

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

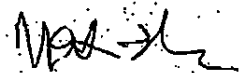
for November 2010

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Executive summary

This is the twenty-seventh 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”. This report concludes the impact monitoring for the activities undertaken during the period from 1st November 2010 to 30th November 2010. Erection of noise barriers and hoardings, site clearance, formation of haul access, utilities diversion / connection and excavation for construction footing for abutment of footbridge were carried out in this reporting period. The villagers of Sha Po Tsai Tsuen staged a demonstration at the works site at Upper Tai Po River on 22nd November 2010 and prevented the Contractor from entering the site to carry out construction and monitoring works.

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.

The next ecological impact monitoring was arranged in January 2011. The capture survey for dry season 2010 / 2011 was carried out and the capture survey report which is prepared by Ecologist Dr. Mark Shea is attached in Appendix K. The summary of ecological site inspection findings and implementation status of environmental protection and mitigation for ecology, prepared by the Ecologist, are provided in table 6.2 and Appendix G respectively.

Environmental Team had carried out construction noise monitoring on weekly basis up to 19th November 2010 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 by ET during the reporting month.

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

Two formal complaints regarding observation of muddy water at downstream area from project site were received on 11th and 16th November 2010 respectively. Details of findings and outcome please refer to Section 2.7 and Appendix J.

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

There was no reporting change for this month.

Erection of temporary noise barriers, formation of haul access, construction of retaining wall and footbridge will be the major construction activities to be carried out in the upcoming month.

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 twenty-seventh 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 November 2010. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the Environmental Permit (EP-223/2005/A) (EP), EM&A Manual and the Contractor’s Environmental Management Plan (EMP).

2.0 Environmental status

2.1 Project area

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

2.2 Construction programme

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

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

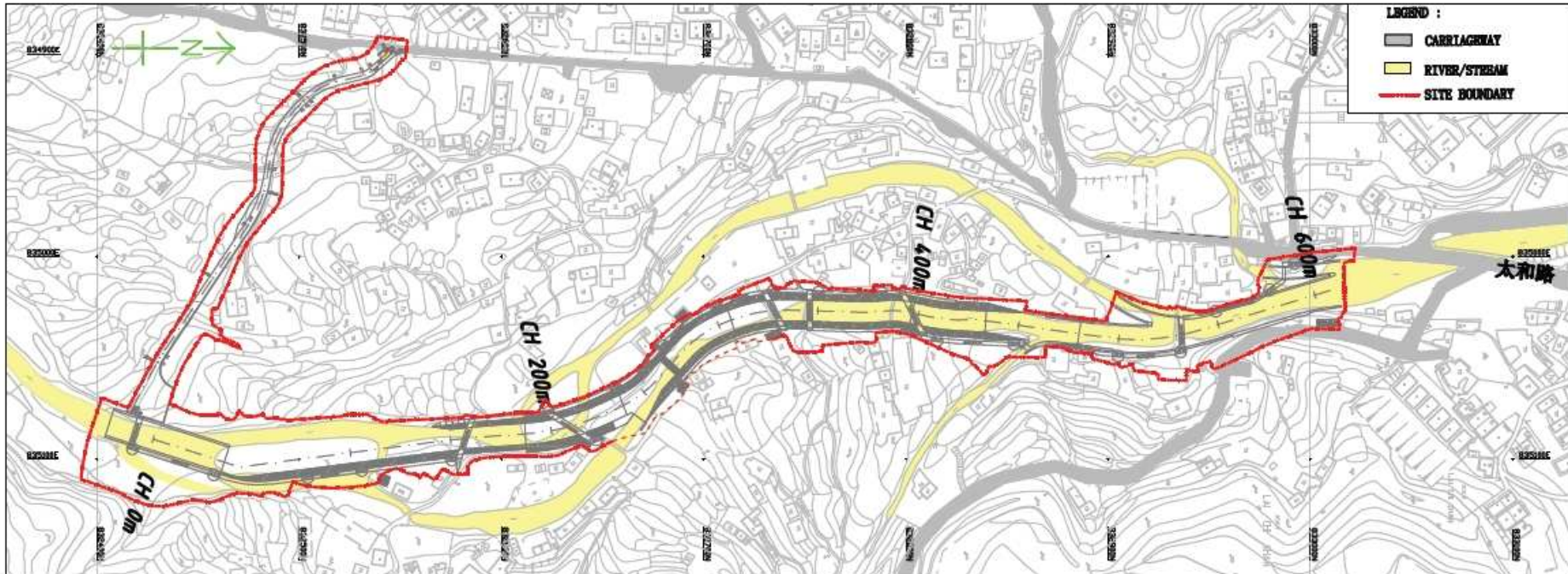
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15th 2008 and anticipated to complete in March 2012.

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 carried out by the contractor during this reporting period include:

- 1.) Erection of noise barriers and hoardings;
- 2.) site clearance;
- 3.) formation of haul access;
- 4.) utilities diversion / connection; and
- 5.) excavation for construction of footbridge.

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;
- 2.) formation of haul access;
- 3.) construction of retaining wall; and
- 4.) construction of footbridge

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 were two formal complaints received on 11th and 16th November 2010 respectively regarding observation of muddy water at the downstream area of project site. ET conducted investigations with representatives from Contractor, IEC and ER on 12th, 17th and 19th November 2010 to resolve the incidents and recommendations were given to Contractor to implement improvements and remedial works whenever it is necessary. The complaint investigation reports were then submitted to Environmental Protection Department (EPD) in accordance with the requirement stated in EM&A manual. Contractor has also assigned a third-party laboratory to carry out routine water quality monitoring at upper and lower stream area from the project site. The results were separately submitted to EPD and no further comments were given in this stage as reported by Contractor.

Totally, eleven complaints had been received since the commencement of the contract. The cumulative complaint log is shown in Appendix F. The complaint investigation reports and logs were attached in Appendix J.

3.0 Ecological monitoring results

The next ecological impact monitoring was arranged in January 2011. The capture survey for dry season 2010 / 2011 was carried out and the capture survey report which is prepared by Ecologist Dr. Mark Shea is attached in Appendix K.

4.0 Noise monitoring results

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

TABLE 4.1 Description of Noise Sensitive Receivers

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

Noise monitoring was carried out by the Environmental Team on weekly basis for this reporting month on 5th, 12th and 19th November 2010. Due to the demonstration by the villagers of Sha Po Tsai Tsuen on 22nd November 2010, the works site was blocked by the villagers and the originally scheduled noise monitoring on 26th November 2010 was cancelled.

Measured $L_{eq(30min)}$ results ranged from 49.2dB(A) to 63.8dB(A). And therefore, no exceedance was recorded within the reporting period.

For further details of the monitoring results, graphical plots and the location plan, please refer to the 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 start in Upper Tai Po River.

6.0 Environmental issues and actions

6.1 Site inspections and key environmental issues

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 3rd, 10th, 17th and 24th November 2010. 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 1st, 8th, 15th, 22nd and 30th November 2010. 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
20 & 27 Oct 10	Site surface was observed to be dry and dusty	Observation	Contractor was reminded to provide regular water spraying to dusty static area for dust suppression	Site surface was dampened prior to the inspection on 03 Nov	03 Nov 10	--
20 Oct 10	Oil stains were observed on the haul access and underneath the backhoe at approximate ch.50	Observation	Contractor was reminded to provide regular maintenance to the site equipments as to avoid leakage. Contaminated soil observed should be collected and handled as chemical waste for storage and disposal	Still outstanding. To be followed during the next reporting period	Ongoing	--
27 Oct 10	Oil stains were observed on the haul access at approximate ch.100	Observation	Contractor was advised to collect the contaminated soil and handle as chemical waste for storage and disposal	Still outstanding. To be followed during the next reporting period	Ongoing	--
03 Nov 10	Chemical waste store was not provided on site	Observation	Contractor was recommended to provide proper chemical waste store for storage of chemical waste generated on site	Chemical waste store was installed at site Area G of LTR prior to the inspection on 24 Nov	24 Nov 10	--
03 Nov 10	Implementation of protective measures for haul access and exposed riverbanks was outstanding	Observation	Contractor was reminded to provide proper bund wall at edges of haul access and geo-textile coverings to the riverbanks to prevent erosion and runoff	Still outstanding. To be followed during the next reporting period	Ongoing	--
03 Nov 10	Oil stains were observed on the haul access at approximate ch.600	Observation	Contractor was advised to collect the contaminated soil and handle as chemical waste for storage and disposal	Still outstanding. To be followed during the next reporting period	Ongoing	--
10 Nov 10	Accumulation of muddy water was observed at the wheel washing bay provided at the site entrance at ch.650	Observation	Contractor was advised to drain and treat the accumulated grey water regularly for proper discharge	Accumulated grey water was drained prior to the inspection on 10 Nov	17 Nov 10	--

Date	Findings	Identification	Advice from ET	Action taken	Closing date	Remarks
10 Nov 10	Insufficient protective measure was implemented for the temporary sheet pile crossing formed at approximate ch.650	Observation	Contractor was advised to fill up the gaps between sheet piles to prevent soil debris from dropping into the river channel	Follow up action was taken as advised prior to the inspection on 10 Nov	17 Nov 10	--
17 Nov 10	Oil stains were observed underneath of the idling backhoe at approximate ch.500	Observation	Contractor was recommended to provide maintenance to the backhoe as to avoid further leakage. Soil contaminated by leakage should be collected and handled as chemical waste for temporary storage and disposal	Still Outstanding. To be followed during the next reporting period	Ongoing	--
17 Nov 10	Excavated materials were stockpiled on top of the riverbank at approximate ch.200	Observation	Contractor was advised to remove the stockpiles away from the river channel as soon as possible	Still outstanding. To be followed during the next reporting period	Ongoing	--
24 Nov 10	No particular observation	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.

Date	Observations	Advice from Ecologist	Action Taken	Closing Date
01 Nov 2010	No major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
08 Nov 2010	No major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
15 Nov 2010	No major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
22 Nov 2010	No major findings for this inspection	No Advice is required	No Action is required to be taken	N/A
30 Nov 2010	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 November 2010.

6.3 Recommendations

Contractor was reminded to implement necessary mitigation measures to minimize water quality impact arising from construction activities. Prior to excavation bund walls should be formed as an enclosed environment for excavation activities to prevent any earth material and site water from entering into the river channel. Riverbanks and earth bunds should be covered with geo-textile coverings to prevent erosion. Contractor should also prevent excessive storage of any earth materials on site as to avoid soil debris from washing into the river channel by surface runoff.

Issues of chemical leakage and its follow up action were also concerned in this reporting period. As oil stains caused by leakage from site equipments were observed at several spots of haul access within project site, Contractor was recommended to implement necessary follow up action and provide proper chemical waste store as soon as possible for temporary storage of chemical waste generated on site.

6.4 Implementation status and effectiveness of the mitigation measures

Refer the previous table 6.1, the deficiencies regarding to oil stains on haul access which was caused by leakage have been identified since 20th October 2010, however, follow actions in collecting contaminated soil were still outstanding. Contractor was reminded again to implement corrective actions as soon as possible.

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** is the Waste Disposal recorded by the Contractor in this month.

From the report of Contractor, C&D materials generated, were all reused and therefore no inert waste was disposed from the project.

The following table showed amount of waste generation, reused and disposed from this project site in this reporting month.

Table 7.1 Summary of Waste generated and disposed in November 2010

Type of waste	Amount generated	Amount reused	Amount disposed
Inert waste	0	0	0
Non-inert waste	17 kg	0	17 kg
Chemical waste	0	N/A	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 st Aug, 2005	N/A	Superseded
Amended Environmental Permit	EP-223/2005/A	18 th Nov, 2008	N/A	Issued
Construction Noise Permit	N/A	N/A	N/A	N/A
Effluent Discharge License	3678	14 th Mar, 2008	31 st Mar, 2013	Issued
Registration as a Chemical Waste Producer	5213-724-C3251-03	19 th Dec, 2007	Not applicable	Issued
Billing Account for Disposal of Construction Waste	7006101	N/A	N/A	N/A

9.0 Future key issues

Erection of temporary noise barrier, formation of haul access, construction of retaining wall and footbridge will be major construction activities to be carried out in the upcoming month. The construction activities for these items will generate environmental impacts in several aspects.

To minimize water quality impact arising from channel clearance works, water quality mitigation measures should be implemented as far as practicable. Any muddy water, underground water or wastewater generated from construction activities should be diverted to proper treatment facility prior to discharge.

For the proposed construction activities, heavy plants and vehicles may be occupied and those would generate certain noise impacts to the sensitive receivers. To minimize noise generation, noisy activities should be well planned and scheduled to avoid parallel operation of multiple plants. Erection of noise barriers and/or movable barriers should be implemented whenever necessary.

Contractor was reminded to provide regular water spraying to dusty static area for dust suppression. Excessive storage of earthy stockpile and/or C&D wastes should be prevented to minimize air quality impact arisen by wind erosion.

Aforementioned construction works may generate wastes on site. Contractor is advised to assign a site area for temporary waste storage and segregation. Wastes accumulation should be prevented on site; licensed waste collection and disposal should be implemented regularly for hygiene issues.

10.0 Conclusion

Erection of temporary noise barriers, site clearance, formation of haul access, utilities diversion / connection and excavation for construction of the footing for the abutment of footbridge were major site activities carried out by the Contractor in this reporting period.

Regular site meetings and inspection audits led by the seniors for discussing environmental issues were held among project proponent, Contractor and the Environmental Team 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.

No non-compliance event was recorded in this reporting month.

Two formal complaints regarding observation of muddy water at downstream area from project site were received on 11th and 16th November 2010 respectively. ET completed the investigation and submitted the investigation report to EPD in accordance with requirements stated in EM&A manual. Details of findings and outcome please refer to Appendix J.

The next ecological impact monitoring was arranged in January 2011. The capture survey for dry season 2010 / 2011 was carried out and the capture survey report which is prepared by the Ecologist was attached in Appendix K.

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

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

Appendix A: Event and action plan for ecology

Event and action plan for ecology

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

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

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

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

APPENDIX TABLE 1 Event / Action plan table for Ecology

Event	Action			
	ET	ER	IEC	Contractor
Non-conformity on one occasion	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

Location	Leq 30min	L ₁₀ 30min	L ₉₀ 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	60.8	62.4	51.3	5-Nov-10	13:35-14:05	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	Background noise from traffic	Sunny	Façade
UTP 2	56.2	61.3	59.4	5-Nov-10	13:00-13:30	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	Background noise from traffic	Sunny	Façade
UTP 3	57.3	59.0	56.2	5-Nov-10	14:08-14:38	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 4	53.3	54.6	48.4	5-Nov-10	14:41-15:11	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 5	50.8	50.6	45.3	5-Nov-10	15:13-15:43	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 6	54.4	56.2	49.4	5-Nov-10	15:46-16:16	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 7	51.6	52.5	48.8	5-Nov-10	11:25-11:55	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 8	52.6	53.1	47.3	5-Nov-10	10:52-11:22	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 9	51.4	55.3	46.8	5-Nov-10	10:18-10:48	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 10	52.2	52.5	49.3	5-Nov-10	09:37-10:07	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	Façade
UTP 11	54.0	54.3	51.2	5-Nov-10	09:03-09:33	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	*Freefield

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

Location	Leq 30min	L ₁₀ 30min	L ₉₀ 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	62.4	65.2	53.1	12-Nov-10	15:20-15:50	The measured noise level was dominated by the background noise as no construction activity was being carried out	Background noise from traffic	Sunny	Façade
UTP 2	56.6	58.4	51.3	12-Nov-10	16:00-16:30	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 3	58.8	59.2	57.6	12-Nov-10	14:41-15:11	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 4	52.2	52.6	49.3	12-Nov-10	13:32-14:02	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 5	49.6	49.9	45.6	12-Nov-10	14:05-14:35	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 6	51.6	51.8	47.5	12-Nov-10	13:00-13:30	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 7	51.3	51.7	43.4	12-Nov-10	11:22-11:52	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 8	49.2	49.9	48.2	12-Nov-10	10:49-11:19	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 9	56.4	57.1	49.4	12-Nov-10	10:14-10:44	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 10	52.2	52.4	50.3	12-Nov-10	09:36-10:06	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	Façade
UTP 11	53.5	53.9	50.6	12-Nov-10	09:02-09:32	The measured noise level was dominated by the background noise as no construction activity was being carried out	N/A	Sunny	*Freefield

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

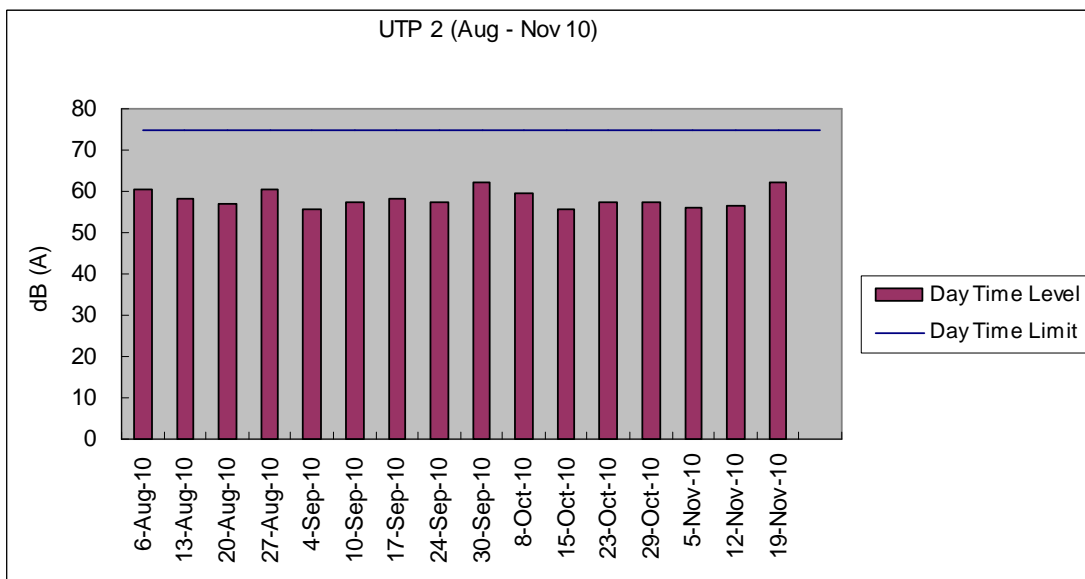
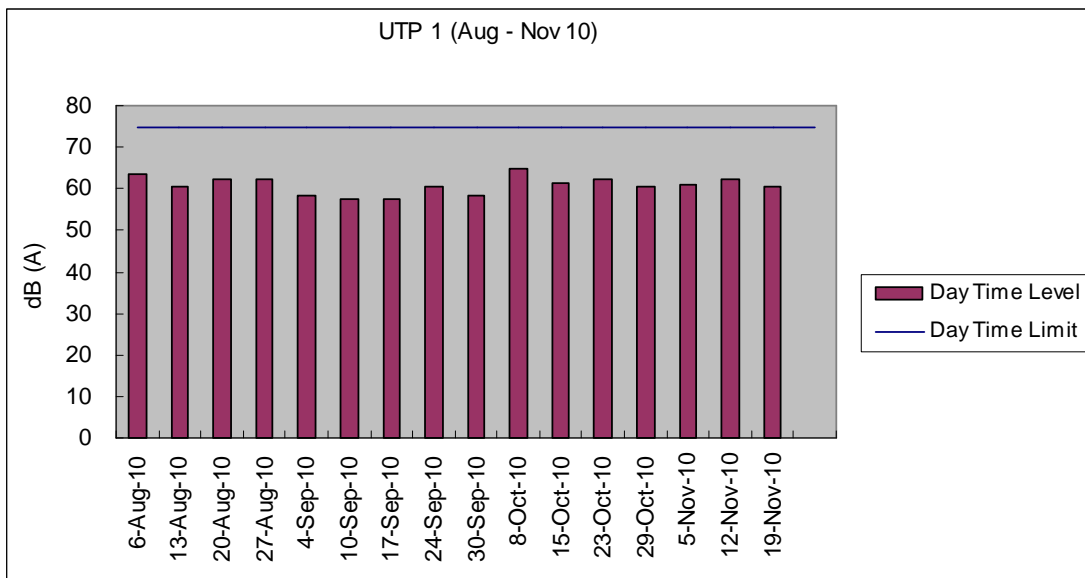
Location	Leq 30min	L ₁₀ 30min	L ₉₀ 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	60.4	66.8	54.3	19-Nov-10	13:37-14:07	Operation of Backhoe	Background noise from traffic	Sunny	Façade
UTP 2	62.2	65.4	55.8	19-Nov-10	13:00-13:30	Operation of Backhoe	Background noise from traffic	Sunny	Façade
UTP 3	61.4	63.3	59.9	19-Nov-10	14:20-14:50	Operation of Backhoe	N/A	Sunny	Façade
UTP 4	53.0	53.2	46.3	19-Nov-10	14:56-15:26	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	Sunny	Façade
UTP 5	52.5	52.9	49.4	19-Nov-10	15:28-15:58	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	N/A	Sunny	Façade
UTP 6	51.8	51.9	47.3	19-Nov-10	16:03-16:33	Operation of Backhoe	N/A	Sunny	Façade
UTP 7	54.3	54.7	52.2	19-Nov-10	11:14-11:44	Operation of Backhoe	N/A	Sunny	Façade
UTP 8	58.2	58.7	54.5	19-Nov-10	10:40-11:10	Operation of Backhoe	N/A	Sunny	Façade
UTP 9	63.8	66.7	57.0	19-Nov-10	10:08-10:38	Operation of Backhoe	N/A	Sunny	Façade
UTP 10	53.1	53.5	51.2	19-Nov-10	09:26-09:56	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	Sunny	Façade
UTP 11	55.0	55.4	53.8	19-Nov-10	08:50-09:20	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	N/A	Sunny	*Freefield

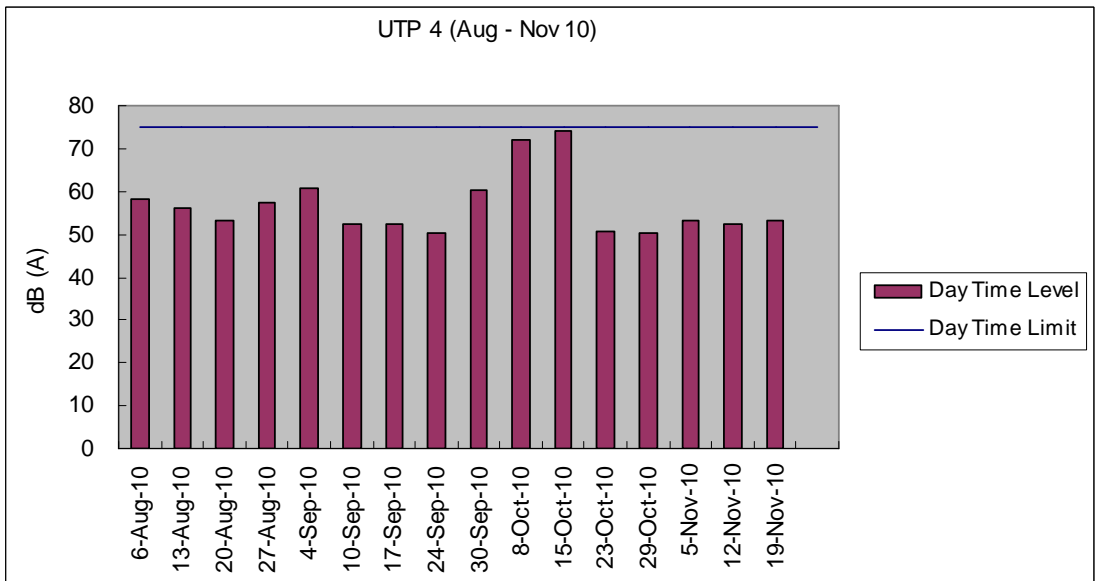
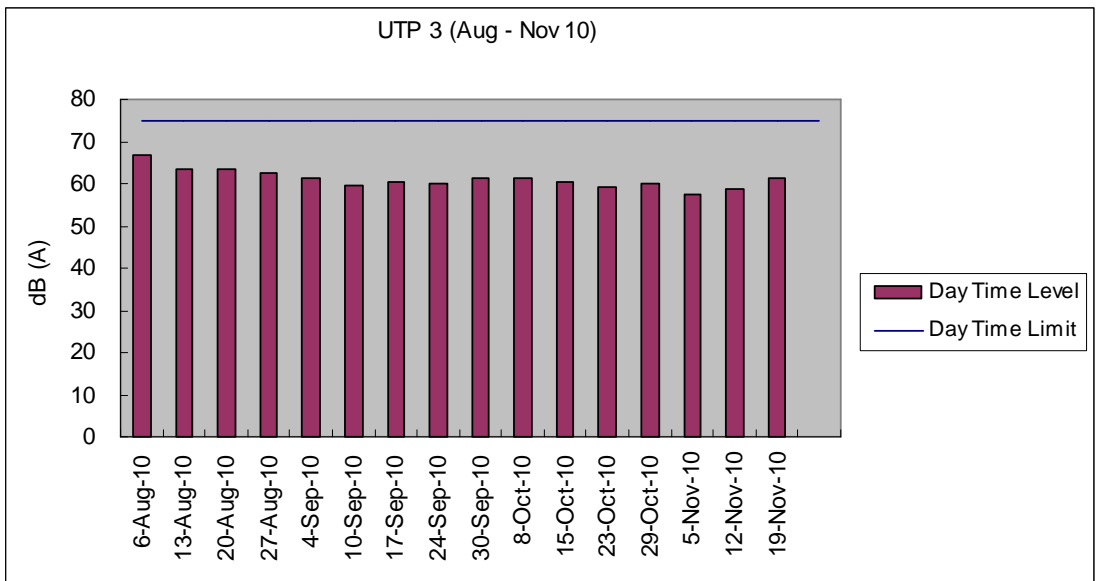
Note* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

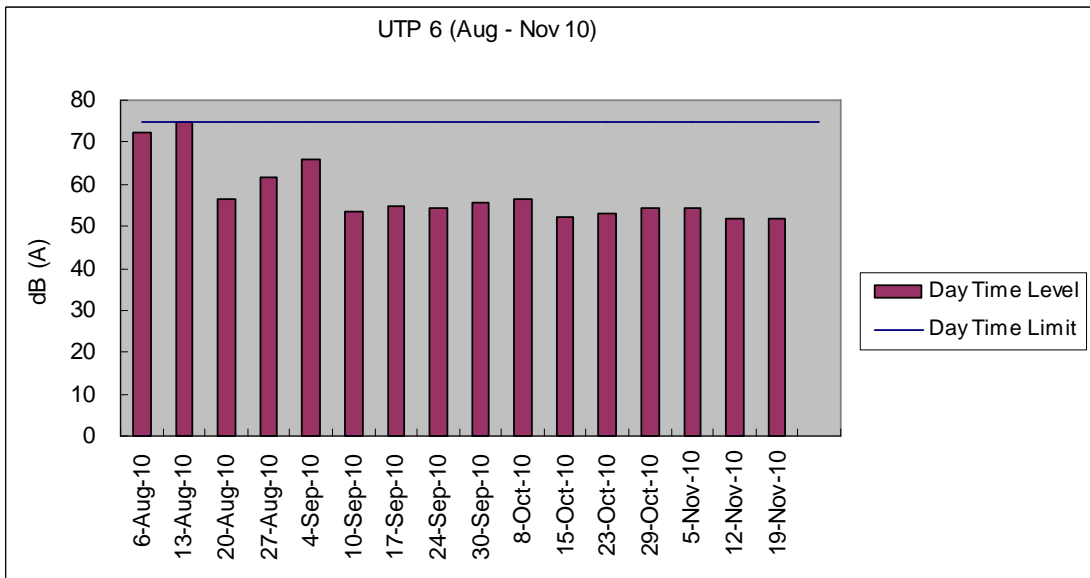
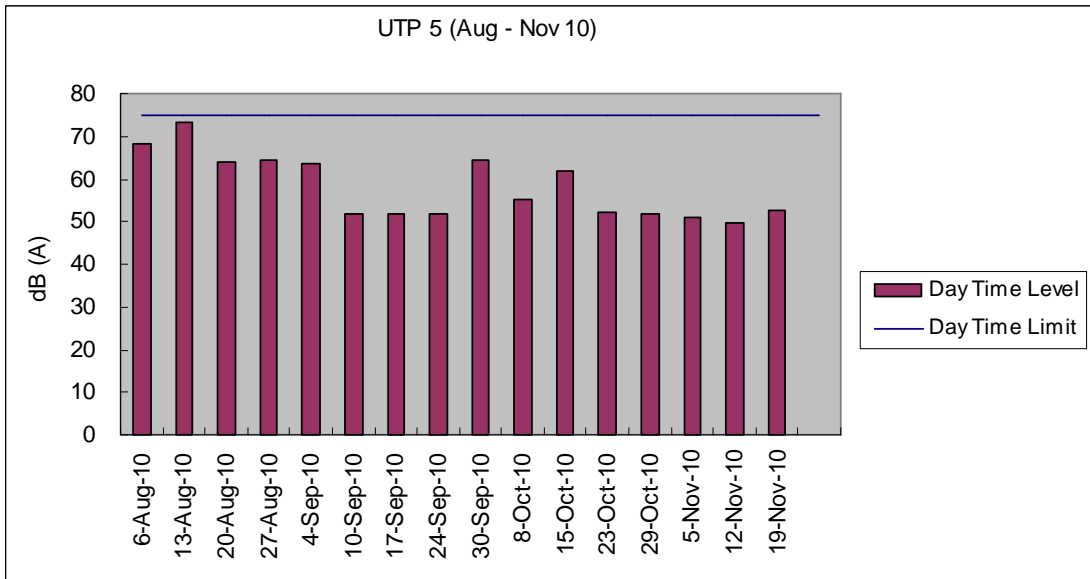
Graphical plot for noise measurements

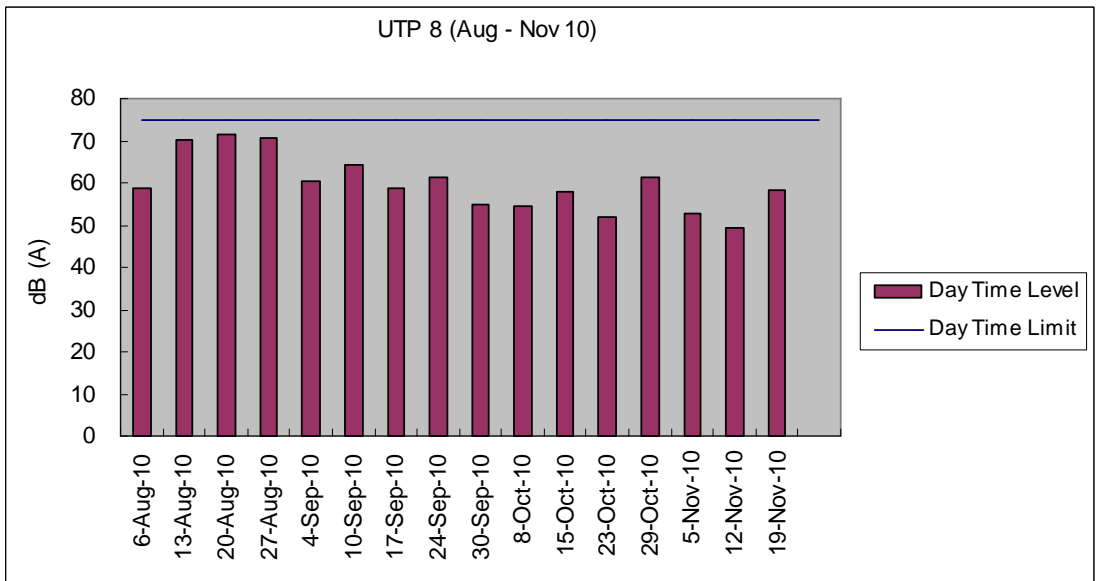
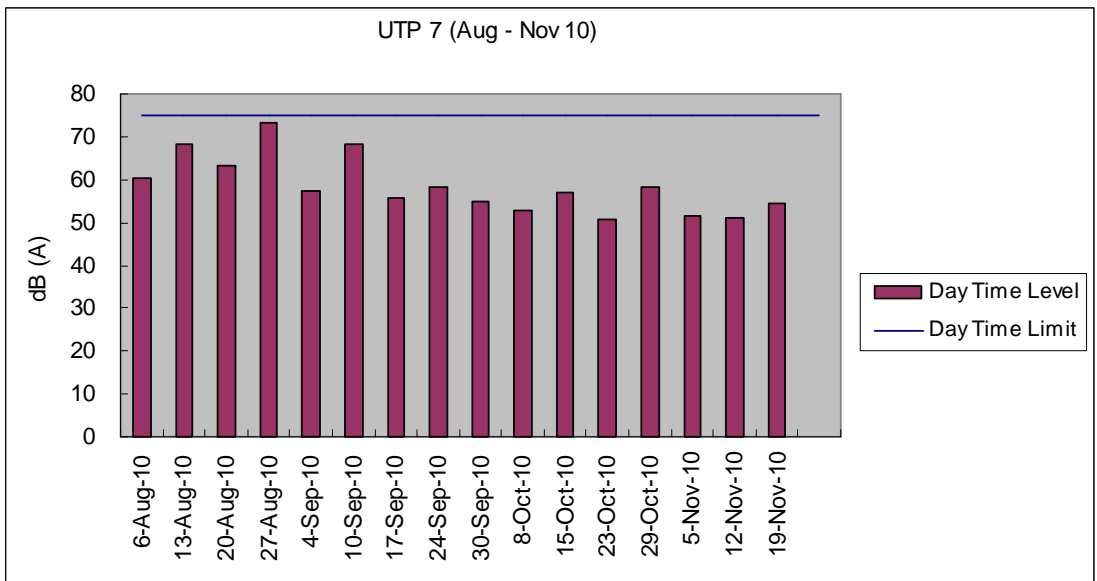
The followings were the graphical plots for the 11 monitoring locations. Each plot showed the date of measurement taken, day time limit of 75 dB(A) as well as the measured daytime level for each location. The graphs contain the data recorded from August 2010 to November 2010.

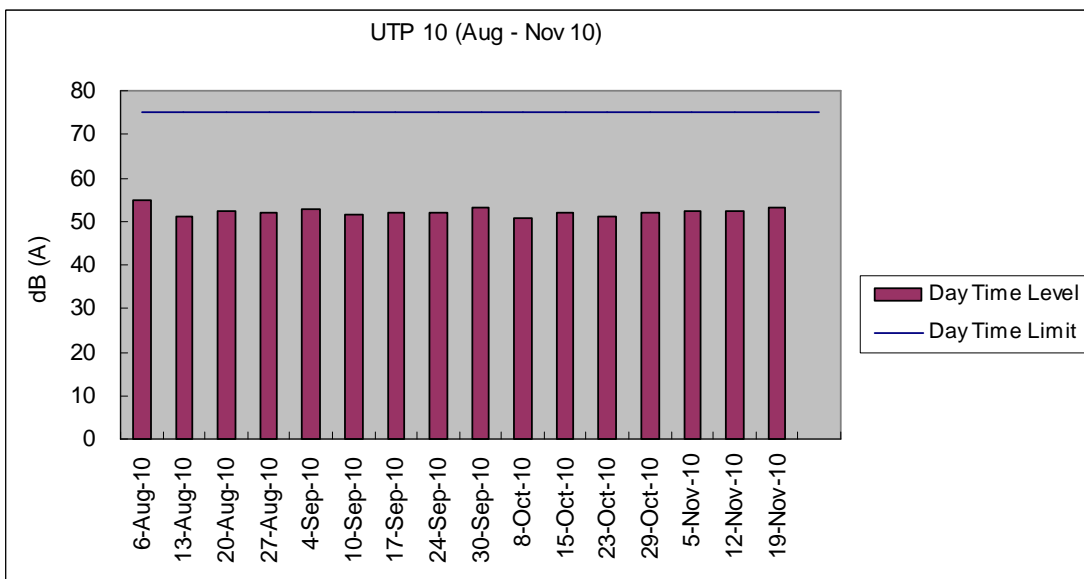
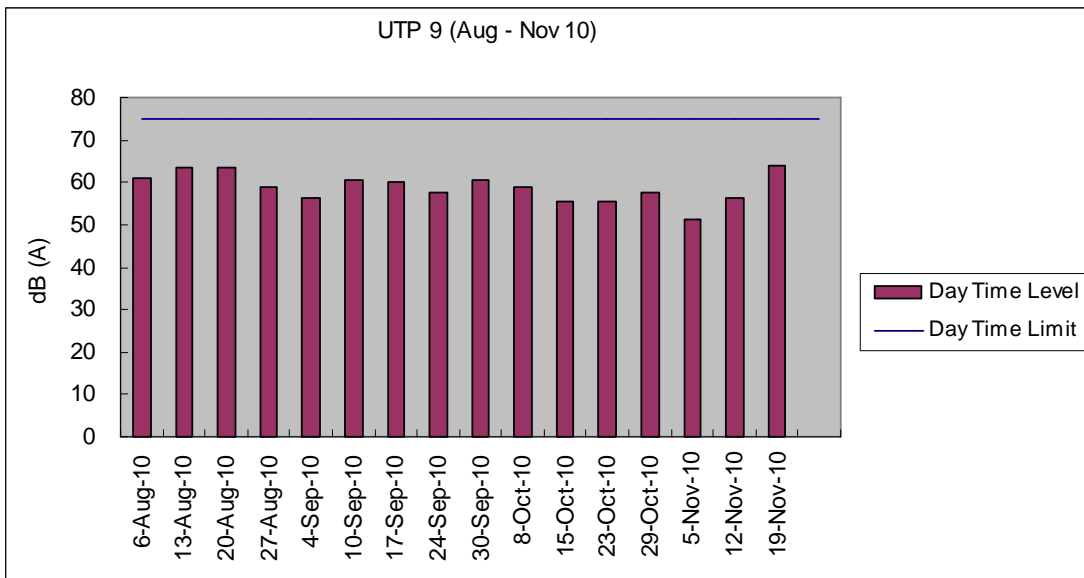
Noise monitoring originally proposed to be carried out 26th November 2010 was cancelled due to security and safety reason.

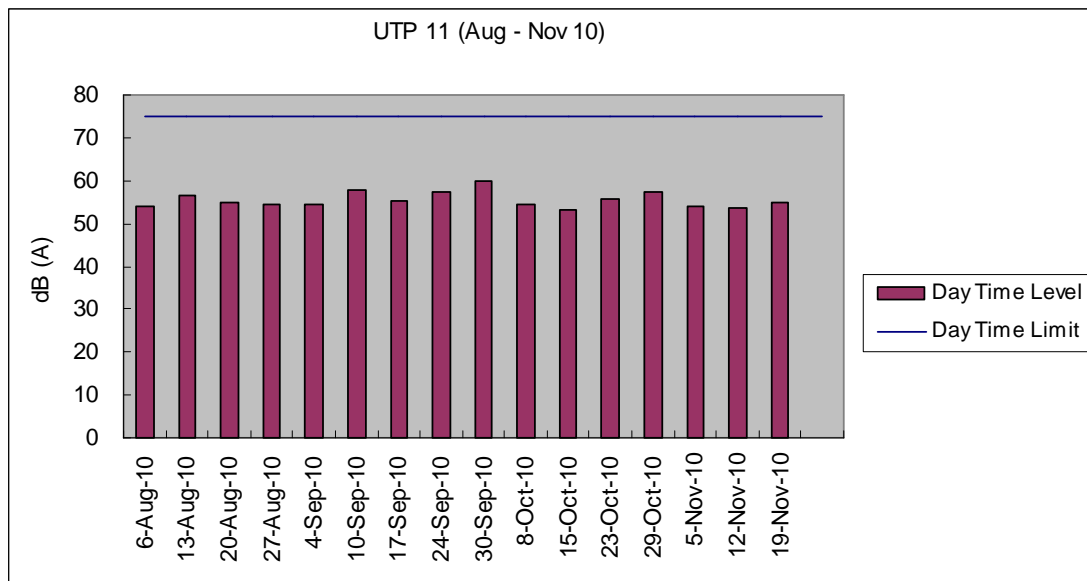


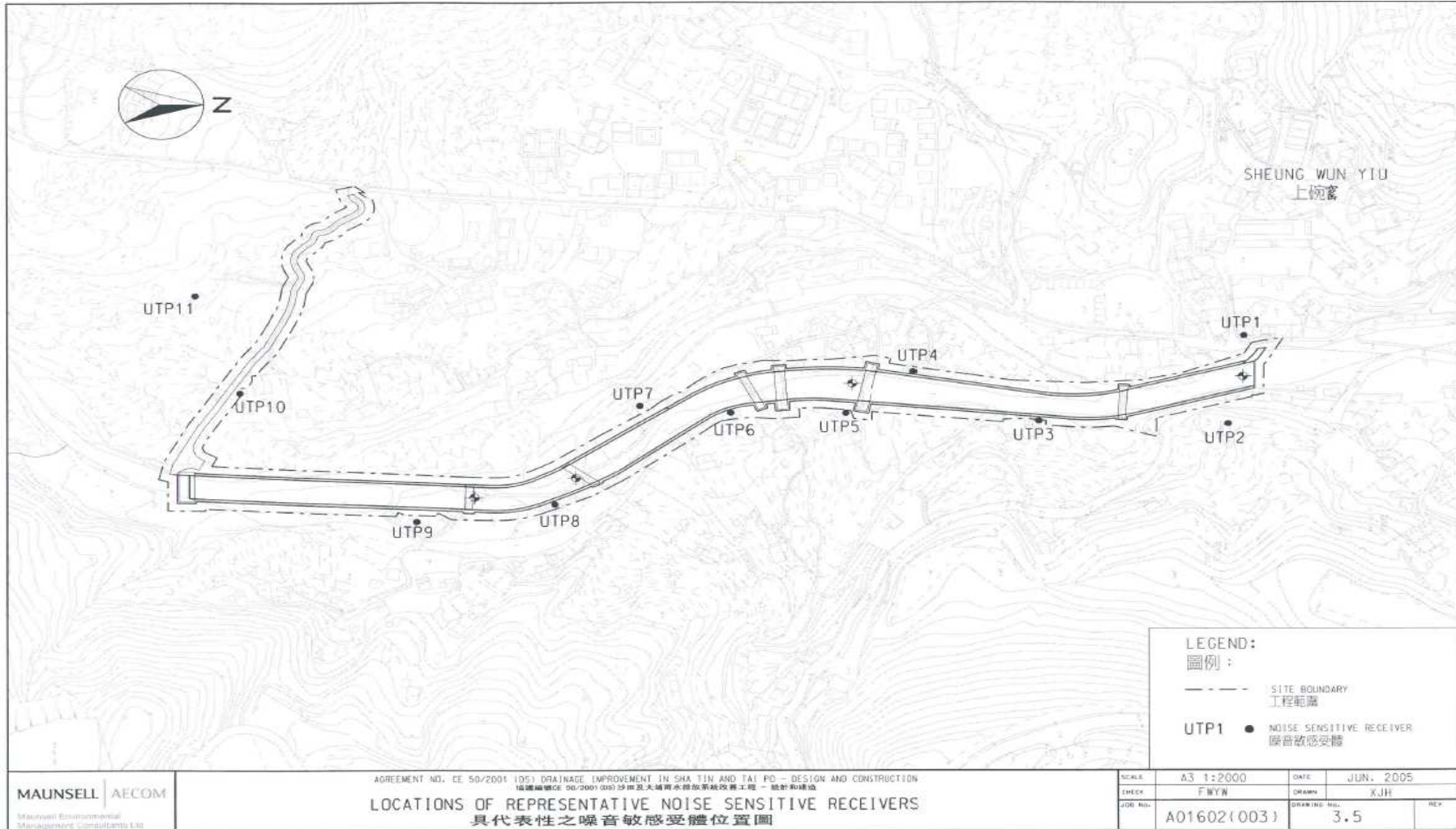












Appendix E: Monitoring schedule for the present and next reporting period

Master Schedule of EM&A works in November 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01/11	02/11	03/11	04/11	05/11	06/11
	Ecological site inspection		Site inspection at afternoon		Noise Monitoring	
07/11	08/11	09/11	10/11	11/11	12/11	13/11
	Ecological site inspection	Capture Survey	Site inspection at afternoon		Noise monitoring	
14/11	15/11	16/11	17/11	18/11	19/11	20/11
	Ecological site inspection		Site inspection at afternoon		Noise monitoring	
21/11	22/11	23/11	24/11	25/11	26/11	27/11
	Ecological site inspection		Site inspection and SSEMC at morning		Noise monitoring (Cancelled)	
28/11	29/11	30/11				
	Ecological site inspection					

Master Schedule of EM&A works in December 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01/12	02/12	03/12	04/12
	Ecological site inspection		Site inspection at afternoon		Noise monitoring	
05/12	06/12	07/12	08/12	09/12	10/12	11/12
	Ecological site inspection		Site inspection at afternoon		Noise monitoring	
12/12	13/12	14/12	15/12	16/12	17/12	18/12
	Ecological site inspection		Site inspection at afternoon		Noise monitoring	
19/12	20/12	21/12	22/12	23/12	24/12	25/12
	Ecological site inspection		Site inspection and SSEMC at morning		Noise monitoring	
26/12	27/12	28/12	29/12	30/12	31/12	
		Ecological site inspection	Site inspection at afternoon		Noise monitoring	

Appendix F: Cumulative complaint log

Environmental Parameters	Cumulative no. Brought forward	No. of complaint November 2010	Overall Total
Air/Dust	1	0	1
Noise	2	0	2
Water	6	2	8
House Keeping Hygiene	0	0	0
Chemical waste	0	0	0
Total	9	0	11

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	Implemented	Not required
	-Use well maintained construction plant	Implemented	Not required
	-Shut down plants between work periods	Implemented	Not required
	-Install silencers on construction equipment	Implemented	Not required
	-Locate mobile plant far away from NSRs	Implemented	Not required
	-Quiet plants should be used	Implemented	Not required
	-2m high temporary noise barriers, as stipulated in EP condition 2.9, shall be installed	Implemented	Not required
Fugitive Dust Emission	-Implement regular watering and vehicle washing facilities	Implemented	Not required
	-Cover excavated or stockpile of dusty material by impervious sheeting or sprayed with water	Implemented	Not required
	-Use tarpaulin to cover dusty materials on vehicles	Implemented	Not required
Water Quality	Excavation works within the Tai Po River within the Project shall be carried out in stages and excavation area for each stage shall be limited to section of half width of the channel and less than 100m long at any one time in order to maintain water flow within the river during construction stage	Implemented	Not required
	Land-based plant shall be employed and site run-off shall be directed towards regularly cleaned and maintained silt traps and oil / grease separators to minimize leakage and loss of sediments during excavation	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	Implemented	Not required
	The excavation area shall be enclosed with bunds or barriers and dewatered prior to excavation to minimize the impacts upon the downstream of the Tai Po River	Implemented	Not required

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

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

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Ecology	Large boulders will be returned to the riverbed following the excavation works.	Not applicable	Not required
	Construction works from Ch. 0.0m – Ch. 150m would be along one side of the river only	Concerns raised due to the flood incident on 22 Jul 10 and the follow up flood relief works	To be followed
	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, 4 th November 2008, 27 th , 28 th October 2009, 15 th October and 9 th November 2010	Not required
	Temporary noise barriers should be constructed to control noise impacts to habitats and associated wildlife within and adjacent to the proposed works area	Implemented	Not required
	Excavation works shall be carried out by land based plant within enclosed dry section of river channel.	Implemented	Not required
	Compensatory planting of trees and other vegetation along the banks of the newly improved drainage channel should be provided to compensate for the loss of riparian vegetation.	Not applicable	Not required
Operation phase activities in the improved drainage channel would be limited to periodic channel maintenance such as de-silting.	Not applicable	Not required	

Appendix H: Cumulative waste flow tableCumulative waste flow table showing amount of wastes generated, reused and disposed since 15th September 2008

Type of waste	Inert Waste			Non-Inert Waste			Chemical Waste	
	Amount generated	Amount reused	Amount disposed	Amount generated	Amount reused	Amount disposed	Amount generated	Amount disposed*
Year 2008 to 2009	36.9m ³	0	36.9m ³	2 tonnes	0	2 tonnes	20kg	20kg
January 2010	0	0	0	0	0	0	0	0
February 2010	205m ³	205m ³	0	0	0	0	0	0
March 2010	125m ³	125m ³	0	0	0	0	0	0
April 2010	354m ³	354m ³	0	0	0	0	0	0
May 2010	13m ³	13m ³	0	0	0	0	0	0
June 2010	10m ³	10m ³	0	0.020 tonnes	0	0.020 tonnes	0	0
July 2010	10m ³	10m ³	0	0	0	0	0	0
August 2010	265m ³	265m ³	0	0.064 tonnes	0	0.064 tonnes	0	0
September 2010	550m ³	550m ³	0	0.057 tonnes	0	0.057 tonnes	0	0
October 2010	412m ³	412m ³	0	0.024 tonnes	0	0.024 tonnes	0	0
November 2010	0	0	0	0.017 tonnes	0	0.017 tonnes	0	0
Total	1980.9m³	1944m³	36.9m³	2.165 tonnes	0	2.165 tonnes	20kg	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 (Rev. No. 13)

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

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	2010		2011		2012	
					H1	H2	H1	H2	H1	H2
971										
972	Section 2 - She Shan River Area A) Ch 1850 to 1550	491 days	20/7/2010	22/11/2011						
973	From CHL 1850 to CHL 1550	236 days	1/4/2011	22/11/2011						
974	Footpath construction at LHS Ch. 1520 to 1600	40 days	1/4/2011	10/5/2011						
975	Drainage pipe and U-channel construction	40 days	1/14/2011	20/5/2011						
976	Excavation to form new arrangement of river bed (Prov. Subcontract on method)	45 days	2/15/2011	4/7/2011						
977	Footbridge S901 - Dwarf Wall	60 days	5/7/2011	2/9/2011						
978	Dwarf Wall/Principal and Darning Construction	60 days	3/9/2011	1/11/2011						
979	Public Lighting Installation (G22/28/79)	14 days	27/1/2011	15/11/2011						
980	Watermain Diversion	14 days	16/11/2011	22/11/2011						
981	T&C	21 days	27/1/2011	22/11/2011						
982										
983	Variation Order No. 116	81 days	20/7/2010	8/10/2010						
984	Fabrication of Precast Concrete Planter	35 days	20/7/2010	23/8/2010						
985	Material delivery	14 days	2/4/2010	6/9/2010						
986	Bidding letter	3 days	7/9/2010	9/9/2010						
987	PVC sheeting	3 days	10/9/2010	12/9/2010						
988	Installation of Planters	14 days	13/9/2010	26/9/2010						
989	Infill of Planting Soil	12 days	27/9/2010	8/10/2010						
990										
991	Programme of Upper Tai Po River	945 days	1/4/2010	31/10/2012						
992	Wet Season of 2010	184 days	1/4/2010	1/10/2010						
993	Wet Season of 2011	183 days	1/4/2011	30/9/2011						
994	Wet Season of 2012	184 days	1/5/2012	31/10/2012						
995	Ch 230-330	561 days	2/10/2010	1/4/2012						
996	Gabion Wall (Ch 235-270 RHS) TGI	30 days	2/10/2010	31/10/2010						
997	Excavation and formation	12 days	2/10/2010	13/10/2010						
998	Gabion Wall Construction (Ch 235-270 LHS)	12 days	1/4/10/2010	25/10/2010						
999	Backfilling	6 days	26/10/2010	31/10/2010						
1000	Retaining Wall (Ch 200-315 RHS) TRI (replaced by AD1)	30 days	26/10/2010	2/11/2010						
1001	Excavation and Formation	12 days	26/10/2010	6/11/2010						
1002	Laying Concrete block and gabion units	12 days	27/1/2010	18/11/2010						
1003	Backfilling	6 days	19/11/2010	2/12/2010						
1004	Drainage & Footpath (Ch 235-315 RHS)	42 days	1/5/2011	1/6/2011						
1005	Construction of drainage & footpath	42 days	1/5/2011	1/6/2011						
1006	Gabion Wall (Ch 310-330 LHS) TGI	14 days	2/10/2010	15/10/2010						
1007	Excavation and Formation	7 days	2/10/2010	8/10/2010						
1008	Maintenance Staircase (Ch 315-330 LHS)	7 days	9/10/2010	15/10/2010						
1009	Gabion Wall Construction (Ch 315-330 LHS)	4 days	9/10/2010	12/10/2010						
1010	Formwork and concreting	4 days	9/10/2010	12/10/2010						
1011	Drainage & Footpath (Ch 310-330 LHS)	14 days	12/6/2011	25/6/2011						
1012	Construction of drainage & footpath	14 days	12/6/2011	25/6/2011						
1013										
1014	Temp crossing at Ch230	133 days	1/11/2011	12/3/2012						
1015	Temp crossing at Ch230	13 days	3/11/2011	15/11/2011						
1016	U/I diversion from LHS to RFP along Ch235-315 (RHS)	14 days	1/11/2011	14/11/2011						
1017	Rockstar Diversion LHS to RFP along Ch235-315 (RHS)	119 days	15/11/2011	12/3/2012						
1018	Gabion Wall (Ch 230-270 LHS) TGI	21 days	16/11/2011	6/12/2011						
1019	Excavation and Formation	9 days	16/11/2011	2/12/2011						
1020	Gabion Wall Construction (Ch 230-270 LHS)	9 days	25/11/2011	3/12/2011						
1021	Backfilling	3 days	4/12/2011	6/12/2011						
1022	Gabion Wall (Ch 270-280 LHS) TGI	7 days	7/12/2011	13/12/2011						
1023	Excavation and Formation	3 days	7/12/2011	9/12/2011						
1024	Gabion Wall Construction (Ch 270-280 LHS)	3 days	10/12/2011	12/12/2011						
1025	Backfilling	1 day	13/12/2011	13/12/2011						
1026	Retaining Wall (Ch 280-310 LHS) TRI (replaced by AD1)	21 days	1/4/12/2011	3/1/2012						
1027	Excavation and Formation	9 days	1/4/12/2011	22/12/2011						
1028	Laying Concrete block and gabion units	9 days	23/12/2011	3/1/2012						
1029	Backfilling	3 days	1/1/2012	3/1/2012						
1030	Drainage & Footpath (Ch 200-310 LHS)	60 days	7/1/2011	4/2/2012						
1031	Construction of drainage & footpath (Ch 200-310 LHS)	60 days	7/1/2011	4/2/2012						
1032	Step 2 (Ch 260)	14 days	7/1/2011	20/12/2011						
1033	Construction of Step 2 (Ch 260)	14 days	7/1/2011	20/12/2011						
1034	Cascade (Ch 275)	21 days	2/1/2011	10/1/2012						
1035	Construction of Cascade (Ch 275)	21 days	2/1/2011	10/1/2012						
1036	Step 3 (Ch 310)	14 days	1/1/2012	2/1/2012						

Revised Master Prog (Aug10-Oct1) 日期: 8/10/2010

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

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1037	Construction of Step 3 (C35/9)	14 days	1/1/2012	24/1/2012										
1038	River Bed formation (Ch 230-310)	52 days	7/1/2011	27/1/2012										
1039	Placing Grade 300 Ice Stone	52 days	7/1/2011	27/1/2012										
1040	Lighting at CH 256-320	45 days	1/3/2012	14/4/2012										
1041	Construction of Downpits / Drainage	21 days	1/3/2012	21/3/2012										
1042	Public Lighting Installation (CE2318)	12 days	22/3/2012	2/4/2012										
1043	Public Lighting Installation (CE2317)	12 days	22/3/2012	2/4/2012										
1044	T&C	6 days	3/4/2012	8/4/2012										
1045	Removal of existing lighting (VA1311-Z1)	6 days	9/4/2012	14/4/2012										
1046														
1047	Footbridge TB94 (Ch 330)	546 days	16/10/2010	13/4/2012										
1048	Construction of Abutment A (LHS)	61 days	16/10/2010	15/12/2010										
1049	Excavation and Blinding	10 days	16/10/2010	25/10/2010										
1050	Formwork and rebar fixing for base slab	5 days	26/10/2010	30/10/2010										
1051	Concreting of base slab	1 day	4/12/2010	4/12/2010										
1052	Stripping off formwork	3 days	5/12/2010	7/12/2010										
1053	Rebar fixing and shuttering formwork for column	5 days	8/12/2010	12/12/2010										
1054	Concreting of column	1 day	13/12/2010	13/12/2010										
1055	Stripping off formwork	2 days	14/12/2010	15/12/2010										
1056	Construction of Abutment B (RHS)	28 days	19/11/2010	16/12/2010										
1057	Excavation and Blinding	10 days	19/11/2010	28/11/2010										
1058	Formwork and rebar fixing for base slab	5 days	29/11/2010	3/12/2010										
1059	Concreting of base slab	1 day	4/12/2010	4/12/2010										
1060	Stripping off formwork	3 days	5/12/2010	7/12/2010										
1061	Rebar fixing and shuttering formwork for column	5 days	8/12/2010	12/12/2010										
1062	Concreting of base slab	1 day	13/12/2010	13/12/2010										
1063	Stripping off formwork	3 days	14/12/2010	16/12/2010										
1064	Construction of decking	41 days	28/12/2010	8/3/2012										
1065	Formwork and rebar fixing for decking	20 days	28/12/2010	16/2/2012										
1066	Concreting	1 day	17/2/2012	17/2/2012										
1067	Stripping off formwork	14 days	18/2/2012	2/3/2012										
1068	Railing installation	6 days	3/3/2012	8/3/2012										
1069	Demolition of Bridge TB-A	7 days	9/3/2012	15/3/2012										
1070	Demolition works	7 days	9/3/2012	15/3/2012										
1071	Lighting at Footbridge TB94	36 days	9/3/2012	13/4/2012										
1072	Construction of Downpits / Drainage	18 days	9/3/2012	26/3/2012										
1073	Public Lighting Installation (CE2315)	12 days	27/3/2012	7/4/2012										
1074	Public Lighting Installation (CE2316)	12 days	27/3/2012	7/4/2012										
1075	T&C	6 days	8/4/2012	13/4/2012										
1076														
1077	Footbridge TB95 (Ch 350)	471 days	16/12/2010	30/3/2012										
1078	Construction of Abutment A (LHS)	28 days	16/12/2010	12/1/2011										
1079	Excavation and Blinding	12 days	16/12/2010	27/12/2010										
1080	Formwork and rebar fixing for base slab	4 days	28/12/2010	31/12/2010										
1081	Concreting of base slab	1 day	1/1/2011	1/1/2011										
1082	Stripping off formwork	3 days	2/1/2011	4/1/2011										
1083	Rebar fixing and shuttering formwork for column	4 days	5/1/2011	8/1/2011										
1084	Concreting of column	1 day	9/1/2011	9/1/2011										
1085	Stripping off formwork	3 days	10/1/2011	12/1/2011										
1086	Construction of Abutment B (RHS)	28 days	17/12/2010	13/1/2011										
1087	Excavation and Blinding	12 days	17/12/2010	28/12/2010										
1088	Formwork and rebar fixing for base slab	4 days	29/12/2010	1/1/2011										
1089	Concreting of base slab	1 day	2/1/2011	2/1/2011										
1090	Stripping off formwork	3 days	3/1/2011	5/1/2011										
1091	Rebar fixing and shuttering formwork for column	4 days	6/1/2011	9/1/2011										
1092	Concreting of column	1 day	10/1/2011	10/1/2011										
1093	Stripping off formwork	3 days	11/1/2011	13/1/2011										
1094	Construction of decking	23 days	18/2/2012	11/3/2012										
1095	Formwork and rebar fixing for decking	6 days	18/2/2012	23/2/2012										
1096	Concreting	1 day	24/2/2012	24/2/2012										
1097	Stripping off formwork	14 days	25/2/2012	9/3/2012										
1098	Railing installation	2 days	10/3/2012	11/3/2012										
1099	Demolition of Bridge TB-B	7 days	12/3/2012	18/3/2012										
1100	Demolition works	7 days	12/3/2012	18/3/2012										
1101	Lighting at Footbridge TB95	19 days	12/3/2012	30/3/2012										
1102	Construction of Downpits / Drainage	12 days	12/3/2012	23/3/2012										

Revised Master Prog (Aug10-Oct11) | 任務進度 | 里程碑 | 摘要 | 上圖型任務 | 上圖型里程碑 | 分劃 | 上圖型進度 | 外部任務 | 專案摘要 | 摘要詳細 | 期限

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

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1103	Public Lighting Installation (CE2313)	6 days	24/3/2012	29/3/2012										
1104	Public Lighting Installation (CE2314)	6 days	24/3/2012	29/3/2012										
1105	T&C	1 day	30/3/2012	30/3/2012										
1107	Gabion Wall (Ch 330-345 LHS) TG2	14 days	13/1/2011	26/1/2011										
1108	Excavation and formation	4 days	13/1/2011	16/1/2011										
1109	Gabion Wall Construction (Ch 260-270 LHS)	6 days	17/1/2011	22/1/2011										
1110	Backfilling	4 days	23/1/2011	26/1/2011										
1111	Drainage & Footpath (Ch 330-350 LHS)	12 days	27/1/2011	7/2/2011										
1112	Construction of drainage & footpath	12 days	27/1/2011	7/2/2011										
1113	Gabion Wall (Ch 330-345 RHS) TG2	14 days	14/1/2011	27/1/2011										
1114	Excavation and formation	4 days	14/1/2011	17/1/2011										
1115	Gabion Wall Construction (Ch 260-270 LHS)	6 days	18/1/2011	23/1/2011										
1116	Backfilling	4 days	24/1/2011	27/1/2011										
1117	Drainage & Footpath (Ch 330-350 RHS)	12 days	28/1/2011	8/2/2011										
1118	Construction of drainage & footpath	12 days	28/1/2011	8/2/2011										
1119														
1120	River Bed formation (Ch 330-350)	5 days	3/2/2012	7/2/2012										
1121	Placing Grade 500 Ice Stone	5 days	3/2/2012	7/2/2012										
1122														
1123	Step 4 (Ch 350)	13 days	10/2/2012	22/2/2012										
1124	Excavation and Blinding	7 days	10/2/2012	16/2/2012										
1125	Formwork and rebar fixing for base slab	4 days	17/2/2012	20/2/2012										
1126	Concrete of base slab	1 day	21/2/2012	22/2/2012										
1127	Stripping off formwork	1 day	22/2/2012	22/2/2012										
1128														
1129	Ch 45-230	577 days	21/02/2010	30/6/2012										
1130	Footbridge 1B02 (Ch 150)	536 days	21/02/2010	30/6/2012										
1131	Construction of Abutment A (LHS)	23 days	21/02/2010	24/02/2010										
1132	Excavation and Blinding	6 days	21/02/2010	27/02/2010										
1133	Formwork and rebar fixing for base slab	5 days	8/10/2010	12/10/2010										
1134	Concrete of base slab	1 day	13/10/2010	13/10/2010										
1135	Stripping off formwork	3 days	14/10/2010	16/10/2010										
1136	Rebar fixing and shuttering formwork for column	5 days	17/10/2010	21/10/2010										
1137	Concrete of column	1 day	22/10/2010	22/10/2010										
1138	Stripping off formwork	2 days	23/10/2010	24/10/2010										
1139	Construction of decking	47 days	23/2/2012	9/4/2012										
1140	Formwork and rebar fixing for decking	20 days	23/2/2012	13/3/2012										
1141	Concrete	1 day	17/3/2012	17/3/2012										
1142	Stripping off formwork	14 days	19/3/2012	1/4/2012										
1143	Railing installation	6 days	4/4/2012	9/4/2012										
1144	River Bed formation (Ch 50-150)	21 days	10/4/2012	30/4/2012										
1145	Placing Grade 500 Ice Stone	21 days	10/4/2012	30/4/2012										
1146														
1147	Gabion Wall (Ch 140-190 LHS) TG4	38 days	25/10/2010	1/12/2010										
1148	Excavation and formation	10 days	25/10/2010	3/11/2010										
1149	Gabion Wall construction (Ch 140-190 LHS)	18 days	4/11/2010	21/11/2010										
1150	Backfilling	10 days	22/11/2010	1/12/2010										
1151														
1152	Gabion Wall (Ch 100-150 RHS) TG2	25 days	22/11/2010	16/12/2010										
1153	Excavation and formation	4 days	22/11/2010	25/11/2010										
1154	Gabion Wall construction (Ch 100-150 RHS)	15 days	26/11/2010	10/12/2010										
1155	Backfilling	6 days	11/12/2010	16/12/2010										
1156	Maintenance Staircase (Ch 130 RHS)	4 days	17/12/2010	20/12/2010										
1157	Formwork and concrete	4 days	17/12/2010	20/12/2010										
1158	Drainage & Footpath (Ch 45-150 RHS)	28 days	1/9/2011	28/9/2011										
1159	Construction of drainage & footpath	28 days	1/9/2011	28/9/2011										
1160														
1161	Gabion Wall (Ch 150-160 RHS) TG2	14 days	11/12/2010	24/12/2010										
1162	Excavation and formation	4 days	11/12/2010	14/12/2010										
1163	Gabion Wall Construction (Ch 160-185 RHS)	6 days	15/12/2010	20/12/2010										
1164	Backfilling	4 days	21/12/2010	24/12/2010										
1165	Gabion Wall (Ch 160-185 RHS) TG4	14 days	25/12/2010	7/1/2011										
1166	Excavation and formation	4 days	25/12/2010	28/12/2010										
1167	Construction of Gabion Wall (Ch 160-185 RHS)	6 days	29/12/2010	31/12/2010										
1168	Backfilling	4 days	4/1/2011	7/1/2011										

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Drainage Services Department
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 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1169														
1170	Footbridge T1803 (Ch 200)	77 days	15/11/2011	30/1/2012										
1171	Construction of Abutment A (RHS)	23 days	15/11/2011	7/12/2011										
1172	Excavation and Blinding	6 days	15/11/2011	20/11/2011										
1173	Formwork and rebar fixing of base slab	5 days	21/11/2011	25/11/2011										
1174	Concreting of base slab	1 day	26/11/2011	26/11/2011										
1175	Stripping off formwork	3 days	27/11/2011	29/11/2011										
1176	Rebar fixing and shuttering formwork for column	5 days	30/11/2011	4/12/2011										
1177	Concreting	1 day	5/12/2011	5/12/2011										
1178	Stripping off formwork	2 days	6/12/2011	7/12/2011										
1179	Construction of Decking (T1803)	27 days	8/12/2011	3/1/2012										
1180	Formwork and rebar fixing for decking	10 days	8/12/2011	17/12/2011										
1181	Concreting	1 day	18/12/2011	18/12/2011										
1182	Stripping off formwork	14 days	19/12/2011	1/1/2012										
1183	Railing installation	2 days	2/1/2012	3/1/2012										
1184	Lighting at Footbridge T1803	27 days	4/1/2012	30/1/2012										
1185	Construction of Drainage / Ditches	12 days	4/1/2012	15/1/2012										
1186	Public lighting installation (CE2321)	6 days	16/1/2012	21/1/2012										
1187	Public lighting installation (CE2322)	6 days	22/1/2012	27/1/2012										
1188	T&C	1 day	28/1/2012	28/1/2012										
1189	Removal of existing lighting (VA1396-Z1)	2 days	29/1/2012	30/1/2012										
1190	River Bed formation (Ch 150-230)	4 days	4/1/2012	7/1/2012										
1191	Placing Grade 500 Ice Stone	4 days	4/1/2012	7/1/2012										
1192	Step 1 (Ch 180)	13 days	8/1/2012	20/1/2012										
1193	Excavation and Blinding	7 days	8/1/2012	14/1/2012										
1194	Formwork and rebar fixing for base slab	4 days	15/1/2012	18/1/2012										
1195	Concreting of base slab	1 day	19/1/2012	19/1/2012										
1196	Stripping off formwork	1 day	20/1/2012	20/1/2012										
1197	River Bed formation (Ch 150-180)	6 days	2/1/2012	26/1/2012										
1198	Placing Grade 500 Ice Stone	6 days	2/1/2012	26/1/2012										
1199														
1200	Gabion Wall (Ch 185-210 RHS) TG1	14 days	8/1/2011	21/1/2011										
1201	Excavation and formation	4 days	8/1/2011	11/1/2011										
1202	Construction of Gabion Wall (Ch 185-210 RHS)	6 days	12/1/2011	17/1/2011										
1203	Backfilling	4 days	18/1/2011	21/1/2011										
1204	Gabion Wall (Ch 210-225 RHS) TG1	14 days	22/1/2011	4/1/2012										
1205	Excavation and formation	4 days	22/1/2011	25/1/2011										
1206	Construction of Gabion Wall (Ch 210-225 RHS)	6 days	26/1/2011	31/1/2011										
1207	Backfilling	4 days	1/1/2012	4/1/2012										
1208	Lighting CH 175-250	21 days	5/1/2012	25/1/2012										
1209	Construction of Drainage / Ditches	12 days	5/1/2012	16/1/2012										
1210	Public lighting installation (CE2319)	6 days	17/1/2012	22/1/2012										
1211	Public lighting installation (CE2320)	6 days	17/1/2012	22/1/2012										
1212	Public lighting installation (CE2323)	6 days	17/1/2012	22/1/2012										
1213	Public lighting installation (CE2324)	6 days	17/1/2012	22/1/2012										
1214	T&C	1 day	23/1/2012	23/1/2012										
1215	Removal of existing lighting (VE361-A1)	2 days	24/1/2012	25/1/2012										
1216	Removal of existing lighting (VA1310-A1)	2 days	24/1/2012	25/1/2012										
1217	River Bed formation (Ch 180-230)	14 days	2/1/2012	15/1/2012										
1218	Placing Grade 500 Ice Stone	14 days	2/1/2012	15/1/2012										
1219														
1220	Drainage & Footpath (Ch 180-230 RHS)	28 days	1/1/2012	28/1/2012										
1221	Construction of drainage & footpath	28 days	1/1/2012	28/1/2012										
1222														
1223	Ch -23-110	576 days	30/8/2010	27/3/2012										
1224	Retaining Wall at Access D (Boulder Trap)	41 days	1/9/2010	11/10/2010										
1225	Retaining Wall (RHS)	41 days	1/9/2010	11/10/2010										
1226	Excavation and Blinding	6 days	1/9/2010	6/9/2010										
1227	Construction of Base Slab, Bay 2 and 4	8 days	7/9/2010	14/9/2010										
1228	Formwork and rebar fixing	4 days	7/9/2010	10/9/2010										
1229	Concreting	1 day	11/9/2010	11/9/2010										
1230	Stripping off formwork	3 days	12/9/2010	14/9/2010										
1231	Construction of Base Slab, Bay 1 and 3	8 days	15/9/2010	22/9/2010										
1232	Formwork and rebar fixing	4 days	15/9/2010	18/9/2010										
1233	Concreting	1 day	19/9/2010	19/9/2010										
1234	Stripping off formwork	3 days	20/9/2010	22/9/2010										

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Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H12	2010	H11	H12	2011	H11	H12	2012	H11	H12
1235	Construction of Wall Stem, Bay 2 and 4	8 days	23/9/2010	30/9/2010										
1236	Formwork and rebar fixing	4 days	23/9/2010	26/9/2010										
1237	Concreting	1 day	27/9/2010	27/9/2010										
1238	Stripping off formwork	3 days	28/9/2010	30/9/2010										
1239	Construction of Wall Stem, Bay 1 and 3	11 days	17/10/2010	17/10/2010										
1240	Formwork and rebar fixing	4 days	17/10/2010	4/10/2010										
1241	Concreting	1 day	5/10/2010	5/10/2010										
1242	Stripping off formwork	3 days	6/10/2010	8/10/2010										
1243	Backfill the Retaining Wall	3 days	9/10/2010	11/10/2010										
1244	Filling Work at Boulder Trap (RHS of downstream)	6 days	30/8/2010	4/9/2010										
1245	Filling works	6 days	30/8/2010	4/9/2010										
1246	Dwarf Wall (Ch 60-75) RHS	36 days	21/02/2010	6/11/2010										
1247	Excavation and Blinding	4 days	21/02/2010	5/10/2010										
1248	Formwork and rebar fixing of base slab	5 days	6/10/2010	10/10/2010										
1249	Concreting of base slab	1 day	11/10/2010	11/10/2010										
1250	Stripping off formwork	1 day	12/10/2010	12/10/2010										
1251	Rebar fixing and shuttering formwork for column	5 days	13/10/2010	17/10/2010										
1252	Concreting	1 day	18/10/2010	18/10/2010										
1253	Stripping off formwork	1 day	1/11/2010	1/11/2010										
1254	Backfill	5 days	2/11/2010	6/11/2010										
1255	Drainage & Roadpan (Ch 0-110)	28 days	1/9/2011	28/9/2011										
1256	Drainage & Roadpan (Ch 0-110)	28 days	1/9/2011	28/9/2011										
1257	Box Culvert (T80) (Ch 45)	513 days	1/11/2010	27/3/2012										
1258	Construction of Base Slab	15 days	7/11/2010	21/11/2010										
1259	Excavation and Blinding	6 days	7/11/2010	12/11/2010										
1260	Formwork and rebar fixing	5 days	13/11/2010	17/11/2010										
1261	Concreting	1 day	18/11/2010	18/11/2010										
1262	Stripping off formwork	3 days	19/11/2010	21/11/2010										
1263	Construction of Wall Stem and Top Slab	10 days	22/11/2010	1/12/2010										
1264	Formwork and rebar fixing	4 days	22/11/2010	25/11/2010										
1265	Concreting	1 day	26/11/2010	26/11/2010										
1266	Stripping off formwork	5 days	27/11/2010	1/12/2010										
1267	Retaining Wall at Access D (Boulder Trap)	41 days	1/11/2010	1/12/2010										
1268	Excavation and blinding	6 days	1/11/2010	6/11/2010										
1269	Construction of Base Slab, Bay 2	8 days	7/11/2010	14/11/2010										
1270	Formwork and rebar fixing	4 days	7/11/2010	10/11/2010										
1271	Concreting	1 day	11/11/2010	11/11/2010										
1272	Stripping off formwork	3 days	12/11/2010	14/11/2010										
1273	Construction of Base Slab, Bay 1	8 days	15/11/2010	22/11/2010										
1274	Formwork and rebar fixing	4 days	15/11/2010	18/11/2010										
1275	Concreting	1 day	19/11/2010	19/11/2010										
1276	Stripping off formwork	3 days	20/11/2010	22/11/2010										
1277	Construction of Wall Stem, Bay 2	8 days	23/11/2010	30/11/2010										
1278	Formwork and rebar fixing	4 days	23/11/2010	26/11/2010										
1279	Concreting	1 day	27/11/2010	27/11/2010										
1280	Stripping off formwork	3 days	28/11/2010	30/11/2010										
1281	Construction of Wall Stem, Bay 1	11 days	1/12/2010	11/12/2010										
1282	Formwork and rebar fixing	4 days	1/12/2010	4/12/2010										
1283	Concreting	1 day	5/12/2010	5/12/2010										
1284	Stripping off formwork	3 days	6/12/2010	8/12/2010										
1285	Construction of Wall Stem, Bay 1	284 days	1/6/2011	10/3/2012										
1286	Excavation and Blinding	80 days	1/6/2011	1/6/2011										
1287	Formwork and rebar fixing	30 days	20/1/2012	27/2/2012										
1288	Concreting	12 days	28/2/2012	10/3/2012										
1289	Stripping off formwork	29 days	28/2/2012	27/3/2012										
1290	Construction of Access D	21 days	28/2/2012	19/3/2012										
1291	Lighting at Access D	3 days	20/3/2012	22/3/2012										
1292	Public lighting installation (C12300)	3 days	20/3/2012	22/3/2012										
1293	Public lighting installation (C12300)	3 days	20/3/2012	22/3/2012										
1294	Public lighting installation (C12300)	3 days	20/3/2012	22/3/2012										
1295	Public lighting installation (C12300)	3 days	20/3/2012	22/3/2012										
1296	T&C	1 day	23/3/2012	23/3/2012										
1297	Removal of existing lighting (VA1278-A1)	2 days	24/3/2012	25/3/2012										
1298	Removal of existing lighting (VA1279-A1)	2 days	26/3/2012	27/3/2012										
1299														
1300	CH 350-450	572 days	21/02/2010	25/4/2012										

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ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1301	Retaining Wall (Ch 345-400 LHIS) TR1 (replaced by AD1)	572 days	21/02/2010	23/4/2012										
1302	Excavation and Formation	24 days	20/02/2010	23/02/2010										
1303	Laying concrete blocks and gabion blocks	12 days	26/02/2010	6/1/2010										
1304	Backfilling	12 days	7/1/2010	18/1/2010										
1305														
1306	Footbridge TR06 (Ch 400)	536 days	7/1/2010	23/4/2012										
1307	Construction of Abutment A (LHIS)	22 days	7/1/2010	28/1/2010										
1308	Excavation and Blinding	6 days	7/1/2010	12/1/2010										
1309	Formwork and rebar fixing of base slab	4 days	13/1/2010	16/1/2010										
1310	Concreting of base slab	1 day	17/1/2010	17/1/2010										
1311	Stripping of formwork	3 days	18/1/2010	20/1/2010										
1312	Rebar fixing and shoring formwork for column	4 days	21/1/2010	24/1/2010										
1313	Concreting	1 day	25/1/2010	25/1/2010										
1314	Stripping of formwork	3 days	26/1/2010	28/1/2010										
1315	Construction of decking	27 days	10/3/2012	5/4/2012										
1316	Formwork and rebar fixing for decking	10 days	10/3/2012	19/3/2012										
1317	Concreting	1 day	20/3/2012	20/3/2012										
1318	Stripping of formwork	14 days	21/3/2012	3/4/2012										
1319	Railing installation	2 days	4/4/2012	5/4/2012										
1320	Lighting at Footbridge TR06	22 days	4/4/2012	23/4/2012										
1321	Construction of Drains / Ductings	10 days	4/4/2012	13/4/2012										
1322	Public lighting installation (CE2311)	5 days	14/4/2012	18/4/2012										
1323	Public lighting installation (CE2310)	5 days	19/4/2012	23/4/2012										
1324	T&C	2 days	24/4/2012	25/4/2012										
1325														
1326	Retaining Wall (Ch 400-450 RHIS) TR1 (replaced by AD1)	30 days	29/1/2010	28/1/2010										
1327	Excavation and Formation	12 days	29/1/2010	10/1/2010										
1328	Laying concrete blocks and gabion blocks	12 days	11/1/2010	22/1/2010										
1329	Backfilling	6 days	23/1/2010	28/1/2010										
1330	Retaining Wall (Ch 400-450 LHIS) TR1 (replaced by AD1)	30 days	29/1/2010	27/1/2011										
1331	Excavation and Formation	12 days	29/1/2010	9/1/2011										
1332	Laying concrete blocks and gabion blocks	12 days	10/1/2011	31/1/2011										
1333	Backfilling	6 days	22/1/2011	27/1/2011										
1334	Maintenance Surpass (Ch 420 LHIS)	4 days	18/1/2011	21/1/2011										
1335	Formwork and rebar fixing	4 days	18/1/2011	21/1/2011										
1336	River Bed formation (Ch 400-450)	6 days	21/3/2012	26/3/2012										
1337	Finishing Grade 500 toe Stone	6 days	21/3/2012	26/3/2012										
1338														
1339	Step 5 (Ch 410)	14 days	21/3/2012	3/4/2012										
1340	Excavation and Blinding	7 days	21/3/2012	27/3/2012										
1341	Formwork and rebar fixing for base slab	5 days	28/3/2012	1/4/2012										
1342	Concreting of base slab	1 day	2/4/2012	2/4/2012										
1343	Stripping off formwork	1 day	3/4/2012	3/4/2012										
1344														
1345	Box Culvert TR01 (Ch 450)	40 days	28/1/2011	8/3/2011										
1346	Excavation and Blinding	21 days	28/1/2011	17/2/2011										
1347	Formwork and rebar fixing	6 days	28/1/2011	2/2/2011										
1348	Concreting	8 days	3/2/2011	10/2/2011										
1349	Formwork and rebar fixing	2 days	11/2/2011	12/2/2011										
1350	Concreting	5 days	13/2/2011	17/2/2011										
1351	Stripping of formwork	19 days	18/2/2011	8/3/2011										
1352	Construction of Wall Stem and Top Slab	4 days	18/2/2011	21/2/2011										
1353	Formwork and rebar fixing	1 day	22/2/2011	22/2/2011										
1354	Concreting	1 day	22/2/2011	22/2/2011										
1355	Stripping of formwork	14 days	23/2/2011	8/3/2011										
1356	Drainage & Footpath (Ch350-450)	42 days	1/9/2011	12/10/2011										
1357	Drainage & Footpath (Ch350-450)	42 days	1/9/2011	12/10/2011										
1358														
1359	Lighting at Ch 350-380	19 days	13/10/2011	31/10/2011										
1360	Construction of Drains / Ductings	10 days	13/10/2011	22/10/2011										
1361	Public lighting installation (CE2312)	7 days	23/10/2011	29/10/2011										
1362	T&C	2 days	30/10/2011	31/10/2011										
1363														
1364	Ch 450-525	592 days	15/10/2010	28/5/2012										
1365	Retaining Wall (Ch 450-500) TR2	91 days	1/10/2011	30/1/2012										
1366	Demolition of House 2 Site by Tsui	18 days	1/10/2011	18/10/2011										

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任務
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 外部任務
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 摘要群組
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Drainage Services Department
 Contract No. DC/2007/06
 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1367	Excavation and Formation	15 days	1/10/2011	15/10/2011										
1368	Base Slab Construction Bay 1	15 days	16/10/2011	30/10/2011										
1369	Formwork and rebar fixing	8 days	16/10/2011	23/10/2011										
1370	Concreting	2 days	24/10/2011	25/10/2011										
1371	Stripping off formwork	5 days	26/10/2011	30/10/2011										
1372	Wall Stem Construction Bay 1 (LHS, RHS)	8 days	30/11/2011	7/12/2011										
1373	Formwork and rebar fixing	4 days	30/11/2011	3/12/2011										
1374	Concreting	1 day	4/12/2011	4/12/2011										
1375	Stripping off formwork	3 days	5/12/2011	7/12/2011										
1376	Base Slab Construction Bay 2	15 days	31/10/2011	14/11/2011										
1377	Formwork and rebar fixing	8 days	31/10/2011	7/11/2011										
1378	Concreting	2 days	8/11/2011	9/11/2011										
1379	Stripping off formwork	5 days	10/11/2011	14/11/2011										
1380	Wall Stem Construction Bay 2 (LHS, RHS)	8 days	15/11/2011	22/11/2011										
1381	Formwork and rebar fixing	4 days	15/11/2011	18/11/2011										
1382	Concreting	1 day	19/11/2011	19/11/2011										
1383	Stripping off formwork	3 days	20/11/2011	22/11/2011										
1384	Base Slab Construction Bay 3	15 days	15/11/2011	29/11/2011										
1385	Formwork and rebar fixing	8 days	15/11/2011	23/11/2011										
1386	Concreting	2 days	23/11/2011	24/11/2011										
1387	Stripping off formwork	5 days	25/11/2011	29/11/2011										
1388	Wall Stem Construction Bay 3 (LHS, RHS)	8 days	30/11/2011	7/12/2011										
1389	Formwork and rebar fixing	4 days	30/11/2011	3/12/2011										
1390	Concreting	1 day	4/12/2011	4/12/2011										
1391	Stripping off formwork	3 days	5/12/2011	7/12/2011										
1392	Base Slab Construction Bay 4	15 days	30/11/2011	14/12/2011										
1393	Formwork and rebar fixing	8 days	30/11/2011	7/12/2011										
1394	Concreting	2 days	8/12/2011	9/12/2011										
1395	Stripping off formwork	5 days	10/12/2011	14/12/2011										
1396	Wall Stem Construction Bay 4 (LHS, RHS)	8 days	15/12/2011	22/12/2011										
1397	Formwork and rebar fixing	4 days	15/12/2011	18/12/2011										
1398	Concreting	1 day	19/12/2011	19/12/2011										
1399	Stripping off formwork	3 days	20/12/2011	22/12/2011										
1400	Base Slab Construction Bay 5	15 days	8/12/2011	22/12/2011										
1401	Formwork and rebar fixing	8 days	8/12/2011	15/12/2011										
1402	Concreting	2 days	16/12/2011	17/12/2011										
1403	Stripping off formwork	5 days	18/12/2011	22/12/2011										
1404	Wall Stem Construction Bay 5 (LHS, RHS)	8 days	23/12/2011	30/12/2011										
1405	Formwork and rebar fixing	4 days	23/12/2011	26/12/2011										
1406	Concreting	1 day	27/12/2011	27/12/2011										
1407	Stripping off formwork	3 days	28/12/2011	30/12/2011										
1408	Drainage & Footpath (Ch 450-490 RHS)	28 days	1/5/2012	28/5/2012										
1409	Connection of drainage & footpath	14 days	31/12/2011	13/1/2012										
1410	Step 6 (Ch 490)	7 days	3/1/2012	6/1/2012										
1411	Excavation and Blinding	5 days	7/1/2012	11/1/2012										
1412	Formwork and rebar fixing	1 day	12/1/2012	12/1/2012										
1413	Concreting of base slab	1 day	13/1/2012	13/1/2012										
1414	Stripping off formwork	58 days	1/10/2011	27/11/2011										
1415	Retaining Wall (Ch 500-530 LHS) TR3	12 days	1/10/2011	12/10/2011										
1416	Excavation and Formation	15 days	13/10/2011	27/10/2011										
1417	Base Slab Construction Bay 1	8 days	13/10/2011	20/10/2011										
1418	Formwork and rebar fixing	2 days	21/10/2011	22/10/2011										
1419	Concreting	5 days	23/10/2011	27/10/2011										
1420	Stripping off formwork	8 days	28/10/2011	4/11/2011										
1421	Wall Stem Construction Bay 1 (LHS, RHS)	4 days	28/10/2011	31/10/2011										
1422	Formwork and rebar fixing	1 day	1/11/2011	1/11/2011										
1423	Concreting	3 days	2/11/2011	4/11/2011										
1424	Stripping off formwork	15 days	5/11/2011	19/11/2011										
1425	Base Slab Construction Bay 2	8 days	5/11/2011	12/11/2011										
1426	Formwork and rebar fixing	2 days	13/11/2011	14/11/2011										
1427	Concreting	5 days	15/11/2011	19/11/2011										
1428	Stripping off formwork	8 days	20/11/2011	27/11/2011										
1429	Wall Stem Construction Bay 2 (LHS, RHS)	4 days	20/11/2011	23/11/2011										
1430	Formwork and rebar fixing	1 day	24/11/2011	24/11/2011										
1431	Concreting	1 day	24/11/2011	24/11/2011										

Revised Master Prog (Aug10-Oct11) 日期: 18/10/2010

任務進度: [Progress bar]

里程碑: [Milestone bar]

摘要: [Summary bar]

上級型任務: [Parent task bar]

上級型里程碑: [Parent milestone bar]

分劃: [Division bar]

外部任務: [External task bar]

專案摘要: [Project summary bar]

摘要母組: [Summary group bar]

期限: [Deadline bar]

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

Revised Master Programme Aug 2010 - Oct 2012

ID	任務名稱	Duration	Start	Finish	H2	2010	H1	H2	2011	H1	H2	2012	H1	H2
1565	Formwork and rebar fixing	6 days	30/12/2011	4/1/2012										
1566	Concrete	1 day	5/1/2012	5/1/2012										
1567	Stripping off formwork	3 days	6/1/2012	8/1/2012										
1568	Drainage & Footpath (CH 554-615 LHS)	62 days	8/1/2012	9/3/2012										
1569	Backfill	14 days	8/1/2012	21/1/2012										
1570	Construction of footpath & drainage works	48 days	22/1/2012	9/3/2012										
1571	Lighting at CH 554-610	15 days	10/3/2012	24/3/2012										
1572	Construction of Downpits / Ducting	6 days	10/3/2012	15/3/2012										
1573	Public Lighting Installation (CE3235)	6 days	16/3/2012	21/3/2012										
1574	Public Lighting Installation (CE3236)	6 days	16/3/2012	21/3/2012										
1575	Public Lighting Installation (CE3237)	6 days	16/3/2012	21/3/2012										
1576	T&C	1 day	22/3/2012	22/3/2012										
1577	Removal of existing lighting (CE 600-82)	2 days	23/3/2012	24/3/2012										
1578														
1579	Section 4 - Box Culvert at Ping Long	0 days	9/12/2009	9/12/2009										
1580	Section 4 - Box Culvert (Area A)	0 days	9/12/2009	9/12/2009										
1581	Completion of Work at Section 4	0 days	9/12/2009	9/12/2009										
1582														
1583	Section 5 - Landscape Establishment Works (Portion B, C, D, E, F, G, H & I)	1666 days ⁹⁷	28/9/2007	19/4/2012										
1584	Section 5 Landscape Works	1665 days	28/9/2007	18/4/2012										
1585	Commencement of Works	1 day	28/9/2007	28/9/2007										
1586	Material Submission	120 days	29/9/2007	26/1/2008										
1587	Submission Approval	0 days	9/2/2008	9/2/2008										
1588	Landscape Approval	1541 days ⁹⁷	3/11/2008	19/6/2012										
1589	Landscape Hardworks	365 days	20/4/2011	18/4/2012										
1590	Landscape Softworks	400 days	29/9/2007	1/1/2008										
1591	Submission of Tree Survey	1265 days	2/11/2008	19/6/2012										
1592	Preservation and Protection of Preserved Trees	1265 days	2/11/2008	19/6/2012										
1593	Landscape Establishment Works	0 days	19/4/2012	19/4/2012										
1594	Completion of Works													
1595	Section 6 - Landscape Establishment Works (Portion L, K & M)	1666 days ⁹⁷	28/9/2007	19/4/2012										
1596	Section 6 Landscape Works	1665 days	28/9/2007	18/4/2012										
1597	Commencement of Works	1 day	28/9/2007	28/9/2007										
1598	Material Submission	120 days	29/9/2007	26/1/2008										
1599	Submission Approval	0 days	9/2/2008	9/2/2008										
1600	Landscape Hardworks	1161 days ⁹⁷	14/2/2009	19/6/2012										
1601	Landscape Softworks	365 days	21/4/2011	19/6/2012										
1602	Submission of Tree Survey	400 days	29/9/2007	1/1/2008										
1603	Preservation and Protection of Preserved Trees	1265 days	2/11/2008	19/6/2012										
1604	Landscape Establishment Works	1265 days	2/11/2008	19/6/2012										
1605	Completion of Works	0 days	19/4/2012	19/4/2012										
1606														
1607	Section 7 - Landscape Establishment Works (Portion L, N & P)	1666 days ⁹⁷	28/9/2007	19/4/2012										
1608	Section 7 Landscape Works	1665 days	28/9/2007	18/4/2012										
1609	Commencement of Works	1 day	28/9/2007	28/9/2007										
1610	Material Submission	120 days	29/9/2007	26/1/2008										
1611	Submission Approval	0 days	9/2/2008	9/2/2008										
1612	Landscape Hardworks	1176 days ⁹⁷	30/1/2009	19/6/2012										
1613	Landscape Softworks	365 days	21/4/2011	19/6/2012										
1614	Submission of Tree Survey	400 days	29/9/2007	1/1/2008										
1615	Preservation and Protection of Preserved Trees	1265 days	2/11/2008	19/6/2012										
1616	Landscape Establishment Works	1265 days	2/11/2008	19/6/2012										
1617	Completion of Works	0 days	19/4/2012	19/4/2012										
1618														
1619	Section 8 - All Remaining Work at All Portions	1301 days	28/9/2007	20/4/2011										
1620	Commencement of Works	1 day	28/9/2007	28/9/2007										
1621	All remaining works at all Areas	1300 days	29/9/2007	20/4/2011										
1622	Completion of Works	0 days	20/4/2011	20/4/2011										

Revised Master Prog (Aug10-Oct11)
 日期: 18/10/2010

任務進度: [Progress bar]
 里程碑: [Milestone bar]
 概要: [Summary bar]
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 分劃: [Task type bar]

外部任務: [External task bar]
 概要詳組: [Summary detail bar]
 期限: [Deadline bar]

第 24 頁

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-101111(EPD)

EPD Complaint Ref: EP3/N05/RN/00023471 -10

Sheet: 1 of 3

RECIPIENT

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

Details: EPD formally informed Drainage Services Department on 11th November 2010 regarding a complaint on observation of muddy water at section of Upper Tai Po River (UTPR) near Wun Yiu.

Received Date: 11th November 2010

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: 11th November 2010

Location: Section of UTPR near Sheung Wun Yiu

INVESTIGATION RESULTS & MITIGATION MEASURES

1. A complaint on 11th November 2010 was recorded that observation of muddy water along the river stream of UTPR at section near Sheung Wun Yiu. Environmental Team (ET) was informed by Engineer Representative (ER) on the same day.
2. As per the EM&A Manual section 9.3, ET arranged a site investigation with the representatives from Contractor, on 12th November 2010 to resolve the above complaint.
3. During the investigation, no muddy water was observed along the river channel also no muddy effluent discharge was observed within the project site area (Fig.3.1 to 3.4).
4. As reported by Contractor, preparation works including channel clearance, excavation and formation of haul access were being carried out on 11th November 2010. As part of remedial actions, the aforementioned construction activities were ceased immediately as to allow recovery of the water quality along the downstream area. Sandbags barriers were formed along the river channel (Fig.4.1 to 4.3) and geo-textile coverings were provided at part of the riverbanks (Fig.4.4) to prevent runoff and erosion from causing water quality impact to the downstream area.
5. Contractor assigned a third-party laboratory to carry out water quality monitoring at several spots along UTPR on 12th November 2010 (Fig.5.1 & 5.2). As reported by the Contractor the recorded results were all within the acceptable level (Details of the test report please find the submission by the Contractor).
6. Contractor was advised to review the working method of the aforementioned construction activities to seek for improvement to minimize water quality impact to the down stream area. Contractor should further implement water quality mitigation measures also, once the river-based construction works recommence, immediate action should be taken on:
 - Prior to excavation proper bund wall should be provided to form an enclosed environment to prevent soil runoff and contamination to the river;

- any river banks, soil slopes or earth bunds directly exposed to river water should be covered with geo-textile coverings to prevent erosion;
- wastewater, muddy water, underground water, surface runoff should be diverted to proper site water treatment facilities for treatment before discharge; and
- Contractor should provide and well manage the temporary drainage system on site to avoid any site water and runoff from directly entering into the river channel.

7. ET has reminded the Contractor again to be cautious on not arising muddy water in the future construction works along the river.

RECOMMENDATIONS

1. To meet relevant environmental ordinance such as Environmental Impact Assessment Ordinance (EIAO) and Water Pollution Control Ordinance (WPCO), Contractor was seriously reminded that direct discharge of site water is not allowed and site water seepage to the river should be prevented.
2. Prior to the excavation and de-watering activities, mitigation measures including provision of site water treatment facilities, bund walls and barriers should be implemented on site. Underground water and muddy effluent drained from excavated pit should be diverted to proper silt removal facilities before discharge.
3. Contractor should well manage the temporary drainage system on site to avoid surface runoff and muddy effluent from entering into the public drainage and river channel.
4. The contractor shall always check the performance of bunds and barriers provided in order to minimize site water seepage and surface runoff from site.
5. Exposed earth surface should be protected by means of geo-textile covering and/or hydro-seeding as far as it is practicable.
6. Contractor should regularly provide training/ toolbox talk on environmental topics, especially about protection of river water quality to their site staffs and sub-contractors.
7. Contractor should keep good site practice on regularly checking the environmental performance on sites, especially paying serious attention on any sudden changes of river water quality.
8. Contractor is reminded again to take serious notice on the complaint and always keep good environmental management at site.

Approved by: Patricia Chung Chi Ping
(Environmental Team Leader)

Signature:



Date: 16-11-2010

Fig.3.1 – Water Quality at approximate ch.300



Fig.3.2 – Water Quality at approximate ch.450



Fig.3.3 – Water Quality at downstream area of the site



Fig.3.4 – Water Quality at approximate ch.600



Fig.4.1 – Provision of sandbags barriers at approximate ch.250(1) Fig.4.2 –Provision of sandbags barriers at approximate ch.250(2)



Fig.4.2 –Provision of sandbags barriers at approximate ch.650



Fig.4.4 – Provision of geo-textile coverings to riverbanks at ch.250



Fig.5.1 – Sampling of water samples by third-party laboratory (1) Fig.5.2 – Sampling of water samples by third-party laboratory (2)



COMPLAINT / CONCERN LOG

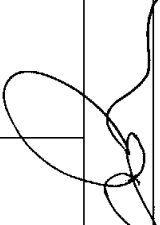
Ref: DC0706-CL-101111(EPD)

Log Ref	Event Date/Location	Complainant/Date of Contact	Details of Complaint	Investigation/Mitigation Action	File Closed
<p>Our Ref: DC0706-CL-101111(EPD)</p> <p>EPD complaint Ref: EP3/N05//RN/00023471-10</p>	<p>11th November 2010, A complaint was recorded for the observation of muddy water at the section of Upper Tai Po River near Sheung Wun Yiu</p>	<p>A complaint received via EPD on 11th November 2010</p>	<p>Complaint on Muddy water arisen by drainage improvement works of the project at Upper Tai Po River (UTPR)</p>	<p>1) A complaint on 11th November was recorded that observation of muddy water along the river stream of UTPR at section near Sheung Wun Yiu. Environmental Team (ET) was informed by Engineer Representative (ER) on the same day.</p> <p>2) As per the EM&A Manual section 9.3, ET arranged a site investigation with the representatives from Contractor, on 12th November 2010 to resolve the above complaint.</p> <p>3) During the investigation, no muddy water was observed along the river channel also no muddy effluent discharge was observed within the project site area.</p> <p>4) As reported by Contractor, preparation works including channel clearance, excavation and formation of haul access were being carried out on 11th November 2010. As part of remedial actions, the aforementioned construction activities were ceased immediately as to allow recovery of the water quality along the downstream area. Sandbags barriers were formed along the river channel and geo-textile coverings were provided at part of the riverbanks to prevent runoff and erosion from causing water quality impact to the downstream area.</p> <p>5) Contractor assigned a third-party laboratory to carry out water quality monitoring at several spots along UTPR on 12th November 2010. As reported by the Contractor the recorded results were all within the acceptable level (Details of the test report please find the submission by the Contractor).</p>	<p>Closed</p>

					<p>6) Contractor was advised to review the working method of the aforementioned construction activities to seek for improvement to minimize water quality impact to the down stream area. Contractor should further implement water quality mitigation measures also, once the river-based construction works recommence, immediate action should be taken on:</p> <ul style="list-style-type: none"> - Prior to excavation proper bund wall should be provided to form an enclosed environment to prevent soil runoff and contamination to the river; - any river banks, soil slopes or earth bunds directly exposed to river water should be covered with geo-textile coverings to prevent erosion; - wastewater, muddy water, underground water, surface runoff should be diverted to proper site water treatment facilities for treatment before discharge; and - Contractor should provide and well manage the temporary drainage system on site to avoid any site water and runoff from directly entering into the river channel. <p>7) ET has reminded the Contractor again to be cautious on not arising muddy water in the future construction works along the river.</p> <p>8) Suggestions were given to the Contractor including:</p> <ul style="list-style-type: none"> - To meet relevant environmental ordinance such as Environmental Impact Assessment Ordinance (EIAO) and Water Pollution Control Ordinance (WPCO), Contractor was seriously reminded that direct discharge of site water is not allowed and site water seepage to the river should be prevented. - Prior to the excavation and de-watering activities, mitigation measures including provision of site water treatment facilities,
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				<p>bund walls and barriers should be implemented on site. Underground water and muddy effluent drained from excavated pit should be diverted to proper silt removal facilities before discharge.</p> <ul style="list-style-type: none"> - Contractor should well manage the temporary drainage system on site to avoid surface runoff and muddy effluent from entering into the public drainage and river channel. - The contractor shall always check the performance of bunds and barriers provided in order to minimize site water seepage and surface runoff from site. - Exposed earth surface should be protected by means of geo-textile covering and/or hydro-seeding as far as it is practicable. - Contractor should regularly provide training/ toolbox talk on environmental topics, especially about protection of river water quality to their site staffs and sub-contractors. - Contractor should keep good site practice on regularly checking the environmental performance on sites, especially paying serious attention on any sudden changes of river water quality. - Contractor is reminded again to take serious notice on the complaint and always keep good environmental management at site.
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Prepared by Environmental Team Leader:


Ms. Patricia Chung

Date: 11th November 2010

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-101116(EPD)

EPD Complaint Ref: EP3/N05/RN/00023818 -10

Sheet: 1 of 3

RECIPIENT

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

Details: EPD formally informed Drainage Services Department on 11th November 2010 regarding consecutive complaints on observation of muddy water at section of Upper Tai Po River (UTPR) near Wun Yiu.

Received Date: 16th November 2010

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: 16th November 2010

Location: Section of UTPR near Sheung Wun Yiu


INVESTIGATION RESULTS & MITIGATION MEASURES

1. Several complaints on 16th November 2010 were recorded that observation of muddy water along the river stream of UTPR at section near Sheung Wun Yiu. Environmental Team (ET) was informed by Engineer Representative (ER) on 17th November 2010.
2. As per the EM&A Manual section 9.3, ET arranged a site investigation with the representatives from Contractor, IEC and ER, on 17th and 19th November 2010 to resolve the above complaint.
3. As excavation work was being carried out at approximate ch.200, De-silting tank was provided on site for site water treatment and no direct discharge or seepage of muddy water causing pollution was observed to the river channel (Fig.3.1 to 3.5).
4. Contractor assigned a third-party laboratory to carry out routine water quality monitoring at several spots along UTPR on 16th and 19th November 2010 respectively (Fig.4.1 to 4.4). As reported by the Contractor the recorded results were all within the acceptable level (Details of the test report please find the submission by the Contractor).
5. ET has reminded the Contractor again to be cautious on not arising muddy water in the future construction works along the river.

RECOMMENDATIONS

1. To meet relevant environmental ordinance such as Environmental Impact Assessment Ordinance (EIAO) and Water Pollution Control Ordinance (WPCO), Contractor was seriously reminded that direct discharge of site water is not allowed and site water seepage to the river should be prevented.
2. Contractor should well manage the temporary drainage system on site to avoid surface runoff and muddy effluent from entering into the public drainage and river channel.
3. Contractor should avoid stockpiling of earth materials on top of the riverbank and/or bund wall of the haul access as to prevent soil runoff from causing water quality impact.
4. River banks, soil slopes or earth bunds directly exposed to river water should be protected with geo-textile coverings to prevent erosion.
5. The contractor shall always check the performance of bunds, barriers and site water treatment facilities provided in order to minimize site water seepage and surface runoff from site.
6. Contractor should regularly provide training/ toolbox talk on environmental topics, especially about protection of river water quality to their site staffs and sub-contractors.
7. Contractor should keep good site practice on regularly checking the environmental performance on sites, especially paying serious attention on any sudden changes of river water quality.
8. Contractor is reminded again to take serious notice on the complaint and always keep good environmental management at site.

Approved by: Patricia Chung Chi Ping
(Environmental Team Leader)

Signature: 

Date: 23-11-2010

Fig.3.1 – Water quality at approx. ch.300 (taken on 17/11)



Fig.3.2 – Water quality at approx. ch.650 (taken on 17/11)



Fig.3.3 – Water quality at approx. ch.200 (taken on 19/11)



Fig.3.4 – Water quality at down stream area (taken on 19/11)



Fig.3.5 – Water quality at approx. ch.650 (taken on 19/11)



Fig.4.1 – Sampling and monitoring at upstream area on 16/11
(Photo provided by Contractor)



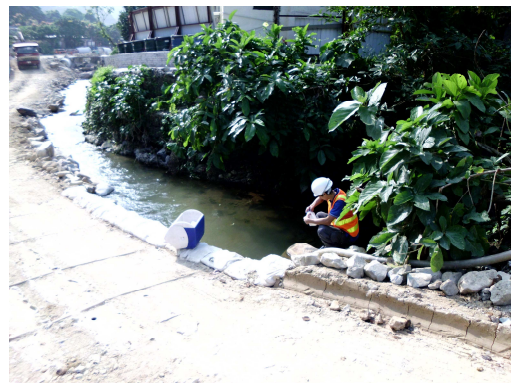
Fig.4.2 – Sampling and monitoring at approx. ch650 on 16/11
(Photo provided by Contractor)



Fig.4.3 – Sampling and monitoring at upstream area on 19/11
(Photo provided by Contractor)



Fig.4.2 – Sampling and monitoring at approx. ch650 on 19/11
(Photo provided by Contractor)



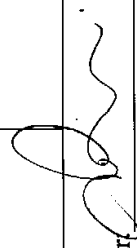
COMPLAINT / CONCERN LOG

Ref: DC0706-CL-101116(EPD)

Log Ref	Event Date/Location	Complainant/Date of Contact	Details of Complaint	Investigation/Mitigation Action	File Closed
Our Ref: DC0706-CL-101116(EPD) EPD complaint Ref: EP3/N05/RN/00023818-10	16 th November 2010, Consecutive complaints were recorded for the observation of muddy water at the section of Upper Tai Po River near Sheung Wun Yiu	A complaint received via EPD on 16 th November 2010	Complaint on Muddy water arisen by drainage improvement works of the project at Upper Tai Po River (UTPR)	<p>1) Several complaints on 16th November 2010 were recorded that observation of muddy water along the river stream of UTPR at section near Sheung Wun Yiu. Environmental Team (ET) was informed by Engineer Representative (ER) on 17th November 2010.</p> <p>2) As per the EM&A Manual section 9.3, ET arranged a site investigation with the representatives from Contractor, IEC and ER, on 17th and 19th November 2010 to resolve the above complaint.</p> <p>3) As excavation work was being carried out at approximate ch.200, De-silting tank was provided on site for site water treatment and no direct discharge or seepage of muddy water causing pollution was observed to the river channel (Fig.3.1 to 3.5).</p> <p>4) Contractor assigned a third-party laboratory to carry out routine water quality monitoring at several spots along UTPR on 16th and 19th November 2010 respectively (Fig.4.1 to 4.4). As reported by the Contractor the recorded results were all within the acceptable level (Details of the test report please find the submission by the Contractor).</p> <p>5) ET has reminded the Contractor again to be cautious on not arising muddy water in the future construction works along the river.</p> <p>6) Suggestions were given to the Contractor including: - To meet relevant environmental ordinance such as Environmental Impact Assessment Ordinance (EIAO) and Water Pollution Control Ordinance (WPCO), Contractor was seriously reminded that direct</p>	Closed

				<p>discharge of site water is not allowed and site water seepage to the river should be prevented.</p> <ul style="list-style-type: none"> - Contractor should well manage the temporary drainage system on site to avoid surface runoff and muddy effluent from entering into the public drainage and river channel. - Contractor should avoid stockpiling of earth materials on top of the riverbank and/or bund wall of the haul access as to prevent soil runoff from causing water quality impact. - River banks, soil slopes or earth bunds directly exposed to river water should be protected with geo-textile coverings to prevent erosion. - The contractor shall always check the performance of bunds, barriers and site water treatment facilities provided in order to minimize site water seepage and surface runoff from site. - Contractor should regularly provide training/ toolbox talk on environmental topics, especially about protection of river water quality to their site staffs and sub-contractors. - Contractor should keep good site practice on regularly checking the environmental performance on sites, especially paying serious attention on any sudden changes of river water quality. - Contractor is reminded again to take serious notice on the complaint and always keep good environmental management at site.
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Prepared by Environmental Team Leader



Ms. Patricia Chung

Date: 16th November 2010

Appendix K: Capture Survey Report

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

Ecological Capture Survey

Trip Report for Upper Tai Po River

(Survey Date: 15 Oct 2010)



Ecological Capture Survey Trip Report For Upper Tai Po River

1 METHODOLOGY

Two fish species, i.e. Three-lined Chinese Stream Catfish, Predaceous Chub and one newt species were the target species for capture survey by live trapping and hand netting. One suitable relocation point was identified at the upper stream channel where the habitats will not be affected by the river improvement works. The captured fish and newt was carefully transferred to a container with powered aeration provided and then to be transported to the identified relocation site and to be released.

During the capture survey, 10 man power were deployed that was more than previous capture surveys (i.e. 3 field workers from China-Hong Kong Ecology Consultant and 7 environmental assistant from Chiu Hing Construction & Transportation Co. Ltd).

2 SCOPE OF SURVEY

Scope of surveys is detailed in the Table 1.

Table 1 Summary of scope of ecological capture survey *						
No.	Item	Form	Methodology	Locations*	Frequency	Duration
1	Hong Kong Newt <i>Paramesotriton hongkongensis</i>	Amphibian	live trapping, netting	Entire river channel within project area	<u>1</u>	Daytime 15 th Oct. 10
2	<i>Pseudobagrus trilineatus</i>	Fish	live trapping, netting	Entire river channel within project area	<u>1</u>	Nighttime 15 th Oct. 10
3	<i>Parazacco spilurus</i>	Fish	live trapping, netting	Entire river channel within project area	<u>1</u>	Daytime 15 th Oct. 10

* Entire river channel within project area starts at Sheung Wu Yiu and ends near hilltop garden-Wai King terrace. The total length for works area is 600m.

3 RESULTS OF CAPTURE SURVEYS

3.1 Hong Kong Newt and target fish

Capture survey was undertaken within works boundary along the Upper Tai Po river during night time and daytime on the 15th Oct 2010. No target species was captured at the upper Tai Po River. The capture route and release site was shown in figure 1 and 2. Result of capture survey was presented in the table below:

Table 2 showing the result of capture survey carried out on 15th Oct. 10

Species Name	Species name in Chinese	No of captured	No of individuals released at Upper stream section
<i>Paramesotriton hongkongensis</i>	香港蝾螈	0	0
<i>Pseudobagrus trilineatus</i>	三線擬鱧	0	0
<i>Parazacco spilurus</i>	異鱧	0	0

3.2 Previous result for capture survey

Table 3 showing the result of capture survey carried out from previous capture survey.

Species Name	Species name in Chinese	No of captured on 4th Nov. 08	No of captured on 27-28th Oct. 09
<i>Paramesotriton hongkongensis</i>	香港蝾螈	0	0
<i>Pseudobagrus trilineatus</i>	三線擬鱧	0	0
<i>Parazacco spilurus</i>	異鱧	220	60

4 DISCUSSION

Methodology and duration for current capture survey were the same as before. The manpower involved was more than the previous capture survey. However, there was still a significant drop in the number of catching target species. That may be due to the heavy rainfall and black storm occurred in July and August 2010 respectively. The river habitats especially river substratum was strongly disturbed. Riparian flora provides shelter places for aquatic fauna. Some riparian flora was still observed along the river channel before heavy rainfall and black storm. However, most of the riparian flora together with aquatic fauna was washed away by heavy storm. Currently, only newly exposed soil and rock was observed along the river channel. This was considered the main factor led to the drop of the aquatic animals. There is no target stream fauna was captured during capture survey on 15th Oct 10.

5 PHOTO



Capture survey at Upper Tai Po River on 15th Oct. 10

