

Contract No. : DC/2007/06
**River Improvement Works in Upper Lam Tsuen, She
Shan River and Upper Tai Po River**

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT of

UPPER TAI PO RIVER

for May 2009

Environmental Pioneers & Solutions Limited
8/F, Chaiwan Industrial Centre Building
20 Lee Chung Street, Chaiwan, Hong Kong
Tel: 28890569 Fax: 2856 2010

Chiu Hing Construction & Transportation Co., Ltd

DC2007/06
River improvement works in Upper Tai Po River
Ninth Monthly Report

The Contents of this report have been

Certified by:

Signature:



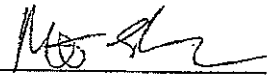
Miss. Patricia Chung
(Environmental Team Leader)



Date:

15-06-09

Signature:



Dr. Mark Shea
(Ecologist)

Date:

15-06-09

and Verified by:

Signature:



Mr. Marcus IP
(Independent Environment Checker)

Date:

16/6/2009

Report submission and revision:
First submission on 06th June 2009

TABLE OF CONTENTS

TABLE OF CONTENTS	3
Executive summary	4
1.0 Introduction	6
2.0 Environmental status	6
2.1 Project area	6
2.2 Construction programme	6
2.3 Proposed construction sequences	7
2.4 Construction activities for the reporting period	9
2.5 Construction activities for the next reporting period	9
2.6 Non-compliance with the environmental performance limits	9
2.7 Summary of complaints	9
3.0 Ecological monitoring results	9
4.0 Noise monitoring results	10
5.0 Vibration monitoring results	11
6.0 Environmental issues and actions	11
6.1 Site inspections and key environmental issues	11
6.2 Non-compliance	14
6.3 Recommendations	14
6.4 Implementation status and effectiveness of the mitigation measures	14
7.0 Waste management status	14
8.0 Status of environmental licensing and permit	15
9.0 Future key issues	16
10.0 Conclusion	16
Appendix A: Event and action plan for ecology	18
Appendix B: Action and limit level for construction noise	21
Appendix C: Reference standards for vibration	23
Appendix D: Noise monitoring results, graphical plots and location plan	25
Appendix E: Monitoring schedule for the present and next reporting period	37
Appendix F: Cumulative complaint log	40
Appendix G: Implementation status of environmental protection and mitigation measures	41
Appendix H: Cumulative waste flow table	45
Appendix I: Construction programme	46

Executive summary

This is the ninth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works at Upper Tai Po River under Drainage Service Department Contract No. DC/2007/06 entitled “River Improvement Works in Upper Lam Tsuen River, She Shan River and Tai Po River”. This report concludes the impact monitoring for the activities undertaken during the period from 1st May 2009 to 31st May 2009. The major construction activities carried out by the contractor during this reporting period include formation of haul access and provision of temporary bunds and weirs for flood protection.

The Environmental Team (ET) is responsible for the EM&A works required in the EM&A manual. Site inspections were carried out on weekly basis to investigate and audit the equipment and work methodologies with respect to pollution control and environmental mitigation. The weekly inspections records and photos taken were kept.

Ecological Impact Monitoring prepared by the Ecologist Dr. Mark Shea was not scheduled in this month hence no related information was included in this reporting month. The next ecological impact monitoring was scheduled to be conducted in July 2009. The summary of ecological site inspection findings and implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist Dr. Mark Shea, are provided in table 6.2 and Appendix G respectively.

Environmental Team had carried out construction noise monitoring on weekly basis and no exceedance was found. Noise monitoring records for the reporting month and the data is presented in section 4. The location plan and the graphical plots presenting the data are provided in Appendix D.

Piling works were not scheduled for this month. Therefore, no vibration monitoring was conducted during the reporting month.

There was no non-compliance recorded for this reporting month.

There was no breach of action and limit levels for this month.

There was no reporting change for this month.

In accordance with the contractual requirements, no excavation works in river is allowed to be carried out during the present wet season. Site works proposed to be carried out in the upcoming include formation of haul access, installation of noise barriers, backfilling for pits, river reinstatement and tree transplantation. With reference to the environmental permit and EM&A manual, mitigation measures should be implemented if necessary.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary and to keep a good environmental management at site practice.

1.0 Introduction

This is the ninth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works at Upper Tai Po River under Drainage Services Department Contract No. DC/2007/06 entitled “River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River”. The site layout plan is shown in Figure 2.1. The Environmental Team, Environmental Pioneers & Solutions Limited appointed by Chiu Hing Construction and Transportation Company Limited, prepares the report. The report is to be submitted to the Contractor, the Engineer and the IEC.

This report presents the results of the environmental monitoring of the project activities for Upper Tai Po River conducted during the month of May 2009. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the Environmental Permit (EP-223/2005/A) (EP), EM&A Manual and the Contractor’s Environmental Management Plan (EMP).

2.0 Environmental status

2.1 Project area

The location of the project site – Upper Tai Po River starting from Ta Tit Yan of Yai Mo Shan, the Upper Tai Po River flows from southeast to northeast alongside Wilson Trail, turning northward before joining the Lam Tsuen River and then runs towards Tai Po Market. To the east of the river, there are active and abandoned cultivated lands. While the village settlements are mainly located on the west and northeast side of the river bank, where the San Uk Ka and Lai Chi Shan establishment also lie. The Project site is indicated in **Figure 2.1**.

2.2 Construction programme

Approximately 0.6km of Upper Tai Po River will be improved to enhance the hydraulic performance of the river. The improvement works comprise the following:

- (1) Re-profiling and realignment of the Channel;
- (2) Inclusion of gabions and retaining wall for bank protection whilst providing a natural channel bed; and
- (3) Re-provisioning of footbridges and footpaths along the channel

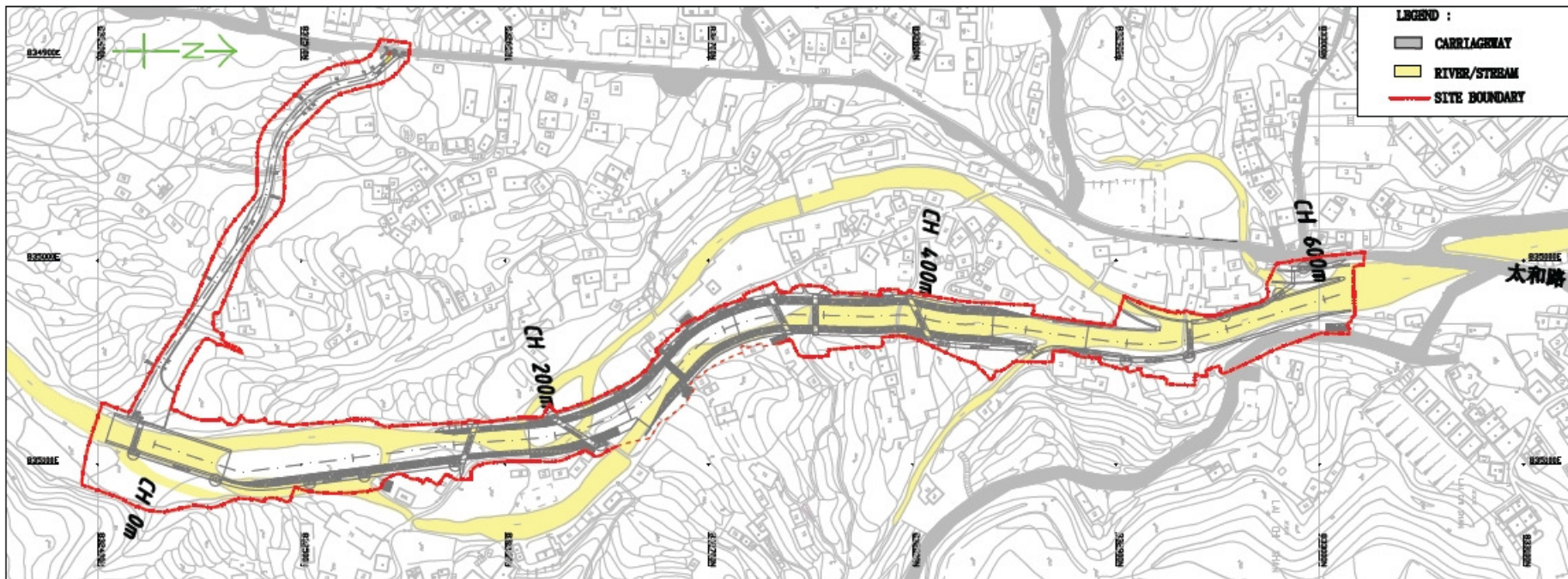
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15th 2008 and anticipated to complete in April 2011.

2.3 Proposed construction sequences

The proposed construction sequence is shown in the following sequences:

- (1) Site clearance and preparation works
- (2) Construction of the maintenance access which involves the construction of retaining walls
- (3) River channel construction and excavation, involving the excavation works, construction of retaining walls and gabion walls
- (4) Re-provisioning of footbridges
- (5) Construction of footpaths
- (6) Landscaping works

Fig 2.1 Layout of construction area



Upper Tai Po River

2.4 Construction activities for the reporting period

Major construction activities were ceased in the reporting period since no excavation works in river is allowed due to contractual requirements. However, site preparation works and flood protection measures were carried out including:

- (1) Formation of haul access D;
- (2) Construction of bunds and weirs to prevent flooding of village houses; and
- (3) Leveling of earth materials for formation of haul access D.

2.5 Construction activities for the next reporting period

Due to the contractual requirements, no excavation works in river is allowed and hence major construction activities are proposed to be carried out including:

- (1) Construction of Access Road D;
- (2) Installation of noise barrier / hoarding;
- (3) Backfilling behind retaining walls and gabion walls;
- (4) Utilities diversion (if needed);
- (5) River reinstatement; and
- (6) Tree transplanting.

2.6 Non-compliance with the environmental performance limits

There was no non-compliance with the environmental performance limits for this reporting month. The event and action plan for Ecology is shown in Appendix A. The action and limit level for Noise is shown in Appendix B. The reference standards for vibration are shown in Appendix C.

2.7 Summary of complaints

There was no complaint received for this monitoring month. Totally, four complaints had been received since the commencement of the contract. The cumulative complaint log is shown in Appendix F.

3.0 Ecological monitoring results

Capture survey and ecological impact monitoring conducted by Dr. Mark Shea was not scheduled for this month. The next ecological impact monitoring is scheduled in July 2009 and the next capture survey is scheduled in November 2009.

4.0 Noise monitoring results

In accordance with the EM&A Manual, monitoring locations were established at 11 N.S.R. locations. The description of all 11 N.S.R. are shown in Table 4.1.

TABLE 4.1 Description of Noise Sensitive Receivers

Sensitive Receiver No.	Location and Description
UTP1	54B, Sheung Wun Yiu
UTP2	Village House in Lai Chi Shan
UTP3	Village House near Upper Tai Po River
UTP4	Village House near Upper Tai Po River
UTP5	Village House near Upper Tai Po River
UTP6	Village House near Upper Tai Po River
UTP7	Village House near Upper Tai Po River
UTP8	Village House near Upper Tai Po River
UTP9	49A, Pun Shan Chau
UTP10	Village House near the proposed access road
UTP11	49G, San Uk Ka

Noise monitoring was carried out by the Environmental Team on weekly basis for this reporting month on 5th, 12th, 19th, 26th May 2009 and the $L_{eq(30min)}$ results ranged from 44.3dB(A) to 68.6dB(A), and therefore, no exceedance of action or limit level was recorded in this reporting month. For further details of the monitoring results, graphical plots and the location plan, please refer to Appendix D.

5.0 Vibration monitoring results

There was no vibration monitoring results for this reporting month. Vibration monitoring will be started once the piling works starts in Upper Tai Po River.

6.0 Environmental issues and actions

6.1 Site inspections and key environmental issues

As mentioned in Section 8.1 of the EM&A manual, site inspections were undertaken routinely to inspect the construction activities in Upper Tai Po River to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. Implementation status of environmental protection and mitigation measures is shown in Appendix G.

Within this reporting month, site inspections were conducted on 6th, 13th, 20th and 27th May 2009. A detailed checklist of each site inspection together with comments and relevant photos have been filed and kept. The findings from inspection were summarized in Table 6.1, the ecological inspection prepared by the Ecologist, Dr. Mark Shea were summarized in Table 6.2.

Table 6.1 Summary results of site inspections findings

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
8 Apr 09	Underground water led from excavated pit for gabion wall construction to down stream area	Observation	Contractor was advised to take proper protective measures to prevent erosion of soil surfaces, which might affect the river	Water led from gabion wall at ch.100 was diverted to ch.200 for natural soak-away	6 May 09	--
15 Apr, 22 Apr 09	Damaged noise barriers was found at approximately ch.50 nearby the excavated pit for gabion walls	Observation	Contractor was advised to replace or repair the damaged barriers should any construction activities carried out at the nearby	As no major site activities were proposed to be carried out in the upcoming. Damaged noise barriers were removed from site.	6 May 09	--
22 Apr, 29 Apr 09	Soil stained with oil were found underneath the backhoe and the breaker at approximately ch.10	Observation	Contractor was advised to check the conditions of their equipment and stop further leakage as soon as possible. Secondary containment should be provided to the oily equipments for leakage control	Contaminated soil was collected and handled as chemical wastes for storage and disposal, as reported by contractor	13 May 09	--
29 Apr 09	Construction materials and pipelines that were not in use were found placed on top of the earth bunds	Observation	Contractor was reminded to be cautious on the housekeeping. No objects should be placed nearby the channels and on top of bunds to prevent clogging of river channel	Idling pipelines were removed from the top of bunds prior to the site inspection on 6 May	6 May 09	--
6 May 09	Site surface were found dry and dusty	Observation	Contractor was recommended to provide sufficient water spraying to the dusty static area for dust suppression	Regular water spraying was provided as advised	13 May 09	--
13 May 09	Open stockpiles of earth material were observed along the site area	Observation	Contractor was advised to control size of stockpile and provide proper tarpaulin coverings to prevent erosion	Some of the open stockpiles has been used and/or removed. But some stockpiles remained were still outstanding of the coverings	Ongoing	--
13 May 09	At UTPR ch.10 Underground water was found gushed from the backfilled pit for boulder trap	Observation	Although immediate follow up actions were carried out to divert the water to the gabion wall for further treatment,	Effectiveness of the follow up actions could not be inspected due to heavy rainstorm in the following inspections. To be	Ongoing	--

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
	formation and entered the river stream from the haul access.		contractor was reminded to provide sufficient protective measures before carrying out any works nearby the channel.	checked in the next reporting month		
27 May 09	General wastes were found dumped at the haul access road D during inspection	Observation	Contractor was advised to remove the wastes as soon as possible; regular site checking and cleaning should be provided to maintain the site cleanliness	To be follow up in next inspection in June 2009	Ongoing	--

The summary of ecological inspection prepared by the Ecologist, Dr. Mark Shea is shown in Table 6.2.

Date	Observations	Advice from Ecologist	Action Taken	Closing Date
06 May 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
13 May 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
20 May 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
27 May 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A

6.2 Non-compliance

There was no non-compliance recorded for the month of May 2009.

6.3 Recommendations

Although no major construction activities were being carried out during the reporting month, contractor was reminded for the housekeeping practices as well as status of bunds.

Contractor was advised to provide regular site checking and cleaning to maintain good site condition. Waste generation and accumulation on site should be minimized as major construction was ceased.

During the wet season, contractor should be aware of the increased water level and rainstorm, which would flush away the site materials and loose geo-textiles. Contractor was advised to rectify or replace the loose coverings along the channel, as it is practicable. Rainwater would also cause erosion to the exposed bare soil surface, contractor was advised to take actions to prevent soil erosion if found necessary.

6.4 Implementation status and effectiveness of the mitigation measures

Contractor took most of the advice given by ER, IEC as well as ET and follow up the comments given.

As there were some ongoing follow up practices, contractor was reminded to regularly review and rectify the discrepancy once found.

7.0 Waste management status

It is the contractor's responsibility to ensure that all wastes produced during construction phase for the drainage improvement works are handled, stored and disposed of in accordance with good waste management practices and EPD's regulation and requirement. Waste materials generated during construction activities such as construction and demolition(C&D) material, chemical wastes and general refuse, are recommended to be audited at regular intervals to ensure that proper storage, transportation and general reuse are recommended to be audited to ensure that

proper storage, transportation and disposal practices are being implemented. **Table 7.1** is the Waste Disposal recorded by the Contractor in this month.

Table 7.1 Summary of Waste Disposal for the reporting month.

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
May 2009	0	0	20kg*

Remark*: Chemical wastes generated from the project sites including Upper Tai Po River, Lam Tsuen River and She Shan River were centralized for disposal.

The cumulative waste flow table is shown in Appendix H.

8.0 Status of environmental licensing and permit

This project requires different permits and licenses to be run legally. **Table 8.1** is the summary of permits/ licenses for this project.

Table 8.1 Summary of Environmental Licensing and Permit Status

Description	License / Permit No.#	Date of Issue	Date of Expiry	Remarks
Environmental Permit	EP-223/2005	31 st Aug, 2005	N/A	Issued
Amended Environmental Permit	EP-223/2005/A	18 th Nov, 2008	N/A	Issued
Construction Noise Permit	N/A	N/A	N/A	N/A
Effluent Discharge License	3678	14 th Mar, 2008	31 st Mar, 2013	Issued
Registration as a Chemical Waste Producer	5213-724-C3251-03	19 th Dec, 2007	Not applicable	Issued
Billing Account for Disposal of Construction Waste	7006101	N/A	N/A	N/A

9.0 Future key issues

As informed by contractor, major construction activities in the upcoming will include formation of haul access, installation of noise barriers, backfilling for pits, river reinstatement and tree transplantation. The construction activities for these items will generate several environmental impacts. These include air, noise, water and waste management.

Construction activities such as backfilling, earth movement may generate dust impact to the vicinity of sensitive receivers. Contractor is advised to provide regular water spraying for the dusty static area. Stockpiling may be found on site and those should be covered by tarpaulin to prevent erosion.

For the proposed construction activities, heavy plants and vehicles may be deployed and those would generate certain noise impacts to the sensitive receivers. Noisy activities should be well planned and scheduled to avoid parallel operation of multiple plants, so as to minimize noise impacts to the nearby sensitive receivers.

Construction activities and tree transplantation may generate wastes on site. Contractor is advised to assign a site area for waste storage and segregation. Wastes accumulation should be prevented on site; licensed waste collection and disposal should be implemented regularly for hygiene issues.

10.0 Conclusion

The major construction activities carried out by the contractor during this reporting period include formation of haul access and construction of temporary bunds and weirs as flood protection measures for nearby village houses.

Regular site meetings and inspection audits led by the seniors for discussing environmental issues were held among project proponent, Contractor and the ET on weekly basis.

Environmental Team had carried out construction noise monitoring on weekly basis. All results obtained were within limit and therefore no exceedance was recorded in this reporting month.

Piling works were not scheduled for this month. Therefore, no vibration monitoring was conducted during the reporting month.

From the summary of ecological site inspection findings and implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist Dr. Mark Shea, there is no abnormal finding observed in the reporting month. The ecologist has no further advice and no action suggested to the contractor.

There was no non-compliance recorded for the reporting month.

There was no complaint received for the reporting month.

ET has reminded the contractor to provide environmental pollution control measures wherever necessary; and to keep a good environmental management at site practice.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

Appendix A: Event and action plan for ecology

Event and action plan for ecology

In the event of non-compliance, the Event / Action plan prepared by the ecologist shall be followed. Detailed Event/ Action plan was shown in **Appendix Table 1** for reference.

It is not proposed to set population size of the three species (i.e. Three-lined Chinese Stream Catfish, Predaceous and the Hong Kong Newt) or other faunal species for the Action Level and Limit Level in the revised EM&A manual in considering the following reasons:

- I. The schedule capture surveys would let to decrease in the populations of the target species; and
- II. The planned drainage works would also temporally de-fauna the stream habitat.

It is considered logical and appropriate to audit non-compliance events in relation with ecological mitigation measures, which were specified in the EP and the PS of the project.

APPENDIX TABLE 1 Event / Action plan table for Ecology

Event	Action			
	ET	ER	IEC	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Identify Source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed 	<ol style="list-style-type: none"> 1. Check report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures, 4. Advise the Contractor on effectiveness of proposed remedial measures 5. Check implementation of remedial measures 	<ol style="list-style-type: none"> 1. Ensure Remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non conformity	<ol style="list-style-type: none"> 1. Identify Source 2. Inform the IEC and the ER 3. Increase monitoring frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the Contractor on effectiveness of proposed remedial measures 5. Check implementation of remedial measures 	<ol style="list-style-type: none"> 1. Ensure Remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Amend working methods 2. Rectify damage and undertake any necessary replacement

Appendix B: Action and limit level for construction noise

The Action and Limit levels for construction noise are defined in **Appendix Table 2**

Appendix Table 2: Action and Limit Levels for Construction Noise

Time Period	Action	Limit
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

*Limit level set in accordance with Particular Specification Section 26

Appendix C: Reference standards for vibration

Guidance regarding vibration limits is provided by the following British Standards (or their equivalent ISO standards):

BS 7385 - Measurement and evaluation of vibration in buildings. Part 2: Guide to damage levels from ground borne vibration.

BS 7385 suggests vibration levels, below which damage is unlikely to occur in 95% of buildings. For cosmetic damage, the level is 15 mm/s at 4 Hz, increasing to 20 mm/s at 15 Hz, increasing to 50 mm/s at 40 Hz and above. Minor structural damage is possible at vibration levels twice those given above, major damage at four times the levels given.

Appendix Table 3: Transient vibration guide values for cosmetic building damage (BS7385:Part 2 1993)

	Type of Building	Peak component particle velocity (mm/s) in frequency range of predominant pulse
1	Reinforced or framed structures	50 at 4 Hz and above
2	Un-reinforced or light framed structures	15 at 4 Hz, increasing to 20 at 15 Hz, increasing to 50 at 40 Hz and above.

The vibration magnitudes and frequencies refer to Peak Particle Velocities (PPV) occurring in any single direction, measured on the ground level of the building concerned.

Appendix D: Noise monitoring results, graphical plots and location plan

Location	L ₉₀ 30min	L ₁₀ 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	53.4	66.8	63.5	5-May-09	09:40-10:10	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 2	54.5	62.1	60.9	5-May-09	09:05-09:35	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 3	43.8	54.6	52.7	5-May-09	11:20-11:50	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 4	52.0	62.9	61.1	5-May-09	10:15-10:45	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 5	49.0	61.2	57.2	5-May-09	10:47-11:17	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 6	45.7	57.9	54.8	5-May-09	14:50-15:20	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 7	44.6	54.1	51.0	5-May-09	15:21-15:51	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 8	46.4	55.5	52.5	5-May-09	15:55-16:25	1. Excavation noise 2. Noise from construction vehicles	Background noise from public	Sunny	Façade
UTP 9	42.9	55.2	54.0	5-May-09	14:15-14:45	No construction was being carried out during measurement	Background noise from public and dogs	Sunny	Façade
UTP 10	40.7	51.3	48.0	5-May-09	13:35-14:05	1. Excavation noise 2. Noise from construction vehicles	Background noise from avian	Sunny	Façade
UTP 11	45.3	56.6	53.5	5-May-09	13:00-13:30	1. Excavation noise	Background noise from avian and public	Sunny	*Free field

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Location	L ₉₀ 30min	L ₁₀ 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	55.0	69.3	68.6	12-May-09	09:52-10:42	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Breaking noise from innovation activities of the village house	Sunny	Façade
UTP 2	53.6	61.4	59.1	12-May-09	09:20-09:50	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 3	44.1	52.8	50.1	12-May-09	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 4	51.3	60.6	57.9	12-May-09	13:00-13:30	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avians and public	Sunny	Façade
UTP 5	47.5	56.2	55.0	12-May-09	11:17-11:47	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public	Sunny	Façade
UTP 6	44.3	51.5	49.5	12-May-09	14:55-15:25	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avians and public	Sunny	Façade
UTP 7	47.3	54.1	51.9	12-May-09	15:27-15:57	No construction was being carried out during measurement	Background noise from avians and public	Sunny	Façade
UTP 8	53.1	59.5	58.7	12-May-09	16:00-16:30	1. Power generator noise 2. Hammer noise	Background noise from public	Sunny	Façade
UTP 9	48.1	60.2	59.6	12-May-09	16:35-17:05	1. Excavation noise	Background noise from avians and public	Sunny	Façade
UTP 10	45.5	58.5	55.2	12-May-09	14:15-14:45	1. Excavation noise	Background noise from and public	Sunny	Façade
UTP 11	42.8	51.7	52.8	12-May-09	13:40-14:10	1. Excavation noise	Background noise from public and dogs	Sunny	*Free field

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

Location	L ₉₀ 30min	L ₁₀ 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	52.4	67.2	66.2	19-May-09	09:50-10:20	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic and public	Sunny	Façade
UTP 2	51.1	59.3	56.6	19-May-09	09:15-09:45	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 3	45.4	56.0	53.4	19-May-09	16:25-16:55	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 4	49.7	60.6	57.9	19-May-09	10:25-10:55	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Sunny	Façade
UTP 5	44.6	54.7	51.8	19-May-09	10:58-11:28	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 6	47.2	56.9	53.7	19-May-09	15:50-16:20	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 7	48.6	56.7	54.3	19-May-09	15:18-15:48	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from avian and public	Sunny	Façade
UTP 8	50.1	59.6	56.7	19-May-09	14:45-15:15	1. Excavation noise	Background noise from avian and public	Sunny	Façade
UTP 9	49.9	61.6	58.7	19-May-09	14:10-14:40	1. Excavation noise	Background noise from public	Sunny	Façade
UTP 10	45.3	56.7	54.6	19-May-09	13:35-14:05	1. Excavation noise	Background noise from avian	Sunny	Façade
UTP 11	44.1	54.1	54.1	19-May-09	13:00-13:30	1. Excavation noise	Background noise from avian and public	Sunny	*Free field

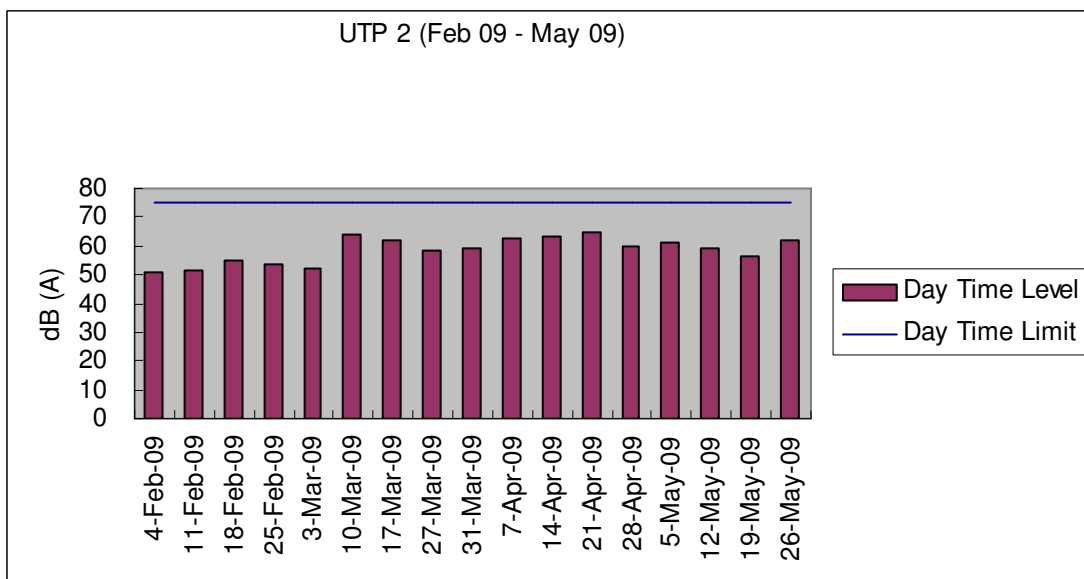
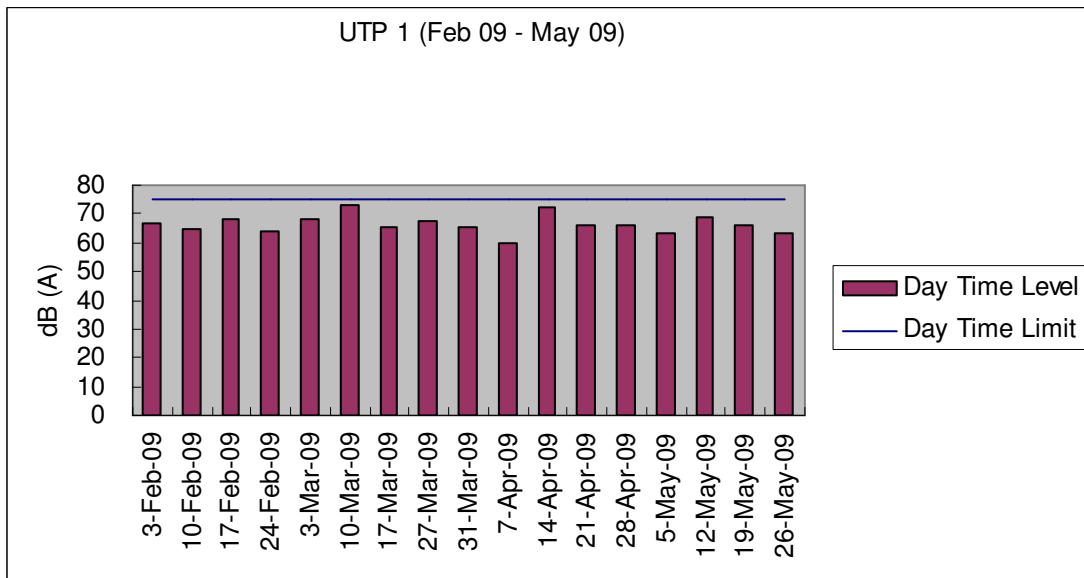
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

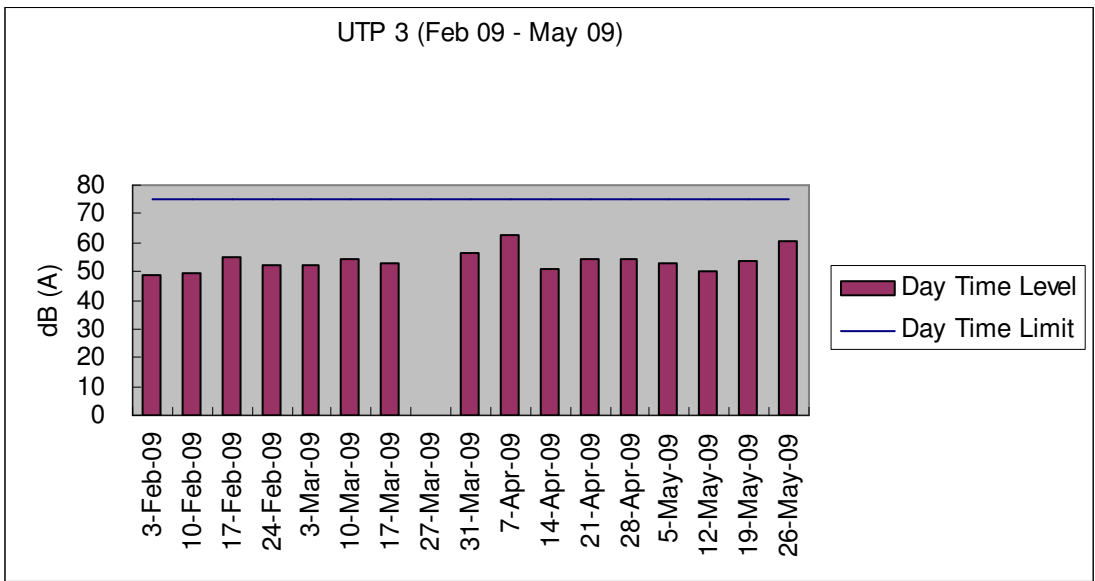
Location	L ₉₀ 30min	L ₁₀ 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	57.0	69.0	65.9	26-May-09	09:55-10:25	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Cloudy	Façade
UTP 2	57.2	64.0	61.9	26-May-09	09:20-09:50	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Cloudy	Façade
UTP 3	54.6	63.7	60.4	26-May-09	14:15-14:45	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public and avian	Cloudy	Façade
UTP 4	53.4	62.8	60.2	26-May-09	10:30-11:00	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic, avian and public	Cloudy	Façade
UTP 5	53.0	60.8	58.3	26-May-09	11:02-11:32	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public and avian	Cloudy	Façade
UTP 6	55.3	64.1	60.8	26-May-09	14:48-15:18	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from public and avian	Cloudy	Façade
UTP 7	48.5	60.3	57.6	26-May-09	15:20-15:50	No construction was being carried out during measurement	Background noise from public and avian	Cloudy	Façade
UTP 8	59.4	62.7	52.1	26-May-09	15:55-16:25	No construction was being carried out during measurement	Background noise from public	Cloudy	Façade
UTP 9	54.8	59.1	44.3	26-May-09	16:30-17:00	No construction was being carried out during measurement	N/A	Cloudy	Façade
UTP 10	45.6	61.3	56.8	26-May-09	13:35-14:05	No construction was being carried out during measurement	Background noise from avian	Cloudy	Façade
UTP 11	51.2	65.0	60.9	26-May-09	13:00-13:30	No construction was being carried out during measurement	Background noise from public, avian and dogs	Cloudy	*Free field

Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

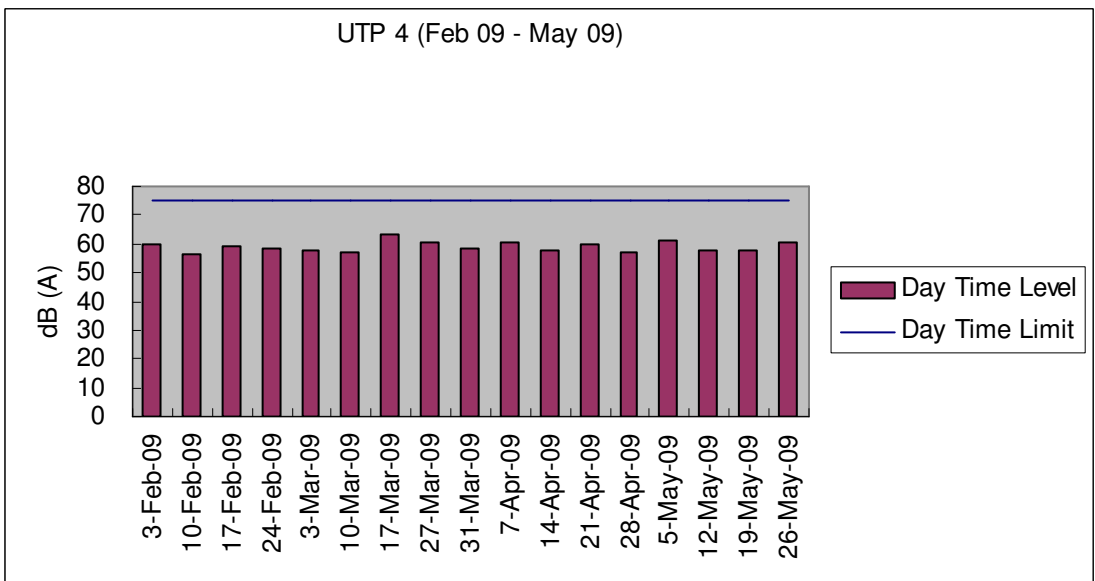
Graphical plot for noise measurements

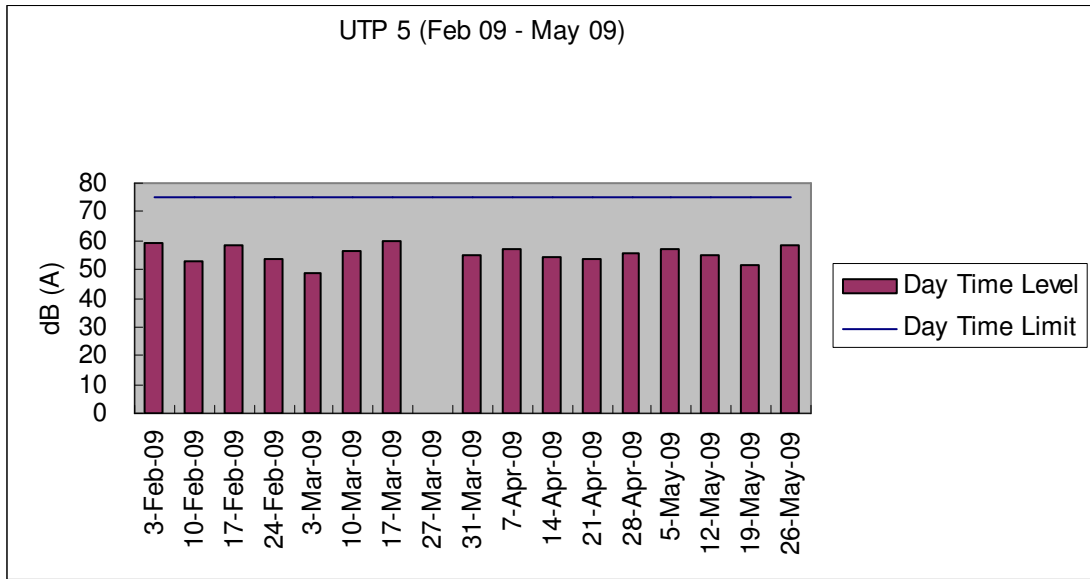
The following plots were the graphical plots for the 11 monitoring locations. Each plot showed the day time limit 75 dB(A), daytime level, date and the measured dB(A) results as in Leq 30min for each location. The graph contains the data recorded from February 2009 to May 2009.



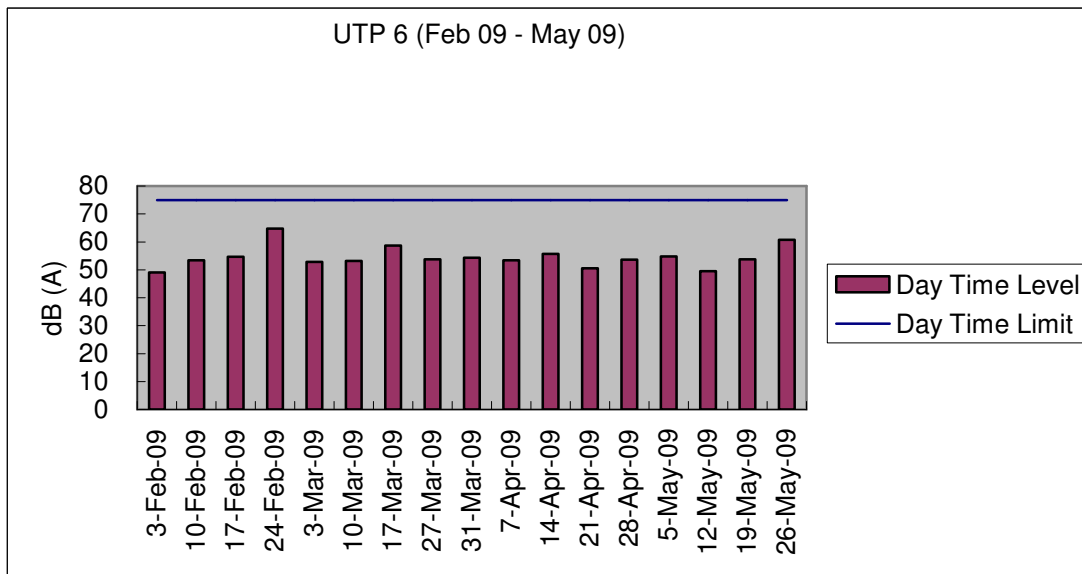


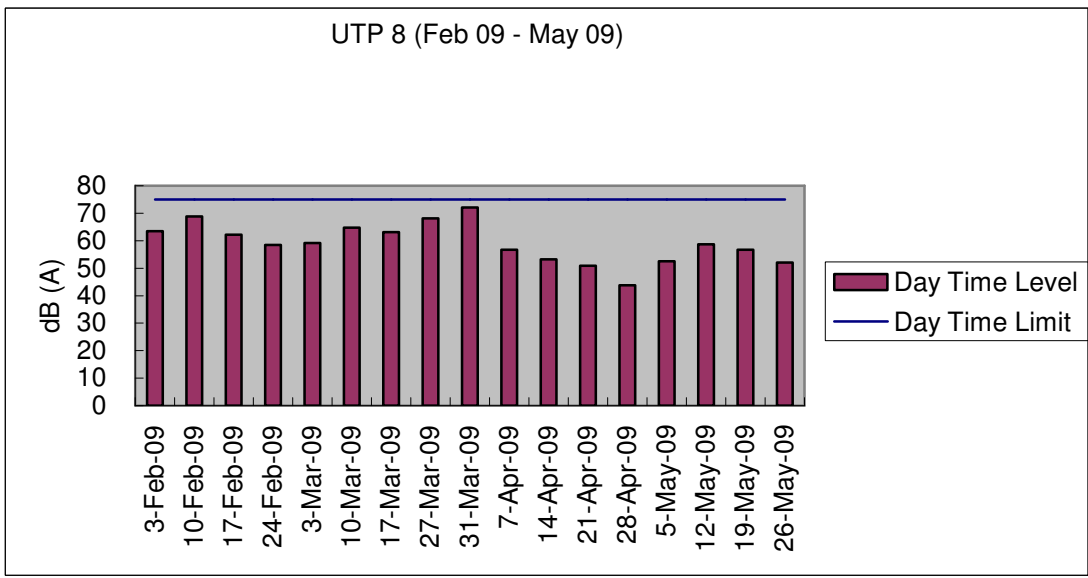
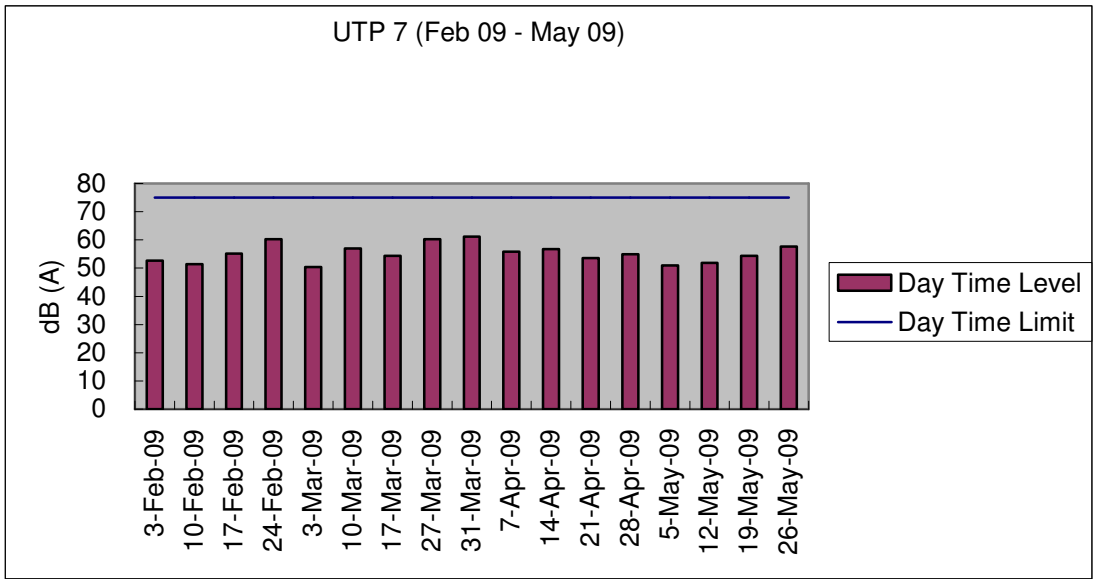
*Noise Monitoring for UTP3 on 27th March 2009 was cancelled due to heavy rain

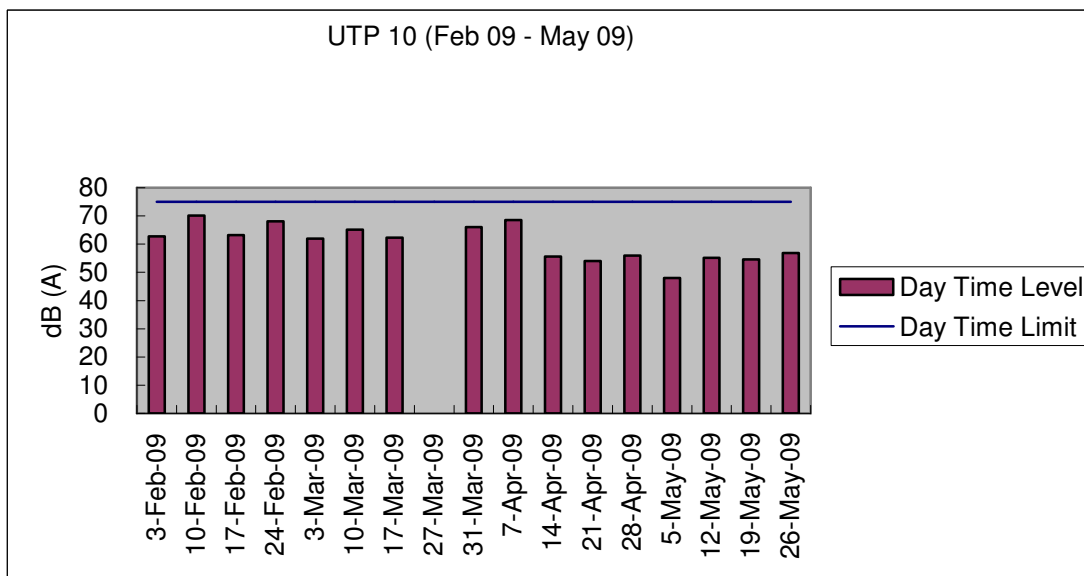
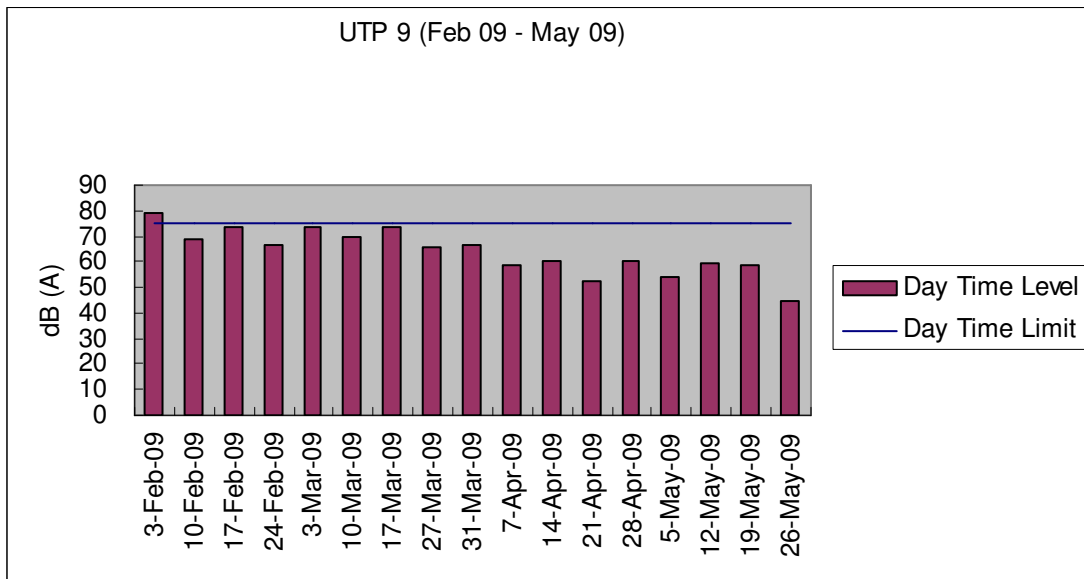




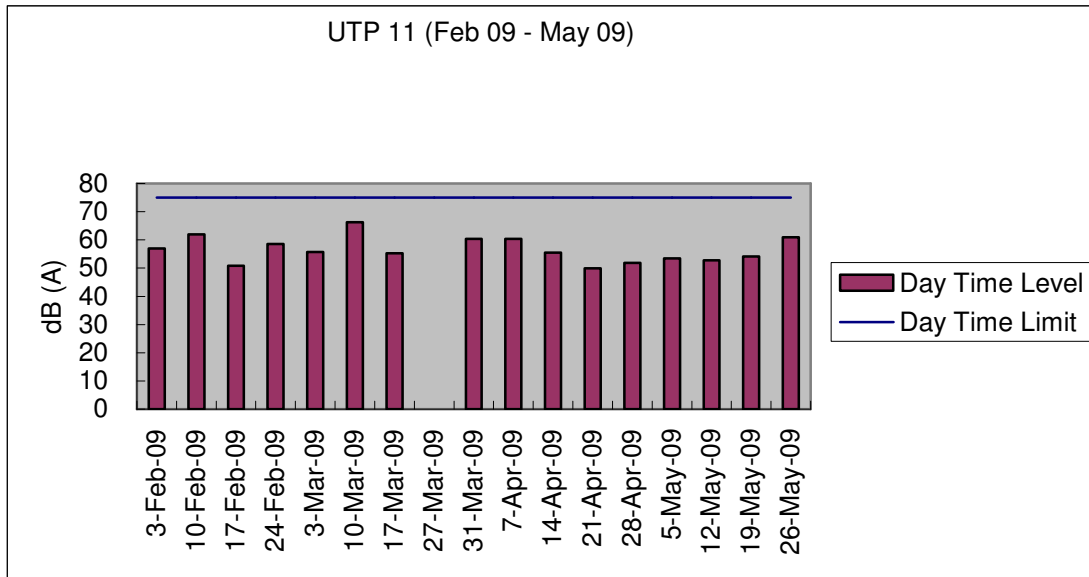
*Noise monitoring for UTP5 on 27th March 2009 was cancelled due to heavy rain



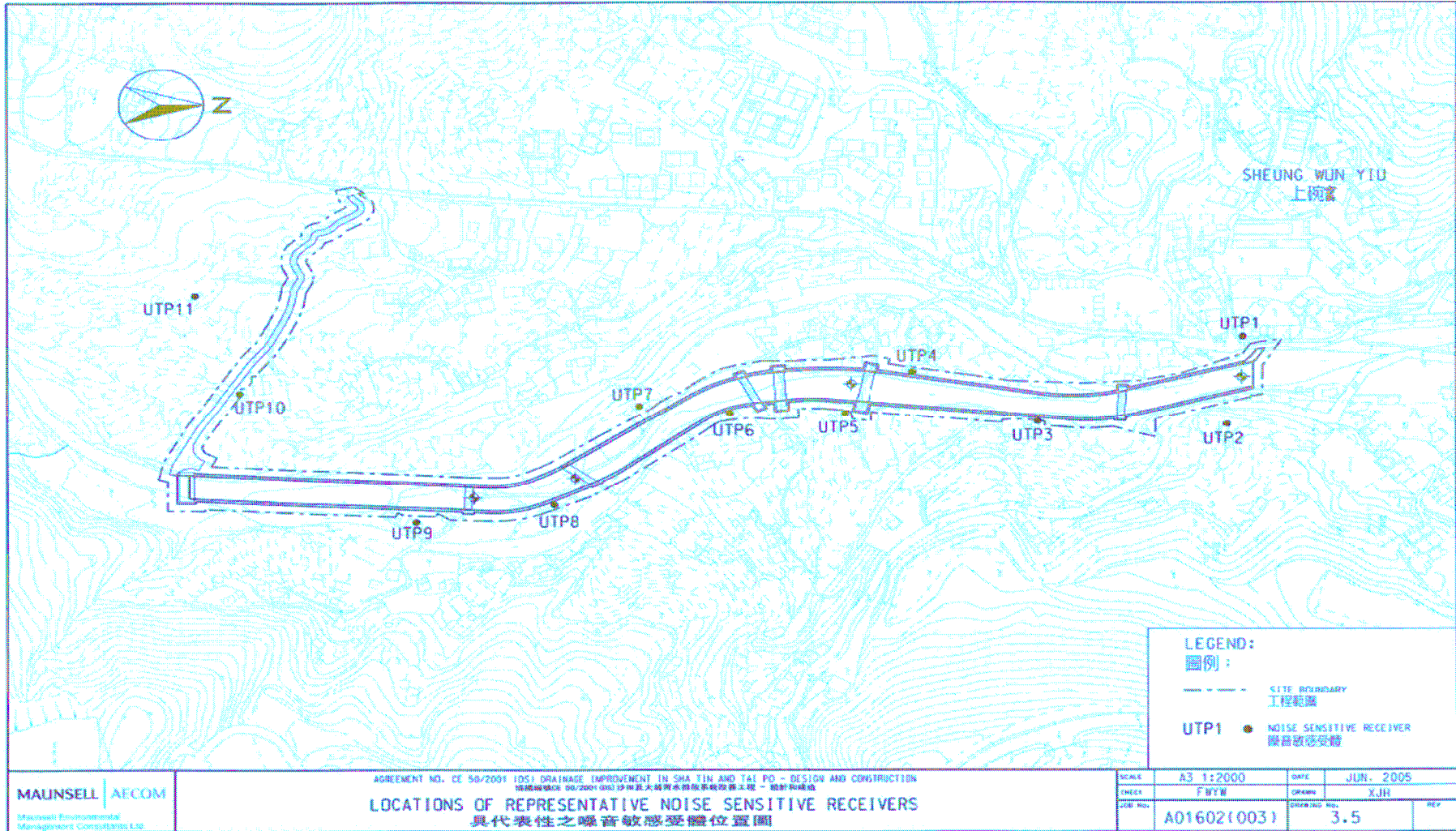




*Noise monitoring for UTP10 on 27th March was cancelled due to heavy rain



*Noise monitoring for UTP11 on 27th March was cancelled due to heavy rain



Appendix E: Monitoring schedule for the present and next reporting period

Master Schedule of EM&A works in May 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					5/1	5/2
5/3	5/4	5/5	5/6	5/7	5/8	5/9
		Noise monitoring	Site inspection at afternoon			
5/10	5/11	5/12	5/13	5/14	5/15	5/16
		Noise monitoring	Site inspection at afternoon			
5/17	5/18	5/19	5/20	5/21	5/22	5/23
		Noise monitoring	Site inspection and S.S.E.M.C. at morning			
5/24 & 5/31	5/25	5/26	5/27	5/28	5/29	5/30
		Noise monitoring	Site inspection at afternoon			

Master Schedule of EM&A works in June 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	6/1	6/2	6/3	6/4	6/5	6/6
			Site inspection at afternoon			
6/7	6/8	6/9	6/10	6/11	6/12	6/13
		Noise monitoring	Site inspection at afternoon			
6/14	6/15	6/16	6/17	6/18	6/19	6/20
		Noise monitoring	Site inspection at afternoon			
6/21	6/22	6/23	6/24	6/25	6/26	6/27
		Noise monitoring	Site inspection and S.S.E.M.C. at morning			
6/28	6/29	6/30				
		Noise monitoring				

Appendix F: Cumulative complaint log

Environmental Parameters	Cumulative no. Brought forward	No. of complaint May 2009	Overall Total
Air/Dust	1	0	1
Noise	1	0	1
Water	2	0	2
House Keeping Hygiene	0	0	0
Chemical waste	0	0	0
Total	4	0	4

Appendix G: Implementation status of environmental protection and mitigation measures

Implementation status of environmental protection and mitigation

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Construction Noise	No percussive piling shall be carried out	Not applicable	Not required
	-Use well maintained construction plant	Implemented	Not required
	-Shut down plants between work periods	Implemented	Not required
	-Install silencers on construction equipment	Implemented	Not required
	-Locate mobile plant far away from NSRs	Implemented	Not required
	-Quiet plants should be used	Implemented	Not required
	-2m high temporary noise barriers, as stipulated in EP condition 2.9, shall be installed	Implemented	Not required
Fugitive Dust Emission	-Implement regular watering and vehicle washing facilities	Implemented	Not required
	-Cover excavated or stockpile of dusty material by impervious sheeting or sprayed with water	Implemented	Not required
	-Use tarpaulin to cover dusty materials on vehicles	Implemented	Not required
Water Quality	Excavation works within the Tai Po River within the Project shall be carried out in stages and excavation area for each stage shall be limited to section of half width of the channel and less than 100m long at any one time in order to maintain water flow within the river during construction stage	Implemented	Not required
	Land-based plant shall be employed and site run-off shall be directed towards regularly cleaned and maintained silt traps and oil / grease separators to minimize leakage and loss of sediments during excavation	Improvement required	Settled on 8 Apr 09
	Large boulders removed from the Tai Po River within the Project during excavation shall be re-instated upon completion of works A section of 150m long natural riverbank on the western side of the river channel (Ch0 –Ch150) shall be retained	Not applicable at this stage	Not required
	The excavation area shall be enclosed with bunds or barriers and dewatered prior to excavation to minimize the impacts upon the downstream of the Tai Po River	Implemented	Not required
	Provide silt trap and oil interceptor to remove the oil, lubricants, grease, silt, grit and debris from the wastewater before pumped to the public storm water drainage system	Implemented	Not required
	Provide site toilet facilities	Implemented	Not required

Waste Management	Reuse excavated material as far as possible	Implemented	Not required
	Recycle scrap metals or abandoned equipment	Implemented	Not required
	Adopt a trip ticket system for the disposal of C&D materials	Implemented	Not required
	All general refuse should be segregated and stored in enclosed bins or compaction units	Implemented	Not required
Vibration	Percussive piling is to be replaced by bore-hole piling to minimize vibration impacts to the two identified Declared monuments	Not applicable at this stage	Not required
	Carrying out of vibration monitoring to ensure that vibration associated with the construction phase do not exceed the threshold limit otherwise contractor have to review the work method and construction activities have to be slow down or rescheduled to reduce the impacts	Not applicable at this stage	Not required
	Close monitoring and measurement on the cracks of the external wall of Fan Sin Temple during construction works will be carried out. Any changes on the cracks will be recorded for the contractor to slow down the construction activities accordingly; and to review the work methods and equipments immediately	Not Applicable at this stage	Not required

Implementation status of environmental protection and mitigation for ecology,
prepared by the Ecologist, Dr. Mark Shea.

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Ecology	Large boulders will be returned to the riverbed following the excavation works.	Not applicable	Not required
	Construction works from Ch. 0.0m – Ch. 150m would be along one side of the river only	Not applicable	Not required
	Approximately 150m of the existing natural riverbank on the western side of the river would be retained.	Implemented	Not required
	Excavation works within the river channel should be restricted to an enclosed dewater section of the river, and would be limited to sections 50-100m long at any one time.	Implemented	Not required
	Flows to the area downstream shall be maintained at all times during the construction phase	Implemented	Not required
	Capture survey shall be conducted within the Tai Po River before commencement of works. The captured target species shall be relocated to areas of the watercourse upstream of the watercourse upstream of the Tai Po River	Capture surveys had been conducted at the beginning of the Contract, during the wet season July/August 2008 and 4 th November 2008	Not required
	Temporary noise barriers should be constructed to control noise impacts to habitats and associated wildlife within and adjacent to the proposed works area	Implemented	Not required
	Excavation works shall be carried out by land based plant within enclosed dry section of river channel.	Implemented	Not required
	Compensatory planting of trees and other vegetation along the banks of the newly improved drainage channel should be provided to compensate for the loss of riparian vegetation.	Not applicable	Not required
	Operation phase activities in the improved drainage channel would be limited to periodic channel maintenance such as de-silting.	Not applicable	Not required

Appendix H: Cumulative waste flow tableCumulative waste flow table since September 15th 2008

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tonnes	0
November 2008	36m ³	0	0
December 2008	0	0	0
January 2009	0	0	0
February 2009	0	0	0
March 2009	0	0	0
April 2009	0	0	0
May 2009	0	0	20kg*
Total	36m ³	2 tonnes	20kg

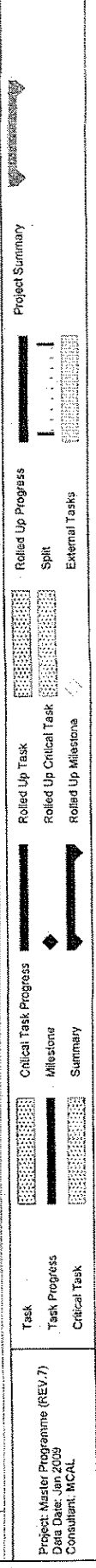
Remark*: Chemical wastes generated from the project sites including Upper Tai Po River, Lam Tsuen River and She Shan River were centralized for disposal.

Appendix I: Construction programme

Drainage Services Department

River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Contract No. DC/2007/06 Master Programme

Task No.	Task Name	Duration	Start Date	End Date	2007	2008	2009	2010	2011	2012
720	Rockfill & Blinding	40 days	2008/11/16	2009/12/25						
721	Retaining Wall	50 days	2008/12/26	2009/2/13						
722	Gabion Wall	40 days	2009/2/14	2009/3/25						
723	Install Ducts/Fencing/Railings/Drainage	5 days	2009/3/26	2009/3/30						
724	From CHL 1708 to CHL 1550	364 days	2009/4/1	2010/3/30						
725	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31						
726	Excavation	90 days	2009/11/1	2010/1/29						
727	Rockfill & Blinding	40 days	2009/11/16	2009/12/25						
728	Retaining Wall	50 days	2009/12/26	2010/2/13						
729	Gabion Wall	40 days	2010/2/14	2010/3/25						
730	Install Ducts/Fencing/Railings/Drainage	5 days	2010/3/26	2010/3/30						
731	Footbridge, Platform and Fill Slaps	384 days	2010/4/1	2011/4/19						
732	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31						
733	Provision of Temp. footbridge	5 days	2010/11/1	2010/11/5						
734	Footing for footbridge	25 days	2010/11/6	2010/11/30						
735	Dwarf Wall	30 days	2010/12/1	2010/12/30						
736	Footbridge	55 days	2010/12/31	2011/2/23						
737	Demolition of existing footbridge	5 days	2011/2/24	2011/2/28						
738	Box Culvert	25 days	2011/3/1	2011/3/25						
739	Footpaths Maintenance Stairway	25 days	2011/3/26	2011/4/19						
740	Completion of Area K	0 days	2011/4/19	2011/4/19						
741	Completion of Work at Section 2	0 days	2011/4/19	2011/4/19						
742										
743										
744										
745										
746	Section 3 - Upper Tai Po River (Area L, N & P)	1300 days	2007/9/28	2011/4/19						
747	Section 3 - Upper Tai Po River (Area L)	1300 days	2007/9/28	2011/4/19						
748	Commencement of Work	1 day	2007/9/28	2007/9/28						
749	Possession to Portion of the Site (Area L)	181 days	2007/9/29	2008/3/27						
750	Temp. Site Access	40 days	2008/11/1	2008/12/10						
751	Site Clearance	10 days	2008/12/11	2008/12/20						
752	Chainlink Fencing Work / Hoarding	30 days	2008/12/21	2009/1/19						
753	Initial Survey	30 days	2008/3/28	2008/4/26						
754	Condition Surveys / Set up markers	30 days	2008/4/26	2008/3/28						
755	Preparation of Temporary Works Design	60 days	2008/1/14	2008/3/13						
756	Approval of Temporary Works Design	0 days	2008/3/27	2008/3/27						
757	Wet Season (April to Oct 2008)	214 days	2008/4/1	2008/10/31						
758										
759	Chainage from CHL to CH130	1300 days	2007/9/28	2011/4/19						
760	Access to the Site	100 days	2011/4/19	2011/4/19						
761	Boulder Trap	580 days	2008/1/20	2009/1/20						
762	Excavation	100 days	2009/4/29	2009/6/27						
763	Rockfill & Blinding Layer	120 days	2009/4/30	2009/4/30						
764	Base Slab Structure	120 days	2009/6/28	2009/12/25						



Drainage Services Department

Contract No. DC/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Master Programme

Task No.	Task Name	Work	Start Date	End Date	2007	2008	2009	2010	2011	2012
765	Wall Structure	120 days	2009/12/26	2010/4/24						
766	Cut/Fill Slope	120 days	2010/4/25	2010/8/23						
767	Footbridge, Platform and Fill Slope	1285 days	2007/9/28	2011/4/14						
768	Provision of Temp. footbridge	10 days	2007/9/28	2007/10/7						
769	Footing for footbridge	95 days	2009/12/26	2010/3/30						
770	Gabion Wall	90 days	2010/3/31	2010/6/26						
771	Install Ducts/Fencing/Railings/Drainage	10 days	2010/7/8	2010/7/8						
772	Footbridge (TB1)	90 days	2010/7/9	2010/10/8						
773	Demolition of existing footbridge	10 days	2010/10/7	2010/10/17						
774	Platform & Fill Slope & Maintenance stairway	80 days	2011/1/14	2011/10/17						
775	Footpaths	90 days	2011/1/15	2011/4/14						
776										
777	Completion of Area L	0 days	2011/4/19	2011/4/19						
778										
779	Section 3 - Upper Tai Po River (Area P)	1300 days	2007/9/28	2011/4/19						
780	Commencement of Work	1 day	2007/9/28	2007/9/28						
781	Possession to Portion of the Site (Area P)	244 days	2007/9/29	2008/6/29						
782	Wet Season	185 days	2008/5/30	2008/10/31						
783	Temp. Site Access	40 days	2008/11/1	2008/12/10						
784	Site Clearance	20 days	2008/12/10	2008/12/30						
785	Chainlink Fencing Work	20 days	2008/12/11	2008/12/30						
786	Initial Survey	30 days	2008/5/30	2008/8/28						
787	Condition Surveys / Set up markers	30 days	2008/5/30	2008/8/28						
788	Preparation of Temporary Works Design	80 days	2008/9/28	2008/11/26						
789	Approval of Temporary Works Design	14 days	2008/11/27	2008/12/10						
790	S.I. Works	30 days	2008/12/31	2009/1/29						
791	Temp. Shoring Works	30 days	2008/12/11	2009/1/9						
792										
793	Chainage from CHL 250 to CHL 130	830 days	2009/1/10	2011/4/19						
794	From CHL 250 to CHL 130	746 days	2009/4/1	2011/4/19						
795	Wet Season (April to Oct 2009)	214 days	2009/4/1	2009/10/31						
796	Excavation	120 days	2009/11/1	2010/2/28						
797	Rockfill & Blinding	90 days	2009/11/16	2010/2/13						
798	Base Slab Structure	90 days	2009/11/21	2009/11/21						
799	Wet Season (April to Oct 2010)	214 days	2010/4/1	2010/10/31						
800	Wall Structure	90 days	2010/1/1	2010/1/29						
801	Gabion Wall	70 days	2011/4/5	2011/5/30						
802	Install Ducts/Fencing/Railings/Drainage	10 days	2011/4/10	2011/4/19						
803	Footbridge, Platform and Cut/Fill Slope	830 days	2009/1/10	2011/4/19						
804	Demolition of existing structure	31 days	2009/1/10	2009/2/9						
805	Provision of Temp. footbridge	5 days	2009/2/10	2009/2/14						
806	Footing for Footbridge (TB3)	45 days	2009/2/15	2009/3/31						
807	Wet Season	214 days	2009/4/1	2009/10/31						
808	Dwarf Wall	65 days	2009/11/1	2010/1/14						
809	Footbridge (TB3)	80 days	2010/1/15	2010/3/25						

Project: Master Programme (REV.7)
Data Date: Jan 2009
Consultant: MCAL

Task
Task Progress
Critical Task

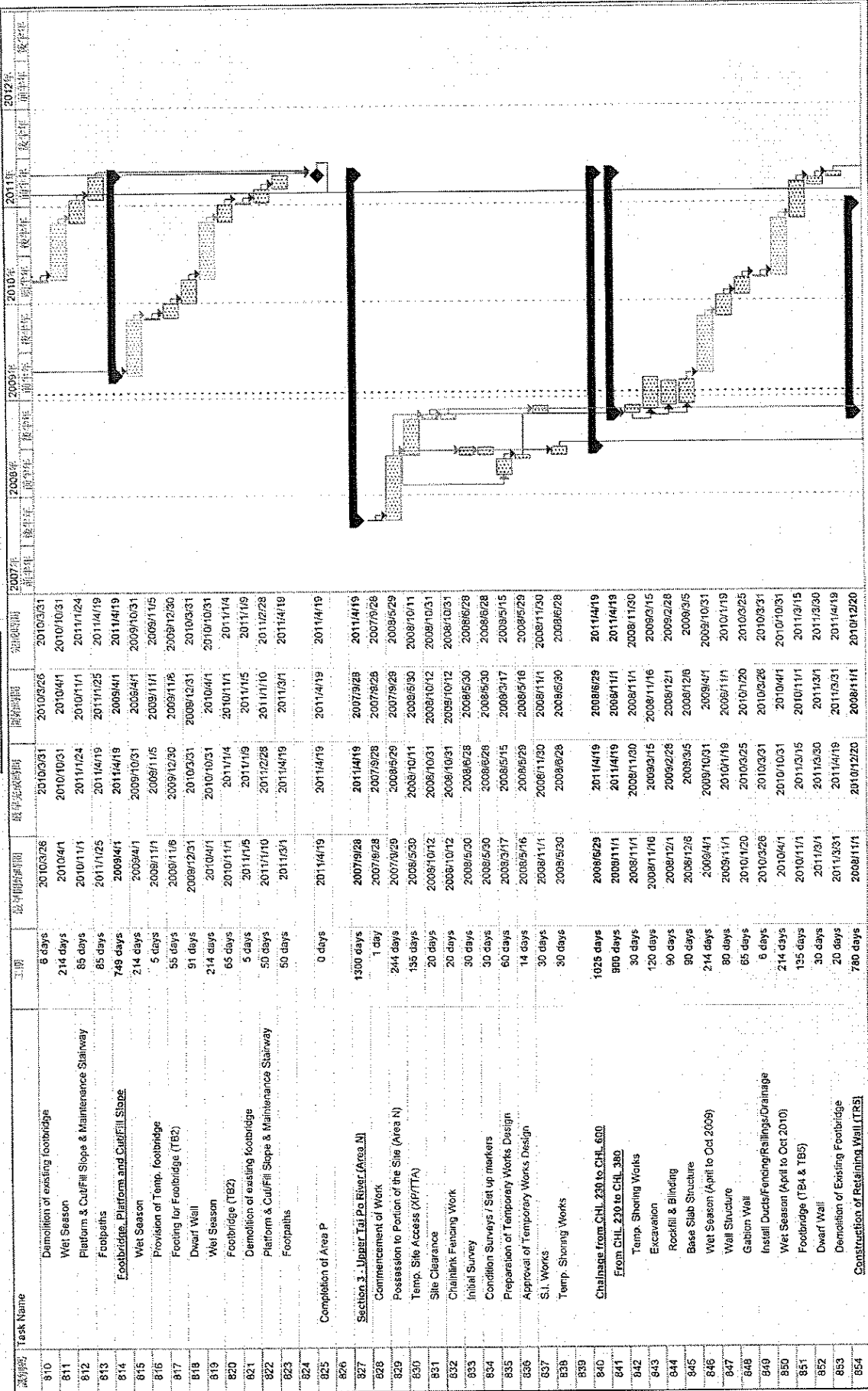
Critical Task Progress
Milestone
Summary

Roll Up Task
Roll Up Critical Task
Roll Up Milestone

Project Summary
Spit
External Tasks

Drainage Services Department

Contract No. DC/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Master Programme



Task Name	Start	End	Duration	Task Type
810 Demolition of existing footbridge	2010/3/26	2010/3/31	6 days	Task
811 Wet Season	2010/10/31	2010/4/1	214 days	Task
812 Platform & Cuffill Slope & Maintenance Stairway	2010/11/1	2010/11/1	85 days	Task
813 Footpaths	2011/1/25	2011/4/19	85 days	Task
814 Footbridge, Platform and Cuffill Slope	2009/4/1	2009/4/1	749 days	Task
815 Wet Season	2009/10/31	2009/10/31	214 days	Task
816 Provision of Temp. footbridge	2009/11/5	2009/11/5	5 days	Task
817 Footing for Footbridge (TB2)	2009/12/30	2009/12/30	55 days	Task
818 Dwarf Wall	2009/12/31	2009/12/31	91 days	Task
819 Wet Season	2010/10/31	2010/4/1	214 days	Task
820 Footbridge (TB2)	2011/1/1	2011/1/1	65 days	Task
821 Demolition of existing footbridge	2011/1/19	2011/1/19	5 days	Task
822 Platform & Cuffill Slope & Maintenance Stairway	2011/1/10	2011/1/10	50 days	Task
823 Footpaths	2011/3/1	2011/3/1	50 days	Task
824 Completion of Area P	2011/4/19	2011/4/19	0 days	Task
825				
826				
827 Section 3 - Upper Tai Po River (Area M)	2007/9/28	2007/9/28	1300 days	Task
828 Commencement of Work	2007/9/28	2007/9/28	1 day	Task
829 Possession to Port of the Site (Area N)	2007/9/29	2008/5/29	244 days	Task
830 Temp. Site Access (XIP/TTA)	2008/5/30	2008/10/11	195 days	Task
831 Site Clearance	2008/10/12	2008/10/12	20 days	Task
832 Chainlink Fencing Work	2008/10/12	2008/10/31	20 days	Task
833 Initial Survey	2008/5/30	2008/5/30	30 days	Task
834 Condition Surveys / Set up markers	2008/6/28	2008/6/28	30 days	Task
835 Preparation of Temporary Works Design	2008/3/17	2008/5/15	60 days	Task
836 Approval of Temporary Works Design	2008/5/16	2008/5/16	14 days	Task
837 S.I. Works	2008/11/1	2008/11/30	30 days	Task
838 Temp. Showings Works	2008/6/28	2008/6/28	30 days	Task
839				
840 Chainage from CHL 230 to CHL 600	2008/6/29	2008/6/29	1025 days	Task
841 From CHL 230 to CHL 380	2008/11/1	2008/11/1	900 days	Task
842 Temp. Showings Works	2008/11/30	2008/11/30	30 days	Task
843 Excavation	2008/11/10	2008/11/16	120 days	Task
844 Rockfill & Blinding	2008/12/1	2008/12/1	90 days	Task
845 Base Slab Structure	2008/12/8	2008/12/8	90 days	Task
846 Wet Season (April to Oct 2009)	2009/4/1	2009/4/1	214 days	Task
847 Wall Structure	2009/11/1	2009/11/1	80 days	Task
848 Gabion Wall	2010/1/20	2010/3/25	65 days	Task
849 Install Ducts/Fencing/Railings/Drainage	2010/3/26	2010/3/26	6 days	Task
850 Wet Season (April to Oct 2010)	2010/4/1	2010/4/1	214 days	Task
851 Footbridge (TB4 & TB5)	2011/3/15	2011/3/15	135 days	Task
852 Dwarf Wall	2011/3/1	2011/3/1	30 days	Task
853 Demolition of Existing Footbridge	2011/3/31	2011/3/31	20 days	Task
854 Construction of Retaining Wall (TR5)	2008/11/1	2008/11/1	780 days	Task

Project Master Programme (REV 7)
Data Date: Jan 2009
Consultant: MCAL

