Twin Rising Main DN700 (ChC850 - ChC950)	125	20d	0	11SEP08	13FEB09	08OCT08	09MAR09
S4HFA1900	Twin Rising Main DN700 (ChC950 - ChC1000)	44	20d	0	22JUL08	10SEP08	14AUG08	06OCT08
S4HFA2100	Twin Rising Main DN700 (ChC1150 - ChC1250)	91	20d	80	14JAN08 A	21JUL08	14JAN08 A	13AUG08
S4HFA2200	Twin Rising Main DN700 (ChC1250 - AVIC8)	104	41d	0	11SEP08	16JAN09	01NOV08	09MAR09
S4HFA2310	Twin Rising Main DN700 (ChC1400 - ChC1450)	45	-64d	90	27MAR08 A	05JUL08	27MAR08 A	17APR08
S4HFA2400	Twin Rising Main DN700 (ChC1450 - ChC1550)	124	-115d	0	04SEP08	05FEB09	18APR08	13SEP08
S4HFA2500	Twin Rising Main DN700 (ChC1600 - ChC1618)	44	-115d	60	10JUN08 A	01SEP08	10JUN08 A	15APR08
S4HFA2510	Twin Rising Main DN700 (WOIC6 - ChC1664)	47	-33d	30	12JUN08 A	19SEP08	12JUN08 A	11AUG08
S4HFA2610	Twin Rising Main DN700 (ChC1715 - ChC1750)	47	-33d	0	20SEP08	15NOV08	12AUG08	08OCT08
S4HFA3000	Construct AVIC9	20	125d	0	11SEP08	06OCT08	14FEB09	09MAR09
S4HFA3100	Construct WOIC8	20	125d	0	11SEP08	06OCT08	14FEB09	09MAR09
S4HFA3300	Construct AVIC7	20	-115d	0	12AUG08	03SEP08	25MAR08	17APR08
S4HFA3400	Construct WOIC6	20	-20d	0	12AUG08	03SEP08	19JUL08	11AUG08
S4HFA3500	Construct AVIC6	30	177d	0	30JUN08	04AUG08	03FEB09	09MAR09
Trenchless Method								
S4HFB1000	Construct Jack/Receive Pits (ChC42 - ChC63)	57	3d	0	27SEP08	04DEC08	02OCT08	08DEC08
S4HFB1100	Construct Jack/Receive Pits (AVIC8 - WOIC7)	57	-35d	0	08JUL08	11SEP08	26MAY08	01AUG08
S4HFB1120	Jacking Twin DN700 (AVIC8 - WOIC7)	69	-35d	0	12SEP08	04DEC08	02AUG08	24OCT08
Geotechnical works								
S4HP1000	Monitoring of Instruments	947	-84d	66	26MAY06 A	30JUL09	26MAY06 A	20APR09
Additonal Works / Disruption								
Twin R/M DN700 ChC1620 - ChC1661 (Claim No. 026)								
S4HV1100	Jack Twin DN1200 Sleeve Pipes	36		100	11DEC07 A	14JUN08 A	11DEC07 A	14JUN08 A
S4HV1110	Install Twin DN700 DI Pipes & Grouting	36	-115d	0	30JUN08	11AUG08	05FEB08	20MAR08
Re-alignment btn ChC420 & ChC607 (Claim No. 118)								
S4HV1330	Twin Rising Main DN700 (ChC540 - ChC515)	40	-12d	70	12FEB08 A	14JUL08	12FEB08 A	28JUN08
S4HV1360	Twin Rising Main DN700 (ChC460 - ChC436)	20	-12d	0	12AUG08	03SEP08	29JUL08	20AUG08



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Leader Civil Engineering Corp. Ltd.
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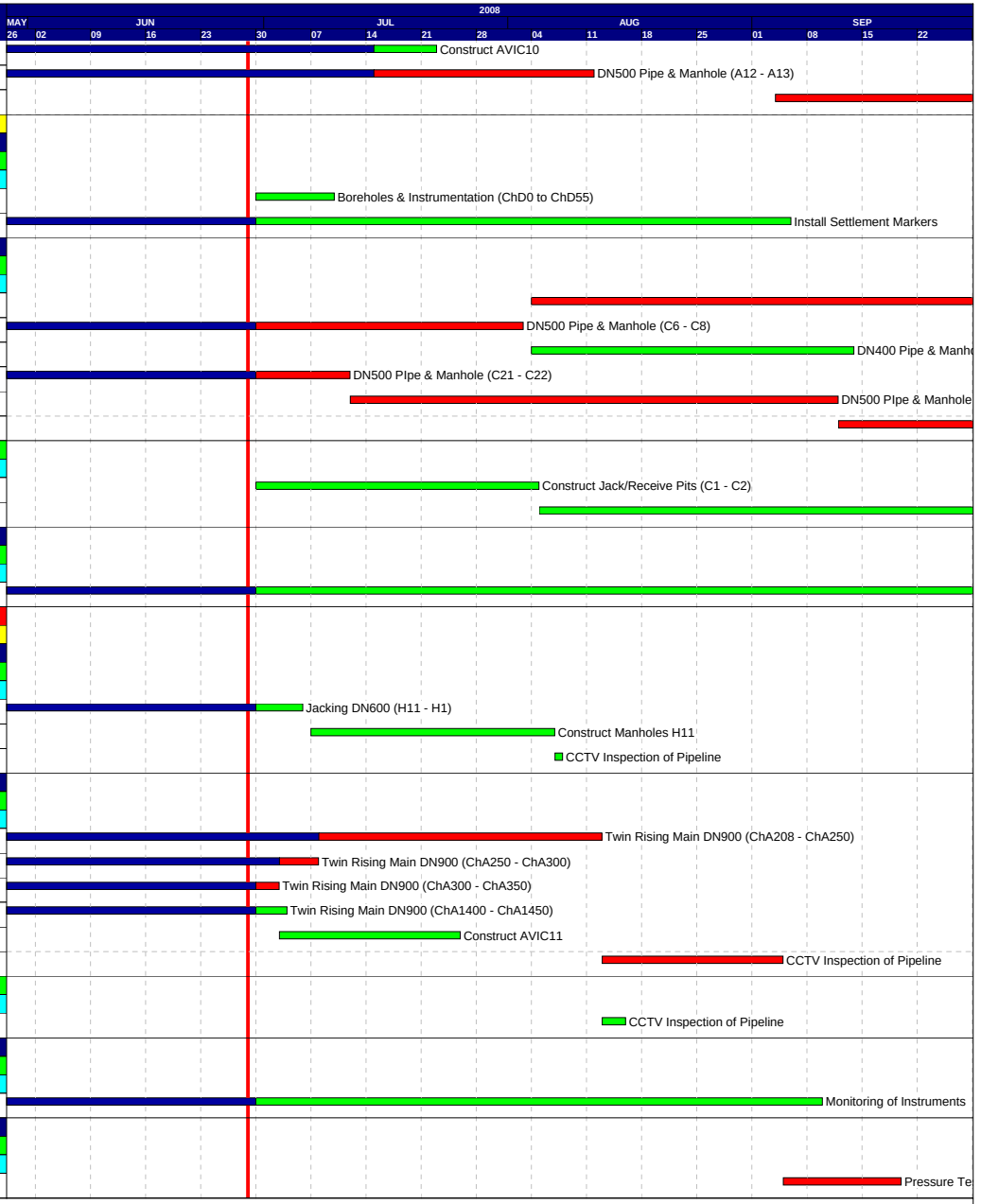
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4HV1370	Construct AVIC10	24	135d	70	26MAR08 A	22JUL08	26MAR08 A	02JAN09
S4HV1390	DN500 Pipe & Manhole (A12 - A13)	30	-12d	20	12APR08 A	11AUG08	12APR08 A	28JUL08
S4HV1400	DN500 Pipe & Manhole (A13 - A14)	40	-12d	0	04SEP08	23OCT08	21AUG08	09OCT08
Portion I								
Ground Investigation								
S4IB1040	Boreholes & Instrumentation (ChD0 to ChD55)	8	95d	0	30JUN08	09JUL08	23OCT08	31OCT08
S4IB1300	Install Settlement Markers	736	184d	92	26JUN06 A	05SEP08	26JUN06 A	20APR09
Drainage and Ducts								
Trench Method								
S4IEA1020	DN500 Pipe & Manhole (C4 - C6)	76	-9d	0	04AUG08	03NOV08	24JUL08	23OCT08
S4IEA1100	DN500 Pipe & Manhole (C6 - C8)	48	-9d	40	07MAY08 A	02AUG08	07MAY08 A	23JUL08
S4IEA1200	DN400 Pipe & Manhole (C7a - C7)	36	190d	0	04AUG08	13SEP08	24MAR09	06MAY09
S4IEA1900	DN500 PIpe & Manhole (C21 - C22)	50	-30d	80	01FEB08 A	11JUL08	01FEB08 A	04JUN08
S4IEA2320	DN500 PIpe & Manhole (C31 - C32)	53	-30d	0	12JUL08	11SEP08	05JUN08	07AUG08
S4IEA2400	DN500 PIpe & Manhole (C32 - C34)	70	-30d	0	12SEP08	05DEC08	08AUG08	31OCT08
Trenchless Method								
S4IEB1000	Construct Jack/Receive Pits (C1 - C2)	30	105d	0	30JUN08	04AUG08	04NOV08	08DEC08
S4IEB1020	Jacking DN500 (C1 - C2)	78	105d	0	05AUG08	06NOV08	09DEC08	16MAR09
Geotechnical works								
S4IP1000	Monitoring of Instruments	827	9d	72	28JUN06 A	09APR09	28JUN06 A	20APR09
Section 5 - Sewers & RM in Portion E								
Portion E								
Drainage and Ducts								
Trenchless Method								
S5EEB1020	Jacking DN600 (H11 - H1)	90	29d	95	07MAY08 A	05JUL08	07MAY08 A	08AUG08
S5EEB1040	Construct Manholes H11	27	29d	0	07JUL08	06AUG08	09AUG08	09SEP08
S5EEB1100	CCTV Inspection of Pipeline	1	29d	0	07AUG08	07AUG08	10SEP08	10SEP08
Pipework - Rising Main								
Trench Method								
S5EFA1000	Twin Rising Main DN900 (ChA208 - ChA250)	33	-7d	5	23MAY08 A	12AUG08	23MAY08 A	04AUG08
S5EFA1100	Twin Rising Main DN900 (ChA250 - ChA300)	26	-7d	85	08SEP07 A	07JUL08	08SEP07 A	27JUN08
S5EFA1200	Twin Rising Main DN900 (ChA300 - ChA350)	26	-7d	90	06AUG07 A	02JUL08	06AUG07 A	23JUN08
S5EFA3400	Twin Rising Main DN900 (ChA1400 - ChA1450)	26	27d	90	11APR08 A	03JUL08	11APR08 A	04AUG08
S5EFA4100	Construct AVIC11	20	40d	0	03JUL08	25JUL08	19AUG08	10SEP08
S5EFA4300	CCTV Inspection of Pipeline	20	-7d	0	13AUG08	04SEP08	05AUG08	27AUG08
Trenchless Method								
S5EFB1100	CCTV Inspection of Pipeline	3	10d	0	13AUG08	15AUG08	25AUG08	27AUG08
Geotechnical works								
S5EP1000	Monitoring of Instruments	627	1d	90	01AUG06 A	09SEP08	01AUG06 A	10SEP08
Testing								
S5ES1000	Pressure Testing to Twin Rising Main DN900	12	-7d	0	05SEP08	19SEP08	28AUG08	10SEP08



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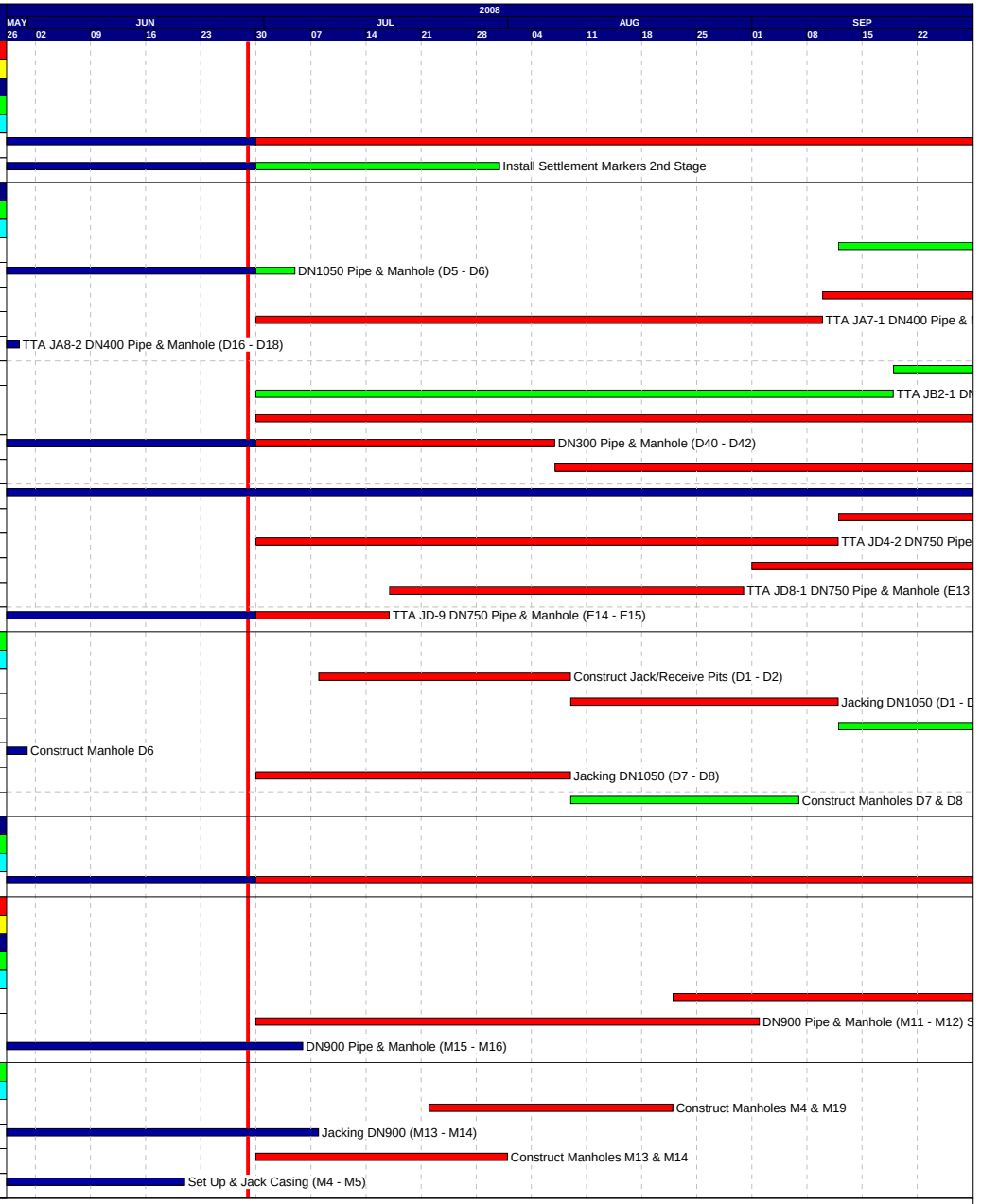
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Section 6 - Sewers in Portion J								
Portion J								
Ground Investigation								
S6JB1500	Install Settlement Marker 1st Stage	765	-82d	86	20APR06 A	10NOV08	20APR06 A	02AUG08
S6JB2100	Install Settlement Markers 2nd Stage	600	229d	96	07JUL06 A	30JUL08	07JUL06 A	06MAY09
Drainage and Ducts								
Trench Method								
S6JEA1010	DN1050 Pipe & Manhole (D2 - D3)	78	99d	0	12SEP08	15DEC08	13JAN09	17APR09
S6JEA1210	DN1050 Pipe & Manhole (D5 - D6)	78	158d	95	09APR08 A	04JUL08	09APR08 A	12JAN09
S6JEA1700	TTA JA7-2 DN400 Pipe & Manhole (D14 - D15)	46	-264d	0	10SEP08	05NOV08	22OCT07	13DEC07
S6JEA1720	TTA JA7-1 DN400 Pipe & Manhole (D15 - D16)	61	-264d	0	30JUN08	09SEP08	08AUG07	20OCT07
S6JEA1800	TTA JA8-2 DN400 Pipe & Manhole (D16 - D18)	81		100	30AUG07 A	30MAY08 A	30AUG07 A	30MAY08 A
S6JEA1900	TTA JB1-1 DN400 Pipe & Manhole (D20 - D21)	102	10d	0	19SEP08	21JAN09	02OCT08	05FEB09
S6JEA1920	TTA JB2-1 DN400 Pipe & Manhole (D21 - D22)	68	10d	0	30JUN08	18SEP08	12JUL08	30SEP08
S6JEA2400	TTA JB6-1 DN400 Pipe & Manhole (D28 - D30)	80	-288d	0	30JUN08	03OCT08	11JUL07	13OCT07
S6JEA3200	DN300 Pipe & Manhole (D40 - D42)	65	-82d	50	09JAN08 A	06AUG08	09JAN08 A	28APR08
S6JEA3300	DN300 Pipe & Manhole (D42 - D44)	72	-82d	0	07AUG08	01NOV08	29APR08	25JUL08
S6JEA3410	DN300 Pipe & Manhole (D47 - D49)	23	34d	50	19MAY08 A	11FEB09	19MAY08 A	23MAR09
S6JEA4200	TTA JD4-1 DN750 Pipe & Manhole (E7 - E8)	35	-92d	0	12SEP08	25OCT08	26MAY08	07JUL08
S6JEA4220	TTA JD4-2 DN750 Pipe & Manhole (E7 - E9)	63	-92d	0	30JUN08	11SEP08	06MAR08	24MAY08
S6JEA4600	TTA JD8-2 DN750 Pipe & Manhole (E12 - E13)	40	-145d	0	01SEP08	20OCT08	06MAR08	25APR08
S6JEA4620	TTA JD8-1 DN750 Pipe & Manhole (E13 - E14)	39	-145d	0	17JUL08	30AUG08	17JAN08	05MAR08
S6JEA4700	TTA JD-9 DN750 Pipe & Manhole (E14 - E15)	69	-145d	80	13NOV07 A	16JUL08	13NOV07 A	16JAN08
Trenchless Method								
S6JEB1000	Construct Jack/Receive Pits (D1 - D2)	28	-35d	0	08JUL08	08AUG08	26MAY08	27JUN08
S6JEB1020	Jacking DN1050 (D1 - D2)	29	-35d	0	09AUG08	11SEP08	28JUN08	01AUG08
S6JEB1040	Construct Manholes D1 & D2	25	72d	0	12SEP08	14OCT08	09DEC08	09JAN09
S6JEB1140	Construct Manhole D6	25		100	10MAY08 A	31MAY08 A	10MAY08 A	31MAY08 A
S6JEB1220	Jacking DN1050 (D7 - D8)	34	-35d	0	30JUN08	08AUG08	19MAY08	27JUN08
S6JEB1240	Construct Manholes D7 & D8	25	194d	0	09AUG08	06SEP08	03APR09	04MAY09
Geotechnical works								
S6JP1000	Monitoring of Instruments	1152	-254d	56	21APR06 A	10MAR10	21APR06 A	06MAY09
Section 7 - Sewers in Portion K								
Portion K								
Drainage and Ducts								
Trench Method								
S7KEA1105	DN600 Pipe & Manhole (M2 - M3) Stage 2	35	-189d	0	22AUG08	03OCT08	02JAN08	14FEB08
S7KEA1610	DN900 Pipe & Manhole (M11 - M12) Stage 2	54	-163d	0	30JUN08	01SEP08	07DEC07	14FEB08
S7KEA1900	DN900 Pipe & Manhole (M15 - M16)	93		100	29JAN08 A	05JUL08 A	29JAN08 A	05JUL08 A
Trenchless Method								
S7KEB1040	Construct Manholes M4 & M19	27	-189d	0	22JUL08	21AUG08	28NOV07	31DEC07
S7KEB1220	Jacking DN900 (M13 - M14)	48		100	02DEC06 A	07JUL08 A	02DEC06 A	07JUL08 A
S7KEB1240	Construct Manholes M13 & M14	27	-133d	0	30JUN08	31JUL08	15JAN08	18FEB08
S7KEB1270	Set Up & Jack Casing (M4 - M5)	98		100	07JAN08 A	20JUN08 A	07JAN08 A	20JUN08 A



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DSD Contract No. DC/2005/02
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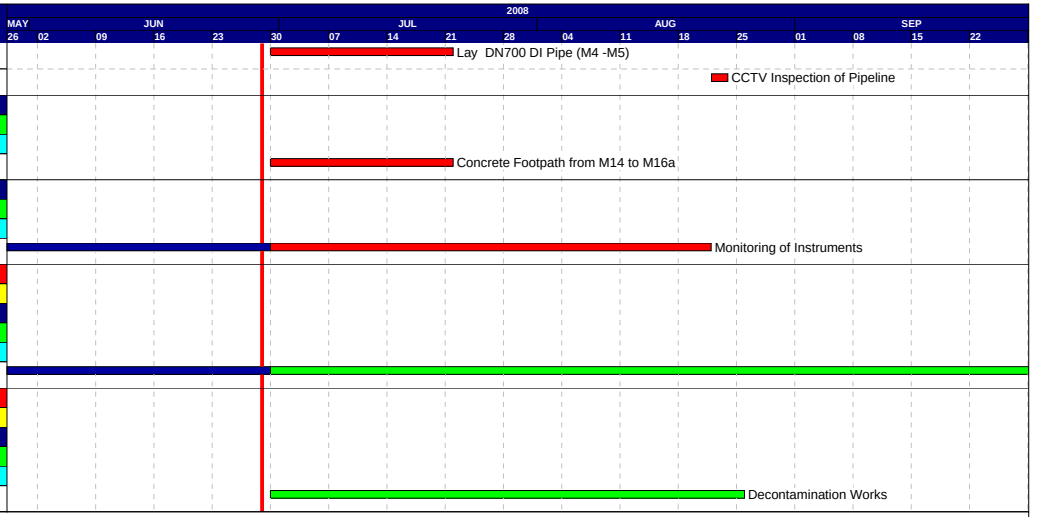
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S7KEB1280	Lay DN700 DI Pipe (M4 -M5)	18	-189d	0	30JUN08	21JUL08	07NOV07	27NOV07
S7KEB1300	CCTV Inspection of Pipeline	2	-151d	0	22AUG08	23AUG08	19FEB08	20FEB08
Roads and Pavings								
S7KH1000	Concrete Footpath from M14 to M16a	18	-122d	0	30JUN08	21JUL08	28JAN08	20FEB08
Geotechnical works								
S7KP1000	Monitoring of Instruments	668	-149d	93	24MAY06 A	21AUG08	24MAY06 A	20FEB08
Section 8 - Preservation and Protection of Trees								
All Portions								
Landscape Softworks and Establishment Works								
S8QR1100	Preservation & Protection of Preserved Trees	744	81d	77	29JUL06 A	29JAN09	29JUL06 A	06MAY09
Decontamination Works								
Portion B								
Decontamination								
S9BU1000	Decontamination Works	48	7d	0	30JUN08	25AUG08	09JUL08	02SEP08



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Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
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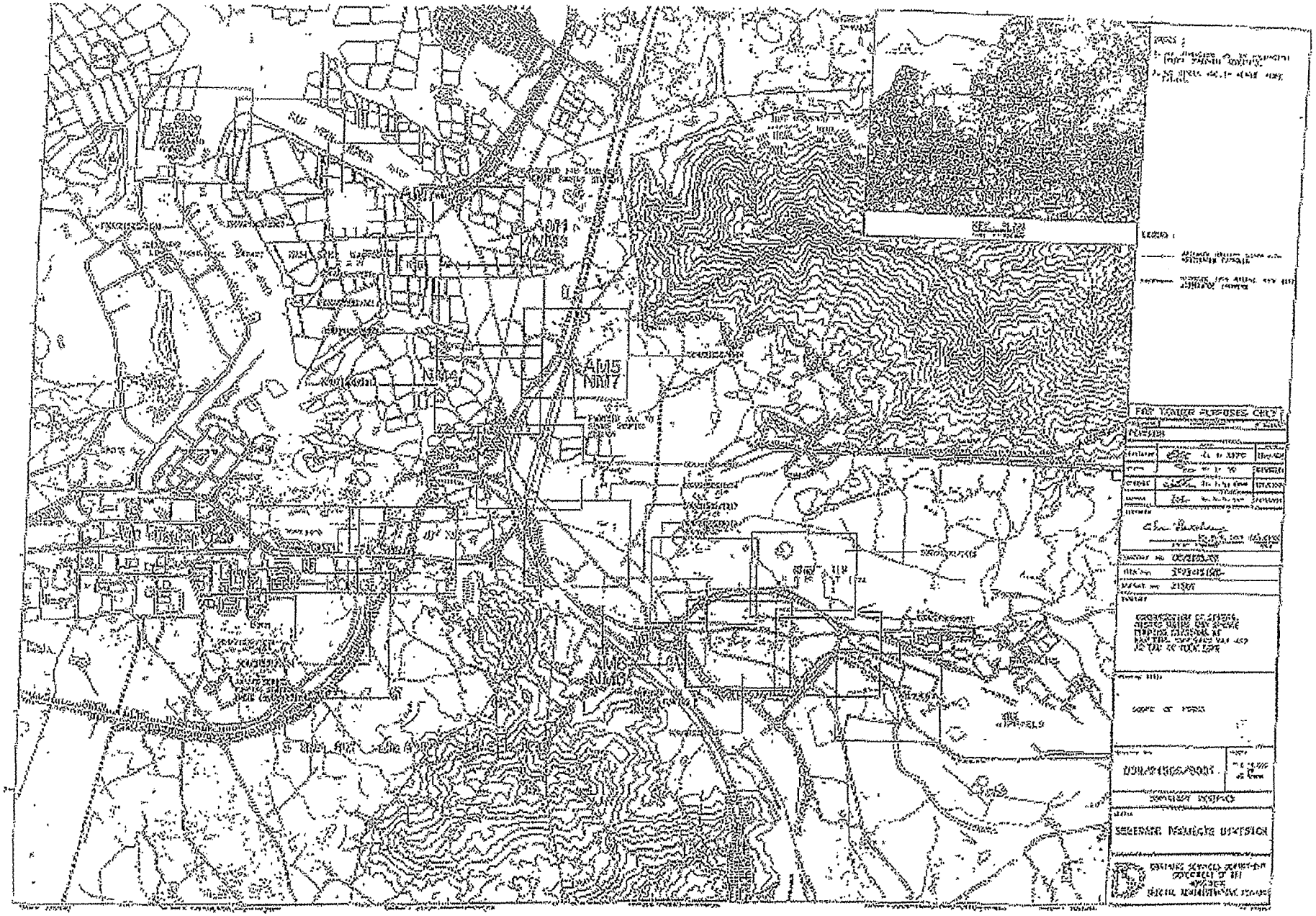
- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Annex D

Photographical Records – Noise Barrier On-Site

Annex E

Locations of Monitoring Stations



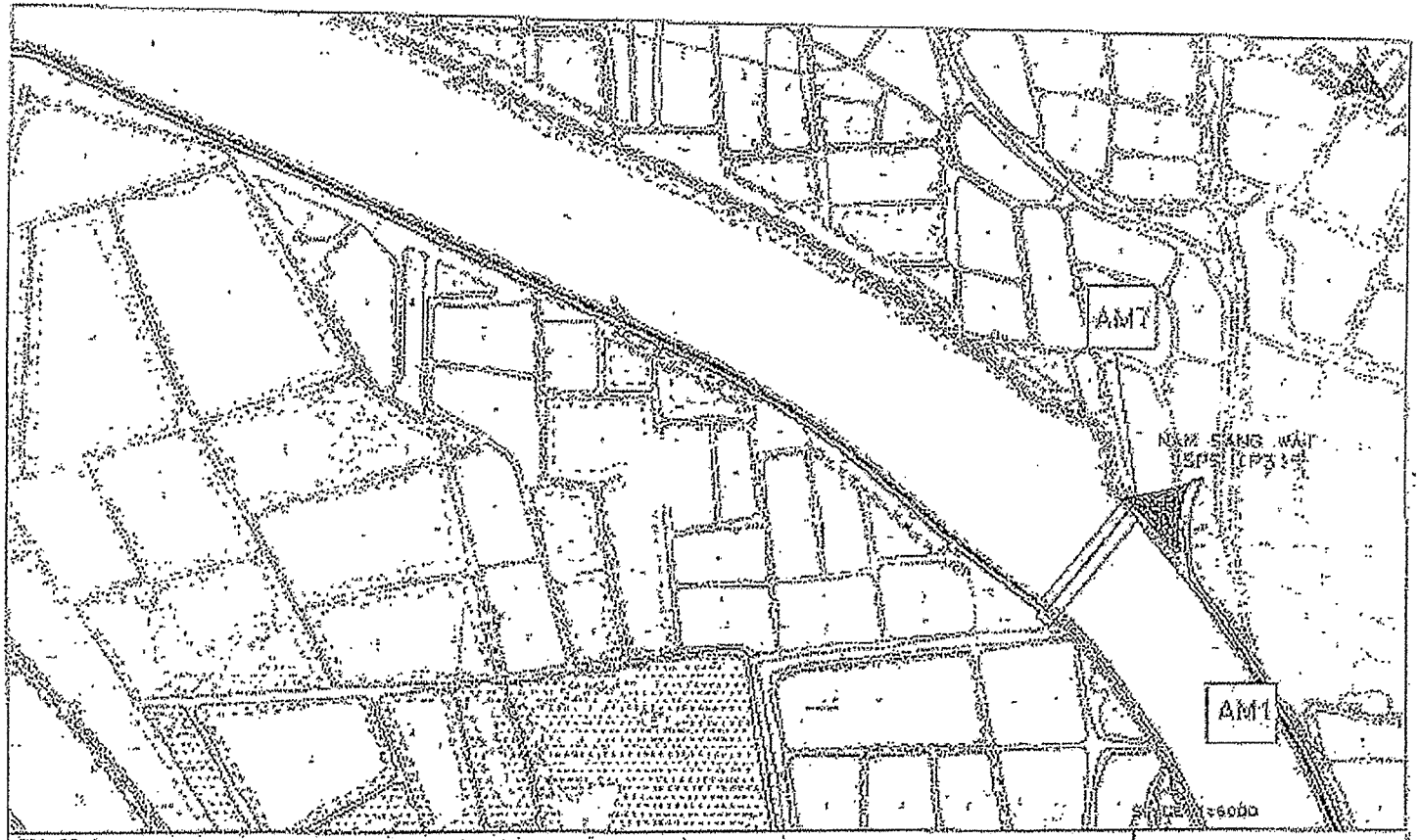


FIGURE 61 LOCATION OF DUST MONITORING STATIONS AM7 AND AM1

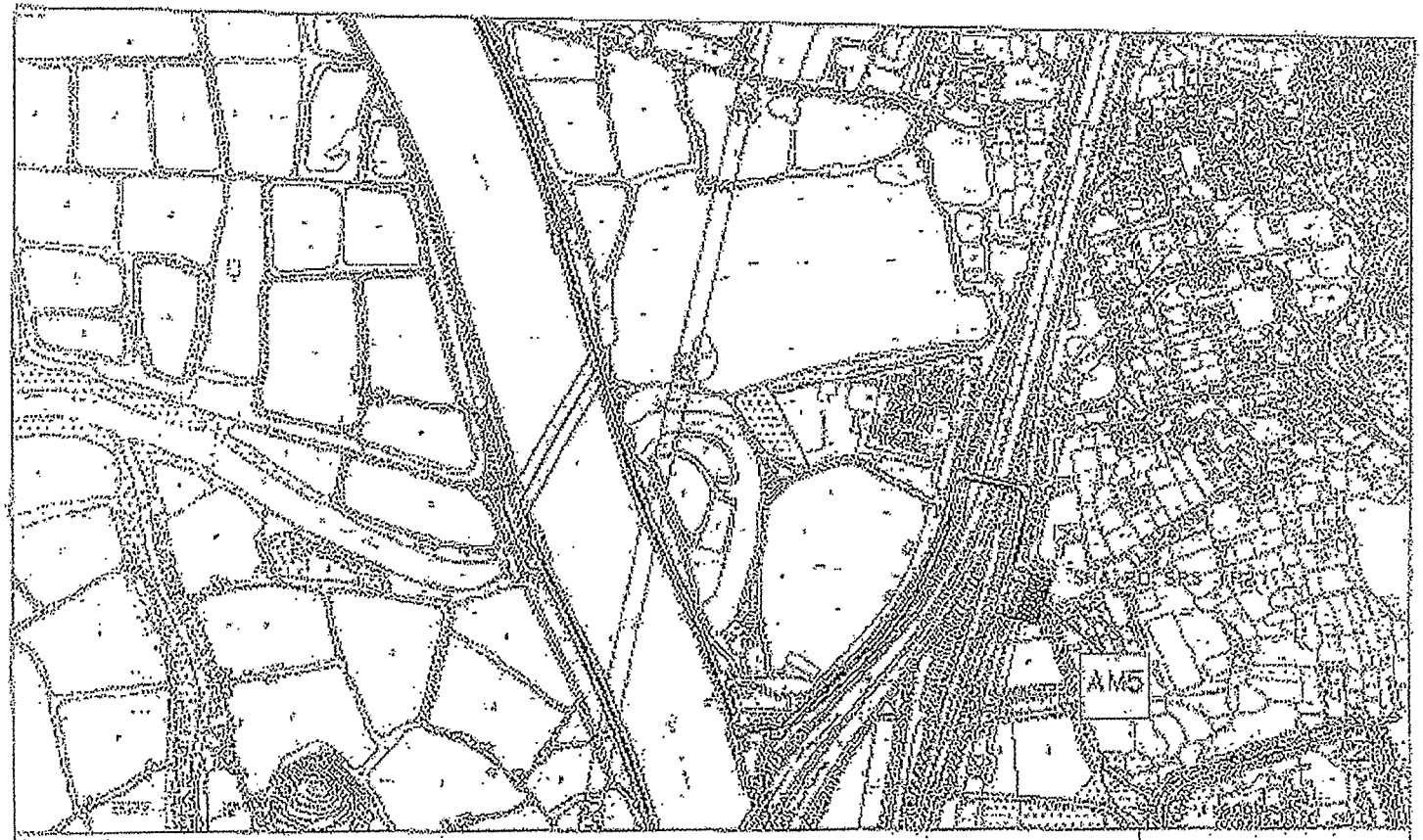


FIGURE 02

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)

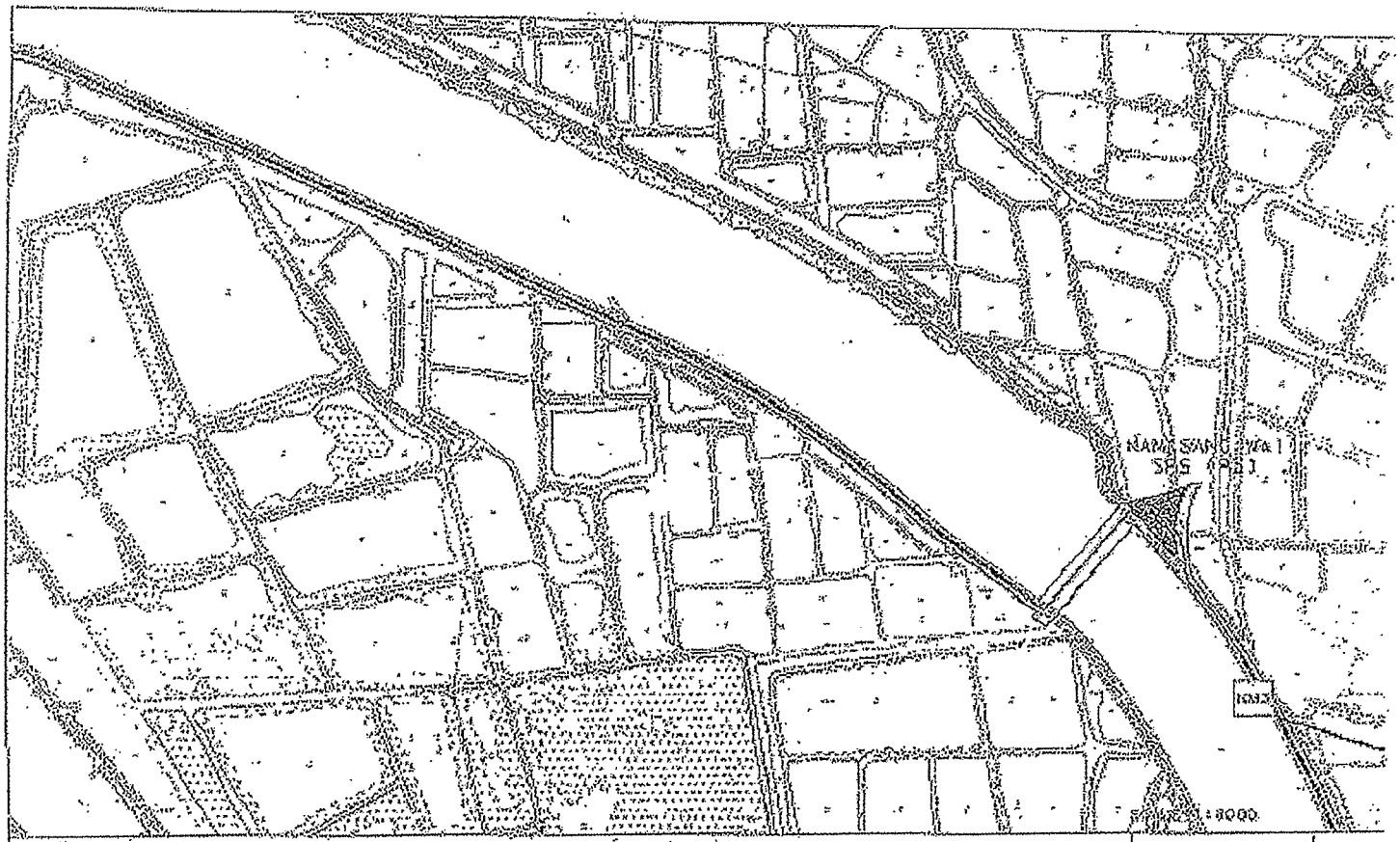


FIGURE 08

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

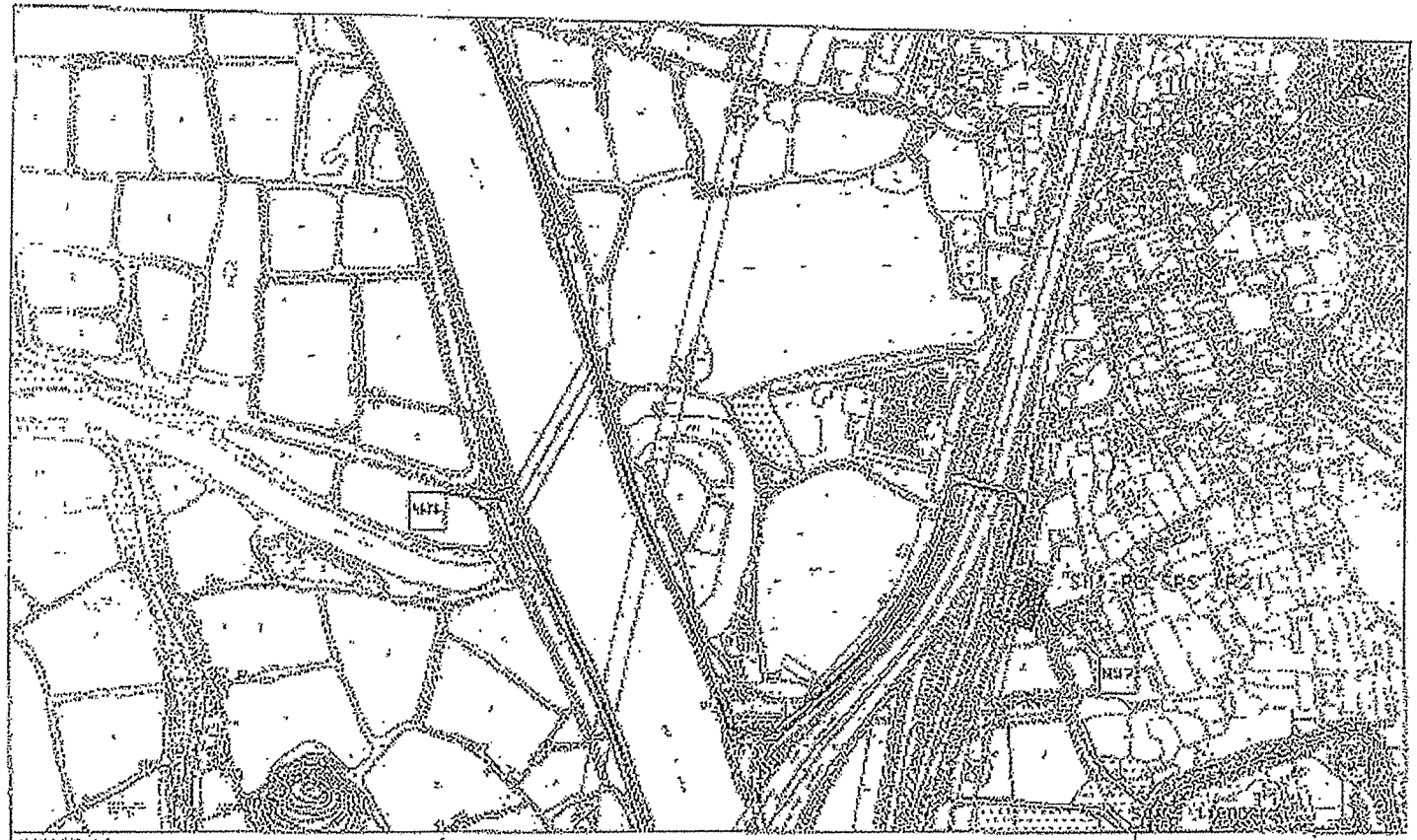


FIGURE 20.

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

Event and Action Plan for Construction Phase Air Quality

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

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

Annex G

Mitigation Implementation Schedule

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

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

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

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

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

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

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

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

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

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

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

Annex H

Equipment Calibration Certificates

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

Items	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1	Air	Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	17 May 08	17 Aug 08
2**		Greasby Anderson GMWS2310 High Volume Sampler	0355 (AM5)	02 Apr 08	02 Jul 08
3**		Greasby Anderson GMWS2310 High Volume Sampler	10394 (AM6)	02 Apr 08	02 Jul 08
4		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	17 May 08	17 Aug 08
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2326408	25 Apr 07	25 Apr 08
6		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285762	25 Apr 07	25 Apr 08
7		Bruel & Kjaer 4231 Acoustical Calibrator	2292167	22 Apr 08	22 Apr 09
8		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285721	22 Apr 08	22 Apr 09

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.
** Calibration will be done in next reporting month.

Annex I

Meteorological Data in the Reporting Month

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

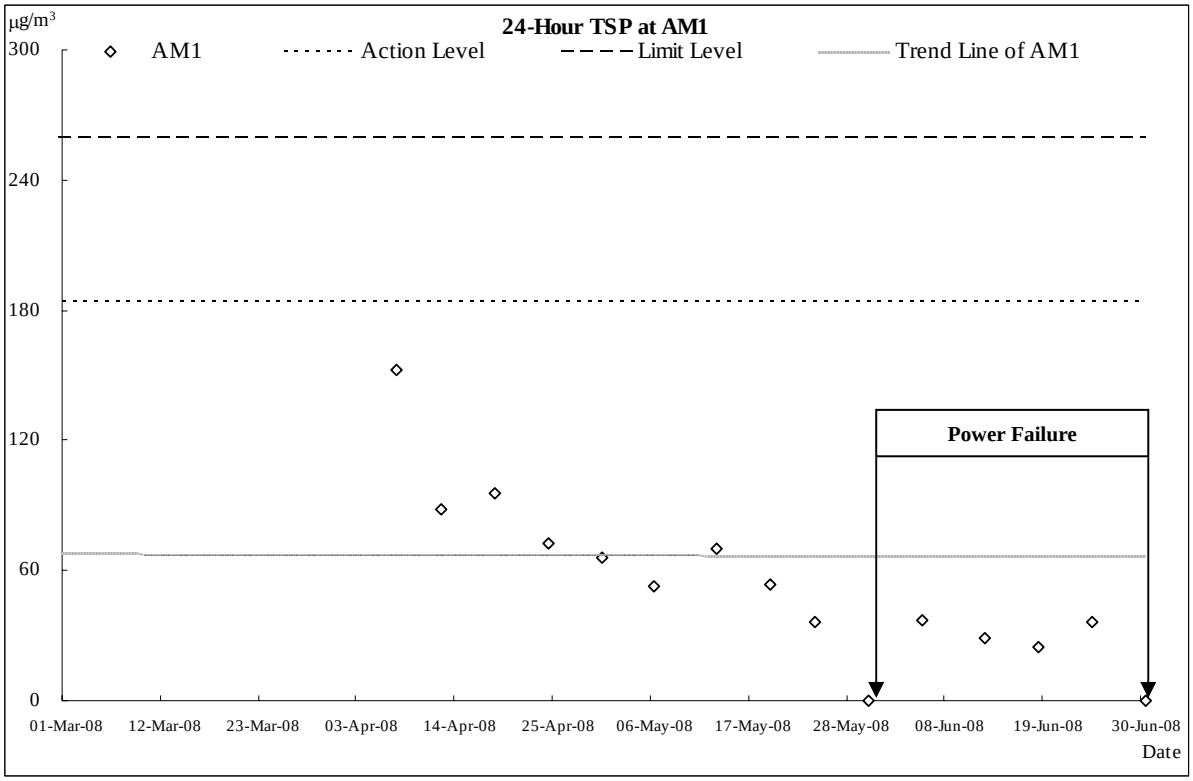
Date		Weather		Lau Fau Shan Weather Station			
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Jun-08	Sun	cloudy/rain/thunderstorm/moderate	23.1	26.4	11.5	81.5	S/SE
2-Jun-08	Mon	cloudy/rain/thunderstorm/moderate	36.6	26.2	8	91	E/SE
3-Jun-08	Tue	cloudy/rain/thunderstorm/light winds	44.9	26.8	10.5	86.5	S/SE
4-Jun-08	Wed	cloudy/rain/moderate	18.3	25.9	11	86.5	E/NE
5-Jun-08	Thu	cloudy/a few showers/showers/thunderstorm/light winds	0.1	26.1	9	84	E/SE
6-Jun-08	Fri	overcast/rain/squally thunderstorm/fresh/strong	130.8	23.1	13.5	86	S/SE
7-Jun-08	Sat	Black Rainstorm Signal					
8-Jun-08	Sun	cloudy/squally thunderstorm	0	26.9	23	69	S/SW
9-Jun-08	Mon			Holiday			
10-Jun-08	Tue	cloudy/scattered showers/moderate/fresh	4.5	29	21.5	73.5	S/SW
11-Jun-08	Wed	cloudy/squally thunderstorm/moderate/fresh	1.7	25.9	24.5	86.5	S/SW
12-Jun-08	Thu	a few snorers/moderate/fresh/thunderstorm	7.2	27.5	17	81.5	S/SW
13-Jun-08	Fri	cloudy/rain/moderate	62.5	25.3	18	88.5	S/SE
14-Jun-08	Sat	cloudy/rain/moderate	80.8	25.7	12	94.5	S/SE
15-Jun-08	Sun	moderate/cloudy/rain	41.7	27.1	13	80	S/SE
16-Jun-08	Mon	cloudy/showers/squally thunderstorm/moderate	32.3	27.5	8.2	85.5	E/SE
17-Jun-08	Tue	cloudy/overcast/rain/squally thunderstorm/fresh	86.9	25	14.2	86.5	S/SE
18-Jun-08	Wed	cloudy/rain/squally thunderstorm/fresh/strong	24.8	25.7	20.5	90	S/SE
19-Jun-08	Thu	sunny periods/hot/showers/fine/moderate	7.6	28.1	17	81.5	S/SE
20-Jun-08	Fri	fine/hot/moderate	0	29.2	11.5	75	S/SE
21-Jun-08	Sat	fine/hot/moderate	0	28.3	9.5	74.5	S/SE
22-Jun-08	Sun	fine/very hot/light winds	0	29	11.5	66.5	W/SW
23-Jun-08	Mon	fine/very hot/light winds	0	29.3	9.5	82	S/SE
24-Jun-08	Tue	cloudy/a few showers/sunny intervals/fresh/strong	0.6	30.1	17	73.5	E/NE
25-Jun-08	Wed	strong/gale/rain/squally thunderstorm/moderate	146.1	26.8	39	77	E/NE
26-Jun-08	Thu	cloudy/rain/squally thunderstorm/moderate	100.4	25.8	28.5	87.5	S/SW
27-Jun-08	Fri	cloudy/rain/squally thunderstorm/moderate/fresh	60	26	15	90.5	S/SW
28-Jun-08	Sat	cloudy/rain/squally thunderstorm/moderate	35.5	24.4	18.7	86.7	S/SE
29-Jun-08	Sun	cloudy/rain/squally thunderstorm/moderate	44.5	26.3	24	87.5	S
30-Jun-08	Mon	cloudy/rain/squally thunderstorm/moderate	48.5	26.3	12	89.5	E/SE

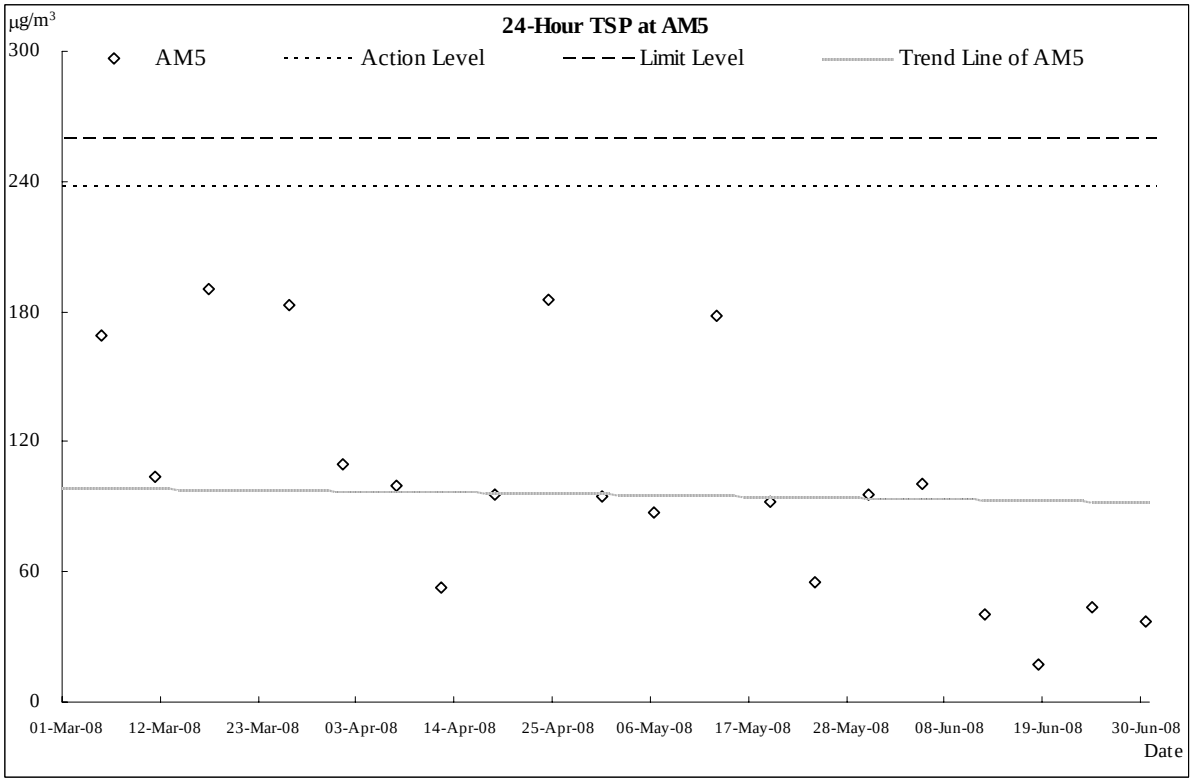
Annex J

Graphical Plots of Air Quality and Construction Noise Monitoring Results

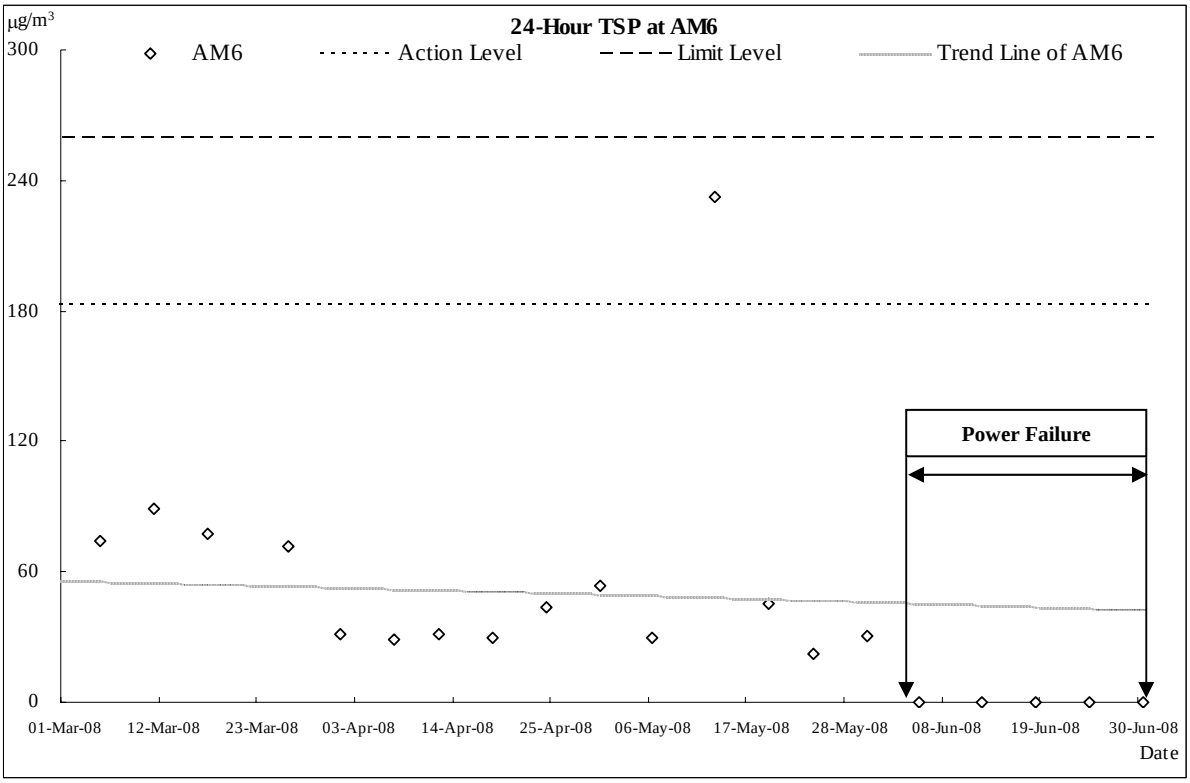
Air Quality

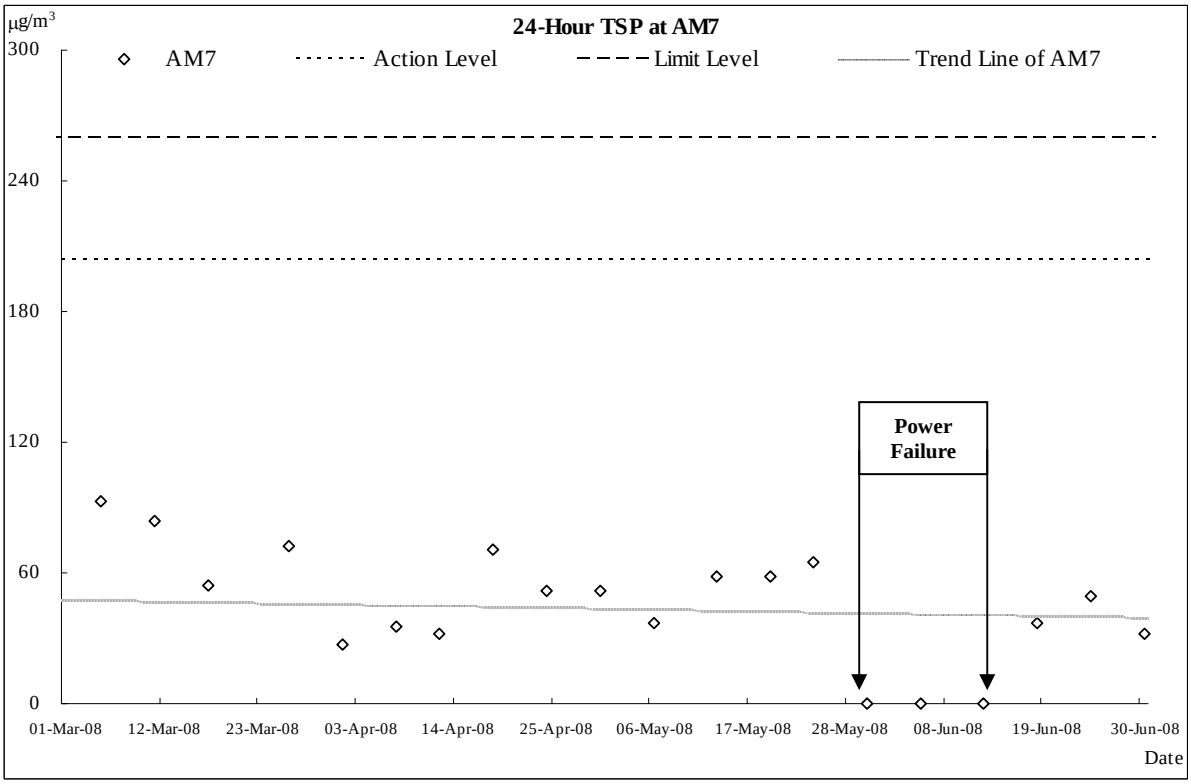
Air Quality Monitoring Results





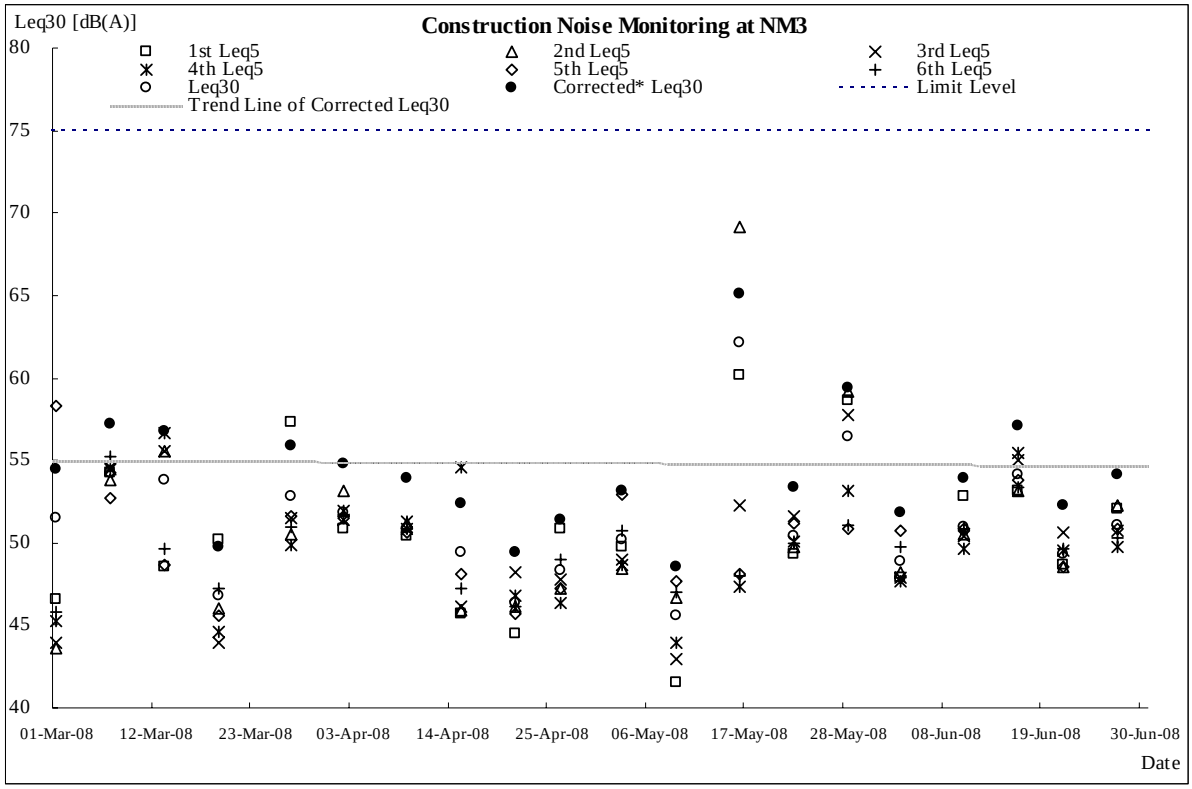
Air Quality Monitoring Results

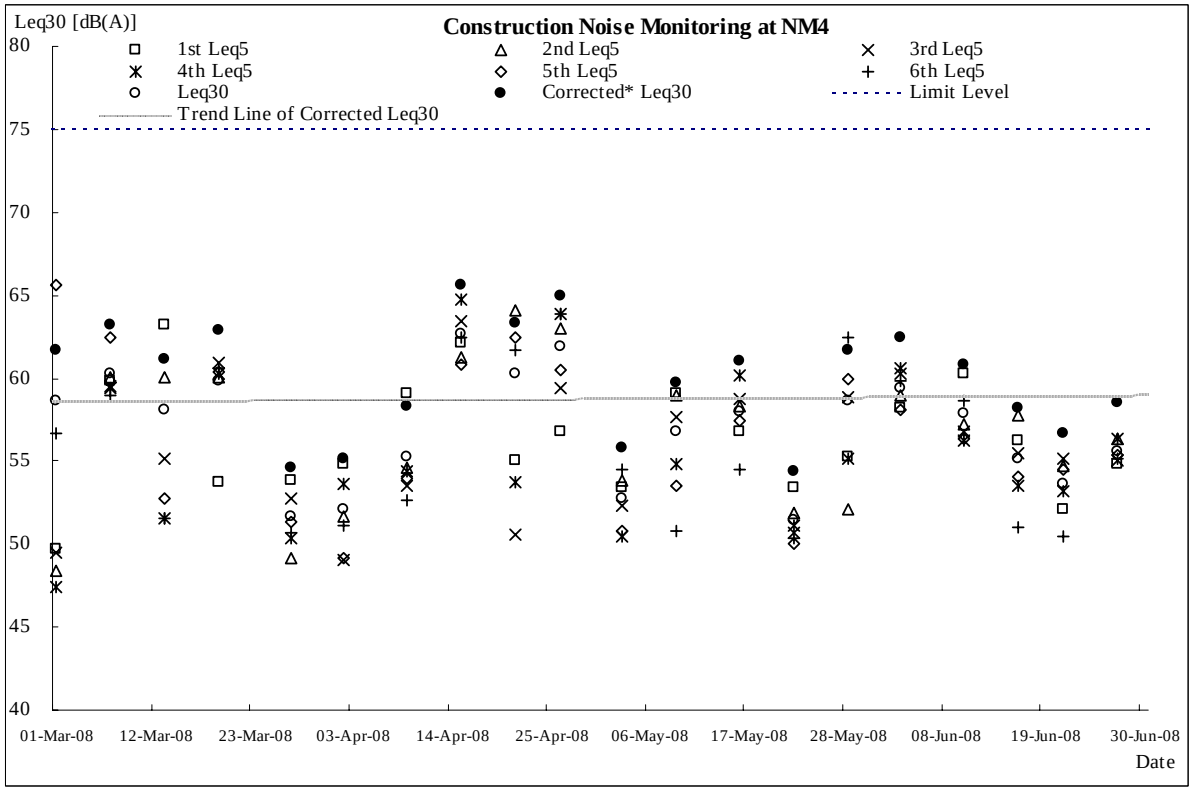




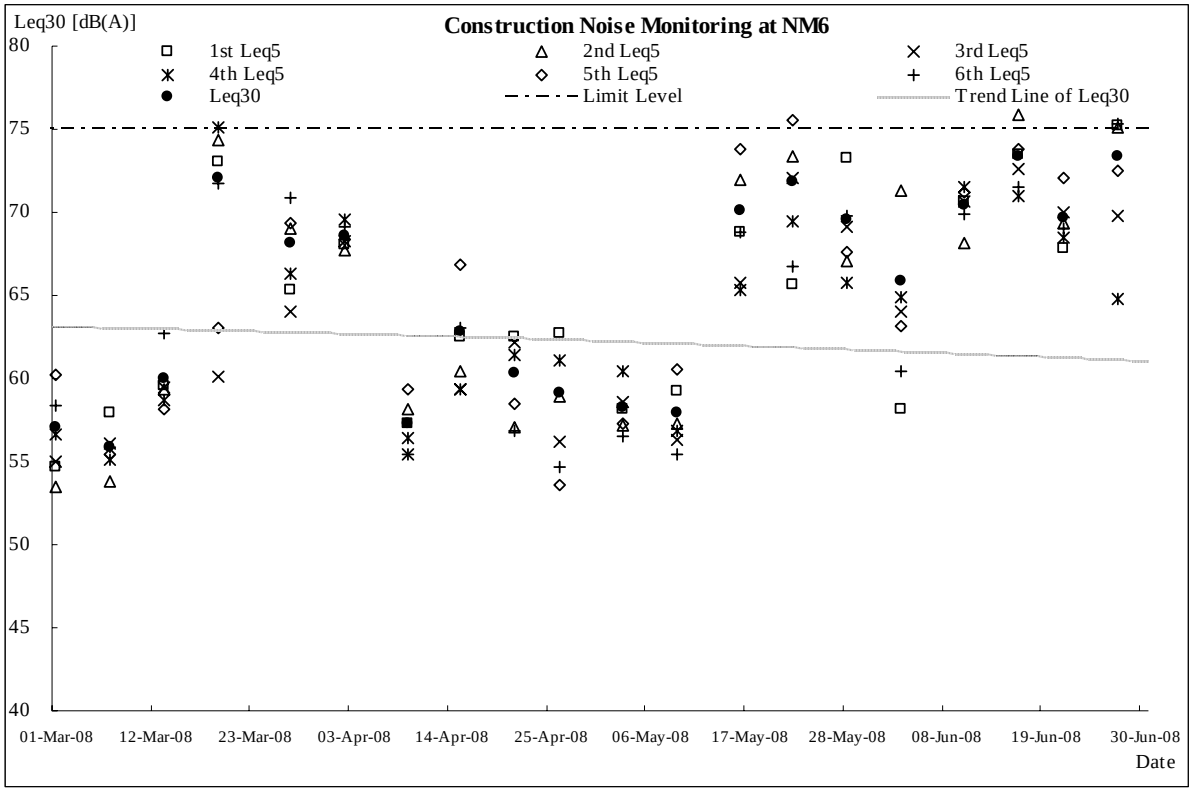
Construction Noise

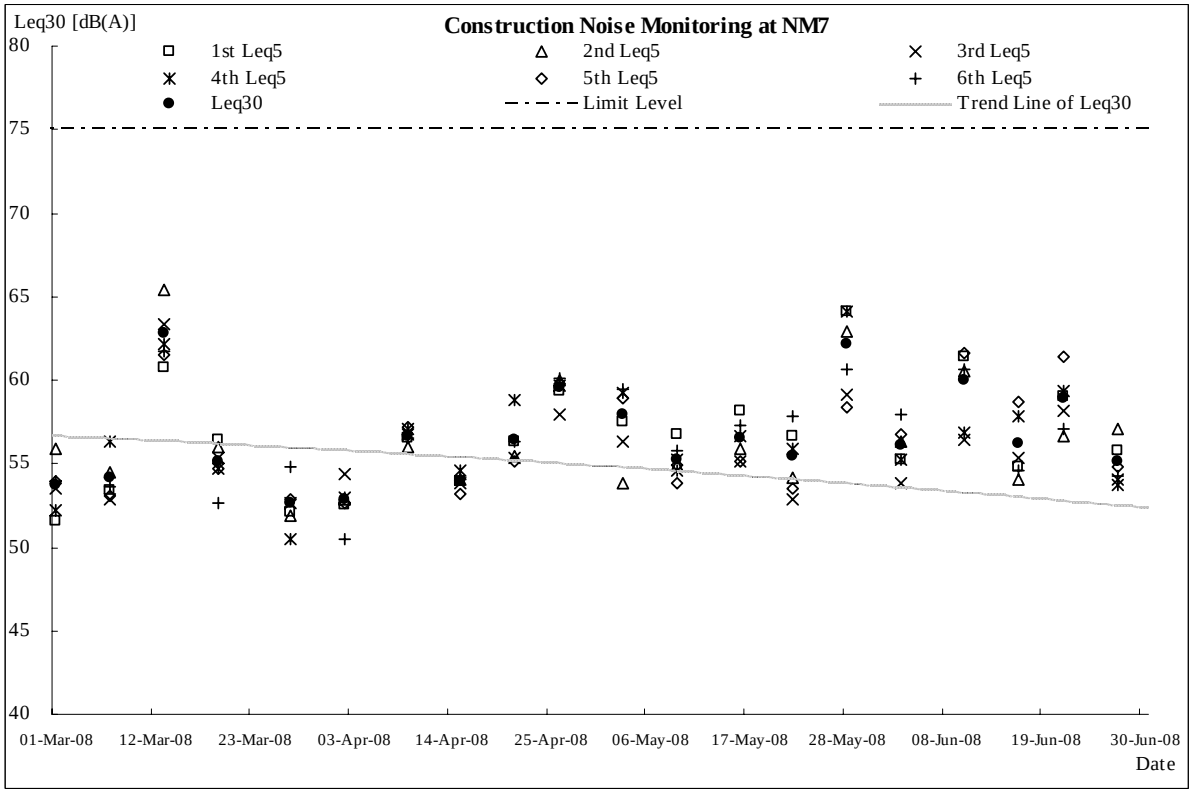
Construction Noise Monitoring Results





Construction Noise Monitoring Results





Annex K

Proforma of Site Inspection & IEC Audit in the Reporting Month

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **-**	**Inspection Date & Time:**	**3 June 2008 (09:30)**
	RE's Rep: **Mr Tsang**	**Checklist Reference No.:**	**DSD-AT030608**

General Meteorological Information

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

Temp: [27] °C

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

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

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

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

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

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

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

Remarks:

Previous Audit Follow-up:

1. No turbid effluent was observed discharged at Nam San Wai Road.
2. Unused sedimentation was removed.

Observations Recorded in this Site Inspection:

3. Stagnant water was cumulated at Nam San Wai pumping station after the rain-fall, the contractor was reminded to clean more frequency after the rain-fall to prevent mosquito breeding.

Signatures:

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

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **-**	**Inspection Date & Time:**	**10 June 2008 (09:30)**
	RE's Rep: **Mr Tsang**	**Checklist Reference No.:**	**DSD-AT100608**

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?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

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

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

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

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

Remarks:

Previous Audit Follow-up:

1. Stagnant water at Nam San Wai pumping station was cleared.

Observations Recorded in this Site Inspection:

2. Unused sedimentation tank filled with water was observed outside the Kam Tin pumping station. Contractor was reminded to prevent stagnant water from accumulating on site.

Signatures:

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

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **-**	**Inspection Date & Time:**	**18 June 2008 (09:30)**
	RE's Rep: **Mr Tsang**	**Checklist Reference No.:**	**DSD-AT180608**

General Meteorological Information

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

Temp: 27 °C

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

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

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

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

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

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

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

Remarks:

Previous Audit Follow-up:

1. Stagnant water inside the sedimentation tank at Kam Tin pumping station was cleared.

Observations Recorded in this Site Inspection:

No Environmental issue was observed during the site inspection.

Signatures:

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

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **-**	**Inspection Date & Time:**	**24 June 2008 (09:30)**
	RE's Rep: **Mr Tsang**	**Checklist Reference No.:**	**DSD-AT240608**

General Meteorological Information

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

Temp: [27] °C

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

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

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

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

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

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

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

Remarks:

Previous Audit Follow-up:

Nil

Observations Recorded in this Site Inspection:

1.Stagnant water was cumulated at Nam San Wai pumping station after the rain fall, contractor was reminded to clean to prevent mosquito breeding.

Signatures:

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

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **F N Wong**	**IEC:**	**Mott Connell Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep: **Joseph Chan**	**Inspection Date & Time:**	**30 June 2008 (09:30)**
	RE's Rep: **Mr Tsang**	**Checklist Reference No.:**	**DSD-AT300608**

General Meteorological Information

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

Temp: 31 [27] °C

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

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

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

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

Construction Noise

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

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

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

Remarks:

Previous Audit Follow-up:

1.Stagnant water was cumulated at Nam San Wai pumping station after the rain fall, contractor was reminded to clean to prevent mosquito breeding. (On-going)

Observations Recorded in this Site Inspection:

2. Stagnant water was cumulated inside the unused sedimentation tank at Kam Sheung Road portion, the contractor was reminded to clean or apply larvicidal oil.
3. Free standing oil drums were observed at Nam San Wai pumping station, contractor was reminded to provide drip tray for all free standing oil drums.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Name :F N 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	30 June 2008	Time	1430 – 1630	Inspected By	Leader: Edwin Leung ET: S M Wong DSD: PH Tsang IEC: Joseph Chan
Site Location	New Pumping Room Sha Po Pumping Room Kam Sheung Road Kam Tin Pumping Road New Road.				

Weather

Condition	☐	Sunny	☑	Fine	☐	Overcast	☐	Drizzle	☐	Rain	☐	Storm	☐ Hazy
Temperature					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?		✓		
	• 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?			✓	see observation
	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

This month's Observation

① Rain water was collected among the H-pile due to heavy showers in the morning at NSW Pumping Room site. The Contractor indicated they have arranged spraying of Temephos once per week.

② Rain water was collected inside drip trays, the Contractor was reminded to clear the trays before next ~~next~~ raining (NSW Pumping Room site.)

③ Stagnant water was found inside sedimentation tank. The Contractor was reminded to apply Temephos or larvicidal oil to the tanks (Kam Sheung Road.)

④ Kam Sheung Road site was maintained properly with no mud or ~~&~~ rubbish deposited ~~the~~ on the pedestrian and road.

⑤ Drums of fuel and mould oil were found on ground instead of drip Trays. The Contractor was reminded to store them properly inside drip Trays (Kam Tin Pumping Room site)

⑥ ~~D~~ Deposit was found inside sedimentation Tanks (Nam Sham Wai Road). The Contractor was recommended to clear the tanks.

⑦ The Contractor was recommended to inspect all the sedimentation tanks along Nam Sham Wai Road and clear the sediment ~~of~~ the Tanks & U-channels (if accumulated).

⑧ Additional sedimentation tanks were connected together in series to improve the ~~sed~~ settling efficiency (New Road).

sediment

Follow-up last month's observation

① Idled sedimentation tank along New Road site has been removed.

② Drums of grouting additives at New Rd. have been removed off site.

DSD Representative	Contractor Representative	ETL	IEC
( )	( )	( )	(Joseph Chan 30 June 2009.)

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MONTHLY SITE INSPECTION PHOTOS
30 June 2008
Environmental Observations

This month's observations

This month's observations	This month's observations
Housekeeping	
	
0326: Rainwater was collected among the H-piles due to heavy showers in the morning at NSW Pumping Room site. The Contractor indicated they have arranged spraying of temephos once per week.	0334: Rainwater was collected inside drip trays; the Contractor was reminded to clear the trays before next raining (NSW Pumping Room site).
Housekeeping	**Housekeeping**
	
0336: Stagnant water was found inside sedimentation tank. The Contractor was reminded to apply temephos or larvicidal oil to the tanks (Kam Sheung Road).	0341: Kam Sheung Road site was maintained properly with no mud or rubbish deposited on the pedestrian and road.
Chemical Storage	
	
0344: Drums of fuel and mould oil were placed on ground instead of drip trays. The Contractor was reminded to store them properly inside drip trays (Kam Tin Pumping Room site).	0344: Drums of fuel and mould oil were placed on ground instead of drip trays. The Contractor was reminded to store them properly inside drip trays (Kam Tin Pumping Room site).

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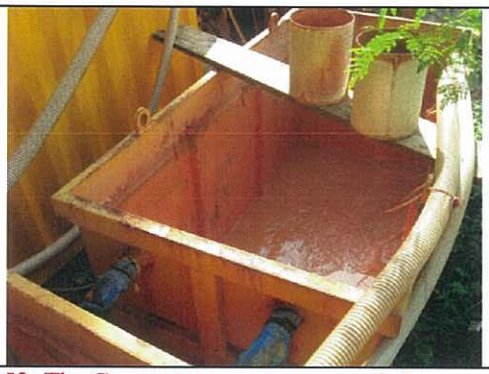
Kam Tin Trunk Sewerage Phase 1 and Au Tau Trunk Sewers

MONTHLY SITE INSPECTION PHOTOS
30 June 2008
Environmental Observations

Water Quality	
	
0349: Deposit was found inside sedimentation tanks (Nam Shan Wai Road). The Contractor was recommended to clear the tanks.	0352: The Contractor was recommended to inspect all the sedimentation tanks along Nam Shan Wai Road and clear the sediment (if accumulated)
Water Quality	
	
0354: Additional sedimentation tanks were connected together in series to improve the sediment settling efficiency (NSW Road).	