JOB NO.: TCS00310/06

VERSION NO.: 2

DRAINAGE SERVICES DEPARTMENT
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 DECEMBER 2009 (NO. 45) (DESIGNATED ELEMENTS)

PREPARED FOR

LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index

Date	Reference No.
14 January 2010	TCS00310/06/600/R1027v2

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Version No.	Date	Remarks
1	08 January 2010	First Submission
2	14 January 2010	Amended against IEC's comments on 12 January 2010

EXECUTIVE SUMMARY

ES01. 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.

ES02. This Monthly Environmental Monitoring and Audit (EM&A) Report for **December 2009 (No. 45)** presents the environmental impact monitoring and audit (EM&A) program conducted from **1 to 31 December 2009** for the Designated Elements. The EM&A program in **December 2009** covered air quality, construction noise and waste management only.

BREACH OF ACTION AND LIMIT (AL) LEVELS

ES03. For air quality, a total of three (3) exceedances were recorded in this reporting monthly which included two (2) Action Level exceedances, namely AM5 and AM6 on 3 and 15 December 2009 respectively and one (1) Limit Level exceedance at AM1 on 3 December 2009. The exceedances still under the investigation for the project.

ES04. No construction noise complaint (Action Level) or exceeded the Limit Level was recorded in this month.

COMPLAINT LOG

ES05. No environmental complaint was received in this month.

NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

ES06. There was no environmental summons or prosecution in this month.

REPORTING CHANGES

ES07. There are no changes in the reporting format or content in this month.

FUTURE KEY ISSUES

ES08. Construction activities to be undertaken in **January 2010** include sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile. Potential environmental impacts arising from the works include construction waste, air quality, noise and water quality (particularly site runoff during rainy seasons). 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 Monthly EM&A Report for **December 2009 (No. 45)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings from **1 to 31 December 2009**.

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 THIS MONTH

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

MANAGEMENT STRUCTURE

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

CONSTRUCTION ACTIVITIES UNDERTAKEN IN THIS MONTH

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

Location	Construction Activities					
	Sheet piling	Excavation	Pipe laying	Backfilling	Concreting	Extract Sheet Pile
Kam Tin Pumping Station (P1)		X	X	X		
Sha Po Pumping Station (P2)		X		X	X	
Nam Sang Wai P/S (P3)				X	X	
Nam Sang Wai Road (S4)	X	X	X	X	X	X
Pok Wai South Road (S5 & S6)	X	X	X	X	X	X

2.0 ENVIRONMENTAL STATUS

WORKS UNDERTAKEN IN THIS MONTH

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

Table 2-1 Work Undertaken and Illustrations of Mitigation Measures

Locations	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	● Excavation	• 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	● Excavation ● Backfilling ● 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
P3 (Nam Sang Wai Pumping Station	● Backfilling ● Concreting	• Erect 2.4m high noise barrier hoarding around the works area at P1, P2 and P3	A1 & F6
		• 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	● Sheet piling ● Excavation ● Pipe laying ● Backfilling ● Concreting ● Extract sheet pile	• 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
		• Wash the wheels of vehicles before leaving the site	A5
S5 & S6 (Pok Wai South Road)	● Sheet piling ● Excavation ● Pipe laying ● Backfilling ● Concreting ● 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 monitoring stations (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 summarized in **Table 2-2**.

Table 2-2 Description of the Monitoring Stations

Station ID	Nature of Premise	Site Work Description	Station Coordinates	
			Northern	Eastern
AM1	Site Boundary in NSW	Excavation; Sheet piling; Backfilling; Pipe laying; Concreting; and Extract sheet pile	835829	822910
AM5	Site Boundary in FKH		835121	823515
AM6	Site Boundary in KT		833308	823987
AM7	Site Boundary in NSW		836171	822586
NM3	Village House in NSW		835808	822817
NM4	Village House in NSW		835282	822811
NM6	Village House in KT		833288	823999
NM7	Village House in FKH		835121	823495

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 as the key monitoring parameters during the construction phase of the project.

3.02 A summary of the impact EM&A requirements for air quality and construction noise is 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, licenses, and/or notifications related to environmental protection under this Project during the 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 8 May 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005

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 complies with the PS specifications including.

- Power supply of 220v/50 Hz for 24-hour continuous operation;
- 0.6-1.7m^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 63in^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 in this 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 and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications 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 5m/s or wind with gusts exceeding 10m/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	Leq(30mins)	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. HVAS of AM5 and AM6 was required calibration in this month, HVAS of AM5 and AM6 monitoring equipment required to calibrate in next month. Updated calibration certificate and schedule is shown in **Annex H**.

5.11 The sound level meters were calibrated using an acoustical 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 acoustical 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 Calibration certificates of the sound level meters will provide depend on the annual calibration had undertaken.

PARAMETERS MONITORED

5.13 The environmental parameters monitoring in this 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 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. In this month, **13** monitoring events of 24-hour TSP monitoring were successful conducted. However, there are seven (**7**) events of 24-hour monitoring were unsuccessful measured due to the power supply issue or over running.

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

MONITORING RESULTS AND SCHEDULE

5.17 Monitoring results in this month for air quality is summarized at **Table 5-3**.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-hour TSP (μg/m^3)			
	AM1	AM5	AM6	AM7
3-Dec-09	**265***	***257***	83	#
9-Dec-09	81	168	28	#
15-Dec-09	73	189	***224***	#
21-Dec-09	128	157	52	#
29-Dec-09	115	195	#	#
Average (Range)	99 (73 – 128)	193 (157 – 257)	97 (28 – 224)	NA
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.
Monitoring was affected due to power failure issue.
* The monitoring is invalided due to over running

5.18 For 24-hour TSP monitoring, a total of three (3) exceedances were recorded in this reporting monthly which included two (2) Action Level exceedances, namely AM5 and AM6 on 3 and 15 December 2009 respectively and one (1) Limit Level exceedance at AM1 on 3 December 2009. It is noted that over-running of high volume sampler in 24-hour TSP monitoring was logged at AM1 on 3 December 2009 due to the operational error. The total elapsed time for the measurement was over-run which operated 61.61 hour and the result was therefore considered as invalid. However, we would assume it is a Limit Level exceedance since the calculated amount still triggered the set out criteria. NOEs were issued to notify all related parties and the investigation is still in progress.

5.19 On 29 December 2009, power failure occurred at AM6 as the landlord ceased the power supply for AM6. Besides, power supply failure is continued at AM7 in December. The Contractor has tried to make contact with the landowner regarding the connection of power supply but not successful. Therefore, no air quality monitoring can be undertaken at AM7 during this reporting month.

5.20 Results of construction Noise monitoring in this month were summarized at **Tables 5-4 to 5-7**.

Table 5-4 Summary of Noise Monitoring Results at NM3

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
4-Dec-09	13:00	65.4	63.7	63.3	63.4	65.1	63.0	64.1	67.1
10-Dec-09	13:10	63.1	64.4	62.2	62.7	61.9	62.7	62.9	65.9
16-Dec-09	13:08	62.4	61.8	61.1	60.9	60.7	62.1	61.5	64.5
22-Dec-09	13:08	57.6	57.4	58.7	60.3	59.5	59.1	58.9	61.9
30-Dec-09	13:40	58.0	57.6	57.1	57.3	58.3	58.1	57.8	60.8
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
4-Dec-09	11:00	64.4	62.4	63.9	61.8	62.1	63.3	63.1	66.1

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
10-Dec-09	10:45	56.1	55.7	57.4	57.5	59.7	57.0	57.4	60.4
16-Dec-09	10:45	59.4	58.7	61.2	60.9	57.8	58.3	59.6	62.6
22-Dec-09	11:00	62.1	62.9	63.7	63.1	62.6	61.9	62.8	65.8
30-Dec-09	09:15	59.4	61.1	60.9	61.4	62.9	62.2	61.5	64.5
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
4-Dec-09	11:23	56.1	55.8	55.2	57.5	55.6	55.1	56.0
10-Dec-09	09:35	62.4	64.7	61.5	62.2	60.7	60.9	62.3
16-Dec-09	09:50	54.9	55.8	55.4	56.7	56.1	55.3	55.7
22-Dec-09	11:04	59.5	59.2	58.4	59.1	58.4	58.6	58.9
30-Dec-09	13:49	62.4	61.9	62.5	62.6	61.0	61.8	62.1
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
4-Dec-09	09:30	57.2	56.2	58.1	56.6	59.4	57.1	57.6
10-Dec-09	10:00	58.4	58.1	57.7	60.2	59.3	58.7	58.8
16-Dec-09	11:30	59.2	56.5	56.4	57.4	55.3	57.4	57.2
22-Dec-09	10:13	57.6	56.3	58.1	58.8	57.7	58.3	57.9
30-Dec-09	08:45	58.4	58.1	59.3	57.7	58.3	58.8	58.5
Limit Level								**75**

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

5.21 No construction noise complaint (Action Level) was received; and also construction noise monitoring above the Limit Level was recorded in this month.

5.22 The tentative monitoring schedule for the coming month (**December 2009**) is shown in **Table 5-8**.

Table 5-8 Tentative Schedule of Monitoring for Next Month

Date		Air Quality	Noise Leq 30min
Fri	1-Jan-10		
Sat	2-Jan-10		
Sun	3-Jan-10		
Mon	4-Jan-10		
Tue	5-Jan-10		
Wed	6-Jan-10		
Thu	7-Jan-10		
Fri	8-Jan-10		
Sat	9-Jan-10		
Sun	10-Jan-10		
Mon	11-Jan-10		
Tue	12-Jan-10		
Wed	13-Jan-10		
Thu	14-Jan-10		
Fri	15-Jan-10		
Sat	16-Jan-10		
Sun	17-Jan-10		

Date		Air Quality	Noise Leq 30min
Mon	18-Jan-10		
Tue	19-Jan-10		
Wed	20-Jan-10		
Thu	21-Jan-10		
Fri	22-Jan-10		
Sat	23-Jan-10		
Sun	24-Jan-10		
Mon	25-Jan-10		
Tue	26-Jan-10		
Wed	27-Jan-10		
Thu	28-Jan-10		
Fri	29-Jan-10		
Sat	30-Jan-10		
Sun	31-Jan-10		

	Monitoring Day
	Sunday or Public

WEATHER CONDITIONS DURING THE MONITORING MONTH

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

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.25 The weather conditions during monitoring were considered acceptable for monitoring activities and did not have significant impact on the monitoring results obtained.

OTHER FACTORS INFLUENCING THE MONITORING RESULTS

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

QA/QC RESULTS AND DETECTION LIMITS

5.27 Not applicable.

6.0 REPORT ON NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

6.01 For air quality, a total of three (3) exceedances were recorded in this reporting monthly which included two (2) Action Level exceedances, namely AM5 and AM6 on 3 and 15 December 2009 respectively and one (1) Limit Level exceedance at AM1 on 3 December 2009. The exceedances still under the investigation for the project.

6.02 No construction noise complaint (Action Level) or monitoring noise level exceeding the Limit Level was recorded in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

6.03 There was no environmental complaint received in this month.

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

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

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

6.05 No complaints or notification of summons was received in this month.

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.06 As mention in Section 6.05, no non-compliance, complaints or notification of summons was received in this month. Therefore, no follow-up action was needed. 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 **January 2010** include excavation, pipe laying, backfilling, concreting and extract sheet pile. Potential environmental impacts arising from the works include construction waste, air quality, noise and water quality (particularly site runoff during rainy seasons). 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 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	883	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	0	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	83	Refuse Collector

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

Type of Waste	Quantity	Disposal Location
Metals for Recycling (kg)	4457	NA
Paper for Recycling (kg)	0	NA
Plastics for Recycling (kg)	530	NA

7.03 There was no site effluent discharged but an estimated volume of less than 50m^3 of surface runoff was discharged in the month. The sampling of effluent had been carried out by the Contractor in compliance with the Discharge License (No.1U434/1) requirement in this month.

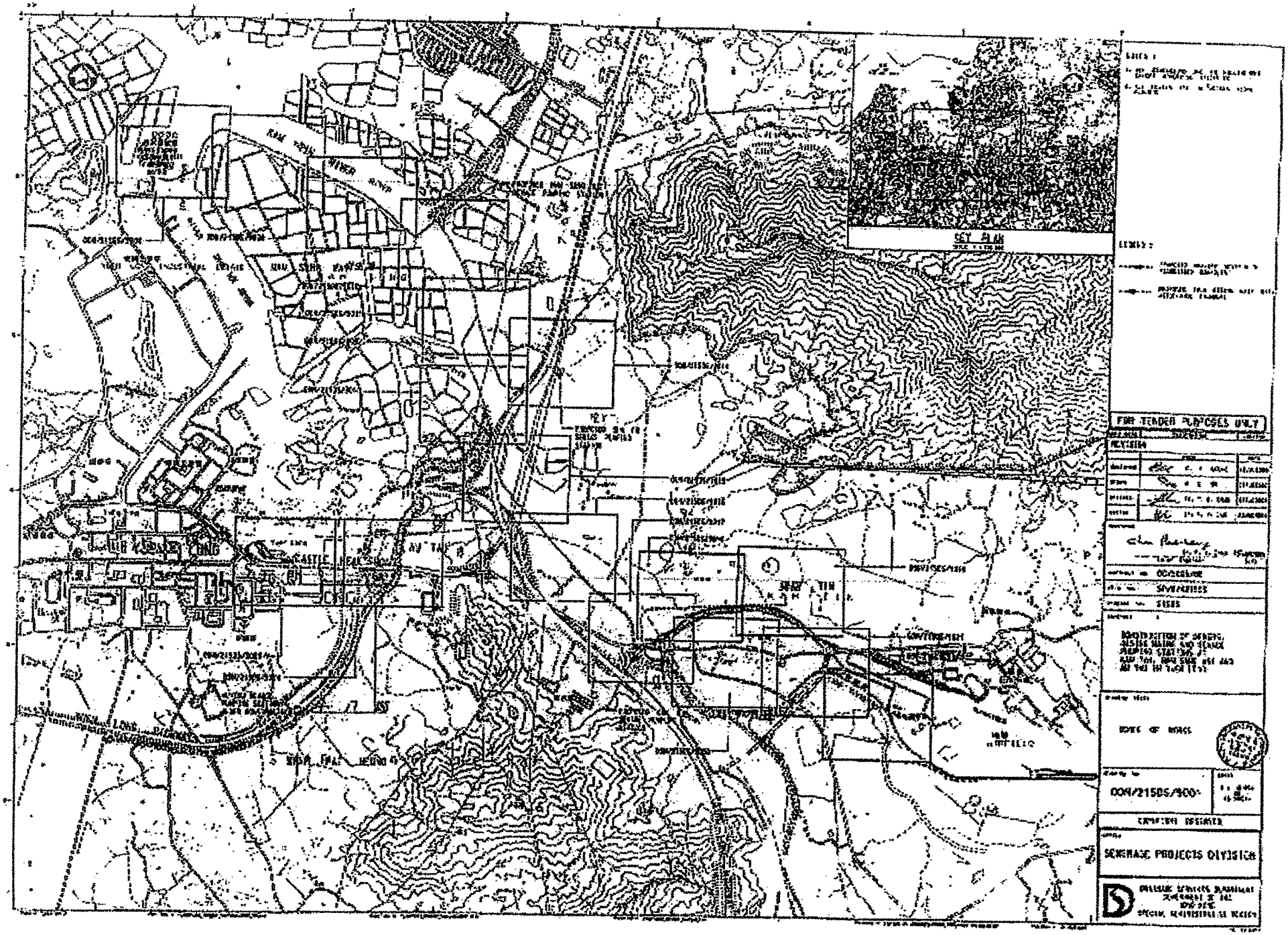
SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on **1, 8, 15, 22 and 31 December 2009** to evaluate the site environmental performance. No non-compliance was found in this month. **Six** observations were recorded from the ET weekly site inspections: an observation was recorded during site inspection on 1, 8 and 31 December 2009; also three observations were found on 22 November 2009. The monthly site audit by the IEC in this reporting month was undertaken on **22 December 2009**. No non-compliance but **2** observations with one reminder was issued by IEC.

7.05 Records of the weekly site inspection and joint IEC site audit are presented in **Annex K**.

ANNEX A

PROJECT SITE LAYOUT

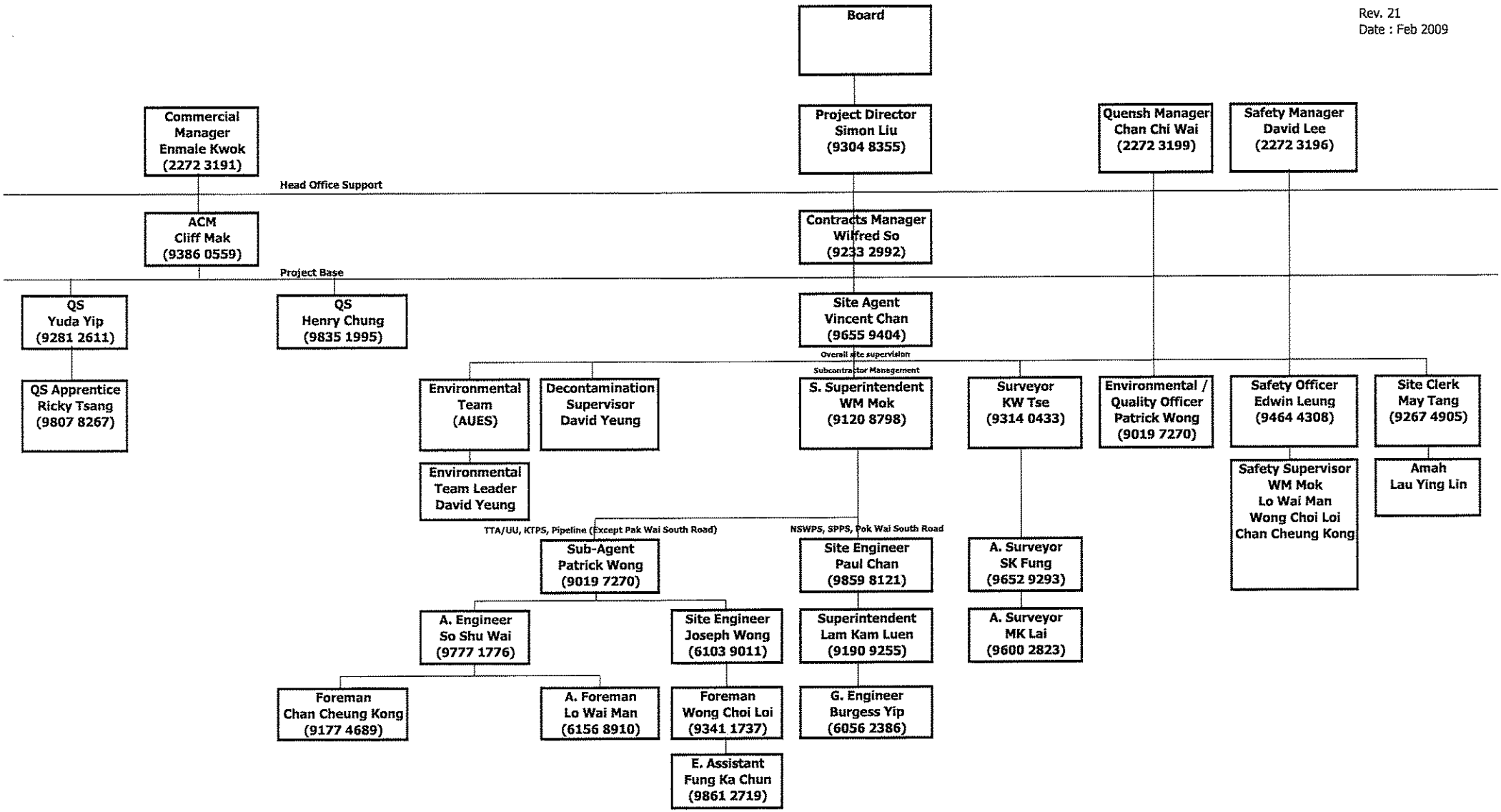

SET PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

ANNEX B

PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

DSD Contract No. DC/2005/02
Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin Nam Sang Wai and Au Tau in Yuen Long
Contractor's Site Organization Chart

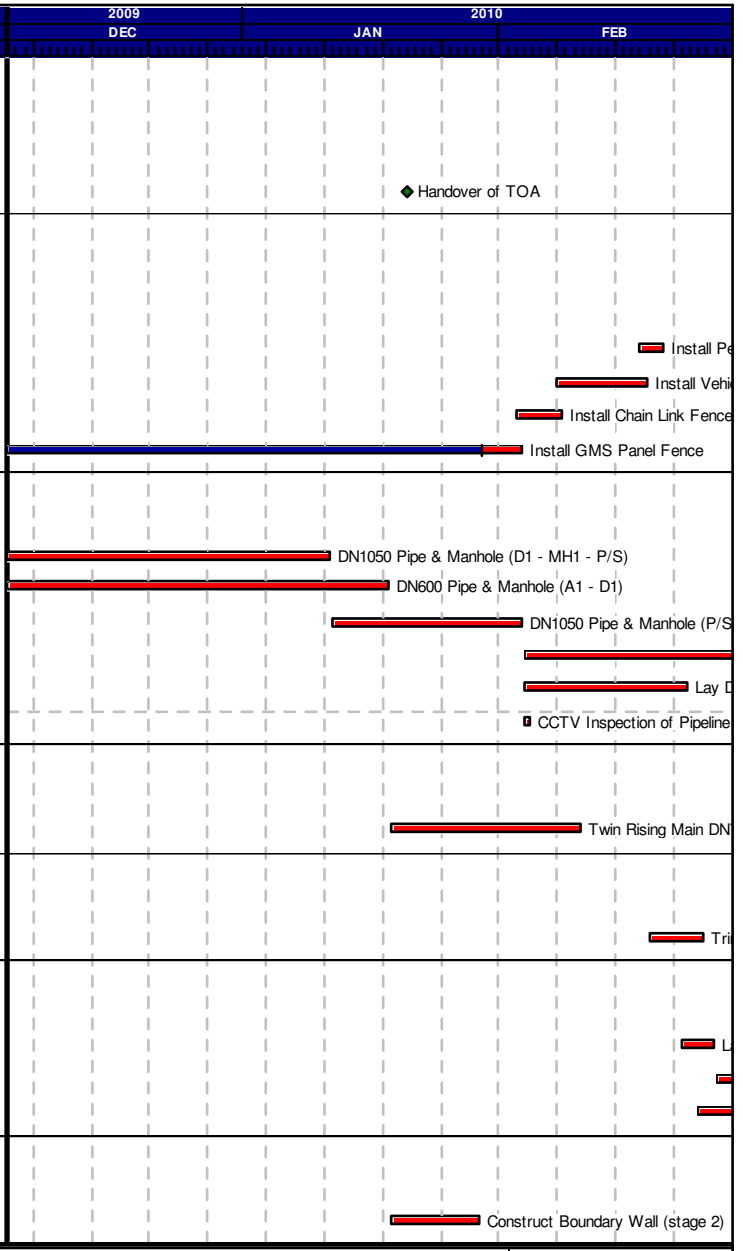
Rev. 21
Date : Feb 2009



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								
CD9000	Handover of TOA	0	0	0		20JAN10		20JAN10 *
Section 1 - Kam Tin Sewage Pumping Station								
Portion A								
Fencing								
S1AD1000	Install Pedestrian Gate	2	0	0	18FEB10	20FEB10	18FEB10	20FEB10
S1AD1100	Install Vehicle Gates	6	0	0	08FEB10	18FEB10	08FEB10	18FEB10
S1AD1200	Install Chain Link Fence	4	0	0	03FEB10	08FEB10	03FEB10	08FEB10
S1AD1300	Install GMS Panel Fence	8	0	60	24SEP09 A	03FEB10	24SEP09 A	03FEB10
Drainage and Ducts								
Trench Method								
S1AEA1000	DN1050 Pipe & Manhole (D1 - MH1 - P/S)	60	0	40	07SEP09 A	11JAN10	07SEP09 A	11JAN10
S1AEA1100	DN600 Pipe & Manhole (A1 - D1)	70	0	40	02SEP09 A	18JAN10	02SEP09 A	18JAN10
S1AEA1200	DN1050 Pipe & Manhole (P/S - Outfall)	20	0	0	12JAN10	03FEB10	12JAN10	03FEB10
S1AEA1400	Construct U-Channel & Catchpits	20	0	0	04FEB10	02MAR10	04FEB10	02MAR10
S1AEA1500	Lay Ducts & Construct Drawpits	14	0	0	04FEB10	23FEB10	04FEB10	23FEB10
S1AEA1900	CCTV Inspection of Pipeline	1	0	0	04FEB10	04FEB10	04FEB10	04FEB10
Pipework - Rising Main								
Trench Method								
S1AFA1000	Twin Rising Main DN700	20	0	0	19JAN10	10FEB10	19JAN10	10FEB10
Earthworks								
S1AG2700	Trim & Compact Formation of Paved Areas	6	0	0	19FEB10	25FEB10	19FEB10	25FEB10
Roads and Pavings								
S1AH1000	Lay 250mm Granular Fill Material Base	4	0	0	23FEB10	26FEB10	23FEB10	26FEB10
S1AH1100	Construct Concrete Paved Areas	18	0	0	27FEB10	19MAR10	27FEB10	19MAR10
S1AH1200	Lay Kerb	4	0	0	25FEB10	01MAR10	25FEB10	01MAR10
In-Situ Concrete								
S1AL2110	Construct Boundary Wall (stage 2)	10	0	0	19JAN10	29JAN10	19JAN10	29JAN10

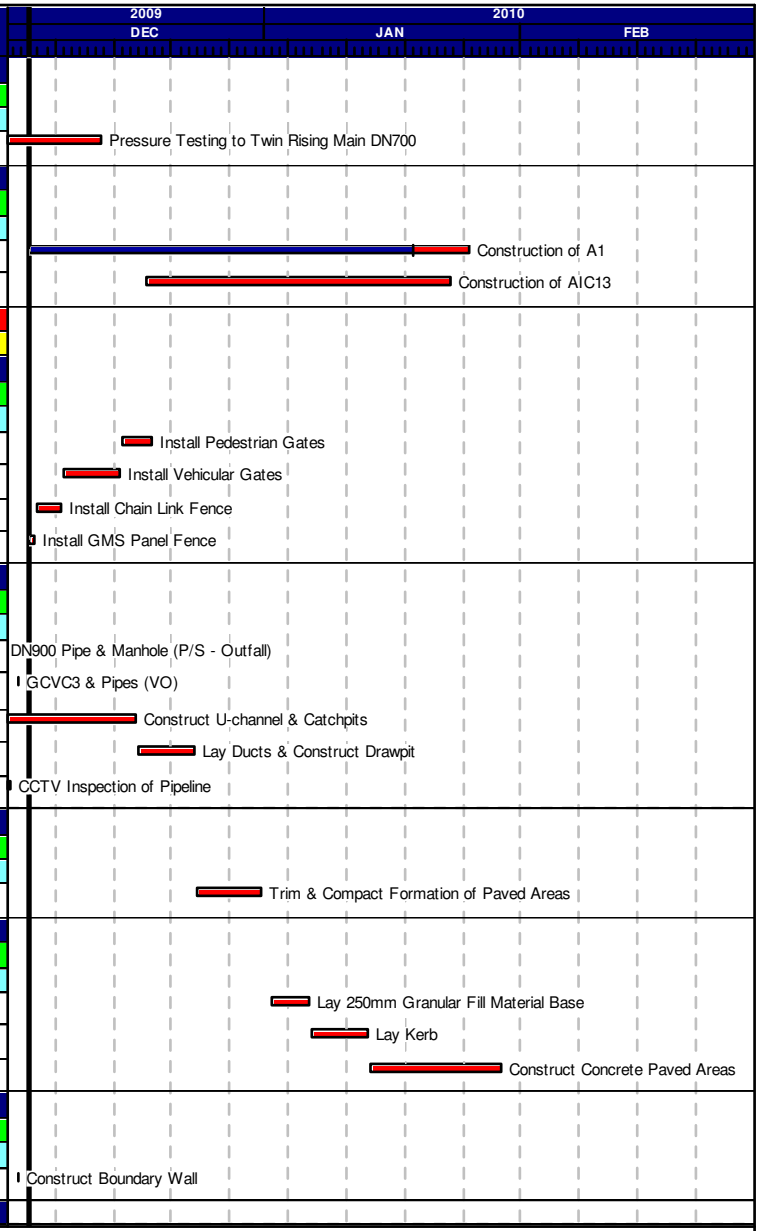


Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	1A
Project name	3M01

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

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
Testing								
S1AS1000	Pressure Testing to Twin Rising Main DN700	12	0	0	30NOV09	12DEC09	30NOV09	12DEC09
Additional Works / Disruption								
Combine A4/AIC10 (Claim No. 183)								
S1AV1240	Construction of A1	30	0	80	24AUG09 A	25JAN10	24AUG09 A	25JAN10
S1AV1250	Construction of AIC13	30	0	0	18DEC09	23JAN10	18DEC09	23JAN10
Section 2 - Sha Po Sewage Pumping Station								
Portion B								
Fencing								
S2BD1000	Install Pedestrian Gates	4	0	0	15DEC09	18DEC09	15DEC09	18DEC09
S2BD1100	Install Vehicular Gates	6	0	0	08DEC09	14DEC09	08DEC09	14DEC09
S2BD1200	Install Chain Link Fence	2	0	0	05DEC09	07DEC09	05DEC09	07DEC09
S2BD1300	Install GMS Panel Fence	7	0	20	10NOV09 A	04DEC09	10NOV09 A	04DEC09
Drainage and Ducts								
Trench Method								
S2BEA1100	DN900 Pipe & Manhole (P/S - Outfall)	12	0	80	10NOV09 A	30NOV09	10NOV09 A	30NOV09
S2BEA1150	GCVC3 & Pipes (VO)	20	0	90	09OCT09 A	02DEC09	09OCT09 A	02DEC09
S2BEA1200	Construct U-channel & Catchpits	16	0	0	28NOV09	16DEC09	28NOV09	16DEC09
S2BEA1300	Lay Ducts & Construct Drawpit	6	0	0	17DEC09	23DEC09	17DEC09	23DEC09
S2BEA1700	CCTV Inspection of Pipeline	1	0	0	01DEC09	01DEC09	01DEC09	01DEC09
Earthworks								
S2BG2300	Trim & Compact Formation of Paved Areas	6	0	0	24DEC09	31DEC09	24DEC09	31DEC09
Roads and Pavings								
S2BH1000	Lay 250mm Granular Fill Material Base	4	0	0	02JAN10	06JAN10	02JAN10	06JAN10
S2BH1050	Lay Kerb	6	0	0	07JAN10	13JAN10	07JAN10	13JAN10
S2BH1100	Construct Concrete Paved Areas	14	0	0	14JAN10	29JAN10	14JAN10	29JAN10
In-Situ Concrete								
S2BL2000	Construct Boundary Wall	47	0	90	12JAN09 A	02DEC09	12JAN09 A	02DEC09
Landscape Softworks and Establishment Works								

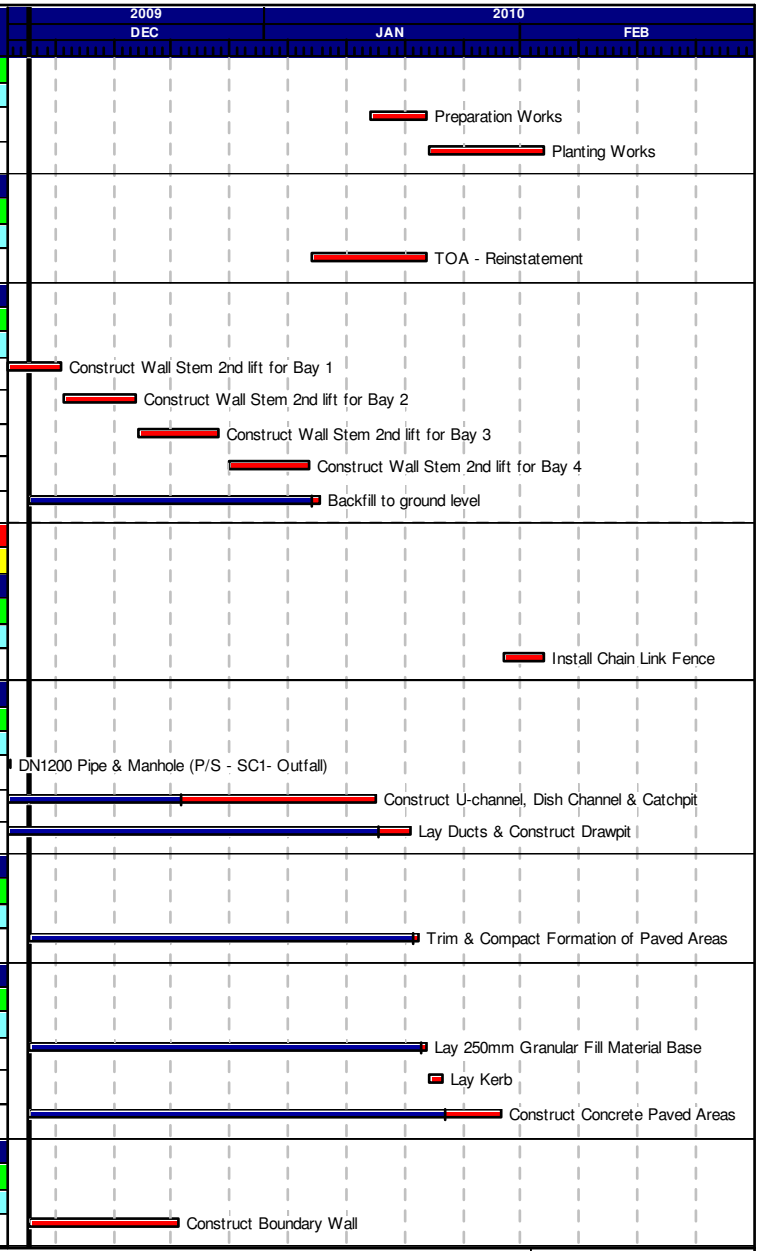


Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	2A
Project name	3M01

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

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
S2BR1000	Preparation Works	6	0	0	14JAN10	20JAN10	14JAN10	20JAN10
S2BR1100	Planting Works	12	0	0	21JAN10	03FEB10	21JAN10	03FEB10
Miscellaneous								
S2BT1700	TOA - Reinstatement	12	0	0	07JAN10	20JAN10	07JAN10	20JAN10
Additonal Works / Disruption								
Revised B/Wall Details at SPPS (Claim No. 030)								
S2BV2150	Construct Wall Stem 2nd lift for Bay 1	8	0	0	28NOV09	07DEC09	28NOV09	07DEC09
S2BV2160	Construct Wall Stem 2nd lift for Bay 2	8	0	0	08DEC09	16DEC09	08DEC09	16DEC09
S2BV2170	Construct Wall Stem 2nd lift for Bay 3	8	0	0	17DEC09	26DEC09	17DEC09	26DEC09
S2BV2180	Construct Wall Stem 2nd lift for Bay 4	8	0	0	28DEC09	06JAN10	28DEC09	06JAN10
S2BV2190	Backfill to ground level	6	0	75	24SEP09 A	07JAN10	24SEP09 A	07JAN10
Section 3 - Nam Sang Wai Sewage Pumping Station								
Portion C								
Fencing								
S3CD1000	Install Chain Link Fence	4	0	0	30JAN10	03FEB10	30JAN10	03FEB10
Drainage and Ducts								
Trench Method								
S3CEA1400	DN1200 Pipe & Manhole (P/S - SC1- Outfall)	50	0	95	02OCT09 A	01DEC09	02OCT09 A	01DEC09
S3CEA1500	Construct U-channel, Dish Channel & Catchpit	27	0	30	26NOV09 A	14JAN10	26NOV09 A	14JAN10
S3CEA1600	Lay Ducts & Construct Drawpit	6	0	50	26NOV09 A	18JAN10	26NOV09 A	18JAN10
Earthworks								
S3CG3000	Trim & Compact Formation of Paved Areas	6	0	70	26SEP09 A	19JAN10	26SEP09 A	19JAN10
Roads and Pavings								
S3CH1000	Lay 250mm Granular Fill Material Base	4	0	70	28OCT09 A	20JAN10	28OCT09 A	20JAN10
S3CH1050	Lay Kerb	2	0	0	21JAN10	22JAN10	21JAN10	22JAN10
S3CH1100	Construct Concrete Paved Areas	20	0	70	10NOV09 A	29JAN10	10NOV09 A	29JAN10
In-Situ Concrete								
S3CL2100	Construct Boundary Wall	24	0	30	05NOV09 A	21DEC09	05NOV09 A	21DEC09



Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	3A
Project name	3M01

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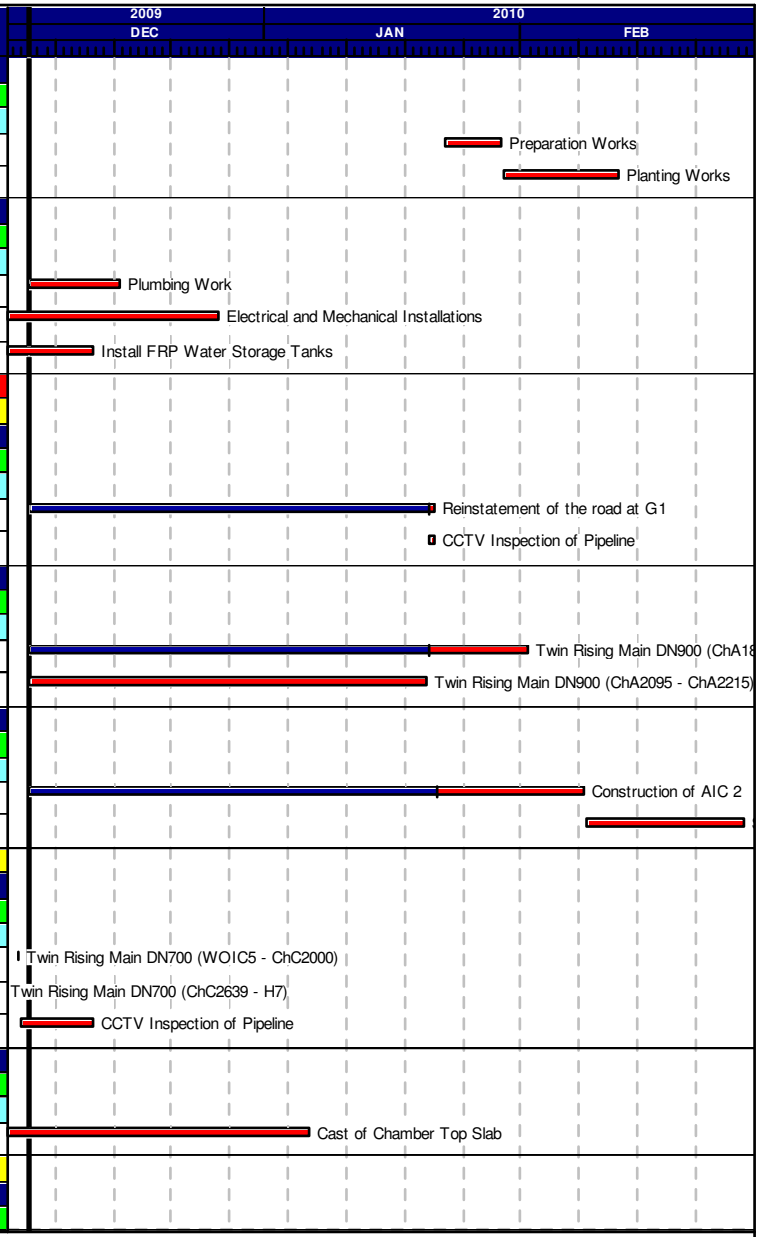
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Landscape Softworks and Establishment Works								
S3CR1000	Preparation Works	6	0	0	23JAN10	29JAN10	23JAN10	29JAN10
S3CR1100	Planting Works	12	0	0	30JAN10	12FEB10	30JAN10	12FEB10
Miscellaneous								
S3CT1300	Plumbing Work	24	0	40	18JUN09 A	14DEC09	18JUN09 A	14DEC09
S3CT1400	Electrical and Mechanical Installations	24	0	0	28NOV09	26DEC09	28NOV09	26DEC09
S3CT1500	Install FRP Water Storage Tanks	12	0	0	28NOV09	11DEC09	28NOV09	11DEC09
Section 4 - Sewers & RM in Portion D, F, G, H, I								
Portion D								
Drainage and Ducts								
Trench Method								
S4DEA1010	Reinstatement of the road at G1	10	0	90	24JUL09 A	21JAN10	24JUL09 A	21JAN10
S4DEA1100	CCTV Inspection of Pipeline	1	0	0	21JAN10	21JAN10	21JAN10	21JAN10
Pipework - Rising Main								
Trench Method								
S4DFA1100	Twin Rising Main DN900 (ChA1850- WOIC1)	101	0	90	15DEC06 A	01FEB10	15DEC06 A	01FEB10
S4DFA1200	Twin Rising Main DN900 (ChA2095 - ChA2215)	148	0	70	20DEC07 A	20JAN10	20DEC07 A	20JAN10
Additonal Works / Disruption								
AIC2								
S4DV1590	Construction of AIC 2	75	0	80	25APR09 A	08FEB10	25APR09 A	08FEB10
S4DV1625	Sheetpile Extraction	14	0	0	09FEB10	27FEB10	09FEB10	27FEB10
Portion F								
Pipework - Rising Main								
Trench Method								
S4FFA1300	Twin Rising Main DN700 (WOIC5 - ChC2000)	80	0	95	05JUN08 A	02DEC09	05JUN08 A	02DEC09
S4FFA2300	Twin Rising Main DN700 (ChC2639 - H7)	52	0	95	29MAY09 A	30NOV09	29MAY09 A	30NOV09
S4FFA2600	CCTV Inspection of Pipeline	8	0	0	03DEC09	11DEC09	03DEC09	11DEC09
Additonal Works / Disruption								
AIC5								
S4FV1060	Cast of Chamber Top Slab	30	0	0	01DEC09	06JAN10	01DEC09	06JAN10
Portion G								
Additonal Works / Disruption								

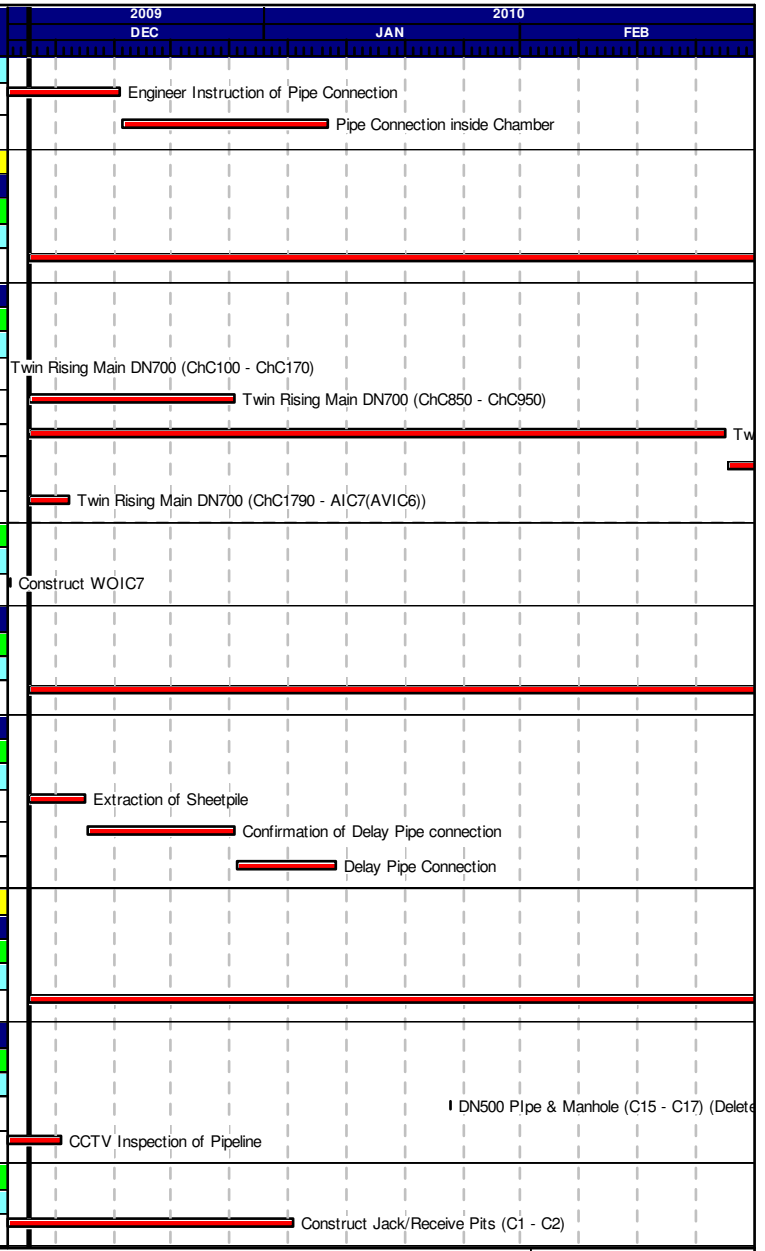


Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	4A
Project name	3M01
c Primavera Systems, Inc.	

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

- 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
AIC6								
S4GV1030	Engineer Instruction of Pipe Connection	14	0	0	28NOV09	14DEC09	28NOV09	14DEC09
S4GV1040	Pipe Connection inside Chamber	20	0	0	15DEC09	08JAN10	15DEC09	08JAN10
Portion H								
Ground Investigation								
S4HB1300	Install Settlement Markers	727	0	85	26MAY06 A	12APR10	26MAY06 A	12APR10
Pipework - Rising Main								
Trench Method								
S4HFA1000	Twin Rising Main DN700 (ChC100 - ChC170)	45	0	95	08OCT08 A	30NOV09	08OCT08 A	30NOV09
S4HFA1800	Twin Rising Main DN700 (ChC850 - ChC950)	125	0	80	14APR09 A	28DEC09	14APR09 A	28DEC09
S4HFA2400	Twin Rising Main DN700 (ChC1450 - ChC1550)	90	0	20	11NOV09 A	25FEB10	11NOV09 A	25FEB10
S4HFA2410	Twin Rising Main DN700 (ChC1550 - ChC1600)	45	0	0	26FEB10	20APR10	26FEB10	20APR10
S4HFA2700	Twin Rising Main DN700 (ChC1790 - AIC7(AVIC6))	90	0	90	22JUN09 A	08DEC09	22JUN09 A	08DEC09
Trenchless Method								
S4HFB1200	Construct WOIC7	60	0	95	11MAY09 A	01DEC09	11MAY09 A	01DEC09
Geotechnical works								
S4HP1000	Monitoring of Instruments	947	0	86	26MAY06 A	08MAY10	26MAY06 A	08MAY10
Additonal Works / Disruption								
S4HV5040	Extraction of Sheetpile	12	0	5	28OCT09 A	10DEC09	28OCT09 A	10DEC09
S4HV5050	Confirmation of Delay Pipe connection	14	0	0	11DEC09	28DEC09	11DEC09	28DEC09
S4HV5060	Delay Pipe Connection	10	0	0	29DEC09	09JAN10	29DEC09	09JAN10
Portion I								
Ground Investigation								
S4IB1300	Install Settlement Markers	736	0	88	26JUN06 A	16MAR10	26JUN06 A	16MAR10
Drainage and Ducts								
Trench Method								
S4IEA1700	DN500 PIpe & Manhole (C15 - C17) (Deleted SA2)	0		100	25JAN10 A	23JAN10 A	25JAN10 A	23JAN10 A
S4IEA2500	CCTV Inspection of Pipeline	8	0	0	28NOV09	07DEC09	28NOV09	07DEC09
Trenchless Method								
S4IEB1000	Construct Jack/Receive Pits (C1 - C2)	30	0	0	28NOV09	04JAN10	28NOV09	04JAN10

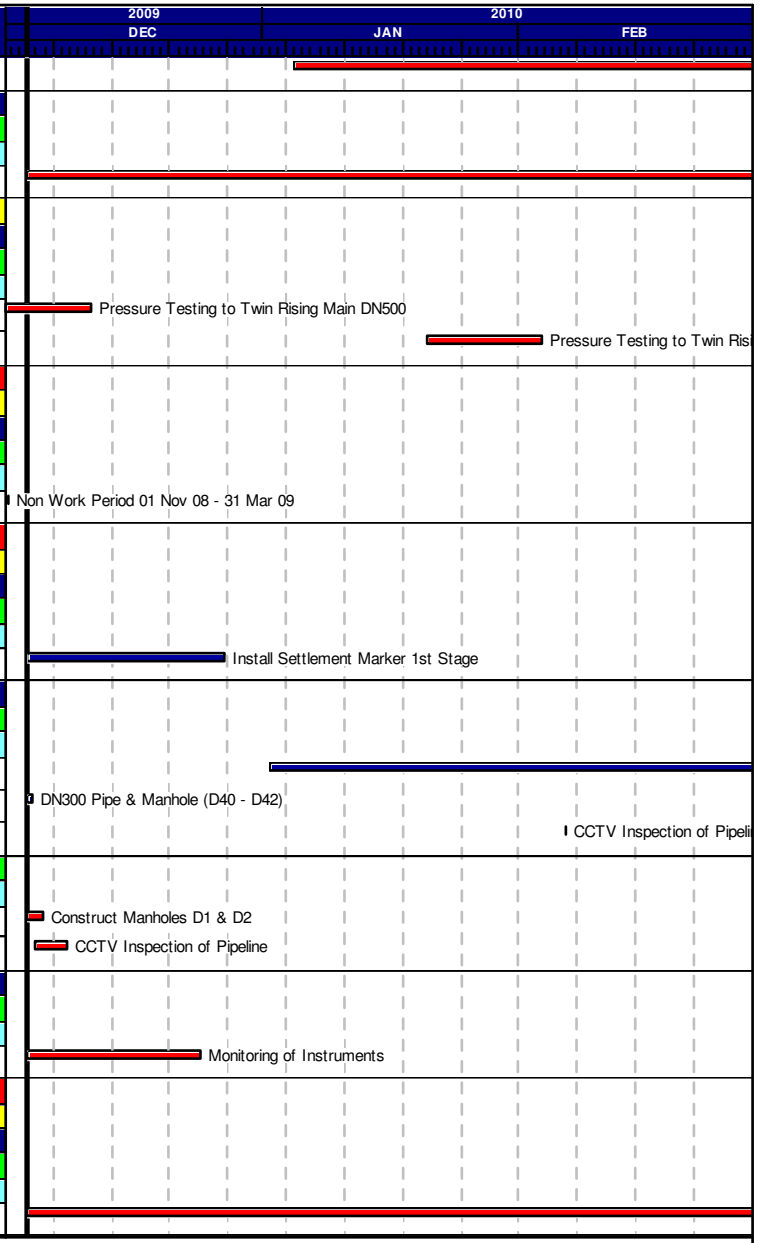


Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	5A
Project name	3M01

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

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

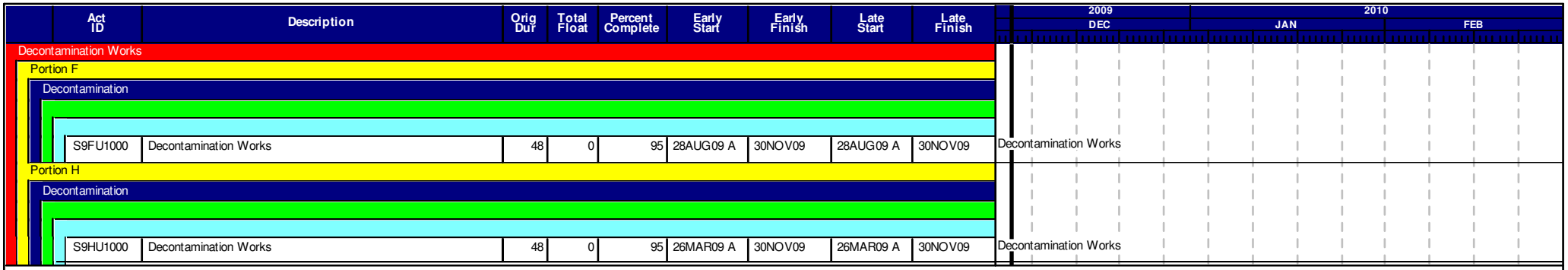
Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4IEB1020	Jacking DN500 (C1 - C2)	78	0	0	05JAN10	09APR10	05JAN10	09APR10
Geotechnical works								
S4IP1000	Monitoring of Instruments	827	0	85	28JUN06 A	29APR10	28JUN06 A	29APR10
Miscellaneous								
Testing								
S4PS1100	Pressure Testing to Twin Rising Main DN500	12	0	0	28NOV09	11DEC09	28NOV09	11DEC09
S4PS1300	Pressure Testing to Twin Rising Main DN900	12	0	0	21JAN10	03FEB10	21JAN10	03FEB10
Section 5 - Sewers & RM in Portion E								
Portion E								
Preliminaries								
S5EA1300	Non Work Period 01 Nov 08 - 31 Mar 09	121	0	98	01NOV08 A	01DEC09	01NOV08 A	01DEC09
Section 6 - Sewers in Portion J								
Portion J								
Ground Investigation								
S6JB1500	Install Settlement Marker 1st Stage	765		100	20APR06 A	27DEC09 A	20APR06 A	27DEC09 A
Drainage and Ducts								
Trench Method								
S6JEA1000	DN500 Pipe & Manhole (C1 - D2) (Deleted SA2)	0		100	02JAN10 A	09APR10 A	02JAN10 A	09APR10 A
S6JEA3200	DN300 Pipe & Manhole (D40 - D42)	0		100	09JAN08 A	04DEC09 A	09JAN08 A	04DEC09 A
S6JEA4800	CCTV Inspection of Pipeline	0		100	08FEB10 A	06FEB10 A	08FEB10 A	06FEB10 A
Trenchless Method								
S6JEB1040	Construct Manholes D1 & D2	25	0	75	28AUG09 A	05DEC09	28AUG09 A	05DEC09
S6JEB1300	CCTV Inspection of Pipeline	2	0	0	05DEC09	08DEC09	05DEC09	08DEC09
Geotechnical works								
S6JP1000	Monitoring of Instruments	1152	0	98	21APR06 A	24DEC09	21APR06 A	24DEC09
Section 8 - Preservation and Protection of Trees								
All Portions								
Landscape Softworks and Establishment Works								
S8QR1100	Preservation & Protection of Preserved Trees	1192	0	88	29JUL06 A	21MAY10	29JUL06 A	21MAY10



Start date	19DEC05
Finish date	21MAY10
Data date	28NOV09
Page number	6A
Project name	3M01

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

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



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Finish date	21MAY10
Data date	28NOV09
Page number	7A
Project name	3M01

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 Nov 2009

- 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

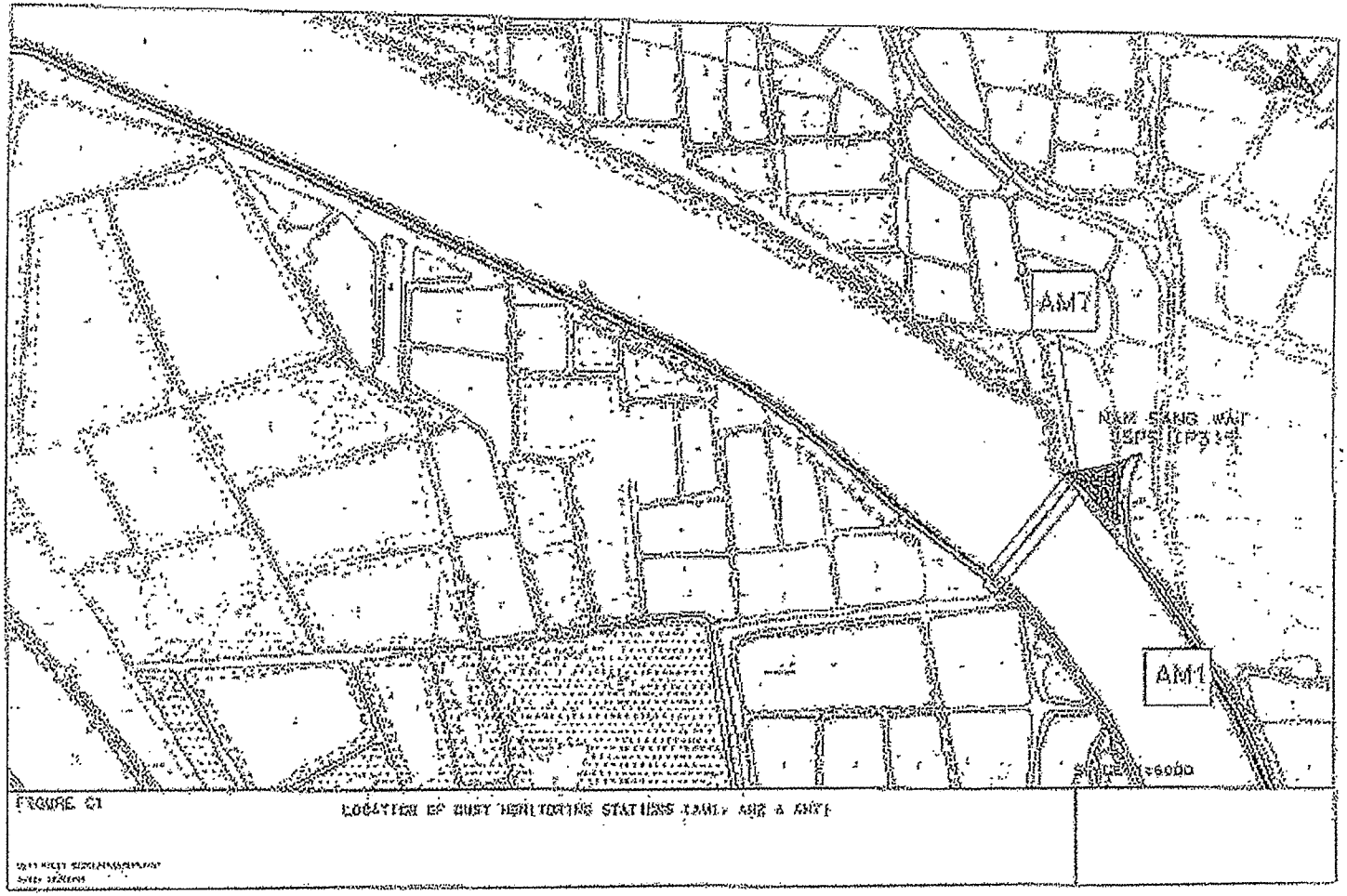


FIGURE 01 LOCATION OF DUST MONITORING STATIONS AM1 AND A AM1

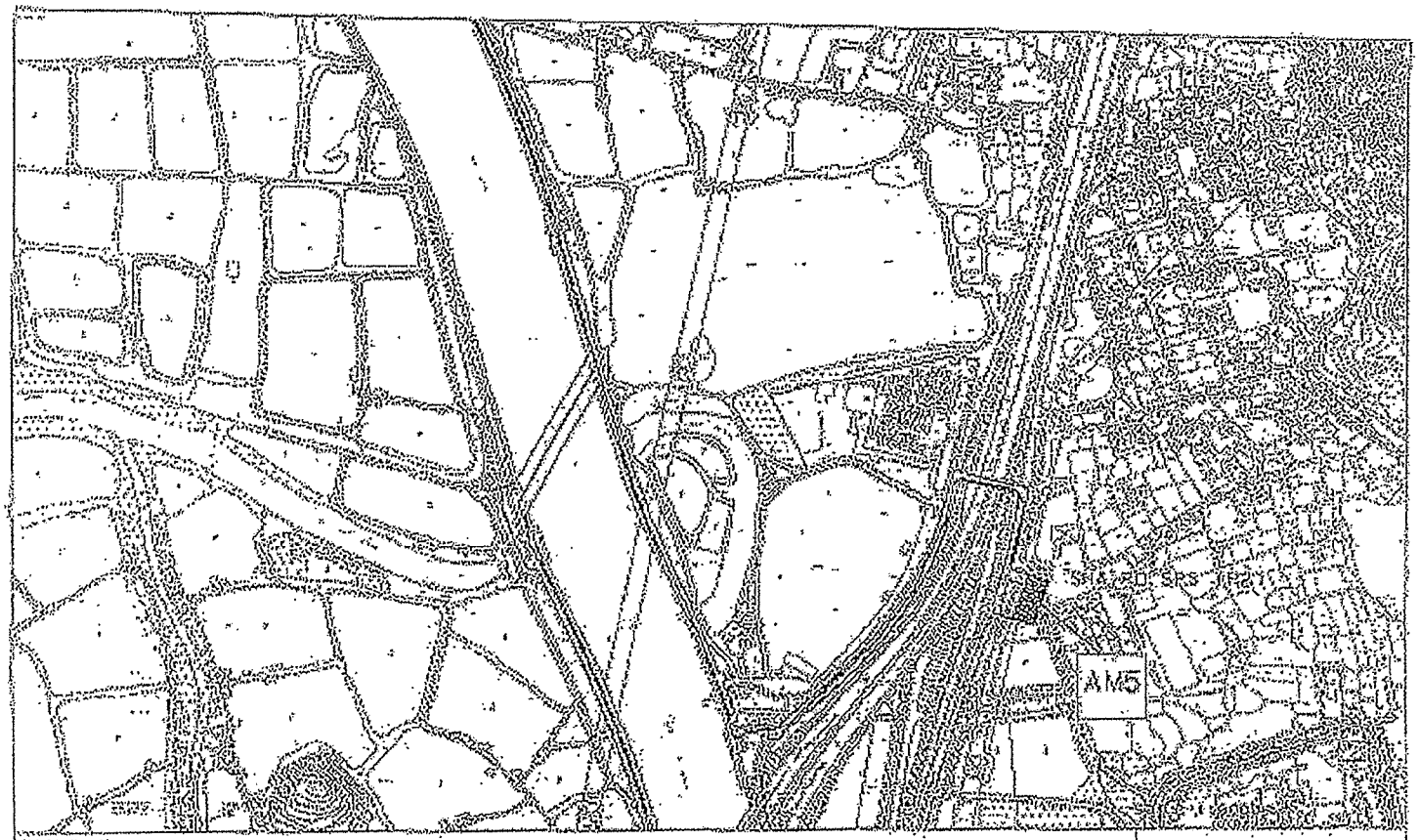


FIGURE 02

LOCATION OF DUST MONITORING STATIONS (AM5)

FIGURE 6.0 LOCATION OF DUST MONITORING STATIONS (AQM1, AMS & AQM10)

FIGURE 4.7 LOCATION OF NOISE MONITORING STATIONS (N01, N02, N03, N04)

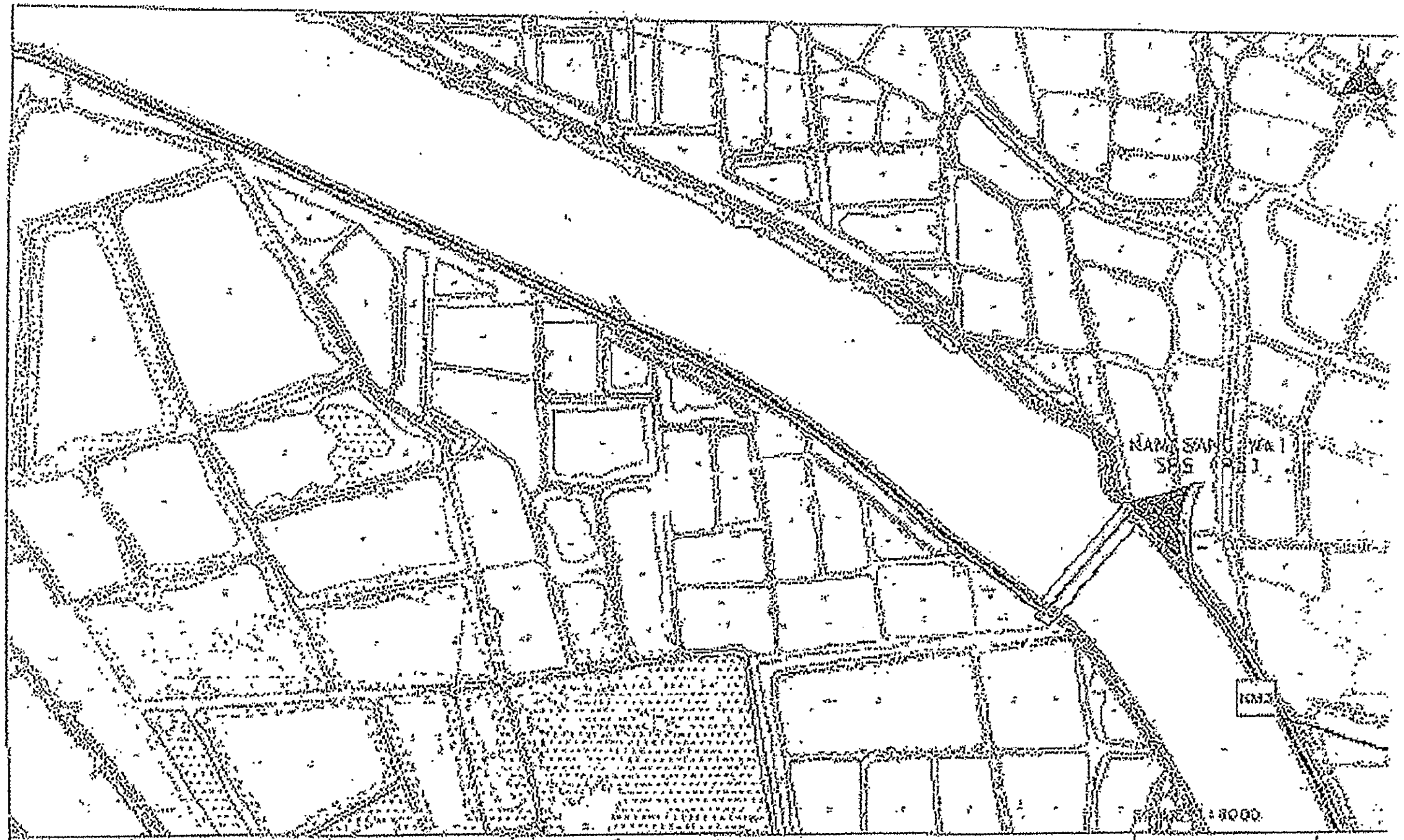


FIGURE C8

LOCATION OF NOISE MONITORING STATIONS

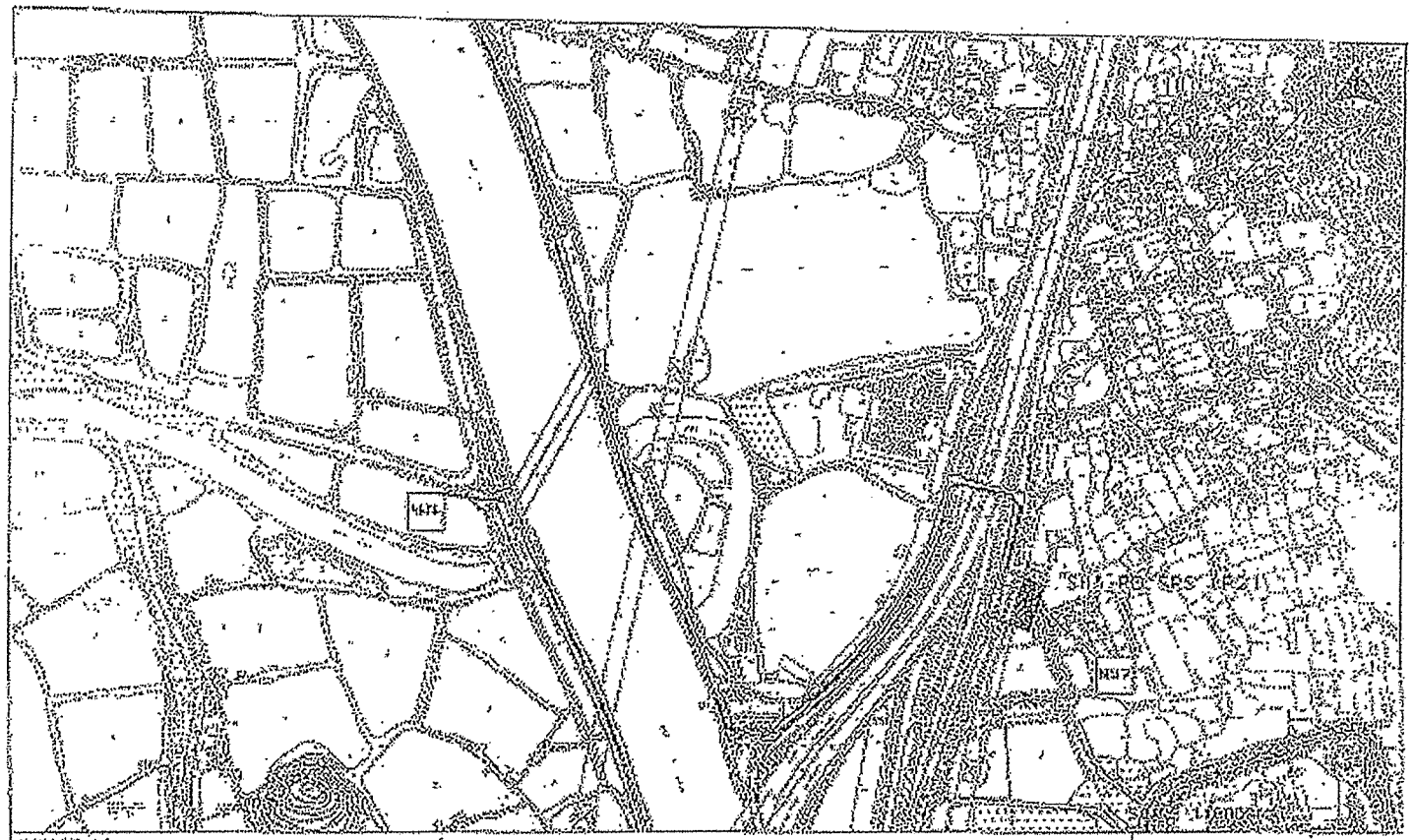


FIGURE 20.

LOCATION OF NOISE MONITORING STATIONS (NM1, NM2)

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.								
3.7	I1	**EM&A REQUIEMENTS - *Construction Phase*** *Air Quality* 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	
4.9.1	I2	• at any additional locations, where considered necessary, in agreement with EPD. *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)	9 Nov 09	9 Jan 10
2*		Greasby Anderson GMWS2310 High Volume Sampler	(AM5)	30 Nov 09	30 Jan 10
3*		Greasby Anderson GMWS2310 High Volume Sampler	(AM6)	30 Nov 09	30 Jan 10
4#		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	2 Oct 09	Upon power supply resume
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2326408	28 Apr 09	28 Apr 10
6		Bruel & Kjaer 2238 Integrating Sound Level Meter	T212509	28 Apr 09	28 Apr 10

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.
- # No power was received starting from 16 November 2009 till present, thus equipment could not be re-calibrated.

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Sha Po Pumping Station
Location ID : AM5

Date of Calibration: 30-Nov-09
Next Calibration Date: 30-Jan-10
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1021.4	Corrected Pressure (mm Hg)	766.05
Temperature (°C)	20.2	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	515N	Qstd Intercept ->	-0.02851
Serial # ->	355		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	5.2	5.2	10.4	1.634	47	47.96
13	4.3	4.3	8.6	1.487	42	42.86
10	3.3	3.3	6.6	1.304	33	33.67
7	2.2	2.2	4.4	1.068	25	25.51
5	1.3	1.3	2.6	0.824	19	19.39

LINEAR REGRESSION
Slope = 36.2170
Intercept = #######
Corr. coeff. = 0.9931

Calculations :

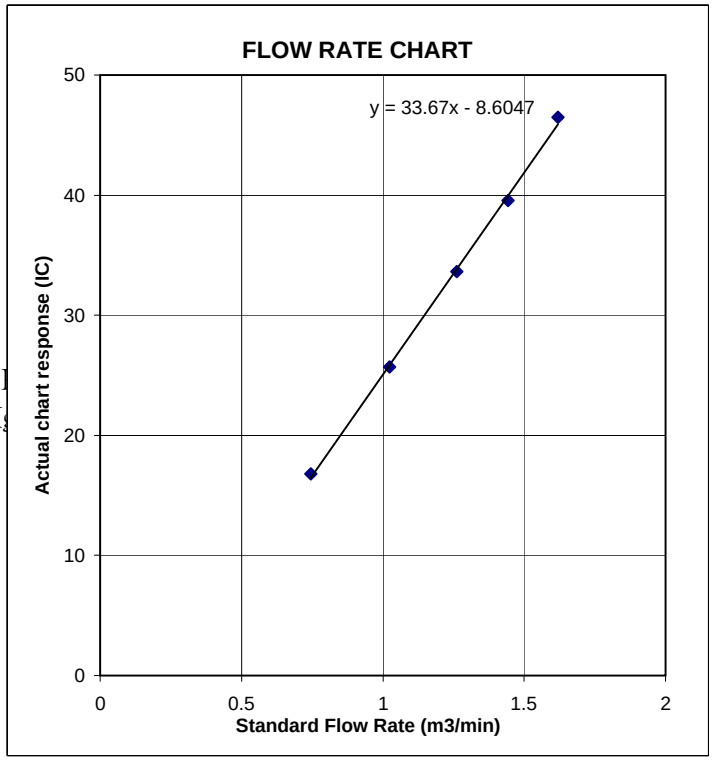
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tai Hing Car Shop (Scattered House near Route 3) Date of Calibration: 30-Nov-09
Location ID : AM 6 Next Calibration Date: 30-Jan-10
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1021.4	Corrected Pressure (mm Hg)	766.05
Temperature (°C)	20.2	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	515N	Qstd Intercept ->	-0.02851
Serial # ->	10394		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.3	5.3	10.6	1.649	50	51.02	Slope = 36.7112
13	3.7	3.7	7.4	1.380	39	39.80	Intercept = -10.0566
10	2.6	2.6	5.2	1.159	31	31.63	Corr. coeff. = 0.9956
7	1.6	1.6	3.2	0.913	25	25.51	
5	0.9	0.9	1.8	0.688	14	14.29	

Calculations :

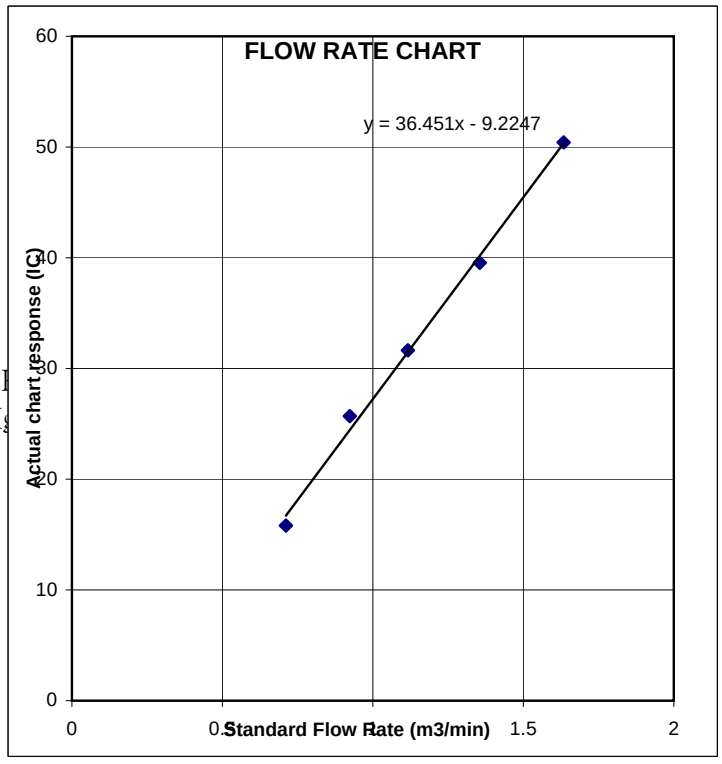
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

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

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



ANNEX I

METEOROLOGICAL DATA

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

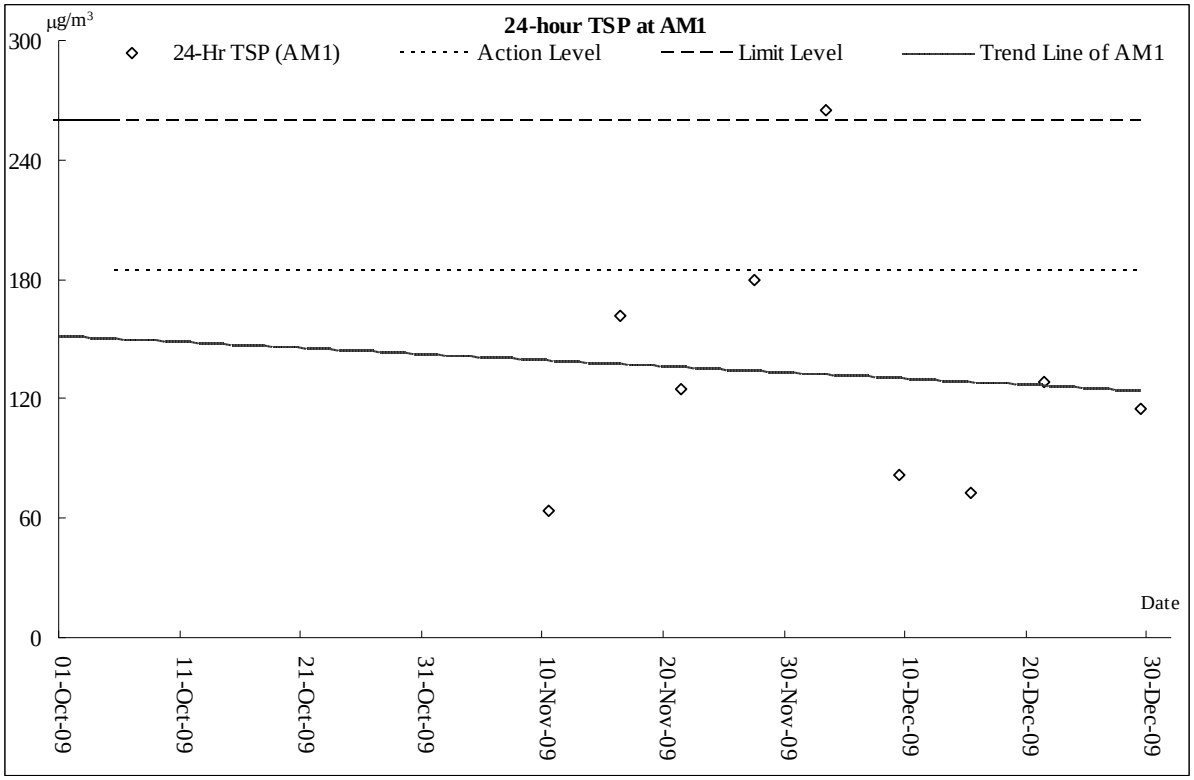
Date		Weather	Total Rain fall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Dec-09	Tue	Mainly fine but hazy. Moderate northeasterly winds, becoming fresh northerlies tonight.	0	17.5	10	66.5	E
2-Dec-09	Wed	Fine and dry. Moderate to fresh north to northeasterly winds.	0	19.2	11.2	67.5	E/NE
3-Dec-09	Thu	Fine and dry. Cool in the morning. Moderate to fresh north to northeasterly winds.	0	16.5	19.2	64.7	N/NE
4-Dec-09	Fri	Fine and dry apart from some haze. Cool overnight. Moderate east to northeasterly winds, fresh at times.	0	16.6	12.5	55	E
5-Dec-09	Sat	Very dry in the afternoon. Moderate northerly winds, becoming fresh easterlies later.	0	17.4	10.7	52	E/NE
6-Dec-09	Sun	Cloudy. Fresh easterly winds, occasionally strong over offshore waters.	Trace	18.9	11.5	59.2	E/NE
7-Dec-09	Mon	Mainly cloudy with a few rain patches. Moderate northeasterly winds.	5.5	17.2	13.7	83.5	E/NE
8-Dec-09	Tue	Mainly cloudy with a few rain patches. Moderate north to northeasterly winds.	14.1	18	14	90.5	E/NE
9-Dec-09	Wed	Mainly fine apart from relatively low visibility at first. Light to moderate north to northeasterly winds	0.4	18.6	6.5	88	E/NE
10-Dec-09	Thu	Mainly fine apart from some haze	Trace	19.3	9.5	83.5	N/NW
11-Dec-09	Fri	Sunny periods. Visibility relatively low at first. Light winds, becoming moderate easterlies tonight.	Trace	20.5	8	78	E/SE
12-Dec-09	Sat	Sunny periods. Moderate to fresh easterly winds.	Trace	22.4	12	72.5	E
13-Dec-09	Sun	Cloudy with a few rain patches. Moderate easterly winds, becoming fresh northerlies later in the afternoon.	0	19.8	9.7	81.5	E/SE
14-Dec-09	Mon	Mainly cloudy. Visibility rather low. Moderate to fresh easterly winds.	1	21	16	78.7	E
15-Dec-09	Tue	Moderate northerly winds, occasionally fresh over offshore waters.	9.6	18.7	18	81.7	E/NE
16-Dec-09	Wed	Cloudy with a few rain patches at first. It will be cold. Fresh northerly winds.	3.8	12.4	17.5	80.5	NE
17-Dec-09	Thu	Sunny intervals and dry tomorrow with a maximum temperature of around 15 degrees.	Trace	11.1	18	75	N
18-Dec-09	Fri	Mainly cloudy and cold. Dry during the day.	Trace	10.9	14.4	67.7	NE
19-Dec-09	Sat	Cold and dry. Cloudy at first. Sunny periods during the day. .	0	12.7	13.4	57.2	NE
20-Dec-09	Sun	Mainly cloudy. Very dry with sunny periods in the afternoon.	0	12.7	14.2	36.7	N/NE
21-Dec-09	Mon	Cloudy and dry. Sunny periods during the day.	0	14	12.2	42	E/NE
22-Dec-09	Tue	Sunny periods. Moderate easterly winds.	0	16	10.8	69	E
23-Dec-09	Wed	Cloudy. Sunny periods tomorrow. Moderate easterly winds.	0	19.2	15	68	E/NE
24-Dec-09	Thu	Mainly fine. Moderate easterly winds.	0	18.9	11.6	82.5	W/SW
25-Dec-09	Fri	Holiday					
26-Dec-09	Sat	Holiday					
27-Dec-09	Sun	Mainly cloudy. Cold in the morning. Moderate north to northeasterly winds.	3.1	15.5	19.5	78.5	E/NE
28-Dec-09	Mon	Cloudy with a few rain patches. It will be cool. Moderate to fresh easterly winds.	5.7	10.2	15	73.5	N/NE
29-Dec-09	Tue	Cloudy with a few rain patches and mist. It will be cool.	3.5	14.8	9.2	88.5	E/NE
30-Dec-09	Wed	Cloudy with a few rain patches and mist. Fresh easterly winds, strong over offshore waters.	2.5	16.3	9.5	90.5	E/NE
31-Dec-09	Thu	Sunny periods. Visibility relatively low. Light to moderate easterly winds.	1	14.6	12.2	90	E/NE

ANNEX J

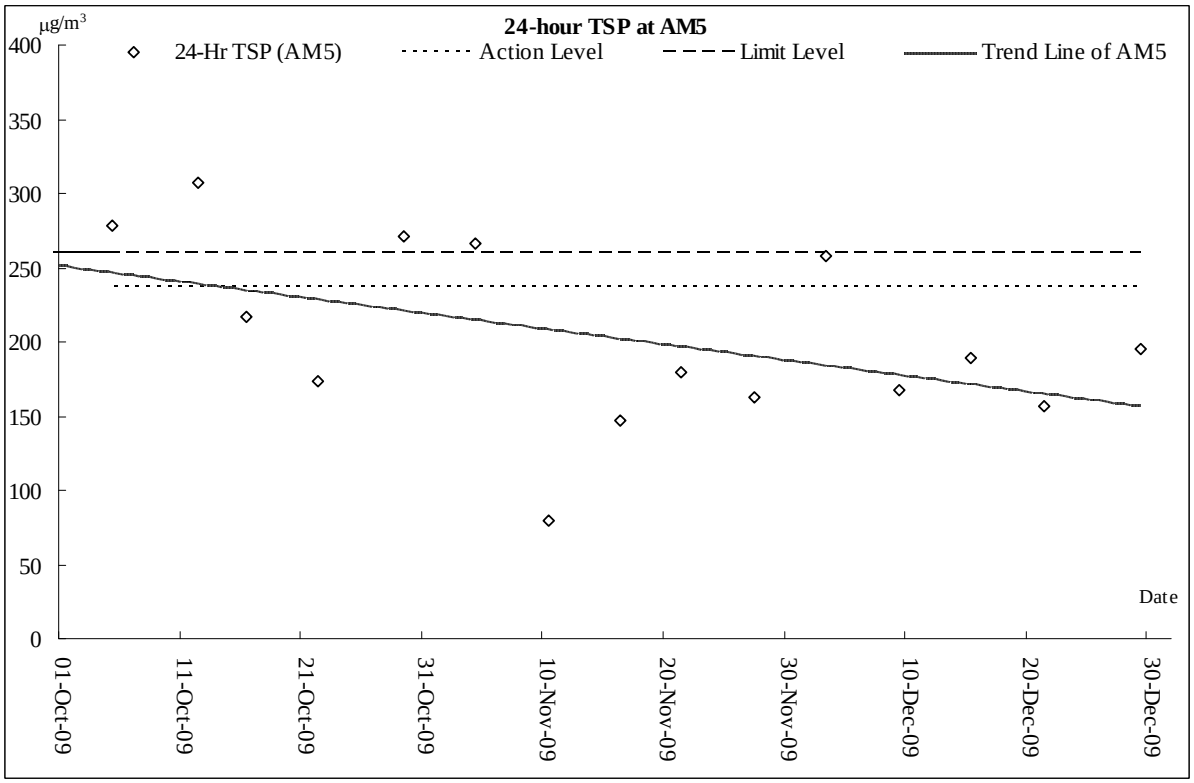
GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING RESULTS

AIR QUALITY

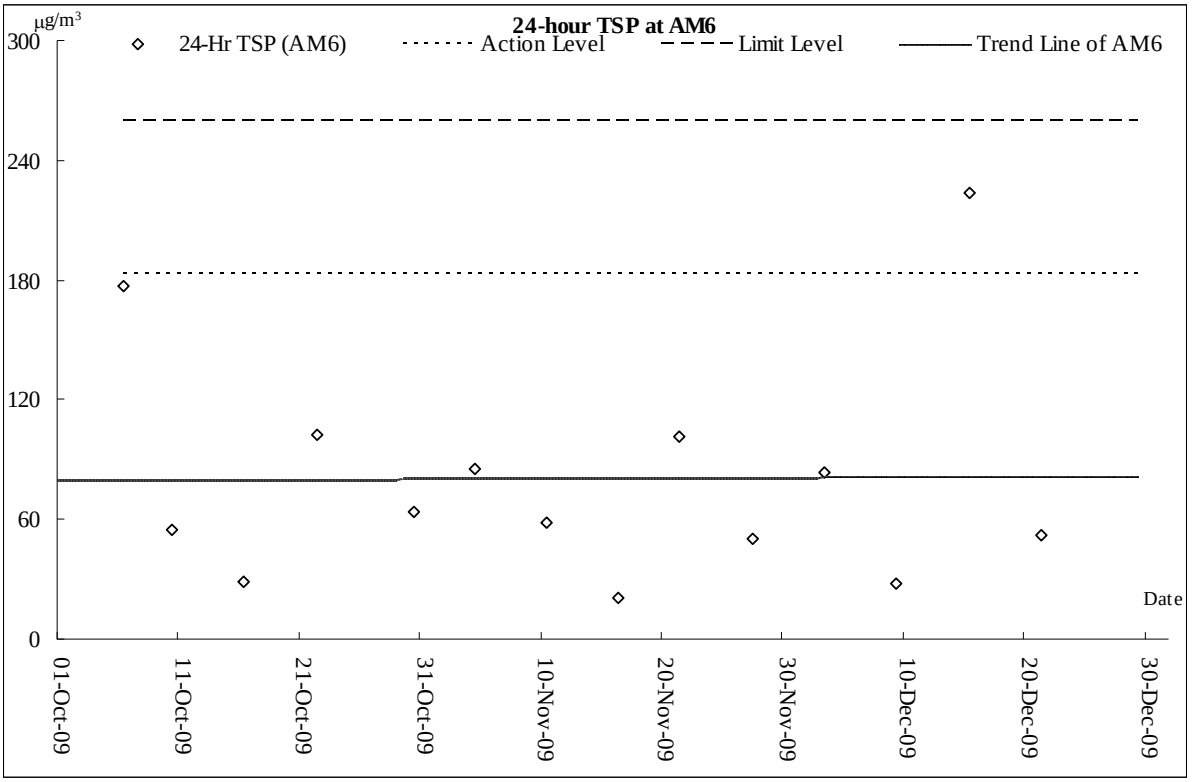
Air Quality Monitoring Results



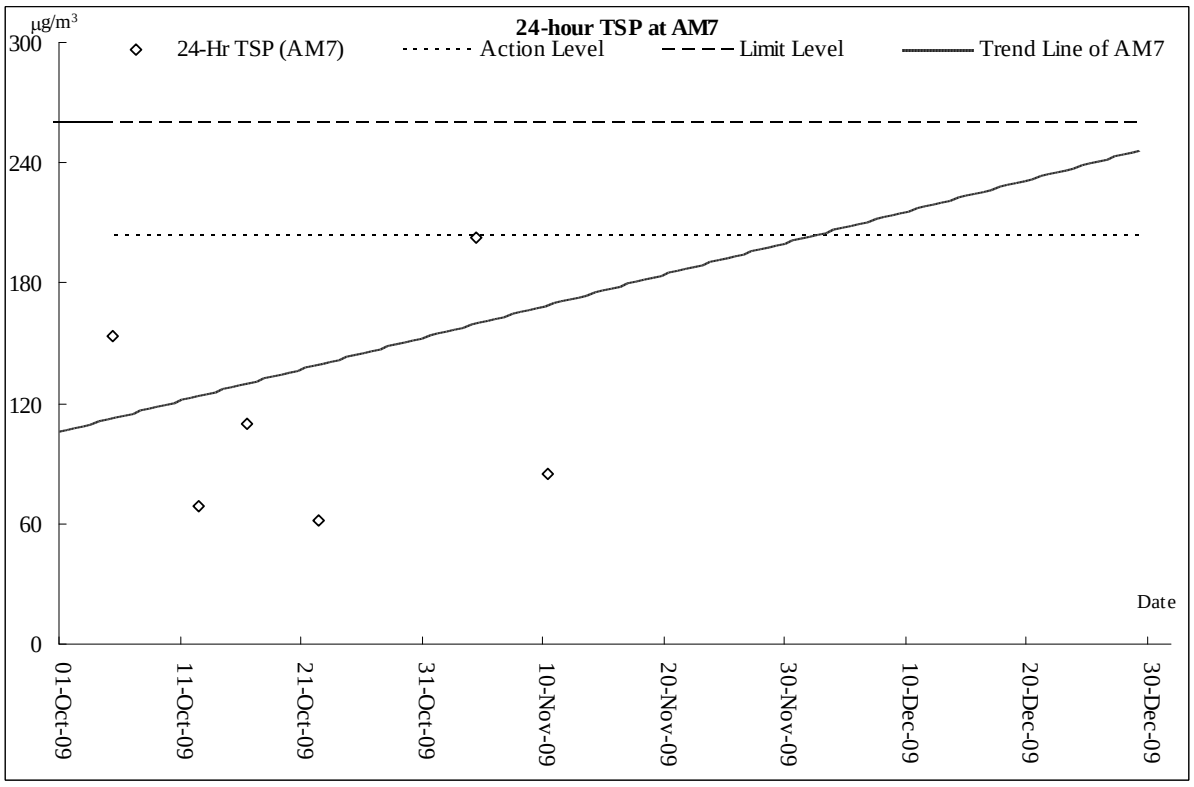
Note: power failure occurred on 9 and 4 November 2009, therefore no result on plotting is shown.



Air Quality Monitoring Results



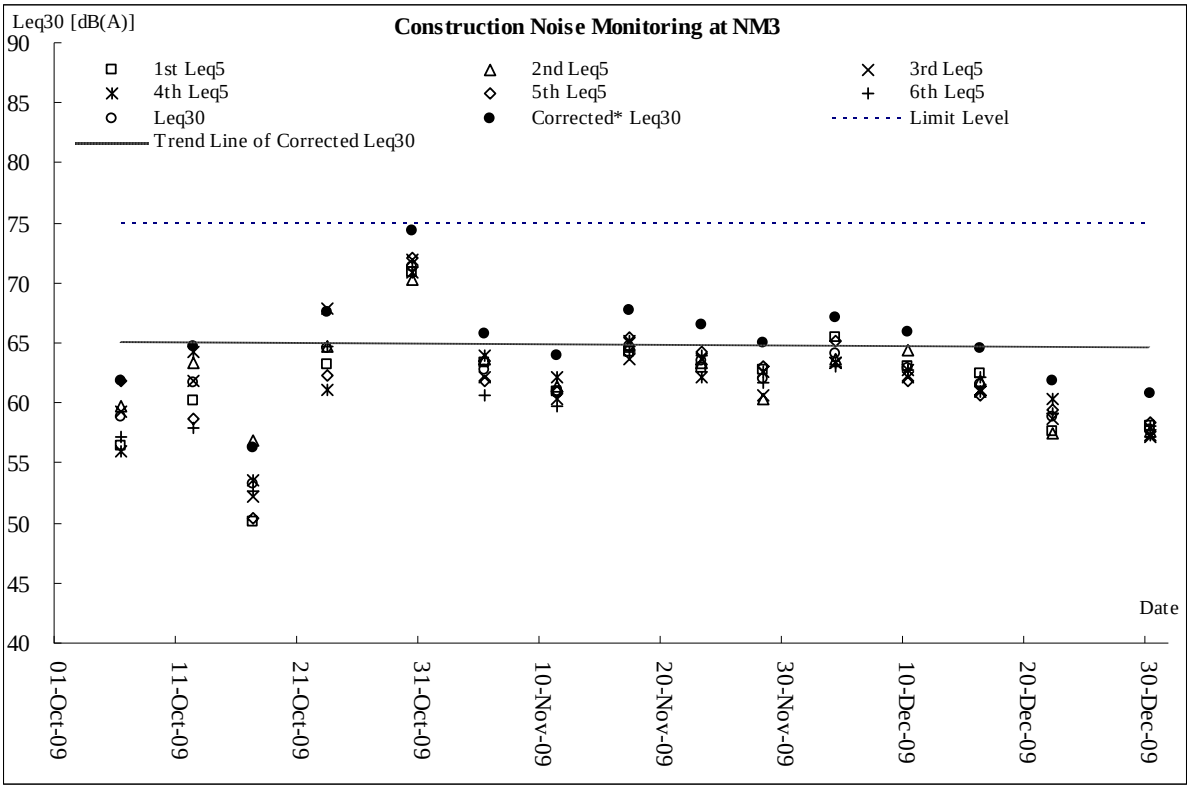
Note: power failure occurred on 29 December 2009.

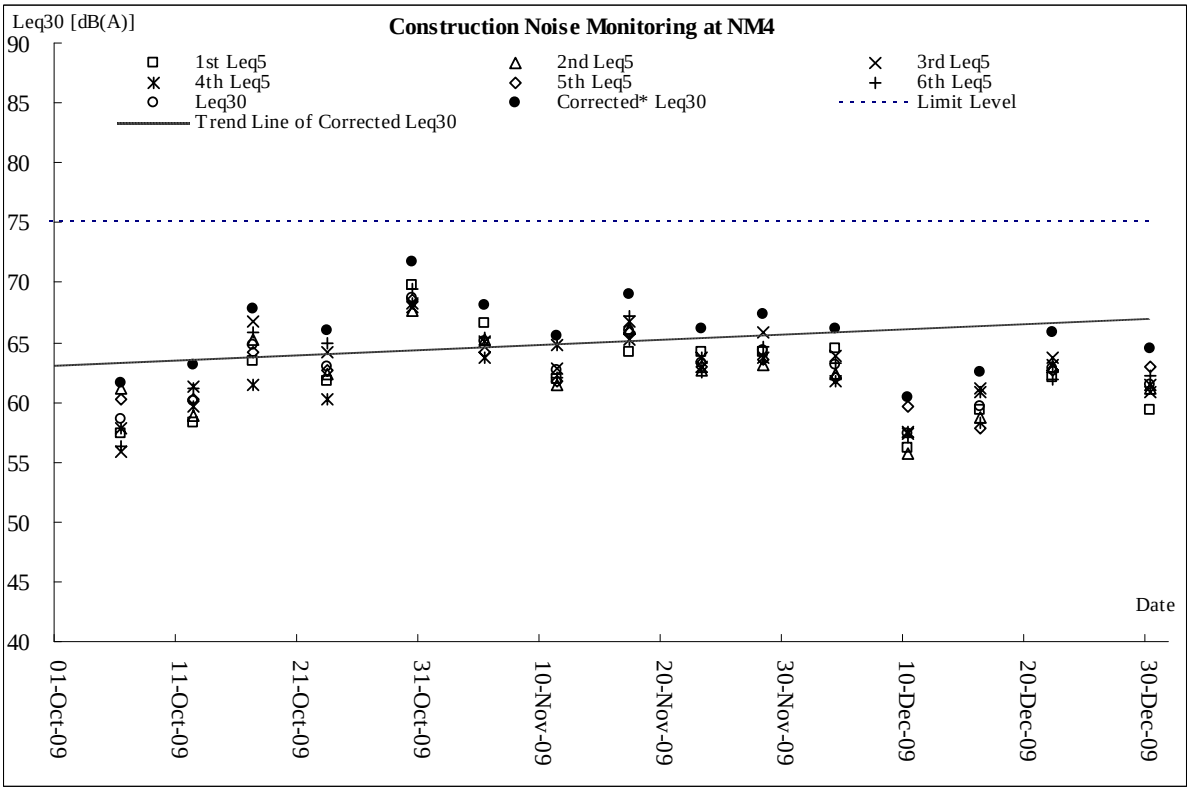


Note: power failure occurred between 16 November and 31 December 2009, therefore no result on plotting is shown.

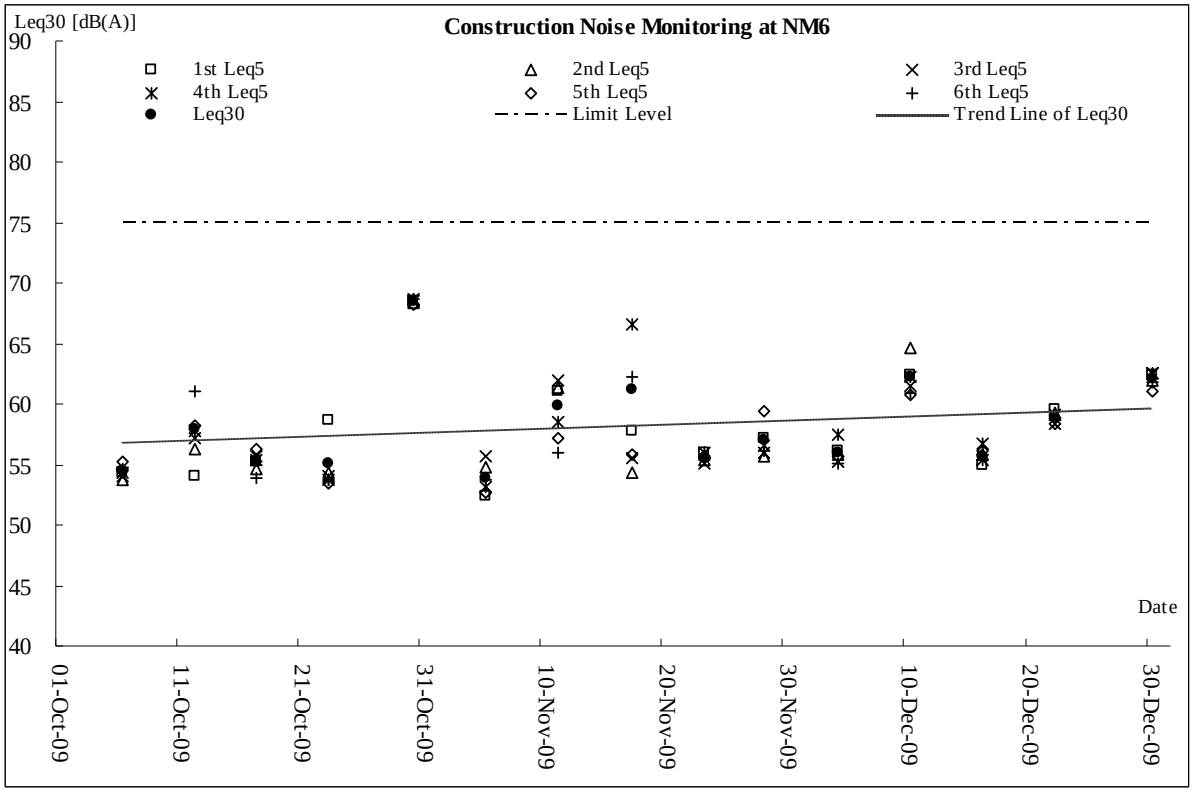
CONSTRUCTION NOISE

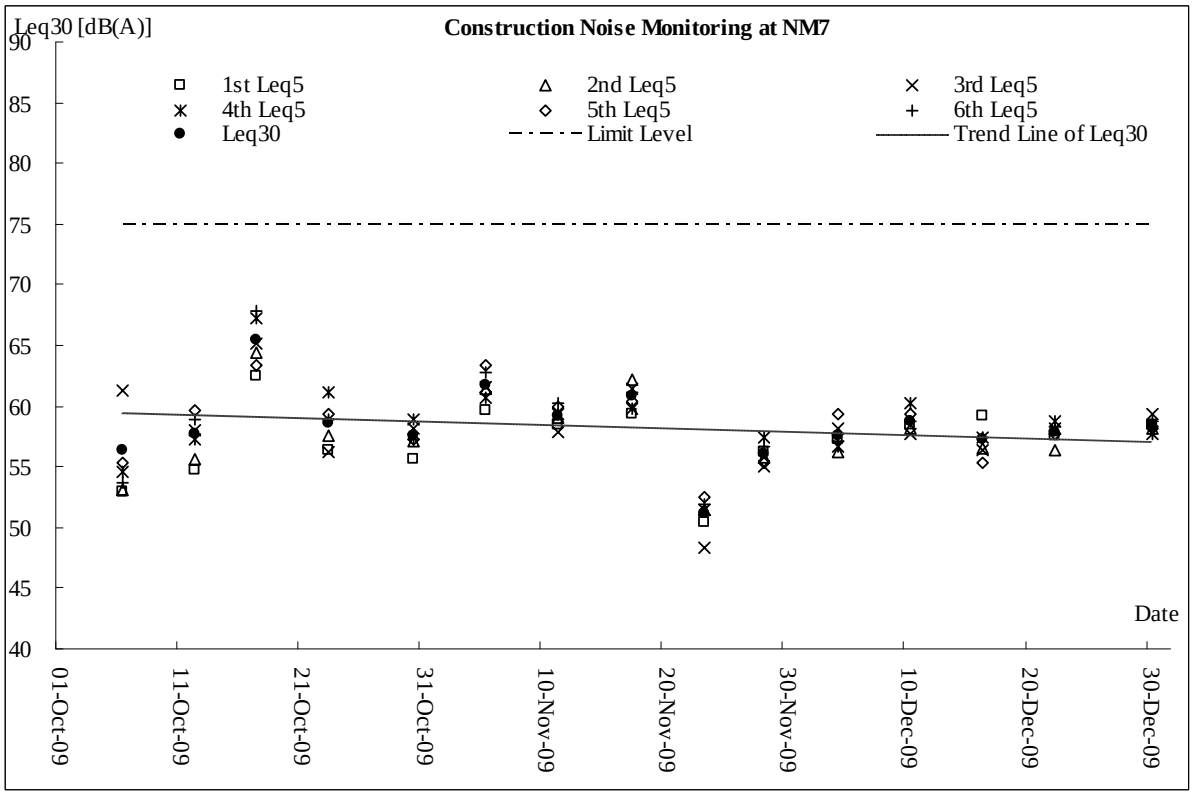
Construction Noise Monitoring Results





Construction Noise Monitoring Results





ANNEX K

PROFORMA OF SITE INSPECTION & IEC AUDIT

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 MacDonald Hong Kong Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**1 December 2009 (10:00)**
	RE's Rep:	**Checklist Reference No.:**	**DSD-AT011209**

General Meteorological Information

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

Temp: [19] °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 [✓] NA

[ ] Loading/unloading of materials [ ] Others

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?					✓	Remark 1
	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?					✓	Remark 1
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?	✓					
	Is chemical waste stored properly?	✓					
	Is there proper disposal?	✓					
	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 bounded 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:

Follow up
Stock pile at Nam San Wai Road was covered.
Stagnant water inside the u-channel at Nam San Wai was cleaned

Observations Recorded in this Site Inspection:

1. C&D and general waste was scattered near the river edge at Nam San Wai Road, the contractor was reminded to clean.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Witness by RE's Representative
Name : Ben Tam	Name: Edwin Leung	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 MacDonald Hong Kong Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**8 December 2009 (10:00)**
	RE's Rep:	**Checklist Reference No.:**	**DSD-AT081209**

General Meteorological Information

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

Temp: [18] °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?					✓	Remarks 2
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 [✓] NA

[ ] Loading/unloading of materials [ ] Others

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 bounded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?					✓	Remarks 1
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

Follow up

C&D and general waste at Nam San Wai Road was cleaned

Observations Recorded in this Site Inspection:

1. Free standing chemical container without drip tray was observed at Nam San Wai Road, the contractor was reminded to provide drip tray for all chemical containers.

2. Sand and mud tail was observed at Nam San Wai Road site exit, the contractor was reminded to maintain the site exit clean and free from dust.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Witness by RE's Representative
Name : Ben Tam	Name: Edwin Leung	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 MacDonald Hong Kong Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**15 December 2009 (10:00)**
	RE's Rep:	**Checklist Reference No.:**	**DSD-AT151209**

General Meteorological Information

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

Temp: 20 °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 [✓] NA

[ ] Loading/unloading of materials [ ] Others

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 bounded 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:

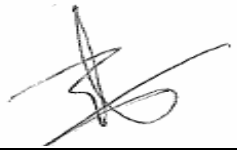
Follow up

Free standing chemical at Nam San Wai Road was removed.
Sand and mud tail at Nam San Wai Road site exit 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	Witness by RE's Representative
			
Name : Ben Tam	Name: Edwin Leung	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:		**IEC:**	**Mott MacDonald Hong Kong Ltd**
ET Auditor:	**Ben Tam**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
Contractor Rep:	**Edwin Leung**	**Inspection Date & Time:**	**22 December 2009 (10:00)**
IEC's Rep:	Isaac Chu	**Checklist Reference No.:**	**DSD-AT221209**
RE's Rep:			

General Meteorological Information

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

Temp: [16] °C

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

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

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?					✓	Remarks 3
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 [✓] NA

[ ] Loading/unloading of materials [ ] Others

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?						✓	Remarks 1
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?					✓	Remarks 2
	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 bounded 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:

Follow up

Nil

Observations Recorded in this Site Inspection:

1. Stagnant water cumulated in the u-channel was observed at Nam San Wai Road, the contractor was reminded to remove the water to prevent mosquito breeding.

2. C&D waste cumulated at Nam San Wai Pumping station, the contractor was reminded to clean frequency.

3. Stockpile without cover was observed at Pok Wai Road, dust mitigation measure should provide for the loose material to prevent dust generation.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Witness by RE's Representative
Name : Ben Tam	Name: Edwin Leung	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:		**IEC:**	**Mott MacDonald Hong Kong Ltd**
ET Auditor:	**Ben Tam**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
Contractor Rep:	**Edwin Leung**	**Inspection Date & Time:**	**31 December 2009 (10:00)**
IEC's Rep:		**Checklist Reference No.:**	**DSD-AT311209**
RE's Rep:			

General Meteorological Information

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

Temp: [16] °C

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

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

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

Observable dust sources [ ] Wind erosion [✓] NA

[ ] Loading/unloading of materials [ ] Others

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?						✓	Remark 1
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 bounded 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:

Follow up

Stagnant water inside the u-channel at Nam San Wai Road was cleared.
C&D waste at Nam San Wai Pumping Station was cleared.
Stockpile at Pok Wai Road was removed.

Observations Recorded in this Site Inspection:

1. Stagnant water cumulated in the roadside was observed at Nam San Wai Pumping Station, the contractor was reminded to remove the water to prevent mosquito breeding.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Witness by RE's Representative
Name : Ben Tam	Name: Edwin Leung	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	22 Dec 2009	Time	9:40 - 11:10	Inspected By	Leader: Edwin Leung ET: Ben Tam DSD: P.H. Chan IEC: Isaac Chu
Site Location	Nam San Wai Road Pok Wai South Road Nam San Wai, Kam Tin & Sha Po Pumping Station				

Weather

Condition	✓	Sunny		Fine		Overcast		Drizzle		Rain		Storm		Hazy	
Temperature	19°C				Humidity		High		Moderate		Low	✓			
Wind		Calm	✓	Light		Breeze		Strong		Direction	SE				

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?			✓		See obs.
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?		✓			

	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?			✓		

	• 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?		✓		
	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?		✓		

OTHER OBSERVATIONS

This month's observations (27 November 2009)

1. General refuse observed at Nam San Wai Pumping Station should be cleared as soon as possible.
2. The stockpile of soil materials for backfilling at Kam Tin Pumping Station should be covered by tarpaulin to prevent dust emission if the materials were not used within a short time.

Follow-up last month's observation (20 October 2009)

1. Stockpiles observed at Nam San Wai Road from last site audit had been removed. The comment is closed-out.
2. Ponding water was still observed at the same location at Nam San Wai Road. The Contractor was reminded to clear the stagnant water observed by backfilling with soil.

DSD Representative	Contractor Representative	ETL	IEC
( )	( )	( )	(Isaac Chu 22 Dec 2009)

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

MONTHLY SITE INSPECTION PHOTOS
22 December 2009
Environmental Observations

This month's observations

Waste Management	**Air Quality**
	
General refuse observed at Nam San Wai Pumping Station should be cleared as soon as possible.	The stockpile of soil materials for backfilling at Kam Tin Pumping Station should be covered by tarpaulin to prevent dust emission if the materials were not used within a short time.
Air Quality	**Water Quality**
	
Stockpiles observed at Nam San Wai Road from last site audit had been removed. The comment is closed-out.	Ponding water was still observed at the same location at Nam San Wai Road. The Contractor was reminded to clear the stagnant water observed by backfilling with soil.