

#### **JOB NO.: TCS00310/06**

**REVISION NO.: 2** 

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

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

MONTHLY ENVIRONMENTAL MONITORING & AUDIT (EM&A) REPORT FOR DECEMBER 2008 (No. 33) (DESIGNATED ELEMENTS)

#### **PREPARED FOR**

LEADER	CIVIL	ENGINEERING	CORPORATION
LIMITED			

**Quality Index** Date **Reference No.** 15 January 2009 TCS00310/06/600/R0694r2 **Prepared By Reviewed By Certified By** Approved By Verified By Nicola Hon Ken Wong David Yeung TW Tam Dr. Anne F Kerr Environmental Deputy Environmental Independent Environmental Team Leader General Manager Team Leader Environmental Checker Consultant Rev No Date Romarka

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1	14 Jan 09	First Submission
2	15 Jan 09	Response to IEC's comments received on 14 January 2009 via e-mail.
	1	1 14 Jan 09

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## **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 2008 (No. 33) present the environmental impact monitoring and audit (EM&A) program conducted from 01 to 31 December 2008 for the Designated Elements. The EM&A program in December 2008 were covered air quality, construction noise and waste management.

#### **BREACH OF ACTION AND LIMIT (AL) LEVELS**

ES03. One Action Level exceedance for 24-Hour TSP at AM1 was recorded on 17 December 2008. ET had liaison with the Contractor to conduct the investigation, only formwork erection and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 17 December 2008 at AM1 should due to local ambient deterioration during the dry/windy season. No further of air quality and noise monitoring breach the Action or Limit Level was recorded in the reporting month.

## **COMPLAINT LOG**

ES04. No environmental complaint was received in this reporting month.

#### NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

ES05. There was no environmental summons or prosecution in this reporting month.

#### **REPORTING CHANGES**

ES06. There are no changes to be reported in this reporting month.

#### **FUTURE KEY ISSUES**

ES07. Construction activities to be undertaken in January 2009 include concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); excavation and concreting at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at both Nam Sang Wai Road (S4) and Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.



## TABLE OF CONTENTS

1.0	BASIC PROJECT INFORMATION1	
2.0	ENVIRONMENTAL STATUS2	)
3.0	SUMMARY OF EM&A REQUIREMENTS	;
4.0	IMPLEMENTATION STATUS4	ļ
5.0	MONITORING RESULTS	,
6.0	<b>REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS</b>	
	OF SUMMONS (NOS) AND SUCCESSFUL PROSECUTIONS10	)
7.0	OTHERS	

## LIST OF TABLES

TABLE 2-1	WORK UNDERTAKEN IN	THE	REPORTING	Month	WITH	<b>ILLUSTRATIONS</b>	OF
	MITIGATION MEASURES						

- TABLE 2-2
   DESCRIPTION OF THE MONITORING STATIONS
- TABLE 3-1
   SUMMARY OF EM&A REQUIREMENTS
- TABLE 3-2
   ACTION AND LIMIT LEVELS FOR AIR QUALITY
- TABLE 3-3
   ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE
- TABLE 4-1 STATUS OF ENVIRONMENTAL LICENSES AND PERMITS
- TABLE 5-1
   MONITORING EQUIPMENT USED IN IMPACT EM&A PROGRAM
- TABLE 5-2
   LOCATION OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING STATIONS/LOCATIONS
- TABLE 5-3
   SUMMARY OF AIR QUALITY MONITORING RESULTS
- TABLE 5-4
   Summary of Noise Monitoring Results at NM3
- TABLE 5-5
   Summary of Noise Monitoring Results at NM4
- TABLE 5-6
   Summary of Noise Monitoring Results at NM6
- TABLE 5-7
   Summary of Noise Monitoring Results at NM7
- TABLE 5-8
   MONITORING SCHEDULE FOR THE NEXT REPORTING MONTH
- TABLE 7-1
   Summary of Waste Quantities for Disposal
- TABLE 7-2
   Summary of Waste Quantities for Reuse/Recycling

## LIST OF ANNEXES

- ANNEX A PROJECT SITE LAYOUT
- ANNEX B PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE
- ANNEX C CONSTRUCTION PROGRAM
- ANNEX D PHOTOGRAPHICAL RECORDS NOISE BARRIER ON-SITES
- ANNEX E LOCATIONS OF MONITORING STATIONS
- ANNEX F EVENT AND ACTION PLAN
- ANNEX G MITIGATION IMPLEMENTATION SCHEDULE
- ANNEX H EQUIPMENT CALIBRATION CERTIFICATES
- ANNEX I METEOROLOGICAL DATA IN THE REPORTING MONTH
- ANNEX J GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING RESULTS
- ANNEX K PROFORMA OF SITE INSPECTION AND IEC AUDIT IN THE REPORTING MONTH



## **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 33<sup>rd</sup> Monthly EM&A Report for December 2008 (No. 33) (Designated Elements Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from 01 to 31 December 2008.

#### **PROJECT ORGANIZATION**

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

#### **CONSTRUCTION PROGRAM OF THE REPORTING MONTH**

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

#### MANAGEMENT STRUCTURE

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

#### **CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE REPORTING MONTH**

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

Kam Tin Pumping Station (P1)

- Excavation
- Concreting

#### Sha Po Pumping Station (P2)

• Concreting

Nam Sang Wai Pumping Station (P3)

- Backfilling
- Concreting

Nam Sang Wai Road (S4) and Pok Wai South Road (S5 and S6)

- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Extract sheet pile



## 2.0 ENVIRONMENTAL STATUS

## WORK UNDERTAKEN IN THE REPORTING MONTH WITH ILLUSTRATIONS

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

# Table 2-1Work Undertaken in the Reporting Month with Illustrations of<br/>Mitigation Measures

Locations	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	<ul><li>Back filling</li><li>Extract sheet pile</li><li>Concreting</li></ul>	<ul> <li>Erect 2.4m high noise barrier hoarding around the works area at P1, P2 and P3</li> <li>Remove dust and spray water at the construction access</li> <li>Cover the stockpiles of dusty material properly</li> <li>Spray water to all dusty materials immediately before loading and unloading</li> </ul>	A2 A3
P2 (Sha Po Pumping Station) and P3 (Nam Sang Wai Pumping Station	<ul><li>Back filling</li><li>Concreting</li></ul>	<ul> <li>Maximize the use of quiet PME on site</li> </ul>	A5 A6 A7 A8 B1, B2 & F5 D1
S4 (Nam Sang Wai Road) and S5 & S6 (Pok Wai South Road)	<ul> <li>Sheet piling</li> <li>Excavation</li> <li>Pipe laying</li> <li>Backfilling</li> <li>Concreting</li> <li>Pipe jacking</li> <li>Extract sheet pile</li> </ul>	<ul> <li>Handle, store and dispose of chemical wastes as per relevant regulations</li> <li>Implement trip-ticket system for waste disposal</li> <li>Restrict open fires and provide fire fighting equipment in the works area</li> <li>Perform weekly inspection with ET and monthly audit with IEC</li> <li>Conduct noise and dust monitoring as per EM&amp;A Manual during construction</li> <li>Provide sedimentation tanks for treating site discharge.</li> <li>Recycle wheel washing water and provide sedimentation tanks for treating site discharge.</li> </ul>	H1 I1 & I2 -

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

## **PROJECT DRAWINGS**

- 2.03 Drawings showing the work areas under EP-220/2005 and the locations of the designated monitoring stations are presented in **Annex E**.
- 2.04 There are four designated air quality (AM1, AM5, AM6 & AM7) and four noise monitoring stations (NM3, NM4, NM6 & NM7) under the project EP. Locations of the monitoring stations and description are summary in the **Table 2-2**.

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

 Table 2-2
 Description of the Monitoring Stations

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



## **3.0 SUMMARY OF EM&A REQUIREMENTS**

## MONITORING PARAMETERS

- 3.01 Environmental monitoring and audit requirements are set out in the Updated EM&A Manual. Air quality and construction noise have been identified to be the key monitoring parameters during the impact phase for the construction of the project.
- 3.02 A summary of the impact EM&A requirements for air quality and construction noise as per the project Updated EM&A Manual are shown in Table 3-1.

Table 5-1 Summary of ENIXA Requirements	Table 3-1	Summary of EM&A Requirements
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<b>Environmental Aspect</b>	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.

Monitoring Locations	Action Le	evel (µg/m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )		
Wollitor ing Locations	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 3-2Action and Limit Levels for Air Quality

## Table 3-3Action and Limit Levels for Construction Noise

Mon	itoring l	Perio	d	Action Level	Limit Level
0700-1900	hours	on	normal	When one or more documented	> 75 dB(A)
weekdays				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 reporting month is presented in Table 4-1.

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

Table 4-1Status of Environmental Licenses and Permits



## 5.0 MONITORING RESULTS

## MONITORING METHODOLOGY OF AIR QUALITY MONITORING

- 5.01 The 24-Hour TSP monitoring was carried out by a High Volume Air Sampler (HVAS) in compliance with the updated EM&A Manual. The HVAS employed complied with the PS specifications including.
  - Power supply of 220v/50 Hz for 24-Hour continuous operation;
  - 0.6-1.7  $m^{3/min}$  (20-60 SCFM) adjustable flow rate;
  - A 7-day mechanical timer for 24-Hour operation;
  - An elapsed time indicator with  $\pm 2$  minutes accuracy for 24-Hour operation;
  - Minimum exposed area of  $63 \text{ in}^2$ ;
  - Flow control accuracy of  $\pm 2.5\%$  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  $\pm 2.5\%$  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 reporting month was obtained from Lau Fau Shan Station of the Hong Kong Observatory (HKO).

## METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

- 5.04 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (Leq) measured in decibels (dB). Supplementary statistical results (L<sub>10</sub> and L<sub>90</sub>) 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 5 m/s or wind with gusts exceeding 10 m/s.

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#### LABORATORY AND MONITORING EQUIPMENT USED

- 5.08 A local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66), is responsible for the analytical testing of the 24-Hour TSP filter papers.
- 5.09 Monitoring equipment used in the impact EM&A program is presented in Table 5-1.

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

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

#### **EQUIPMENT CALIBRATION**

- 5.10 Initial calibration of the HVAS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference. No HVS or sound level meter required calibration in next reporting month. The calibration certificate 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 No renew calibration certificates of the sound level meters used during the impact monitoring program in this month are provided

## PARAMETERS MONITORED

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

#### MONITORING LOCATIONS

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

Table 5-2	Location of Ai	r Quality	and	Construction	Noise	Monitoring
	Stations/Location	ıs				

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
<b>Construction Noise (4 Le</b>	ocations)
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 reporting month, 20 monitoring events of 24-hour TSP monitoring were conducted.
- 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 24 monitoring events were carried out in this reporting month.

#### MONITORING RESULTS WITH DATE AND TIME

5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at Tables 5-3 to 5-7. One Action Level exceedance for 24-Hour TSP at AM1 was recorded on 17 December 2008. ET had liaison with the Contractor to conduct the investigation, only formwork erection and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 17 December 2008 at AM1 should due to local ambient deterioration during the dry/windy season. Power shortage of AM5 was recorded on 29 December 2008. The 24-Hour TSP at AM5 had resumed on 30 December 2008. No further exceedance of air quality and construction noise was recorded in this reporting month.

Date	24-Hour TSP (μg/m <sup>3</sup> )							
Date	AM1	AM5	AM6	AM7				
05-Dec-08	183	12	69	96				
11-Dec-08	106	28	56	86				
17-Dec-08	247	36	56	94				
23-Dec-08	180	158	149	103				
29-Dec-08	185	210 (30-Dec-08)	45	44				
Average (Range)	180 (106-247)	89 (12-210)	75 (45-149)	85 (44-103)				
Action / Limit	> 184 / >260	> 237 / >260	> 183 / >260	> 204 / >260				

 Table 5-3
 Summary of Air Quality Monitoring Results

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

Bold and underline is exceed the Limit Level.

Table 5-4	Summary of Noise Monitoring Results at NM3	

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
01-Dec-08	10:45	54.6	53.6	55.9	57.8	56.7	58.7	56.6	59.6
06-Dec-08	11:10	63.7	62.7	63.9	61.9	60.5	62.7	62.7	65.7
12-Dec-08	10:30	47.3	45.5	46.7	48.3	45.2	47.5	46.9	49.9
18-Dec-08	10:40	46.1	42.6	43.8	43.7	44.9	46.5	44.8	47.8
24-Dec-08	10:40	50.4	52	53.2	56.3	53.9	52.4	53.4	56.4
30-Dec-08	10:30	56.5	50.2	46.7	47.3	44.7	45.2	50.8	53.8
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 Holise Holitoring Results at Hiff								
Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
1-Dec-08	09:45	71.7	71.5	71.3	71.9	71.5	71.2	71.5	74.5
06-Dec-08	09:50	61.2	62.4	60.7	63.8	64.7	63.9	63.0	66.0
12-Dec-08	09:00	54.4	55.3	54.1	56.6	54.1	53.0	54.7	57.7
18-Dec-08	09:00	63.3	54.6	48.5	49.9	55.4	51.8	57.1	60.1
24-Dec-08	08:50	64.9	65.6	62.0	61.7	63.4	62.9	63.7	66.7
30-Dec-08	09:00	59.1	56.0	55.1	56.6	62.1	58.4	58.6	61.6
Limit Le	Limit Level						75		

Table 5-5	Summary of Nois	e Monitoring Results at NM4

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

Table 5-6	Summary of	of Noise	Monitoring	<b>Results at NM6</b>

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
01-Dec-08	11:25	50.8	56.5	57.3	52.8	53.2	52.6	54.5	
06-Dec-08	11:25	57.8	55.0	57.2	56.3	54.3	55.8	56.2	No
12-Dec-08	11:27	56.7	57.8	54.7	53.9	53.0	55.3	55.5	Correction
18-Dec-08	11:30	54.9	56.9	54.8	52.6	52.9	53.3	54.5	Required
24-Dec-08	15:40	53.9	52.1	54.3	52.8	52.0	53.1	53.1	
30-Dec-08	11:29	55.8	53.5	58.3	55.2	55.1	54.0	55.6	
Limit Le	vel	Limit Level							75

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

Table 5-7Summary of Noise Monitoring Results at	NM7
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Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
1-Dec-08	11:30	67.0	63.5	64.7	64.5	67.5	61.5	65.2	
06-Dec-08	09:00	61.8	58.7	57.6	56.2	57.0	58.2	58.7	No
12-Dec-08	11:15	56.4	60.7	59.4	59.3	61.2	60.7	59.9	Correction
18-Dec-08	11:20	62.4	61.5	63.4	61.4	61.5	62.9	62.3	Required
24-Dec-08	10:05	57.9	55.9	60.1	60.3	59.4	58.6	58.9	
30-Dec-08	11:10	57.7	55.5	60.9	62.5	57.2	56.3	59.1	
Limit Le	Limit Level								75

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



5.18 The tentative monitoring schedule for the coming month (January 2009) is shown in Table 5-8.

Da	ate	Air Quality	Noise Leq 30min
1-Jan-09	Thu		
2-Jan-09	Fri		
3-Jan-09	Sat	$\checkmark$	
4-Jan-09	Sun		
5-Jan-09	Mon		$\checkmark$
6-Jan-09	Tue		
7-Jan-09	Wed		
8-Jan-09	Thu		
9-Jan-09	Fri	$\checkmark$	
10-Jan-09	Sat		$\checkmark$
11-Jan-09	Sun		
12-Jan-09	Mon		
13-Jan-09	Tue		
14-Jan-09	Wed		
15-Jan-09	Thu	$\checkmark$	
16-Jan-09	Fri		$\checkmark$
17-Jan-09	Sat		
18-Jan-09	Sun		
19-Jan-09	Mon		
20-Jan-09	Tue		
21-Jan-09	Wed	$\checkmark$	
22-Jan-09	Thu		$\checkmark$
23-Jan-09	Fri		
24-Jan-09	Sat		
25-Jan-09	Sun		
26-Jan-09	Mon		
27-Jan-09	Tue		
28-Jan-09	Wed		
29-Jan-09	Thu	✓	
30-Jan-09	Fri		✓
31-Jan-09	Sat		

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

✓ Monitoring Day
 Sunday or Public Holiday

## WEATHER CONDITIONS DURING THE MONITORING MONTH

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

## **GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS**

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

## WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.21 The weather conditions 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**

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

## **QA/QC RESULTS AND DETECTION LIMITS**

5.23 Not applicable.



# 6.0 REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS

## OF SUMMONS (NoS) AND SUCCESSFUL PROSECUTIONS

## **RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS**

- 6.01 One Action Level exceedance for 24-Hour TSP at AM1 was recorded on 17 December 2008. ET had liaison with the Contractor to conduct the investigation, only formwork erection and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 17 December 2008 at AM1 should due to local ambient deterioration during the dry/windy season. No further exceedance of air quality was recorded in this reporting month.
- 6.02 No construction noise complaint (Action) or monitoring noise level exceed the Limit Level [75dB(A)] was recorded in this reporting month.

## **RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED**

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

## **RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION**

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

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

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

## **DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN**

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



## 7.0 OTHERS

## **FUTURE KEY ISSUES**

7.01 Construction activities to be undertaken in **January 2009** include concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); excavation and concreting at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at both Nam Sang Wai Road (S4) and Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

## SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

	<b>C</b>	<b>rr</b>
Type of Waste	Quantity	<b>Disposal Location</b>
C&D Materials (Inert) (tons) – Disposed	1.709	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)	0.051	Refuse Collector

Table 7-1Summary of Waste Quantities for Disposal

Table 7-2	Summary of Waste Quantities for Reuse/Recycling
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Type of Waste	Quantity	<b>Disposal Location</b>
Metals for Recycling (kg)	0	NA
Paper for Recycling (kg)	0	NA
Plastics for Recycling (kg)	0	NA

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

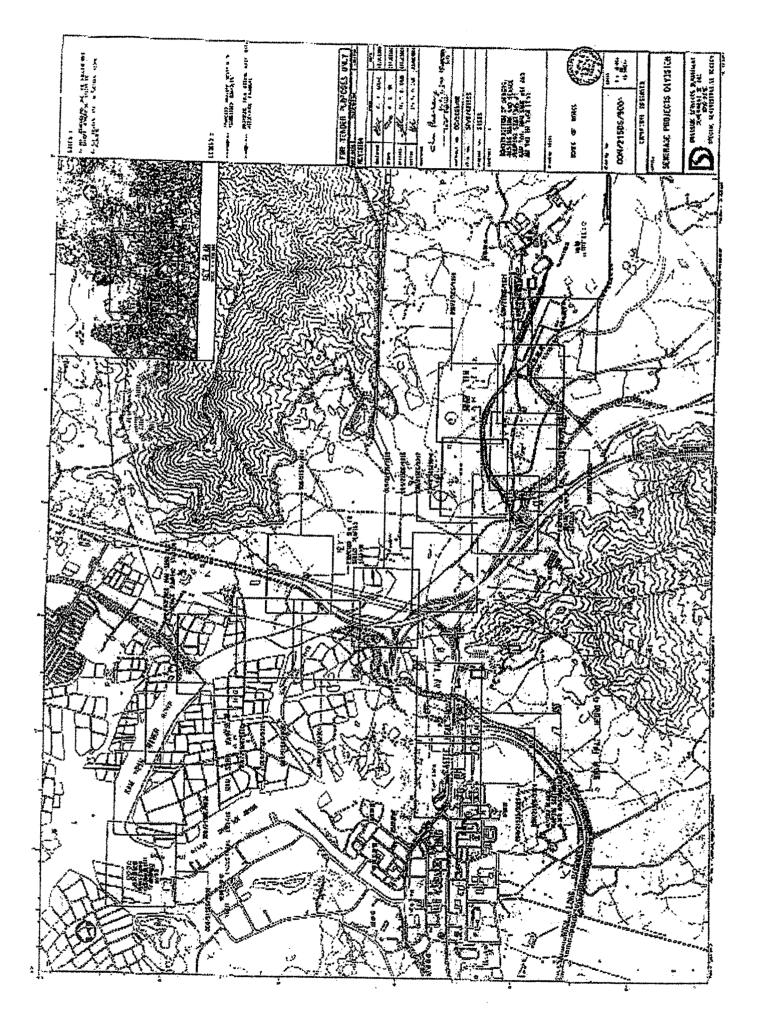
## SUBMISSION OF PROFORMA

- 7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 02, 09, 16, 23 and 29 December 2008 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Seven observations were recorded from the ET weekly site inspections. The monthly IEC site audit for **December 2008** was undertaken on 23 December 2008. No non-compliance and two observations were indicated by IEC.
- 7.05 Proforma of the weekly ET site inspection activities and monthly joint IEC site audit are presented in Annex K.



Annex A

**Project Site Layout** 



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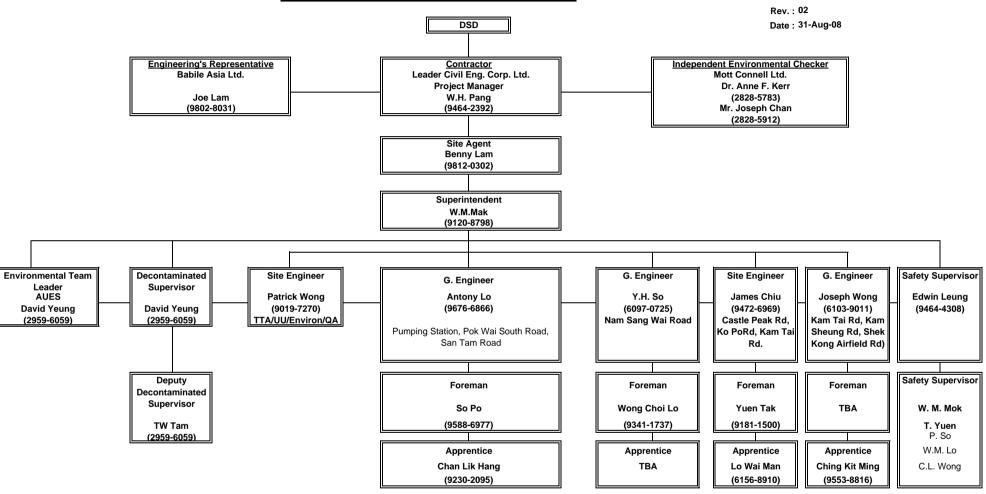
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Annex B

# **Project Organization and Management Structure**

## Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Project Environmental Organization Chart





Annex C

# **Construction Program**

 $\hline Z:\label{eq:loss} \end{tabular} $$Z:\below \end{tabular} $$Z:\below \end{tabular} $$Z:\below \end{tabular} $$ Action-United Environmental Services and Consulting $$ Consulting $$ Action-United Environmental Services and $$ Action-United Environmental Services $$$ 

Act Description	Orig Total Percent Ea Dur Float Complete St	arly Early Late tart Finish Start	Late 2008 DEC DEC 24 01 08 15 22	2009 2009 MAR 29 05 12 19 26 02 09 16 23 02 09 16
tion Completion / Key Date				
CD5000 Section 5	0 -72d 0	30JAN09	19NOV08 *	Section 5
CD7000 Section 7 minaries	0 -362d 0	16FEB09	20FEB08 *	♦ Section 7
PR2900 Deliver Ductile Iron Pipe		R06 A 07JAN09 29APR06 A		Deliver Ductile Iron Pipe
PR3100 Deliver Precast Concrete Pipe	800 159d 99 24AP			Deliver Precast Concrete Pipe
PR3300 Deliver Vitrified Clay Pipe	800 148d 98 10AP		i i i i	Deliver Vitrified Clay Pipe
PR3400 Structural Monitoring by ISE	835 139d 97 06AP			Structural Monitoring by ISE
PR3500 Environmental monitoring by ET ion 1 - Kam Tin Sewage Pumping Station	814 161d 100 06AP	R06 A 31DEC08 06APR06 A	A 16JUL09	Environmental monitoring by ET
rtion A				
Prainage and Ducts Trench Method				
S1AEA1000 DN1050 Pipe & Manhole (D1 - P/S)	12 -88d 0 29DE	C08 12JAN09 11SEP08	25SEP08	DN1050 Pipe & Manhole (D1 - P/S)
S1AEA1100 DN600 Pipe & Manhole (A2 - D1)	12 -75d 80 27FE		A 15OCT08	DN600 Pipe & Manhole (A2 - D1)
S1AEA1200 DN1050 Pipe & Manhole (P/S - Outfall)	12 -88d 0 13JAN		11OCT08	DN1050 Pipe & Manhole (P/S - Outfall)
S1AEA1300 Construct Flow Meter Chamber	12 -126d 0 26MA		05NOV08	
S1AEA1400 Construct U-Channel & Catchpits	30 -126d 0 26MA		26NOV08	· · · · · · · · · · · · · · · · · · ·
S1AEA1500 Lay Ducts & Construct Drawpits	6 -126d 0 19MA		22OCT08	
S1AEA1900 CCTV Inspection of Pipeline	1 -50d 0 30JAN	N09 30JAN09 26NOV08	26NOV08	CCTV Inspection of Pipeline
Pipework - Rising Main Trench Method				
S1AFA1000 Twin Rising Main DN700	6 -75d 0 15JAN	N09 21JAN09 16OCT08	22OCT08	Twin Rising Main DN700
annworks				
S1AG2600 Extract Sheetpile			A 22SEP08	Extract Sheetpile
S1AG2700 Trim & Compact Formation of Paved Areas	6 -126d 0 26MA	R09 01APR09 23OCT08	29OCT08	
S1AL1900 Apply Anticorrosion Concrete Coating System			A 29SEP08	Apply Anticorrosion Concrete Coating System
S1AL2100 Construct Boundary Wall inishings	45 -126d 20 18OC	T08 A 27APR09 18OCT08 A	A 22NOV08	
in annys				
S1AQ1000 Apply Internal Finishes	60 -55d 50 10OC		A 26NOV08	Apply Internal Finishes
S1AQ1050         Apply Roof Finishes           S1AQ1100         Apply External Finishes	10 -38d 0 02JAN 30 76d 50 23OC		26NOV08 A 25MAY09	Apply Roof Finishes
esting	30 760 50 2300	100 A 23FEDUS 23UC108 A	2.5WA109	
S1AS1100 Watertightness of Structure - Compartments	72 -42d 80 10NO	V08 A 17JAN09 10NOV08 A	A 26NOV08	Watertightness of Structure - Compartments
date 19DEC05			, , , , , , , , , , , , , , , , ,	• · · · · · · · · · · · · · · · · · · ·
date 28DEC08		Leader C	Civil Engineering Corp. Ltd.	Progress b
e number 1A		DSD	Contract No. DC/2005/02	Critical ba
			ogramme - 3M01 at 29 December	r 2008 🔶 Start mile
mavera Systems, Inc.				♦ Finish mil

Act ID	Description	Orig Total Pe Dur Float Cor		Early Finish	Late Start	Late Finish	2009 2009 10 <sup>1</sup> DEC JAN FEB MAR 24 01 08 15 22 29 05 12 19 26 02 09 16 23 02 09 16 23
S1AT1000 Install D	oors, Louvres & Folding doors	30 -45d	75 140CT08 A	09JAN09	140CT08 A	14NOV08	Install Doors, Louvres & Folding doors
	Metalwork	12 -27d		14JAN09	15DEC08 A	10DEC08	Sundry Metalwork
	Blass Block	12 -27d		31JAN09	11DEC08	24DEC08	Install Glass Block
S1AT1300 Plumbi		24 -82d		09FEB09	30SEP08	29OCT08	Plumbing Work
	al and Mechanical Installations	24 -82d		09MAR09	30OCT08	26NOV08	Electrical and Mecha
S1AT1500 Install F	RP Water Storage Tanks	12 -70d	0 09JAN09 2	22JAN09	16OCT08	29OCT08	Install FRP Water Storage Tanks
S1AT1600 Install F	RP Cat Ladders & Handrails	24 -70d	0 23JAN09 2	23FEB09	30OCT08	26NOV08	Install FRP Cat Ladders & Handrails
Section 2 - Sha Po Sewage I Portion B	Pumping Station						
Drainage and Ducts							
Trench Method							
S2BEA1000 DN900	Plpe & Manhole (F1 - P/S)	12 -133d	0 27MAR09 1	10APR09	16OCT08	29OCT08	
In-Situ Concrete	The second second						
S2BL1700 Cast Wa	II Stem to +13.00mPD & Roof Slab	2	100 29NOV08 A	29NOV08 A	29NOV08 A	29NOV08 A	Cast Wall Stem to +13.00mPD & Roof Slab
	nticorrosion Concrete Coating System	24 -102d		03JAN09	10DEC08 A	30AUG08	Apply Anticorrosion Concrete Coating System
	ct Boundary Wall	47 -99d		25FEB09	29AUG08	250CT08	Construct Boundary Wall
Finishings							
S2BQ1000 Apply II	nternal Finishes	50 -102d	20 09DEC08 A 1	19MAR09	09DEC08 A	13NOV08	Apply
	oof Finishes	10 -46d		09JAN09	03NOV08	13NOV08	Apply Roof Finishes
	xtemal Finishes	25 30d		18APR09	25APR09	25MAY09	
Testing							
S2BS1000 Pressure	e Testing to Twin Rising Main DN500	12 -48d	0 29DEC08 1	12JAN09	31OCT08	13NOV08	Pressure Testing to Twin Rising Main DN500
	htness of Structure - Compartments	66 -102d		19MAR09	26AUG08	13NOV08	Water
Miscellaneous		00 1020	012022000	1011111100	20/10/000	10110100	
S2BT1000 Upstall [	oors, Louvres & Folding doors	30 -85d	75 22DEC08 A 1	13 IAN09	22DEC08 A	30SEP08	Install Doors, Louvres & Folding doors
	Metalwork	12 -85d		21JAN09	27DEC08 A	100CT08	Sundry Metalwork
· · · · ·	Blass Block	12 -85d		30JAN09	020CT08	160CT08	Install Glass Block
S2BT1300 Plumbi		24 -102d		04FEB09	01SEP08	29SEP08	Plumbing Work
	al and Mechanical Installations	24 -102d		18FEB09	16SEP08	150CT08	Electrical and Mechanical Installations
	RP Water Storage Tanks	12 -102d		17JAN09	01SEP08	13SEP08	Install FRP Water Storage Tanks
	RP Cat Ladders & Handrails	24 -102d		18FEB09	16SEP08	15OCT08	Install FRP Cat Ladders & Handrails
Additonal Works / Disrupti	on				1	1	
Deviced DM/ell Deteil							
	s at SPPS (Claim No. 030) neetpiles	10 -462d	0 29DEC08 0	09JAN09	11JUN07	22JUN07	Drive Sheetpiles
	e to 1st Layer of Waling & Strut	6 -462d		16JAN09	23JUN07	29JUN07	Excavate to 1st Layer of Waling & Strut
	st Layer of Waling & Strut	6 -462d		23JAN09	30JUN07	07JUL07	Install 1st Layer of Waling & Strut
	e to 2nd Layer of Waling & Strut	6 -462d		03FEB09	09JUL07	14JUL07	Excavate to 2nd Layer of Waling & Strut
S2BV2040 Install 2	nd Layer of Waling & Strut	6 -462d	0 04FEB09 1	10FEB09	16JUL07	21JUL07	Install 2nd Layer of Waling & Strut
S2BV2050 Excava	e to 3rd Layer of Waling & Strut	6 -462d	0 11FEB09 1	17FEB09	23JUL07	28JUL07	Excavate to 3rd Layer of Waling & Strut
S2BV2060 Install 3	rd Layer of Waling & Strut	6 -462d	0 18FEB09 2	24FEB09	30JUL07	04AUG07	Install 3rd Layer of Waling & Strut
S2BV2070 Excava	e to Formation & Pour Blinding	6 -462d	0 25FEB09 0	03MAR09	06AUG07	11AUG07	Excavate to Formation & Pou
Start date 19DEC05 Finish date 18OCT10 Data date 28DEC08 Page number 2A c Primavera Systems, Inc.			3-N		DSD (	Contract I	neering Corp. Ltd. No. DC/2005/02 - 3M01 at 29 December 2008

Act	Description	Orig	Total P	Percent Early Complete Start	Early Finish	Late	Late	101		2008 DEC							2009 FEB					
ID		Dur				Start		IO1 24 01	08	15	22	29	05	12 19	26	02	09 1	16 2	3 0	2	09 16	23
S2BV2080	Construct Base Slab for Bay 1 & 3	8	-462d	0 04MAR09	12MAR09	13AUG07	21AUG07		1	l. I		1	1				1			,	Const	uct Base Slab
S2BV2090	Construct Base Slab for Bay 2 & 4	6	-462d	0 13MAR09	19MAR09	22AUG07	28AUG07				. <u>.</u>											Construct E
S2BV2100	Backfill & Remove 3rd Layer of Waling & Strut	6	-462d	0 20MAR09	26MAR09	29AUG07	04SEP07															
	Construct Wall Stem 1st Lift for Bay 1 & 3	8	-462d	0 27MAR09	06APR09	05SEP07	13SEP07					1	_									
Section 3 - Nam Sa Portion C	ang Wai Sewage Pumping Station										1						i i			r		
Ground Investig	ation																			1		
													1									
S3CB1700	Install Settlement Markers for Pumping Station	2	-184d	75 01DEC07 A	14.IAN09	01DEC07 A	04.IUN08	-			1	1	1	Install Se	ttlement Marl	ers for Pum	ing Station					
Drainage and D		-	To tu	10 0102001 /	110/1100	010200171	0 1001100						-									
Trench Metho											1	1	1							1		
								-							2							
	DDN1200 Pipe & Manhole (H1 - P/S)	12		100 13JUN08 A	28DEC08	13JUN08 A	28DEC08	-	1	1		DN1200	Pipe & Mai	hole (H1 - P/				(5/2 0	(. II)	,	i.	
	DDN1200 Pipe & Manhole (P/S - Outfall)	12	-164d	0 13JAN09	29JAN09	27JUN08	11JUL08				1	1				DN1200 Pipe	& Mannole	(P/S - Out	tali)			
	0 Construct U-channel, Dish Channel & Catchpit	27	-164d	0 19FEB09	21MAR09	01AUG08	01SEP08						1						1			Construe
	D Lay Ducts & Construct Drawpit	6	-164d	0 23MAR09	28MAR09	02SEP08	08SEP08					1	1			1						
	CCTV Inspection of Pipeline	1	-77d	0 30JAN09	30JAN09	25OCT08	25OCT08					· · · · · ·				CCTV Inspe	ection of Pip	eline				
Pipework - Risir											1	i.										
	u											1										
S3CFA100	Twin Rising Main DN900	6	-184d	0 29DEC08	05JAN09	20MAY08	26MAY08					-	Twin Ris	ing Main DN9	000							
S3CFA120	CCTV Inspection of Pipeline	1	-71d	0 06JAN09	06JAN09	11OCT08	11OCT08				1	1	CCTV	Inspection of	Pipeline					1		
Earthworks											-											
								÷.	i i			i.	1		i i		i i 1 i			,	i.	
S3CG2800	Backfill to Formation of Ground Slab	8	-184d	85 200CT08 A	06JAN09	200CT08 A	27MAY08		-			1	Backfil	to Formation	of Ground SI	ab						
	Extract Sheetpile	11		20 04NOV08 A		04NOV08 A						i.		Extract She								
Formwork								1			1	1	1				<u>   </u>					
													1							r		
S3CJ1550	Erect Formwork to +5.0mPD	12		100 28AUG08 A		28AUG08 A	1705008 4	-		Ero	ct Formur	rk to +5.0n	PD									
		12	4041		-	-		1	1			JIK 10 +3.01	1	t Formwork to	Cround Stat							
S3CJ1600 S3CJ1700	Erect Formwork to Ground Slab	12	-184d	75 15NOV08 A	-	_	29MAY08	1	I	I	-	1	Ele		S GIOUIIU SIAI		Erect Formv	vork to 110	80mpp			
	Erect Formwork to +10.80mPD		-184d	15 23DEC08 A	-	_	26JUN08					1								- Fro	t Formwork	to +13.75mPD
S3CJ1800 Steel Reinforce	Erect Formwork to +13.75mPD & Roof Slab	12	-184d	0 20FEB09	05MAR09	10JUL08	23JUL08	i	1	1	1	i -	1		-	1	1 I 1 I	1	1			J+13.75IIIFD
Steer Keinioice	ment																					
	-							÷.			i i	i.										
S3CK1500	Fix Re-bar to Ground Slab	8	-184d	50 26NOV08 A	13JAN09	26NOV08 A	03JUN08	1	1	1	1	1	!		to Ground SI							
S3CK1600	Fix Re-bar to +10.80mPD	8	-184d	0 15JAN09	23JAN09	05JUN08	14JUN08						1		Fix Re-ba	ar to +10.80n	۱PD					
S3CK1700	Fix Re-bar to +13.75mPD	8	-184d	0 11FEB09	19FEB09	30JUN08	09JUL08				1	1						Fix R	e-bar to +	13.75mP	D	
S3CK1800	Fix Re-bar to Roof Slab	8	-184d	0 06MAR09	14MAR09	24JUL08	01AUG08	1	1			1									Fix	Re-bar to Roof
In-Situ Concrete	)											i.										
											1	1										
S3CL1550	Cast Wall Stem to +5.00mPD	2	-184d	75 03OCT08 A	05JAN09	03OCT08 A	26MAY08			-	-		Cast Wa	Ill Stem to +5.	00mPD							
S3CL1600	Cast Ground Slab	2	-184d	50 18DEC08 A	14JAN09	18DEC08 A	04JUN08				-			Cast Gro	und Slab					1		
S3CL1700	Cast Wall Stem to +10.80mPD	2	-184d	0 09FEB09	10FEB09	27JUN08	28JUN08	1									💻 Cast W	all Stem to	+10.80mF	PD		
S3CL1800	Cast Wall Stem to +13.75mPD & Roof Slab	2	-184d	0 16MAR09	17MAR09	02AUG08	04AUG08			i I	1	i.					i i			1	-	Cast Wall Ster
S3CL1900	Apply Anticorrosion Concrete Coating System	24	-166d	0 09FEB09	07MAR09	19JUL08	15AUG08				1	1					-		1	/	pply Anticor	osion Concrete
S3CL2100	Construct Boundary Wall	17	-164d	0 30JAN09	18FEB09	12JUL08	31JUL08	<u>+</u>			÷	i	<u>;</u>				<u></u>	Constr	uct Bound	Jary Wall		·
Geotechnical w							l				1	i.	-						i			
																			1			
Start date 19D	EC05							i.	i	i	1	i.	1	i	i	i.					i Ford 1	i
Finish date 180	CT10					Leader C	ivil Engin	neeri	ina Cor	n Itd											Early b	
Data date 28D Page number 3A	<u>EC08</u>						Contract N														Critical	bar
				3	-Month R	olling Pro					ber 20	08									Summa Start m	ary bar ilestone point
c Primavera System	ns, Inc.						3	3.7														nilestone poin
																				I		

Act ID	Description	Orig	Total I		Early Finish	Late	Late	101	2008 DE	2				JAN				2009 FEI	в			MAR	
	Monitoring of Instruments	Dur 787	Float C	omplete Start 98 06APR06 A		Start 06APR06 A 2		101 24 01	08 15	22		29	05	12	19	26 itoring of Ir	02 Instruments	05	16	23 02	09	16	23
Finishings		101	110		200/1100	00/11/100/11/2	000100					-	-	1				-	-				
														1					1				
00004050		1 40		0 40040 500		4500700						1		1									
Testing	Apply Roof Finishes	10	-126d	0 18MAR09	28MAR09	15OCT08 2	5OCT08			-	_		-	-	-	-		-	-	-			
resing																							
		1			1	1 1								1	1	1	1						
	Pressure Testing to Twin Rising Main DN900	12		0 07JAN09	20JAN09		5OCT08								Pres	sure Testi	ng to Twin	Rising Mai	n DN900				
	Watertightness of Structure - Grid D-E	48		0 23FEB09	20APR09		7SEP08							1					1				
	Watertightness of Structure - Grid F-G	44	-162d	0 23FEB09	15APR09	07AUG08 2	7SEP08						_		-	_		_			_		
Portion D	RM in Portion D, F, G, H, I																						
Drainage and Due	cts													1									
Trench Method																							
S4DEA1000	DN1200 Pipe & Manhole (G1-Treatment Plant)	60	17d	40 31MAR08 A	04MAY09	31MAR08 A 2	3MAY09																
Pipework - Rising	I			10 0 1111 11 100 7		01111/11/00/11/2	0111/1/00		1 1	-	_	1	1	1	1	1	-	1	1				
Trench Method														1									
DUDENUS	Tuis Disise Mais DN000 (Ob 44050 140104)	1.101		55 45DE005	AFMAYOC		EMAX/00										1		1		Í		
	Twin Rising Main DN900 (ChA1850- WOIC1)	101	8d	55 15DEC06 A	-	15DEC06 A 2		i		i		i i	i i	i i	1	i.	i.		i .		i.	i	The Dist
	Twin Rising Main DN900 (ChA2095 - ChA2215)	148		55 20DEC07 A			0MAR09	-						1			1		1				Twin Risi
	CCTV Inspection of Pipeline	5	22d	20 16AUG08 A	14APR09	16AUG08 A 1	1MAY09												1				
Trenchless Meth	nod											1											
S4DFB1100	Construct WOIC1	30	45d	0 29DEC08	05FEB09	24FEB09 3	0MAR09						1	-	-	-	Co	onstruct WC	DIC1	l - 1			
S4DFB1200	CCTV Inspection of Pipeline	3	76d	0 06FEB09	09FEB09	08MAY09 1	1MAY09							1			-	🗖 ССТУ І	nspection (	of Pipeline			
Geotechnical wor													1	1					1				
														1									
S4DB1000	Monitoring of Instruments	602	60d	90 02NOV06 A	13MAR00	02NOV06 A 2	5MAY09			1			1	1					i.			Monit	oring of Instru
Portion F		002	000	30 02110 000 A	TSMAROS		5101A 1 0 9	1			_		1	1		1		1	1				or motion
Ground Investigat	tion																						
													1						1				
S4EB1500	Install Settlement Markers	698	86d	95 27APR06 A	11EEB09	27APR06 A 2	5MAY09							1				Insta	II Settleme	nt Markers			
Drainage and Due		050	000	35 2771 100 7	THEBOS	27/11/100 / 2	51171105	1	<u> </u>	-	_		1	1	1	1	-				-	-	
Trench Method																							
	1	1	1 1		1	1 1				i.		i I	1	i i	i.				1				
	DN900 Pipe & Manhole (H8 - H7) 1st Stage	53	-54d	0 04MAR09	06MAY09	24DEC08 0	2MAR09				_			-	_						-		
Trenchless Meth	hod											1											
S4FEB1040	Construct Manhole H2 & H1	27	107d	65 27SEP08 A	08JAN09	27SEP08 A 1	9MAY09	1					Co	nstruct Ma	anhole H2	8 H1							
S4FEB1600	CCTV Inspection of Pipeline	5	107d	0 09JAN09	14JAN09	20MAY09 2	5MAY09					1		СС1	TV Inspec	tion of Pip	eline						
Pipework - Rising			<u> </u>																				
Trench Method																			1				
S4FFA1300	Twin Rising Main DN700 (WOIC5 - ChC2000)	80	45d	30 05JUN08 A	07MAR09	05JUN08 A 3	0APR09		i i				1	1	1	1	1	1	1		Twi	n Risina M	ain DN700 (W
	Twin Rising Main DN700 (ChC2300 - ChC2350)	45		0 20JAN09	16MAR09		0APR09															- i -	win Rising Ma
	Twin Rising Main DN700 (ChC2350 - ChC2400)	45		100 13SEP08 A	18DEC08 A		8DEC08 A	i		Twin Ri	isina M	lain DN70	)0 (ChC23	; 50 - ChC2	2400)	1	1		1	i i	Í		
	Twin Rising Main DN700 (ChC2400 - WOIC4)	93		80 13SEP08 A	19JAN09		7MAR09							5		Rising Mai	DN700 ((	ChC2400 -	WOIC4)				
	Twin Rising Main DN700 (ChC2639 - H7)	52		0 29DEC08	03MAR09		3DEC08	1									. 511100 (0	1	-			ng Main Dt	1700 (ChC263
	Construct AVIC5	30		0 29DEC08	26FEB09		0APR09						+						<u>-</u>		ruct AVIC5		
	CCTV Inspection of Pipeline	30	38d	0 20JAN09 0 17MAR09	25MAR09		1MAY09										1		1				
Trepchless Moth	hod	l °	500		LowAlog	52mm103				1	_	1	1	1	1	1	1	1	1		-		
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Start date 19DEC Finish date 18OCT	C05 T10								•													Early ba	
Data date 28DEC Page number 4A	C08					Leader Civ				I <b>.</b>												Progres Critical	
rage number 4A				2	Month P	DSD Co Colling Prog				ambar	200	0									_	Summa	ry bar
c Primavera Systems	s. Inc.			3			anine	- 314101	al 23 DeC	ennoef	200	U									<b>♦</b>		lestone point nilestone poin
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Act	Description	Orig		Percent	Early	Early	Late	Late	101		2008 DEC				JAN				2009 FE	B			MAR	
ID	Description	Dur	Float (	Complete	Start	Finish	Start	Finish	24 01	08	15	22	29	05	JAN 12	19	26	02	09	16	23	02	09	16 23
S4FFB1200 Cons	truct WOIC4	30	44d	60	10JUN08 A	12JAN09	10JUN08 A	07MAR09	1	1	1		1	-	Constr	uct WOIC	4	1						
S4FFB1300 Cons	truct WOIC5	30	95d	80	28JUN08 A	05JAN09	28JUN08 A	30APR09						- Constr	uct WOIC	5								
	/ Inspection of Pipeline	5			16AUG08 A	03JAN09	-	11MAY09	1	1	1			CCTV Ins	pection of	Pipeline								
Geotechnical works										1		1	1	1	1	1		1						
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S4EB1000 Moni	toring of Instruments	772	74d	94	05JUN06 A	25EEB00		25MAY09		i.		1	1	1	1	1	<u>.</u>	1		<u> </u>	Moni	toring of In	struments	
Portion G		112	/40	34	03301100 A	201 2009	0000000	25MA109	1	1	1	1	1	1	-	1	1			-				
Pipework - Rising Main																								
Trench Method												1				1								
S4GEA1000 Twin	Rising Main DN500 (AVIC4 - ChB250)	98	83d	90	26JUN08 A	22JAN09	26 11 1008 4	05MAY09		1	1	1	1			- 		Main DN5	00 (AVIC4	- ChB250				
	Rising Main DN500 (ChB450 - ChB550)	84			16JAN08 A	19FEB09	16JAN08 A		1	1	1	1	1	1	1	1	l		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		in Rising N	ain DN500	(ChB450	- ChB550)
S4GFA1700 Cons		30			20FEB09	26MAR09	30MAR09	05MAY09								1					j.		(0	
	/ Inspection of Pipeline	9	32d		06MAR07 A	01APR09		11MAY09	i	i	i		i.	i	i	i.	i	1	i	i	1	i i		i
Trenchless Method			020			01741100	oom/ator/						1			-		-						
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S4GFB1100 Cons	truct AVIC4	30	83d	30	09JUL08 A	22JAN09	09JUL08 A	05MAY09			1	1			1	C	onstruct A	VIC4						
S4GFB1200 CCT	/ Inspection of Pipeline	2	86d	0	23JAN09	24JAN09	09MAY09	11MAY09									CCTV Ins	spection o	f Pipeline					
Geotechnical works									-	i i		I I	1			1		1			1		1	
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S4GP1000 Moni	toring of Instruments	720	106d	98	22APR06 A	15JAN09	22APR06 A	25MAY09							M	, itoring c	f Instrume	nts						
Portion H									1	1	1	1	1	1	1	-	1	-	-	-				
Ground Investigation																1								
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S4HB1300 Instal	I Settlement Markers	727	-12d	82	26MAY06 A	09JUN09	26MAY06 A	25MAY09	-		1			1	-	1	1	-		-	-			
Drainage and Ducts																-		-						
Trench Method													1			1								
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	0 Pipe & Manhole (A3 - A6)	90			03OCT08 A	16MAR09	03OCT08 A	-	1	I					10)	1	1	1				I I		DN500 Pipe 8
	0 Pipe & Manhole (A6 - A9)	100			250CT07 A	20DEC08 A							ipe & Man	hole (A6 -	A9)									
	0 Pipe & Manhole (B4 - B6)	67			23FEB09	13MAY09	14AUG08	03NOV08	1	i I	i I	i I	1			1		1				a 8 Maaba	I= (DC	N
	0 Plpe & Manhole (B6 - B8)	44	-156d	0	29DEC08 *	21FEB09	23JUN08	13AUG08						_	_		_	-	_			e & Manho	ie (BP - B	5)
Trenchless Method												1				1		1						
S4HEB1000 Cons	truct Jack/Receive Pits (A1 - A4)	30		100	100CT08 A	18DEC08 A	100CT08 A	18DEC08 A			Cor	struct Ja	ck/Receiv	e Pits (A1	- A4)	1								
S4HEB1020 Jacki	ng DN600 (A2 - A3)	57	-82d	0	29DEC08	09MAR09	19SEP08	26NOV08				1			-			-		-	-		Jacking	ON600 (A2 - A3
S4HEB1040 Cons	truct Manholes A2 & A3	27	-82d	0	10MAR09	10APR09	27NOV08	30DEC08	1	i I	i i	1	i.		1	i i	i.	i.		i.			_	
Pipework - Rising Main			1								-	1	1			1		1	-	-	-			
Trench Method												1												
SAHEA1000 Twin	Rising Main DN700 (ChC63 - ChC170)	45	3d	201	080CT08 A	224PP00	080CT08 A	254PP00	1				1	1	1	1	1	1		1	1		1	
	Rising Main DN700 (ChCl37 - ChCl70) Rising Main DN700 (ChCl370 - ChC290)	50			250CT07 A	20DEC08 A	_	20DEC08 A	1	1		Twin Risi	ng Main D	N700 (ChC	0170 - Ch	(290)		1	1	1	1			
	Rising Main DN700 (ChC850 - ChC950)	125			235EB09	20DEC08 A	24NOV08	25APR09												1				
	Rising Main DN700 (ChC950 - ChC950)	44			23FEB09 29DEC08	22J0L09 21FEB09	020CT08	25APR09 22NOV08							1		1			-	Twin Risin	Main DN	700 (ChCo	50 - ChC1000)
	Rising Main DN700 (ChC1150 - ChC1250)	91	-120		14JAN08 A	11DEC08 A	14JAN08 A	11DEC08 A	i	Tw	in Rising M	lain DN7	1 00 (ChC14	150 - ChC1	250)	1		1					0103	
	Rising Main DN700 (ChC1150 - ChC1250) Rising Main DN700 (ChC1250 - WOIC7)	104	-9d		14JAN08 A 20AUG08 A	07MAY09	20AUG08 A	-				+					+			+				
	Rising Main DN700 (ChC1250 - WOIC7) Rising Main DN700 (ChC1450 - ChC1550)	_					-	_	I I	1					1	i i	1	1		1	i			
	Rising Main DN700 (ChC1600 - ChC1618)	124			29DEC08 10JUN08 A		28JUN08	24NOV08 29DEC08 A	1	1	1		Twin F	kising Main	DN700 (	hC1600	ChC1619	0	-					
	Rising Main DN700 (WOIC6 - ChC1664)	_				29DEC08 A	12JUN08 A		1	i.				-		1	00 (WOIC	· .	64)		1			
54HFA2510 1 WIN	riang wain Divrou (WOIC6 - ChC1664)	47	-83d	80	IZJUNU8 A	00JAN09	12JUNU8 A	21SEPU8	I	I	1	I	1	1	an rusing				( <b>1</b> , <b>1</b> )	I	1		i	i
Start date 19DEC05																							Early	bar
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c Primavera Systems, Inc.																						•	Finis	n milestone po

ID	Description	Orig Dur	Total Perc Float Comp	ent Early blete Start	Early Finish	Late Start	Late Finish	IO' 24 01 08	2008 DEC 15	22	29 05	12	JAN 19	26	02	2009 FEB 09 16	23	02	MAR 09 1	6 23
S4HFA2610 T	Twin Rising Main DN700 (ChC1715 - ChC1750)	47	-83d	0 09JAN09	07MAR09	29SEP08	24NOV08												Twin Rising	Main DN700 (
S4HFA2700 T	Twin Rising Main DN700 (ChC1750 - AVIC6)	124	-83d	0 09MAR09	04AUG09	25NOV08	25APR09				+ 									
S4HFA3000 C	Construct AVIC9	20	33d	0 23FEB09	17MAR09	02APR09	25APR09						1		1		-	1	1 1	Construct A
S4HFA3100 C	Construct WOIC8	20	33d	0 23FEB09	17MAR09	02APR09	25APR09										_	-		Construct V
S4HFA3400 C	Construct WOIC6	20		100 15AUG08 A	13DEC08 A	15AUG08 A	13DEC08 A		Construct	WOIC6									1	
S4HFA3500 C	Construct AVIC6	30	67d	0 29DEC08	05FEB09	21MAR09	25APR09					-		-	Cor	struct AVIC6				
Trenchless Metho	od																	1		
· · · · · · · · · · · · · · · · · · ·		- 1 - 1			1	1	I							-				1	1 1	
	Construct Jack/Receive Pits (ChC42 - ChC63)	57	-126d	90 24OCT08 A	05JAN09	240CT08 A			1		(	onstruct	Jack/Receive	Pits (ChC42	- ChC63)				1 1	
	Jacking Twin DN700 (ChC42 - ChC63)	65	-126d	0 06JAN09 A	25MAR09		22OCT08		1		· · · · · · ·		1	1	1					
	Construct Jack/Receive Pits (AIC9 - WOIC7)	57		100 01AUG08 A	04DEC08 A	01AUG08 A		Construct Ja	ck/Receive	Pits (AIC	9 - WOIC7)				1				1	
	Jacking Twin DN700 (AIC9 - WOIC7)	69	-71d	70 05DEC08 A	31MAR09	05DEC08 A	03JAN09		1			1	1				1			
eotechnical works	S											i.							i i	i i
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S4HP1000 N	Monitoring of Instruments	947	-95d	77 26MAY06 A	15SEP09	26MAY06 A	25MAY09										_			
dditonal Works/D					1		I		1						1			1		
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	oth ChC420 & ChC607 (Claim No. 118)	40	52d	90 23JUL08 A	23FEB09	23JUL08 A	25 4 8 8 00		1			1	1		1		Twip	Pieina Mair	DN700 (Ch0	C610 - ChC6
	Twin Rising Main DN700 (ChC610 - ChC580)	40							1		I I		1	1	1		1			
	Twin Rising Main DN700 (ChC515 - ChC490)	20	52d	50 06OCT08 A	18FEB09	06OCT08 A						Tuin	Disias Mais I			. I.	Twin Rising I	viain Divro	) (ChC515 - (	5hC490)
	Twin Rising Main DN700 (ChC490 - ChC460)	20	52d	50 06OCT08 A	09JAN09	06OCT08 A	14MAR09	1	1				Rising Main [		190 - CIIC40	50)				
ļ	Twin Rising Main DN700 (ChC460 - ChC436)	20		100 100CT08 A	28DEC08	100CT08 A					I win Rising I	Main DN/	00 (ChC460 -	ChC436)	1					
	Construct WOIC9	20	54d	90 29AUG08 A	20FEB09	29AUG08 A		_ <u>i</u> i	J	i							Construct	WOIC9		
	DN500 Pipe & Manhole (A13 - A14)	40		100 130CT08 A	03DEC08 A	130CT08 A		DN500 Pipe &	Manhole (	A13 - A14	)									
S4HV1410 D	DN500 Pipe & Manhole (A14 - A15)	30	52d	30 24OCT08 A	06FEB09	240CT08 A	09APR09								DI	1500 Pipe & M	anhole (A14 -	· A15)		1
	Install Settlement Markers	736	-37d	79 26JUN06 A	09JUL09	26JUN06 A	25MAY09											_		
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ainage and Ducts Trench Method S4IEA1000 D	ts DN500 Pipe & Manhole (C2 - C4)		-60d			24DEC08 A										DN50	)0 Pipe & Mar	nhole (C4 -	C6)	
ainage and Ducts Trench Method S4IEA1000 D S4IEA1020 D	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6)	58	-60d -60d	5 24DEC08 A 50 27AUG08 A	21APR09 14FEB09	24DEC08 A 27AUG08 A	09FEB09 29NOV08										00 Pipe & Mar Pipe & Manho			
ainage and Ducts Trench Method S4IEA1000 D S4IEA1020 D S4IEA1200 D	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7)	58 76 36	-60d -60d 85d	5 24DEC08 A 50 27AUG08 A 0 29DEC08	21APR09 14FEB09 12FEB09	24DEC08 A 27AUG08 A 13APR09	09FEB09 29NOV08 25MAY09										)0 Pipe & Mar Pipe & Manho	le (C7a - C	7)	nhole (C22 -
ainage and Duct Trench Method S4IEA1000 C S4IEA1020 C S4IEA1200 C S4IEA1920 C	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23)	58 76 36 65	-60d -60d 85d 61d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A	21APR09 14FEB09 12FEB09 03MAR09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A	09FEB09 29NOV08 25MAY09 15MAY09										1	ile (C7a - C	7) 10 Plpe & Ma	
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Alinage and Ducts Trench Method S4IEA1000 [C] S4IEA1020 [C] S4IEA1020 [C] S4IEA1020 [C] S4IEA1920 [C] S4IEA2320 [C] S4IEA2400 [C] Trenchless Method	is DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) <b>od</b>	58 76 36 65 53	-60d -60d 85d 61d -141d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08	21APR09 14FEB09 12FEB09 03MAR09 04MAR09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08									DN400 I	Pipe & Manho	le (C7a - C	7) 10 Plpe & Ma	
Alinage and Duct Trench Method S4IEA1000 C S4IEA1000 C S4IEA1000 C S4IEA1200 C S4IEA1920 C S4IEA2320 C S4IEA2400 C Trenchiess Method S4IEB1000 C	is DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) <b>od</b> Construct Jack/Receive Pits (C1 - C2)	58 76 36 53 70 70	-60d -60d 85d 61d -141d -141d -141d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 0 29DEC08	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08 04DEC08 29DEC08									DN400 I	Pipe & Manho	le (C7a - C	7) 10 Plpe & Ma	
Alinage and Duct Trench Method S4IEA1000 C S4IEA1000 C S4IEA1000 C S4IEA1200 C S4IEA1920 C S4IEA2320 C S4IEA2400 C Trenchiess Method S4IEB1000 C	is DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) <b>od</b> Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2)	58 76 36 65 53 70	-60d -60d 85d 61d -141d -141d	5 24DEC08 A 50 27AUG08 A 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08 04DEC08									DN400 I	Pipe & Manho	le (C7a - C	7) 10 Plpe & Ma	1
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Alinage and Duct Trench Method S4IEA1000 [C S4IEA1020 [C S4IEA1200 [C S4IEA1202 [C S4IEA2320 [C S4IEA2320 [C S4IEA2400 [C S4IEB1000 [C S4IEB1000 [C S4IEB1020 ] S4IEB1020 [J Satechnical works	is DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) S Monitoring of Instruments	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 29DEC08 0 29DEC08 0 06FEB09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08 04DEC08 29DEC08 03APR09									DN400 I	Pipe & Manho	le (C7a - C	7) 10 Plpe & Ma	1
Alinage and Duck           Tench Method           S4IEA1000         C           S4IEA1020         C           S4IEB1000         C           S4IEB1020         J           Seotechnical works         S           S4IP1000         N           pon 5 - Sewers& R         R	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) s Monitoring of Instruments RM in Portion E	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 29DEC08 0 29DEC08 0 06FEB09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08 04DEC08 29DEC08 03APR09									DN400 I	Pipe & Manho	le (C7a - C	7) 10 Plpe & Ma	1
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ainage and Duct           Trench Method           S4IEA1000         C           S4IEA1020         C           S4IEA12020         J           seotechnical works         S           S4IP10000         N           S4IP10000         N           S4IP10000         N           S4IP1000         N           C         S           S4IP1000         N           S4IP1000         N           C         S           S4IP2000         N	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C22 - C23) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) S Monitoring of Instruments RM in Portion E ts od	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 29DEC08 0 29DEC08 0 06FEB09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08	09FEB09 29NOV08 25MAY09 15MAY09 10SEP08 04DEC08 29DEC08 03APR09									DN400 I	Pipe & Manho	le (C7a - C	7) 0 Plpe & Ma 000 Plpe & M	anhole (C3
alinage and Duck           Trench Method           S4IEA1000         C           S4IEA1020         C           S4IEA1202         C           S4IEA1203         C           S4IEA1204         C           Trenchless Method         S           S4IEB1000         C           S4IEB1000         N           S4IEB1000         N           S4IP1000         N           S1         Sewers & R           Bion E         ainage and Duckt           Trenchless Method         S           Jate         19DECCI           date         180CT1	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) s Monitoring of Instruments RM in Portion E ts od	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 29DEC08 0 29DEC08 0 06FEB09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09 25AUG09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08 28JUN06 A	09FEB09 29NOV08 25MAY09 15SEP08 04DEC08 29DEC08 03APR09									DN400 I	Pipe & Manho	le (C7a - C	7) 0 Pipe & Ma 000 Pipe & M	anhole (C3
Alinage and Duck Trench Method S4IEA1000 C S4IEA1020 C S4IEA1020 C S4IEA1200 C S4IEA1200 C S4IEA2300 C S4IEA2300 C S4IEA2300 C S4IEA2300 C S4IEA1000 C S4IEB1000 C S4IEB1000 C S4IEB1000 C S4IEB1000 M s5 - Sewers & R ion E alinage and Duck Trenchless Methor S4IP1000 M S4IP1000 M S4IP200 M S4IP1000 M S4IP1000 M S4IP200 M S4IP200 M S4IP200 M S4IP200 M S4IP1000 M S4IP200 M	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) s Monitoring of Instruments RM in Portion E ts od	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 29DEC08 0 29DEC08 0 06FEB09	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09 25AUG09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08 22NOV08 22NOV08 30DEC08	09FEB09 29NOV08 25MAY09 10SEP08 04DEC08 03APR09 25MAY09	eering Corp.								DN400 I	Pipe & Manho	le (C7a - C	7) 0 Plpe & Ma 600 Plpe & M 000 Plpe & M	anhole (C3
alinage and Duck           Trench Method           S4IEA1000         C           S4IEA1020         C           S4IEA1202         C           S4IEA1203         C           S4IEA1204         C           Trenchless Method         S           S4IEB1000         C           S4IEB1000         N           S4IEB1000         N           S4IP1000         N           S1         Sewers & R           Bion E         ainage and Duckt           Trenchless Method         S           Jate         19DECCI           date         180CT1	ts DN500 Pipe & Manhole (C2 - C4) DN500 Pipe & Manhole (C4 - C6) DN400 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C7a - C7) DN500 Pipe & Manhole (C31 - C32) DN500 Pipe & Manhole (C32 - C34) od Construct Jack/Receive Pits (C1 - C2) Jacking DN500 (C1 - C2) s Monitoring of Instruments RM in Portion E ts od	58 76 36 53 53 70 30 78	-60d -60d 85d 61d -141d -141d -29d -29d	5 24DEC08 A 50 27AUG08 A 0 29DEC08 20 28NOV08 A 0 29DEC08 0 05MAR09 0 29DEC08 0 29DEC08 0 29DEC08 0 06FEB09 76 28JUN06 A	21APR09 14FEB09 12FEB09 03MAR09 04MAR09 27MAY09 05FEB09 09MAY09	24DEC08 A 27AUG08 A 13APR09 28NOV08 A 11JUL08 11SEP08 22NOV08 30DEC08 28JUN06 A 28JUN06 A	09FEB09 29NOV08 25MAY09 10SEP08 04DEC08 03APR09 25MAY09	eering Corp. lo. DC/2005/02 · 3M01 at 29 D	2	ar 200	8					DN400 I	Pipe & Manho	le (C7a - C	7) 00 Pipe & Ma 500 Pipe & M 500 Pipe & M	bar bar ss bar il bar any bar

						2008	2000
Act ID	Description	Orig Total P Dur Float Co	Percent Early Early omplete Start Finish	Late Start	Late Finish	10 <sup>1</sup> DEC 24 01 08 15 22	2005 FEB MAR 29 05 12 19 26 02 09 16 23 02 09 16 2
S5EEB1040 Constr	uct Manholes H11	27 -51d	30 09OCT08 A 20JAN09	090CT08 A	18NOV08		Construct Manholes H11
S5EEB1100 CCTV	Inspection of Pipeline	1 -51d	0 21JAN09 21JAN09	19NOV08	19NOV08		CCTV Inspection of Pipeline
Pipework - Rising Main							
Trench Method							
S5EFA1000 Twin F	Rising Main DN900 (ChA208 - ChA250)	33 -56d	70 23MAY08 A 08JAN09	23MAY08 A	31OCT08		Twin Rising Main DN900 (ChA208 - ChA250)
	Inspection of Pipeline	20 -56d	80 16AUG08 A 13JAN09	16AUG08 A			CCTV Inspection of Pipeline
Trenchless Method							
	Inspection of Pipeline	3 -55d	0 09JAN09 12JAN09	03NOV08	05NOV08		CCTV Inspection of Pipeline
Geotechnical works							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
S5EP1000 Monito	oring of Instruments	627	100 01AUG06 A 11DEC08	A 01AUG06 A	11DEC08 A	Monitoring of Instrument	is 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Testing							
S5ES1000 Pressu	re Testing to Twin Rising Main DN900	12 -56d	0 14JAN09 30JAN09	06NOV08	19NOV08		Pressure Testing to Twin Rising Main DN900
Section 6 - Sewers in Portio							
Portion J							
Ground Investigation							
S6JB1500 Install	Settlement Marker 1st Stage	765 -378d	35 20APR06 A 24AUG10	20APR06 A	25MAY09		
Drainage and Ducts							
Trench Method							
S6JEA1010 DN105	50 Pipe & Manhole (D2 - D3)	78 -28d	0 09MAR09 10JUN09	04FEB09	07MAY09		
S6JEA1700 TTA J	A7-2 DN400 Pipe & Manhole (D14 - D15)	46 -398d	0 14MAR09 08MAY09	09NOV07	04JAN08		
S6JEA1720 TTA J	A7-1 DN400 Pipe & Manhole (D15 - D16)	61 -398d	0 29DEC08 13MAR09	27AUG07	08NOV07		TTA JA7-1 D
S6JEA1900 TTA J	B1-1 DN400 Plpe & Manhole (D20 - D21)	102 -124d	0 23MAR09 23JUL09	22OCT08	24FEB09		
S6JEA1920 TTA J	B2-1 DN400 Plpe & Manhole (D21 - D22)	68 -124d	0 29DEC08 21MAR09	31JUL08	21OCT08		
S6JEA2400 TTA J	B6-1 DN400 Plpe & Manhole (D28 - D30)	80 -422d	0 29DEC08 06APR09	30JUL07	02NOV07		
S6JEA3200 DN300	) Pipe & Manhole (D40 - D42)	65 -216d	50 09JAN08 A 07FEB09	09JAN08 A	19MAY08		DN300 Pipe & Manhole (D40 - D42)
S6JEA3300 DN300	) Pipe & Manhole (D42 - D44)	72 -216d	0 09FEB09 05MAY09	20MAY08	13AUG08		
S6JEA4200 TTA J	D4-1 DN750 Pipe & Manhole (E7 - E8)	35 -226d	0 17MAR09 27APR09	14JUN08	25JUL08		
S6JEA4220 TTA J	D4-2 DN750 Pipe & Manhole (E7 - E9)	63 -226d	0 29DEC08 16MAR09	_	13JUN08	i i i i	
	D8-2 DN750 Pipe & Manhole (E12 - E13)	40 -275d	0 28FEB09 16APR09	28MAR08	16MAY08		
	D8-1 DN750 Pipe & Manhole (E13 - E14)	39 -275d	0 10JAN09 27FEB09	_	27MAR08		TTA JD 0 DN/250 Disc & Mashele (544 545)
	D-9 DN750 Pipe & Manhole (E14 - E15)	69 -275d	85 13NOV07 A 09JAN09	13NOV07 A	04FEB08		TTA JD-9 DN750 Pipe & Manhole (E14 - E15)
Trenchless Method							
S6JEB1000 Constr	uct Jack/Receive Pits (D1 - D2)	28 -71d	5 25NOV08 A 02FEB09	25NOV08 A	04NOV08		Construct Jack/Receive Pits (D1 - D2)
S6JEB1020 Jackin	g DN1050 (D1 - D2)	29 -71d	0 03FEB09 07MAR09	05NOV08	08DEC08		Jacking DN1050 (D1 -
S6JEB1040 Constr	uct Manholes D1 & D2	25 -55d	0 09MAR09 07APR09	30DEC08	31JAN09		
S6JEB1240 Constr	uct Manholes D7 & D8	25 107d	50 25AUG08 A 12JAN09	25AUG08 A	22MAY09		Construct Manholes D7 & D8
Geotechnical works				· · ·			
S6JP1000 Monito	pring of Instruments	1152 -354d	59 21APR06 A 27JUL10	21APR06 A	25MAY09		
Section 7 - Sewers in Portio	n K						
Portion K							
Drainage and Ducts Trench Method							
Finish date 18OCT10				Loador Cir	vil Engir	neering Corp. Ltd.	Early bar
Data date 28DEC08 Page number 7A						No. DC/2005/02	Critical bar
			3-Month			- 3M01 at 29 December 2008	B Summary bar ♦ Start milestone
c Primavera Systems, Inc.							<ul> <li>Start Intestore</li> <li>Finish mileston</li> </ul>

	Act	Burnstellun	Orig	Total	Percent	Early	Early	Late	Late			2008								2009						
	ID	Description	Dur	Float	Complete	Start	Early Finish	Start	Finish	IO1 24 01	08	DEC 15	22	29	05	JAN 12	19	26	02	FE 09	16	23	02	MAR 09	16	23
	S7KEA1105	DN600 Pipe & Manhole (M2 - M3) Stage 2	35	-293d	02	29DEC08	11FEB09	03JAN08	15FEB08				1		,	í.	Ť.	-	1	DN6	600 Pipe &	Manhole	(M2 - M3) \$	Stage 2		
	S7KEA1610	DN900 Pipe & Manhole (M11 - M12) Stage 2	54	-266d	85 3	20AUG08 A	07.IAN09	20AUG08 A	15FEB08		1		1		DN	900 Pipe 8	Manhole	(M11 - M	12) Stage	2		1		1	1	
		, , , , ,									1	1	1	1			1		·	1	CCTV	non-oction	of Pipeline	i	1	
		CCTV Inspection of Pipeline	5	-293d	30	16AUG08 A	16FEB09	16AUG08 A	20FEB08	1	1		1	-		1	1		1	1		rispection				
	Trenchless Me	hod											1			1	1		1	1				1	1	
	[							1	1	i.	i		i.	i o o o mi	i a	1	1		1	1		1		1	1	
		CCTV Inspection of Pipeline	2	-255d	30	16AUG08 A	29DEC08	16AUG08 A	20FEB08					CCIV	/ Inspection	of Pipelin	e								1	
R	oads and Pavir	ngs								1			1			1	1		1	1				1	1	
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	071/11/0000		1 10	0001		0500700 4	10 11 100		0055000	i			i	i -	i	Correct			14 to M16	i		1		1	1	
	S7KH1000	Concrete Footpath from M14 to M16a	18	-266d	30 2	250CT08 A	12JAN09	250CT08 A	20FEB08	1	1	1				Concre	е ноогра	In Irom M	14 10 10116			1		i		
G	eotechnical wo	rks									i i					1				1				1	1	
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	C7KD4000	Manitaria a of Instance ante	0.00	1	400/					1	1	Moni	itoring of Ir				1					1		1	1	
		Monitoring of Instruments	668		100	24IVIA 1 06 A	TODEC08 A	24MAY06 A	TODECUS A			- WOH	itoring of it	Istrument	5	1	-	-	1	1	1	-				
	ion 8 - Preserva Portions	tion and Protection of Trees																						1		
		vorks and Establishment Works								-							1					1		1	1	
	anuscape Son													1										1	1	
										-						1	1			1	1	1		1	1	
	S8QR1100	Preservation & Protection of Preserved Trees	744	-21d	81	29JUL06 A	19JUN09	29JUL06 A	25MAY09				1	_		1	1		1	1			_			_
Decc	ntamination W									1	1	-	-	1	-	1	-	-	-	1	-	-	+			
	rtion H									-				1		1	1	1		1		1		1	1	
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	S9HU1000	Decontamination Works	48	59d	0 2	24FEB09	21APR09	06MAY09	02JUL09	1	1			1						1			÷			
			1				1		1																	

Start date	19DEC05
Finish date	180CT10
Data date	28DEC08
Page number	8A

c Primavera Systems, Inc.

Leader Civil Engineering Corp. Ltd. DSD Contract No. DC/2005/02 3-Month Rolling Programme - 3M01 at 29 December 2008





Annex D

# **Photographical Records – Noise Barrier On-Site**



DSD Contract DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long

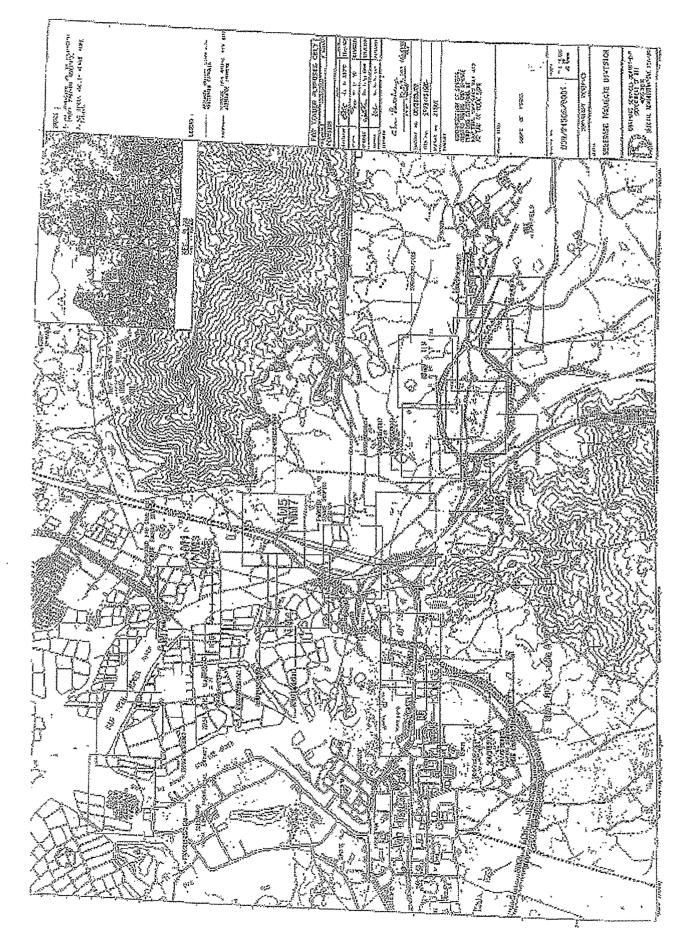
**AUES** 

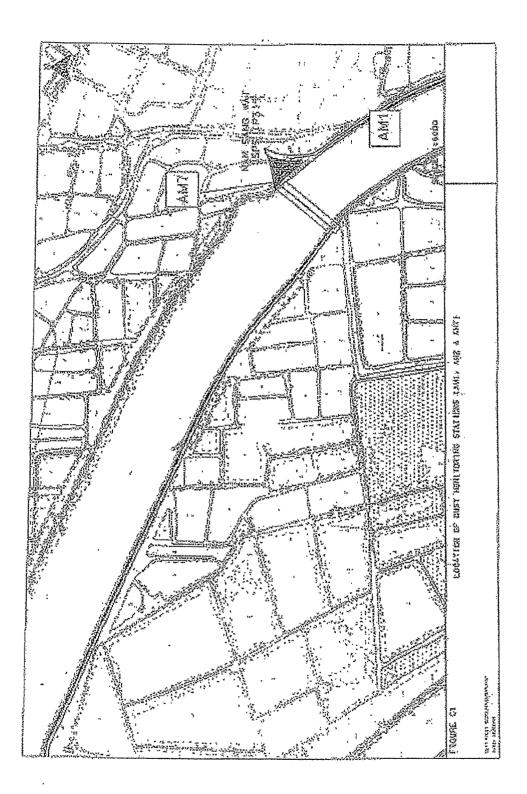


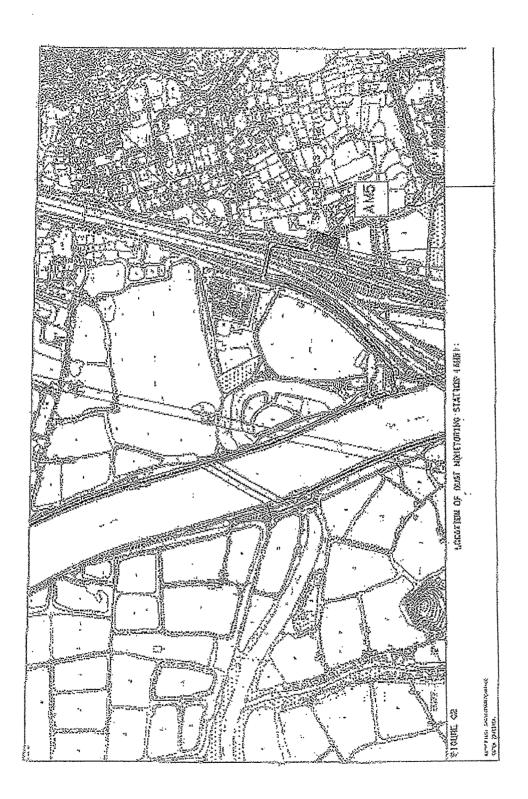


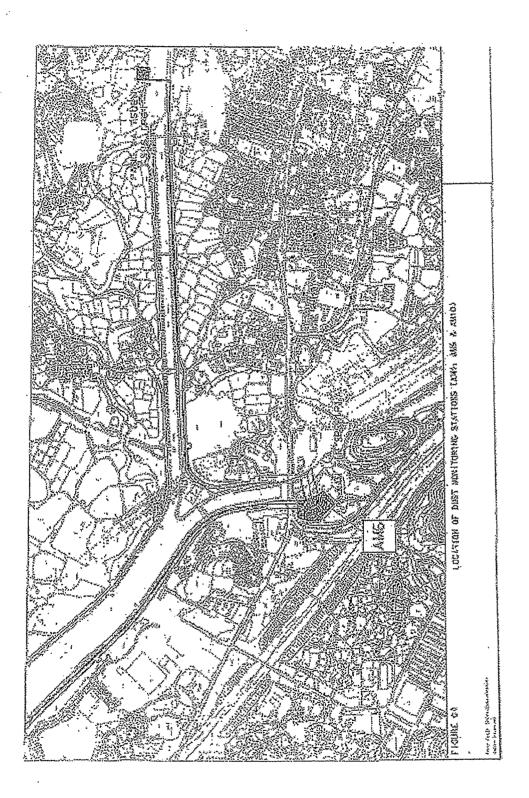
Annex E

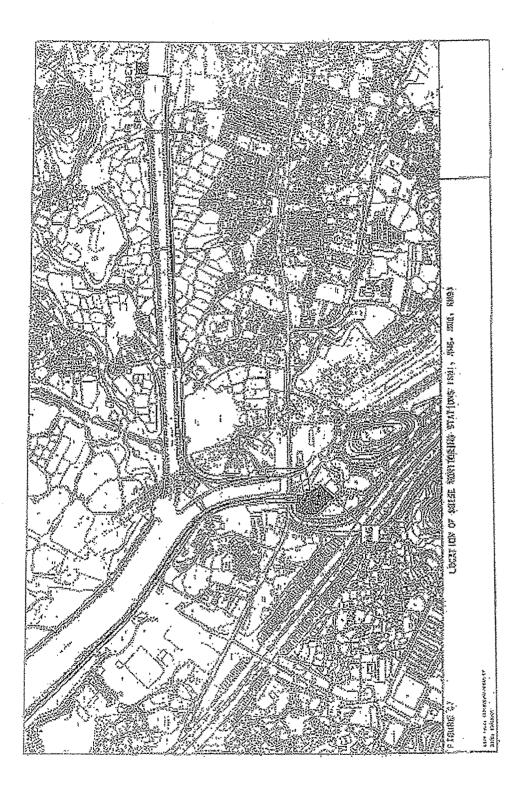
**Locations of Monitoring Stations** 

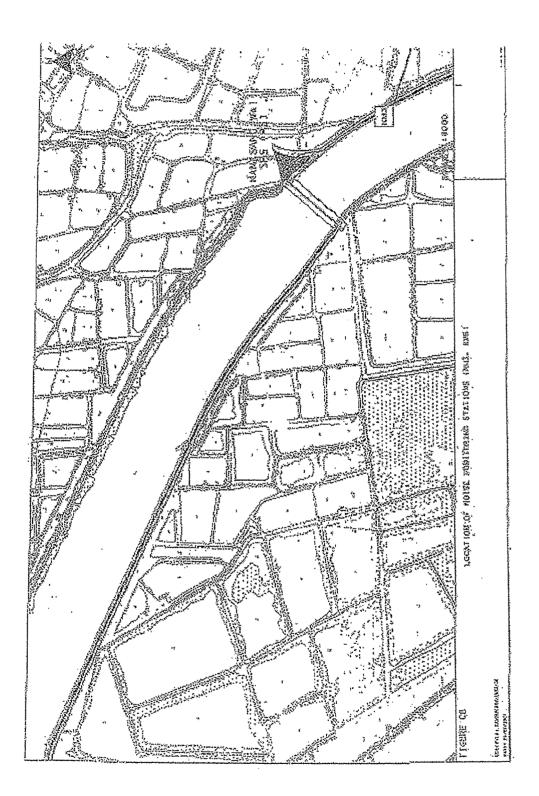


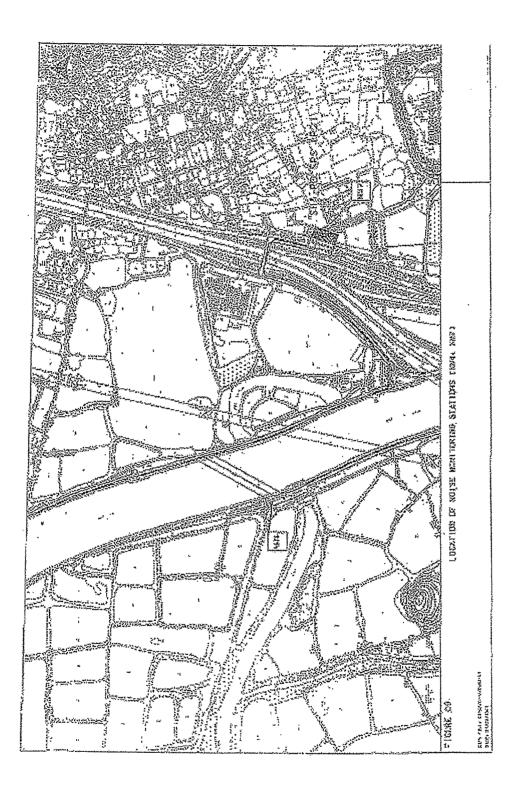














Annex F

# **Event and Action Plan**

### Monthly EM&A Report for December 2008 (No. 33) (Designated Elements – Construction Phase)

### Event and Action Plan for Construction Phase Air Quality

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

### Monthly EM&A Report for December 2008 (No. 33) (Designated Elements – Construction Phase)

AUES
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#### Event and Action Plan for Construction Phase Air Quality

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

Monthly EM&A Report for December 2008 (No. 33) (Designated Elements – Construction Phase)

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





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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
		CONSTRUCTION PHASE								
3.5	A1	<ul> <li>AIR QUALITY - Construction Phase</li> <li>The following measures are enforceable under the Air Pollution Control (Construction Dust) Regulations</li> <li>Site boundary and entrance <ul> <li>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;</li> </ul> </li> </ul>	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
3.5	A2	<ul> <li>Access Road</li> <li>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;</li> </ul>	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
3.5	A3	<ul> <li>Stockpiling of Dusty Materials</li> <li>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;</li> </ul>	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
3.5	A4	<ul> <li>Loading, unloading or transfer of dusty materials</li> <li>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;</li> </ul>	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
3.5	A5	<ul> <li>Use of vehicles</li> <li>every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site;</li> </ul>	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
3.5	A6	<ul> <li>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;</li> </ul>	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
3.5	A7	<ul> <li>Power-driven drilling, and cutting</li> <li>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;</li> </ul>	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
3.5	A8	<ul> <li>Excavation and earth moving</li> <li>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;</li> </ul>	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
3.5	A9	<ul> <li>Construction of the superstructure of a building</li> <li>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</li> </ul>	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	<ul> <li>any skip hoist for material transport should be totally enclosed by the impervious sheeting.</li> </ul>	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines	
						Des	С	0	Dec		
4.7.1	B1	<ul> <li>NOISE - Construction Phase</li> <li>General Site Clearance –</li> <li>Demolition Works</li> <li>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),</li> </ul>	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	
4.7.1	B2	<ul> <li>Construction of Sewage Pumping Stations P1, P2 &amp; P3</li> <li>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,</li> </ul>	To minimise potential noise impacts arising during the construction of <i>P1, P2</i> & <i>P3</i>	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Annex 5 of EIAO-TM	
		<ul> <li>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.</li> </ul>	To minimise potential noise impacts arising during the construction of <i>P1, P2 &amp; P3</i>	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									
4.7.1	В3	<ul> <li>Method</li> <li>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,</li> </ul>	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	<ul> <li>Use of movable noise barriers or 3 sided enclosures for all initial road opening activities</li> </ul>	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	с	ο	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		<ul> <li>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,</li> <li>Road Pavement and Finishes</li> </ul>	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
4.7.1		<ul> <li>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,</li> </ul>	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		<ul> <li>The Contractor shall obtain the necessary waste disposal permits from the appropriate authorities for the disposal of chemical and C&amp;D waste,</li> <li>Chemical Waste Producer and Chemical Waste Disposal Licence (Waste Disposal (Chemical Waste) (General) Regulations); and</li> <li>Dumping Licence (Land (Miscellaneous Provisions) Ordinance (Cap 28))</li> </ul>	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
6.6.2	D2	<b>Chemical Waste</b> Chemical waste that is produced, as defined by Schedule 1 of the <i>Waste Disposal (Chemical</i> <i>Waste) (General) Regulation,</i> 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
6.6.2	D3	<ul> <li>Storage, Packaging and Labelling of Chemical Waste</li> <li>Containers used for storage of chemical wastes should:</li> <li>be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>have a capacity of less than 450 L unless the specifications have been approved by the EPD; and</li> <li>display a label in English and Chinese in accordance with instructions prescribed in</li> </ul>	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
6.6.2	D4	<ul> <li>Schedule 2 of the Regulations.</li> <li>Storage of chemical waste</li> <li>The storage area for chemical wastes should:</li> <li>be clearly labelled and used solely for the storage of chemical waste;</li> <li>be enclosed on at least 3 sides;</li> <li>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;</li> <li>have adequate ventilation;</li> <li>be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and</li> <li>be arranged so that incompatible materials are</li> </ul>	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		V			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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
		adequately separate								
		<ul> <li>Disposal of chemical waste</li> <li>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.</li> </ul>	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.
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 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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
		EPD, the contaminated site(s) shall be remediated in accordance with the approved CAR/RAP.								
8.7.1	F1	ECOLOGY - Construction Phase Mitigation Measures Adopted - Avoidance 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 ( <i>Figure 8.7a</i> ) for the full duration of the construction contract.	The Contractor		~			
8.7.2	F2	<i>Mitigation Measures Adopted - Minimisation</i> 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 <i>Figure</i> <i>8.7a</i> 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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	ο	Dec	
		mitigation measures (i.e. erection of movable noise barriers with a suitable footing along the sites) in the monthly EM&A reports. <i>Mitigation Measures Adopted</i>					,			
8.7.3	F5	Quietened construction plant and equipment (as shown in <i>Table F2</i> ) 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 <sup>3</sup> .	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	ο	Dec	
8.7.4	F7	construction and provide temporary fire fighting equipment in the work areas. No filling and dumping to the remaining abandoned fishpond at P2.	minimising potential damage to trees and shrubs. To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	the full duration of the construction contract. At P2 for full duration of the construction contract	The Contractor		~			(Open Burning) Regulation
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.	To minimise potential landscape and visual impacts.	To be implemented during the construction phases of the project.	The Contractor		~			
		The first monthly EM&A Report should also report the appearance of the temporary hoarding barriers.								
	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	Stage**				Relevant Legislation & Guidelines
						Des	С	0	Dec	
		submitted for approval by the EPD.		project.						
		<ul> <li>The landscape plans and pumping station elevations should demonstrate that the following elements are considered:</li> <li>existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting</li> </ul>								
		<ul> <li>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.</li> <li>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.</li> <li>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.</li> <li>felling of mature trees are kept to a minimum.</li> </ul>								
		EM&A REQUIEMENTS - Construction Phase								
3.7	11	<ul> <li>Air Quality</li> <li>Subject to the Environmental Protection</li> <li>Departments (EPDs) agreement, construction</li> <li>phase dust monitoring shall be undertaken at the</li> <li>following locations in accordance with the</li> <li>recommendations of the EIA.</li> <li>Worksite boundary facing Scattered house in</li> <li>Nam Sang Wai (AM1);</li> </ul>	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
		<ul> <li>Worksite boundary facing Fung Kat Heung (AM5);</li> <li>Worksite boundary facing Scattered House near Route 3 (AM6);</li> </ul>								

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure						Relevant Legislation & Guidelines
						Des	С	ο	Dec	
4.9.1		<ul> <li>at any additional locations, where considered necessary, in agreement with EPD.</li> <li><i>Construction Noise</i> 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.</li> <li>(NM3) Scattered House in Nam San Wai (D12);</li> <li>(NM4) Scattered House in Nam San Wai (D11);</li> <li>(NM6) Scattered House near Route 3 (D17);</li> <li>(NM7) Fung Kat Heung (D19);</li> <li>and at any additional locations, where considered necessary, in agreement with EPD</li> </ul>	Installations of the noise monitoring stations to ensure the action and limit levels are not exceeded.	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 = l	Design, C = (	Construction, O = Operation, Dec = Decommissioning	1							



Annex H

# **Equipment Calibration Certificates**



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

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

Note:

\*

Calibration certificates will only be provided if monitoring equipment is re-calibrated or new.

Calibration done in this reporting month, see calibration certificate attached.

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



Annex I

# Meteorological Data in the Reporting Month



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

				Lau F	'au Shan W	eather Stat	ion
Date		Weather	Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Dec-08	Mon	fine/dry/moderate	0	17.3	8.5	57.2	E/SE
2-Dec-08	Tue	fine/dry/light winds/moderate	0	17.4	8.5	49.5	E/SE
3-Dec-08	Wed	sunny intervals/cloudy/moderate/fresh	Trace	19.9	11.5	58.5	E/NE
4-Dec-08	Thu	sunny intervals/moderate/rain/cool	0.2	23.9	11	59	Е
5-Dec-08	Fri	fine/very dry/cool/moderate/fresh	Trace	18.2	22	52	NE
6-Dec-08	Sat	fine/very dry/moderate/fresh	0	15.4	14.5	33.5	NE
7-Dec-08	Sun	sunny periods/dry/moderate	0.4	15.6	8.7	35.2	E/SE
8-Dec-08	Mon	sunny periods/very dry/moderate	Trace	18.1	16	38.7	N/NE
9-Dec-08	Tue	fine/very dry/moderate	0	16.8	13	36	E/SE
10-Dec-08	Wed	fine/very dry/moderate	0	19.5	11	54	E/SE
11-Dec-08	Thu	fine/very dry/haze/moderate	0	18.6	8.5	44	E/SE
12-Dec-08	Fri	dry/sunny intervals/cloudy/moderate/fresh	0	22.3	10	54.5	Е
13-Dec-08	Sat	sunny periods/dry/fine/moderate/fresh	0	21.4	10	63	E/NE
14-Dec-08	Sun	fine/dry/hazy/moderate	0	18.7	4	12	E/NE
15-Dec-08	Mon	fine/dry/hazy/moderate	0	15.4	14.5	Maintenance	E/NE
16-Dec-08	Tue	fine/dry/hazy/moderate	0	16.1	9	62	Е
17-Dec-08	Wed	fine/dry/haze/moderate	0	17.2	7.2	58	E/SE
18-Dec-08	Thu	fine/dry/haze/light winds/moderate	0	17.4	9.2	53	E/SE
19-Dec-08	Fri	fine/dry/haze/moderate	0	21.2	13.5	51	Е
20-Dec-08	Sat	fine/dry/haze/moderate	0	21.9	9	57.5	E/SE
21-Dec-08	Sun	fine/dry/haze/moderate	0	21.8	8.5	56	Е
22-Dec-08	Mon	fine/dry/fresh/strong	Trace	14.9	19	59.7	E/NE
23-Dec-08	Tue	fine/dry/moderate	0	12.6	19	45	NE
24-Dec-08	Wed	cloudy/dry/sunny intervals/moderate	0	17.3	10.5	49.7	N/NE
25-Dec-08	Thu	Holiday					
26-Dec-08	Fri	Holiday					
27-Dec-08	Sat	cloudy/rain/moderate/fresh	Trace	20	9	64	E/NE
28-Dec-08	Sun	cloudy/haze/moderate/fresh	0.1	19.4	8.2	81	N/NE
29-Dec-08	Mon	cloudy/haze/moderate/fresh	2	19.5	11.7	76	N/NE
30-Dec-08	Tue	cloudy/rain/cool/moderate/fresh	5.2	15.9	12.2	76	E/NE
31-Dec-08	Wed	rain/fine/moderate/fresh	1.1	13.9	19	72.5	NE



# Annex J

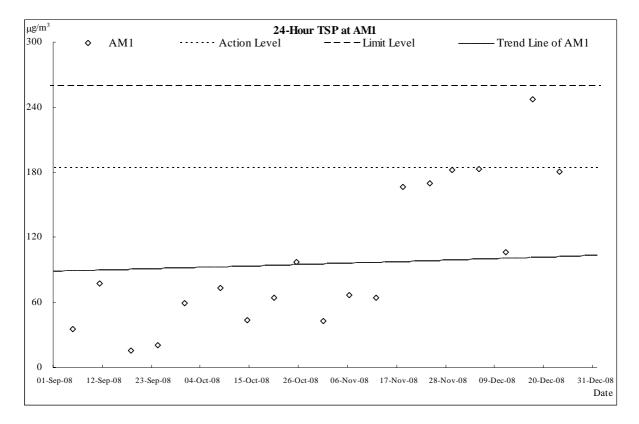
# Graphical Plots of Air Quality and Construction Noise Monitoring Results

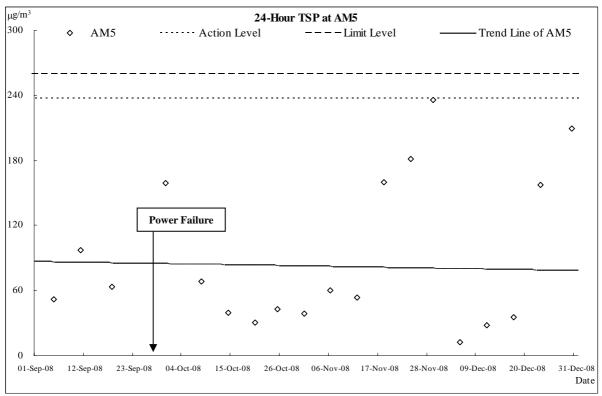


Air Quality



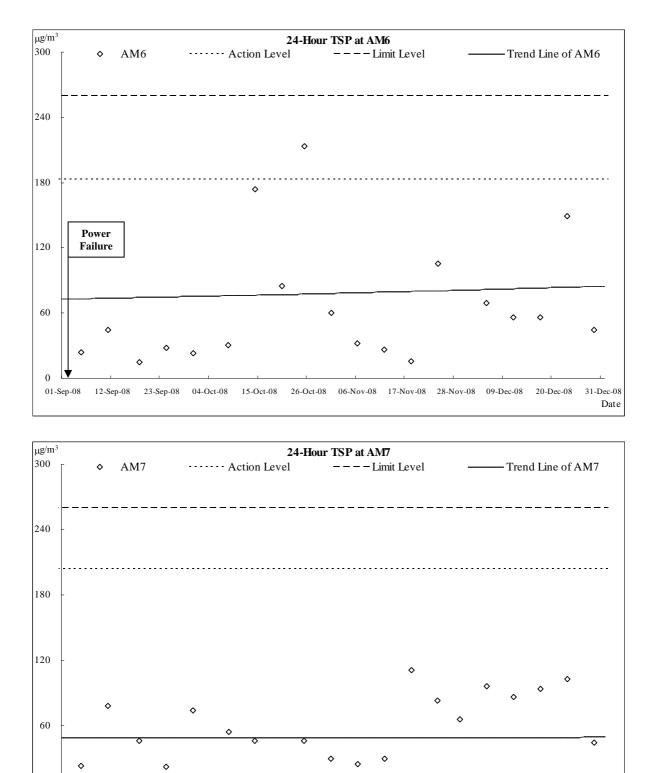
## **<u>Air Quality Monitoring Results</u>**







## **Air Quality Monitoring Results**



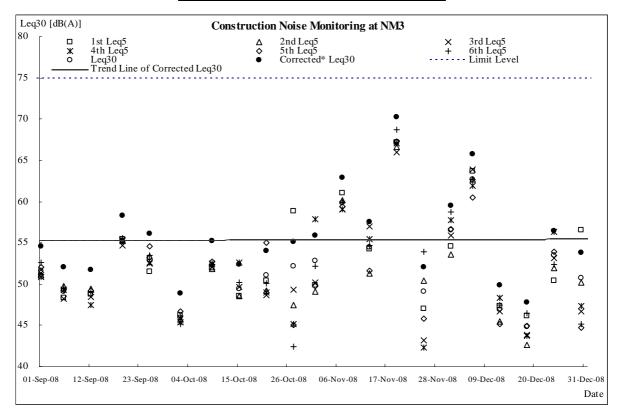
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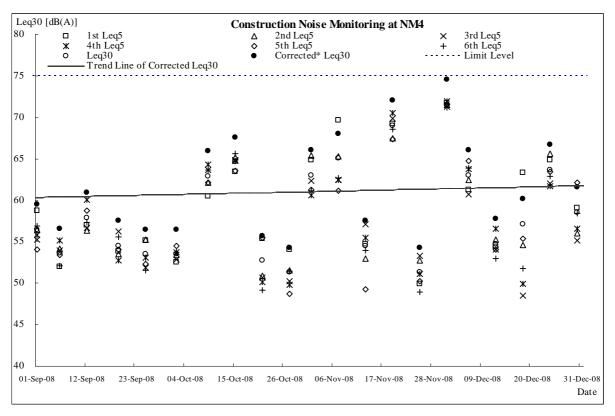


**Construction Noise** 



## **Construction Noise Monitoring Results**

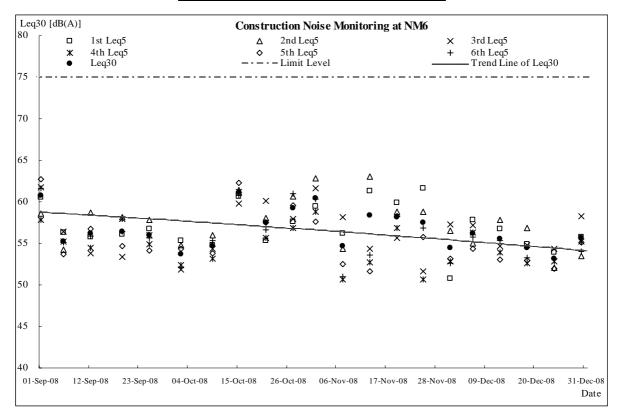


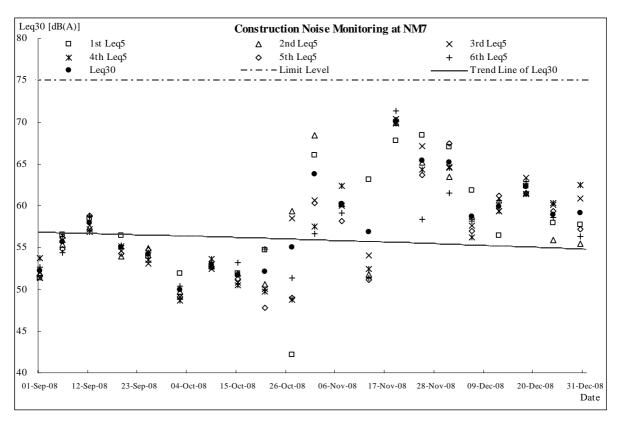


DSD Contract DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Monthly EM&A Report for December 2008 (No. 33) (Designated Elements Construction Phase)



## **Construction Noise Monitoring Results**







Annex K

# **Proforma of Site Inspection & IEC Audit in the Reporting Month**

# **AUES**

# Site Inspection Checklist (SF-17)

Project	DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long				actor:		Leader Civil Engineering Corp. Ltd						
	Sang wai ar	10 AU TAU IN TUEN L	ong	Engin	eer:		Babtie Asia Ltd						
Inspected by:	ET Auditor:	Ben Tam	IEC:			Mott MacDonald Hong Kong Ltd							
	Contractor Rep:       Benny Lam/Edwin Leung         IEC's Rep:       RE's Rep:         RE's Rep:       Mr. Tsang				Inspection Date & Time: Checklist Reference			Action-United Environmental Services & Consulting 02 December 2008 (10:00)					
								DSD-AT021208					
				No.:									
General Meteor	ological Informa	ation											
Weather	✓ Sunny	Fine	Cloudy		Overcast		Drizzle		Rain	✓ Hazy			
Temp:	21 °C												
Humidity:	High (RI	H > 90%)	✓ Moderate (90	0% > RH :	> 50%)		Low (RH	< 50%)					
Wind:	Calm	✓ Light	Breeze		Strong								
Air Quality					Yes	NO	NA	NC	Follow- up	Remarks			
Is hoarding of no	t less than 2.4m	provided?			$\checkmark$				·				
Are site vehicles	traveling within c	controlled speed limit?			$\checkmark$								
Are site vehicles	movement confi	ned to designated haul r	oads?		$\checkmark$								
Are public roads	outside site exits	s kept clean and free from	n dust?		$\checkmark$								
Are haul roads a	nd unpaved surfa	aces watered regularly to	avoid dust generation?		$\checkmark$								
Are there wheel	washing facilities	provided at site exits?		$\checkmark$									
Is water spraying	ctivities?		$\checkmark$										
Are the excave impermeable/tarp		pile of dusty material	s kept wet or cover	ed by	$\checkmark$								
Is exposed area	of ground covere	ed or watered frequently?	?		$\checkmark$								
Are load on vehic	cles covered by c	clean impervious sheetin	g?				$\checkmark$						
Are vehicles and	equipment switc	ched off while not in use?	?		$\checkmark$								
Are smoky emiss	ions from plants	/equipment avoided?			$\checkmark$								
Is open burning a	avoided?				$\checkmark$								
Observable dust	sources	Wind erosion			✓ NA								
		Loading/unloading	of materials		Oth	ners							
Construction No	oise												
Are the construct	ion works sched	luled to minimize noise r	uisance?		$\checkmark$				$\Box$ _				
Are the works or	equipment sited	to minimize noise nuisa	nce?		$\checkmark$				$\Box$ _				
Are all plant and	equipment well r	maintained and in good o	operating condition?		$\checkmark$				$\Box$ _				
Is idle equipment	turned off or thr	ottled down?			$\checkmark$				$\Box$ _				
Is powered mech materials?	anical equipmen	nt covered or shielded by	appropriate acoustic				$\checkmark$						
Is silenced equip	ment used where	e appropriate?					$\checkmark$		$\Box$ _				
Are noise enclos	ures or noise bai	rriers used where neces	sary?				$\checkmark$		$\Box$ _				
Does specified e	quipment has va	lid noise label?					$\checkmark$		$\Box$ _				
Are Construction	Noise Permits (	CNPs) available for insp	ection?				$\checkmark$						
Major Noise Sou	rce	Traffic			✓ Cor	nstructior	activities ins	ide the site	•				
		Construction activ	ities outside of site		Oth	ners <u>N</u>	Jil						

# **AUES**

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

Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?



#### Remarks:

#### Observations Recorded in this Site Inspection:

No environmental issue was observed during the site inspection, as a reminder, water spraying is needed during the dry season for the haul road to minimize the dust generation.

Signatures:

Epv. Auditor

Contractor's Representative

IC(3) Auditor

Resident Site Staff

ba Nomine: Asoul Web Web Com

Name : Ben 'fam

Name: Edvin Leung

6hu

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				actor:		Leader Civil Engineering Corp. Ltd						
	Sang wai ar		ong	Engin	eer:		Babtie Asia Ltd						
Inspected by:	ET Auditor:	Ben Tam	IEC:			Mott MacDonald Hong Kong Ltd							
	Contractor Rep:       Benny Lam/Edwin Leung         IEC's Rep:       IEC's Rep:         RE's Rep:       Mr. Tsang				Inspection Date & Time:			Action-United Environmental Services & Consulting : 09 December 2008 (10:00)					
								DSD-AT091208					
General Meteoro	ological Informa	ation											
Weather	✓ Sunny	Fine	Cloudy		Overcast		Drizzle		Rain	✓ Hazy			
Temp:	18 °C												
Humidity:	High (RI	H > 90%)	Moderate (90	0% > RH :	> 50%)		Low (RH	< 50%)					
Wind:	Calm	✓ Light	Breeze		Strong								
Air Quality					Yes	NO	NA	NC	Follow-	Remarks			
									up				
Is hoarding of no					<ul> <li>✓</li> </ul>								
	-	controlled speed limit?			<ul> <li>✓</li> </ul>								
Are site vehicles	movement confi	ned to designated haul I	roads?		✓								
Are public roads	outside site exits	s kept clean and free fro	m dust?		$\checkmark$								
Are haul roads a	nd unpaved surfa	aces watered regularly to		$\checkmark$									
Are there wheel		$\checkmark$				$\square$ _							
Is water spraying	ctivities?		$\checkmark$				$\Box$ _						
Are the excave impermeable/tarp		oile of dusty material	ls kept wet or cover	red by	$\checkmark$				$\Box$ _				
Is exposed area	of ground covere	ed or watered frequently	?			$\checkmark$			$\Box$ _				
Are load on vehic	cles covered by c	clean impervious sheetir	ng?				$\checkmark$						
Are vehicles and	equipment switc	ched off while not in use	?		$\checkmark$								
Are smoky emiss	ions from plants	/equipment avoided?			$\checkmark$								
Is open burning a	avoided?				$\checkmark$								
Observable dust	sources	Wind erosion			✓ NA								
		Loading/unloading	g of materials		Oth	ners							
Construction No	oise												
Are the construct	ion works sched	luled to minimize noise r	nuisance?		$\checkmark$								
Are the works or	equipment sited	to minimize noise nuisa	ince?		$\checkmark$								
Are all plant and	equipment well r	maintained and in good	operating condition?		$\checkmark$								
Is idle equipment	turned off or thr	rottled down?			$\checkmark$								
Is powered mech materials?	anical equipmer	nt covered or shielded by	y appropriate acoustic				$\checkmark$						
Is silenced equip	ment used where	e appropriate?					$\checkmark$						
Are noise enclos	ures or noise ba	rriers used where neces	sary?				$\checkmark$						
Does specified e	quipment has va	lid noise label?					$\checkmark$						
Are Construction	Noise Permits (	CNPs) available for insp	ection?				$\checkmark$						
Major Noise Sou	rce	Traffic			 _√ Coi	nstructior	activities ins	ide the site	) — — —				
		Construction activ	ities outside of site		_		lil						

# **AUES**

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

Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?



Remarks:

### Observations Recorded in this Site Inspection:



Stock pile without fully cover was observed at Kam Tin works area, the contractor was reminded to water or cover the stock pile to minimize dust generation during the dry season.



Soil debris inside the U-channel was observed at Nam San Wai Road, the contractor was reminded to clean to prevent any blocking in the U-channel.

Signatures:

Env. Auditor

Nome : Ben Tam

Contractor's Representative

Sher

IC(E) Auditor

Resident Site Staff

Name:

Name:

vel

# **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					
Inspected by:	Sang wai and	d Au Tau in Yuen L	ong	Engin	eer:		Babtie Asia Ltd						
Inspected by:	ET Auditor: Anfernee Chow				IEC:			Mott MacDonald Hong Kong Ltd					
	Contractor Rep	p: Benny Lam/E	Edwin Leung	Environmental Team: Inspection Date & Time:			Action-United Environmental Services & Consulting : 16 December 2008 (09:30)						
	IEC's Rep:												
	RE's Rep:	Checklist Reference No.:			DSD-AT161208								
	eral Meteorological Information												
General Meteoro	ological Informat	Fine	Cloudy		Overcast	<b></b>	Drizzle	<b></b>	Rain	✓ Hazy			
Temp:	20 °C				overedet	L	DIIZZIO		- Turr	Thaty			
Humidity:	High (RH	1 > 90%)	Moderate (90	ראיג און אינ	< 50%)	Γ,	Low (RH	~ 50%)					
Wind:		Light	Breeze		Strong			< 00 /0)					
		Light	Diceze		otrong								
Air Quality					Yes	NO	NA	NC	Follow- up	Remarks			
Is hoarding of no	ot less than 2.4m p	provided?			$\checkmark$								
Are site vehicles	traveling within co	ontrolled speed limit?			$\checkmark$								
Are site vehicles	movement confine	ed to designated haul r	roads?		$\checkmark$				$\Box$ _				
Are public roads	outside site exits	kept clean and free from	m dust?		$\checkmark$				$\Box$ _				
Are haul roads a	nd unpaved surfac	ces watered regularly to	o avoid dust generation?	•	$\checkmark$				$\Box$ _				
Are there wheel	washing facilities	provided at site exits?		$\checkmark$									
Is water spraying	ctivities?		$\checkmark$										
Are the excave impermeable/targ		le of dusty material	ls kept wet or cover	red by	$\checkmark$								
Is exposed area	of ground covered	d or watered frequently	?		$\checkmark$				$\Box$ _				
Are load on vehic	cles covered by cl	ean impervious sheetin	ng?				$\checkmark$						
Are vehicles and	equipment switch	ned off while not in use'	?		$\checkmark$								
Are smoky emiss	sions from plants/e	equipment avoided?			$\checkmark$				$\Box$ _				
Is open burning a	avoided?				$\checkmark$				$\Box$ _				
Observable dust	sources	Wind erosion			✓ NA								
	[	Loading/unloading	g of materials		Oth	ers _							
Construction No	oise												
Are the construct	tion works schedu	lled to minimize noise r	nuisance?		$\checkmark$				$\Box$ _				
Are the works or	equipment sited t	o minimize noise nuisa	ince?		$\checkmark$				$\Box$ _				
Are all plant and	equipment well m	naintained and in good	operating condition?		$\checkmark$				$\Box$ _				
Is idle equipment	t turned off or thro	ottled down?			$\checkmark$				$\Box$ _				
Is powered mech materials?	nanical equipment	covered or shielded by	y appropriate acoustic				$\checkmark$						
Is silenced equip	ment used where	appropriate?					$\checkmark$		$\Box$ _				
Are noise enclos	ures or noise barr	riers used where neces	sary?				$\checkmark$		$\Box$ _				
Does specified e	quipment has vali	d noise label?					$\checkmark$						
Are Construction	Noise Permits (C	NPs) available for insp	ection?				$\checkmark$						
Major Noise Sou	rce	Traffic			✓ Cor	nstruction	activities ins	ide the site	•				
	[	Construction activ	ities outside of site		Oth	ers <u>N</u>	lil						

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

Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?

Remarks:

Observations Recorded in this Site Inspection:



The Contractor was reminded to spray larvicide on persistent stagnant water to prevent breeding of mosquito.



The Contractor was reminded to remove the sediment in the desilting facilities regularly.

Signatures:

Name : Anfernee Chou

Contractor's Representative

IC(E) Auditor

Resident Site Staff

Normer TSMULA WWG WAT

40 8

Name: Edwin Loung

Name:

### Site Inspection Checklist (SF-17)

Project	& Sewage	Construction of Sev Pumping Station	at Kam Tin, Nam	Contra	actor:	Leader Civil Engineerir			eering Corp	ring Corp. Ltd	
	Sang Wai and Au Tau in Yuen Long         ET Auditor:       Anfernee Chow         Contractor Rep:       Benny Lam/Edwin Leung			Engineer: IEC: Environmental Team:			Babtie Asia Ltd				
Inspected by:							Mott Mac	Donald H	ong Kong L	td	
							Action-Un Consultin		vironmental	Services &	
	IEC's Rep:			Inspe	tion Date	& Time:	23 Decem	ber 2008	(09:30)		
	RE's Rep:	Mr. Tsang		Check No.:	list Refere	ence	DSD-AT23	1208			
General Meteoro	ological Informat	tion									
Weather	✓ Sunny	Fine	Cloudy		Overcast		Drizzle		Rain	✓ Hazy	
Temp:	23 °C										
Humidity:	High (RH	l > 90%)	Moderate (90	0% > RH >	<b>50%</b> )	v	Low (RH	< 50%)			
Wind:	Calm	✓ Light	Breeze		Strong						
Air Quality					Yes	NO	NA	NC	Follow- up	Remarks	
Is hoarding of no	t less than 2.4m p	provided?			$\checkmark$						
Are site vehicles	traveling within co	ontrolled speed limit?			$\checkmark$						
Are site vehicles	movement confin	ed to designated haul r	oads?		$\checkmark$						
Are public roads	outside site exits	kept clean and free from	m dust?		$\checkmark$						
Are haul roads a	nd unpaved surfa	ces watered regularly to	o avoid dust generation?		$\checkmark$						
Are there wheel	washing facilities	provided at site exits?			$\checkmark$						
Is water spraying	used during the i	main dust-generating a	ctivities?		$\checkmark$						
Are the excave impermeable/tarp		le of dusty material	s kept wet or cover	red by	$\checkmark$						
Is exposed area	of ground covered	d or watered frequently?	?		$\checkmark$						
Are load on vehic	cles covered by cl	ean impervious sheetin	g?				$\checkmark$				
Are vehicles and	equipment switch	ned off while not in use?	?		$\checkmark$						
Are smoky emiss	sions from plants/e	equipment avoided?			$\checkmark$				$\Box$ _		
Is open burning a	avoided?				$\checkmark$				$\Box$ _		
Observable dust	sources	Wind erosion			✓ NA						
	l	Loading/unloading	of materials		Oth	ers _					
Construction No	oise										
Are the construct	tion works schedu	lled to minimize noise r	uisance?		$\checkmark$				$\Box$ _		
Are the works or	equipment sited t	o minimize noise nuisa	nce?		$\checkmark$				$\Box$ _		
Are all plant and	equipment well m	naintained and in good	operating condition?		$\checkmark$				$\Box$ _		
Is idle equipment	t turned off or thro	ottled down?			$\checkmark$				$\Box$ _		
Is powered mech materials?	nanical equipment	covered or shielded by	appropriate acoustic				$\checkmark$				
Is silenced equip	ment used where	appropriate?					$\checkmark$		$\Box$ _		
Are noise enclos	ures or noise barr	riers used where neces	sary?				$\checkmark$		$\Box$ _		
Does specified e	quipment has vali	d noise label?					$\checkmark$		$\Box$ _		
Are Construction	Noise Permits (C	NPs) available for insp	ection?				$\checkmark$				
Major Noise Sou	rce	Traffic			✓ Cor	struction	activities ins	ide the site	9		
		Construction activ	ities outside of site		Oth	ers <u>N</u>	lil				

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

, grease or other objectionable matters in water or nearby drains of sewer avoided?

#### Remarks:

Observations Recorded in this Site Inspection:



Chemicals should be stored in designated area with drip tray provided. Oil drum should be provided with drip tray. The contaminated soil should be removed and stored in the chemical waste storage area for further disposal by specialist contractor.





The Contractor was reminded to maintain the desilting facilities regularly.

Signatures: Env. Auditor

Name : Anformee Chow

Contractor's Representative

IC(E) Auditor

Resident Site Staff

WAG MBI Name TERRill

äwin Lound

Name:

Name:

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

0. 3

### MONTHLY SITE INSPECTION CHECKLIST

Inspection [	Nom San Wai Rd	-[130 Inspected By Leader: Edwin Leung ET: Antenne Chan DSD: WK Trang
Site Locatio	n Kan Tin Punjing station Sha Po Punjing Station Nam Sang War Punjing Station	IEC: Benny Zin
Weather		
Condition	Sunny · Fine Overcast D	Drizzle Rain Storm Hazy
Temperature	I4°C Humidity H	ligh Moderate V Low
Wind	Calm Light Breeze Si	Bitrong Direction N
EIA ref:		Close-out N/A Yes No Photo/Remarks on last or comments not Y/N obs
	Construction Phase	
	Air Quality - Construction Phase	
3.5	<ul> <li>Are hoardings of not less than 2.4m high provided along the site boundary?</li> </ul>	
3.5	<ul> <li>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?</li> </ul>	
3.5 •	<ul> <li>Are stockpiled dusty materials covered by impervious sheeting and placed in an area sheltered on top and 3 sides or sprayed with water?</li> </ul>	
3.5 •	<ul> <li>Are dusty material loads on vehicles sprayed with water prior to loading and unloading?</li> </ul>	
3.5 •	<ul> <li>Are all vehicles washed to remove dusty materials from its body and wheels before leaving site?</li> </ul>	
3.5 •	<ul> <li>Are vehicles which are carrying dusty materials covered entirely by impervious sheeting when leaving site?</li> </ul>	
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?	

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3.7	<ul> <li>Have dust monitors been provided at the following locations:</li> <li>Boundary facing scattered house in NSW (AM1)</li> <li>Boundary facing Fung Kat Heung (AM5)</li> <li>Boundary facing scattered house near route 3 (AM6)</li> </ul>
	Construction Noise
4.7.1	Demolition works 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	<ul> <li>Have noise monitors been provided at the following locations: <ul> <li>(NM3) Scattered house in NSW</li> <li>(NM4) Scattered house in NSW</li> <li>(NM6) Scattered house near Route 3</li> <li>(NM7) Fung Kat Heung</li> </ul> </li> </ul>
	Construction Runoff and Site Drainage
	<ul> <li>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?</li> </ul>
	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
	Is deposited silt and grit removed regularly and disposed of by spreading evenly over stable, vegetated areas?

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- 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?
- 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?
- 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?



3

7.5.6	Land Contamination - Construction Phase     Is a revised CAP submitted to the EPD before	re
	commencement of construction works? Is the CA	P / 9
	implemented and findings of the investigations reported the CAR, before ground disturbance is allowed?	in 🔽
	the OAR, before ground disturbance is allowed:	
7.5.6	• If land contamination is confirmed, has a RAP been	en 🗸 👘
	prepared and submitted to EPD?	
7.5.6	Are contaminated sites remediated in accordance with the second sec	
	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 WB	A, .
	and close to locations of ecologically sensitive species.	
8.7.1	<ul> <li>During November to March periods, are regular si inspections (at least twice a month) undertaken by ET</li> </ul>	
	ensure proper implementation of this restriction?	
8.7.2	<ul> <li>Is pipe jacking method used for sewers and rising main crossing over MDC within the WCA and WBA?</li> </ul>	
8.7.2	During November to March, are regular site inspections (	
	least twice a month) undertaken by ET for the remainir sewerage sections (including parts of S4, S5 and S6) with	
	the WCA and WBA where construction activities cannot b	
	rescheduled?	
8.7.2	• The site inspections shall check and report the number	nf 🖉
	workfronts and implementation of mitigation measures	
	the monthly EM&A Report.	
8.7.3	Are quietened construction plant and equipment used fill	pr /
	PS (P2 and P3) and sewers (S4, S5, S6) within the WC	
	and WBA?	
8.7.4	<ul> <li>For P1-P3, have fences along the boundary of the pumpir</li> </ul>	g
	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 BroBECC No.	
0.7.4	<ul> <li>Are silt removal facilities, designed to the ProPECC Not PN1/94, installed and operated at the P1 to P3 sites? The</li> </ul>	
	minimal total combined volume of the silt removal facilitie	
	at P3 (NSW SPS) should be 15m3.	
8.7.4	<ul> <li>There shall be no open fires within the site boundary.</li> </ul>	
074		
8.7.4	<ul> <li>Have temporary fire fighting equipment provided in th works areas.</li> </ul>	e
	<ul> <li>Landscape and Visual - Construction Phase</li> <li>Have the implementation of mitigation measures (i.e., to</li> </ul>	
	<ul> <li>Flave the implementation of mitigation measures (i.e., to soil reused, new compensatory planting) been reported in</li> </ul>	
	the monthly EM&A?	· · · · · · · · · · · · · · · · · · ·
	The first monthly EM&A Report should report on th	
	appearance of the temporary hoarding barriers.	e la
	<ul> <li>Are screen planting (3m wide) and trees with dens canopy (up to 5m) provided?</li> </ul>	e 🗸 🖌
	<ul> <li>Is felling of mature trees kept to a minimum?</li> </ul>	

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#### **OTHER OBSERVATIONS**

#### This month's observation

- 1. Mechanical oil tank was stored improperly and placed on ground. The Contractor was reminded to store it properly in chemical waste store and remove the oil stained sand (near Ko Po Road).
- 2. A fuel drum was placed on ground instead of drip tray. The Contractor was reminded to store it properly inside drip tray (Nam Sang Wai Road).

#### Follow-up last month's observations (27 Nov 2008)

- 1. Sediments deposited inside part of the U-channels along Nam Sang Wai Road were cleared.
- 2. Rubbish was still noted at the working area nearby NSW Pumping Room site. The Contractor was recommended to remove the rubbish and maintain site tidiness.
- 3. An area was designated by Contractor for temporary storage of rubbish and to remove them regularly at Nam Sang Wai Road site.
- 4. Environmental Permit was posted out at Nam Sang Wai Pumping Room site.

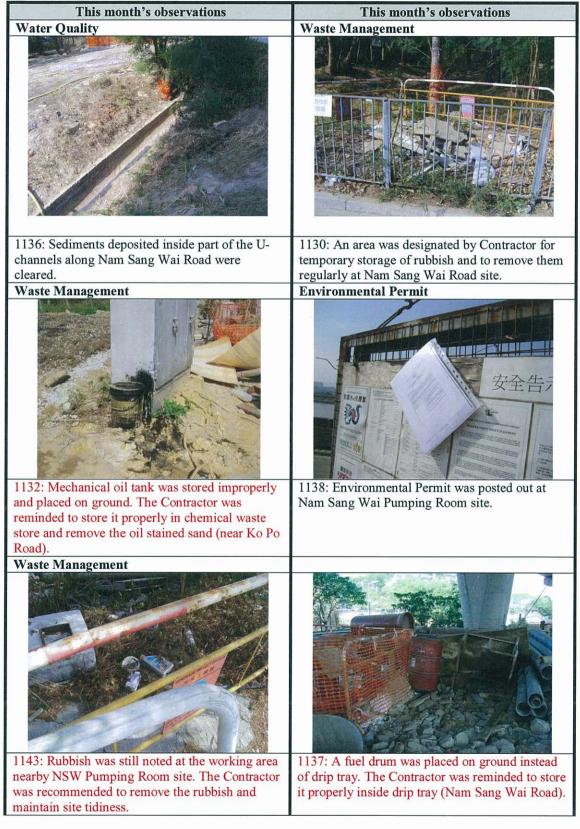
DSD Repr	resentative	Contractor F	Representative		ETL	IEC	
(	)	(	)	(	)	(Benny Lin	)
P:\Hong Kong\INI	F\Projects2\225181-Ka	amTin IEC\monthly site a	audits\Site Audits\2008\D	ec 2008\SI_Check	k List_20081223.doc	23/12/2008	

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

1.4.1

#### MONTHLY SITE INSPECTION PHOTOS 23 December 2008 Environmental Observations

#### This month's observations



### Site Inspection Checklist (SF-17)

Project DC/2005/02 Construction of Sewers, Rising Mains Contractor: & Sewage Pumping Station at Kam Tin, Nam				Leader Civil Engineering Corp. Ltd						
	Sang Wai and Au Tau in Yuen Long         ET Auditor:       Anfernee Chow         Contractor Rep:       Benny Lam/Edwin Leung			Engineer: IEC: Environmental Team:			Babtie Asia Ltd Mott MacDonald Hong Kong Ltd			
Inspected by:										
							Action-Un Consultin		vironmental	Services &
	IEC's Rep:			Inspe	ction Date	& Time:	29 Decem	ber 2008	(09:30)	
	RE's Rep:	Mr. Tsang		Check No.:	dist Refere	ence	DSD-AT29	91208		
General Meteoro	ological Informa	ation								
Weather	Sunny	Fine	✓ Cloudy		Overcast		Drizzle		Rain	✓ Hazy
Temp:	22 °C									
Humidity:	High (RI	H > 90%)	✓ Moderate (90	)% > RH :	> 50%)		Low (RH	< 50%)		
Wind:	Calm	<ul> <li>✓ Light</li> </ul>	Breeze		Strong					
Air Quality					Yes	NO	NA	NC	Follow- up	Remarks
Is hoarding of no	t less than 2.4m	provided?			$\checkmark$					
Are site vehicles	traveling within c	controlled speed limit?			$\checkmark$					
Are site vehicles	movement confi	ned to designated haul ı	roads?		$\checkmark$				$\Box$ _	
Are public roads	outside site exits	s kept clean and free fro	m dust?		$\checkmark$					
Are haul roads a	nd unpaved surfa	aces watered regularly to	o avoid dust generation?		$\checkmark$				$\Box$ _	
Are there wheel	washing facilities	provided at site exits?			$\checkmark$				$\Box$ _	
Is water spraying	used during the	main dust-generating a	ctivities?		$\checkmark$					
Are the excave impermeable/tarp		ile of dusty material	s kept wet or cover	ed by	$\checkmark$					
Is exposed area	of ground covere	ed or watered frequently	?		$\checkmark$				$\Box$ _	
Are load on vehic	cles covered by c	clean impervious sheetir	ng?				$\checkmark$			
Are vehicles and	equipment switc	ched off while not in use	?		$\checkmark$					
Are smoky emiss	sions from plants	/equipment avoided?			$\checkmark$					
Is open burning a	avoided?				$\checkmark$				$\Box$ _	
Observable dust	sources	Wind erosion			✓ NA					
		Loading/unloading	g of materials		Oth	ers _				
Construction No	oise									
Are the construct	tion works sched	uled to minimize noise r	nuisance?		$\checkmark$				$\Box$ _	
Are the works or	equipment sited	to minimize noise nuisa	nce?		$\checkmark$				$\Box$ _	
Are all plant and	equipment well r	maintained and in good	operating condition?		$\checkmark$				$\Box$ _	
Is idle equipment	t turned off or thr	ottled down?			$\checkmark$				$\Box$ _	
Is powered mech materials?	nanical equipmen	nt covered or shielded by	/ appropriate acoustic				$\checkmark$			
Is silenced equip	ment used where	e appropriate?					$\checkmark$		$\Box$ _	
Are noise enclos	ures or noise bai	rriers used where neces	sary?				$\checkmark$		$\Box$ _	
Does specified e	quipment has va	lid noise label?					$\checkmark$		$\Box$ _	
Are Construction	Noise Permits (	CNPs) available for insp	ection?				$\checkmark$		$\Box$ _	
Major Noise Sou	rce	Traffic			✓ Cor	nstructior	activities ins	ide the site	1	
		Construction activ	ities outside of site		Oth	ers <u>N</u>	lil			

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

Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?



#### Remarks:

#### Observations Recorded in this Site Inspection:

There were no adverse observations identified during the inspection. The Contractor was reminded to take dust control measures during dry seasons.

Signatures: Env, Auditor

Contractor's Representative

IC(B) Auditor

Name:

Resident Site Stall

ve TSALL LAULARA Nama:

Name : Anfamae Chow

ound the Shu Name: Edwin Loung