

**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 July 2009**

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



**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 .....	13
6.3 Recommendations .....	13
6.4 Implementation status and effectiveness of the mitigation measures .....	13
7.0 Waste management status .....	14
8.0 Status of environmental licensing and permit .....	14
9.0 Future key issues .....	15
10.0 Conclusion .....	15
Appendix A: Event and action plan for ecology .....	17
Event and action plan for ecology .....	18
Appendix B: Action and limit level for construction noise .....	20
Appendix C: Reference standards for vibration .....	22
Appendix D: Noise monitoring results, graphical plots and location plan .....	24
Graphical plot for noise measurements .....	29
Appendix E: Monitoring schedule for the present and next reporting period .....	36
Appendix F: Cumulative complaint log .....	39
Appendix G: Implementation status of environmental protection and mitigation measures .....	40
Appendix H: Cumulative waste flow table .....	44
Appendix I: Construction programme .....	45
Appendix J: Complaint investigation report and log .....	50

## **Executive summary**

This is the eleventh 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 Tai Po River”. This report concludes the impact monitoring for the activities undertaken during the period from 1<sup>st</sup> July 2009 to 31<sup>st</sup> July 2009. The major construction activity carried out by the contractor was reestablishing works for the damaged haul access.

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 performed by the Ecologist Dr. Mark Shea was carried out on 21<sup>st</sup> and 22<sup>nd</sup> July 2009. As reported by the Ecologist, water samples and survey results were still under preparation, details of findings will be shown in the next monthly EM&A report. 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 an enquiry received from EPD through ET on 03 July 2009 regarding river

water quality and loss of vegetation within construction site. ET handled the incident in accordance with complaint handling procedure to conduct investigation and meeting with project representatives including ER, IEC and Contractor. Details of findings please refer to the complaint report and log in Appendix J.

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 month will be mainly construction of haul access, installation of noise barriers and river reinstatement works.

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 eleventh 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 July 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

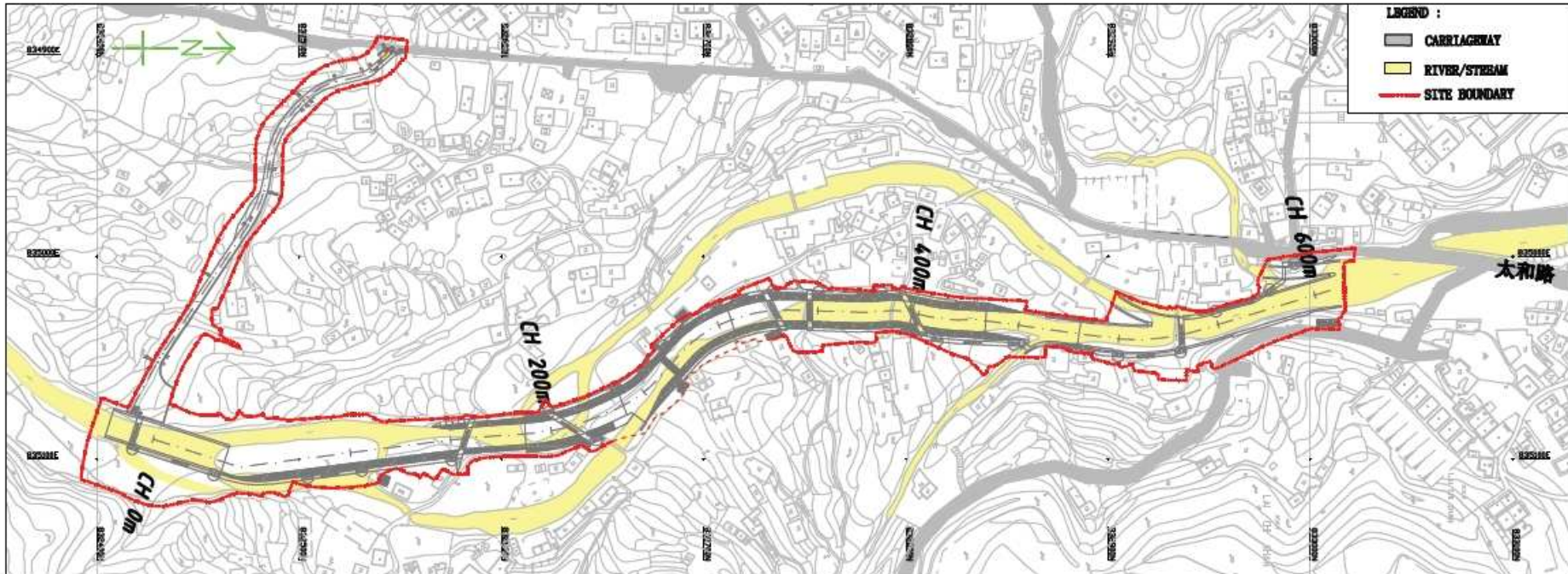
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15<sup>th</sup> 2008 and anticipated to complete in April 2011.

### **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. Reestablishing works to the damaged haul access D due to rainstorm was carried out during the reporting period.

#### **2.5 Construction activities for the next reporting period**

Due to the contractual requirements, no excavation works in river is allowed during wet season and hence no major construction activities will be carried out. Construction of Access Road D, installation of noise barriers and river reinstatement works were proposed to be carried out in the upcoming reporting period.

#### **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 an enquiry received from EPD through ET on 03 July 2009 regarding river water quality and loss of vegetation within construction site. ET handled the incident in accordance with complaint handling procedure to conduct investigation and meeting with project representatives including ER, IEC and Contractor. Recommendations were also given to Contractor for their follow up actions. Details of findings are summarized in the complaint report and log in Appendix J.

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 conducted by Ecologist Dr. Mark Shea was not scheduled for this reporting month. Ecological impact monitoring was conducted on 21<sup>st</sup> and 22<sup>nd</sup> July 2009. As reported by the Ecologist, water samples and survey results were still under preparation. Those findings will be shown in the next monthly EM&A report.

#### 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**

<b>Sensitive Receiver No.</b>	<b>Location and Description</b>
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 7<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup> and 28<sup>th</sup> July 2009 and the  $L_{eq(30min)}$  results ranged from 45.2dB(A) to 68.7dB(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 8<sup>th</sup>, 21<sup>st</sup>, 24<sup>th</sup> and 29<sup>th</sup> July 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.

Ecological inspections by the Ecologist Dr. Mark Shea were carried out on 2<sup>nd</sup>, 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup> and 29<sup>th</sup> July 2009. Details of findings 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
17 June 09, 08 & 29 July 09	Idling construction equipments stored at haul access D were found accumulated with stagnant water	Observation	Contractor was reminded to provide regular stagnant water removal and mosquito control measures as part of site cleaning practices	Contractor took action to remove stagnant water after each rainfall as advised	29 July 09	--
21 July 09	General wastes were found dumped into the recycling bin for aluminum can without segregation	Observation	Contractor was advised to remove improper wastes from the corresponding recycling bins and provide training to their staffs for proper usage of recycling bins	As reported by contractor regular training is provided to their staffs during debriefing at morning	29 July 09	--
21 July 09	Sandbag barriers provided at boulder trap were found damaged due to rainstorm	Observation	Contractor was advised to repair the barriers to prevent soil run-off from bare soil surfaces and hence deterioration of water quality in the river	Still outstanding as no follow up actions has been taken due to adverse weather	Ongoing	--
24 July 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--
29 July 09	No major findings for this inspection	N/A	N/A	N/A	N/A	--

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

<b>Table 6.2 Summary results of ecological site inspection findings</b>					
Date	Observations	Advice from Ecologist	Action Taken	Closing Date	
02 July 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
08 July 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
15 July 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
22 July 2009	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
29 July 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 July 2009.

## **6.3 Recommendations**

Although no major construction activities were being carried out during the reporting month, contractor was reminded to maintain good housekeeping practices as well as effective environmental mitigation measures.

Contractor was reminded to enhance mosquito control during wet season. They should be cautious on accumulation of stagnant water in any site equipments and rough site surfaces. Stagnant water removal should be regularly implemented during site cleaning practices, especially after rainfall.

Wastes dumped into recycling bins should be well segregated. Regular training to frontline staff is considerable for proper usage of recycling bins.

Bared soil surface by excavation and open stockpile of earth materials should be prevented on site as far as practicable; else those should be covered by tarpaulin to prevent soil erosion and run-off during rainstorm.

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. Environmental mitigation measures provided should be regularly checked and maintained their effectiveness as to minimize environmental impacts caused by project sites.

## **6.4 Implementation status and effectiveness of the mitigation measures**

Refer the previous table 6.1, contractor has implemented some mitigation measures to address those problems as advised by ER, IEC and ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. Ongoing investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in the follow month.

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
July 2009	0	0	0

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 <sup>st</sup> Aug, 2005	N/A	Issued
Amended Environmental Permit	EP-223/2005/A	18 <sup>th</sup> Nov, 2008	N/A	Issued
Construction Noise Permit	N/A	N/A	N/A	N/A
Effluent Discharge License	3678	14 <sup>th</sup> Mar, 2008	31 <sup>st</sup> Mar, 2013	Issued
Registration as a Chemical Waste Producer	5213-724-C3251-03	19 <sup>th</sup> 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, construction of haul access, installation of noise barriers and/or hoardings and river reinstatement are the major activities in the upcoming reporting period. In accordance with the requirements in the Environmental Permit as well as the EM&A manual, contractor was reminded to implement proper mitigation measures if found necessary.

Stockpiling of construction materials may occur for the mentioned site activities, such materials should be well stored in designated area to maintain good housekeeping. Stagnant water may be accumulated in those materials and construction equipments hence regular removal would be required.

Construction activities may generate noise impacts to the vicinity of sensitive receivers. Contractor was recommended to well arrange their working schedule as to minimize noise nuisance.

Earth bunds shall be building along the riverbank near works area to prevent surface run-off and any construction wastes from entering the stream. Site discharges should be well treated by de-silting facilities prior to further discharge.

## **10.0 Conclusion**

The major construction activity carried out by the contractor during this reporting period was re-establishment works for the damaged haul access.

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 an enquiry received from EPD through ET on 03 July 2009 regarding river water quality and loss of vegetation within construction site. ET handled the incident in accordance with complaint handling procedure to conduct investigation and meeting with project representatives including ER, IEC and Contractor.. Details of findings please refer to the complaint report and log in Appendix J.

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

**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)

	<b>Type of Building</b>	<b>Peak component particle velocity (mm/s) in frequency range of predominant pulse</b>
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 <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	57.4	69.1	67.2	7-Jul-09	13:35-14:05	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	Sunny	Façade
UTP 2	55.9	62.9	59.7	7-Jul-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	Sunny	Façade
UTP 3	45.6	56.8	54.7	7-Jul-09	15:11-15:41	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 4	57.3	59.9	59.2	7-Jul-09	14:08-14:38	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 5	54.1	59.0	57.2	7-Jul-09	14:39-15:09	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	54.4	55.8	45.4	7-Jul-09	15:43-16:13	No construction was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 7	49.4	57.3	54.1	7-Jul-09	11:30-12:00	No construction was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 8	51.9	57.5	55.7	7-Jul-09	10:58-11:28	No construction was being carried out during measurement	Background noise from avians and public	Sunny	Façade
UTP 9	48.6	51.6	50.3	7-Jul-09	10:23-10:53	No construction was being carried out during measurement	Background noise from dog	Sunny	Façade
UTP 10	43.2	46.1	45.2	7-Jul-09	09:47-10:17	No construction was being carried out during measurement	Background noise from dog	Sunny	Façade
UTP 11	50.1	53.1	51.9	7-Jul-09	09:15-09:45	No construction was being carried out during measurement	Background noise from public	Sunny	<b>*Free field</b>

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

Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	58.1	66.0	65.0	14-Jul-09	13:35-14:05	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	Sunny	Façade
UTP 2	56.2	61.8	61.6	14-Jul-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	Sunny	Façade
UTP 3	45.0	50.4	48.5	14-Jul-09	15:45-16:15	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 4	60.2	64.1	63.9	14-Jul-09	14:10-14:40	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	Sunny	Façade
UTP 5	55.8	58.0	57.8	14-Jul-09	14:41-15:11	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	45.6	57.4	53.1	14-Jul-09	15:12-15:42	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	Background noise from public	Sunny	Façade
UTP 7	48.2	53.6	51.9	14-Jul-09	11:28-11:58	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 8	53.4	57.0	55.5	14-Jul-09	10:57-11:27	No construction was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 9	51.9	54.0	53.6	14-Jul-09	10:22-10:52	No construction was being carried out during measurement	Background noise from dog	Sunny	Façade
UTP 10	44.1	53.2	49.1	14-Jul-09	09:46-10:16	No construction was being carried out during measurement	Background noise from avians and public	Sunny	Façade
UTP 11	47.7	51.0	49.7	14-Jul-09	09:15-09:45	No construction was being carried out during measurement	Background noise from public	Sunny	*Free field

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

Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	60.3	71.0	68.5	21-Jul-09	13:35-14:05	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	59.2	64.1	63.9	21-Jul-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 3	46.2	50.7	49.0	21-Jul-09	15:43-16:13	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	Sunny	Façade
UTP 4	62.6	63.5	63.2	21-Jul-09	14:10-14:40	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 5	57.1	59.2	58.8	21-Jul-09	14:41-15:11	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	45.7	52.2	50.3	21-Jul-09	15:12-15:42	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	Background noise from public	Sunny	Façade
UTP 7	50.1	65.1	60.5	21-Jul-09	11:28-11:58	No construction activity was being carried out during measurement	Background noise from avians	Sunny	Façade
UTP 8	58.8	61.7	60.8	21-Jul-09	10:57-11:27	No construction activity was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 9	60.7	61.6	61.4	21-Jul-09	10:22-10:52	No construction activity was being carried out during measurement	Background noise from public	Sunny	Façade
UTP 10	45.6	49.3	48.0	21-Jul-09	9:15-9:45	No construction activity was being carried out during measurement	Background noise from avians	Sunny	Façade
UTP 11	48.5	55.1	53.6	21-Jul-09	9:46-10:16	No construction activity was being carried out during measurement	Background noise from public	Sunny	<b>*Free field</b>

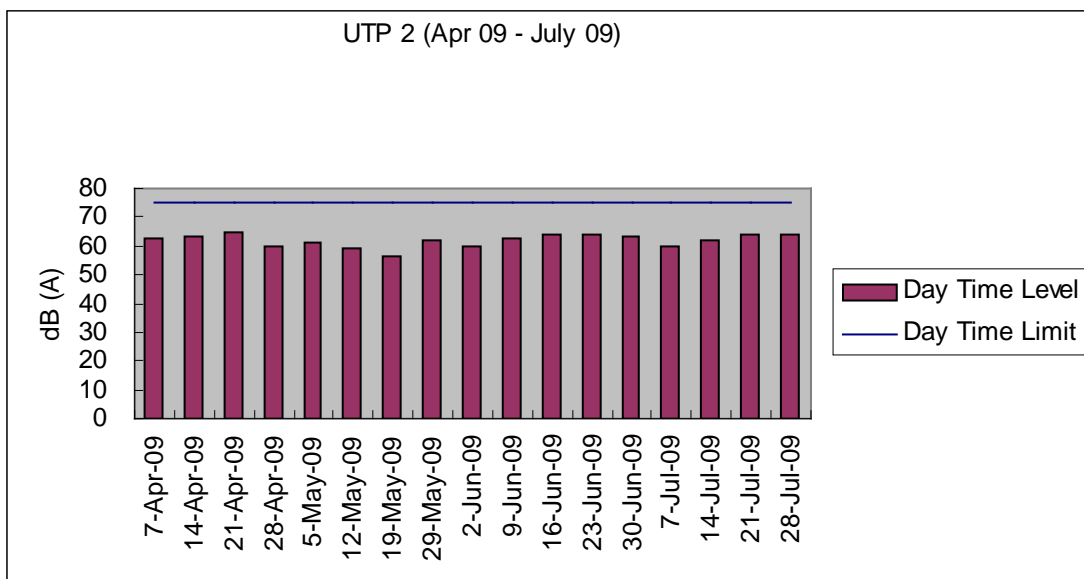
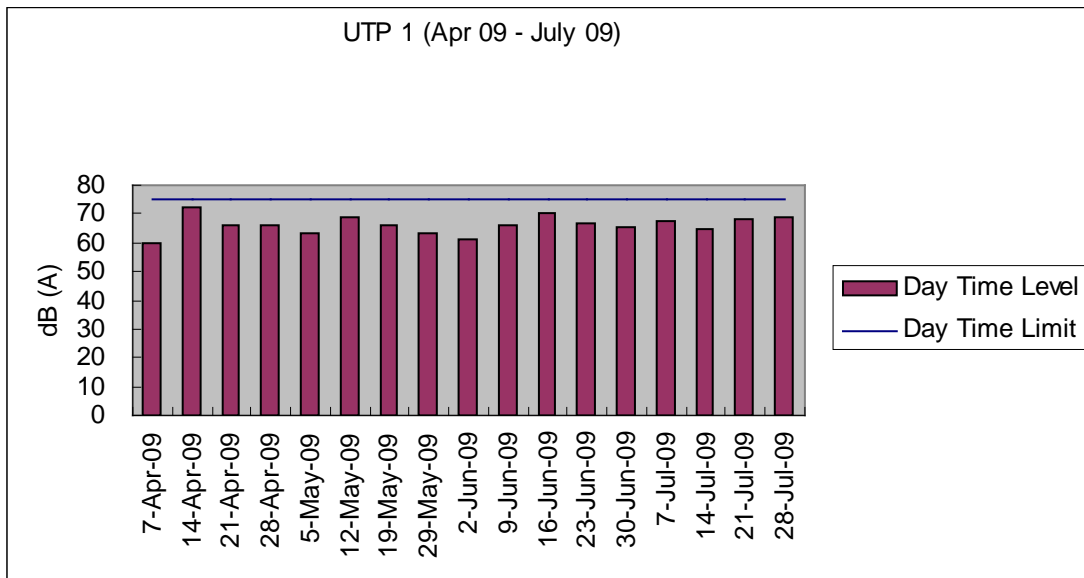
Note\* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

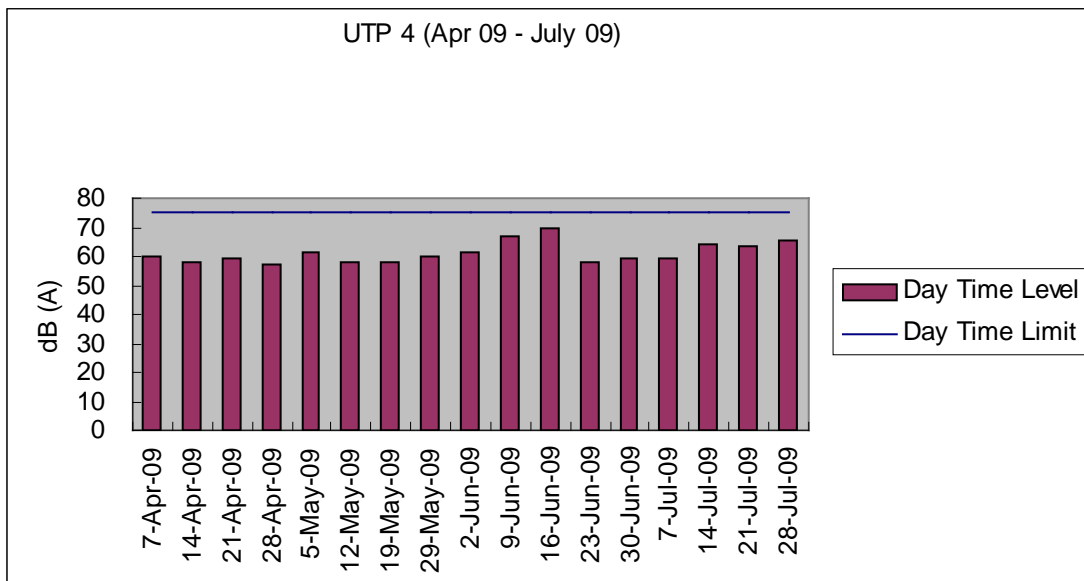
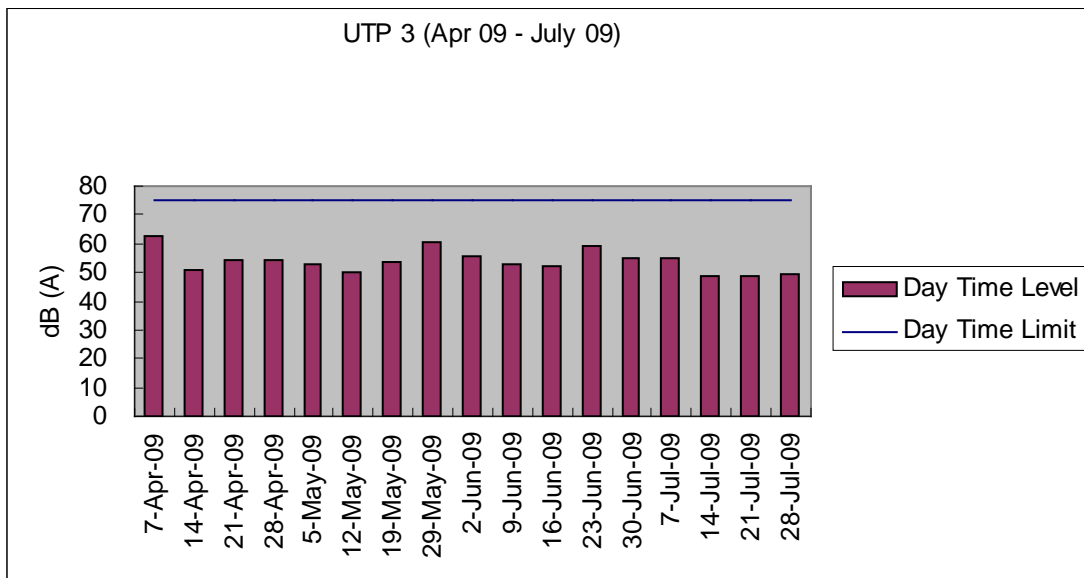
Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	63.0	70.0	68.7	28-Jul-09	10:52-11:22	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 2	61.2	64.2	63.9	28-Jul-09	11:30-12:00	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	Cloudy	Façade
UTP 3	47.0	51.5	49.7	28-Jul-09	15:12-15:42	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	Background noise from public	Cloudy	Façade
UTP 4	64.6	66.7	65.7	28-Jul-09	10:12-10:42	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	N/A	Cloudy	Façade
UTP 5	57.4	59.8	59.2	28-Jul-09	15:43-16:13	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	N/A	Cloudy	Façade
UTP 6	45.5	52.2	50.3	28-Jul-09	14:40-15:10	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 public	Cloudy	Façade
UTP 7	49.8	52.5	51.9	28-Jul-09	14:09-14:39	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	Cloudy	Façade
UTP 8	56.8	61.1	60.2	28-Jul-09	13:38-14:08	No construction was being carried out during measurement	N/A	Cloudy	Façade
UTP 9	60.5	61.8	61.3	28-Jul-09	13:00-13:30	No construction was being carried out during measurement	N/A	Cloudy	Façade
UTP 10	49.1	54.2	53.1	28-Jul-09	08:58-09:28	No construction was being carried out during measurement	Background noise from avians	Cloudy	Façade
UTP 11	50.5	57.4	55.7	28-Jul-09	09:30-10:00	No construction was being carried out during measurement	Background noise from public	Cloudy	*Free field

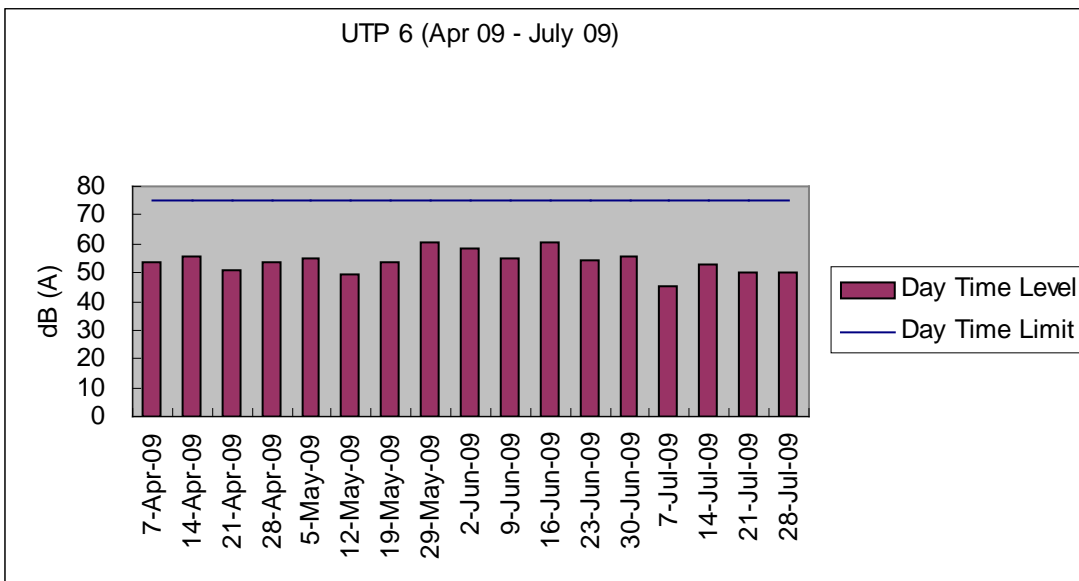
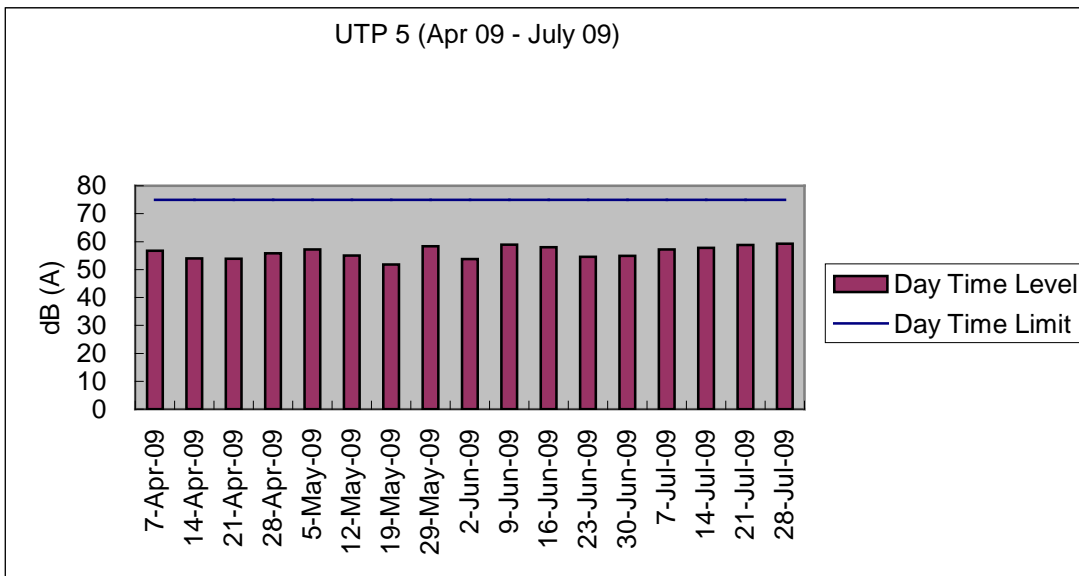
Note\* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

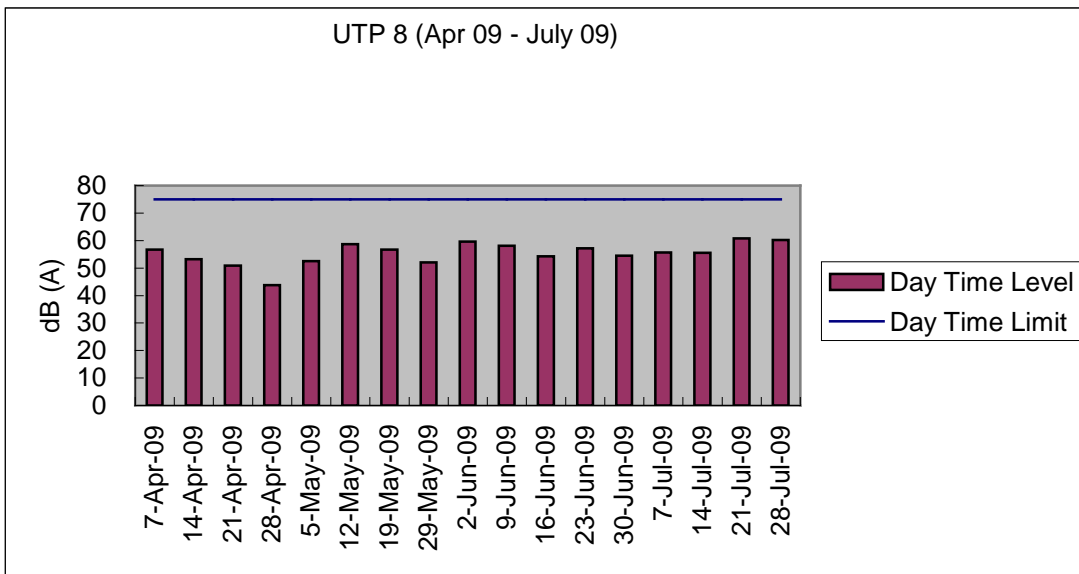
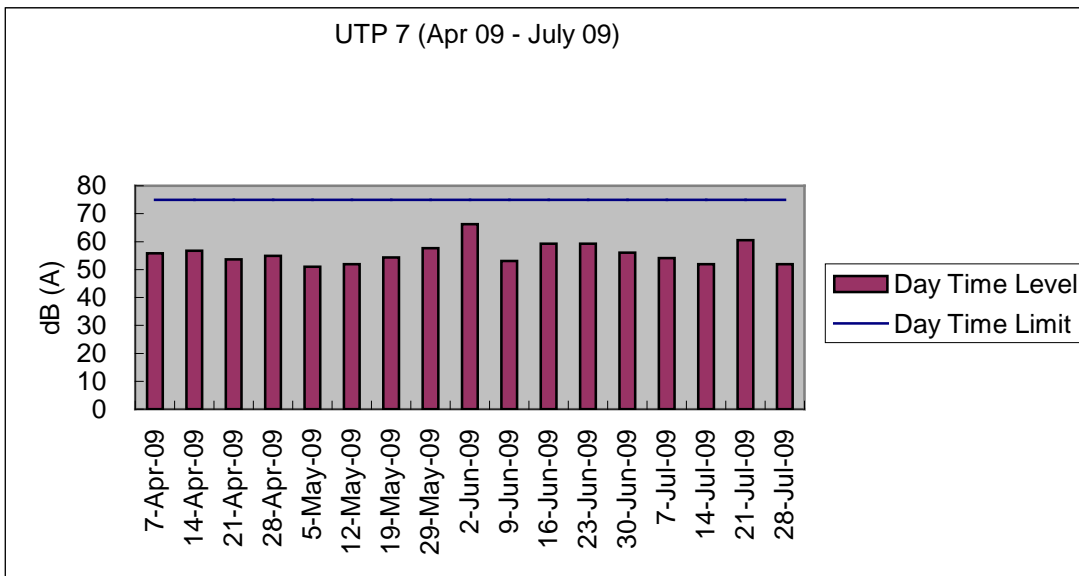
**Graphical plot for noise measurements**

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 April 2009 to July 2009.

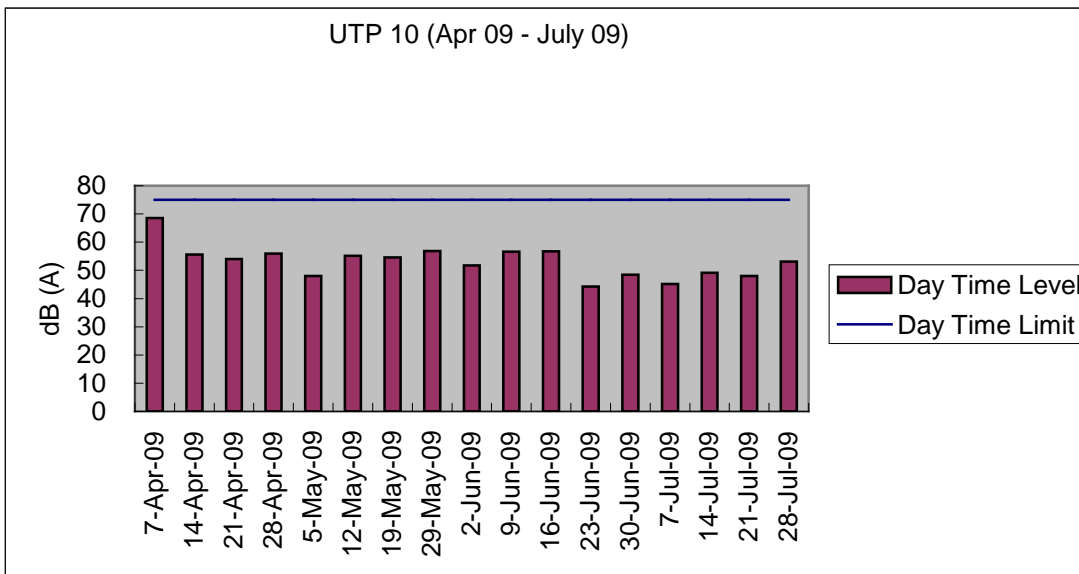
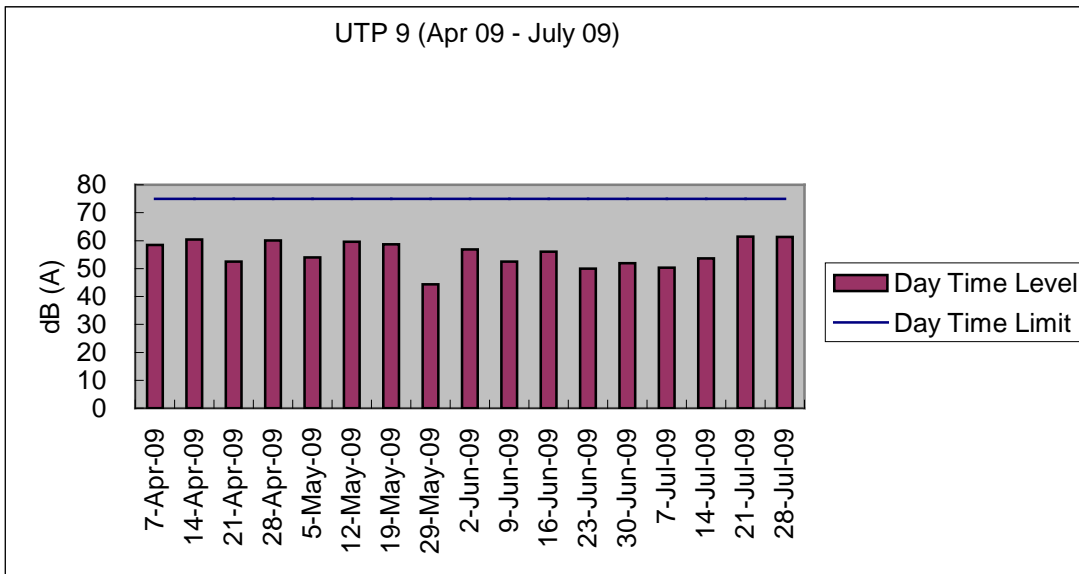


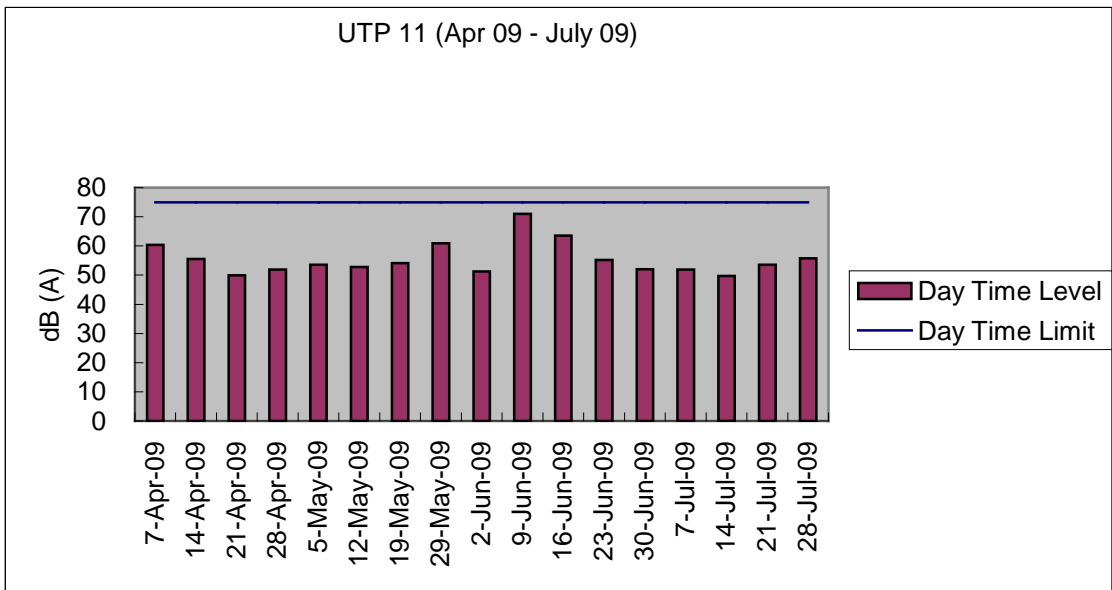


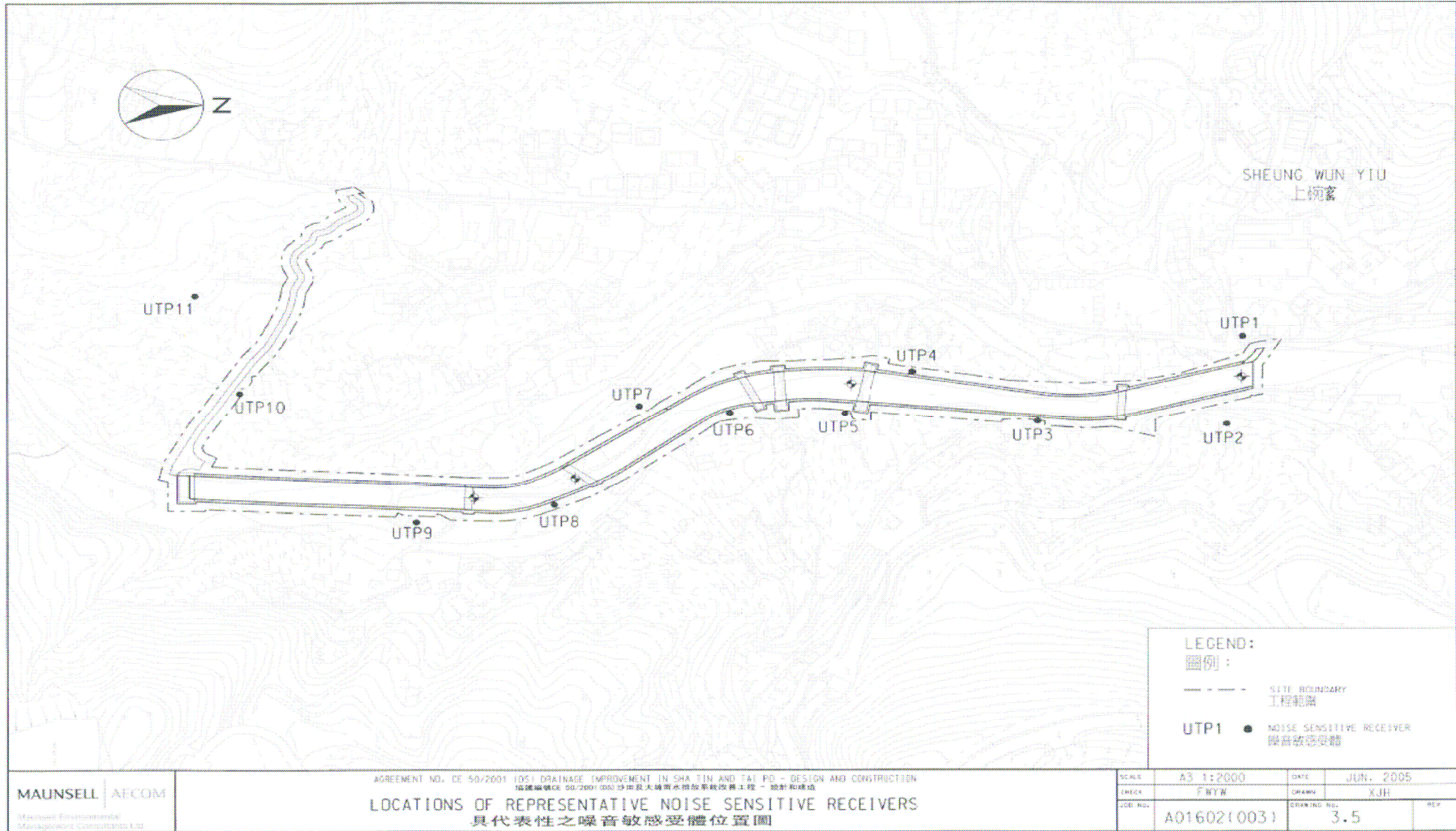












**Appendix E: Monitoring schedule for the present and next reporting period**

**Master Schedule of EM&A works in July 2009**

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

**Master Schedule of EM&A works in August 2009**

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

**Appendix F: Cumulative complaint log**

<b>Environmental Parameters</b>	<b>Cumulative no. Brought forward</b>	<b>No. of complaint July 2009</b>	<b>Overall Total</b>
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

\* ET received a public enquiry referred by EPD, regarding river water quality and loss of vegetation within construction site, on 3<sup>rd</sup> July 2009.

**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	Not applicable at this stage	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	Not applicable at this stage	Not required
	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	Not applicable at this stage	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	Not applicable at this stage	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 <sup>th</sup> 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 table**Cumulative waste flow table since September 15<sup>th</sup> 2008

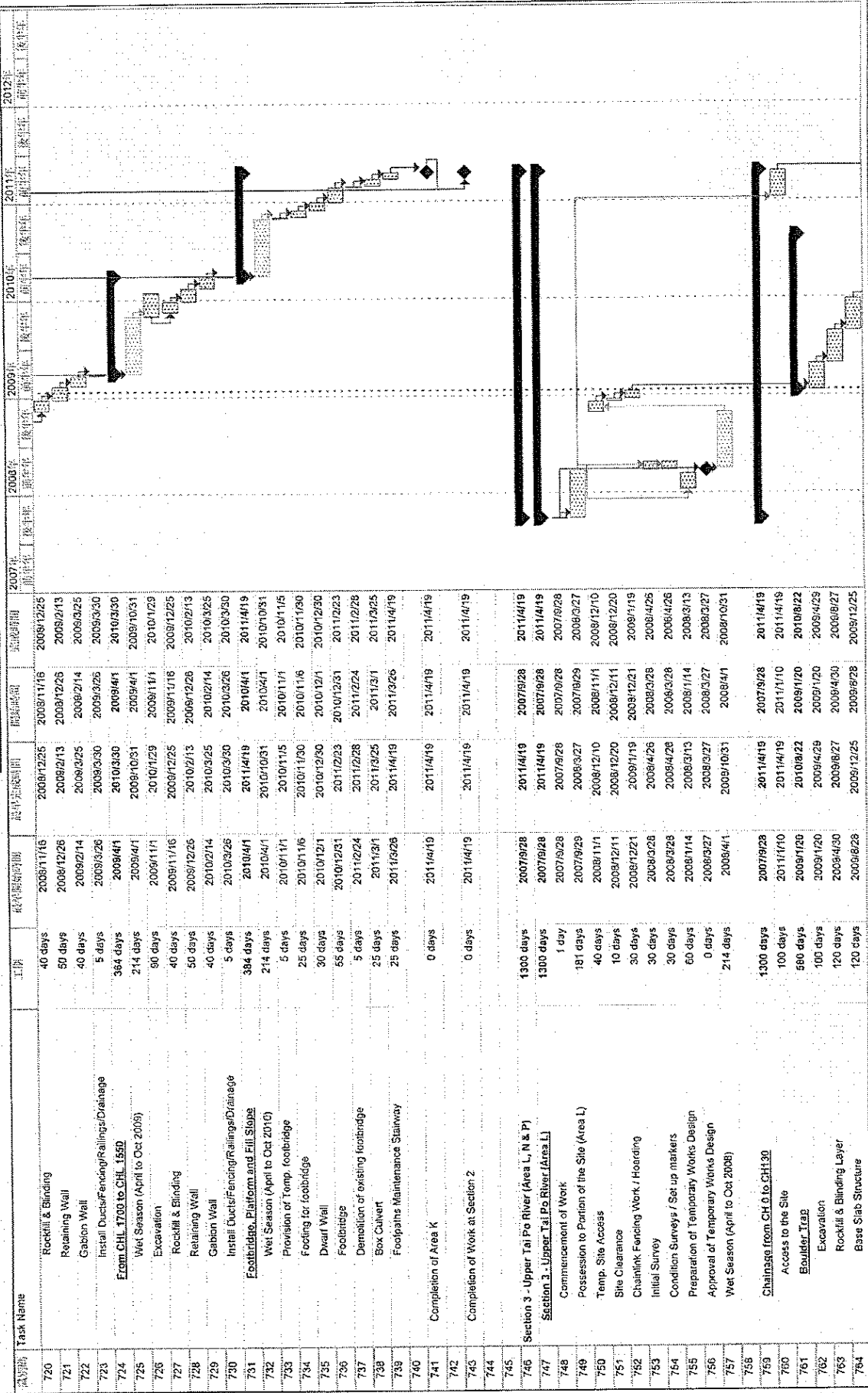
Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tonnes	0
November 2008	36m <sup>3</sup>	0	0
December 2008	0	0	0
January 2009	0	0	0
February 2009	0	0	0
March 2009	0	0	0
April 2009	0	0	0
May 2009	0	0	20kg*
June 2009	0	0	0
July 2009	0	0	0
Total	36m <sup>3</sup>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



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

Chiu Hing Construction & Transportation Co., Ltd

Page 17

# 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	Work	Start Date	End Date	2007年	2008年	2009年	2010年	2011年	2012年
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	2011/1/14						
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	2008/6/28						
787	Condition Surveys / Set up markers	30 days	2008/5/30	2008/6/28						
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. Showing 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

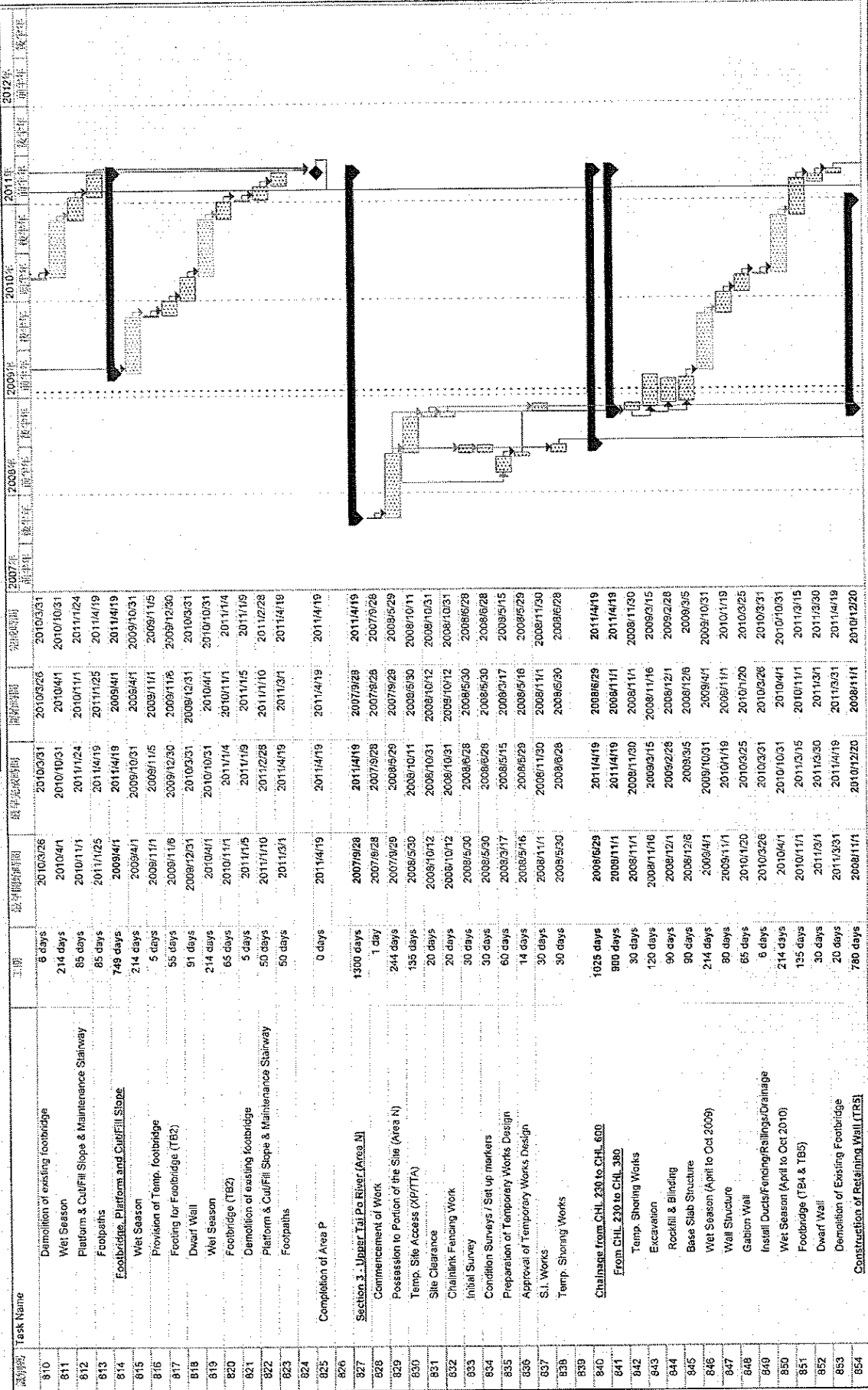
Critical Task Progress  
Milestone  
Summary

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



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

Task  
Task Progress  
Critical Task

Critical Task Progress  
Milestone  
Summary

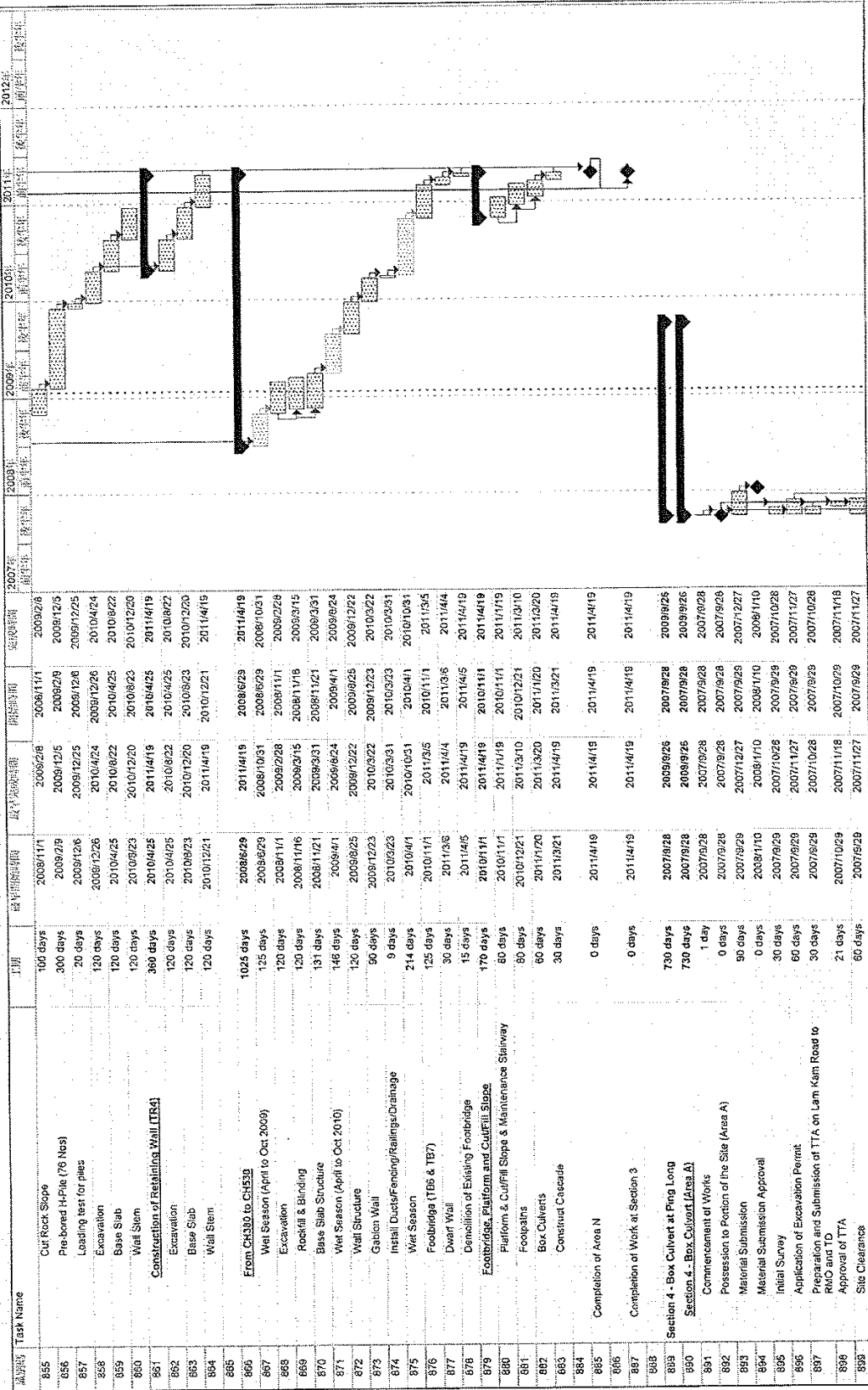
Rollled Up Task  
Rollled Up Critical Task  
Rollled Up Milestone

Project Summary  
Split  
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



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

Chiu Hing Construction & Transportation Co., Ltd

Page 20

**Appendix J: Complaint investigation report and log**

**DSD Project – River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River**

**Report for Complaint/ Concern**

**Ref: DC0706-CL-090701(EPD)**

**EPD Complaint Ref: N/A**

**Sheet: 1 of 4**

**RECIPIENT**

Name: Chiu Hing Construction & Transportation Co., Ltd.

Details: EPD formally informed Environmental Team, on 03<sup>rd</sup> July 2009, regarding a complaint on environmental pollution caused by drainage improvement works of the project.

Received Date: 03<sup>rd</sup> July 2009

Received Time: \_\_\_\_\_

**COMPLAINANT / Concern**

Name: N/A

Tel: N/A

Address: N/A

**COMPLAINT**

Noise    Air quality/Dust    Water    Odour    Environment    Traffic/Pedestrian  
 Safety    Others

Event Date and Time: 27 June 2009

Location: A complaint was recorded for the water quality in the section of UTPR nearby Sha Po Chai Village, as well as vegetation loss at area DD2, lot232.

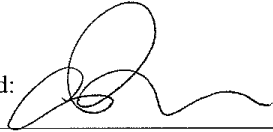
**INVESTIGATION RESULTS & MITIGATION MEASURES**

1. A complaint on 27 June 2009 was recorded regarding water quality of UTPR nearby Sha Po Chai Village and vegetation loss at area DD21, lot232. ET was informed by EPD on 03 July 2009 for this incident.
2. As per the EM&A Manual section 9.3, ET arranged a site investigation with the representatives from ER, IEC and Contractor, on 08 July 2009 to resolve the above complaint.
3. During the investigation, river water was observed and found to be clear in the concerned area (Fig.1-4). No major works of river-based excavation has been carried out since April 2009, as informed by ER and Contractor.
4. Investigation also covered the area DD21, lot232. Bare soil surface with thin vegetations were observed in that area (Fig.5 & 6). As reported by the contractor, it has been started to replant at the area with local vegetation.
5. A follow up meeting was held at site with participation of the ET, ER, IEC and Contractor after the investigation of the same day. Remedial actions concerning vegetation loss at the concerned area have been proposed during the meeting.

**RECOMMENDATIONS**

1. No major construction activities have been carried out since April 2009 that unlikely cause contamination to the river water quality. Furthermore, no turbid water was found in the river channel during the site inspection. Still, contractor was reminded to be cautious on the condition of water quality according to the requirements of EP and applied water discharge license.
2. The contractor was recommended to reinstate the areas at DD21, lot 232 by adopting an intensive replanting program as soon as possible. Contractor was also recommended to seek for professional opinions from landscape architect regarding suitable species and methodology for replanting.
3. ET will monitor the reinstatement progress in the concerned area through weekly site inspections for 1 month. The condition will be reviewed in the SSEMC meeting in August. Monitoring results will be included in the monthly EM&A report.

Signed:



Date: 10-07-2009

Fig.1 – Water quality was observed to be clear at ch.50 (UTPR)



Fig.2 – River water passing through the boulder trap of UTPR was observed to be clear





Fig.3 – Water quality was observed to be clear at the lower stream area of the project site (UTPR)



Fig.4 – Water quality at the lower stream area of the project site (UTPR) 2



Fig.5 – Condition of Area DD21, lot232 in the complaint stated



Fig.6 – Bare soil/ rock surface with thin vegetations was observed in the area





COMPLAINT / CONCERN LOG

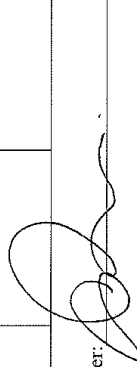
Ref: N/A

Log Ref	Event Date/Location	Complainant/Date of Contact	Details of Complaint	Investigation/Mitigation Action	File Closed
<p>Our Ref: DC0706-CL-090701 (EPD)</p> <p>EPD complaint Ref: Not Available</p>	<p>27 June 2009, River section nearby Sha Po Chai Village of Upper Tai Po River (UTPR)</p>	<p>A complaint received by Environmental Team via EPD on 03 July 2009</p>	<p>A complaint was recorded for the water quality in the section of UTPR nearby Sha Po Chai Village, as well as vegetation loss at area DD21, lot232.</p>	<p>1) A complaint on 27 June 2009 was recorded regarding water quality of UTPR near Sha Po Chai Village and vegetation loss at area DD21, lot232. ET was informed by EPD on 03 July 2009 for this incident.</p> <p>2) As per the EM&amp;A Manual section 9.3, ET arranged a site investigation with the representatives from ER, IEC and Contractor on 08 July 2009 to resolve the above complaint.</p> <p>3) During the investigation, river water was observed and found to be clear in the concerned area. No major works of river-based excavation has been carried out since April 2009, as informed by ER and Contractor.</p> <p>4) Investigation also covered the area DD21, lot232. Bare soil surface with thin vegetations were observed in that area. As reported by the contractor, it has been started to replant at the area with local vegetation.</p> <p>5) A follow up meeting was held at site with participation of the ET, ER, IEC and Contractor after the investigation of the same day. Remedial actions concerning vegetation loss at the concerned area have been proposed during the meeting.</p>	<p>To be followed up with the remedial actions taken for the vegetation loss at DD21, lot232</p>



				<p>6) The following suggestions are recommended,</p> <ul style="list-style-type: none"> <li>- Contractor was reminded to be cautious on the condition of water quality of UTPR according to the requirements of EP as well as applied water discharge license.</li> <li>- The contractor was recommended to reinstate the areas at DD21, lot 232 by adopting an intensive replanting program as soon as possible. Contractor was recommended to seek for professional opinions from landscape architect about suitable species and methodology for replanting.</li> <li>- ET will monitor the reinstatement progress in the concerned area through weekly site inspections for 1 month. The condition will be reviewed in the SSEMC meeting in August. Monitoring results will be included in the monthly EM&amp;A report.</li> </ul>
--	--	--	--	---

Filed by Environmental Team Leader:



Date: 10<sup>th</sup> July 2009