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VERSION NO.: 1

DRAINAGE SERVICES DEPARTMENT CONTRACT NO.: DC/2005/02

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

MONTHLY ENVIRONMENTAL MONITORING & AUDIT (EM&A) REPORT FOR JUNE 2010 (No. 51) (DESIGNATED ELEMENTS)

PREPARED FOR

LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index			
Date	Reference No.		
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1	9 July 2010	First Submission

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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 June 2010 (No. 51) presents the environmental impact monitoring and audit (EM&A) program conducted from 1 to 30 June 2010 for the Designated Elements. The EM&A program in June 2010 covered air quality, construction noise and waste management only.

BREACH OF ACTION AND LIMIT (AL) LEVELS

- ES03. There were no breaches of Action or Limit level for air monitoring in this reporting month.
- ES04. No construction noise complaint (Action Level) or exceedance was recorded in this reporting month.

COMPLAINT LOG

ES05. No environmental complaint was received in this month.

NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

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

REPORTING CHANGES

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

FUTURE KEY ISSUES

ES08. Construction activities to be undertaken in **July 2010** include backfilling, concreting and extract sheet pile in Kam Tin Pumping Station (P1) only. Potential environmental impacts arising from the works include construction waste, air quality, noise and water quality (particularly site runoff during rainy seasons). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.



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1.0 BASIC PROJECT INFORMATION

- 1.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project is part of the Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKTSSD) Scheme. A site layout map showing the site boundary and the work areas is shown in Annex A.
- 1.02 This Monthly EM&A Report for June 2010 (No. 51) (Designated Elements Construction Phase) summarizes the impact monitoring results and audit findings from 1 to 30 June 2010.

PROJECT ORGANIZATION

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

CONSTRUCTION PROGRAM OF THIS MONTH

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

MANAGEMENT STRUCTURE

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

CONSTRUCTION ACTIVITIES UNDERTAKEN IN THIS MONTH

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

	Construction Activities						
Location	Sheet piling	Excavation	Pipe laying	Backfilling	Concreting	Extract Sheet Pile	
Kam Tin Pumping Station(P1)				Х	Х	Х	



2.0 ENVIRONMENTAL STATUS

WORKS UNDERTAKEN IN THIS MONTH

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

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

 Table 2-1
 Work Undertaken and Illustrations of Mitigation Measures

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

PROJECT DRAWINGS

- 2.03 Drawings showing the work areas under EP-220/2005 and the locations of the designated monitoring stations are presented in Annex E.
- 2.04 There are four designated air quality monitoring stations (AM1, AM5, AM6 & AM7) and four



noise monitoring stations (NM3, NM4, NM6 & NM7) under the project EP. Locations of the monitoring stations and description are summarized in Table 2-2.

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

Table 2-2Description of the Monitoring Stations



3.0 SUMMARY OF EM&A REQUIREMENTS

MONITORING PARAMETERS

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

Table 3-1 Summary of EM&A Requirements

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

ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

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

Table 3-2 Action and Limit Levels for Air Quality

Monitoring Locations	Action Level (µg/m ³)		Limit Level (µg/m ³)	
Women 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 3-3 Action and Limit Levels for Construction Noise

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

EVENT AND ACTION PLANS

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

ENVIRONMENTAL MITIGATION MEASURES

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

ENVIRONMENTAL REQUIREMENTS IN CONTRACT DOCUMENTS

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



4.0 IMPLEMENTATION STATUS

- 4.01 The implementation status of environmental protection and pollution control/mitigation measures as recommended in the project EIA report are summarized in Table 2-1 and the implementation schedule as shown in Annex G.
- 4.02 The status of permits, licenses, and/or notifications related to environmental protection under this Project during the month is presented in Table 4-1.

Table 4-1 Status of Environmental Licenses and Permits

Items	Item Description	License/Permit Status
1	Environmental Permit No.: EP-220/2005	Issued in June 2005
2		Notified EPD on 24 Dec 2005
3	Chemical Waste Producer Registration (No. 5213- 528-L2544-08)	Registration on 27 Jan 2006
4	Water Pollution Control (Discharge License No. 1U434/1)	Issued on 8 May 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005



5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

- 5.01 The 24-hour TSP monitoring was carried out by a High Volume Air Sampler (HVAS) in compliance with the updated EM&A Manual. The HVAS employed complies with the PS specifications including.
 - Power supply of 220v/50 Hz for 24-hour continuous operation;
 - $0.6-1.7 \text{m}^3/\text{min}$ (20-60 SCFM) adjustable flow rate;
 - A 7-day mechanical timer for 24-hour operation;
 - An elapsed time indicator with ± 2 minutes accuracy for 24-hour operation;
 - Minimum exposed area of 63in²;
 - 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 month was obtained from Lau Fau Shan Station of the Hong Kong Observatory (HKO).

METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

- 5.04 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (Leq) measured in decibels (dB). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.
- 5.05 Hand-held sound level meters and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications were used for taking the baseline noise measurements.
- 5.06 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq).
- 5.07 No noise measurement was made in the presence of fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s.

LABORATORY AND MONITORING EQUIPMENT USED

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



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)		

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

EQUIPMENT CALIBRATION

- 5.10 Initial calibration of the HVAS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference. HVAS of AM5 and AM6 was required calibration in this month, HVAS of AM5 and AM6 monitoring equipment required to calibrate in next month. Updated calibration certificate and schedule is shown in **Annex H**.
- 5.11 The sound level meters were calibrated using an acoustical calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustical calibrator generating a known sound pressure level at a known frequency. Measurements were considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.
- 5.12 Calibration certificates of the sound level meters will provide depend on the annual calibration had undertaken.

PARAMETERS MONITORED

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

MONITORING LOCATIONS

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

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

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

MONITORING FREQUENCY AND PERIOD

- 5.15 The impact 24-hour TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A Manual.
- 5.16 In this reporting period, a total of **5** monitoring days were scheduled at designated station AM1, AM5, AM6 and AM7. However, there are **11** events of unsuccessful 24-hour



monitoring due to the power failure of HVS occurred at AM1, AM6 and AM7.

MONITORING RESULTS AND SCHEDULE

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

	-	, ,				
Date	24-hour TSP (µg/m³)					
Date	AM1	AM5	AM6	AM7		
3-Jun-10	Power failure#	60	45	Power failure#		
9-Jun-10	Power failure#	35	34	Power failure#		
15-Jun-10	Power failure#	55	34	Power failure#		
22-Jun-10	Power failure#	21	27	Power failure#		
28-Jun-10	Power failure#	31	Power failure#	Power failure#		
Average (Range)	NA	40 (21 - 60)	35 (27 – 45)	NA		
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 present was start at 00:00 on each monitoring date.

Monitoring was affected due to power failure.

- 5.18 In this reporting period, there were no breaches of Action/ Limit level in 24-hour TSP air monitoring. However, a total of **11** events of power failure incident were happened at Station AM1, AM6 and AM7 as presented in Table 5-3. The ET has liaised with the Contractor for the power supply provision issue.
- 5.19 Results of construction Noise monitoring in this month were summarized at Tables 5-4 to 5-7.

		-		5					
Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
4-Jun-10	13:12	51.7	51.4	52.6	50.3	51.2	51.7	51.5	54.5
10-Jun-10	13:07	49.5	50.6	50.3	50.7	51.4	50.2	50.5	53.5
17-Jun-10	14:13	60.7	62.4	60.5	59.2	59.4	59.8	60.5	63.5
23-Jun-10	15:41	56.3	56.7	56.3	56.5	56.9	57.1	56.6	59.6
29-Jun-10	15:19	53.2	53.7	53.0	53.6	52.8	53.2	53.3	56.3
Limit Level							75		

Table 5-4 Summary of Noise Monitoring Results at NM3

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

Table 5-5 Summary of Noise Monitoring Results at NM4

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
4-Jun-10	14:37	55.2	56.0	55.7	55.7	55.4	53.2	55.3	58.3
10-Jun-10	09:17	51.7	53.4	52.0	51.4	51.6	51.7	52.0	55.0
17-Jun-10	10:49	56.3	57.1	56.4	56.0	56.3	56.7	56.5	59.5
23-Jun-10	13:49	60.2	59.7	60.3	58.4	59.3	59.6	59.6	62.6
29-Jun-10	13:42	53.7	54.2	53.4	53.5	53.8	54.1	53.8	56.8
Limit Level							75		

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



		-		-				
Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30
4-Jun-10	13:07	66.4	66.1	66.7	66.9	66.5	67.0	66.6
10-Jun-10	11:30	64.9	64.7	64.2	64.6	64.3	65.0	64.6
17-Jun-10	13:14	63.7	64.9	64.7	65.0	64.9	64.8	64.7
23-Jun-10	13:06	68.8	69.1	68.7	68.6	69.2	69.4	69.0
29-Jun-10	13:17	68.4	68.1	67.9	67.4	67.6	68.0	67.9
Limit L	evel							75

Table 5-6	Summary of	Noise Monitoring	Results at NM6

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

Table 5-7 Summary of Noise Monitoring Results a	s at NM7
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Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30
4-Jun-10	15:32	58.7	56.4	58.5	60.4	58.3	57.4	58.5
10-Jun-10	13:51	61.4	62.3	60.7	60.3	60.5	61.2	61.1
17-Jun-10	15:07	60.7	61.2	61.4	61.3	62.4	61.7	61.5
23-Jun-10	16:27	61.4	61.9	63.5	61.7	60.5	61.4	61.8
29-Jun-10	16:07	60.5	61.2	60.8	60.4	60.7	61.4	60.8
Limit Level						75		

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

- 5.20 No construction noise complaint (Action Level) was received; and also construction noise monitoring above the Limit Level was recorded in this month.
- 5.21 The tentative monitoring schedule for the coming month (July 2010) is shown in **Table 5-8**.

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

Table 5-8 Tentative Schedule of Monitoring for Next Month



Tue	27-July-10	
Wed	28-July-10	
Thu	29-July-10	
Fri	30-July-10	
Sat	31-July-10	

Monitoria	ng Da	у
Sunday	or	Public

WEATHER CONDITIONS DURING THE MONITORING MONTH

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

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.24 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

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

QA/QC RESULTS AND DETECTION LIMITS

5.26 Not applicable.



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

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

- 6.01 There were no breaches of Action or Limit level for air monitoring in this reporting month.
- 6.02 No construction noise complaint (Action Level) or monitoring noise level exceeding the Limit Level was recorded in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

6.03 There were no environmental complaints received in this month.

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

6.04 There were no notifications of summons or prosecutions received in this month.

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

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

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

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



7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in July 2010 include backfilling, concreting and extract sheet pile in Kam Tin Pumping Station (P1) only. Potential environmental impacts arising from the works include construction waste, air quality, noise and water quality (particularly site runoff during rainy seasons). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

 Table 7-1
 Summary of Waste Quantities for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	423	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)	141	Refuse Collector

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

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

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

SUBMISSION OF PROFORMA

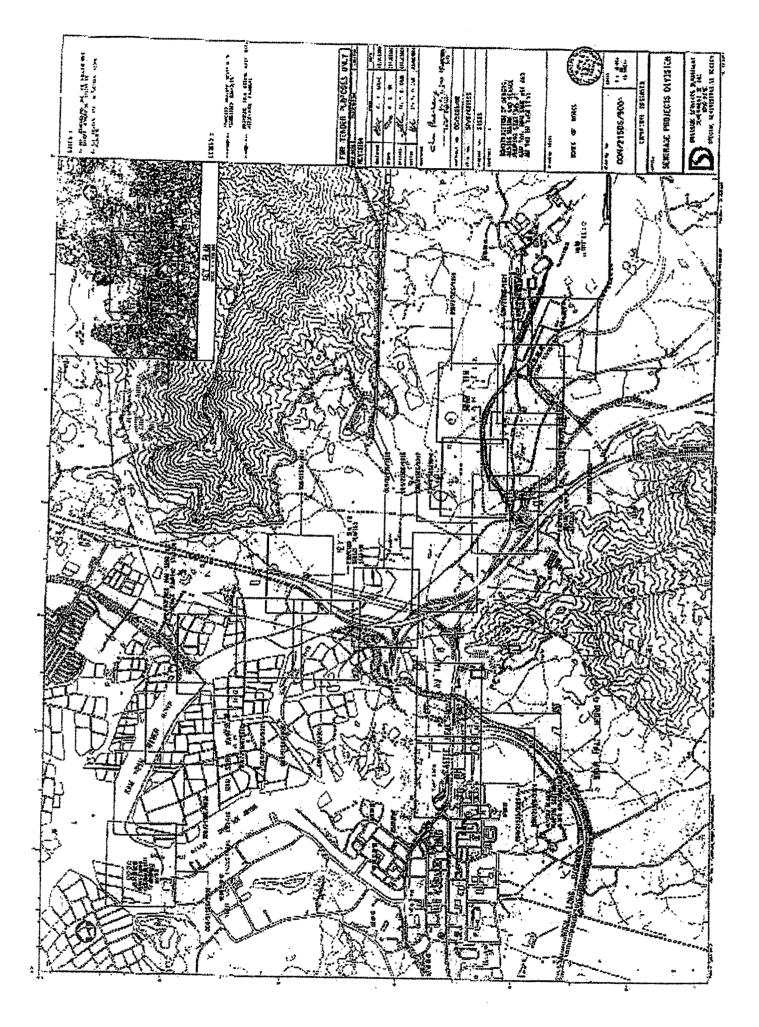
- 7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 1, 8, 15, 22 and 29 June 2010 to evaluate the site environmental performance. No non-compliance was found in this month. Five observations were recorded from the ET weekly site inspections. The monthly site audit by the IEC in this reporting month was undertaken on 22 June 2010. No non-compliance but one observation was issued by IEC.
- 7.05 Records of the weekly site inspection and joint IEC site audit are presented in Annex K.



ANNEX A

PROJECT SITE LAYOUT

 $\hline Z: Jobs (2006) TCS00310 (DC-2005-02) (600) Impact (DP \ Monthly 2010) June 2010 \ R1097 v1 \ (Annex). doc Action-United Environmental Services and Consulting$



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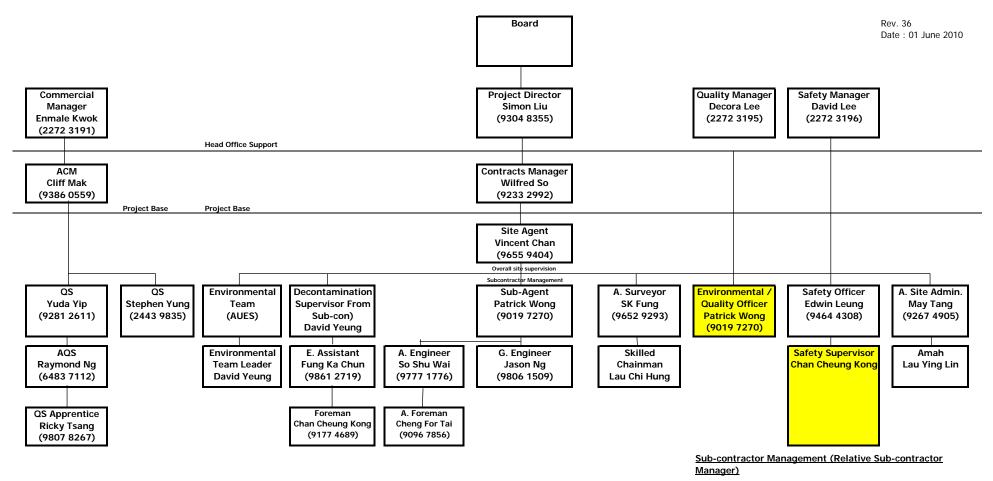


ANNEX B

PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

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

(Internal Use Only)



Patrick Wong (Sub-Agent) - Overall Subcontractor Management

Edwin Leung (Safety Officer) - Sub-contractor Safety Management



ANNEX C

CONSTRUCTION PROGRAM

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2006 JFMAMJJASJNJJFMAMJJJASJNJJFMAMJJJASJNJJFMAMJJASJNJJFMAMJJASJNJJF	2010 A M J J A S O
Section Completion / Ke	ey Date									
CD9000	Handover of TOA				1	30MAR10	1	30MAR10*		Handover of TOA
Section 1 - Kam Tin Sev		0	0	0		SOWARTO		SOWARTO		
Portion A										
Fencing										
S1AD1000	Install Pedestrian Gate	2	0	0	28APR10	29APR10	28APR10	29APR10		Install Pedestria
S1AD1100	Install Vehicle Gates	6	0		21APR10	27APR10	21APR10	27APR10	-	Install Vehicle G
S1AD1200	Install Chain Link Fence	4	0	0	16APR10	20APR10	16APR10	20APR10		Install Chain Link
S1AD1300	Install GMS Panel Fence	8	0	60	24SEP09 A	15APR10	24SEP09 A	15APR10		Install GMS Pane
Drainage and Duc Trench Method	cts									
S1AEA1200	DN1050 Pipe & Manhole (P/S - Outfall)	20		100	20MAR10 A	21APR10 A	20MAR10 A	21APR10 A		DN1050 Pipe &
S1AEA1200		20			22000A110 A	30APR10	22APR10 A	30APR10	-	ConstructU-Cl
S1AEA1500		14	0	0	22APR10	08MAY10	22APR10	08MAY10		Lay Ducts & C
S1AEA1900	CCTV Inspection of Pipeline	1	0	50	22APR10 A	22APR10	22APR10 A	22APR10		CCTV Inspection
Pipework - Rising Trench Method										
	•									
	Twin Rising Main DN700	20		100	15APR10 A	12APR10 A	15APR10 A	12APR10 A		Twin Rising Main
Earthworks										
S1AG2700	Trim & Compact Formation of Paved Areas	6	0	90	05MAY10 A	05MAY10	05MAY10 A	05MAY10		Trim & Compac
Roads and Paving										· · ·
S1AH1000	Lay 250mm Granular Fill Material Base	4		100	08MAY10 A	12MAY10 A	08MAY10 A	12MAY10 A		Lay 250mm G
S1AH1100	ConstructConcrete Paved Areas	18	0		13MAY10 A	29MAY10	13MAY10 A	29MAY10		ConstructCo
S1AH1200	Lay Kerb	4	0	20	11MAY10 A	14MAY10	11MAY10 A	14MAY10		Lay Kerb
In-Situ Concrete										
		10		50						ConstructBound
	ConstructBoundary Wall (stage 2) orks and EstablishmentWorks	10	0	50	31MAR 10 A	TUAPRIU	31MAR 10 A	TUAPRITU		Construction
S1AR1000	Preparation Works	6	0	0	15MAY10	21MAY10	15MAY10	21MAY10	4	Preparation V
		12	0	0	22MAY10	04JUN10	22MAY10	04JUN10		Planting Wo
Testing		-	-	•	•	• •	•	• •		
		12	0	50	01APR10 A	12APR10	01APR10 A	12APR10		Pressure Testin
Additonal Works /	Disruption									
	AIC10 (Claim No. 183)								1	
Start date 19DEC	10					1	eader Civ	il Enginee	ering Corp. Ltd.	arly bar ogress bar
Data date 31MAR Page number 1A									DC/2005/02	ritical bar
rojectname RP15 cPrimaveraSystems	, Inc.		F	Revised	Program	me RP15 ·			Brogramma for 01 May 2010 to 28 Jul 2010	ummary bar artmilestone point
	·									nish milestone poin

	Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2006 JFMAMJJASDNJJFMAMJJASDNDJFMAMJJASDNDJFMAMJJASDNDJFMAJJASDNDJFM	2010
	S1AV1250	Construction of AIC13	30		100	01MAR10 A	03MAY10 A	01MAR10 A	03MAY10 A		Construction of A
		rage Pumping Station									
	tion B encing										
	choing										
	COPPIIO	Install Pedestrian Cotos			100						Install Pedestrian G
	S2BD1000 S2BD1100	Install Pedestrian Gates Install Vehicular Gates	4		100	03APR10 A 26FEB10 A	08APR10 A 02APR10 A	03APR10 A 26FEB10 A	08APR10 A 02APR10 A	=	Install Vehicular Ga
	S2BD1100 S2BD1200	Install Venicular Gates				31MAR10 A	02APR10 A 01APR10 A	26FEB10 A 31MAR10 A	02APR10 A 01APR10 A	-	Install Chain Link Fe
	rainage and Due		<u> </u>								
	Trench Method										
	CODEALOCO				100		21140010.0				Lay Ducts & Constr
		Lay Ducts & Construct Drawpit orks and Establishment Works	6	°	100	05FEB10 A	31MAR10 A	05FEB10 A	31MAR10 A		
	and scape Sollwi										
	00000										Preparation Works
	S2BR1000	Preparation Works Planting Works	12			01APR10 A 09APR10	08APR10 A 22APR10	01APR10 A 09APR10	08APR10 A 22APR10		Preparation Works
Cont			12	0	0	USAPK10	22APK10	USAPR10	22APH10		- I anning WOIKS
	on 3 - Nam Sang \ <mark>tion C</mark>	Wai Sewage Pumping Station									
Ē	encing										
	S3CD1000	Install Chain Link Fence	4	0	0	02APR10	07APR10	02APR10	07APR10		Install Chain Link F
C	rainage and Due	cts									
	Trench Method										
	S3CEA1500	ConstructU-channel, Dish Channel & Catchpit	27	'	100	26NOV09 A	01APR10 A	26NOV09 A	01APR10 A		ConstructU-chann
		Lay Ducts & Construct Drawpit	6			26NOV09 A		26NOV09 A	01APR10 A		Lay Ducts & Constr
L	andscape Softwo	orks and Establishment Works									
	S3CR1000	Preparation Works	e	5	100	02APR10 A	09APR10A	02APR10 A	09APR10 A		Preparation Works
	S3CR1100	Planting Works	12	2 0	0	10APR10	23APR10	10APR10	23APR10		Planting Works
N	liscellaneous	1			I	۱ <u>ــــــــــــــــــــــــــــــــــــ</u>		۱ <u>ــــــــــــــــــــــــــــــــــــ</u>			
	S3CT1300	Plumbing Work	24		100	18JUN09 A	31MAR10 A	18JUN09 A	31MAR10 A		Plumbing Work
	S3CT1500	Install FRP Water Storage Tanks	12	2	100	31MAR 10 A	14APR10 A	31MAR10 A	14APR10 A		Install FRP Water \$
Section		M in Portion D, F, G, H, I									
	tion D dditepel Worke (Discuston									
	dditonal Works /										
	AIC2										
		Engineer Confirmation of Pipe Connection	7	<u></u>		31MAR10 A	08APR10 A	31MAR10 A	08APR10 A		Engineer Confirma Pipe Connection i
		Pipe Connection in AIC2	12	0	0	09APR10	22APR10	09APR10	22APR10		- Pipe Connection I
	<mark>tion F</mark> ipework - Rising	Main									
	Trench Method										
	CAEE ADDES										CCTV Inspection o
Por	S4FFA2600	CCTV Inspection of Pipeline	8	3 0	50	31MAR10 A	USAPRIU	31MAR10 A	USAPKTU		CC I V IIISpecioli U
Startd		05								E E E E	rly bar
Finish	date 16SEP1	0					L	eader Civ	il Enginee		ogress bar
∪ata d Page r	Critical bar								ritical bar		
Projec	ojectname RP15 Deviced Programme PD15 - 2. Month Polling Programme for 01 May 2010 to 29 Jul 2010							immary bar artmilestone point			
U FII	navera oysiems	,				-					hish milestone point

	Act ID	Description	Orig Dur	Total Float	Percent Early Complete Start	Early Finish	Late Start	Late Finish	2006 2007 JFMAMJJAS 2N JFMAMJJAS 2N NJJFMAMJJAS 2007	2010 AMJJASON
A	dditonal Work	/Disruption								
	AIC6 S4GV1040	Pipe Connection inside Chamber	20		100 31MAR10	A 23APR10 A	31MAR10 A	A 23APR 10 A		Pipe Connection i
	<mark>ion H</mark> pework - Risi	ng Main								
	Trench Metho	d								
	S4HFA24	0 Twin Rising Main DN700 (ChC1550 - ChC1600)	45		100 25FEB107	A 04MAY10 A	25FEB10 A	04MAY10 A	=	Twin Rising Mair
	S4HFA360	0 CCTV Inspection of Pipeline	4	0	50 05MAY10	A 06MAY10	05MAY10 A	06MAY10		 CCTV Inspection
		0 CCTV Inspection of Pipeline	2		100 21MAP10	A 06APR10 A		06APR10A		CCTV Inspection of
G	eotechnicalw		2					U UUAI IIIUA		
	. <u> </u>									
	S4HP1000	Monitoring of Instruments	947		100 26MAY06	A 03SEP10 A	26MAY06 A	03SEP10 A		Monit
	S4HV5050		14			A 16APR10 A				Confirmation of De
Por	S4HV5060	Delay Pipe Connection	10		100 17APR10	A 28APR10 A	17APR10 A	28APR10 A		Delay Pipe Conn
	rainage and D									
		CCTV Inspection of Pipeline	8		100 31MAB10		31MAB10 A	09APR10A		CCTV Inspection o
G	eotechnicalw		Ŭ							
Mis	S4IP1000	Monitoring of Instruments	827	0	90 28JUN06	A 13JUL10	28JUN06 A	A 13JUL10		Monitoring
Т	esting									
	S4PS1200	Pressure Testing to Twin Rising Main DN700	12	0	90 1000210	A 11MAY10		11MAY10		■ Pressure Testin
	n 5 - Sewers 8	RM in Portion E	12	0	30 1000,4110		TOMATIOA	TIMATIO		
	ion E reliminaries									
Sectio	S5EA1300 n 6 - Sewers i	Non Work Period 01 Nov 08 - 31 Mar 09 Portion J	121		100 01NOV08	A 02APR10 A	01NOV08 A	A 02APR10 A		Non Work Period 0
Por	<mark>ion J</mark> rainage and D									
	Trench Metho	d								
		D DN500 Pipe & Manhole (C1 - D2) (Deleted SA2)	0		100 02JAN10	A 09APR10 A	02JAN10 A	09APR10 A		DN500 Pipe & Man
	Trenchless N									
G	S6JEB130 eotechnical w	0 CCTV Inspection of Pipeline	2	0	0 31MAR10	01APR10	31MAR10	01APR10		CCTV Inspection of
	-									
Startda Finish	date 16SE	P10					Leader Ci	vil Engine	ering Corp. Ltd.	rly bar ogress bar
	umber 3A						DSD C	ontract No	D. DC/2005/02	-
	iname RP18 navera Syster			F	levised Progra	mme RP15	5 - 3-Mont	h Rolling	Programme for 01 May 2010 to 28 Jul. 2010 💊 Sta	art milestone point hish milestone point

	Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2006 JFMAMJJASDNJJFMAMJJASDNDJFMAMJJASDNDJFMAMJJASDNDJFM	2010 A M J J A S OI
	S6JP1000	Monitoring of Instruments	1152	0	98	21APR06 A	27APR10	21APR06 A	27APR10		Monitoring of Inst
		n and Protection of Trees									
	ortions										
L L	andscape Softwo	orks and Establishment Works									
	\$90B1100	Preservation & Protection of Preserved Trees	1192		05		15 111110	29JUL06 A	15 111110		Preservation
			1192	0	95	29JUL06 A	15301010	29JUL06 A	1530110		Treservator
	ntamination Work	(S									
	ion F econtamination										
	econtamination										
	S9FU1000	Decontamination Works	48		100	28AUG09 A	01APR10 A	28AUG09 A	01APR10A		Decontamination W
	S9FU1010		1		100	31MAR10 A	31MAR10 A	31MAR10 A	31MAR10 A		

Startdate	19DEC05
Finish date	16SEP10
Data date	31MAR10
Page number	4A
Projectname	RP15
c Primavera	Systems, Inc.

Leader Civil Engineering Corp. Ltd. DSD Contract No. DC/2005/02 Revised Programme RP15 - 3-Month Rolling Programme for 01 May 2010 to 28 Jul. 2010





ANNEX D

PHOTOGRAPHICAL RECORDS – NOISE BARRIER ON-SITE

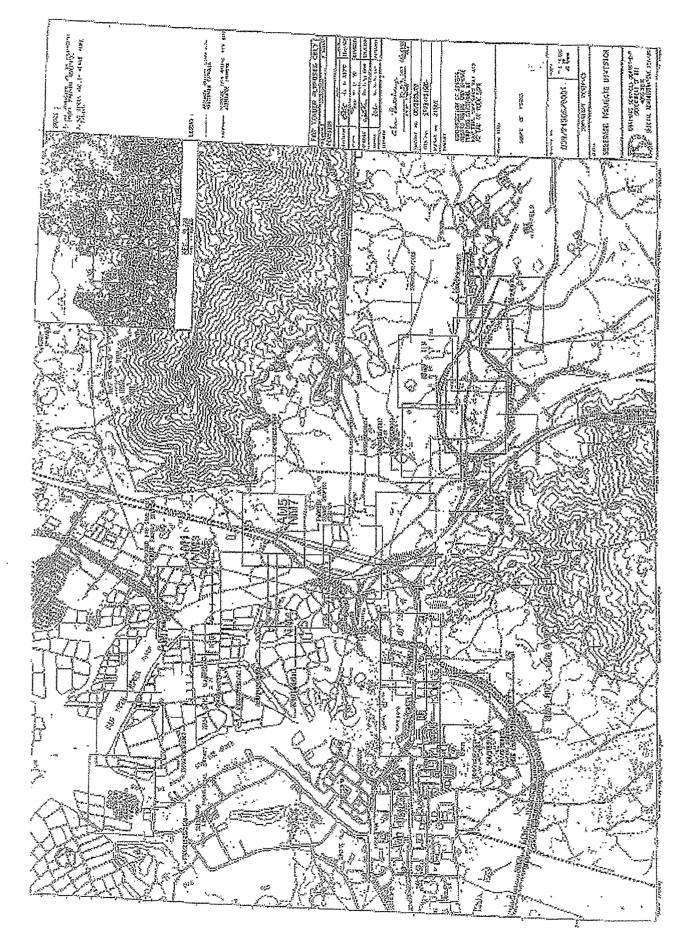


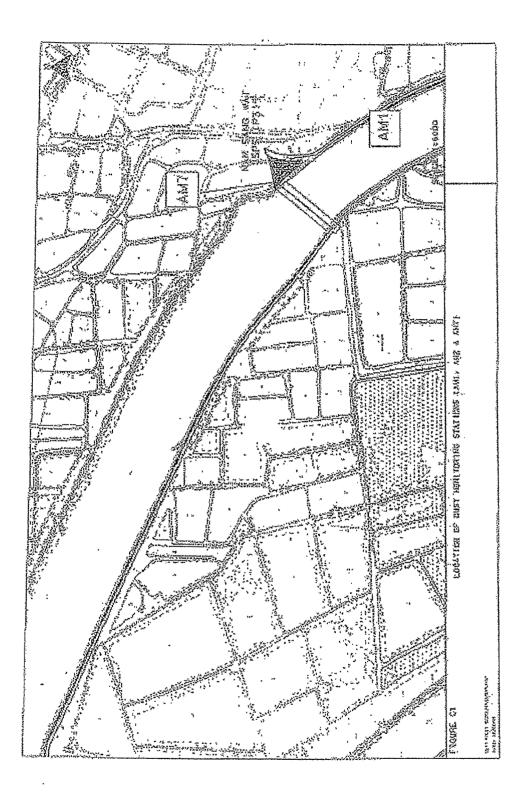


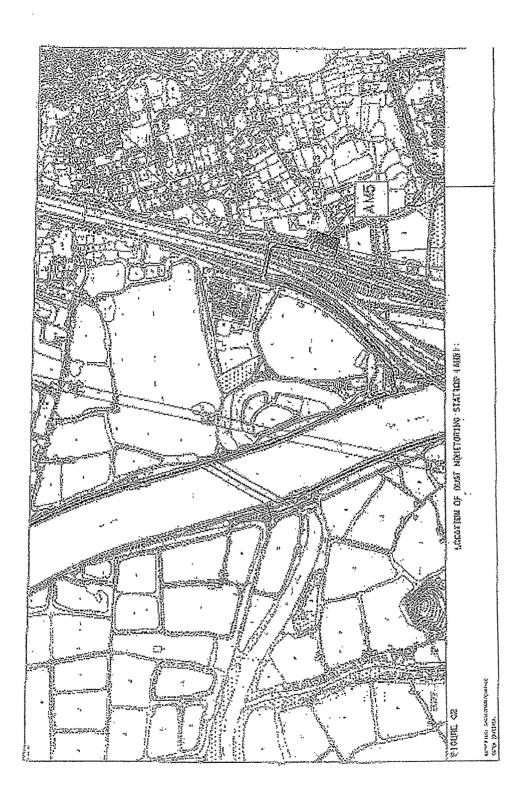


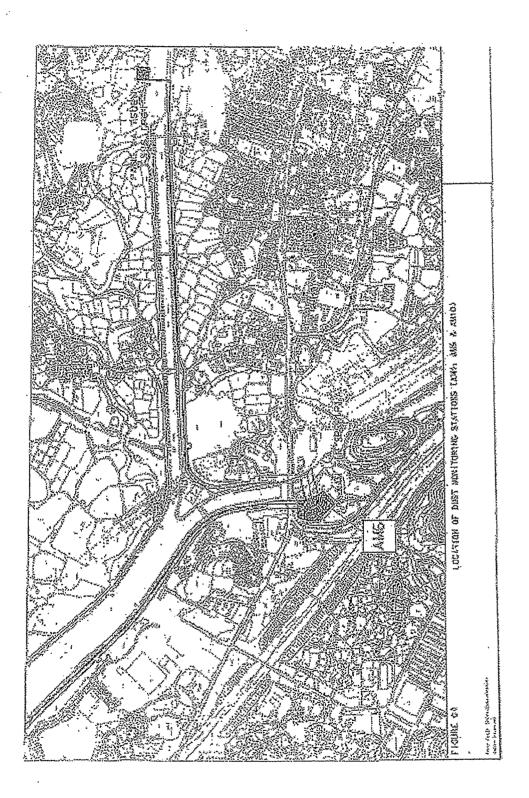
ANNEX E

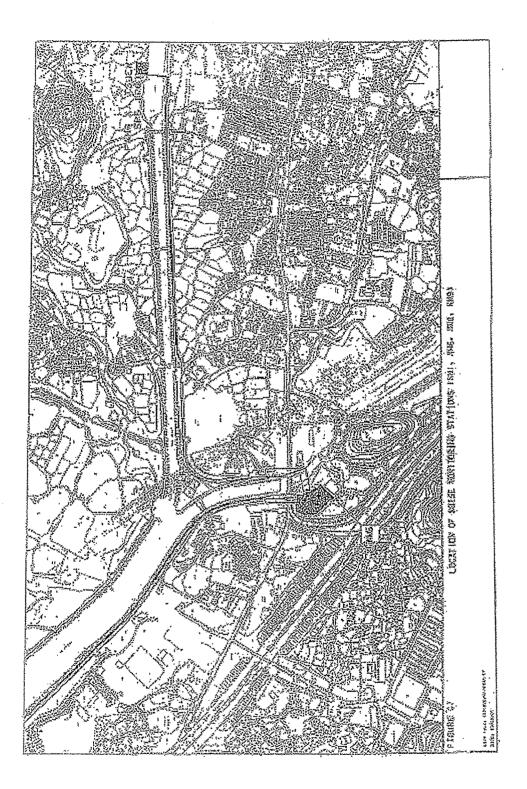
LOCATIONS OF MONITORING STATIONS

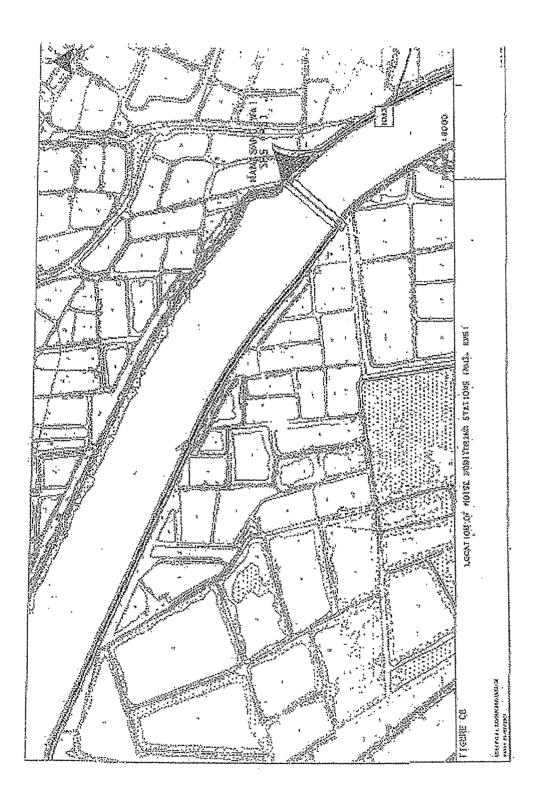


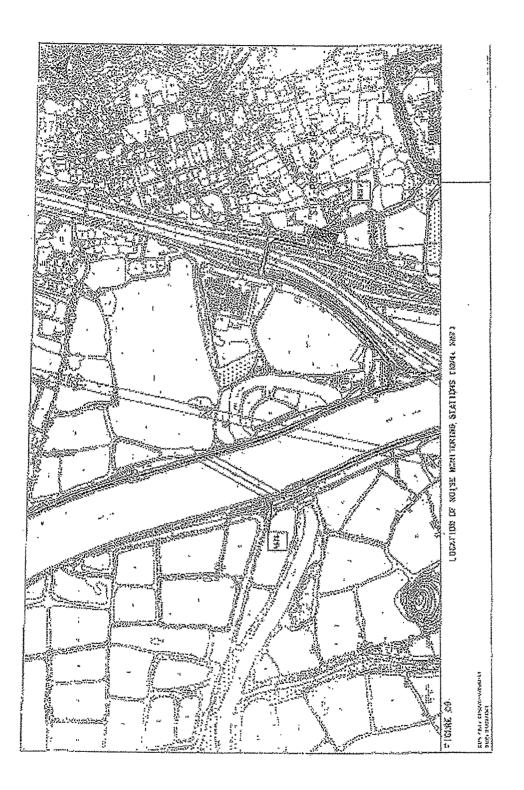














ANNEX F

EVENT AND ACTION PLAN

Monthly EM&A Report for June 2010 (No. 51) (Designated Elements)

AUES

Event and Action Plan for Construction Phase Air Quality

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

Monthly EM&A Report for June 2010 (No. 51) (Designated Elements)

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

Monthly EM&A Report for June 2010 (No. 51) (Designated Elements)

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

AUES



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

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure			Relevant Legislation & Guidelines			
						Des	с	0	Dec	
3.5	A6	 where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; 	To control potential dust impacts during material transportation.	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Dust) Regulations Part IV, Clause 21, (2), Air Pollution Control (Construction Dust) Regulations
3.5	A7	 Power-driven drilling, and cutting water should be continuously sprayed on the surface where any mechanical breaking operation that causes dust emission is carried out, unless the process is accompanied by the operation of an effective dusty extraction and filtering device; 	To control potential dust impacts during mechanical breaking.	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Part IV, Clause 22, Air Pollution Control (Construction Dust) Regulations
3.5	A8	 Excavation and earth moving the working area of excavation should be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet; 	To control potential dust impacts arising from excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Part IV, Clause 24, Air Pollution Control (Construction Dust) Regulations
3.5	A9	 Construction of the superstructure of a building where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the round floor level of the SPS, or if a canopy is provided a the first floor level, from the first floor level, up to the highest level of the scaffolding; and 	To control potential dust impacts from SPS building construction works.	Full duration of SPS construction contract.	The Contractor		~			Part I, Clause 6, (a), Air Pollution Control (Construction Dust) Regulations
3.5	A10	 any skip hoist for material transport should be totally enclosed by the impervious sheeting. 	To control potential dust impacts during material transportation.	Full duration of SPS construction contract.	The Contractor		~			Part I, Clause 6, (b), Air Pollution Control (Construction Dust) Regulations

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implement Stage**				Relevant Legislation & Guidelines
						Des	С	0	Dec	
4.7.1	B1	 NOISE - Construction Phase General Site Clearance – Demolition Works Use of quiet PME which meet the SWLs taken from British Standard, Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997 (Examples of these PME are shown in Table F2), 	To control potential noise impacts during site clearance and demolition works	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Annex 5 of EIAO-TM
4.7.1	B2	 Construction of Sewage Pumping Stations P1, P2 & P3 Use of quiet PME which meet the SWLs taken from British Standard, Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997, 	To minimise potential noise impacts arising during the construction of <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
		 Adoption of temporary noise barrier, in the form of a site hoarding (with a superficial density of at least 20kg/m2, with no substantial gaps), along the site boundary of the pumping station sites. 	To minimise potential noise impacts arising during the construction of <i>P1, P2 & 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	 Method Use of quiet PME which meet the SWLs taken from British Standard, Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997, 	To control potential noise impacts during excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Annex 5 of EIAO-TM
4.7.1	B4	• Use of handheld breakers for all initial road opening activities, when breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached.	To control potential noise impacts during road opening activities.	Where there are NSRs located within 50m of the line of sight. Throughout the full duration of the road opening activities.	The Contractor		~			
4.7.1	B5	 Use of movable noise barriers or 3 sided enclosures for all initial road opening activities 	To control potential noise impacts during road opening	Where there are NSRs located within 50m of the	The Contractor		✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	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		 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, Road Pavement and Finishes 	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		 Use of quiet PME which meet the SWLs taken from British Standard, Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997, 	To control potential noise impacts from PME during pavement and finish works	Site wide and throughout the full duration of the construction contract.	The Contractor		~			Annex 5 of EIAO-TM
		WATER QUALITY - Construction Phase No water quality monitoring is required under this study.								
		WASTE - Construction Phase								
6.6.2		 The Contractor shall obtain the necessary waste disposal permits from the appropriate authorities for the disposal of chemical and C&D waste, Chemical Waste Producer and Chemical Waste Disposal Licence (Waste Disposal (Chemical Waste) (General) Regulations); and Dumping Licence (Land (Miscellaneous Provisions) Ordinance (Cap 28)) 	To monitor the collection, handling and disposal of chemical waste and C&D waste, and in compliance with relevant Hong Kong Standards and Regulations.	Site wide and throughout the full duration of the construction contract.	The Contractor	~	~			Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), the Land (Miscellaneous Provisions) Ordinance (Cap 28))

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Imple Stage		tatio	n	Relevant Legislation & Guidelines
						Des	С	0	Dec	
6.6.2	D2	Chemical Waste 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	 Storage, Packaging and Labelling of Chemical Waste Containers used for storage of chemical wastes should: be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 L unless the specifications have been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in 	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	 Schedule 2 of the Regulations. Storage of chemical waste The storage area for chemical wastes should: be clearly labelled and used solely for the storage of chemical waste; be enclosed on at least 3 sides; have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; have adequate ventilation; be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and be arranged so that incompatible materials are 	To ensure the proper storage of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		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								
		 Disposal of chemical waste The Contractor should ensure that the disposal of chemical waste is via a licensed Waste Collector and in accordance with the Waste Disposal (Chemical Waste) (General) Regulations. 	To control the disposal of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			Part IV, (20 -25) Waste Disposal (Chemical Waste) (General) Regulation
6.6.2	D5	Management of Waste Disposal A trip-ticket system should be established which monitors the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping, in accordance with Land (Miscellaneous Provisions) Ordinance (Cap28) and the Works Bureau Technical Circular No. 5/99.	To monitor the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase.	The Engineer/ Contractor		~			Land (Miscellaneous Provisions) Ordinance (Cap 295) and Works Bureau Technical Circular No. 5/99.
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	Implementation Stage**		Implementation Stage**																																																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		Implementation Stage**		Implementation Stage**																								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 ³ .	To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓ ✓																											
8.7.4	F9	No open fires within the site boundary during	To prohibit open fires, thereby	Site wide and throughout	The Contractor		✓			Air Pollution Control																								

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	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	Imple Stage		tatio	n	Relevant Legislation & Guidelines	
						Des	С	0	Dec		
		submitted for approval by the EPD.		project.							
		 The landscape plans and pumping station elevations should demonstrate that the following elements are considered: existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting 									
		 incorporate information on materials, details and textures so as to be as visually recessive as possible and in a style that fits with the surrounding village buildings. colour should be of low chromatic intensity to reduce the potential contrast between the structures and their background. The external finishing of the Pumping Stations shall be designed in conjunction with the landscape scheme. a minimum screen planting of 3m width and use of trees with a dense canopy of up to 5 m in height subject to constraints such as engineering and land availability. felling of mature trees are kept to a minimum. 									
		EM&A REQUIEMENTS - Construction Phase									
3.7	11	 Air Quality Subject to the Environmental Protection Departments (EPDs) agreement, construction phase dust monitoring shall be undertaken at the following locations in accordance with the recommendations of the EIA. Worksite boundary facing Scattered house in Nam Sang Wai (AM1); 	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	
		 Worksite boundary facing Fung Kat Heung (AM5); Worksite boundary facing Scattered House near Route 3 (AM6); 									

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure		tation Implementation Stage**				Relevant Legislation & Guidelines
						Des	С	ο	Dec	
4.9.1		 at any additional locations, where considered necessary, in agreement with EPD. <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. (NM3) Scattered House in Nam San Wai (D12); (NM4) Scattered House in Nam San Wai (D11); (NM6) Scattered House near Route 3 (D17); (NM7) Fung Kat Heung (D19); and at any additional locations, where considered necessary, in agreement with EPD 	Installations of the noise monitoring stations to ensure the action and limit levels are not exceeded.	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 = I	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#		Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	26 Apr 10	26 Jun 10
2*	Air	Greasby Anderson GMWS2310 High Volume Sampler	(AM5)	1 Jun 10	1 Aug 10
3*		Greasby Anderson GMWS2310 High Volume Sampler	(AM6)	1 Jun 10	1 Aug 10
4#		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	26 Apr 10	26 Jun 10
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2285762	27 Apr 10	27 Apr 11
6	noise	Bruel & Kjaer 2238 Integrating Sound Level Meter	2326408	27 Apr 10	27 Apr 11

Note:

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

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

** Calibration will be done in next reporting month.

No power was received, thus equipment could not be re-calibrated.

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location I		g Car Sh AM 6	op (Scat	tered House		Next Calibra	Calibration: 1-Jun-10 ation Date: 1-Aug-10 Cechnician: Mr. Ben Tam					
					CONDI	TIONS						
	Se	a Level I Temp	Pressure perature	. ,		1008Corrected Pressure (mm Hg)24.2Temperature (K)						
				CA	LIBRATIC	N ORIFICE						
				Make-> Model-> Serial # ->	515N		Qstd Slope -> Qstd Intercept ->	2.01546 -0.02851				
					CALIBR	ATION						
Plate		H2O (R)	H20	Qstd	[(abort)	IC	LINEA					
No. 18 13 10	(in) 5.3 3.9 3.0	(in) 5.3 3.9 3.0	(in) 10.6 7.8 6.0	(m3/min) 1.627 1.398 1.228	(chart) 48 37 31	corrected 48.00 37.00 31.00	REGRESS Slope = 3 Intercept = -1 Corr. coeff. =	8.3749 5.5465				
7 5	2.1 1.2	2.1 1.2	4.2 2.4	1.030 0.782	24 15	24.00 15.00						
Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Qstd = standard flow rate IC = corrected chart respones I = actual chart response m = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual temperature during calibration (deg I Pstd = actual pressure during calibration (mm H For subsequent calculation of sampler flow: 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)							FLOW RATE CHART y = 38.375x - 15.5	547				
m = samp b = samp I = chart r Tav = dail Pav = dail	ler interc esponse y averag	e temper			0.00 - 0.0	000 0	.Standard Flow ନିରହ (m3/min)ୀ	.500 2.000				

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Lagation	Cho Do	Dumanin	Station			Data of (Colliburations 1 Jun 10					
Location :			Station		Date of Calibration: 1-Jun-10 Next Calibration Date: 1-Aug-10							
Location I	D :	AM5			ľ		ation Date: 1-Aug-10 Technician: Mr. Ben Tar					
					COND		echnician: Mr. Ben Tan	[]				
					CONL							
	Se	a Level I	Draccura	(hPa)	1008	[Corrected Pressure	(mm Ha)	756			
	50		erature		24.2		Temperature		297			
		TCIII	Clature	(\mathbf{C})	24.2	l	Temperature	$(\mathbf{I}\mathbf{X})$	291			
				C	ALIBRAT)E					
				Make->	TISCH	[Qstd Slope ->		2.01546			
				Model->	515N		Qstd Intercept ->		-0.02851			
				Serial # ->	355							
					CALIB	RATION						
Plate	H20 (L)	H2O (R)	H20	Qstd	Ι	IC	LIN	EAR				
No.	(in)	(in)	(in)	(m3/min)	(chart)	corrected	REGRE					
18	5.2	5.2	10.4	1.612	49	49.00	Slope =					
13	4.2	4.2	8.4	1.450	41	41.00	Intercept =	-14.285	6			
10	3.1	3.1	6.2	1.248	33	33.00	Corr. coeff. =	0.997	3			
7	2.3	2.3	4.6	1.077	27	27.00						
5	1.4	1.4	2.8	0.843	19	19.00						
Oslaulatio												
		$20(D_{\rm o}/D_{\rm o})$	+d)(Tatd	/T)) [_]	60.0	0	FLOW RATE CHAR	Г				
Qstd = 1/r IC = I[Sqr	·			/1a))-0]	00.0							
IC – I[541		1)(1500/1	a)]									
Qstd = sta	ndard flo	ow rate			50.0	00	y = 38.589x	- 14.286 🔶				
IC = correction			es									
I = actual		-			<u>ତ</u> 40.0	0						
m = calibr		-			() 40.0 ouse							
b = calibra	-	-	t		uods							
Ta = actua	al temper	ature dur	ing cali	bration (de	g ž 30.0	00						
Pstd = act	ual press	ure durin	g calibr	ation (mm	Hi B							
-		- 1 1			20.0 و tresp Httresp 20.0 عدم	00						
1/m((I)[S	-			npler flow:			•					
1/111((1)[0	Jq11(2)0/	10//10	//00/] [<i>,</i>)	10.0	00						
m = samp	ler slope				10.0							
b = samp	-	ept										
_	I = chart response					00						
Tav = daily average temperature						0.000	0.500 1.000 Standard Flow Rate (m3)	1.500 /min)	2.000			
Pav = dail								•				
	_											



ANNEX I

METEOROLOGICAL DATA



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

			Total	Lau	Fau Sha	n Weather S	Station
Date	e	Weather	Rain fall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Jun-10	Tue	Mainly cloudy with one or two light rain patches.	16.1	24.6	14.5	72.2	E/SE
2-Jun-10	Wed	Light to moderate northerly winds.	29.3	21.6	19.2	90.5	Е
3-Jun-10	Thu	There will be swells.	1	23	7.7	81.7	E/NE
4-Jun-10	Fri	Mainly cloudy. Sunny periods in the afternoon.	Trace	25.4	7.2	8.5	S/SE
5-Jun-10	Sat	Sunny periods in the afternoon. Cloudy tonight.	8.2	26.3	10.7	77	S/SE
6-Jun-10	Sun	Mainly fine. Hot in the afternoon.	0	25.9	9.1	76.5	SE
7-Jun-10	Mon	Moderate easterly winds.	0	25.9	10.5	73	E/SE
8-Jun-10	Tue	Moderate southerly winds.	Trace	26.7	16.2	68.5	SE
9-Jun-10	Wed	Cloudy with occasional rain.	16.7	25.9	14.3	87	SE
10-Jun-10	Thu	Rain will be heavy at times with a few squally thunderstorms.	58.4	25.3	8.2	91.5	S/SE
11-Jun-10	Fri	Cloudy with sunny intervals.	Trace	27.2	12.5	87	W
12-Jun-10	Sat	Some rain later. Light winds.	Trace	27.9	11.2	82.7	W
13-Jun-10	Sun	Moderate to fresh southwesterly winds.	29	29	21	82.2	S/SW
14-Jun-10	Mon	Mainly cloudy with a few showers.	6.4	29.6	25	81.2	S/SW
15-Jun-10	Tue	Mainly cloudy with a few showers.	0.1	29.5	21.5	83	SW
16-Jun-10	Wed	Moderate to fresh southwesterly winds.	3.8	29.7	22.5	81.5	S/SW
17-Jun-10	Thu	Cloudy periods overnight.	Trace	29.9	23.5	76.7	S/SW
18-Jun-10	Fri	Mainly fine and hot tomorrow.	0	29.9	23.7	74.5	S/SW
19-Jun-10	Sat	A few showers.	Trace	30.3	19.5	72.7	S/SW
20-Jun-10	Sun	Hot with sunny periods in the afternoon.	1.9	29.9	16	74.7	S/SW
21-Jun-10	Mon	Moderate southwesterly winds.	1.4	30.5	16.5	44	S/SW
22-Jun-10	Tue	A few showers. Hot with sunny periods.	4.6	28.3	16	83	S
23-Jun-10	Wed	Cloudy with showers and a few squally thunderstorms.	41	26.9	26.5	90	S/SE
24-Jun-10	Thu	Showers will be heavy at times tomorrow.	39	29.4	26	80.5	SW
25-Jun-10	Fri	Cloudy with showers. Showers will be heavy	2.9	27.7	22	85.2	SW
26-Jun-10	Sat	Mainly cloudy with showers	127.6	25.7	13.5	92.5	SW
27-Jun-10	Sun	There will also be a few squally thunderstorms	44.2	25.2	14.2	93	SE
28-Jun-10	Mon	Showers will be heavy at times at first	43.2	26.1	21.5	92.5	E/SE
29-Jun-10	Tue	Mainly fine. Moderate south to southeasterly winds.	0.1	28.2	8.5	80.2	S/SE
30-Jun-10	Wed	Fine and hot apart from one or two isolated showers.	0	29.2	12	78.7	S/SE



ANNEX J

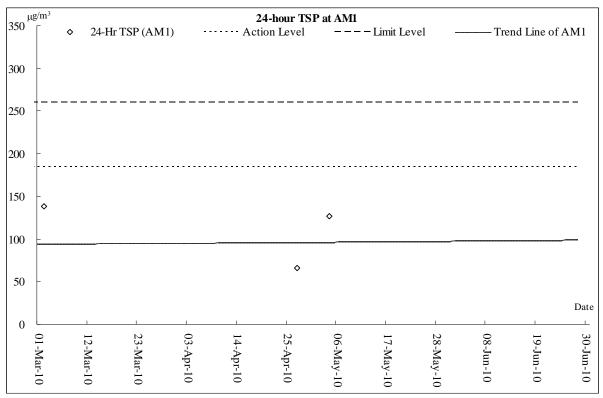
GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING RESULTS



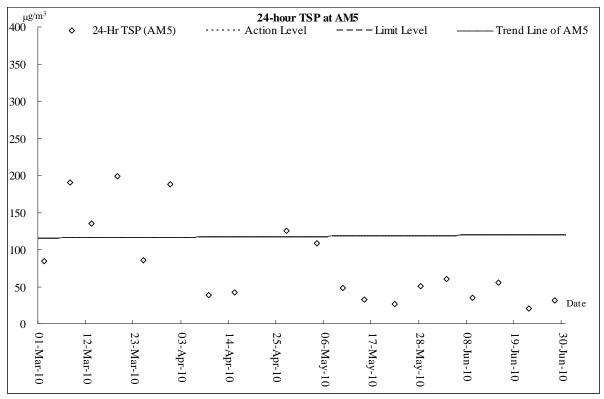
AIR QUALITY



Air Quality Monitoring Results



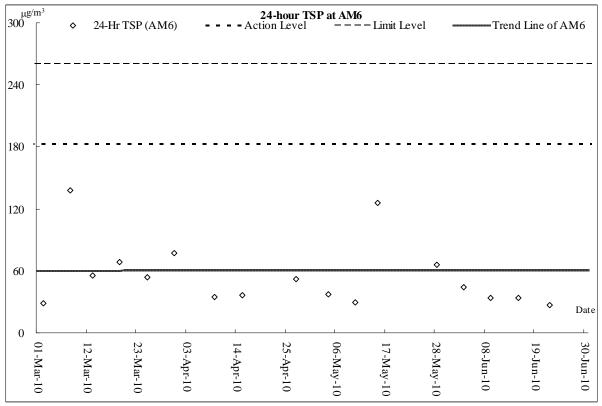
Note: power failure occurred on 22 January, 3, 18, 24 February, 8, 13, 19, 25 March, 9, 15, 21April 2010 and 10 to 30 June 2010, therefore no result on plotting is shown.



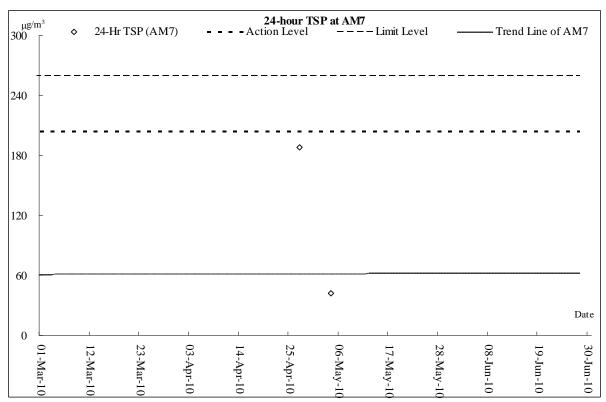
Note: cannot access the monitoring location between 4 and 24 February 2010 due to Lunar New Year holiday landowner's workshop closed and power failure occurred on 21 April 2010 therefore no result on plotting is shown.



Air Quality Monitoring Results



Note: power failure occurred on 9 February; 21 April 2010 and 22 May 2010 therefore no result on plotting is shown.



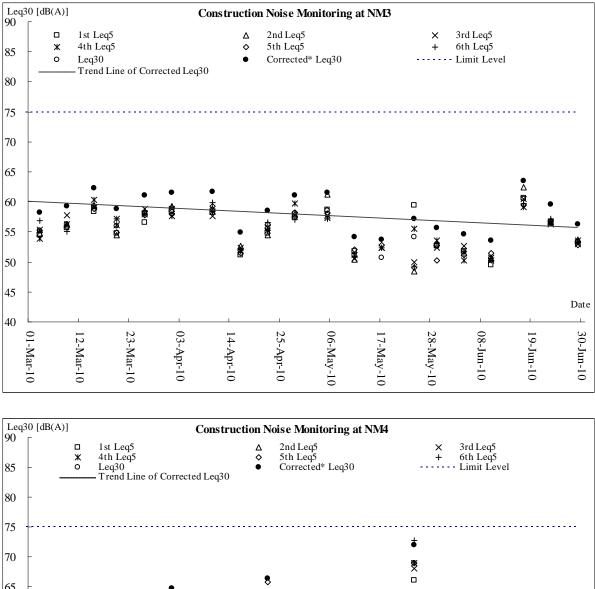
Note: power failure occurred between 16 November 2009 and 25 April 2010 and from 10 to 30 June2010, therefore no result on plotting is shown.

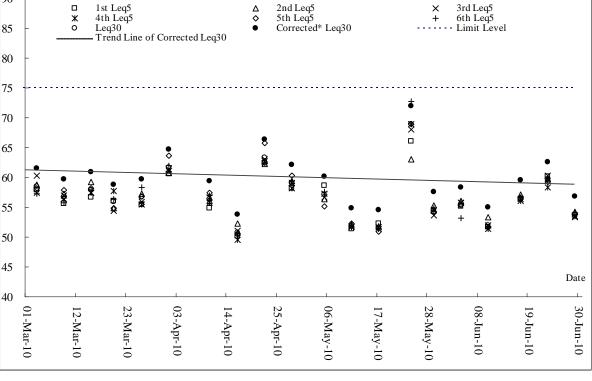


CONSTRUCTION NOISE



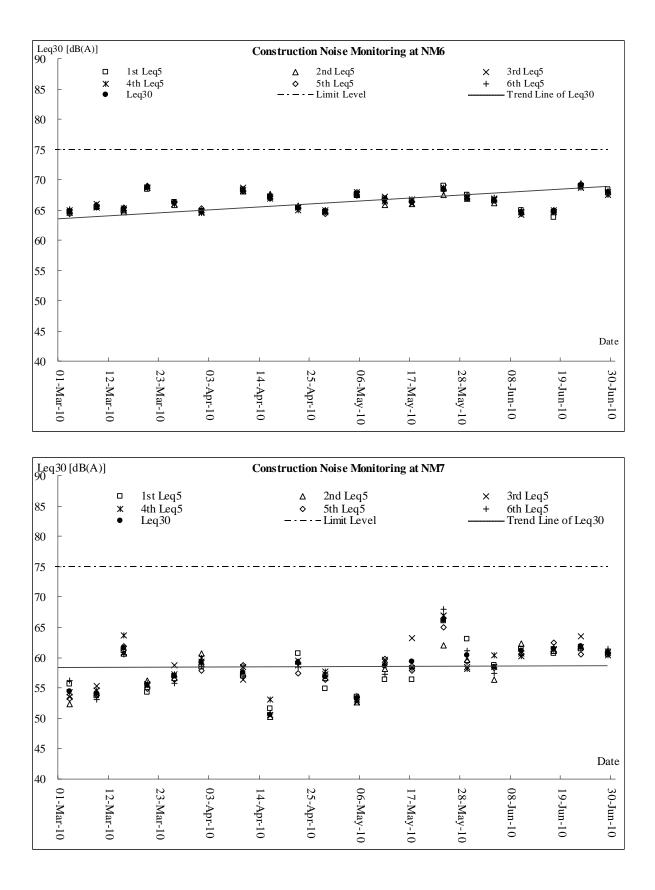
Construction Noise Monitoring Results







Construction Noise Monitoring Results





ANNEX K

PROFORMA OF SITE INSPECTION & IEC AUDIT

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22-06-10;18:28 ;

AUE	S		Site Inspection Checklist (SF-1								
	DC/2006/02 C & Sewage Pu Wai and Au T	mping Statio	of Sewers, Rising Mains n at Kam Tin, Nam Sang 2019	Contra			Leador Civ		ring Corp.	, L1d	
-				Engin	4 01 ''		Babile Acia Ltd Mott MacDonald Hong Kong Ltd Action-United Environmental Services & Consulting 1 June 2010 (10:00am)				
Inspected by:	ET Auditor	1	Ben Tam	EC:							
	Contractor R	lep:	Edwin Loung		onmental T						
	IEC's Rap		Inneo Chu								
	ЯС'я Вер:	<u>.</u>	Y M Lau	Checi	clist Refere	INCE NO.S	DSD-AT01				
General Meteorol	Ionical Informat			<u></u> -							
Weather (Sunny		a Cloudy		Qvorcasi		Ürizzle	<u> </u>]flain	Hazy	
Temp)	26										
Humidity:	 нісьн (RH	(= 90%)	Modurate (§	0% - RH	- 50%)		Low (RH	- 50%)			
Wind:	Calm	[u	fn Greezo		Strong						
			· · · · · · · · · · · · · · · · · · ·			_	<u></u>		Pollow-		
Air Quality					Yes	NØ	NA	NC	up	Remarks	
is hourding of not	tees then 2.4m p	rovided?			\square						
Aru alta vohiolos i	cavoling within as	antiolisd spaed	limit?						□.		
Ara silo vohisios r	mayament confin	ed to dealgnate	d haul roads7								
Are public roads d	outaldo aite exita	kept aleen end	irea from dust?						<u> </u>		
Ara haul roada an	d unpaved duries	cos watered reg	julariy të eveld dust generation	7				 ,]	□		
Anı (hara whool w	vashing facilities	provided at site	exite?								
is water spraying	used during the r	main dust-gone	nting activities?				[]				
	ilad or stockpi		materials kept wet or col	arad by							
Is exposed area o	of ground covorde	d or watered fre	quantiy?		Image: A start of the start						
Are load on vehic	es covered by a	laan imperviqus	sheeting? -		2		<u> </u>		\Box .		
Ara vehicles and	equipment switch	had off white na	n in uso?								
Are smoky omiss								<u> </u>	— -		
is open burning a							["""]	7			
Observable dusi		Wind or o	non			A	<u> </u>				
			miceding of materials			bore					
Construction No		The second states of the secon									
		uled to minimize	o naise nulsende?						<u> </u>		
Are the works of											
			in good operating condition?		<u>[7]</u>						
h idie equipment	••					-					
• •			ialded by appropriate accountly								
is stienced equip	ment used where	e appropriato?			[]					/	
Are noise enclos			re nocessor/?				, , <u> </u>				
Does specified e							ן דישן (
Are Construction	•						בים ו				
Major Noine Sou	-	(Tranic			 1771a		on activities in	side the eli	<u> </u>		
contro carante suon			tion activities outside of silte		·	thers	NI				

21306x32006/TCB00310 (DC+2005-02))600/Impection/2010/June 2010/DSD-AT010610 dot

24439857

To:29596079 ;

22-08-10;18:29 ;



Site Inspection Checklist (SF-17)

Water Qualit	y & Drainage	Yo#	NO	NA	NC	Nonom-	Remarks
le e westevraler discharge lie	name obtained for the Project?	\checkmark					
is site effluent discharged in	accordance with the discharge license?						<u> </u>
Is the discharge of sity wate	r avoided?	$[\mathbf{A}]$					
is drainage adequate?				È			
Is drainage system well mak	viainad?						
Are there temporary ditchm	for runoff discharge into appropriate watercourse?						·
Are there sedimentation tank	a for setting runoff prior to discharge?					\Box .	
Are the sectimentation tanks	Constructed of pre-formed individual colls?	\checkmark					
	With adequate depently?					□.	
	Free from slit and sodiment?	<u> </u>					
Are there neutralization tank	s for concrete betahing/mixing discharge?			~			·
Are there oil interceptors in	dreinage system?						,,
is wheel wash facility provid	ed at avary site exil?					<u> </u>	
Are vohicles and plant clean	ari of earth, mud & debris before leaving the site?	Ċ				\square .	
Are wheel weshing facilities	regularly inspected and maintained?	E					
Are folicity provided on site?	if so, are they properly maintained?					□.	
Are manholes covered and	sealod?						
la oli leokega er spillege ove	sided?	-				\Box .	
Waste Management and P	istantial Land Contamination						
General Refuse:	Are raceptacian (rubbish bins) postalabio?					<u> </u>	<u> </u>
	is there regular and proper disposal?					<u> </u>	
	in proper scriing and recycling implemented?						
Construction Waste:	is généralion ef construction waste minimitant?	_					
	in weste sorting implemented on sile?						
	is construction waith reused where practicable?				[[]		
	a construction weste property disposed of?						
	Are disposal recercts available for inspeation?						
Chamical wests/wests of	la livera designated storoge oreo?	<u> </u>					
	is chemical wasto stored properly?	✓			1		
	is there proper disposel?					ļ	
	is chemical waste license available for inspection?			Į]			
Excavated Muterials	Do excervated materials appear uncontaminated?						
	Are appropriate procedurus fullowed if contaminated materials exist?			F			
	Are disposel records ayallable for inspection?					<u> </u>	<u>6</u>
Chemical/Puel	is chemical/fuol alored in bounded area?		1				Remark 1
	Is bund capacity adequate (>110% of the largest light)?	$\overline{\mathbf{A}}$					
	Are storago aroas lockable?					[]	
la foern, eil, greene or other prairlied?	objectionable matters in water or noorby drains of sewar						

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22-06-10;18:28 ;



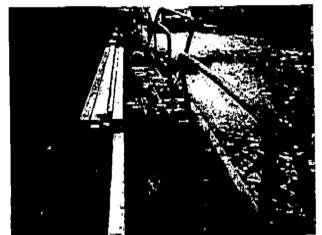
Site inspection Checklist (SF-17)

Remarks:

Fallow up

General waste scattered at Kam Tin Pumping Station was cleared,

Observations Recorded in this Site inspection;



Free standing chemical container without drip tray was observed at Pok Wal Nam Road, the Contractor was reminded to provide drip tray for all chemical containers.

Algnaturas;

Env. Auditor

Contractor's Representative

IC(E) Auditor

Witness by RE's Representative

Name : Ban Tam

+ chun 23/6/10

Name; Edwin Loung

Name.

AIOW

To:29596079

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22-08-10;18:29 ;

AUE		Site Inspection Checklist (SF-1										
Project	DC/2005/02 (& Sawage P Wai and Au 1	umping Stati	ion at Kar	ra, Rising Mains n Tin, Nam Sang	Contra	ictor:		Leader Civil Engineering Corp. Ltd				
								Babtle Asia Ltd				
inspected by:		2r)	Der	. Tam	ieo;			Mott MacDonald Hong Kong Ltd Action-United Environmental Services &				
	Contractor	R60!	Bdwb	1 Leung	Environmentel T¢em;			Consulting	1			
							9 June 2010 (10:00em)					
	KE's Rep		YN		Check	list Refere	nce No.)	DSD-AT09	0810			
General Meteor	rological Informa	ation						_				
Weather	มีมากตร	┍	ine	Cloudy		Qverdaal		Drizzie		Rein	Hazy	
Temp:	2# °C											
Humidity:	High (R	H > 90%)		Moderate (9	0% - RH :	- 50%)	1	Low (RH	< 6D%)			
Wind:	Calm	<u>, , , , , , , , , , , , , , , , , , , </u>	ight	Digozo		Øtrong						
Air Quality						Yes	NO	NA	NC	Follow-	Remarks	
ls hoenting of n	of look than 2,4m	provided?					<u> </u>		()			
-	s traveling within (d limit?					[]				
	a movement confl			-1c7								
	a outside silo axia	-					, <u> </u>	, 				
				wold dust generation?								
	washing facilities		-	india anar Sauranan					,			
	F	-				নি	لجہ جہ ا			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
	g used during the	_	-				ا ۱۳۰۰–۲		[]			
impermoable/la	rpaulin shoot7			kepi wet or davi	orod by							
ia expased erec	a of ground covere	d or watered in	equently?							•		
Are load on yeh	ippiae covered pA c	alaan impervidu	ia specijuči,	7					L			
Are vehicles en	d equipment swik	ohed off while n	iot in use?									
Are smoky emb	ssions from plants	≤/equipment ov	olded?			<u> </u>				L		
la open buroing	avoided?					✓						
Observable due	si sources	Wind en	പറ			<u></u> N/	4					
		Loading.	/uniteding	ot materials		`	hers _					
Construction f	Noize											
Are the constru	ction works schoo	dulod to minimi	un ealon as	fannaa?							"	
Are the works o	r oquipment silod	i io minimizo na	olso nuksan	on?				<u> </u>				
Are all plant an	d equipment well	maintained enr	t in good of	penaling condition?						_ -		
ls idio equipmo	nt turned off ar th	mtiled down?							1			
is powered med materials?	chanical equipmo	hi covered or si	hielded by I	appropriate accustic				~				
ts silonced equ	Ipment used wher	re appropriete?						<u>ריכן</u>		<u> </u>		
Are noise encle	sures or noise ba	trions used wh	ara naGasa	pry?				$\overline{}$				
Does specified	equipment has ve	atid noise tabel'	7					7				
Are Constructio	n Nelse Permiter	(CNPs) ovailab	ka for inapa	ation?								
Majar Noise Bo	ourae	Toffe					analructio	m activities in	aidu tho sit	e		
		() Çonstru	ation ectivit	ine outside of site			thore .	NH				

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Site Inspection Checklist (SF-17)

Water Qualit	y 6. Drainage	Yes	NO	NA	NG	Follow- up	Remarks
is a wastewater discharge lid	ense obtained for the Project?		<u> </u>			<u> </u>	
is site effluent discharged in	aucordance with the discharge (jöönsö?						
is the discharge of sity wate	r avoided?						
Fotavpaba egenierib al		$\overline{\mathbf{N}}$					
ja dminage system wolt mair	ntained?						· · · · · · · · · · · · · · · · · · ·
Are there temporary diletes	for runoff discharge into appropriate watercourse?	N				□.	
Are there sedimentation (on)	to for settling runoff prior to discharge?		\Box				
Are the sedimentation lasks	Constructed of pre-formed individual calls?						
	with adequate capacity?						
	Pres (rom silt and sediment?	17 1					
Are there novirelization tenk	s for concrete batching/mixing discharge?					<u> </u>	
Are there oil interceptors in a	drøhinge system?	[
is wheel west facility provide	ad all every site exil?						
Are vehicles and plant clean	ad of oarth, mud & debris bofore leaving the site?						
Are wheel washing facilities	regularly inspected and maintained?	$\overline{}$				\square .	
Are tollets provided on sile?	If so, are they properly metricined?						
Aro manholes deversed and	agaled?			\square		Ļ	
is oli leakogo or spillago avo	ldød?				\square		
Waste Management and P	otential Land Contamination						
General Refuse;	Are receptacies (rubbis) blos) sveitable?						
	a there regular and proper disposal?						
	is proper sorting and recycling implemented?						
Construction Wester	is generation of construction wastle minimized?						
	Seila no kainanaigui gnihoa étéék a						
	is construction waste revised where practicable?					\Box .	······
	(s construction waste property dispersed of?						
	Are disposel records evallable for inspection?		<u> </u>			<u> </u>	
Chemical waste/waste oil	is there designated storage waw?	I					
	is alternical waste stored properly?	\square				<u> </u>	
	is there proper disposal?	\square					
	ls abamical waste licence evallable for inspection?	\square				\Box .	·
Excevated Materials	Po excavaled materials appear uncontaminated?	\square				<u> </u>	
	Are appropriate protectures followed if contaminated materials exist?						
	Are disposal records available for inspection?			\Box		□ .	
Chemical/Fuel	ls chamical/fuel stored in bounded pres?	Z				 ,	
	(s bund capabily adoqueto (*119% of the lorgest fank)?					<u> </u>	
	Are storage areas tookable?						
is (cam, cit, groase or other evolded?	objectionable matters in water or newby drains of sewer	لک					

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22+06+10;18:28 ;



Remarks:

Follow up

Free standing chemical container at Pok Wal Nam Road was removed.

Observations Recorded in this Site inspection:

No environmental issue was observed during the site Inspection.

Signatures:

Env. Auditor

Name :8en Tem

Contractor's Representative

anny Ho Shen 23/6/10

Name: Edwin Leung

Name:

IC(E) Auditor

Name:

Witnesse by RE's Representative

Site Inspection Checklist (SF-17)

22-06-10;18:29 ;

AUE				SI	Site Inspection Checklist (SF-17)							
Project		umping Stati	on at Kami'	, Rising Mains Tin, Nam Sang	Contri	actor:		Leader Civil Engineering Corp. Ltd Babrie Asia Ltd Mott MacDonald Hong Kong Ltd Action-United Environmental Services &				
					Engin	aer:						
inspected by:	ET Audito	G	Bon T	6M	160:							
	Contractor f	Rep:	Rdwin L	euna	Envir	anmentel Y		Action-Uni Consulting		ronmental	Gervices a	
	EC's Rep				•			15 June 2010 (10:00am)				
	RE's Rep		Y M L	.814	Che¢i	list Refare	ince No.:	DSD-AT16	0610			
Goneral Metcore	sionical Informa	tion				<u> </u>						
Weather]ອົນກກy	 Fi	no [Cloudy		Overcast		Drizzio		Rain	Hazy	
Temp:	29 .0		·									
Humidity:	High (R)	1 × 00%)	(Moderale (8	0% ► RH+	> 50%)		Low (RH	× 50%)			
Wind:	Caim		ght	Breaze		Strong						
Air Quality	<u> </u>			•						Follow-		
Ап цианту						Yes	NO	NA	NC	qu	Remarkä	
la hourding of net	t less then 2,4m (provided?										
Aro site vehicles	traveling within o	iontrolled speed	វ កោរវេទ								· · · ·	
Are sile vehicles	movement confir	nad to designate	ed houl roads	17								
Are public roads	outoide eite cxité	i köpt ölvan and	l froe from du	st7							_	
Are havi roade e	nd unpavod mafe	ions watered ra	gularly to evo	dust generation?	,							
Are there wheel y	washing facilities	provided at sile	o oxils7			\checkmark	\square				· · · · ·	
la wolar apraying	udud during the	main dust-gene	erating activit	los?		$\overline{}$		[]				
Ard the extern impormeable/lar		ile of dusty	materiala I	kept wet or cov	ered by					\Box .		
is exposed area	of ground covere	d or watered fre	ryuantiy?							Ë.		
Are load on vahie	oles devoted by a	laan imperviou	a shaaling?							\Box .		
Are vahisles and	l aquípment awite	hed off while n	o) in use?									
Are smoky omiss	tions from planis	/equipment ave	idod7			S						
is open burning i	avoided?											
Observable dust	SOUTONE	Wind erc	noiae			<u> </u>	4,					
		Looding/	unloading of	materiala			luoni					
Construction N	olse		•				-					
	tion works sched	uled to minimiz	o กอโรย กินไซ	ance?		2)						
Are the works or	equipment cited	to minimize no	lau nuisonce	7								
	oquipment well (<u> </u>						
,	i turned off or thr											
			hiaklad by ap(propriete ecoustio								
is silenced equip	amani usad wher	a appropriata?						\checkmark				
Are noise enclos	sures or noise be	ripre used who	но посоввал	7								
Does specified e	av and themojupe	ilid noise labei?	,					E				
Are Construction	n Noise Permilis ((CNPs) svällabl	e for inspecti	ion7							·····	
Major Noisa Sou	Iroe	Traffic				[∑]o	onstructio	n activitas in	side the si	4		
		Construe	ation activities	e osteide of site			thors	NN				

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22-06-10;18:29 ;



Site Inspection Checklist (SF-17)

Water Quali	y & Drainage	Yes	NÖ	NA	N¢	Fallow- up	Remarka
in a wantuwater discharge la	cance obtained for the Project?						
ni bagradaaih menifike alie al	accordance with the discharge license?					<u> </u>	
to the discharge of silly wate	r evoidad?					—	<u></u>
ls drainage adequats?						□ -	
le drainage system well mai	ntained?						
Are there temporary distinct	for runoff discharge into appropriate watercourse?						
Are there sedimentation tan	ku tar settling runoff prior to discharge?					□ -	
Are the sedimentation (anks	Constructed of pre-formed individual calls?						
	Wilh edaquate capacity?	$\mathbf{\nabla}$					
	Fion from all and sediment?	D)					
Are there neutralization tast	s for concrete butching/mixing discharge?			Ē			
Are there all interceptors in	diainage system?					\Box .	·····
is wheel wash facility provid	od al every site exit?					□ -	
Ato vohicing and plant close	red of earth, mud & debris before leaving the elic?					□ -	
Are wheel weating facilities	regularly inspooled and maintained?					<u> </u>	
Are tolicis provided on site?	' If so, are they properly maintained?					<u> </u>	
Are menholes covered and	scalod?			- - -		□.	
la ali laakago or spillago ov	Didor!?					<u> </u>	
Waste Management and F	otential Land Contamination						
General Refuse:	Ara receptories (rubbish bins) available?			,			
	is there mouser ent proper disposel?					_ ,	Nemarks 1
	in proper serving and recycling implemented?	2					_
Construction Wester	is generation of construction waste minimized?	Ţ					
	hi waste parting implemented on sile?	\checkmark					
	is construction wazin reuned where practicable?	<u> </u>				<u> </u>	
	is construction weeks properly disposed of?	\checkmark					
	Are disposal records evaluate for inspection?						
Chomical wasto/waste oil	ls there designuled storage area?						
	is chemical wasle slored properly?						
	ki thera proper diaposel?						
	is chemical waste license sysilable for inspection?						
Excavalod Materials	Do oxeevated materials appear unconteminated?			[]	<u> </u>		
	Are appropriate procedures followed if contaminated materials exist?						
	Are disposal records evallable for inspection?	\checkmark		,			
Chemiqal/ ³ uai	Is chemical/fuel stored in bounded area?						
	is bund appealiy adequate (>110% of the largest tenk)?						
	Are storage areas loskablo?						
is foam, oil, prease or othe	r objectionable matters in water or regular drains of server						

is foam, oil, grasse or other objectionable matters in water or nearby drains of sever avoided?

24-JUN-2010 14:36 From:LEADER CIVIL ENG. 24

24439857

22-06-10;18:29 ;

AUES

Site inspection Checklist (SF-17)

Remarks;

Follow up

Nil

Observations Recorded in this Site Inspection:



General waste scattered at Pok Wal Nam Road was observed, housekeeping should be improve to maintain the site clean and tidy.



Stagnant water cumulated at uneven access road was observed at Pok Wai Nam Road, the contractor was reminded to clean to prevent mosquito breeding.

Signatures:

Env. Auditor

Name :Ben Tam

Contractor's Representative

IC(E) Auditor

Witness by RE's Representative

- - - - 3/6/10 408

Name: Edwin Loung

Name:

24-JUN-2010 14:36 From:LEADER CIVIL ENG. 24439857

22-06-10;18:28 ;

Project	DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Saag Wal and Au Tau in Yuen Long /- /- Alt Auditor: Ban Tam				Contractor: Engineer:			Leader Civil Engineering Corp. Ltd Babtic Agia Ltd			
inspected by:				18C;			Molt Mag		na Kona I	.td	
mapacito oy.					anmenta) "	feam:				Services 8	
	Contractor	Rep:	Edwin Leung								
	IEC's Re	<u>e;</u>	lesao Chu	inspection Date & Time: Checklist Reference No.1			22 June 2010 (10:00am)				
	RE's Rep	;	Y M Lau				· USU·A I 220010				
General Meteoro	ological Informa	Hon									
Weather	Sunny	🔽 Pin	a Cloudy		Dvæcesi		elssin0		Rain	Hazy	
Temp;	31 °C										
Humidity:	High (Ri	H = 00%)	Moderato (90% × RH ×	- 50%)		Low (RH	- 60%)			
Wind:	Celm	Lio Lio	ht Braaze		Otmng						
Air Quality				-	Yes	NÓ	NA	NC	Follow-	Remarks	
is hearding of not	less than 2 Am	provided?					([]	444 []		
Ara site vahiclas		•	imit7		. <u> </u>						
Are site vehicles											
Ana public roads											
			ularly to evoid dust generation	7	1 22					····	
Are there wheel v	veshing facilities	provided at allo	axilis?								
is water spraying	used during the	main dust-gone:	ating eclivities?								
Am the autovi Impermeable/ing	stad or stockp soulin shoot?	olio of dusty i	naleriels kopt wet or co	veroid by							
is exposed area a	of ground covere	d or watered free	uently?								
Are load on vehic	les covered by c	lean impervious	shaallog?		\checkmark						
Are vehicles and	oquipment awite	thed off while no	in use?						□.		
Am amony emiss	ilona trom plante	oquipment avoid	led?								
is open burning e	voided?									<u>.</u>	
Observable dust	sources.	Wind eros	lon		 ▼]N#	۹.					
		Londing/u	ninading of materials			hors .					
Construction N	Dise										
Are the construct	tion works sched	lulad (o minimi≵o	noise nuisanae?		\checkmark						
Are the works or	equipment slied	to minimize nois	o nuisance?						Ē.		
hrea Inalq Va onA	equipment well (mainteined and i	s good operating condition?								
la idio equipment	l turned off or thr	ollied dewn?			2						
is powored mode meterials?	anlasi equipmer	nt covered or shift	ided by appropriate acoustic				×			-	
is slienced equip	ment used wher	o appropriato?							<u> </u>		
Are noise enclos	ungs or noise ba	mena used when	necessary?								
Dees specified a	quipmont has va	ild noise lebel?						[]	\Box .		
Are Construction	Noian Permito (CNPs) available	for inspection?				<u> </u>	()			
Major Noise Sou	108	— Traffic			[<u>\</u>]0	onstructio	n activities in	side the she			
	Construction settivities outside of site					here	<u>Nit.</u>				

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Site Inspection	Checklist	(SF-17)
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Water Quality & Drainage		Yes	NO	NA	NC	Follow-	Remarks
is a wastewater discharge license obtained for the Project?							
is alle ellown discharged in accordance with the discharge ticense?							
is the discharge of sitty water avoided?							
ts drainage adoguate?							
is drainage system well ma	Intained?	7					
Are there temporary ditaba	i for runoff diacharge inte appropriate watercourse?						<u> </u>
Are there sedimentation tanks for setting runoff prior to discharge?							
Are the cedimentation tanks	Constructed of pre-formed individual cells?					□.	
	With adequate paperity?					□	
	Froe from all and sediment?						
Are there neutralization tan	ks for concrete batching/mixing discharge?					<u> </u>	
Are there all interceptons in	drainego system?						<u> </u>
is wheel wash facility provid	led at overy site exit?						
Are vehicles and plant eles	nod of earth, mud & debris before lasving the site?	P				\Box .	
Are wheel washing facilition	a regularly inspected and mainlaned?						
Are tollets provided on site	I so, are they properly maintained?					\Box .	
Are manheles overed and	Ronlod?			 ✓ 			
is oli lapkage or spillage ev	อโสอสวั			.		— .	
Weste Management and I	*otential Land Contamination						
General Refuse:	Ate receptacion, (rubbish bino) available?					<u> </u>	
	is there regular and proper disposal'r						Remarke 1
	lu proper sorting and recycling implemented?						<u> </u>
Construction Weele;	a generation of construction wasto minimized?	_			[]		
	is wests sorting implemented on site?						
	In construction waste reused where practicable?						
	a construction works properly disponed of?					<u> </u>	
	Am (ispose) records available for inspection?	\mathbf{x}				— -	155
Chemical waste/waste oli	la there designated storage area?						
	ia ahemical waste stored properly?						
	is there proper disposel?	\Box				Π.	
	a chemical waste license available for inspection?						
Excevated Materials	Do exceveted meterials appear unconteninated?					— -	
	Are appropriate procedures followed if contaminated materials exist?						
	Arg disposal regards evaluate for imposion?						
Chamidal/Fuol	iu attemiosi/fuel stored in bounded area?				\square		
	la bund capacity adequate (+110% of the largest tank)?					<u> </u>	
	Are storage areas lockable?						
In form, oil, grease or other objectionable manors in water or nearby drains of sewor						<u> </u>	

is fram, oil, grease or other objectionable maners in water or nearby drains of sewer nvoldes?

2. No stagnant water cumulated at the access road was "

observed at Pok Wal Nam Road.

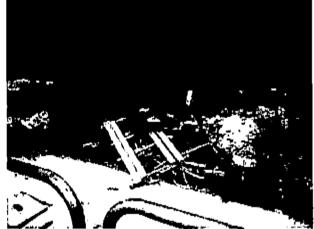


Site Inspection Checklist (SF-17)

Remarks:

Follow up

- 1. Conoral waste at Pok Wal Nam Road was disposed.
- **Observations Recorded in this Site Inspection:**



C&D waste scattered at Ko Po Road was observed, housekeeping should be improve to maintain the site clean and tidy.

Signatures:

Env. Auditor

Contractor's Representative

IC(E) Auditor

Witness by RE's Representative

Name :Ben Tem

He open ~3/6/10 Ja-

Nome: Edwin Loung

Name:

Name

AUES

Site Inspection Checklist (SF-17)

Project	DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long			Contr	Contractor:		Leader Civil Engineering Corp. Ltd				
	Sang war and Au Tau in Fuen Long			Engineer:			Babtie Asia Ltd				
Inspected by:	ET Audita	. . .	Nicele Hen	IEC:			Mott MacDonald Hong Kong Ltd				
	ET Audito	vr:	Nicola Hon	Envir	onmental 1	Feam:	Action-Un	ited Env	/ironmenta	Services &	
	Contractor	Rep:	Edwin Leung	Inspe	ction Date	& Time:	Consultin 29 June 2))		
	IEC's Re):		Checklist Reference					Jam)		
	RE's Rep):	Y M Lau	No.:			DSD-AT29	0010			
General Meteor	ological Informa	tion									
Weather	✓ Sunny	Fine	Cloudy		Overcast		Drizzle		Rain	Hazy	
Temp:	31 °C										
Humidity:	High (RI	l > 90%)	✓ Moderate (9	0% > RH	> 50%)		Low (RH	< 50%)			
Wind:	Calm	Ligh	ot ✓ Breeze		Strong						
Air Quality					Yes	NO	NA	NC	Follow- up	Remarks	
Is hoarding of no	ot less than 2.4m	provided?			\checkmark				□ _		
Are site vehicles	traveling within c	ontrolled speed I	imit?		\checkmark						
Are site vehicles	movement confir	ned to designated	haul roads?		\checkmark						
Are public roads	outside site exits	kept clean and f	ree from dust?		\checkmark						
Are haul roads a	nd unpaved surfa	ices watered reg	ularly to avoid dust generation?	?	\checkmark						
Are there wheel	washing facilities	provided at site	exits?		\checkmark						
Is water spraying used during the main dust-generating activities?					\checkmark						
Are the excavated or stockpile of dusty materials kept wet or cover impermeable/tarpaulin sheet?				red by	\checkmark						
Is exposed area	of ground covere	d or watered free	uently?		\checkmark				<u> </u>		
Are load on vehic	cles covered by c	lean impervious	sheeting?		\checkmark						
Are vehicles and	l equipment switc	hed off while not	in use?		\checkmark						
Are smoky emiss	sions from plants/	equipment avoid	ed?		\checkmark						
Is open burning a	avoided?				\checkmark						
Observable dust	sources	Wind erosic	on		✓ NA						
		Loading/un	loading of materials		Oth	ners _					
Construction No	oise										
Are the construct	tion works sched	uled to minimize	noise nuisance?		\checkmark				□ _		
Are the works or	equipment sited	to minimize noise	e nuisance?		\checkmark				\Box _		
Are all plant and	equipment well n	naintained and in	good operating condition?		\checkmark						
Is idle equipment turned off or throttled down?				\checkmark							
Is powered mech materials?	nanical equipmen	t covered or shie	lded by appropriate acoustic				~				
Is silenced equipment used where appropriate?						\checkmark		\Box _			
Are noise enclosures or noise barriers used where necessary?						\checkmark					
Does specified equipment has valid noise label?							\checkmark				
Are Construction	Noise Permits (0	CNPs) available f	or inspection?				\checkmark				
Major Noise Sou	irce	Traffic			 ✓ Cor 	nstruction	activities ins	ide the site	e		
Construction activities outside of site					Oth	ners <u>N</u>	lil				

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Site Inspection Checklist (SF-17)

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	\checkmark						
Is the discharge of silty water avoided?							
Is drainage adequate?		\checkmark					
Is drainage system well maintained?							
Are there temporary ditches	s for runoff discharge into appropriate watercourse?	\checkmark					
Are there sedimentation tar	iks for settling runoff prior to discharge?					\checkmark	Remark 1
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	ded at every site exit?	\checkmark					
Are vehicles and plant clear	ned of earth, mud & debris before leaving the site?	\checkmark					
Are wheel washing facilities	s 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 objectionable matters in water or nearby drains of sewer avoided?							



Remarks:

Follow up

1. C&D waste scattered at Ko Po Road was was disposed.

Observations Recorded in this Site Inspection:

Remark 1: Stagnant water was observed in Kam Tin Pumping Station after rainstorm, it is reminded that wastewater generated from the site shall be treated in the sedimentation tank prior to discharge.

Signatures:

Env. Auditor

Contractor's Representative

IC(E) Auditor

Witness by RE's Representative

Name :Nicola Hon

Name: Edwin Leung

Name:

Name: