

MTR Corporation Limited

MTR Lai Chi Kok Station Pedestrian Subway and Entrance Works

Monthly Environmental Monitoring & Audit Report

16 March 2008 – 15 April 2008

Environmental Pioneers & Solutions Limited

8/F, Chaiwan Industrial Centre Building
20 Lee Chung Street, Chaiwan, Hong Kong
Tel: 2889 0569 Fax: 2856 2010

MTR Lai Chi Kok Station

Cheung Lai Street Pedestrian Subway & Entrance Works

Environmental Permit No. EP – 253/ 2006

MTR Lai Chi Kok Station

Cheung Lai Street Pedestrian Subway & Entrance Works

**Submission Document Title: Environmental Permit Conditions
- Monthly EM&A Report**

Environmental Permit No.: EP-253/ 2006

Independent Environmental Checker Ref: EP2532006-LCK-IEC-012

According to Permit Condition 1.9 of the above Environmental Permit, the titled document(s) certified by the Environmental Team Leader has been checked and verified by the undersigned.. The document is considered to be in environmental acceptable manner.

Verified by:

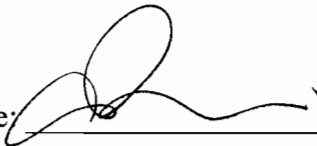

Dr. Glenn H. Frommer
Head of Sustainability Development
of MTR Corporation

02.05.08

Date

APPROVAL SHEET

Prepared and Certified by: ET Leader (Environmental Pioneers & Solutions Limited)

Signature:  _____

Date: 30 APR 2008

Miss Patricia Chung
(ET Leader)

* ET – Environmental Team

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
1 INTRODUCTION	5
2 PROJECT INFORMATION	5
2.1 Construction Program	5
2.2 Construction Activities in the Past Month	6
2.3 Construction Activities for the Coming Month	7
3 NOISE MONITORING	8
3.1 Monitoring Methodology	8
3.2 Equipment Used and Calibration Details	8
3.3 Monitoring Station	8
3.4 Monitoring Results	9
3.5 Monitoring Schedule for Next Reporting Period	10
4 ACTION TAKEN IN EVENT OF EXCEEDENCE	11
5 CONSTRUCTION WASTE DISPOSAL	11
6 COMPLAINT LOG	12
7 STATUS OF PERMITS AND LICENSES OBTAINED	13
8 SITE INSPECTION AND AUDITS	14
9 CONCLUSION	15
APPENDIX 1 – REFERENCE FIGURES	16
APPENDIX 2 – ENVIRONMENTAL MONITORING DATA/ CHARTS	19
APPENDIX 3 - Noise Monitoring Data Sheet and Calculation	22
APPENDIX 4 - COMPLAINT REPORT AND LOG	44

EXECUTIVE SUMMARY

This is the eighth Monthly Environmental Monitoring and Audit (EM&A) Report for “MTRC Lai Chi Kok Station Pedestrian Subway and Entrance Works”. The Report concludes the impact monitoring and audit works for the construction works undertaken during the period of 16 March to 15 April 2008. The major construction activities in this reporting month include 1800mm dia sewer diversion works, sheetpiling and temporary support for subway construction, construction of smoke extraction air shaft and fresh air intake shaft, utility diversion works and temporary road diversion.

Impact monitoring for noise was conducted in this reporting period. There was no exceedance of action and limit levels recorded at the agreed sensitive receivers. There was one formal public concern regarding construction noise recorded with a reasonable follow up taken. The noise levels were significantly affected by the busy running traffic on Lai Chi Kok road. The contractor's performance on environmental issues was considered in general satisfactory.

EPD's comments on the 7th EM&A Report were given in their fax issued in early April have been responded. Some elaboration / clarification on the current and coming construction progress and regular noise monitoring have been made in this EM&A report.

1 INTRODUCTION

This is the 8th monthly Environmental Monitoring and Audit (EM&A) Report for “MTRC Lai Chi Kok Station Pedestrian Subway and Entrance Works” (Environmental Permit No. EP-253/2006). The Report concludes the impact monitoring and audit works for the construction works undertaken during the period of 16th March 2008 to 15th April 2008.

2 PROJECT INFORMATION

2.1 Construction Program

Civil construction of the whole subway would take approximately 30 months to complete. The construction sites are mainly located at Cheung Lai Street, a section of Lai Chi Kok road near West Kowloon Corridor and a section of Cheung Sha Wan Road.

The construction of the subway would be carried out simultaneously by cut and cover method. Vertical open cut areas would be provided in phases to suit the project progress and laterally supported by sheetpile walls for temporary road decks construction. In order to maintain existing traffic flows at Lai Chi Kok Road, Cheung Sha Wan Road and Cheung Lai Street, temporary road decks would be provided as soon as possible. This would also act as a screen to minimize the nuisance to the public and pedestrian during construction of the subway structures. All excavation and construction of the subway and its ancillary underground structures would be carried out underneath the road decks thereby minimizing environmental impacts. At-grade access points would be provided for transportation of material/spoil and workers’ access during implementation of the underground subway construction works. Once the construction of the subway structure is completed, the work areas would be backfilled and the road surface will be reinstated.

Site location plan is shown in Appendix 1. The construction programme is shown below.

Activities	Month					
	Aug - Dec 07	Jan-May 08	Jun-Oct 08	Nov08 -Mar09	Apr-Aug 09	Sept 09 - Jan 10
1800 Ø Sewer Diversion of Lai Chi Kok Sewer	████████████████████					
Construction of Subway	████████████████████████████████████████████████████████████████████████████████					
- Sheet Piling works & Temporary Support	████████████████████████████████████████████████████████████████████████████████					
- Excavation works			████████████████████████████████████████████████████████████████████████████████			
- Formwork & Concreting				████████████████████████████████████████████████████████████████████████████████		
- Decoration Works					████████████████████████████████████████████████████████████████████████████████	
- Backfilling & Reinstatement					████████████████████████████████████████████████████████████████████████████████	
Construction of smoke extraction air shaft	████████████████████					
Construction of fresh air intake shaft	████████████████████					
Construction of subway entrance D1					████████████████████████████████████████████████████████████████████████████████	
Construction of subway entrance D2					████████████████████████████████████████████████████████████████████████████████	
Construction of subway entrance D3 inside Liberte			████████████████████			
Construction of subway entrance D4 inside The Pacifica			████████████████████			

2.2 Construction Activities in the past month

Major construction activities carried out by the contractor during this reporting period include:

1800 dia sewer diversion of Lai Chi Kok Sewer

- Drive sheet piles for 1800mm dia. sewer Manhole (FM-1) adjacent to West Kowloon Corridor.
- Excavate for pipes laying.

Construction of ventilation ducts and shafts under West Kowloon Corridor

- Backfill completed section of ventilation ducts of the smoke extraction ventilation shaft
- Construct the fresh air intake ducts and shaft.

Subway construction

- Drive sheet piles at Cheung Lai Street between Cheung Shun Street and Cheung

Yee Street for temporary road deck construction.

- Install temporary road decks for carriageway at Cheung Lai Street in between Lai Chi Kok Road and Cheung Yee Street

2.3 Construction Activities for the coming month

Major construction activities by the contractor anticipated for the coming month include:

1800 dia sewer diversion of Lai Chi Kok Sewer

- Excavate and lay dia.1800 sewer pipe adjacent to West Kowloon Corridor.
- Construct dia.1800mm sewer manholes (FM-1) and (FM-2) that adjacent to West Kowloon Corridor.

Construction of Ventilation Shafts under West Kowloon Corridor

- Construct fresh air vent shaft below West Kowloon Corridor

Subway construction

- Excavate trial trench for sheet piling at Cheung Lai Street in between Cheung Shun Street and Cheung Yee Street
- Drive sheet piles at Cheung Lai Street in between Cheung Shun Street and Cheung Yee Street
- Excavate trial trench and drive sheet piles for subway at middle lane of Lai Chi Kok road eastbound.
- Installation of decking beam and decking panels at Lai Chi Kok road eastbound

3 NOISE MONITORING

3.1 Monitoring Methodology

In accordance with the EM&A Manual, the construction noise level is measured in terms of A-weighted equivalent continuous sound pressure level (L_{Aeq}). During normal construction working hours (0700-1900 Monday to Saturday), monitoring of $L_{Aeq, 30min}$ noise levels (as six consecutive $L_{Aeq, 5min}$ readings) was carried out once every week.

3.2 Equipment used and calibration details

Impact noise monitoring was conducted using SVAN sound analysis equipment – SVAN 949, which complied with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1 985 (Type 1) Specifications as referred to in the Technical Memorandum to the Noise Control Ordinance. The equipment were calibrated and verified by certified laboratory or manufacturer every two years to ensure they perform to the same level of accuracy as stated in the manufacturer's specification. Before and after each measurement, the reading of sound level meter was checked with the acoustic calibrator and the measurements were accepted as valid if the calibration levels before and after the noise measurement agreed to within 1.0 dB. Free field and weatherproof microphone was extended 1m from the exterior of the sensitive receivers building façade and with an unobstructed field of view of the proposed construction site. Measurements were recorded to the nearest 0.1 dB.

3.3 Monitoring Station

In accordance with the EM&A Manual, monitoring stations were established at 2 locations, which are summarized in Table 3.1 and depicted in Appendix 1.

Table 3.1 – Noise Monitoring Stations

Sensitive Receiver No.	Location
R1	Podium, Block 7, Liberte
R2	Podium, Tower 1, The Pacifica

3.4 Monitoring Results

The results are presented in the Table 3.2. Relevant details of the noise monitoring results, graphic plots and calculation reference are presented in Appendix 2 and 3. The results, ranged between 60.7dB(A) and 73.6 dB(A), were within the limit levels and therefore, no exceedance was found.

Table 3.2 – Noise monitoring results for the reporting month

Location	Parameter	Time	Date	Measured Leq	Baseline Noise Level	Corrected LAeq*	Limit	Exceedance
R1	Leq30min	17:20	17-Mar-08	73.7 dB(A)	74 dB(A)	# dB(A)	75 dB(A)	N
R1	Leq30min	16:51	25-Mar-08	76.8 dB(A)	74 dB(A)	73.6 dB(A)	75 dB(A)	N
R1	Leq30min	13:43	31-Mar-08	74.2 dB(A)	74 dB(A)	60.7 dB(A)	75 dB(A)	N
R1	Leq30min	13:42	7-Apr-08	75.6 dB(A)	74 dB(A)	70.5 dB(A)	75 dB(A)	N
R1	Leq30min	13:02	14-Apr-08	75.3 dB(A)	74 dB(A)	69.4 dB(A)	75 dB(A)	N

R2	Leq30min	16:28	17-Mar-08	72.7 dB(A)	74.3 dB(A)	# dB(A)	75 dB(A)	N
R2	Leq30min	16:01	25-Mar-08	74.8 dB(A)	74.3 dB(A)	65.2 dB(A)	75 dB(A)	N
R2	Leq30min	11:43	31-Mar-08	72.5 dB(A)	74.3 dB(A)	# dB(A)	75 dB(A)	N
R2	Leq30min	9:53	7-Apr-08	75.3 dB(A)	74.3 dB(A)	68.4 dB(A)	75 dB(A)	N
R2	Leq30min	13:47	14-Apr-08	75.2 dB(A)	74.3 dB(A)	67.9 dB(A)	75 dB(A)	N

*Corrected to baseline background level

Measured Leq is lower than baseline noise measurement

Action and Limit levels and the associated Event/ Action Plan in event of exceedance are summarized in Table 3.3 and 3.4, respectively.

Table 3.3 – Action and Limit Levels for Construction Noise at Sensitive Receivers R1 and R2

Time Period	Action	Limit
Daytime 0700 – 1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)
0700 – 2300hrs on holidays; and 1900 – 2300 hrs on all other days		Subject to the control of Noise Control Ordinance
2300 – 0700 hrs of next day		Subject to the control of Noise Control Ordinance

Table 3.34- Event/Action plan for construction noise

Event	Action			
	ET Leader	IEC	RE	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify IEC, RE and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to IEC, RE and the Contractor. 4. Discuss with the RE and the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures. 	<ol style="list-style-type: none"> 1. Review with analysed results submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise RE accordingly. 3. Supervise the implement of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to RE / ET. 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify the source. 2. Notify IEC, RE, EPD and the Contractor. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform IEC, RE, and EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and RE informed of the results. 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst RE, ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise RE accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to RE and IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the RE until the exceedance is abated.

3.5 Monitoring Schedule for Next Reporting Period

Noise monitoring in the next reporting period is scheduled for 21st and 28th April 2008, as well as 5th and 12th May 2008.

Site inspection schedule for the next reporting period is designated on 28th April 2008 and 12th May 2008.

4 ACTION TAKEN IN EVENT OF EXCEEDENCE

There were no exceedance recorded during this reporting period, therefore no action was taken.

5 CONSTRUCTION WASTE DISPOSAL

Dumping locations for disposal of C&D wastes from the construction site were appointed and allocated by EPD/CEDD. The contractor has implemented the delivery trip ticket system for recording the waste disposal to the public fill and landfill areas. Excavated materials are reused as back-fill material to balance cut and fill and hence reduce the generation of materials. Table 5.1 is a summary of updated figures of the construction wastes disposal provided by the Contractor. The relevant disposal records are kept in Contractor's site office for inspection.

Table 5.1 Summary of Construction Waste Disposal

	Amount of Construction Waste disposed		
	Inert Waste (to Public Fill) (tonnes)	Non-inert Waste (to Landfill) (tonnes)	Chemical Waste (trip)
16 August 07 to 15 September 07	963.75	34.8	--
16 September 07 to 15 October 07	1220.02	0	--
16 October 07 to 15 November 07	186.89	0	--
16 November 07 to 15 December 07	136.7	0	13
16 December 07 to 15 January 08	698.2	102.3	0
16 January 08 to 15 February 08	586.1	0	0
16 March 08 to 15 April 08	136.71	0	0
<i>Total</i>	<i>4251.27</i>	<i>137.1</i>	<i>13</i>

6 COMPLAINT LOG

Table 6.1 is the environmental complaint/ concern summary record.

Table 6.1 Summary of Formal Complaints/ Concerns received

	Air	Noise	Water	Others
16 August 07 to 15 September 07	0	0	0	0
16 September 07 to 15 October 07	0	0	0	0
16 October 07 to 15 November 07	0	0	0	0
16 November 07 to 15 December 07	0	0	0	0
16 December 07 to 15 January 08	0	0	0	0
16 January 08 to 15 February 08	0	0	0	0
16 February 08 to 15 March 08	0	0	0	0
16 March 08 to 15 April 08	0	1	0	0
<i>Total</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>

A tenant complained to the management office of the Liberte regarding noise on 29th March 2008. This public concern was received by the Contractor site office from the management office on 31st March 2008 and a proper follow up was taken by Resident Engineer/ Contractor/ Environmental Team and Independent Environmental Checker for investigation and resolution. The Contractor has agreed to carry out mitigation measures to resolve the incident. The details can be referred to the complaint report and log as shown in Appendix 4.

7 STATUS OF PERMITS AND LICENSES OBTAINED

Table 7.1 is the updated status of environmental related permits/ license obtained for the construction activities. Construction Noise Permit is renewed in the reporting month.

Table 7.1 Status of Permits and Licenses Obtained

Description	License / Permit No.#	Date of Issue	Date of Expiry	Remarks
Environmental Permit	EP-253/2006	11 Aug 2006	--	
Registration of C&D Waste Producer	7005542	1 Jun 2007	--	
Chemical Waste Producer	5214-264-K2869-08	08-May 2007	--	
Construction Noise Permit	PP-RW0002-08	6 Feb 2008	14 Aug 2008	
Effluent Discharge License	EP760/264/0124051	24 July 2007	31 July 2012	

8 SITE INSPECTION AND AUDITS

During the reporting period, regular bi-weekly joint site inspections led by senior staffs from MTR, Residential Engineer, Contractor and the ET were carried out. The Contractor's performance on the environmental matters was assessed and concerned items were raised for rectification. Inspection findings from the reporting period are summarized as follows:

Table 8.1 Summary of inspection findings

Item	Observations/ Description	Status
1	The Contractor was reminded to have regular check on site to ensure the compliance of relevant environmental regulations, permits and licenses.	Ongoing
2	The Contractor was reminded to ensure all required construction noise mitigation measures to be followed properly.	Ongoing
3	The Contractor was reminded to keep the site works area and site office tidy as good housekeeping.	Ongoing
4	The Contractor was reminded to implement proper noise mitigation measures to shield the noise parts of circular saw, handheld breaker and vibratory hammer during construction.	Ongoing
5	The Contractor should regularly review the condition of hoardings for Cheung Lai Street site area.	Ongoing
6	The Contractor was reminded to prevent the possible oil leak from fuel containers and the stationery plants by providing drip trays or similar.	Ongoing
7	The Contractor was reminded to remove the chemical drums in W2.	Done
8	The Contractor was reminded to regular check on the conditions of the working excavators and generators at Cheung Lai Street site area.	Done
9	The Contractor was reminded to remove the accumulated wastes in the drip pans	Done

9 CONCLUSION

In this reporting month, construction activities for this project “MTRC Lai Chi Kok Station Pedestrian Subway and Entrance Works” included 1800mm dia sewer diversion works, sheetpiling and temporary support for subway construction, construction of smoke extraction air shaft and fresh air intake shaft, utility diversion works and temporary road diversion. Regular monthly meetings and weekly site audits, led by the seniors and attended by representatives of RE, ET, IEC and the Contractor, were held for discussing site environmental related issues. Concerned site environmental items raised during the audits were generally followed up by the Contractor for rectification. The overall environmental pollution control measures provided by the Contractor were considered satisfactory. Noise levels recorded during the monitoring period were within limits. There was one formal public concern on noise recorded and handled properly during this reporting month. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements.

APPENDIX 1 – REFERENCE FIGURES

Figure 1 Project Construction Area

Figure 2 Noise Monitoring Stations

Figure 1 Project Construction Area

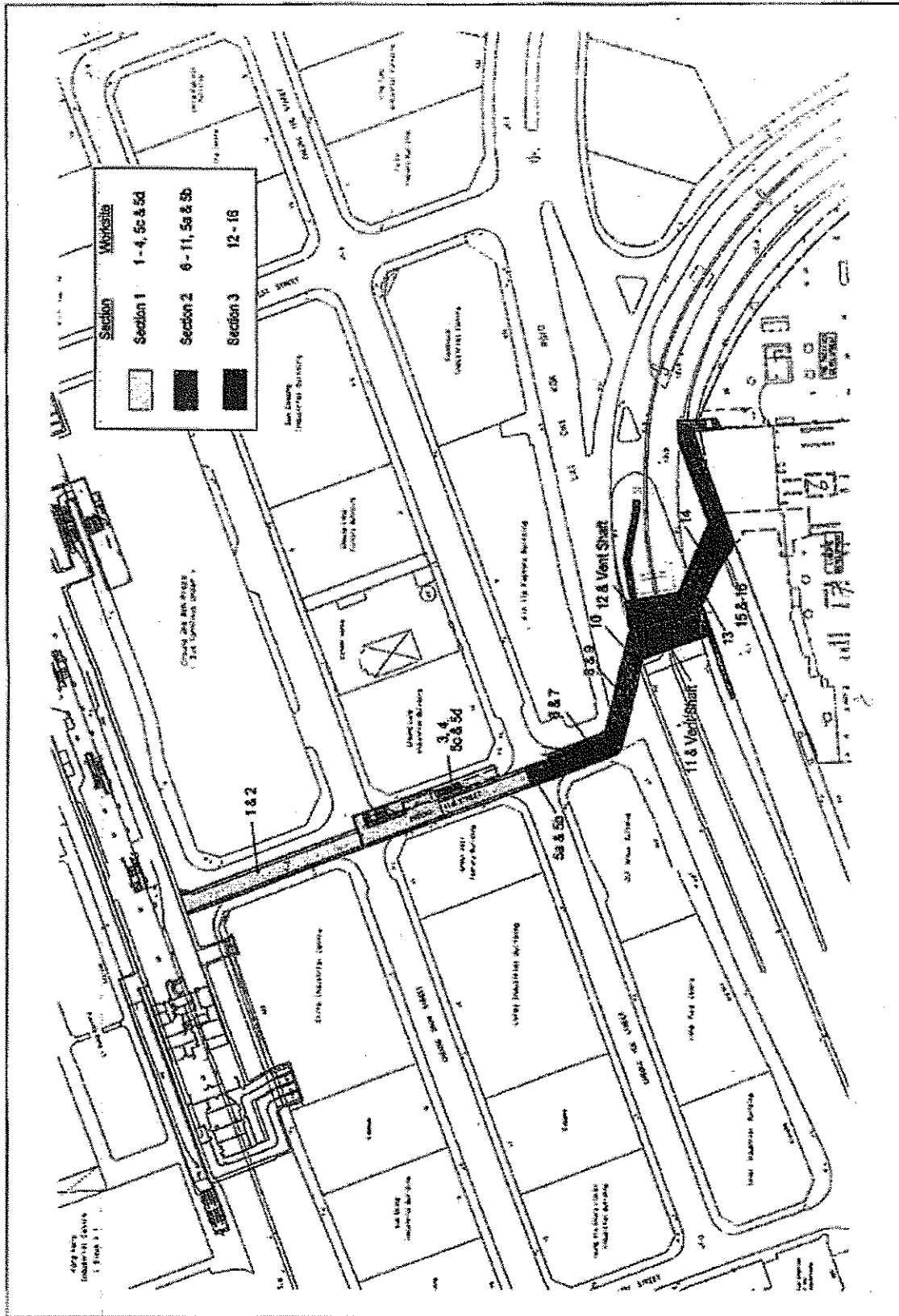
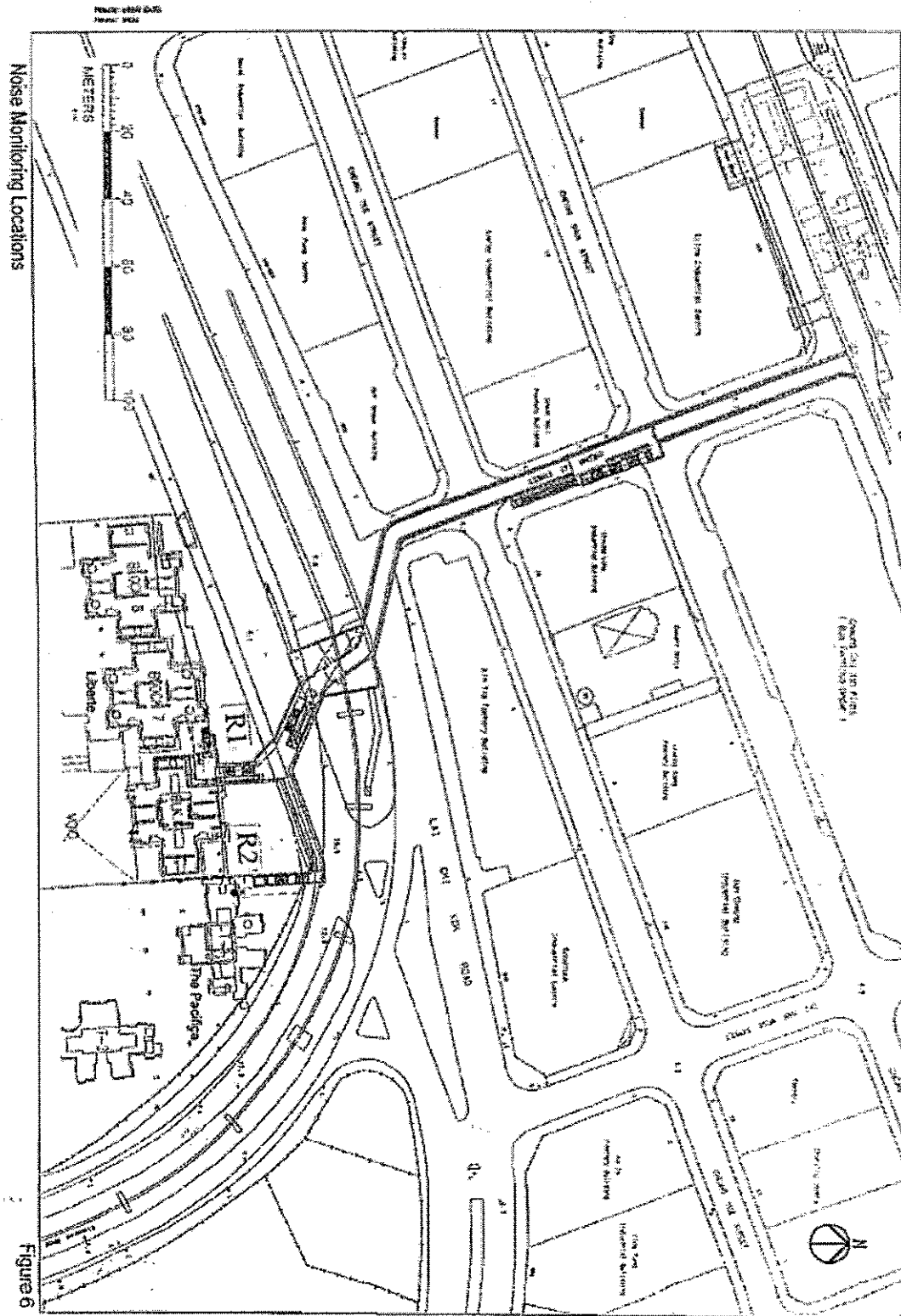
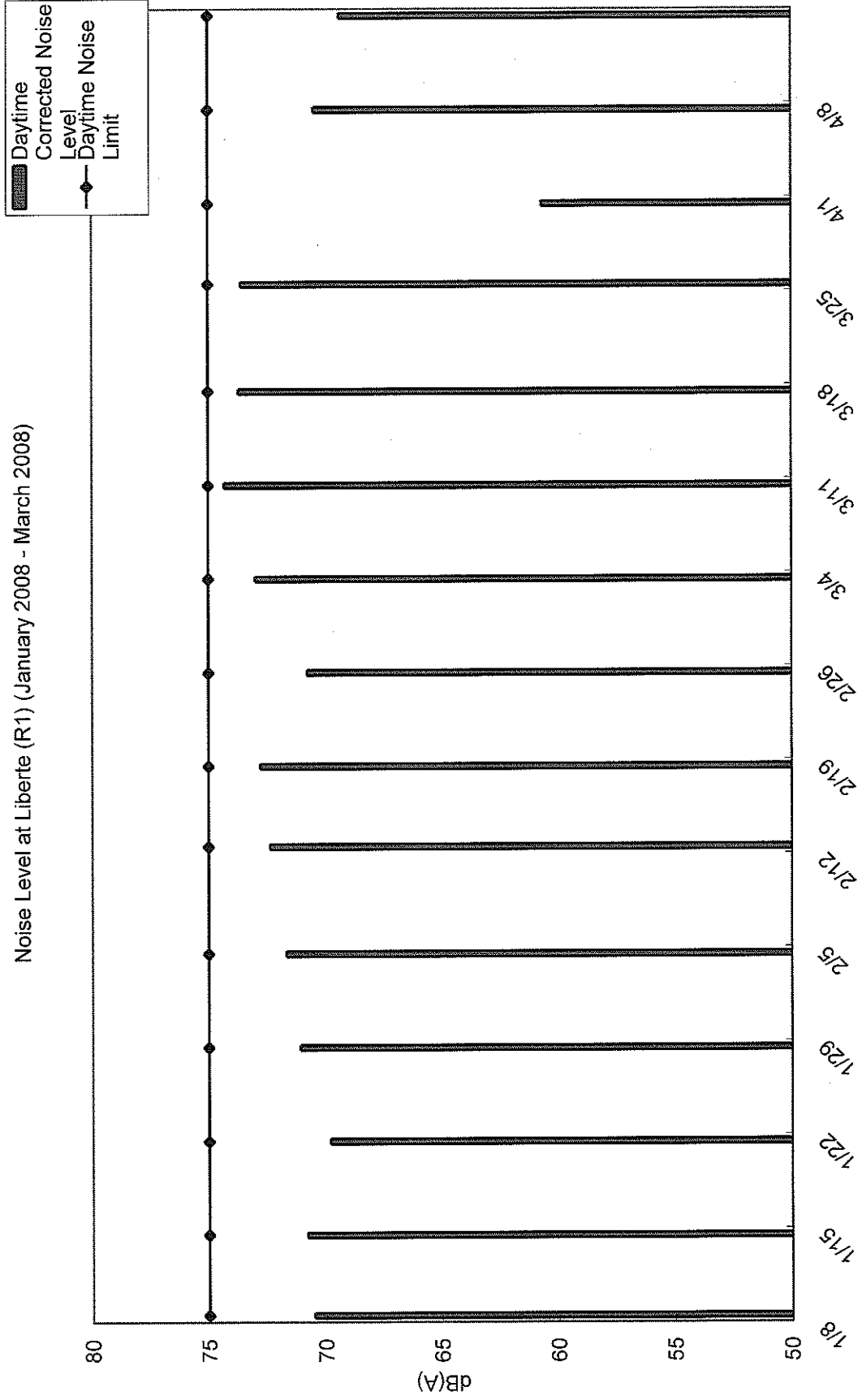


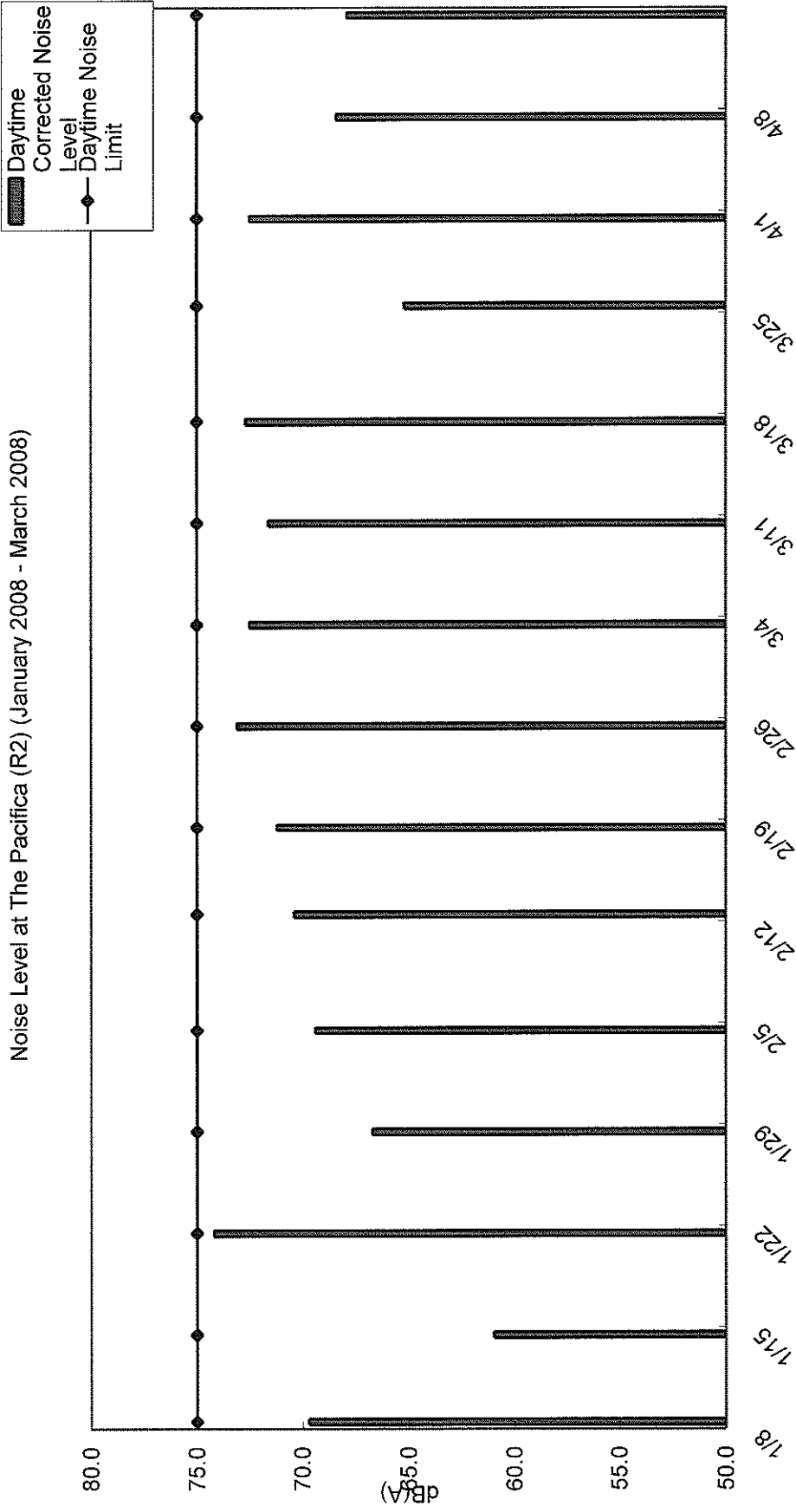
Figure 2 Noise Monitoring Stations R1 and R2



APPENDIX 2 – ENVIRONMENTAL MONITORING DATA/ CHARTS

Noise Level at Liberte (R1) (January 2008 - March 2008)





APPENDIX 3 - Noise monitoring Data Sheet and calculation

Calculations and Equations:

The 30minutes A-weighted equivalent continuous sound pressure level ($L_{Aeq, 30min}$) is calculated by geometric mean from 6 consecutive $L_{Aeq, 5min}$ readings:

$$L_{Aeq, 30min} = 6^{th} \text{ root of } (L1)(L2)...(L6)$$

Where: L1~6 is the 6consecutive $L_{Aeq, 5min}$ readings

And the equation of the Baseline correction:

$$10\log (10^{L_{aeq}/10} - 10^{L_b/10})$$

Where:

L_{aeq} is the $L_{Aeq, 30min}$ from the geometric mean of 6 consecutive L_{eq5min} results

L_b is the baseline noise level.

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, Liberte
Sampling Date		14 April 2008
Sampling Time		1302-1332
Weather Condition		Fine
Baseline Noise Level	dB(A)	74
Monitoring Results	L_{eq}, dB(A)	75.3
	L₁₀, dB(A)	73
	L₉₀, dB(A)	77.0
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavation noise by (Excavator x 1) Transportation noise by public transportation		
Remarks		
N/A		

With Baseline Correction : 69.4 dB(A)

Recorded by : Harvey Yung

Date : 14 April 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₉₀	L _{Aeq}
14 April (R)	Liberté	1302-1307		84.5	70.6	77.3	73.0	75.6
		1307-1312		79.2	70.6	76.6	72.9	75
		1312-1317		80.9	70.8	77.1	72.8	75.3
		1317-1322		81.1	72.1	77.3	73.8	75.8
		1322-1327		83.7	69.1	76.9	72.4	75
		1327-1332		79.6	71.5	76.7	73.0	75

$L_{eq} 30_{min} = 75.3$
 $L_{90} 30_{min} = 73.0$
 $L_{10} 30_{min} = 77.0$

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, The Pacifica
Sampling Date		14 April 2008
Sampling Time		1347-1417
Weather Condition		Fine
Baseline Noise Level	dB(A)	74.3
Monitoring Results	L _{eq} , dB(A)	75.2
	L ₁₀ , dB(A)	73
	L ₉₀ , dB(A)	77.0
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavation noise by (Excavator x 1) Transportation noise by public transportation		
Remarks		
N/A		

With Baseline Correction : 67.9 dB(A)

Recorded by : Harvey Yung

Date : 14 April 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₉₀	L _{Aeq}
14 April 08 (R2)	Pacificca		1347-1352	81.1	71.0	76.8	73.2	75.3
			1352-1357	79.7	70.4	76.5	73.0	75.0
			1357-1402	79.9	70.6	76.5	72.5	74.8
			1402-1407	88.3	70.7	76.6	72.6	75.2
			1407-1412	80.2	70.6	76.7	73.0	75.1
			1412-1417	86.5	71.0	76.9	73.5	75.6

~~L_{eq}~~ 30min = 75.2
~~L₉₀~~ 30min = 73.0
 L₁₀ 30min = 76.7

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, Liberte
Sampling Date		7 April 2008
Sampling Time		1342 - 1412
Weather Condition		Fine
Baseline Noise Level	dB(A)	74.0
Monitoring Results	L_{eq}, dB(A)	75.6
	L₁₀, dB(A)	76.9
	L₉₀, dB(A)	71.8
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Shoring Installation by (Excavator and Vibratory hammer x 1) Transportation Noise by public transportation Hand breaking noise by (Pneumatic hand held breaker x 1)		
Remarks		
N/A		

With Baseline Correction : 70.5 dB(A)

Recorded by : Harvey Yung

Date : 7 Apr 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₅₀	L _{Aeq}
7/14/08	R1 Libed	1342-1347		94.6	69.7	76.8	71.7	76.8
"	"	1347-1352		87.9	70.6	75.6	72.1	74.6
"	"	1352-1357		95.9	70.7	82	72.7	79.7
"	"	1357-1402		86.9	69.5	76	71.5	74.9
"	"	1402-1407		80.6	68.5	75.6	71.3	73.9
"	"	1407-1412		84.5	69.9	75.7	71.7	74.1
						76.9	71.8	75.6

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Tower 1, The Pacifica
Sampling Date		07 April 2008
Sampling Time		0953 - 1023
Weather Condition		Fine
Baseline Noise Level	dB(A)	74.3
Monitoring Results	L_{eq}, dB(A)	75.3
	L₁₀, dB(A)	77
	L₉₀, dB(A)	72.5
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Transportation Noise by public transportation Hand breaking noise by (Pneumatic hand held breaker x 1) Hammering noise by (Hammer x 1)		
Remarks		
N/A		

With Baseline Correction : 68.4 dB(A)

Recorded by : Harvey Yung

Date : 7 April 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₅₀	L _{Aeq}
7/4/08	R2 Pacifica	0953 - 0958		88.5	70.4	82	76.7	80.1
"	"	0958 - 1003		87.1	71.2	80.6	73.5	78.7
"	"	1003 - 1008		80.7	69.8	74.8	71.4	73.4
"	"	1008 - 1013		79.8	68	74.8	71.1	73.2
"	"	1013 - 1018		78	70.3	75.3	71.6	73.6
"	"	1018 - 1023		80.9	68.9	74.8	71.1	73.1
						77	72.5	75.3

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, Liberte
Sampling Date		31 March 2008
Sampling Time		1343 - 1413
Weather Condition		Overcast
Baseline Noise Level	dB(A)	74.0
Monitoring Results	L_{eq} dB(A)	74.2
	L₁₀ dB(A)	75.9
	L₉₀ dB(A)	72.1
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator noise by (Excavator x 1) Transportation noise by public transportation		
Remarks		
N/A		

With Baseline Correction : 60.7 dB(A)

Recorded by : Harvey Yung

Date : 31 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Overcast Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₅₀	L _{Aeq}
31/3/08	R. Liberte	1343 - 1348		79.1	70	75.6	71.9	74
"	"	1348 - 1353		79.1	69.9	75.8	72.1	73.9
"	"	1353 - 1358		80.8	69.3	75.9	71.8	74.3
"	"	1358 - 1403		78.1	70.7	75.8	72.7	74.4
"	"	1403 - 1408		81.4	70	76.3	72	74.4
"	"	1408 - 1413		82.4	70.2	76.8	72.1	74.2
						75.9	72.1	74.2

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Tower 1, The Pacifica
Sampling Date		31 March 2008
Sampling Time		1143 - 1213
Weather Condition		Overcast
Baseline Noise Level	dB(A)	74.3
Monitoring Results	L_{eq}, dB(A)	72.5
	L_{10s}, dB(A)	74.4
	L_{90s}, dB(A)	69.9
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator Noise by (Excavator x 1) Transportation Noise by public transportation		
Remarks		
N/A		

With Baseline Correction : _____ # _____ dB(A)

Measured Leq is lower than baseline noise measurement

Recorded by : Harvey Yung

Date : 31 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Overcast Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₉₀	L _{Aeq}	
3/13/08	R2 Passerby	1143-1148		83.1	68.7	75.2	70.7	73.2	
"	"	1148-1153		83.8	68.9	74.7	70.6	73	
"	"	1153-1158		82.3	68.2	74.4	69.8	72.5	
"	"	1158-1203		88	67.7	74.2	69.5	72.5	
"	"	1203-1208		82.1	68.1	73.9	69.6	72.1	
"	"	1208-1213		81	68.1	73.8	69.4	71.9	
							14.4	69.9	72.5

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, Liberte
Sampling Date		25 March 2008
Sampling Time		1651 - 1716
Weather Condition		Fine
Baseline Noise Level	dB(A)	74.0
Monitoring Results	L _{eq} , dB(A)	76.8
	L ₁₀ , dB(A)	78.5
	L ₉₀ , dB(A)	74.1
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator Noise by (Excavator x 1)		
Sheet piling works by (Vibratory hammer x 1)		
Transportation noise by public transportation		
Remarks		
N/A		

With Baseline Correction : 73.6 dB(A)

Recorded by : Harvey Yung

Date :25 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₉₀	L _{Aeq}
25/3/08	R1 Liberty	1651-1656		86.2	71.4	83.9	77.0	81.9
"	"	1656-1701		82.3	74.9	79.6	76.2	78.1
"	"	1701-1706		81.4	71.4	79.3	75.3	77.5
"	"	1706-1711		81.7	70.3	77.8	72.4	75.7
"	"	1711-1716		82.3	69.9	76.4	71.8	73.9
"	"	1716-1721		79.4	69.3	75.1	72.0	73.8
						76.5	74.1	76.8

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Tower 1, The Pacifica
Sampling Date		25 March 2008
Sampling Time		1601-1631
Weather Condition		Fine
Baseline Noise Level	dB(A)	74.3
Monitoring Results	L _{eq} , dB(A)	74.8
	L ₁₀ , dB(A)	76.7
	L ₉₀ , dB(A)	71.7
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator Noise by (Excavator x 1) Transportation Noise by public transportation		
Remarks		
N/A		

With Baseline Correction : 65.2 dB(A)

Recorded by : Harvey Yung

Date : 25 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Fine Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₅₀	L _{Aeq}
25/3/08	Pa. Station	1601-1606		84.2	67.7	76.8	70.7	74.6
"	"	1607-1612		84.4	68.8	75.6	71.3	74.1
"	"	1613-1617		77.9	68.5	75.8	70.8	74
"	"	1617-1622		84.3	68.9	78.7	73.4	76.5
"	"	1622-1627		85	69.9	77.7	72.8	75.7
"	"	1627-1632		83	68.2	75.6	71.3	73.9
						76.7	71.7	74.8

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Block 7, Liberte
Sampling Date		17 March 2008
Sampling Time		1720 - 1750
Weather Condition		Cloudy
Baseline Noise Level	dB(A)	74.0
Monitoring Results	L_{eq}, dB(A)	73.7
	L₁₀, dB(A)	75.2
	L₉₀, dB(A)	71.8
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator Noise by (Excavator x 1) Transportation noise by public transportation Hand breaking noise by (Pneumatic hand held breaker x 1)		
Remarks		
N/A		

With Baseline Correction : _____ # _____ dB(A)

Measured Leq is lower than baseline noise measurement

Recorded by : Thomas Wong

Date : 17 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Cloudy Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₉₀	L _{Req}
17/3	R ₁ Liberte	17:20~ 17:25		80.1	69.9	75.4	71.9	72.8
17/3		17:25~ 17:30		79.9	70.6	75.5	72.1	74.0
17/3		17:30~ 17:35		82.5	70.5	75.3	72.1	73.9
17/3		17:35~ 17:40		77.9	69.9	75.0	71.6	73.5
17/3		17:40~ 17:45		78.4	69.8	75.5	71.6	73.8
17/3		17:45~ 17:50		80.1	69.5	74.8	71.5	73.4
						75.2	71.8	73.7

Mass Transit Railway - Lai Chi Kok Station
 Cheung Lai Street Pedestrian Subway and Entrance Works

Noise Level Monitoring Log Sheet

Monitoring Location		Podium, Tower 1, The Pacifica
Sampling Date		17 March 2008
Sampling Time		1628 - 1658
Weather Condition		Cloudy
Baseline Noise Level	dB(A)	74.3
Monitoring Results	L_{eq}, dB(A)	72.7
	L₁₀, dB(A)	74.3
	L₉₀, dB(A)	70.3
Calibration before Measurement	dB(A)	94.0
Calibration after Measurement	dB(A)	94.0
Observation(s)		
Excavator noise by (Excavator x 1) Transportation noise by public transportation Hand breaking noise by (Pneumatic hand held breaker x 1)		
Remarks		
N/A		

With Baseline Correction : _____ # _____ dB(A)

Measured L_{eq} is lower than baseline noise measurement

Recorded by : Thomas Wong

Date : 17 March 2008

NOISE MEASUREMENT RECORD

SUMMARY

Frequency weightings: _____ dBA Weather: Clear Recorded by: _____

Date	Location	Time/H Duration Min.	Comment/Source	L _{max}	L _{min}	L ₁₀	L ₅₀	L _{Aeq}
17/3	R2 Paclifca	16:28 - 16:33		80.6	69.6	75.1	71.0	73.2
17/3		16:33 - 16:38		82.9	68.4	73.8	70.3	72.5
17/3		16:38 - 16:43		81.8	68.3	73.5	70.0	72.1
17/3		16:43 - 16:48		77.7	67.3	73.0	69.4	71.5
17/3		16:48 - 16:53		77.8	67.3	74.5	70.1	72.4
17/3		16:53 - 16:58		87.8	68.7	76.2	71.1	74.3
						74.3	70.3	72.7

APPENDIX 4 – COMPLIANT REPORT AND LOG

COMPLAINT / CONCERN LOG

Ref: _____

Log Ref	Date/Location	Complainant/ Date of Contact	Details of Complaint	Investigation/Mitigation Action	File Closed
LCK-Ct01/08	31 st March 2008; Liberte Block 7	A public concern received by LCK site office from the management office of Liberte 31-Mar-2008	A tenant showed a concern on the nearby construction noise to the management office of the Liberte regarding noise on 29 th March 2008 (Sat) at about 8:15am	<ol style="list-style-type: none"> Noise mitigation measures to reduce noise emission such as noise containment shield and noise reduction mat for breaking / piling works were provided on site Ad-hoc noise monitoring carried out at designated noise monitoring location at Podium level, Liberte on 5 April 2008 (Sat); Noise level was 69.4 dB(A), i.e. no exceedance of limit level. The Contractor has agreed to arrange the noisy work to start after 9:00am as much as possible. 	Yes

Filed by Environmental Team Leader: _____

Date: _____

<p>MTR Project – MTR Lai Chi Kok Station Cheung Lai Street Pedestrian Subway and Entrances Works Sheet: 1 of 1 Report Form For Complaint/ Concern Ref: LCK-Ct01/08</p>	
<p>RECIPIENT</p>	
<p>Name: Bong Nong, Resident Engineer of the project Received Date: <u>31 March 2008</u> Received Time: <u>5pm</u></p>	
<p>COMPLAINANT / Concern</p>	
<p>Name: A tenant from Liberte Blk 7 Tel: <u>n/a</u> Address: n/a</p>	
<p>COMPLAINT <input checked="" type="checkbox"/> Noise <input type="checkbox"/> Air quality/Dust <input type="checkbox"/> Water <input type="checkbox"/> Odour <input type="checkbox"/> Environment <input type="checkbox"/> Traffic/Pedestrian <input type="checkbox"/> Safety <input type="checkbox"/> Others</p> <p>Date: 29 March 2008 Time: Morning Location:</p> <p>A tenant showed a concern on the nearby construction noise to the management office of the Liberte regarding noise on 29th March 2008 (Sat) at about 8:15am</p>	
<p>INVESTIGATION RESULTS & MITIGATION MEASURES</p>	
<ol style="list-style-type: none"> 1. Subsequent communications and discussions among RE/ Contractor/ Environmental Team/ IEC have been made to resolve the incident on 1 and 3 April 2008 after receiving the public concern on construction noise from the management office on 31 March 2008. 2. Ad-hoc noise monitoring carried out by the Environmental Team at designated noise monitoring location at Podium level, Liberte on 5 April 2008 (Sat); Noise level was 69.4 dB(A), i.e. no exceedance of limit level. 3. Noise mitigation measures to reduce noise emission such as noise containment shield and noise reduction mat for breaking / piling works should be provided and maintained on site by the Contractor 4. The Contractor has agreed to arrange the noisy work to start after 9:00am as much as possible. 	
<p>RECOMMENDATIONS</p>	
<p>The contractor should take serious notice on the public concern and always provides and maintains proper mitigation measures together with a more suitable arrangement of the noisy work as agreed.</p>	

Signed:

Date:

ATTACHMENTS– the attached complaint / concern log