

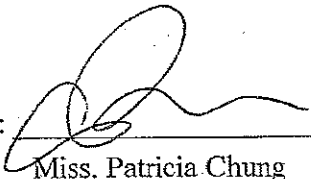
Contract No. : DC/2007/06
**River Improvement Works in Upper Lam Tsuen She
Shan River and Upper Tai Po River**

ENVIRONMENTAL MONITORING AND AUDIT
IMPACT MONTHLY EM&A REPORT of UPPER TAI PO
RIVER for October 2008

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Date: _____

**EM&A Manual in relation to 2-year post construction monitoring program for
Upper Tai Po River**

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Signature: _____
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Date: _____

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Table of contents

EXECUTIVE SUMMARY.....	2
1.0 Introduction	4
2.0 Environmental Status	4
2.1 Project area.....	4
2.2 Construction Programme	4
2.3 Proposed Construction Sequences	5
2.4 Construction activities for the reporting period.....	7
2.5 Construction activities for the next reporting period.....	7
2.6 Non-compliance with the environmental performance limits	7
2.7 Summary of Complaints	7
3.0 Ecological Monitoring Results	7
4.0 Noise monitoring Results.....	7
5.0 Vibration monitoring Results.....	7
6.0 Environmental Issues and Actions	8
6.1 Site inspections and Key environmental issues	8
6.2 Non-compliance.....	10
6.3 Recommendations.....	10
6.4 Implementation status and effectiveness of the mitigation measures.....	10
7.0 Waste Management Status	10
8.0 Status of Environmental Permits and Licenses Obtained by Contractor.....	11
9.0 Future key issues	11
10.0 Conclusion	13
Appendix A: Event and Action Plan for Ecology	14
Appendix B: Action and Limit level for construction noise	16
Appendix C: Reference standards for vibration.....	17
Appendix D: Noise monitoring results, graphical Plots and Location Plan	18
Appendix E: Monitoring schedule for the present and next reporting period	23
Appendix F: Cumulative Complaint Log	26
Appendix G: Implementation status of environmental protection and mitigation measures	27
Appendix H: Cumulative waste flow table.....	31
Appendix I: Construction programme	32

EXECUTIVE SUMMARY

This is the second 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 Upper Tai Po River”. This report concludes the impact monitoring for the activities undertaken during the period from 1st October 2008 to 31st October 2008. The major construction activities carried out by the contractor during this reporting period include access road formation and site preparation work.

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.

Environmental Team had carried out construction noise monitoring from October 23rd to October 31st 2008, 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, Environmental Team had not carried out vibration monitoring during the month

Ecological monitoring is not scheduled for the month of October 2008. 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.

There was no non-compliance recorded for the reporting month

There was no formal public complaint received in the reporting month.

There was no breach of Action and Limit levels for this month.

The change for this month included the noise sensitive receiver, the plan is shown in

Appendix D.

Key construction activities in the coming month will be erection of noise barrier (Hoarding) and construction of boulder trap. It is expected that noise impacts, dust impacts, water impacts and waste disposal will be generated on site.

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 second 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 Upper Tai Po River”. The site layout plan was 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 October 2008. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the 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

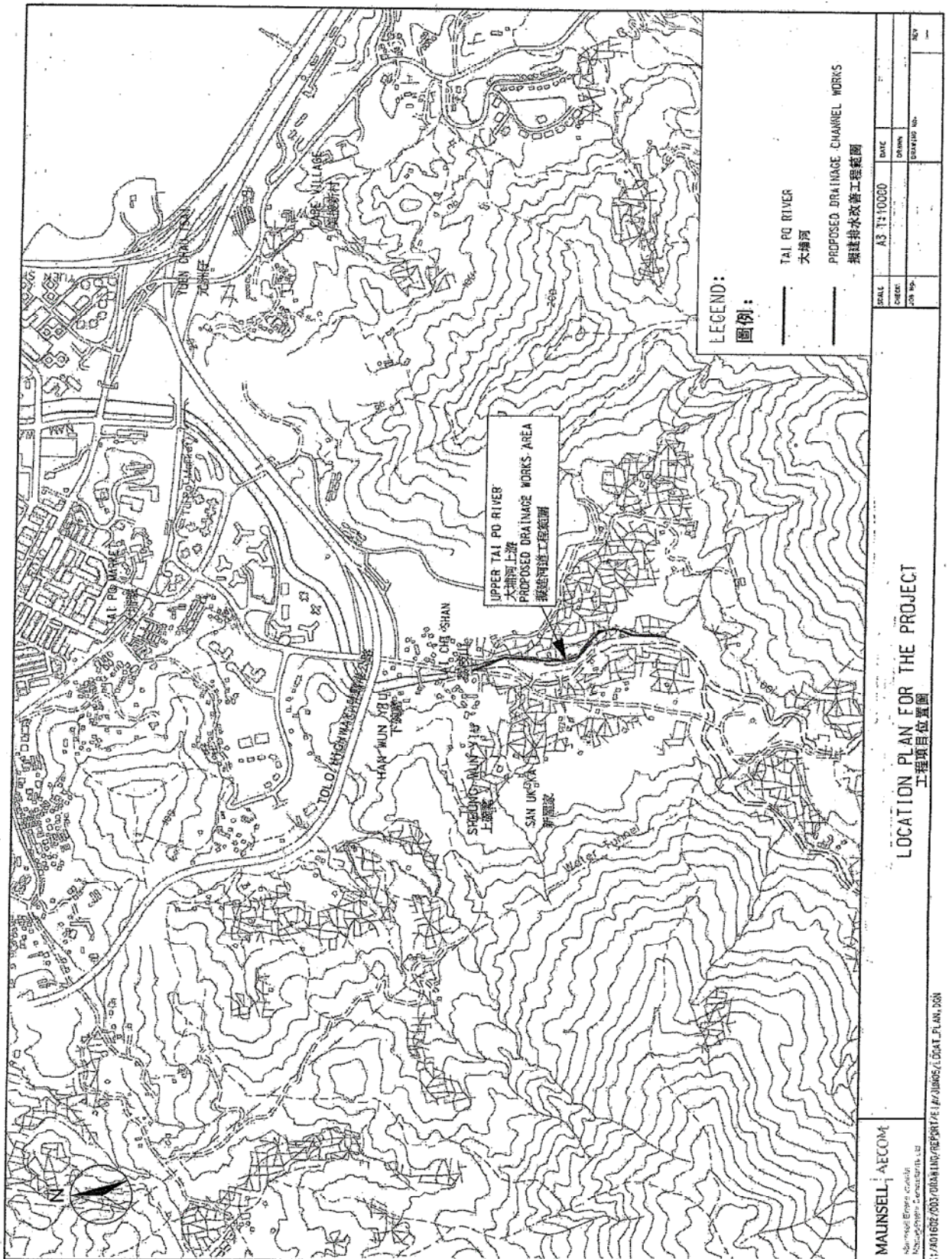
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15th 2008 and anticipated to complete in April 2011.

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



2.4 Construction activities for the reporting period

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

- (1) Access Road formation
- (2) Site Preparation work

2.5 Construction activities for the next reporting period

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

- (1) Erection of temporary noise barrier(Hoarding)
- (2) Construction of boulder trap

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 standard for vibration is shown in Appendix C.

2.7 Summary of Complaints

There was no complaint recorded for the month of October 2008. Cumulative complaint log is show in Appendix F.

3.0 Ecological Monitoring Results

Ecological impact monitoring and capture survey will be carried out by the ecologist, Dr Mark Shea. The capture survey is scheduled in November 2008 and the impact monitoring is scheduled in January 2009. Therefore, there was no ecological monitoring report for this month.

4.0 Noise monitoring Results

Noise monitoring was carried out from Oct 22nd to Oct 31st. The results were all below the limit of 75dB(A) and the range was between 56.9dB(A) to 71.9dB(A). For further details of the monitor results and the graphical plots, please refer to Appendix D for the monitoring results and graphical plots of the monitoring results.

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 the environmental protection and mitigation measures are shown in Appendix G.

Site inspections were conducted on 2nd, 8th, 15th, 22nd, 29th October. A detailed checklist of each site inspection together with comments and relevant photos have been filed and kept. The inspections were summarized in Table 6.1.

Table 6.1 Inspection findings for the site audit

Date	Observations	Observation or Non Compliance	Advice from ET	Action Taken	Closing Date	Remarks
Oct 2 nd	No Major findings for this inspection	--	No advice is required	No actions is required to be taken	Oct 8 th	--
Oct 8 th	No Major findings for this inspection	--	No advice is required	No actions is required to be taken	Oct 15 th	--
Oct 15 th	No Major findings for this inspection	--	No advice is required	No actions is required to be taken	Oct 22 nd	--
Oct 22 nd	No Major findings for this inspection	--	No advice is required	No actions is required to be taken	Oct 22 nd	--
Oct 29 th	Exposed soil was found	Observation	Contractor was advised to cover the exposed soil with geo-textile to prevent soil erosion and surface runoff.	Action was taken by the contractor by implementing geo-textile	Nov 5 th	--

A detailed ecologist checklist of each site inspection together comments were prepared by the ecologist DR. Mark Shea in Table 6.2.

Table 6.2 Summary results of ecological site inspection findings				
Date	Observations	Advice from Ecologist	Action Taken	Closing Date
Oct 2 nd	No Major findings for this inspection	No Advice is required	No Action is required to be taken	Oct 8 th
Oct 8 th	No Action is required to be taken	No Advice is required	No Action is required to be taken	Oct 15 th
Oct 15 th	No Action is required to be taken	No Advice is required	No Action is required to be taken	Oct. 22 nd
Oct 22 nd	No Action is required to be taken	No Advice is required	No Action is required to be taken	Oct. 29 th
Oct 29 th	No Action is required to be taken	No Advice is required	No Action is required to be taken	Nov 5 th

6.2 Non-compliance

There were no non-compliance received for the month of October.

6.3 Recommendations

The open stockpile found at site should be well covered with tarpaulin covering and barriers bunds should be implemented along the stream to prevent muddy runoff being discharged into the stream.

6.4 Implementation status and effectiveness of the mitigation measures

During the site investigation, it was found that the contractor implemented some barriers along the bank of the stream. However, the coverage of the barriers was not enough and some of the barriers coverage were poorly installed. Contractor was reminded to properly maintain the de-silting facilities that have implemented on site.

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 disposal practices are being implemented

Table 7.1 shows the waste disposal recorded provided by the contractor for October 2008. The total cumulative waste disposal is shown in Appendix H

Table 7.1 Summary of waste disposal in October 2008

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
October 2008	0	2 tones	0

8.0 Status of Environmental Permits and Licenses Obtained by Contractor

This project requires different environmental permits and licenses to be run legally.

Table 8.1 is the summary of permits/ licenses obtained by the contractor.

Table 8.1 A summary of permits / licenses obtained by the contractor

Description	License / Permit No.#	Date of Issue	Date of Expiry	Remarks
Environmental Permit	EP-223/2005	31 st Aug, 2005	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 Chemical Producer	5213-724-C3251-03	19 th Dec, 2007	Not applicable	Issued
Registration of C&D Waste Producer	N/A	N/A	N/A	N/A

9.0 FUTURE KEY ISSUES

Key construction activity in the coming month will be the Erection of noise barrier and construction of boulder trap. The construction activities for these items may generate some environmental impacts. They include air, noise, water and waste.

The site entrance may generate dust concern when the trucks are coming in and leaving the site. Therefore, periodical watering of the access road are recommended to minimize the dust concern that may generate from the construction site. Tarpaulin coverings are also recommended to cover the open stockpile on site. Periodical water spraying around the construction site area is necessary and wheel-washing machine at the site entrance for trucks are recommended to be ready to use.

The plants for the construction of boulder trap will generate construction noise. The plants may be in intermittent use should be shut down between work periods or should be throttled down to a minimum in order to minimize the noise impact from the construction activities.

The construction of boulder trap may generate muddy runoff and muddy water concern to the stream. The contractor shall implement proper barriers formed by bunds, rocks and geo-textile and proper wastewater treatment facilities to avoid muddy water being discharged into the stream. The contractor should always pay attention to the performance of the barriers formed by bunds, rocks and geo-textile to ensure that the barriers are in effective status. The contractor should also check the performance of the de-silting facilities such as the de-silting tank. The contractor should ensure the de-silting tank has enough capacity to handle the amount of muddy water that is flowing into the tank for proper treatment.

It is expected that construction waste would be generated on site. Contractor shall assign proper site storage area for waste and construction materials.

10.0 Conclusion

The major construction activities carried out by the contractor during this reporting period include access road formation and site preparation work.

Regular site meetings and inspection audits led by the senior for discussing site environmental matters were held among project proponent, contractor and the ET on weekly basis.

Environmental Team had carried out construction noise monitoring during the period of October 23rd to October 31st and no exceedance was found.

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 major finding 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 in 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 provided on **Appendix table 1**.

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:

1. The schedule capture surveys would let to decrease in the populations of the target species; and
2. 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	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	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	1. Ensure Remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non conformity	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	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	1. Ensure Remedial measures are properly implemented	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.

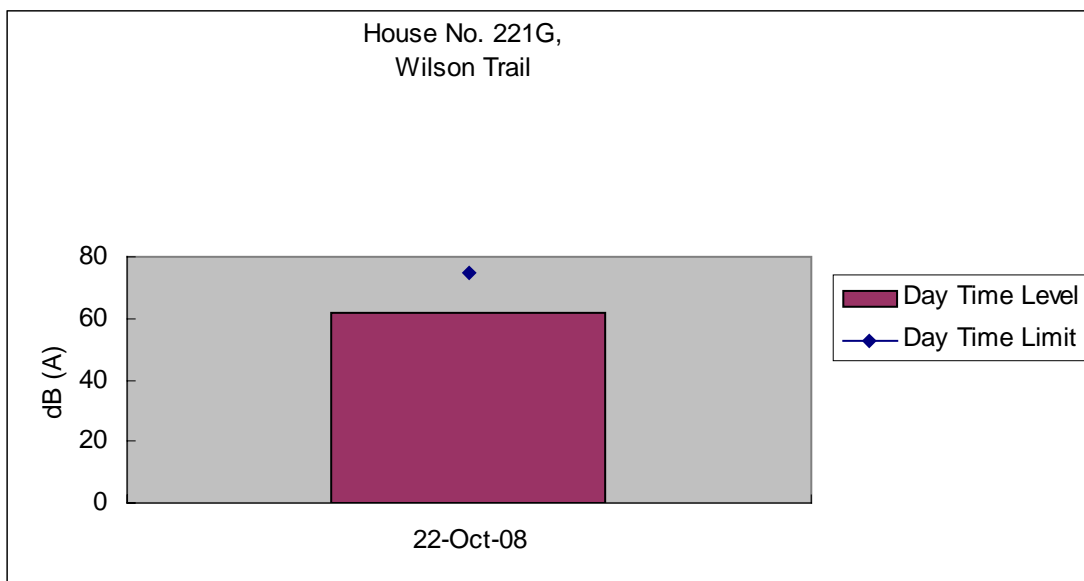
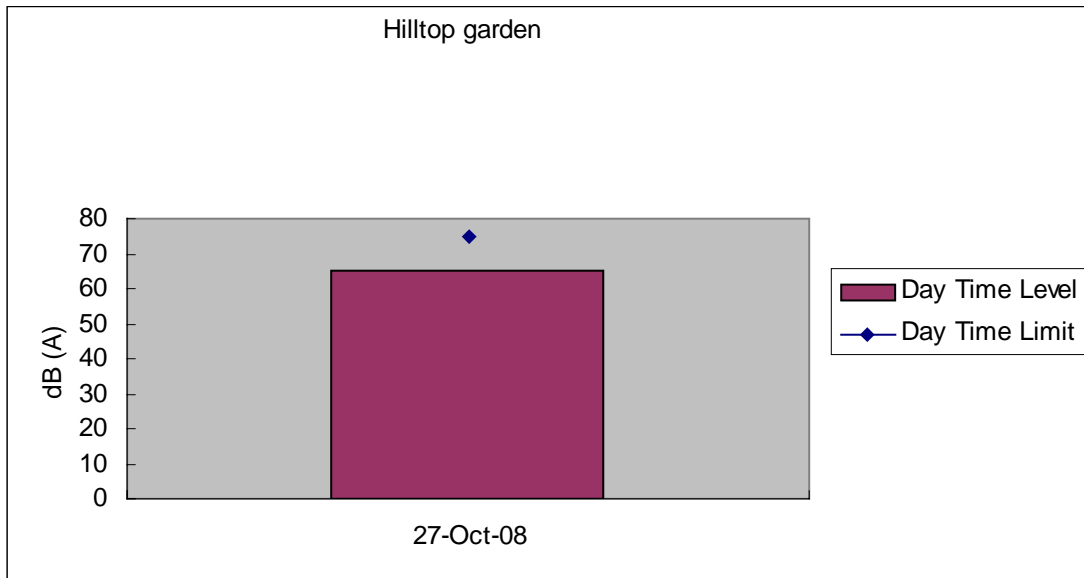
Appendix Table 3: Transient vibration guide values for cosmetic building damage (BS7385:Part 2 1993)

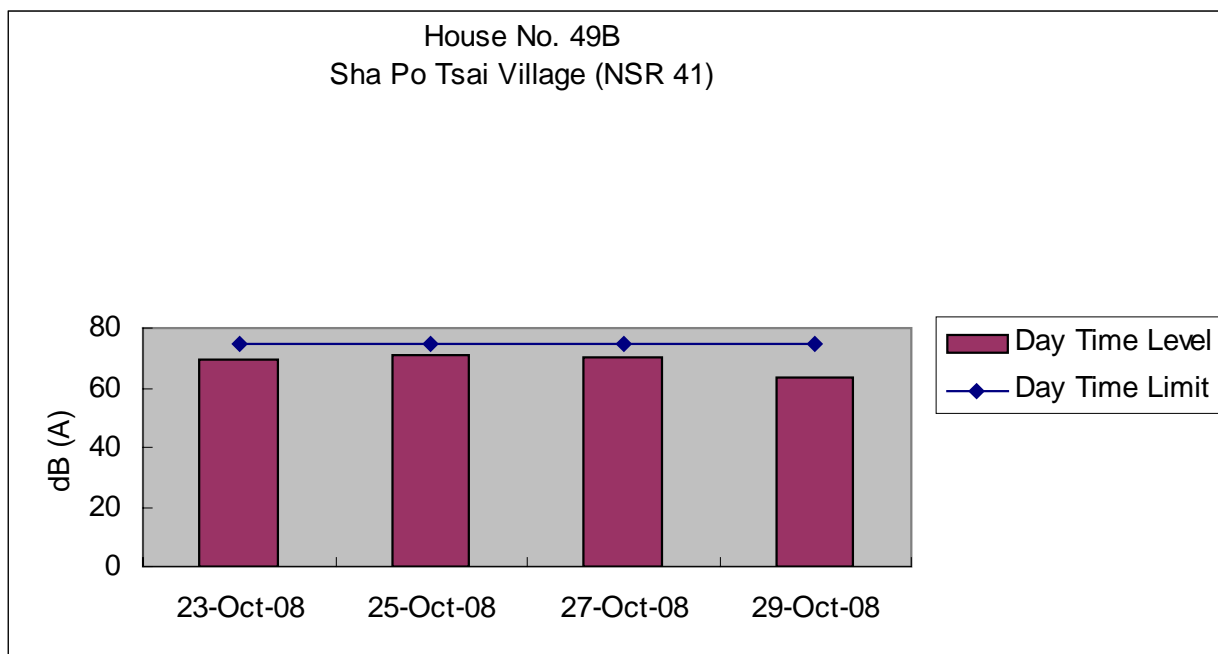
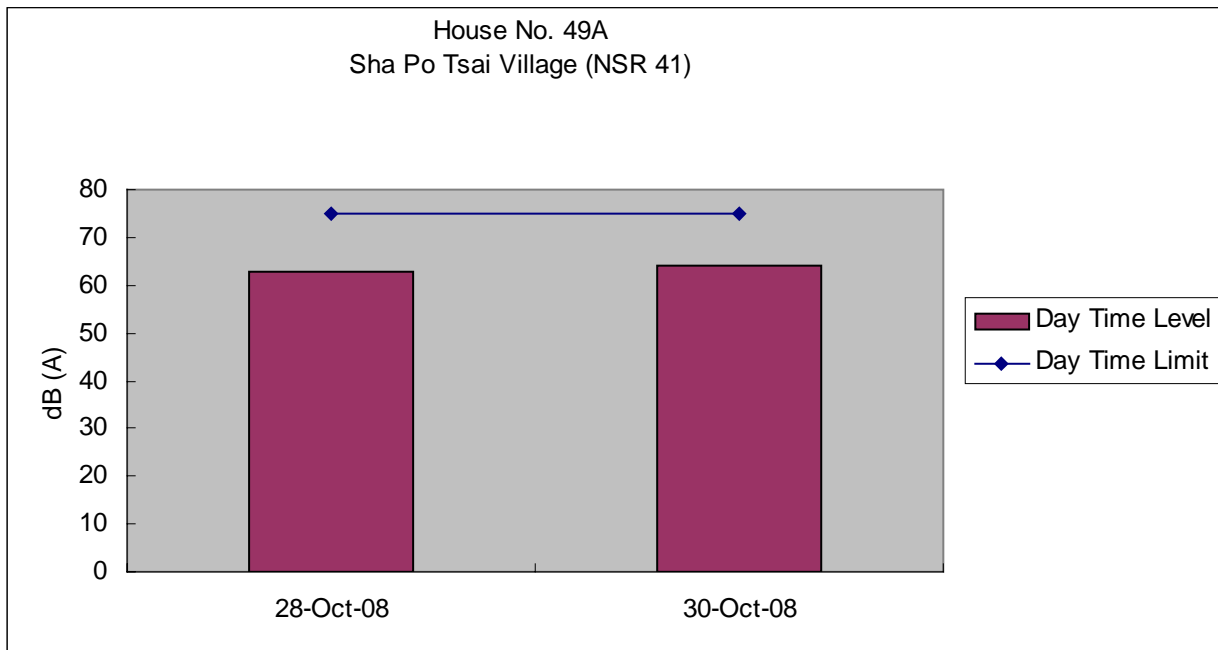
	Type of Building	Peak component particle velocity (mm/s) in frequency range of predominant pulse
1	Reinforced or framed structures	50 at 4 Hz and above
2	Un-reinforced or light framed structures	15 at 4 Hz, increasing to 20 at 15 Hz, increasing to 50 at 40 Hz and above.

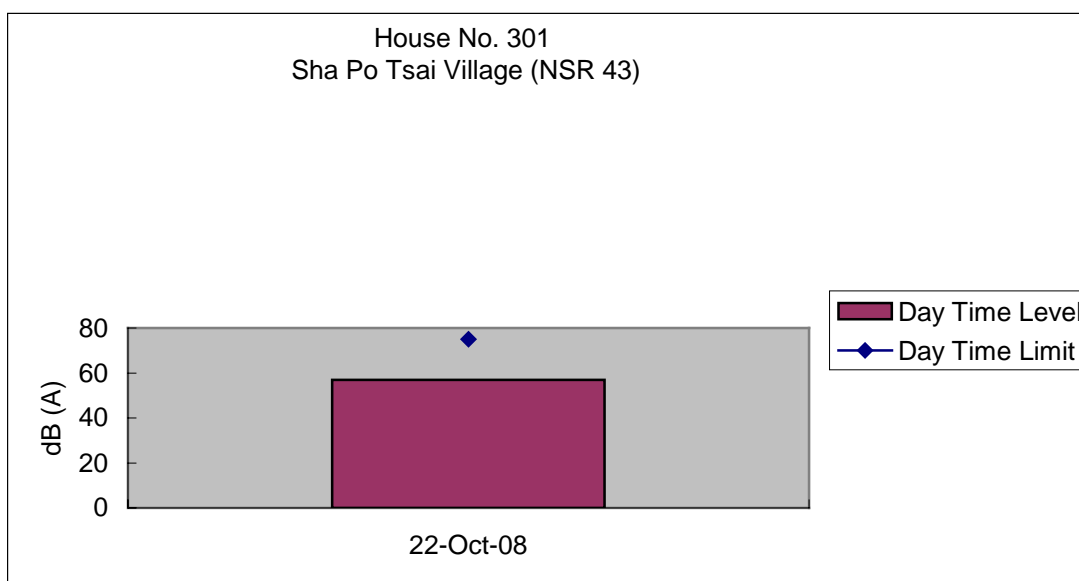
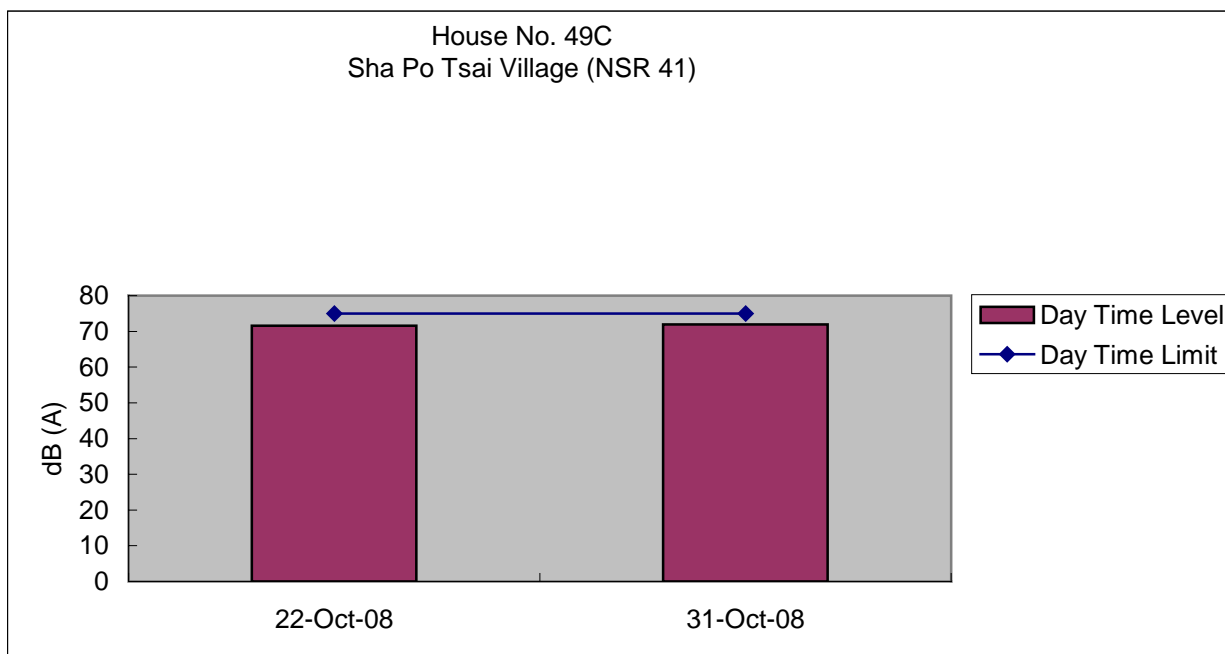
The vibration magnitudes and frequencies refer to Peak Particle Velocities (PPV) occurring in any single direction, measured on the ground level of the building concerned.

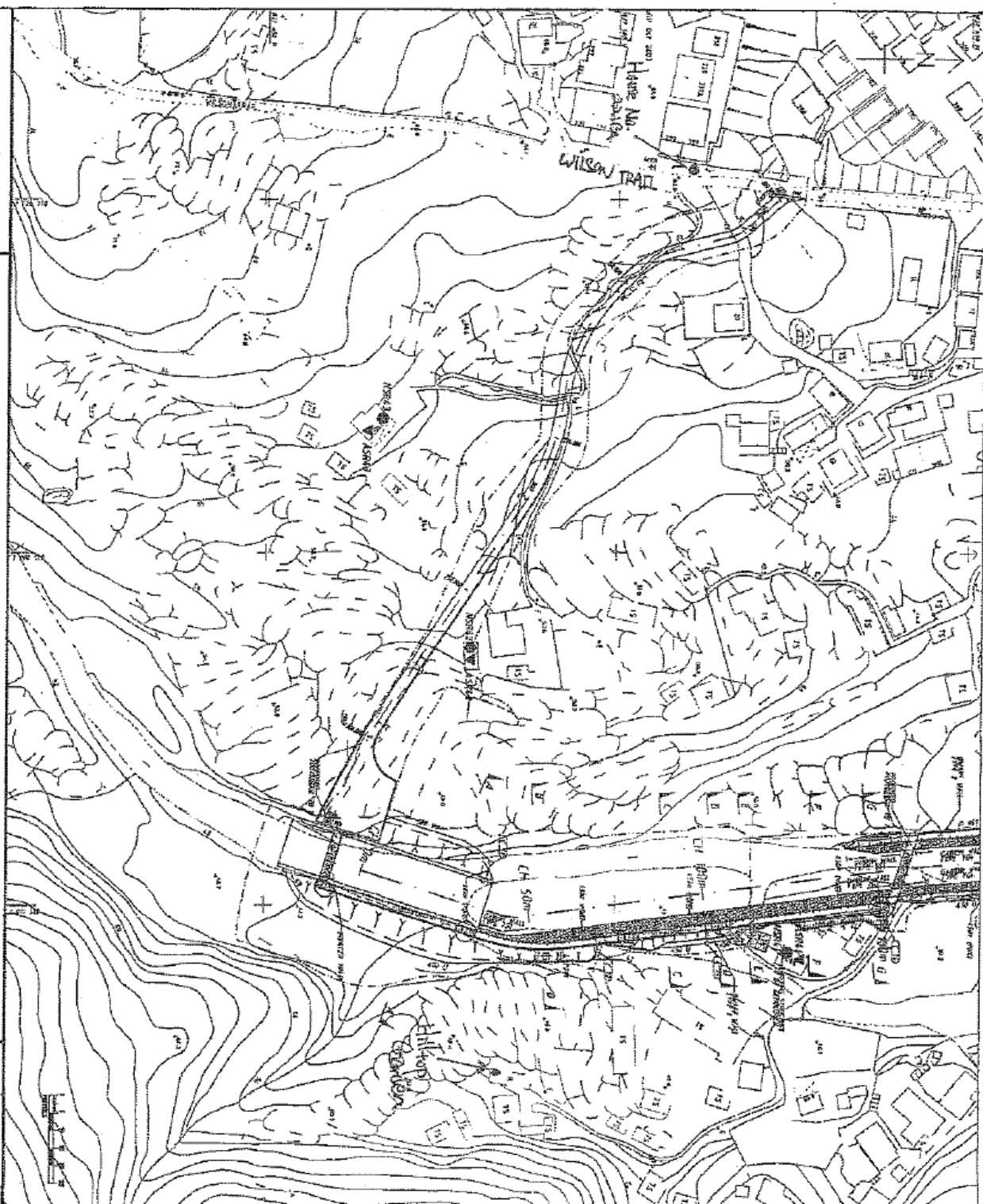
Appendix D: Noise monitoring results, graphical Plots and Location Plan

Date	Activities	Working Location	Testing Location	Time(Starting)	Leq ₃₀ dB(A)
22/10/2008	Breaking Boulder	Boulder Trap & CH300 Access Road D	House No.49C Sha Po Tsai Village (NSR 41)	9:20	71.6
22/10/2008	Breaking Boulder	Boulder Trap & CH301 Access Road D	House No. 301 Sha Po Tsai Village (NSR 43)	10:06	56.9
22/10/2008	Breaking Boulder	Ch150 Access road D	House No. 221G, Wilson Trail	14:11	61.6
23/10/2008	Breaking Boulder	Boulder Trap & CH301 Access Road D	House No. 49B Sha Po Tsai Village (NSR 41)	14:35	69.6
25/10/2008	Breaking Boulder	Boulder Trap & CH301 Access Road D	House No. 49B Sha Po Tsai Village (NSR 41)	13:49	71.3
27/10/2008	Breaking Boulder	Boulder Trap	Hilltop garden	9:15	64.9
27/10/2008	Breaking Boulder	Boulder Trap	House No. 49B Sha Po Tsai Village (NSR 41)	10:12	70.0
28/10/2008	Breaking Boulder	Boulder Trap	House No. 49A Sha Po Tsai Village (NSR41)	9:31	62.8
29/10/2008	Breaking Boulder	Boulder Trap	House No. 49B Sha Po Tsai Village (NSR 41)	10:24	63.7
30/10/2008	Breaking Boulder	Boulder Trap	House No. 49A Sha Po Tsai Village (NSR41)	14:05	64.1
31/10/2008	Breaking Boulder	Boulder Trap	House No. 49C Sha Po Tsai Village (NSR 41)	9:29	71.9









- LEGEND
- ASRA1 NOISE SENSITIVE RECEIVER
 - ASRA1 AIR SENSITIVE RECEIVER

PLAN OF DRG. NO.
70102/CS/1015H
Date: 29 January 2018
OC/2007/06/45630000013

MAUNSELL | AECOM
Maunsell Consultants Asia Ltd

DSD CONTRACT NO. DC 2007/06
RIVER IMPROVEMENT WORKS IN UPPER TAM RIVER
RIVER, SUE SIHAN RIVER & UPPER TAM PO RIVER
LOCATIONS OF REPRESENTATIVE AIR AND
NOISE SENSITIVE RECEIVERS FOR UPPER TAM PO RIVER

ISSUE	NO.	DATE	BY	FOR
ASRA1	1	29 JAN 2018	MAUNSELL	ASRA1
ASRA1	2	29 JAN 2018	MAUNSELL	ASRA1
ASRA1	3	29 JAN 2018	MAUNSELL	ASRA1

DC 2007/06
70102/CS/1015H
(SHEET 1 OF 3)

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

DC/2007/06 - River Improvement works in Upper Tai Po River
Master Schedule of EM&A works in October 2008

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

DC/2007/06 - River Improvement works in Upper Tai Po River**Master Schedule of EM&A works in November 2008**

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

Appendix F: Cumulative Complaint Log

Environmental Parameters	Cumulative no. Brought forward	No. of complaint October 2008	Overall Total
Air/Dust	0	0	0
Noise	0	0	0
Water	0	0	0
House Keeping / Hygiene	0	0	0
Chemical waste	0	0	0
Total	0	0	0

Appendix G: Implementation status of environmental protection and mitigation measures

Implementation status of environmental protection and mitigation

Environmental Aspect	Protectection / 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	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	In Progress	In Progress
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	Needs Further Improvement	On-going
	-Use tarpaulin to cover dusty materials on vehicles	Not applied	In progress
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	Implemented	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	Implemented	Not required
	Provide silt trap and oil interceptor to remove the oil, lubricants,	Implemented	Not required

	grease, silt, grit and debris from the wastewater before pumped to the public stormwater drainage system		
	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 on 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.	Not applicable	Not required
	Flows to the area downstream shall be maintained at all times during the construction phase	Not applicable	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 and also during the wet season July/August 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	Not applicable	Not required
	Site runoff should be directed towards regularly cleaned and maintained silt traps to minimise the risk of sedimentation and pollution of river water.	Not applicable	Not required
Excavation works shall be carried out by land based plant within enclosed dry section of river channel.	Not applicable	Not required	

Ecology continue	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 to October 2008

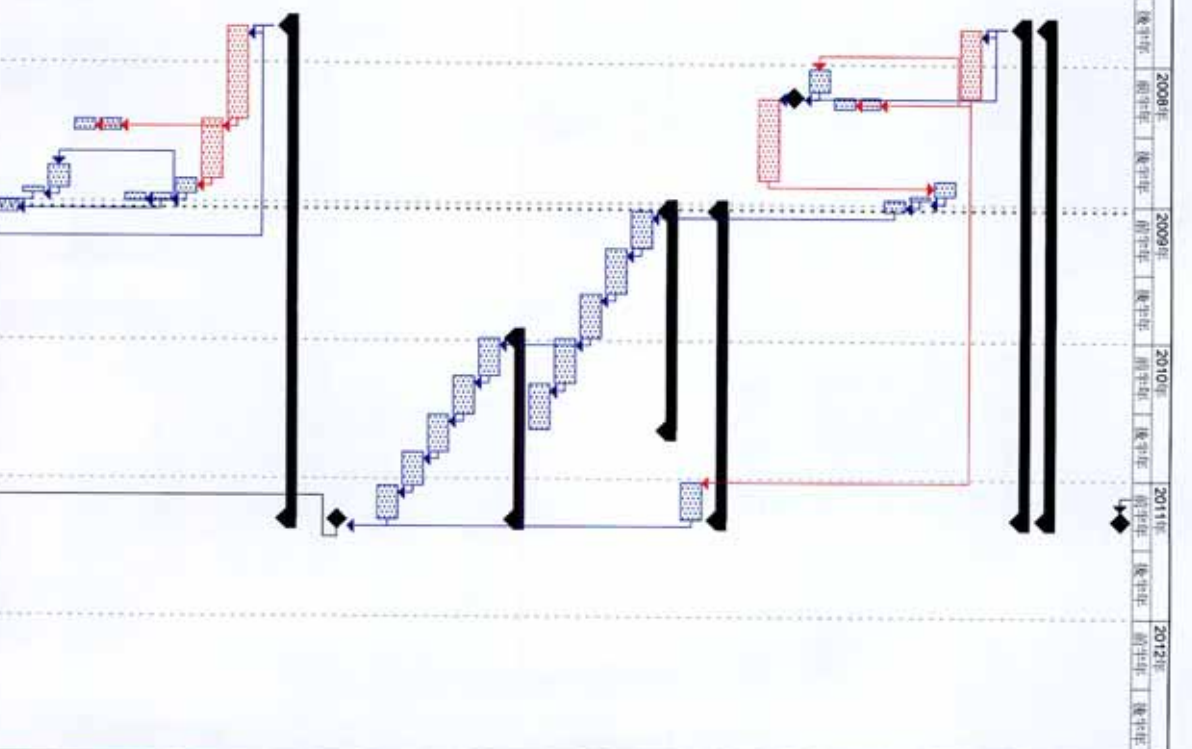
Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tones	0
Total	0m ³	2 tones	0

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	Work	Start Date	End Date	Actual Start Date	Actual End Date	2007年	2008年	2009年	2010年	2011年	2012年
654	Completion of Work at Section 2	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19						
655												
656												
657	Section 3 - Upper Tai Po River (Area L, N & P)	1300 days	2007/9/28	2011/4/19	2007/9/28	2011/4/19						
658	Section 3 - Upper Tai Po River (Area L)	1300 days	2007/9/28	2011/4/19	2007/9/28	2011/4/19						
659	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28						
660	Possession to Portion of the Site (Area L)	181 days	2007/9/29	2008/3/27	2007/9/29	2008/3/27						
661	Temp. Site Access	40 days	2008/1/1	2008/12/10	2008/1/1	2008/12/10						
662	Site Clearance	10 days	2008/12/11	2009/1/10	2008/12/11	2009/1/10						
663	Chainlink Fencing Work / Hoarding	30 days	2008/12/21	2009/1/19	2008/12/21	2009/1/19						
664	Initial Survey	30 days	2008/3/28	2008/4/26	2008/3/28	2008/4/26						
665	Condition Surveys / Set up markers	30 days	2008/3/28	2008/3/28	2008/3/28	2008/4/26						
666	Preparation of Temporary Works Design	60 days	2008/1/14	2008/3/13	2008/1/14	2008/3/13						
667	Approval of Temporary Works Design	0 days	2008/3/27	2008/3/27	2008/3/27	2008/3/27						
668	Wet Season (April to Oct 2008)	214 days	2008/4/1	2008/10/31	2008/4/1	2008/10/31						
669												
670	Chainage from CH 0 to CH130	820 days	2009/1/20	2011/4/19	2009/1/20	2011/4/19						
671	Access to the Site	100 days	2011/1/10	2011/4/19	2011/1/10	2011/4/19						
672	Boulder Trap	580 days	2009/1/20	2010/8/22	2009/1/20	2010/8/22						
673	Excavation	100 days	2009/1/20	2009/4/29	2009/1/20	2009/4/29						
674	Rockfill & Binding Layer	120 days	2009/4/30	2009/8/27	2009/4/30	2009/8/27						
675	Base Slab Structure	120 days	2009/8/28	2009/9/28	2009/8/28	2009/12/25						
676	Wall Structure	120 days	2009/12/26	2010/4/24	2009/12/26	2010/4/24						
677	Cut/Fill Slope	120 days	2010/4/25	2010/8/22	2010/4/25	2010/8/22						
678	Footbridge, Platform and Fill Slopes	480 days	2009/12/26	2011/4/19	2009/12/26	2011/4/19						
679	Footbridge	100 days	2009/12/26	2010/4/4	2009/12/26	2010/4/4						
680	Gabion Wall	100 days	2010/4/5	2010/7/13	2010/4/5	2010/7/13						
681	Footbridge (TB1)	100 days	2010/7/14	2010/10/21	2010/7/14	2010/10/21						
682	Platform & Fill Slope & Maintenance pathway	90 days	2010/10/22	2011/1/19	2010/10/22	2011/1/19						
683	Footpaths	90 days	2011/1/20	2011/4/19	2011/1/20	2011/4/19						
684												
685	Completion of Area L	0 days	2011/4/19	2011/4/19	2011/4/19	2011/4/19						
686												
687	Section 3 - Upper Tai Po River (Area P)	1300 days	2007/9/28	2011/4/19	2007/9/28	2011/4/19						
688	Commencement of Work	1 day	2007/9/28	2007/9/28	2007/9/28	2007/9/28						
689	Possession to Portion of the Site (Area P)	244 days	2007/9/29	2008/5/29	2007/9/29	2008/5/29						
690	Wet Season	155 days	2008/5/30	2008/10/31	2008/5/30	2008/10/31						
691	Temp. Site Access	40 days	2008/1/1	2008/12/10	2008/1/1	2008/12/10						
692	Site Clearance	20 days	2008/12/11	2009/1/10	2008/12/11	2009/1/10						
693	Chainlink Fencing Work	20 days	2008/12/11	2009/1/10	2008/12/11	2009/1/10						
694	Initial Survey	30 days	2008/5/30	2008/6/28	2008/5/30	2008/6/28						
695	Condition Surveys / Set up markers	30 days	2008/5/30	2008/5/30	2008/5/30	2008/6/28						
696	Preparation of Temporary Works Design	60 days	2008/9/28	2008/11/26	2008/9/28	2008/11/26						
697	Approval of Temporary Works Design	14 days	2008/11/27	2008/12/10	2008/11/27	2008/12/10						
698	S.I. Works	30 days	2009/12/31	2009/1/29	2009/12/31	2009/1/29						



Project Master Programme (REV.6)
Data Date: Jun 2008
Consultant: MICAL

Task Progress
Critical Task
Milestone
Summary

Task
Critical Task Progress
Ruled Up Task
Ruled Up Critical Task
Ruled Up Milestone

External Tasks
Ruled Up Progress
Split
Project Summary

Chiu Hing Construction & Transportation Co., Ltd

Page 15

