

**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**

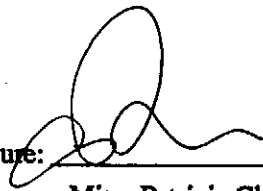

**UPPER TAI PO RIVER**

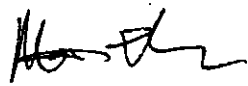
**for January 2010**

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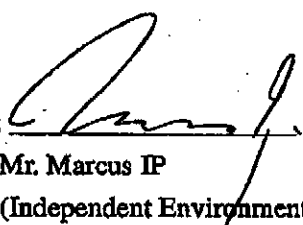
The Contents of this report have been

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**Executive summary**

This is the seventeenth monthly Environmental Monitoring and Audit (EM&A) Report for the river improvement works at Upper Tai Po River under Drainage Services Department Contract No. DC/2007/06 entitled “River Improvement Works in Upper Lam Tsuen River, She Shan River and Tai Po River”. This report concludes the impact monitoring for the activities undertaken during the period from 1<sup>st</sup> January 2010 to 31<sup>st</sup> January 2010. The major site activities in this reporting month were mainly site access formation, boulder breaking works and construction of footbridges.

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

Ecological impact monitoring was conducted on 26<sup>th</sup> and 27<sup>th</sup> January 2010 by the ecologist Dr. Mark Shea. The ecological impact monitoring report prepared by the ecologist is under preparation and therefore information will be provided in the next monthly report. 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 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. As a reference, baseline monitoring was conducted by Contractor at the designated locations Fan Sin Temple and Wun Yiu on 20 January 2010. For further information please refer to Appendix J.

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

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

There was no reporting change for this month.

Site works proposed to be carried out in the upcoming month will include formation of haul access, provision of drain-off pipes in the boulder trap, construction of footbridge, retaining wall and gabion wall.

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 seventeenth 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 January 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

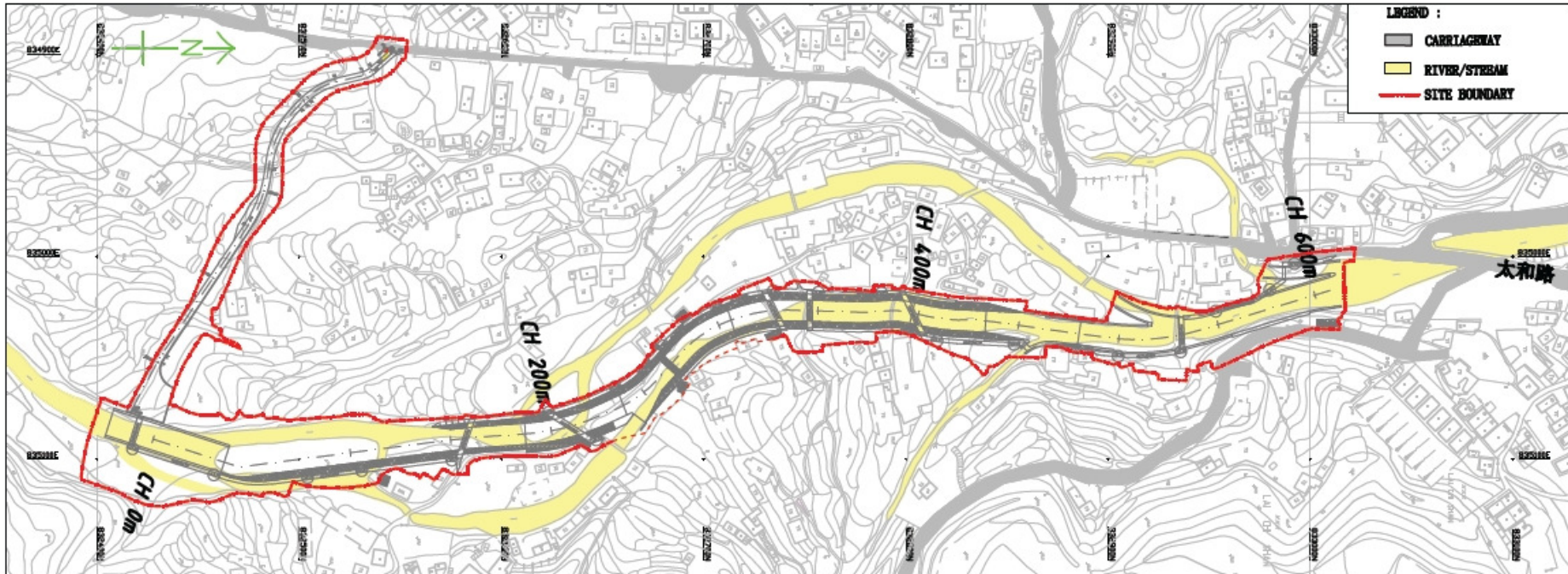
The construction of the proposed improvement works for Upper Tai Po River has been commenced on September 15<sup>th</sup> 2008 and anticipated to complete in April 2011.

### **2.3 Proposed construction sequences**

The proposed construction sequence is shown in the following sequences:

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

Fig 2.1 Layout of construction area



Upper Tai Po River



## **2.4 Construction activities for the reporting period**

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

- (1) Haul access formation
- (2) Boulder breaking works
- (3) Construction of footbridges

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

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

- (1) Haul access formation
- (2) Provision of drain-off pipes in the boulder trap
- (3) Construction of footbridge and retaining wall
- (4) Construction of gabion wall at upstream

## **2.6 Non-compliance with the environmental performance limits**

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

## **2.7 Summary of complaints**

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

## **3.0 Ecological monitoring results**

Ecological impact monitoring was conducted on 26<sup>th</sup> and 27<sup>th</sup> January 2010. The ecological impact monitoring was under preparation and will be provided in the next monthly EM&A report.

#### 4.0 Noise monitoring results

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

**TABLE 4.1 Description of Noise Sensitive Receivers**

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

Noise monitoring was carried out by the Environmental Team on weekly basis for this reporting month on 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup> & 29<sup>th</sup> January 2010. Measured  $L_{eq(30min)}$  results ranged from 49.6dB(A) to 72.6dB(A), and therefore, no exceedance of action or limit level was recorded in this reporting month. For further details of the monitoring results, graphical plots and the location plan, please refer to Appendix D.

## **5.0 Vibration monitoring results**

As no piling works were carried out no vibration monitoring has been conducted by ET during the reporting period. The Contractor conducted baseline monitoring on 20 January 2010.

According to the measurement reports provided by Contractor, 13-minute and 10-minute measurements were conducted at designated monitoring locations Fan Sin Temple and Wun Yiu respectively. Peak velocity 0.402 mm/s at frequency 7.5 Hz was recorded at Fan Sin Temple, while peak velocity 0.381 mm/s at frequency 7.4 Hz was recorded at Wun Yiu. No abnormal result was recorded during the measurements.

Reference standard for vibration monitoring was provided in the Appendix C. For further information of the measured results please find the measurement reports shown in the Appendix J.

## **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 6<sup>th</sup>, 13<sup>th</sup>, 21<sup>st</sup> and 27<sup>th</sup> January 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 6<sup>th</sup>, 13<sup>th</sup>, 21<sup>st</sup> and 27<sup>th</sup> January 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
02 Dec 09	Damaged backhoe was located at haul access D. Also, functional site equipments were found to be leaking oil	Observation	Contractor was advised to remove the concerned site equipment to prevent oil leakage to the surrounding area and provide maintenance to prevent potential oil leakage	Still outstanding. To be follow up in the next reporting month	Ongoing	--
06 Jan 10	No particular observation	N/A	N/A	N/A	N/A	--
13 Jan 10	No particular observation	N/A	N/A	N/A	N/A	--
21 Jan 10	No particular observation	N/A	N/A	N/A	N/A	--
27 Jan 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.

Table 6.2 Summary results of ecological site inspection findings					
Date	Observations	Advice from Ecologist	Action Taken	Closing Date	
06 Jan 2010	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
13 Jan 2010	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
21 Jan 2010	No Major findings for this inspection	No Advice is required	No Action is required to be taken	N/A	
27 Jan 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 January 2010.

## **6.3 Recommendations**

As removal of broken backhoe at haul access D was still outstanding due to technical difficulty. Contractor was again reminded to be cautious on oil leakage from the backhoe causing contamination to the surrounding area. Proper protective measures such as provision of drip pan and/or absorbing materials should be implemented as far as practicable.

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

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

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

## 7.0 Waste management status

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

**Table 7.1** is the Waste Disposal recorded by the Contractor in this month.

Table 7.1 Summary of Waste Disposal for the reporting month

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
January 2010	0	0	0

The cumulative waste flow table is shown in Appendix H.

## 8.0 Status of environmental licensing and permit

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

**Table 8.1 Summary of Environmental Licensing and Permit Status**

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

## **9.0 Future key issues**

As informed by contractor, major construction activities in the upcoming month will include construction of footbridge, gabion wall, site formation and provision of drain-off pipes in the boulder trap. The construction activities for these items will generate several environmental impacts. These include air, noise, water and waste management.

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

Formation of haul access in the stream course may generate water quality impact. Contractor was recommended to provide proper bunds and barriers as forming well enclosed area for construction activities carried out in the river course. Site water treatment facilities should be used whenever necessary.

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

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

## **10.0 Conclusion**

Site preparation works including site access formation, boulder breaking and construction of footbridges were carried out during the reporting period.

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

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

Baseline vibration monitoring was conducted by the Contractor on 20 January 2010. No abnormal finding was shown from the results. Piling works were not scheduled for this month and therefore no vibration monitoring was conducted by ET during the reporting month.

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

There was no complaint recorded in this reporting month.

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

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



## **Appendix A: Event and action plan for ecology**

**Event and action plan for ecology**

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

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

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

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

**APPENDIX TABLE 1** Event / Action plan table for Ecology

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

**Appendix B: Action and limit level for construction noise**

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

**Appendix Table 2:** Action and Limit Levels for Construction Noise

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

\*Limit level set in accordance with Particular Specification Section 26

## **Appendix C: Reference standards for vibration**

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

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

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

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

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

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

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



Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	58.7	66.8	64.6	8-Jan-10	11:23-11:53	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	Background noise from traffic	Cloudy	Façade
UTP 2	51.6	60.0	58.7	8-Jan-10	10:46-11:16	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 3	50.6	64.4	61.4	8-Jan-10	14:37-15:07	Operation of Backhoe	Background noise from traffic	Cloudy	Façade
UTP 4	48.2	58.4	55.3	8-Jan-10	15:42-16:12	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 5	49.4	59.5	57.4	8-Jan-10	15:09-15:39	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 6	46.2	62.1	59.2	8-Jan-10	14:04-14:34	Operation of Backhoe	N/A	Cloudy	Façade
UTP 7	46.3	50.6	49.6	8-Jan-10	13:32-14:02	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 8	49.0	51.5	50.5	8-Jan-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	N/A	Cloudy	Façade
UTP 9	42.2	53.8	53.0	8-Jan-10	10:00-10:30	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 10	40.9	52.1	51.6	8-Jan-10	09:23-09:53	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 11	45.6	59.2	56.4	8-Jan-10	08:50-09:20	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	*Free field

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

Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	50.6	61.3	58.4	15-Jan-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 2	63.4	53.8	61.3	15-Jan-10	13:36-14:06	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	54.8	69.4	65.8	15-Jan-10	14:20-14:50	Tree felling	N/A	Sunny	Façade
UTP 4	56.1	58.9	57.9	15-Jan-10	15:25-15:55	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 5	49.5	55.0	53.0	15-Jan-10	14:54-15:24	Tree felling	N/A	Sunny	Façade
UTP 6	59.8	69.4	67.3	15-Jan-10	10:39-11:09	Tree felling	N/A	Sunny	Façade
UTP 7	69.3	57.6	66.6	15-Jan-10	10:54-11:24	Tree felling	N/A	Sunny	Façade
UTP 8	60.8	52.6	57.3	15-Jan-10	11:25-11:55	Tree felling	N/A	Sunny	Façade
UTP 9	48.3	55.6	54.6	15-Jan-10	09:58-10:28	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	46.1	53.1	52.7	15-Jan-10	09:23-09:53	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	48.4	55.0	54.6	15-Jan-10	08:50-09:20	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Sunny	<b>*Free field</b>

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

Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	54.1	65.7	61.3	22-Jan-10	10:47-11:17	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	Background noise from traffic	Cloudy	Façade
UTP 2	49.3	61.2	58.8	22-Jan-10	11:24-11:54	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	Background noise from traffic	Cloudy	Façade
UTP 3	53.5	75.0	72.6	22-Jan-10	14:37-15:07	Boulder breaking	N/A	Cloudy	Façade
UTP 4	50.4	59.4	58.7	22-Jan-10	15:45-16:15	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 5	49.8	64.9	62.9	22-Jan-10	15:10-15:40	Boulder breaking	N/A	Cloudy	Façade
UTP 6	46.6	68.1	66.2	22-Jan-10	14:04-14:34	Boulder breaking	N/A	Cloudy	Façade
UTP 7	45.8	58.7	55.4	22-Jan-10	13:32-14:02	Boulder breaking	N/A	Cloudy	Façade
UTP 8	48.0	54.6	54.2	22-Jan-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	N/A	Cloudy	Façade
UTP 9	43.3	54.4	53.7	22-Jan-10	10:08-10:38	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 10	41.7	51.4	50.7	22-Jan-10	09:32-10:02	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 11	47.4	56.5	56.7	22-Jan-10	08:58-09:28	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	<b>*Free field</b>

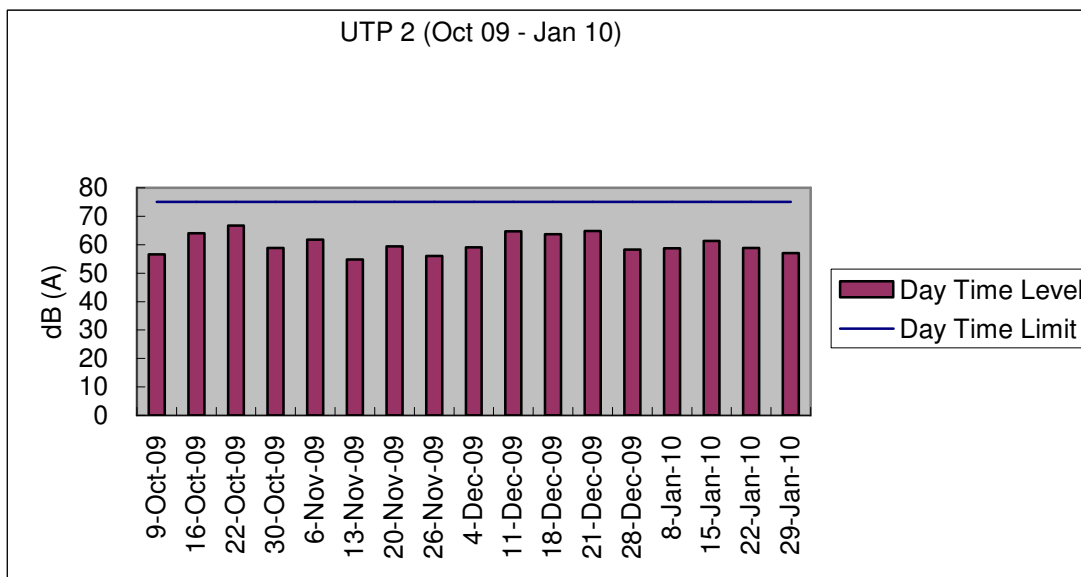
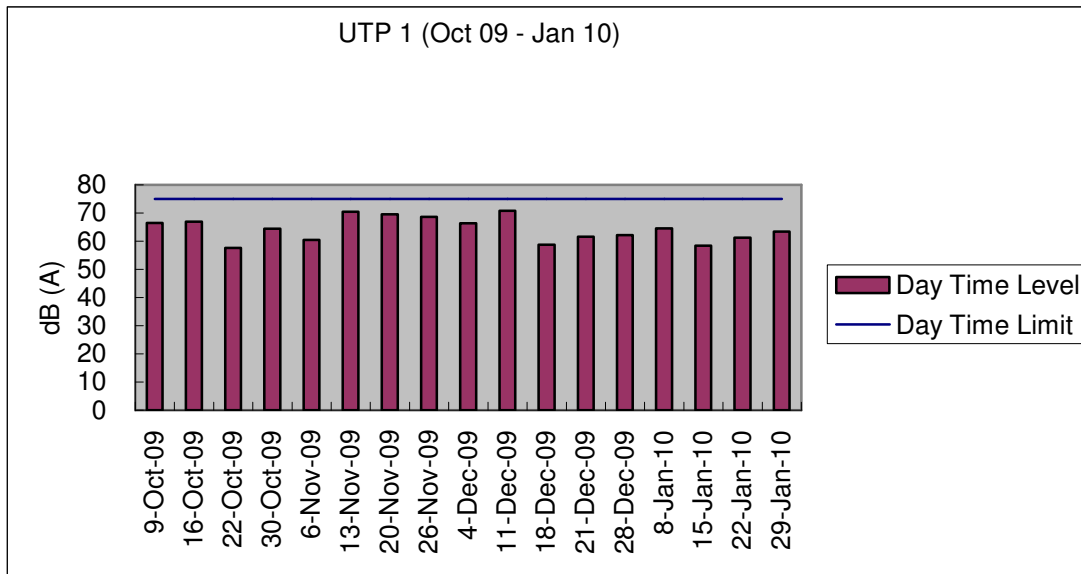
Note\* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

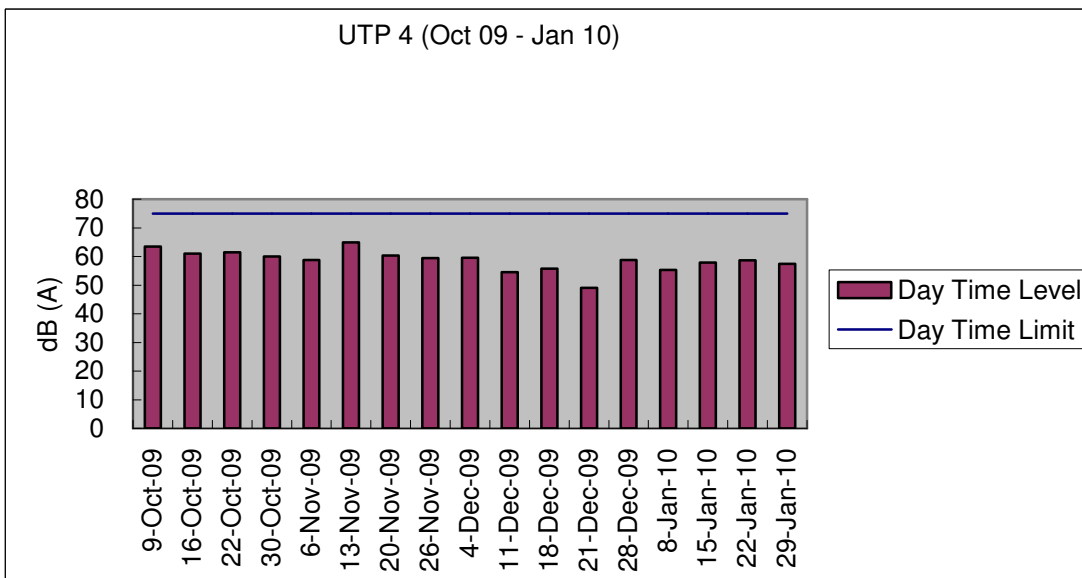
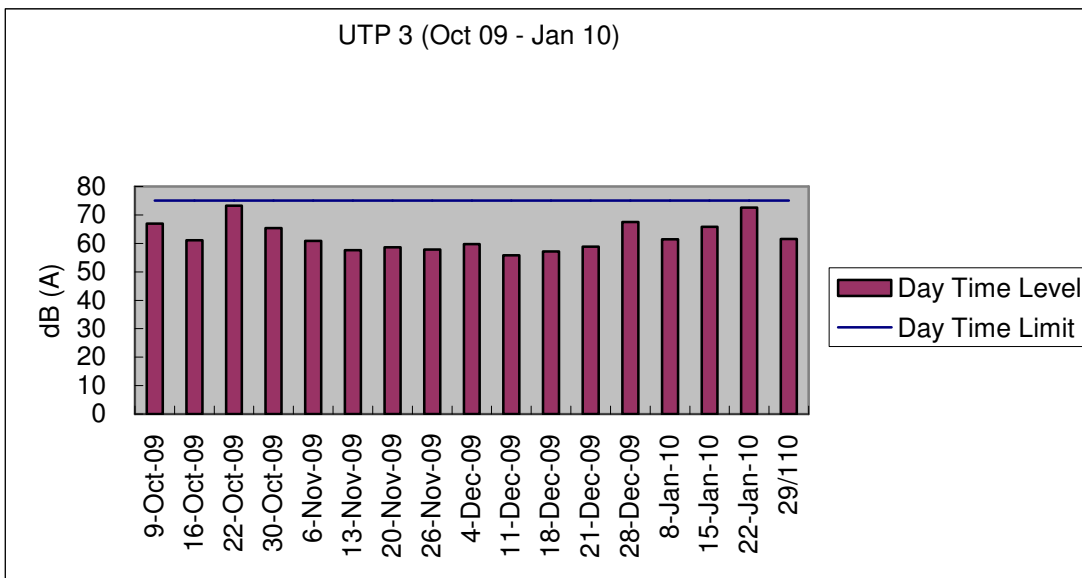
Location	L <sub>90</sub> 30min	L <sub>10</sub> 30min	Leq 30min	Date	Time Duration	Major Construction Noise	Other Noise source	Weather	Location description
UTP 1	51.8	65.6	63.4	29-Jan-10	10:48-11:18	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 2	50.2	57.8	57.0	29-Jan-10	11:23-11:53	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	Background noise from traffic	Cloudy	Façade
UTP 3	51.7	63.2	61.6	29-Jan-10	14:36-15:06	Site formation by backhoe	N/A	Cloudy	Façade
UTP 4	50.3	58.4	57.4	29-Jan-10	15:40-16:10	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	N/A	Cloudy	Façade
UTP 5	42.6	53.5	53.3	29-Jan-10	15:09-15:39	The measured noise level was dominated by the background noise in the immediate vicinity of the monitoring location due to its large distance from the construction activities	N/A	Cloudy	Façade
UTP 6	47.3	58.5	56.1	29-Jan-10	14:04-14:34	Site formation by backhoe	N/A	Cloudy	Façade
UTP 7	50.4	62.8	60.6	29-Jan-10	13:32-14:02	Site formation by backhoe	N/A	Cloudy	Façade
UTP 8	48.6	58.2	56.2	29-Jan-10	13:00-13:30	Site formation by backhoe	N/A	Cloudy	Façade
UTP 9	50.2	63.4	61.7	29-Jan-10	10:00-10:30	Operation of Backhoe at boulder trap	N/A	Cloudy	Façade
UTP 10	44.7	52.9	52.6	29-Jan-10	09:23-09:53	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	Façade
UTP 11	45.7	53.2	52.4	29-Jan-10	08:50-09:20	The measured noise level was dominated by the background noise as no construction activity was being carried out during measurement	N/A	Cloudy	<b>*Free field</b>

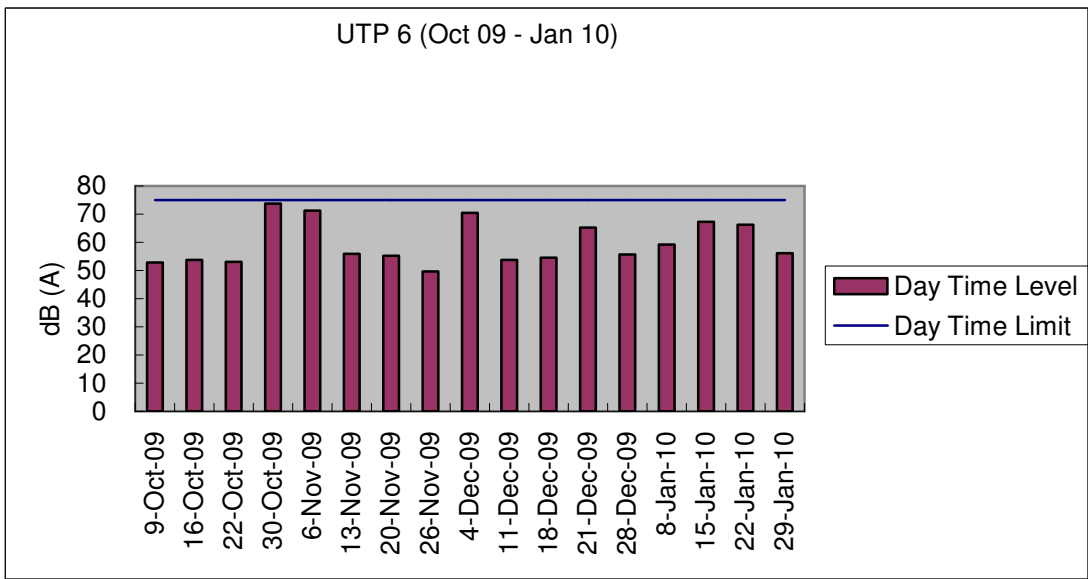
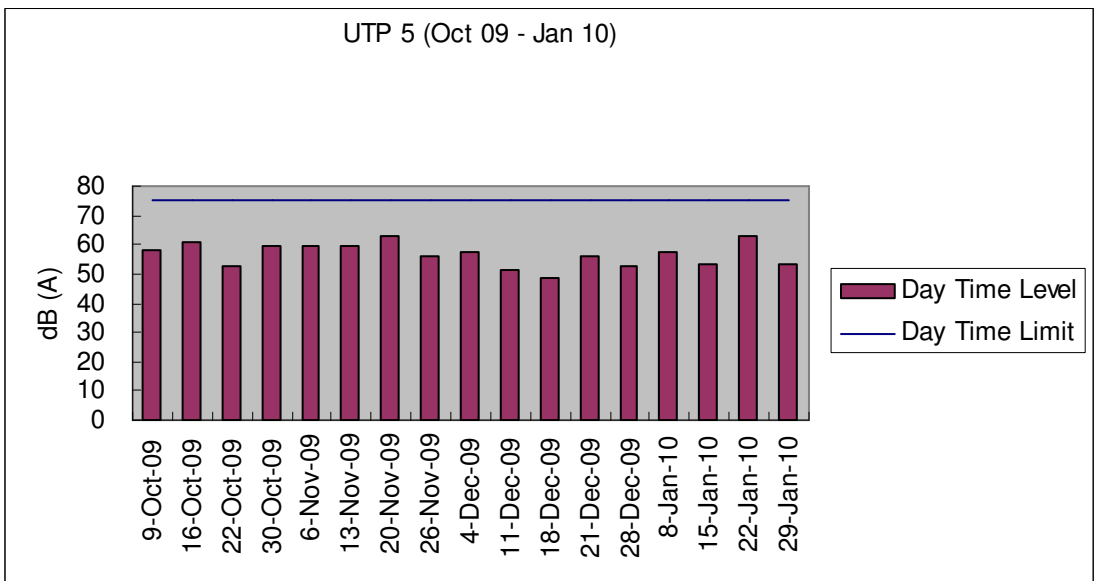
Note\* An Additional of 3dB(A) had been added to the measurement result due to Free Field Correction

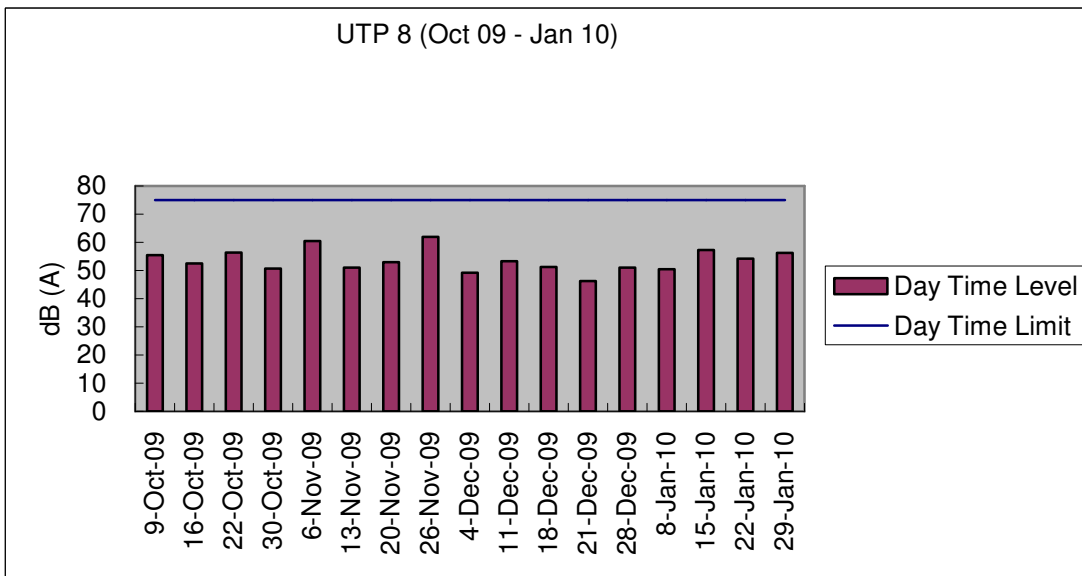
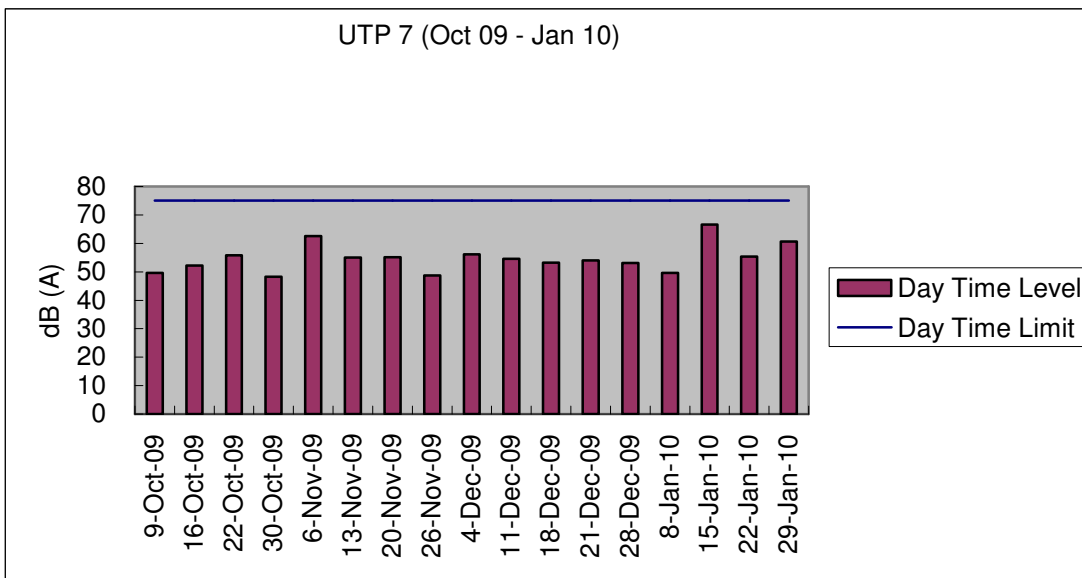
**Graphical plot for noise measurements**

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 October 2009 to January 2010.

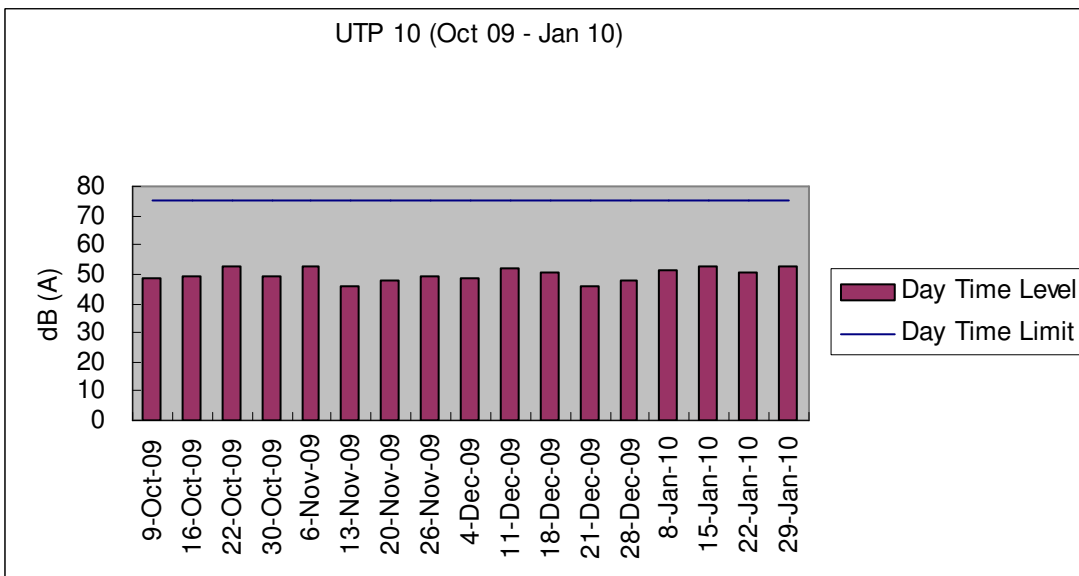
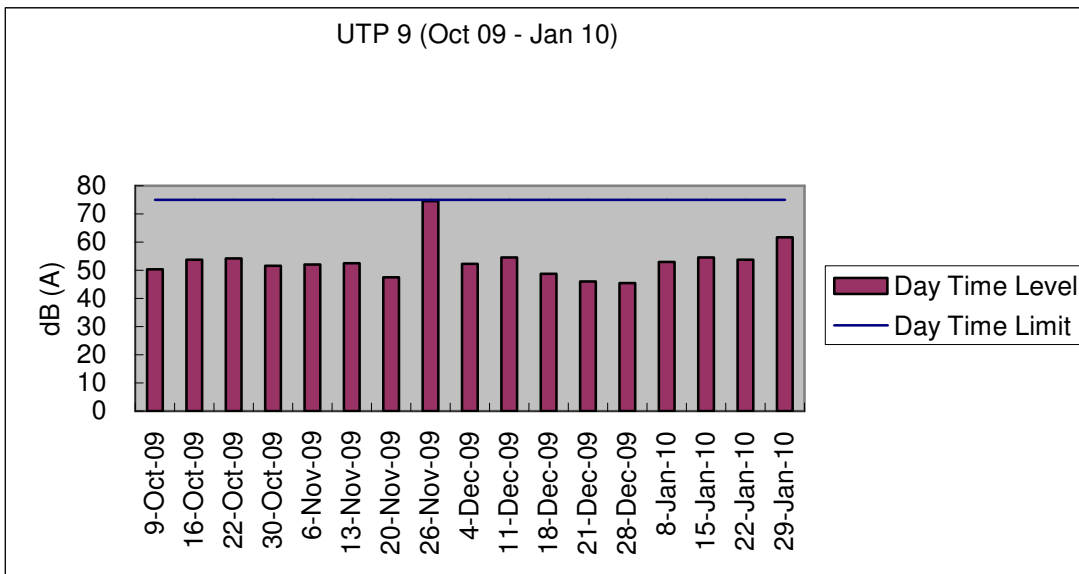


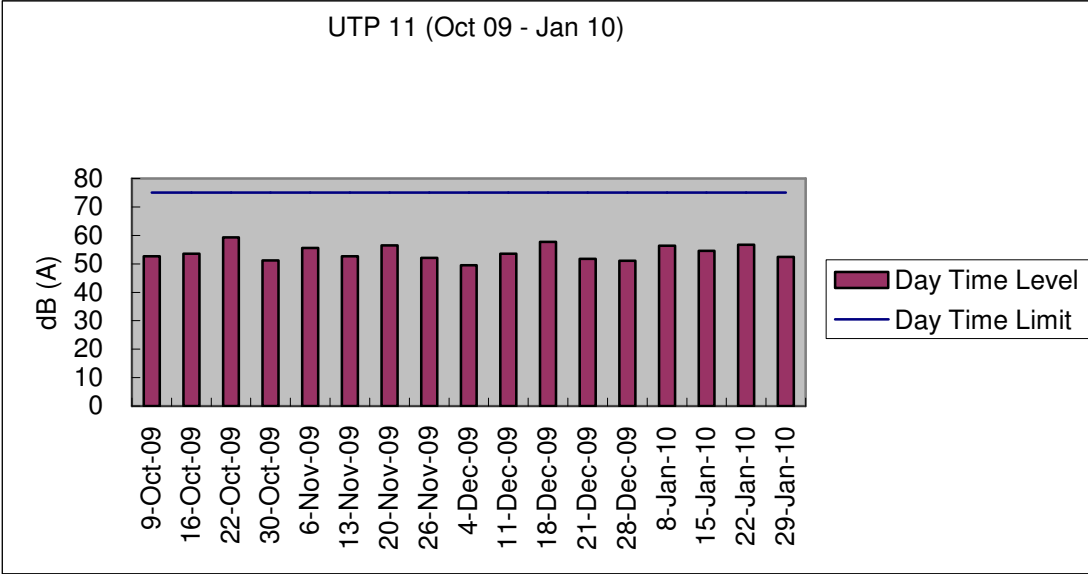


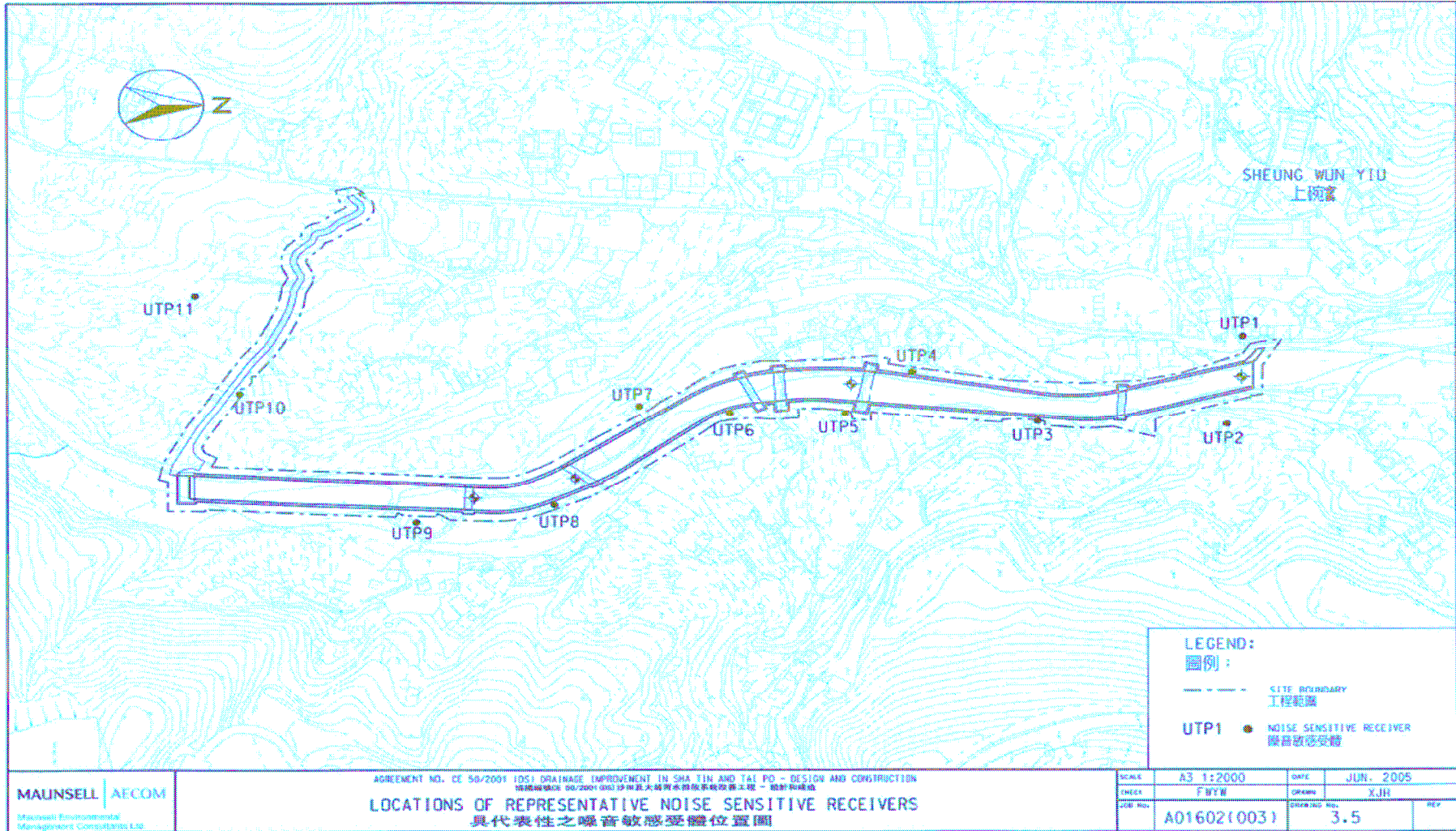












**Appendix E: Monitoring schedule for the present and next reporting period**

**Master Schedule of EM&A works in January 2010**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1/01	2/01
3/01	4/01	5/01	6/01	7/01	8/01	9/01
			Site inspection at afternoon		Noise monitoring	
10/01	11/01	12/01	13/01	14/01	15/01	16/01
			Site inspection at afternoon		Noise monitoring	
17/01	18/01	19/01	20/01	21/01	22/01	23/01
				Site inspection and SSEMC at morning	Noise monitoring	
24/01 & 31/01	25/01	26/01	27/01	28/01	29/01	30/01
			Site inspection at afternoon		Noise monitoring	

**Master Schedule of EM&A works in February 2010**

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

**Appendix F: Cumulative complaint log**

<b>Environmental Parameters</b>	<b>Cumulative no. Brought forward</b>	<b>No. of complaint January 2010</b>	<b>Overall Total</b>
Air/Dust	1	0	1
Noise	1	0	1
Water	2	0	2
House Keeping Hygiene	0	0	0
Chemical waste	0	0	0
<b>Total</b>	<b>4</b>	<b>0</b>	<b>4</b>

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

**Appendix G: Implementation status of environmental protection and mitigation measures**



Implementation status of environmental protection and mitigation

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Construction Noise	No percussive piling shall be carried out	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	Not applicable at this stage	Not required
	Land-based plant shall be employed and site run-off shall be directed towards regularly cleaned and maintained silt traps and oil / grease separators to minimize leakage and loss of sediments during excavation	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	Rectified

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

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

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Ecology	Large boulders will be returned to the riverbed following the excavation works.	Not applicable	Not required
	Construction works from Ch. 0.0m – Ch. 150m would be along one side of the river only	Not applicable	Not required
	Approximately 150m of the existing natural riverbank on the western side of the river would be retained.	Implemented	Not required
	Excavation works within the river channel should be restricted to an enclosed dewater section of the river, and would be limited to sections 50-100m long at any one time.	Implemented	Not required
	Flows to the area downstream shall be maintained at all times during the construction phase	Implemented	Not required
	Capture survey shall be conducted within the Tai Po River before commencement of works. The captured target species shall be relocated to areas of the watercourse upstream of the watercourse upstream of the Tai Po River	Capture surveys had been conducted at the beginning of the Contract, during the wet season July/August 2008, 4 <sup>th</sup> November 2008 and 27 <sup>th</sup> , 28 <sup>th</sup> October 2009	Not required
	Temporary noise barriers should be constructed to control noise impacts to habitats and associated wildlife within and adjacent to the proposed works area	Implemented	Not required
	Excavation works shall be carried out by land based plant within enclosed dry section of river channel.	Implemented	Not required
	Compensatory planting of trees and other vegetation along the banks of the newly improved drainage channel should be provided to compensate for the loss of riparian vegetation.	Not applicable	Not required
Operation phase activities in the improved drainage channel would be limited to periodic channel maintenance such as de-silting.	Not applicable	Not required	

**Appendix H: Cumulative waste flow table**Cumulative waste flow table since 15<sup>th</sup> September 2008

Type of waste	Inert Waste	Non-Inert Waste	Chemical Waste
September 2008	0	0	0
October 2008	0	2 tonnes	0
November 2008	36m <sup>3</sup>	0	0
December 2008	0	0	0
January 2009	0	0	0
February 2009	0	0	0
March 2009	0	0	0
April 2009	0	0	0
May 2009	0	0	20kg*
June 2009	0	0	0
July 2009	0	0	0
August 2009	0	0	0
September 2009	0	0	0
October 2009	0.9m <sup>3</sup>	0	0
November 2009	0	0	0
December 2009	0	0	0
January 2010	0	0	0
Total	36.9m <sup>3</sup>	2 tonnes	20kg

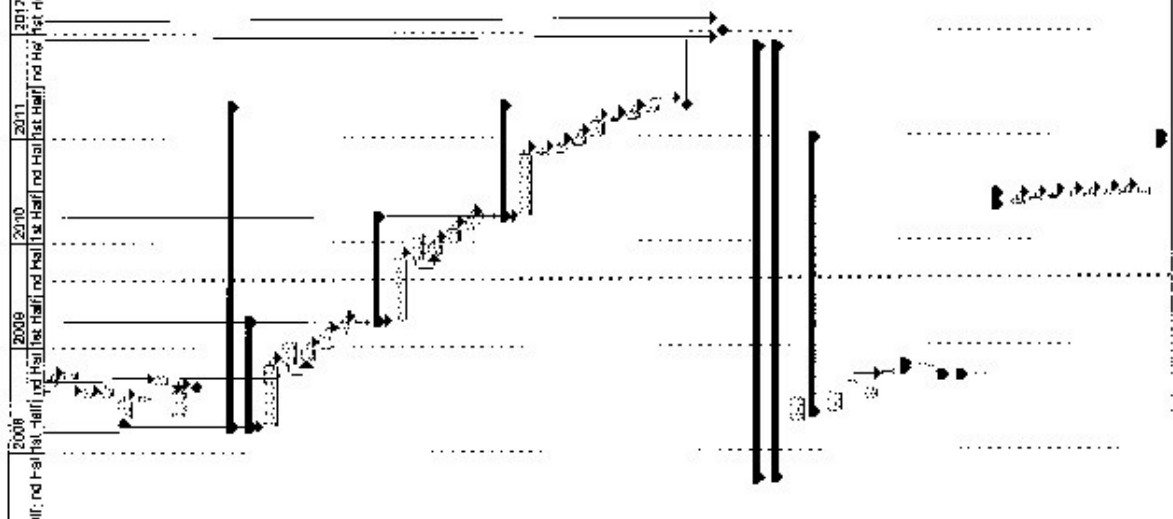
Remark\*: Chemical wastes generated from the project sites including Upper Tai Po River, Lam Tsuen River and She Shan River were centralized for disposal.

## **Appendix I: Construction programme**

# Drainage Services Department

## Contract No. DC/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
806	Site Clearance	20 d	24/03/2008	12/04/2008	24/03/2008	12/04/2008							
807	Charmark Setting Work	30 d	13/03/2008	12/04/2008	13/03/2008	12/04/2008							
808	Initial Survey	30 d	15/03/2008	13/04/2008	15/03/2008	13/04/2008							
809	Condition Surveys / Set up markers	30 d	15/03/2008	13/04/2008	15/03/2008	13/04/2008							
810	Preparation of Temporary Works Design	60 d	25/03/2008	25/05/2008	25/03/2008	25/05/2008							
811	Approval of Temporary Works Design	14 d	17/03/2008	14/04/2008	17/03/2008	14/04/2008							
812	SI Works	38 d	24/03/2008	27/05/2008	24/03/2008	27/05/2008							
813	Submission of Archaeological Monitoring	96 d	05/03/2008	05/03/2008	05/03/2008	05/03/2008							
814	Approval of Archaeological Monitoring	0 d	18/03/2008	18/03/2008	18/03/2008	18/03/2008							
815	Chattisage from CHL 1850 to CHL 1850	114 d	14/02/2008	19/05/2011	14/02/2008	19/05/2011							
816	From CHL 1850 to CHL 1700	354 d	14/02/2008	30/03/2009	14/02/2008	30/03/2009							
817	Wet Season (April to Oct 2008)	2-4 d	14/02/2008	14/02/2008	14/02/2008	14/02/2008							
818	Excavation	80 d	11/12/2008	19/12/2008	11/12/2008	19/12/2008							
819	Rockfill & Blinding	40 d	16/11/2008	25/12/2008	16/11/2008	25/12/2008							
820	Reaming Well	50 d	28/12/2008	13/02/2009	28/12/2008	13/02/2009							
821	Cabin Wall	40 d	14/02/2009	23/03/2009	14/02/2009	23/03/2009							
822	Install Doors/Fencing/Rainings/Drainage	5 d	28/02/2009	30/02/2009	28/02/2009	30/02/2009							
823	From CHL 1700 to CHL 1550	214 d	14/02/2009	14/02/2010	14/02/2009	14/02/2010							
824	Wet Season (April to Oct 2009)	40 d	16/11/2009	25/12/2009	16/11/2009	25/12/2009							
825	Excavation	50 d	28/12/2009	13/02/2010	28/12/2009	13/02/2010							
826	Rockfill & Blinding	40 d	14/02/2010	23/03/2010	14/02/2010	23/03/2010							
827	Reaming Well	5 d	28/02/2010	30/02/2010	28/02/2010	30/02/2010							
828	Dipion Wall	384 d	14/02/2010	18/04/2011	14/02/2010	18/04/2011							
829	Install Doors/Fencing/Rainings/Coverage	214 d	14/02/2010	14/02/2011	14/02/2010	14/02/2011							
830	Feetbridge, Platform and Fill Slope	5 d	30/03/2010	31/03/2010	30/03/2010	31/03/2010							
831	Wet Season (April to Oct 2010)	214 d	14/02/2010	14/02/2011	14/02/2010	14/02/2011							
832	Preparation of Temp. Footbridge	5 d	11/12/2010	11/12/2010	11/12/2010	11/12/2010							
833	Footbridge for footbridge	25 d	01/12/2010	30/12/2010	01/12/2010	30/12/2010							
834	Footbridge	30 d	01/12/2010	30/12/2010	01/12/2010	30/12/2010							
835	Footbridge	56 d	31/12/2010	23/02/2011	31/12/2010	23/02/2011							
836	Distribution of existing footbridge	5 d	24/02/2011	28/02/2011	24/02/2011	28/02/2011							
837	Box Culvert	25 d	13/02/2011	25/02/2011	13/02/2011	25/02/2011							
838	Footpaths Maintenance (Railway)	25 d	26/02/2011	19/04/2011	26/02/2011	19/04/2011							
840	Completion of Area K	0 d	19/04/2011	19/04/2011	19/04/2011	19/04/2011							
842	Completion of Work at Section 2	0 d	4/11/2012	4/11/2012	4/11/2012	4/11/2012							
844	Section 3 - Upper Tai Po River (Area L, M, P)												
846	Area L	1503 d	28/02/2007	01/11/2011	28/02/2007	01/11/2011							
847	Handover	31 d	04/02/2008	28/02/2008	04/02/2008	28/02/2008							
848	Access Road D	958 d	14/02/2008	25/11/2010	14/02/2008	25/11/2010							
849	Site Clearance for Inlet Survey	3 d	17/02/2008	18/02/2008	17/02/2008	18/02/2008							
850	Site Clearance	34 d	28/02/2008	29/02/2008	28/02/2008	29/02/2008							
851	Project Site Board	4 d	22/02/2008	25/02/2008	22/02/2008	25/02/2008							
852	Final 080 formation	15 d	11/10/2008	25/10/2008	11/10/2008	25/10/2008							
853	Noise Barriers	15 d	11/10/2008	25/10/2008	11/10/2008	25/10/2008							
854	Access D Ch 2+25-3+10	15 d	11/10/2008	25/10/2008	11/10/2008	25/10/2008							
855	Utilities	1 d	17/02/2008	17/02/2008	17/02/2008	17/02/2008							
856	PCPW	1 d	17/02/2008	17/02/2008	17/02/2008	17/02/2008							
857	Final piling	40 d	16/02/2010	16/02/2010	16/02/2010	16/02/2010							
858	Retaining Wall (ch 3+00)	15 d	16/02/2010	16/02/2010	16/02/2010	16/02/2010							
859	Bulk excavation	4 d	18/02/2010	20/02/2010	18/02/2010	20/02/2010							
860	Formation	5 d	18/02/2010	20/02/2010	18/02/2010	20/02/2010							
861	Formwork and rebar fairing (base slab)	5 d	21/02/2010	25/02/2010	21/02/2010	25/02/2010							
862	Concreting (base slab)	2 d	26/02/2010	27/02/2010	26/02/2010	27/02/2010							
863	Stripping off formwork (base slab)	3 d	28/02/2010	30/02/2010	28/02/2010	30/02/2010							
864	Formwork and rebar fairing (wall stem)	5 d	31/02/2010	04/03/2010	31/02/2010	04/03/2010							
865	Concreting (wall stem)	2 d	04/03/2010	06/03/2010	04/03/2010	06/03/2010							
866	Stripping off formwork (wall stem)	3 d	07/03/2010	09/03/2010	07/03/2010	09/03/2010							
867	Canalway	25 d	11/03/2010	26/03/2010	11/03/2010	26/03/2010							



Project: Revised M. Prog (Rev.08)  
 Date: 08 Aug 2009  
 Consultant: AECOM

Task:  Critical Task Progress  
 Task Progress:  Milestone  
 Critical Task:  Summary

Rotted Up Task:  Rotted Up Progress  
 Rotted Up Critical Task:  Split  
 Rotted Up Milestone:  External Tasks

Chiu Hing Construction & Transportation Co., Ltd

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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 (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
885	Formation	20 d	11/12/2007	20/12/2007	11/12/2007	20/12/2007							
886	Concreting	5 d	21/12/2007	25/12/2007	21/12/2007	25/12/2007							
870	Ch-23 - 45	818 d	28/02/2007	23/12/2009	28/02/2007	23/12/2009							
871	Site Clearance	9 d	27/02/2008	4/3/2008	27/02/2008	4/3/2008							
872	Hardroad formation	29 d	28/02/2008	5/11/2008	28/02/2008	5/11/2008							
873	Water diversion	5 d	30/10/2008	3/11/2008	30/10/2008	3/11/2008							
874	Boulder Trap (Bay 7-8) (ch-23 - 45)	134 d	27/11/2008	9/4/2009	27/11/2008	9/4/2009							
875	Bulk excavation	15 d	27/11/2008	1/12/2008	27/11/2008	1/12/2008							
876	Formation (bay 7)	5 d	13/12/2008	17/12/2008	13/12/2008	17/12/2008							
877	Formwork (base slab, bay 7)	3 d	23/12/2008	24/12/2008	23/12/2008	24/12/2008							
878	Rebar fixing (base slab, bay 7)	1 d	31/12/2008	31/12/2008	31/12/2008	31/12/2008							
879	Concreting (base slab, bay 7)	1 d	4/1/2009	4/1/2009	4/1/2009	4/1/2009							
880	Stripping off formwork (base slab, bay 7)	4 d	8/1/2009	9/1/2009	8/1/2009	9/1/2009							
881	Formwork (wall stem, bay 7 RHS)	2 d	10/1/2009	11/1/2009	10/1/2009	11/1/2009							
882	Rebar fixing (wall stem, bay 7 RHS)	1 d	12/1/2009	12/1/2009	12/1/2009	12/1/2009							
883	Concreting (wall stem, bay 7 RHS)	1 d	13/1/2009	13/1/2009	13/1/2009	13/1/2009							
884	Stripping off formwork (wall stem, bay 7 RHS)	1 d	14/1/2009	14/1/2009	14/1/2009	14/1/2009							
885	Formation (bay 8)	1 d	23/1/2009	20/1/2009	23/1/2009	20/1/2009							
886	Formwork (base slab, bay 8)	1 d	11/2/2009	11/2/2009	11/2/2009	11/2/2009							
887	Rebar fixing (base slab, bay 8)	1 d	14/2/2009	14/2/2009	14/2/2009	14/2/2009							
888	Concreting (base slab, bay 8)	1 d	15/2/2009	15/2/2009	15/2/2009	15/2/2009							
889	Rebar fixing (wall stem, bay 8 LHS)	2 d	24/2/2009	25/2/2009	24/2/2009	25/2/2009							
890	Shuttering formwork (wall stem, bay 8 LHS)	2 d	28/2/2009	3/3/2009	28/2/2009	3/3/2009							
891	Concreting (wall stem, bay 8 LHS)	1 d	14/3/2009	14/3/2009	14/3/2009	14/3/2009							
892	Stripping off formwork (wall stem, bay 8 LHS)	1 d	15/3/2009	15/3/2009	15/3/2009	15/3/2009							
893	Formwork (base slab, bay 8)	4 d	19/3/2009	23/3/2009	19/3/2009	23/3/2009							
894	Rebar fixing and shuttering formwork (wall stem, bay 8 RHS)	5 d	21/3/2009	26/3/2009	21/3/2009	26/3/2009							
895	Shuttering formwork (wall stem, bay 8 RHS)	1 d	21/3/2009	21/3/2009	21/3/2009	21/3/2009							
896	Concreting (wall stem, bay 8 RHS)	1 d	7/4/2009	7/4/2009	7/4/2009	7/4/2009							
897	Stripping off formwork (wall stem, bay 8 RHS)	1 d	8/4/2009	8/4/2009	8/4/2009	8/4/2009							
898	Stripping off formwork (wall stem, bay 8 LHS, RH-S)	1 d	9/4/2009	9/4/2009	9/4/2009	9/4/2009							
899	Boulder Trap (Bay 4-5) (ch-23 - 46)	558 d	28/02/2007	8/4/2009	28/02/2007	8/4/2009							
900	Bulk excavation	17 d	3/1/2009	19/1/2009	3/1/2009	19/1/2009							
901	Formation (bay 5/6)	1 d	20/1/2009	20/1/2009	20/1/2009	20/1/2009							
902	Formwork (base slab, bay 5/6)	1 d	22/2/2009	22/2/2009	22/2/2009	22/2/2009							
903	Rebar fixing (base slab, bay 5)	3 d	2/3/2009	4/3/2009	2/3/2009	4/3/2009							
904	Concreting (base slab, bay 5)	1 d	7/3/2009	7/3/2009	7/3/2009	7/3/2009							
905	Rebar fixing (base slab, bay 6)	8 d	3/3/2009	11/3/2009	3/3/2009	11/3/2009							
906	Formwork (wall stem, bay 5)	1 d	12/3/2009	12/3/2009	12/3/2009	12/3/2009							
907	Concreting of wall between bay 4&5	1 d	13/3/2009	13/3/2009	13/3/2009	13/3/2009							
908	Concreting (base slab, bay 6)	1 d	13/3/2009	13/3/2009	13/3/2009	13/3/2009							
909	Stripping off formwork (wall between bay 4&5, base slab, bay 6)	1 d	14/3/2009	14/3/2009	14/3/2009	14/3/2009							
910	Formation (base slab, bay 4)	1 d	20/3/2009	20/3/2009	20/3/2009	20/3/2009							
911	Formwork (wall stem, bay 5)	1 d	21/3/2009	21/3/2009	21/3/2009	21/3/2009							
912	Formwork and rebar fixing (base slab, bay 4)	7 d	23/3/2009	18/3/2009	23/3/2009	18/3/2009							
913	Rebar fixing (wall stem, bay 5 LHS)	1 d	26/3/2009	26/3/2009	26/3/2009	26/3/2009							
914	Shuttering formwork (wall stem, bay 5 LHS)	1 d	28/3/2009	28/3/2009	28/3/2009	28/3/2009							
915	Concreting (wall stem, bay 5 RHS)	1 d	29/3/2009	29/3/2009	29/3/2009	29/3/2009							
916	Stripping off formwork (wall stem, bay 5 LHS)	1 d	30/3/2009	30/3/2009	30/3/2009	30/3/2009							
917	Formwork (wall stem, bay 5 RHS)	1 d	1/4/2009	1/4/2009	1/4/2009	1/4/2009							
918	Shuttering formwork (base slab, bay 4)	1 d	3/4/2009	3/4/2009	3/4/2009	3/4/2009							
919	Concreting (base slab, bay 4)	1 d	4/4/2009	4/4/2009	4/4/2009	4/4/2009							
920	Rebar fixing and formwork, shuttering (wall stem, bay 5 RHS)	2 d	4/4/2009	5/4/2009	4/4/2009	5/4/2009							
921	Stripping off formwork (base slab, bay 4)	1 d	5/4/2009	5/4/2009	5/4/2009	5/4/2009							
922	Formwork (wall stem, bay 4 LHS)	1 d	9/4/2009	9/4/2009	9/4/2009	9/4/2009							
923	Rebar fixing (wall stem, bay 4 LHS)	2 d	10/4/2009	11/4/2009	10/4/2009	11/4/2009							
924	Formwork and rebar fixing (wall stem, bay 4 RHS)	4 d	10/4/2009	13/4/2009	10/4/2009	13/4/2009							
925	Concreting (wall stem, bay 4 LHS, bay 5 RHS)	1 d	17/4/2009	17/4/2009	17/4/2009	17/4/2009							
926	Rebar fixing and shuttering the formwork (wall stem, bay 4 RHS, bay 5 RHS)	2 d	17/4/2009	18/4/2009	17/4/2009	18/4/2009							
927	Stripping off formwork (wall stem, bay 4 LHS, bay 5 RHS)	2 d	18/4/2009	19/4/2009	18/4/2009	19/4/2009							
928	Rebar fixing and shuttering formwork (wall stem, bay 5 RHS)	5 d	21/4/2009	25/4/2009	21/4/2009	25/4/2009							
929	Concreting (wall stem, bay 4 RHS, bay 5 LHS)	1 d	26/3/2009	26/3/2009	26/3/2009	26/3/2009							
930	Rebar fixing and formwork (wall stem, bay 5)	5 d	27/3/2009	27/3/2009	27/3/2009	27/3/2009							

Project: Revised M. Prog (Rev. 08)  
 Date: Aug 2009  
 Consultant: RECOM

Task:  Task Progress  Critical Task Progress  Milestone  Summary

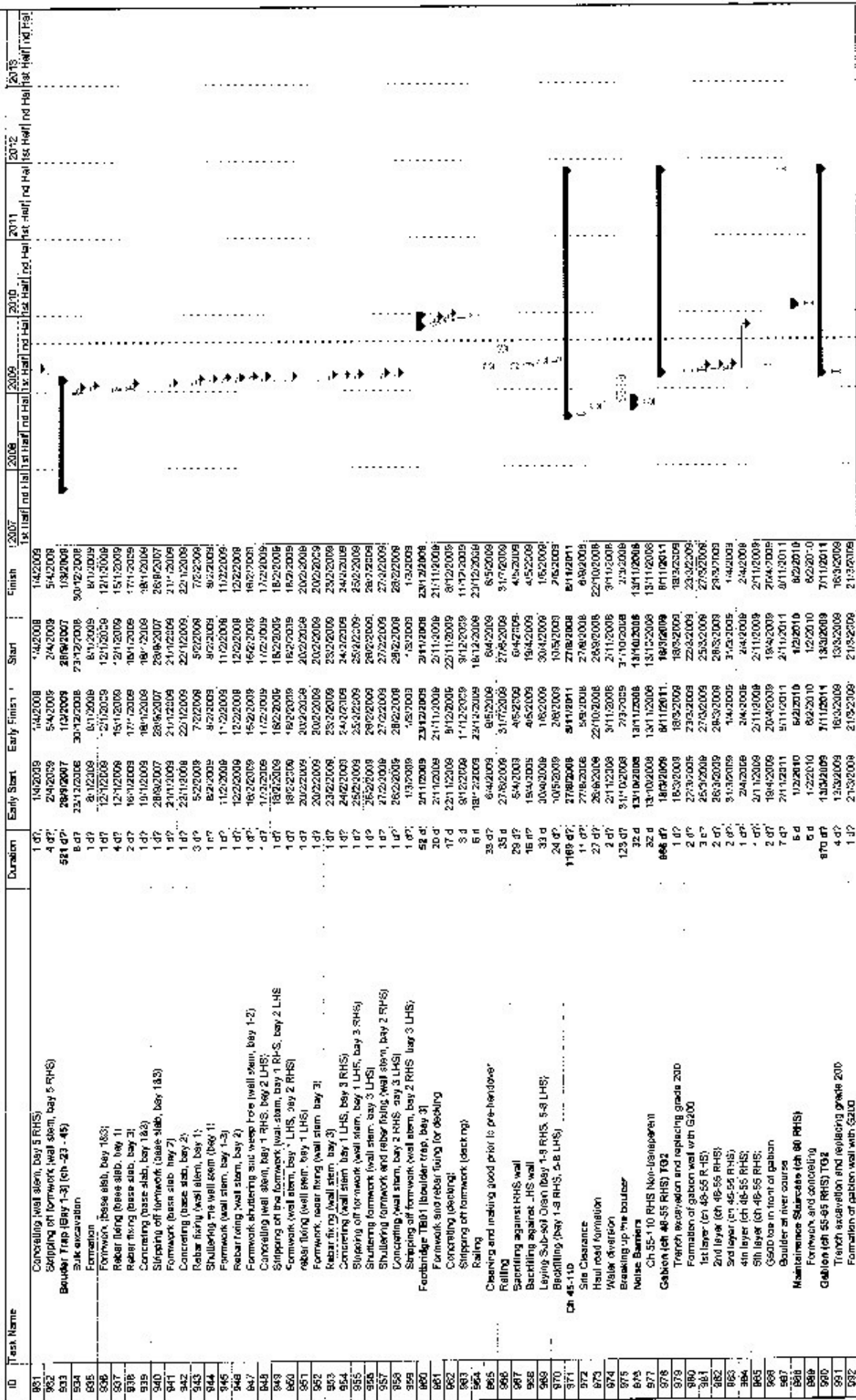
Task:  Rolled Up Progress  Spill  External Task

Task:  Rolled Up Official Task  Rolled Up Milestone

# Drainage Services Department

## River Improvement Works in Upper Lam Teuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)

Contract No. DC/2007/06



Project: Revised M. Prog (Rev.08) Railed Up Progress  
 Date: Aug 2009 Railed Up Critical Task  
 Consultant: AECOM Railed Up Milestone



# Drainage Services Department

## River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Contract No. DC/2007/06 Revised Master Programme (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2010	2011	2012	2013
963	1st layer (ch 55-65 RHS)	3 d	25/02/09	27/02/09	25/02/09	27/02/09						
964	2nd layer (ch 55-65 RHS)	2 d	26/02/09	28/02/09	26/02/09	28/02/09						
965	3rd layer (ch 55-65 RHS)	2 d	27/02/09	29/02/09	27/02/09	29/02/09						
966	4th layer (ch 55-65 RHS)	1 d	28/02/09	29/02/09	28/02/09	29/02/09						
967	5th layer (ch 55-65 RHS)	1 d	29/02/09	30/02/09	29/02/09	30/02/09						
968	5500 toe in front of gabion	7 d	18/02/09	25/02/09	18/02/09	25/02/09						
969	Boulder at river course	8 d	19/02/09	27/02/09	19/02/09	27/02/09						
970	Gabion (ch 65-75 RHS) TG2	8 d	19/02/09	27/02/09	19/02/09	27/02/09						
1001	Trench excavation and replacing grade 200	4 d	03/03/09	07/03/09	03/03/09	07/03/09						
1002	Formation of gabion wall with G200	8 d	03/03/09	11/03/09	03/03/09	11/03/09						
1003	1st layer (ch 65-75 RHS)	2 d	12/03/09	14/03/09	12/03/09	14/03/09						
1004	2nd layer (ch 65-75 RHS)	2 d	13/03/09	15/03/09	13/03/09	15/03/09						
1005	3rd layer (ch 65-75 RHS)	2 d	14/03/09	16/03/09	14/03/09	16/03/09						
1006	4th layer (ch 65-75 RHS)	2 d	15/03/09	17/03/09	15/03/09	17/03/09						
1007	5th layer (ch 65-75 RHS)	1 d	16/03/09	17/03/09	16/03/09	17/03/09						
1008	G500 toe in front of gabion	2 d	16/03/09	18/03/09	16/03/09	18/03/09						
1009	Boulder at river course	7 d	17/03/09	24/03/09	17/03/09	24/03/09						
1010	Gabion (ch 75-80 RHS) TG2	10 d	17/03/09	26/03/09	17/03/09	26/03/09						
1011	Trench excavation and replacing grade 200	4 d	17/03/09	21/03/09	17/03/09	21/03/09						
1012	Formation of gabion wall with G200	2 d	17/03/09	19/03/09	17/03/09	19/03/09						
1013	1st layer (ch 75-80 RHS)	1 d	18/03/09	19/03/09	18/03/09	19/03/09						
1014	2nd layer (ch 75-80 RHS)	2 d	19/03/09	21/03/09	19/03/09	21/03/09						
1015	3rd layer (ch 75-80 RHS)	2 d	20/03/09	22/03/09	20/03/09	22/03/09						
1016	4th layer (ch 75-80 RHS)	1 d	21/03/09	22/03/09	21/03/09	22/03/09						
1017	5th layer (ch 75-80 RHS)	1 d	22/03/09	23/03/09	22/03/09	23/03/09						
1018	G500 toe in front of gabion	2 d	22/03/09	24/03/09	22/03/09	24/03/09						
1019	Boulder at river course	7 d	23/03/09	29/03/09	23/03/09	29/03/09						
1020	Gabion (ch 80-90 RHS) TG2	10 d	23/03/09	31/03/09	23/03/09	31/03/09						
1021	Trench excavation and replacing grade 200	4 d	23/03/09	27/03/09	23/03/09	27/03/09						
1022	Formation of gabion wall with G200	2 d	23/03/09	25/03/09	23/03/09	25/03/09						
1023	1st layer (ch 80-90 RHS)	1 d	24/03/09	25/03/09	24/03/09	25/03/09						
1024	2nd layer (ch 80-90 RHS)	1 d	25/03/09	26/03/09	25/03/09	26/03/09						
1025	3rd layer (ch 80-90 RHS)	1 d	26/03/09	27/03/09	26/03/09	27/03/09						
1026	4th layer (ch 80-90 RHS)	1 d	27/03/09	28/03/09	27/03/09	28/03/09						
1027	5th layer (ch 80-90 RHS)	1 d	28/03/09	29/03/09	28/03/09	29/03/09						
1028	G500 toe in front of gabion	2 d	28/03/09	30/03/09	28/03/09	30/03/09						
1029	Boulder at river course	7 d	29/03/09	04/04/09	29/03/09	04/04/09						
1030	Gabion (ch 90-100 RHS) TG2	10 d	29/03/09	08/04/09	29/03/09	08/04/09						
1031	Trench excavation	1 d	29/03/09	30/03/09	29/03/09	30/03/09						
1032	Formwork for gabion units	2 d	29/03/09	31/03/09	29/03/09	31/03/09						
1033	1st layer (ch 90-100 RHS)	3 d	30/03/09	01/04/09	30/03/09	01/04/09						
1034	2nd layer (ch 90-100 RHS)	3 d	31/03/09	02/04/09	31/03/09	02/04/09						
1035	3rd layer (ch 90-100 RHS)	1 d	01/04/09	02/04/09	01/04/09	02/04/09						
1036	4th layer (ch 90-100 RHS)	1 d	02/04/09	03/04/09	02/04/09	03/04/09						
1037	5th layer (ch 90-100 RHS)	1 d	03/04/09	04/04/09	03/04/09	04/04/09						
1038	G500 toe in front of gabion	2 d	03/04/09	05/04/09	03/04/09	05/04/09						
1039	Boulder at river course	7 d	04/04/09	11/04/09	04/04/09	11/04/09						
1040	Maintenance Staircase (ch 100 RHS)	8 d	12/04/09	20/04/09	12/04/09	20/04/09						
1041	Formwork and concrete	6 d	12/04/09	18/04/09	12/04/09	18/04/09						
1042	Gabion (ch 100-110 RHS) TG3	8 d	12/04/09	20/04/09	12/04/09	20/04/09						
1043	Trench excavation and replacing grade 200	2 d	12/04/09	14/04/09	12/04/09	14/04/09						
1044	Formation of gabion wall with G200	3 d	13/04/09	16/04/09	13/04/09	16/04/09						
1045	1st layer (ch 100-110 RHS)	2 d	14/04/09	16/04/09	14/04/09	16/04/09						
1046	2nd layer (ch 100-110 RHS)	1 d	15/04/09	16/04/09	15/04/09	16/04/09						
1047	3rd layer (ch 100-110 RHS)	3 d	16/04/09	19/04/09	16/04/09	19/04/09						
1048	4th layer (ch 100-110 RHS)	1 d	17/04/09	18/04/09	17/04/09	18/04/09						
1049	5th layer (ch 100-110 RHS)	1 d	18/04/09	19/04/09	18/04/09	19/04/09						
1050	G500 toe in front of gabion	2 d	18/04/09	20/04/09	18/04/09	20/04/09						
1051	Boulder at river course	7 d	19/04/09	26/04/09	19/04/09	26/04/09						
1052	Area P	1 d	20/04/09	20/04/09	20/04/09	20/04/09						
1053	Hand over	1 d	20/04/09	20/04/09	20/04/09	20/04/09						
1054	Ch 110 - 150	866 d	04/09/08	17/11/2011	04/09/08	17/11/2011						

Project: Revised M. Prog (Rev.08)  
 Date: Aug 2008  
 Consultant: AECOM

Task Progress: Task Critical Task  
 Milestone: Milestone Summary  
 Rolled Up Progress: Rolled Up Critical Task  
 Split: Split  
 External Tasks: External Tasks

# Drainage Services Department

## Contract No. DG/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)

ID	Task Name	Duration	Early Start	Entry Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
1055	Site Clearance	5 d	4/5/2008	8/5/2008	4/5/2008	8/5/2008							
1056	Hand laid formation	31 d	2/7/2008	27/8/2008	2/7/2008	27/8/2008							
1057	Water diversion	3 d	2/11/2008	4/11/2008	2/11/2008	4/11/2008							
1058	Smoking up the boulder	132 d	3/11/2008	14/3/2009	3/11/2008	14/3/2009							
1059	Demolish the house near ABC	21 d	24/10/2008	13/11/2008	24/10/2008	13/11/2008							
1060	Gabion (ch 110-150 RHS) T02	83 d	20/12/08	5/3/2009	27/12/08	5/3/2009							
1061	Trench excavation and replacing grade 200	12 d	2/11/2008	13/11/2008	2/11/2008	13/11/2008							
1062	Formation of gabion wall with G300	3 d	2/12/2008	4/12/2008	2/12/2008	4/12/2008							
1063	1st layer - 4th layer (ch 110-150 LHS)	20 d	2/12/2008	22/12/2008	2/12/2008	22/12/2008							
1064	G500 toe in front of gabion	6 d	2/12/2008	8/12/2008	2/12/2008	8/12/2008							
1065	Maintenance staircase (ch 130 RHS)	6 d	1/12/2008	7/12/2008	1/12/2008	7/12/2008							
1066	Formwork and rebar forming	5 d	1/12/2008	6/12/2008	1/12/2008	6/12/2008							
1067	Gabion (ch 140-150 LHS) T04	41 d	20/12/08	1/1/2009	20/12/08	1/1/2009							
1068	Trench excavation and replacing grade 200	12 d	2/12/2008	13/12/2008	2/12/2008	13/12/2008							
1069	Formation of gabion wall with G300	3 d	14/12/2008	16/12/2008	14/12/2008	16/12/2008							
1070	1st layer 4th layer (ch 140-150 LHS)	20 d	17/12/2008	6/1/2009	17/12/2008	6/1/2009							
1071	G500 toe in front of gabion	6 d	17/12/2008	23/12/2008	17/12/2008	23/12/2008							
1072	Featheredge T02 (Ch 150)	435 d	8/11/2009	17/1/2011	17/1/2009	17/1/2011							
1073	Bulk excavation for footing (Abutment A)	10 d	9/11/2009	19/11/2009	9/11/2009	19/11/2009							
1074	Formwork - Abutment A	1 d	9/11/2009	10/11/2009	9/11/2009	10/11/2009							
1075	Formwork and rebar fixing (Abutment A, footing)	5 d	22/11/2009	26/11/2009	22/11/2009	26/11/2009							
1076	Concrete (Abutment A, footing)	1 d	25/11/2009	26/11/2009	25/11/2009	26/11/2009							
1077	Stripping off formwork (Abutment A, footing)	3 d	28/11/2009	30/11/2009	28/11/2009	30/11/2009							
1078	Rebar fixing and shuttering formwork (Abutment A, column)	5 d	29/11/2009	3/12/2009	29/11/2009	3/12/2009							
1079	Concrete (Abutment A, column)	1 d	4/12/2009	4/12/2009	4/12/2009	4/12/2009							
1080	Stripping off formwork (Abutment A, column)	3 d	6/12/2009	7/12/2009	6/12/2009	7/12/2009							
1081	Bulk excavation for footing (Abutment B)	10 d	2/12/2010	11/12/2010	2/12/2010	11/12/2010							
1082	Formwork - Abutment B	1 d	12/12/2010	12/12/2010	12/12/2010	12/12/2010							
1083	Formwork and rebar fixing (Abutment B, footing)	5 d	13/12/2010	17/12/2010	13/12/2010	17/12/2010							
1084	Concrete (Abutment B, footing)	1 d	18/12/2010	18/12/2010	18/12/2010	18/12/2010							
1085	Stripping off formwork (Abutment B, footing)	3 d	19/12/2010	21/12/2010	19/12/2010	21/12/2010							
1086	Rebar fixing and shuttering formwork (Abutment B, column)	5 d	22/12/2010	26/12/2010	22/12/2010	26/12/2010							
1087	Concrete (Abutment B, column)	1 d	27/12/2010	27/12/2010	27/12/2010	27/12/2010							
1088	Stripping off formwork (Abutment B, column)	3 d	29/12/2010	30/12/2010	29/12/2010	30/12/2010							
1089	Bulk excavation for footing (Abutment B, column)	20 d	1/1/2011	20/1/2011	1/1/2011	20/1/2011							
1090	Formwork and rebar fixing for decking	2 d	2/1/2011	3/1/2011	2/1/2011	3/1/2011							
1091	Concrete (decking)	2 d	4/1/2011	5/1/2011	4/1/2011	5/1/2011							
1092	Stripping off formwork (decking)	3 d	10/1/2011	12/1/2011	10/1/2011	12/1/2011							
1093	Railing installation (decking)	5 d	13/1/2011	17/1/2011	13/1/2011	17/1/2011							
1094	Site Clearance	6 d	4/8/2008	9/8/2008	4/8/2008	9/8/2008							
1095	Hand road formation	2 d	5/12/2008	6/12/2008	5/12/2008	6/12/2008							
1096	Water diversion	132 d	3/11/2008	14/3/2009	3/11/2008	14/3/2009							
1097	Rebar up the Boulder	19 d	4/11/2008	18/11/2008	4/11/2008	18/11/2008							
1098	Noise barriers	932 d	4/8/2008	14/3/2011	4/8/2008	14/3/2011							
1099	Ch 150-230 RHS Non-transparent	6 d	4/8/2008	9/8/2008	4/8/2008	9/8/2008							
1100	Gabion (ch 160-190 LHS) T04	15 d	4/11/2008	18/11/2008	4/11/2008	18/11/2008							
1101	Trench excavation and replacing grade 200	15 d	2/11/2009	16/11/2009	2/11/2009	16/11/2009							
1102	Formation of gabion wall with G300	3 d	17/11/2009	19/11/2009	17/11/2009	19/11/2009							
1103	1st layer - 4th layer (ch 150-190 LHS)	39 d	17/11/2009	2/1/2010	17/11/2009	2/1/2010							
1104	G500 toe in front of gabion	10 d	22/12/2009	3/1/2010	22/12/2009	3/1/2010							
1105	Maintenance staircase (ch 160 LHS)	6 d	1/12/2010	7/12/2010	1/12/2010	7/12/2010							
1106	Formwork and rebar forming	49 d	4/12/2010	22/1/2011	4/12/2010	22/1/2011							
1107	Rebar fixing (wall stem)	12 d	11/1/2011	22/1/2011	11/1/2011	22/1/2011							
1108	Formwork and rebar forming (base slab)	12 d	15/1/2011	27/1/2011	15/1/2011	27/1/2011							
1109	Concrete (base slab)	3 d	30/1/2011	2/2/2011	30/1/2011	2/2/2011							
1110	Stripping off formwork (wall stem)	2 d	3/2/2011	4/2/2011	3/2/2011	4/2/2011							
1111	Formwork and rebar fixing (wall stem)	10 d	5/2/2011	14/2/2011	5/2/2011	14/2/2011							
1112	Concrete (wall stem)	2 d	15/2/2011	16/2/2011	15/2/2011	16/2/2011							
1113	Stripping off formwork (wall stem)	3 d	17/2/2011	19/2/2011	17/2/2011	19/2/2011							
1114	Gabion (ch 200-210 LHS) T02	21 d	14/3/2009	3/4/2010	14/3/2009	3/4/2010							

Project: Revised M. Prog (Rev.08)  
 Date: Aug 2009  
 Consultant: AECOM

Task:  Critical Task Progress  
 Task Progress:  Milestone  
 Critical Task:  Summary

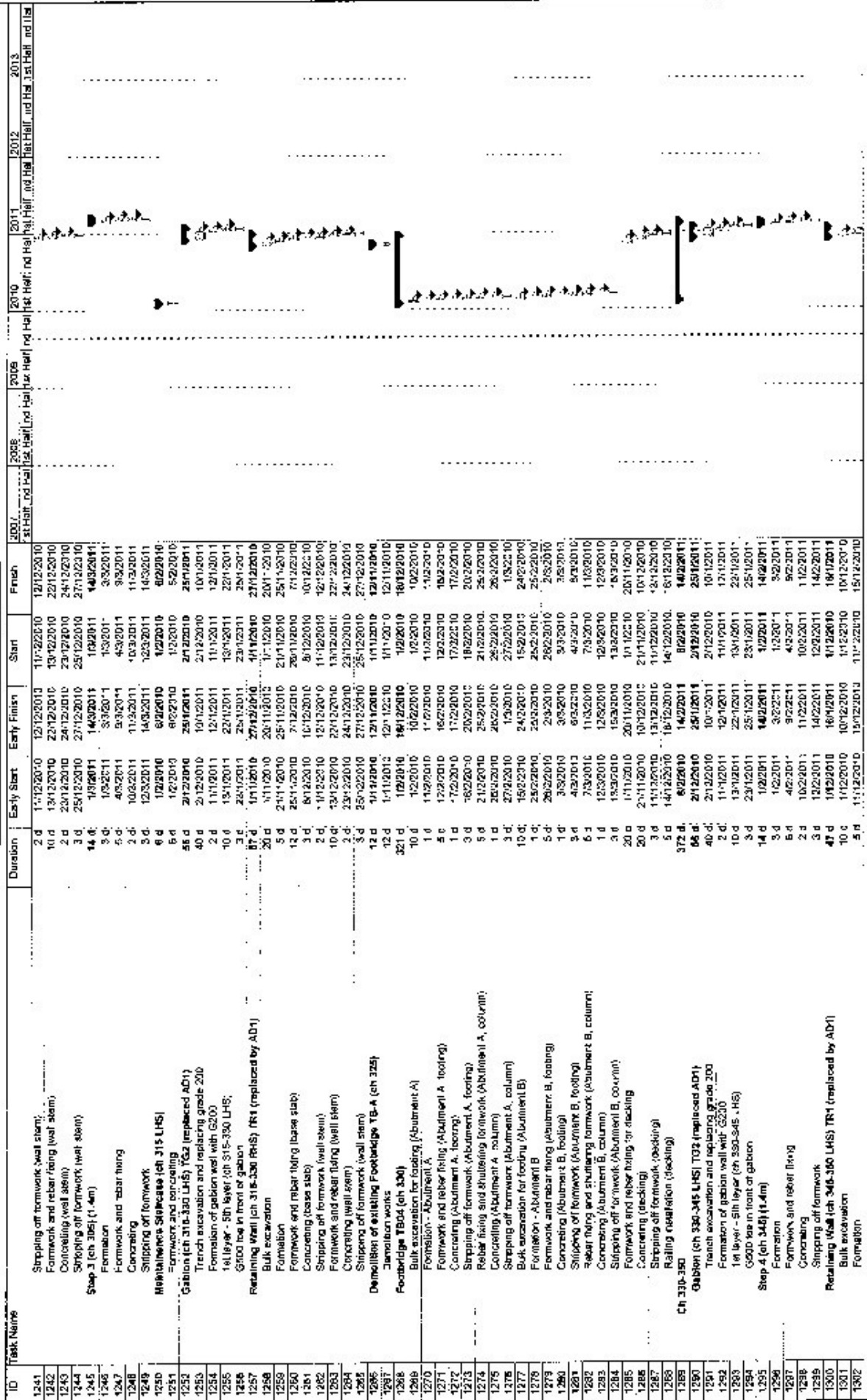
Rolled Up Task:  Rolled Up Progress  
 Rolled Up Critical Task:  Split  
 Rolled up Milestone:  External Tasks





# Drainage Services Department

## Contract No. DC/2007/06 River Improvement Works in Upper Lam Teuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)



ID	Task Name	Duration	Early Start	Early Finish	Start	Finish
1241	Stripping off formwork (wall stem)	2 d	11/12/2010	12/12/2010	11/12/2010	12/12/2010
1242	Formwork and rebar tying (wall stem)	10 d	13/12/2010	23/12/2010	13/12/2010	23/12/2010
1243	Concreting (wall stem)	2 d	23/12/2010	24/12/2010	23/12/2010	24/12/2010
1244	Stripping off formwork (wall stem)	3 d	25/12/2010	27/12/2010	25/12/2010	27/12/2010
1245	Step 3 (ch 305) (1.4m)	14 d	1/1/2011	14/1/2011	1/1/2011	14/1/2011
1246	Formation	5 d	1/1/2011	5/1/2011	1/1/2011	5/1/2011
1247	Formwork and rebar tying	5 d	4/1/2011	8/1/2011	4/1/2011	8/1/2011
1248	Concreting	3 d	10/1/2011	13/1/2011	10/1/2011	13/1/2011
1249	Stripping off formwork	3 d	12/1/2011	14/1/2011	12/1/2011	14/1/2011
1250	Maintenance Sitecase (ch 315 LHS)	6 d	12/1/2011	18/1/2011	12/1/2011	18/1/2011
1251	Formwork and concreting	6 d	12/1/2011	18/1/2011	12/1/2011	18/1/2011
1252	Gabion (ch 316,320 LHS) T02 (replaced AD1)	5 d	21/1/2011	26/1/2011	21/1/2011	26/1/2011
1253	Trench excavation and replacing grade 200	40 d	21/1/2011	10/1/2011	21/1/2011	10/1/2011
1254	Formation of gabion wall with G200	2 d	11/1/2011	12/1/2011	11/1/2011	12/1/2011
1255	1st layer - 5th layer (ch 315-330 LHS)	10 d	13/1/2011	23/1/2011	13/1/2011	23/1/2011
1256	G200 tie in front of gabion	3 d	23/1/2011	26/1/2011	23/1/2011	26/1/2011
1257	Retaining Wall (ch 316-320 RHS) TR1 (replaced by AD1)	87 d	1/1/2011	27/1/2011	1/1/2011	27/1/2011
1258	Bulk excavation	20 d	1/1/2011	21/1/2011	1/1/2011	21/1/2011
1259	Formation	5 d	21/1/2011	26/1/2011	21/1/2011	26/1/2011
1260	Formwork and rebar tying (base slab)	12 d	25/1/2011	6/2/2011	25/1/2011	6/2/2011
1261	Concreting (base slab)	3 d	6/2/2011	9/2/2011	6/2/2011	9/2/2011
1262	Stripping off formwork (wall stem)	2 d	11/2/2011	12/2/2011	11/2/2011	12/2/2011
1263	Formwork and rebar tying (wall stem)	10 d	13/2/2011	23/2/2011	13/2/2011	23/2/2011
1264	Concreting (wall stem)	2 d	23/2/2011	24/2/2011	23/2/2011	24/2/2011
1265	Stripping off formwork (wall stem)	3 d	25/2/2011	27/2/2011	25/2/2011	27/2/2011
1266	Demolition of existing Footbridge TB-A (ch 325)	12 d	1/1/2011	12/1/2011	1/1/2011	12/1/2011
1267	Demolition works	321 d	1/1/2011	19/1/2011	1/1/2011	19/1/2011
1268	Formwork and rebar tying (Abutment A)	10 d	1/2/2011	10/2/2011	1/2/2011	10/2/2011
1269	Formation - Abutment A	1 d	1/2/2011	1/2/2011	1/2/2011	1/2/2011
1270	Formwork and rebar tying (Abutment A, footing)	5 d	1/2/2011	6/2/2011	1/2/2011	6/2/2011
1271	Concreting (Abutment A, footing)	1 d	1/2/2011	1/2/2011	1/2/2011	1/2/2011
1272	Stripping off formwork (Abutment A, footing)	3 d	4/2/2011	7/2/2011	4/2/2011	7/2/2011
1273	Rebar tying and shuttering formwork (Abutment A, column)	1 d	21/2/2011	21/2/2011	21/2/2011	21/2/2011
1274	Stripping off formwork (Abutment A, column)	1 d	21/2/2011	21/2/2011	21/2/2011	21/2/2011
1275	Formwork and rebar tying (Abutment B, footing)	3 d	23/2/2011	26/2/2011	23/2/2011	26/2/2011
1276	Concreting (Abutment B, footing)	1 d	23/2/2011	23/2/2011	23/2/2011	23/2/2011
1277	Stripping off formwork (Abutment B, column)	3 d	27/2/2011	30/2/2011	27/2/2011	30/2/2011
1278	Bulk excavation for footing (Abutment B)	1 d	1/3/2011	1/3/2011	1/3/2011	1/3/2011
1279	Formation - Abutment B	1 d	1/3/2011	1/3/2011	1/3/2011	1/3/2011
1280	Formwork and rebar tying (Abutment B, footing)	1 d	2/3/2011	2/3/2011	2/3/2011	2/3/2011
1281	Concreting (Abutment B, footing)	3 d	4/3/2011	7/3/2011	4/3/2011	7/3/2011
1282	Stripping off formwork (Abutment B, footing)	5 d	7/3/2011	12/3/2011	7/3/2011	12/3/2011
1283	Concreting (Abutment B, column)	1 d	12/3/2011	12/3/2011	12/3/2011	12/3/2011
1284	Stripping off formwork (Abutment B, column)	3 d	15/3/2011	18/3/2011	15/3/2011	18/3/2011
1285	Formwork and rebar tying for stacking	20 d	1/1/2011	20/1/2011	1/1/2011	20/1/2011
1286	Concreting (stacking)	3 d	1/1/2011	3/1/2011	1/1/2011	3/1/2011
1287	Stripping off formwork (stacking)	5 d	4/1/2011	9/1/2011	4/1/2011	9/1/2011
1288	Railing installation (stacking)	372 d	6/2/2011	14/2/2011	6/2/2011	14/2/2011
1289	Gabion (ch 330-345 LHS) T03 (replaced AD1)	65 d	21/2/2011	25/1/2011	21/2/2011	25/1/2011
1290	Trench excavation and replacing grade 200	40 d	21/2/2011	10/1/2011	21/2/2011	10/1/2011
1291	Formation of gabion wall with G200	2 d	11/1/2011	12/1/2011	11/1/2011	12/1/2011
1292	1st layer - 5th layer (ch 320-345 LHS)	10 d	13/1/2011	23/1/2011	13/1/2011	23/1/2011
1293	G200 tie in front of gabion	3 d	23/1/2011	26/1/2011	23/1/2011	26/1/2011
1294	Step 4 (ch 346) (1.4m)	14 d	1/2/2011	14/2/2011	1/2/2011	14/2/2011
1295	Formation	3 d	1/2/2011	3/2/2011	1/2/2011	3/2/2011
1296	Formwork and rebar tying	5 d	4/2/2011	9/2/2011	4/2/2011	9/2/2011
1297	Concreting	2 d	10/2/2011	12/2/2011	10/2/2011	12/2/2011
1298	Stripping off formwork	3 d	12/2/2011	14/2/2011	12/2/2011	14/2/2011
1299	Retaining Wall (ch 346-350 LHS) TR1 (replaced by AD1)	47 d	1/2/2011	16/1/2011	1/2/2011	16/1/2011
1300	Bulk excavation	10 d	1/2/2011	10/2/2011	1/2/2011	10/2/2011
1301	Formation	5 d	11/2/2011	16/2/2011	11/2/2011	16/2/2011
1302						

Year	2007	2008	2009	2010	2011	2012	2013
Task	█	█	█	█	█	█	█
Critical Task	█	█	█	█	█	█	█
Milestone	█	█	█	█	█	█	█
Summary	█	█	█	█	█	█	█
Roller-Up Task	█	█	█	█	█	█	█
Roller-Up Critical Task	█	█	█	█	█	█	█
Roller-Up Milestone	█	█	█	█	█	█	█
Roller-Up External Task	█	█	█	█	█	█	█
Roller-Up Progress	█	█	█	█	█	█	█
Roller-Up Split	█	█	█	█	█	█	█
Roller-Up External Task	█	█	█	█	█	█	█

# 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 (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
1303	Formwork and rebar fixing (base slab)	12 d	15/12/2010	27/12/2010	16/12/2010	27/12/2010							
1304	Concreting (base slab)	3 d	28/12/2010	30/12/2010	28/12/2010	30/12/2010							
1305	Stripping off formwork (wall stem)	2 d	31/12/2010	1/1/2011	31/12/2010	1/1/2011							
1306	Formwork and rebar fixing (wall stem)	10 d	2/1/2011	11/1/2011	2/1/2011	11/1/2011							
1307	Concreting (wall stem)	2 d	12/1/2011	13/1/2011	12/1/2011	13/1/2011							
1308	Stripping off formwork (wall stem)	3 d	14/1/2011	16/1/2011	14/1/2011	16/1/2011							
1309	Demolition of existing Footbridge TB-B (ch 350)	12 d	11/1/2011	23/1/2011	11/1/2011	23/1/2011							
1310	Demolition works	12 d	11/1/2011	23/1/2011	11/1/2011	23/1/2011							
1311	Footbridge TBAS (ch 350)	31 d	9/2/2011	18/3/2011	9/2/2011	18/3/2011							
1312	Bulk excavation for footing (Abutment A)	10 d	9/2/2011	19/2/2011	9/2/2011	19/2/2011							
1313	Formation - Abutment A	1 d	19/2/2011	19/2/2011	19/2/2011	19/2/2011							
1314	Formwork and rebar fixing (Abutment A, footing)	5 d	19/2/2011	24/2/2011	19/2/2011	24/2/2011							
1315	Concreting (Abutment A, footing)	1 d	24/2/2011	24/2/2011	24/2/2011	24/2/2011							
1316	Stripping off formwork (Abutment A, footing)	3 d	26/2/2011	29/2/2011	26/2/2011	29/2/2011							
1317	Rebar fixing and shuttering formwork (Abutment A, column)	5 d	29/2/2011	4/3/2011	29/2/2011	4/3/2011							
1318	Concreting (Abutment A, column)	1 d	5/3/2011	5/3/2011	5/3/2011	5/3/2011							
1319	Stripping off formwork (Abutment A, column)	3 d	6/3/2011	8/3/2011	6/3/2011	8/3/2011							
1320	Bulk excavation for footing (Abutment B)	10 d	27/2/2011	7/3/2011	27/2/2011	7/3/2011							
1321	Formation - Abutment B	1 d	4/3/2011	4/3/2011	4/3/2011	4/3/2011							
1322	Formwork and rebar fixing (Abutment B, footing)	5 d	5/3/2011	9/3/2011	5/3/2011	9/3/2011							
1323	Concreting (Abutment B, footing)	1 d	10/3/2011	10/3/2011	10/3/2011	10/3/2011							
1324	Stripping off formwork (Abutment B, footing)	3 d	11/3/2011	14/3/2011	11/3/2011	14/3/2011							
1325	Rebar fixing and shuttering formwork (Abutment B, column)	5 d	14/3/2011	19/3/2011	14/3/2011	19/3/2011							
1326	Concreting (Abutment B, column)	1 d	19/3/2011	19/3/2011	19/3/2011	19/3/2011							
1327	Stripping off formwork (Abutment B, column)	3 d	20/3/2011	23/3/2011	20/3/2011	23/3/2011							
1328	Formwork and rebar fixing for decking	20 d	11/1/2010	20/1/2010	11/1/2010	20/1/2010							
1329	Concreting (decking)	20 d	11/1/2010	31/1/2010	11/1/2010	31/1/2010							
1330	Stripping off formwork (decking)	3 d	11/2/2010	14/2/2010	11/2/2010	14/2/2010							
1331	Rebar installation (decking)	5 d	14/2/2010	19/2/2010	14/2/2010	19/2/2010							
1332	Ch 380-400	410 d	2/1/2010	15/2/2011	2/1/2010	15/2/2011							
1333	Retaining Wall (ch 380-400 LHS) TR1 (replaced by AD1)	77 d	1/2/2010	15/2/2010	1/2/2010	15/2/2010							
1334	Bulk excavation	40 d	1/2/2010	11/2/2010	1/2/2010	11/2/2010							
1335	Formation	5 d	10/1/2011	14/1/2011	10/1/2011	14/1/2011							
1336	Formwork and rebar fixing (base slab)	12 d	5/1/2011	17/1/2011	5/1/2011	17/1/2011							
1337	Concreting (base slab)	2 d	27/1/2011	29/1/2011	27/1/2011	29/1/2011							
1338	Stripping off formwork (wall stem)	2 d	30/1/2011	31/1/2011	30/1/2011	31/1/2011							
1339	Formwork and rebar fixing (wall stem)	10 d	1/2/2011	11/2/2011	1/2/2011	11/2/2011							
1340	Concreting (wall stem)	3 d	13/2/2011	16/2/2011	13/2/2011	16/2/2011							
1341	Stripping off formwork (wall stem)	77 d	1/1/2010	16/1/2011	1/1/2010	16/1/2011							
1342	Retaining Wall (ch 380-400 RHS) TR1 (replaced by AD1)	40 d	1/1/2010	11/2/2010	1/1/2010	11/2/2010							
1343	Bulk excavation	5 d	11/2/2010	16/2/2010	11/2/2010	16/2/2010							
1344	Formation	12 d	11/2/2010	23/2/2010	11/2/2010	23/2/2010							
1345	Formwork and rebar fixing (base slab)	3 d	24/2/2010	27/2/2010	24/2/2010	27/2/2010							
1346	Concreting (base slab)	2 d	28/2/2010	30/2/2010	28/2/2010	30/2/2010							
1347	Stripping off formwork (wall stem)	2 d	1/1/2011	1/1/2011	1/1/2011	1/1/2011							
1348	Formwork and rebar fixing (wall stem)	10 d	2/1/2011	12/1/2011	2/1/2011	12/1/2011							
1349	Concreting (wall stem)	2 d	13/1/2011	15/1/2011	13/1/2011	15/1/2011							
1350	Stripping off formwork (wall stem)	3 d	16/1/2011	19/1/2011	16/1/2011	19/1/2011							
1351	Demolition of existing Footbridge TB-C (ch 380)	12 d	1/1/2010	13/1/2010	1/1/2010	13/1/2010							
1352	Demolition works	14 d	1/1/2010	15/1/2010	1/1/2010	15/1/2010							
1353	Step 5 (ch 400) (1.4m)	3 d	1/2/2011	4/2/2011	1/2/2011	4/2/2011							
1354	Formation	3 d	1/2/2011	4/2/2011	1/2/2011	4/2/2011							
1355	Formwork and rebar fixing	6 d	4/2/2011	10/2/2011	4/2/2011	10/2/2011							
1356	Concreting	2 d	10/2/2011	12/2/2011	10/2/2011	12/2/2011							
1357	Stripping off formwork	3 d	13/2/2011	16/2/2011	13/2/2011	16/2/2011							
1358	Footbridge TBDE (ch 400)	381 d	1/1/2010	2/1/2011	1/1/2010	2/1/2011							
1359	Bulk excavation for footing (Abutment A)	10 d	15/1/2010	24/1/2010	15/1/2010	24/1/2010							
1360	Formation - Abutment A	1 d	25/1/2010	25/1/2010	25/1/2010	25/1/2010							
1361	Formwork and rebar fixing (Abutment A, footing)	5 d	26/1/2010	30/1/2010	26/1/2010	30/1/2010							
1362	Concreting (Abutment A, footing)	1 d	31/1/2010	31/1/2010	31/1/2010	31/1/2010							
1363	Stripping off formwork (Abutment A, footing)	3 d	1/2/2011	3/2/2011	1/2/2011	3/2/2011							
1364	Rebar fixing and shuttering formwork (Abutment A, column)	3 d	4/2/2011	8/2/2011	4/2/2011	8/2/2011							

Project: Revised M. Prog (Rev.08)  
 Date: Aug 2009  
 Consultant: AECOM

Task Progress:   
 Critical Task Progress:   
 Milestone:   
 Summary:

Rolled Up Progress:   
 Split:   
 External Tasks:

Relieved Up Task:   
 Relieved Up Critical Task:   
 Relieve Up Milestone:

# Drainage Services Department

## River Improvement Works in Upper Lam Tsuen River, Sha Shin River and Upper Tai Po River Revised Master Programme (Rev. 06)

Contract No. DC/2007/06

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
1365	Concreting (Abutment A, column)	1 d	02/25/10	03/25/10	02/25/10	02/25/10							
1366	Stripping off formwork (Abutment A, column)	3 d	02/25/10	02/28/10	02/25/10	02/28/10							
1367	Bulk excavation for footing (Abutment B)	10 d	10/22/10	11/12/10	10/22/10	11/12/10							
1368	Formwork and rebar fixing (Abutment B, footing)	1 d	12/12/10	12/12/10	12/12/10	12/12/10							
1369	Formwork and rebar fixing (Abutment B, footing)	5 d	13/12/10	17/12/10	13/12/10	17/12/10							
1370	Concreting (Abutment B, footing)	1 d	18/12/10	18/12/10	18/12/10	18/12/10							
1371	Stripping off formwork (Abutment B, footing)	3 d	19/12/10	21/12/10	19/12/10	21/12/10							
1372	Rebar fixing and shoring formwork (Abutment B, column)	5 d	23/12/10	28/12/10	23/12/10	28/12/10							
1373	Concreting (Abutment B, column)	1 d	27/12/10	27/12/10	27/12/10	27/12/10							
1374	Stripping off formwork (Abutment B, column)	3 d	28/12/10	30/12/10	28/12/10	30/12/10							
1375	Formwork and rebar fixing for decking	20 d	21/12/2010	20/12/2010	19/12/2010	20/12/2010							
1376	Concreting (decking)	20 d	21/12/2010	20/12/2010	19/12/2010	20/12/2010							
1377	Stripping off formwork (decking)	3 d	1/1/2011	1/1/2011	1/1/2011	1/1/2011							
1378	Rebar installation (decking)	5 d	3/1/2011	7/1/2011	3/1/2011	7/1/2011							
1379	Ch 400-525	487 d	01/12/2009	20/02/2011	01/12/2009	20/02/2011							
1380	Retaining Wall (ch 400-420 LHS) TR1 (replaced by AD1)	87 d	01/12/2010	01/12/2011	01/12/2010	01/12/2011							
1381	Bulk excavation	3 d	01/12/2010	03/12/2010	01/12/2010	03/12/2010							
1382	Formwork	5 d	01/12/2010	05/12/2010	01/12/2010	05/12/2010							
1383	Formwork and rebar fixing (base slab)	12 d	01/12/2010	13/12/2010	01/12/2010	13/12/2010							
1384	Concreting (base slab)	5 d	06/12/2010	11/12/2010	06/12/2010	11/12/2010							
1385	Stripping off formwork (wall stem)	2 d	21/12/2010	23/12/2010	21/12/2010	23/12/2010							
1386	Formwork and rebar fixing (wall stem)	10 d	23/12/2010	02/01/2011	23/12/2010	02/01/2011							
1387	Concreting (wall stem)	2 d	24/12/2010	26/12/2010	24/12/2010	26/12/2010							
1388	Stripping off formwork (wall stem)	3 d	4/1/2011	8/1/2011	4/1/2011	8/1/2011							
1389	Formwork and rebar fixing (wall stem)	72 d	01/12/2010	01/12/2011	01/12/2010	01/12/2011							
1390	Bulk excavation	35 d	01/12/2010	30/12/2010	01/12/2010	30/12/2010							
1391	Formwork	5 d	01/12/2010	06/12/2010	01/12/2010	06/12/2010							
1392	Formwork and rebar fixing (base slab)	12 d	01/12/2010	13/12/2010	01/12/2010	13/12/2010							
1393	Concreting (base slab)	3 d	20/12/2010	23/12/2010	20/12/2010	23/12/2010							
1394	Stripping off formwork (wall stem)	2 d	26/12/2010	28/12/2010	26/12/2010	28/12/2010							
1395	Formwork and rebar fixing (wall stem)	10 d	28/12/2010	07/01/2011	28/12/2010	07/01/2011							
1396	Concreting (wall stem)	2 d	7/1/2011	9/1/2011	7/1/2011	9/1/2011							
1397	Stripping off formwork (wall stem)	3 d	01/20/2011	04/20/2011	01/20/2011	04/20/2011							
1398	Malmbalooce Scaffolding (ch 420 LHS)	6 d	02/20/2011	08/20/2011	02/20/2011	08/20/2011							
1399	Formwork and concreting	6 d	02/20/2011	08/20/2011	02/20/2011	08/20/2011							
1400	Gabion (ch 420-460 LHS) TG2 (replaced AD1)	65 d	21/2/2011	4/2/2011	21/2/2011	4/2/2011							
1401	Trench excavation and replacing grade 200	50 d	21/2/2011	20/3/2011	21/2/2011	20/3/2011							
1402	Formation of gabion wall with G200	2 d	21/2/2011	23/2/2011	21/2/2011	23/2/2011							
1403	1st layer - 2in layer (ch 420-430 LHS)	10 d	23/2/2011	03/3/2011	23/2/2011	03/3/2011							
1404	G500 toe in front of gabion	3 d	02/3/2011	05/3/2011	02/3/2011	05/3/2011							
1405	Retaining Wall (ch 435-450 RHS) TR2 (replaced by AD1)	67 d	15/11/2010	20/1/2011	15/11/2010	20/1/2011							
1406	Bulk excavation	30 d	15/11/2010	14/12/2010	15/11/2010	14/12/2010							
1407	Formation	3 d	15/12/2010	18/12/2010	15/12/2010	18/12/2010							
1408	Formwork and rebar fixing (base slab)	2 d	20/12/2010	22/12/2010	20/12/2010	22/12/2010							
1409	Concreting (base slab)	3 d	01/01/2011	04/01/2011	01/01/2011	04/01/2011							
1410	Stripping off formwork (wall stem)	10 d	01/01/2011	11/01/2011	01/01/2011	11/01/2011							
1411	Formwork and rebar fixing (wall stem)	3 d	01/20/2011	04/20/2011	01/20/2011	04/20/2011							
1412	Concreting (wall stem)	3 d	04/20/2011	07/20/2011	04/20/2011	07/20/2011							
1413	Stripping off formwork (wall stem)	3 d	07/20/2011	10/20/2011	07/20/2011	10/20/2011							
1414	Box Culvert TB01 (ch 460)	38 d	01/22/2009	01/22/2010	01/22/2009	01/22/2010							
1415	Bulk excavation	10 d	01/12/2009	11/12/2009	01/12/2009	11/12/2009							
1416	Formation of box culvert	3 d	01/12/2009	04/12/2009	01/12/2009	04/12/2009							
1417	Formwork and rebar fixing (base slab)	3 d	01/12/2009	04/12/2009	01/12/2009	04/12/2009							
1418	Concreting (base slab)	5 d	04/12/2009	09/12/2009	04/12/2009	09/12/2009							
1419	Stripping off formwork (base slab)	2 d	09/12/2009	11/12/2009	09/12/2009	11/12/2009							
1420	Formwork and rebar fixing (wall stem and foot slab)	2 d	21/12/2009	23/12/2009	21/12/2009	23/12/2009							
1421	Concreting (wall stem and foot slab)	12 d	23/12/2009	04/01/2010	23/12/2009	04/01/2010							
1422	Stripping off formwork	3 d	01/01/2010	04/01/2010	01/01/2010	04/01/2010							
1423	Retaining Wall (ch 450-480 LHS) TR2	67 d	01/22/2010	01/22/2011	01/22/2010	01/22/2011							
1424	Bulk excavation	5 d	01/12/2010	06/12/2010	01/12/2010	06/12/2010							
1425	Formation	12 d	06/12/2010	18/12/2010	06/12/2010	18/12/2010							
1426	Formwork and rebar fixing (base slab)	12 d	06/12/2010	18/12/2010	06/12/2010	18/12/2010							

Project: Revised M. Prog (Rev.03)  
 Date: Aug 2009  
 Consultant: AECOM

Task:  Task Progress  Critical Task  
 Milestone:  Milestone  
 Summary:  Summary

Release Up Task:  Release Up Task  
 Rolled Up Critical Task:  Rolled Up Critical Task  
 Rolled Up Milestone:  Rolled Up Milestone

External Tasks:  External Tasks

Task:  Task  
 Milestone:  Milestone  
 Summary:  Summary

Release Up Task:  Release Up Task  
 Rolled Up Critical Task:  Rolled Up Critical Task  
 Rolled Up Milestone:  Rolled Up Milestone

External Tasks:  External Tasks

# Drainage Services Department

## Contract No. DC/2007/06 River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
1427	Concreting (base slab)	3 d	17/12/2011	18/12/2011	17/12/2011	18/12/2011							
1428	Stripping off formwork (wall stem)	2 d	21/12/2011	23/12/2011	21/12/2011	23/12/2011							
1429	Formwork and rebar fixing (wall stem)	10 d	23/12/2011	2/1/2012	23/12/2011	2/1/2012							
1430	Concreting (wall stem)	2 d	1/1/2012	2/1/2012	1/1/2012	2/1/2012							
1431	Stripping off formwork (wall stem)	3 d	3/1/2012	5/1/2012	3/1/2012	5/1/2012							
1432	Step 6 (ch. 480) (1.Dm)	14 d	1/1/2012	14/1/2012	1/1/2012	14/1/2012							
1433	Formation	3 d	13/2/2012	16/2/2012	13/2/2012	16/2/2012							
1434	Formwork and rebar fixing	6 d	13/2/2012	19/2/2012	13/2/2012	19/2/2012							
1435	Formwork and rebar fixing	6 d	13/2/2012	19/2/2012	13/2/2012	19/2/2012							
1436	Concreting	2 d	19/2/2012	21/2/2012	19/2/2012	21/2/2012							
1437	Stripping off formwork	3 d	21/2/2012	24/2/2012	21/2/2012	24/2/2012							
1438	Retaining Wall (ch. 480-500 UHS) TR2	57 d	12/3/2012	28/1/2013	12/3/2012	28/1/2013							
1439	Bulk excavation	20 d	12/3/2012	20/12/2012	12/3/2012	20/12/2012							
1440	Formation	5 d	21/12/2010	25/12/2010	21/12/2010	25/12/2010							
1441	Formwork and rebar fixing (base slab)	2 d	26/12/2010	28/12/2010	26/12/2010	28/12/2010							
1442	Concreting (base slab)	3 d	29/12/2010	31/12/2010	29/12/2010	31/12/2010							
1443	Stripping off formwork (wall stem)	2 d	1/1/2011	1/1/2011	1/1/2011	1/1/2011							
1444	Formwork and rebar fixing (wall stem)	10 d	1/1/2011	11/1/2011	1/1/2011	11/1/2011							
1445	Concreting (wall stem)	2 d	23/1/2011	25/1/2011	23/1/2011	25/1/2011							
1446	Stripping off formwork (wall stem)	3 d	24/1/2011	26/1/2011	24/1/2011	26/1/2011							
1447	Retaining Wall (ch. 450-500 RH5) TR2	87 d	21/12/2010	26/3/2011	21/12/2010	26/3/2011							
1448	Bulk excavation	50 d	21/12/2010	20/2/2011	21/12/2010	20/2/2011							
1449	Formation	5 d	21/2/2011	25/2/2011	21/2/2011	25/2/2011							
1450	Formwork and rebar fixing (base slab)	3 d	26/2/2011	28/2/2011	26/2/2011	28/2/2011							
1451	Concreting (base slab)	7 d	10/3/2011	16/3/2011	10/3/2011	16/3/2011							
1452	Stripping off formwork (wall stem)	3 d	14/3/2011	17/3/2011	14/3/2011	17/3/2011							
1453	Formwork and rebar fixing (wall stem)	10 d	15/3/2011	24/3/2011	15/3/2011	24/3/2011							
1454	Concreting (wall stem)	2 d	25/3/2011	26/3/2011	25/3/2011	26/3/2011							
1455	Stripping off formwork (wall stem)	3 d	27/3/2011	29/3/2011	27/3/2011	29/3/2011							
1456	Retaining Wall (ch. 500-530 LHS) TR3	57 d	1/12/2010	26/1/2011	1/12/2010	26/1/2011							
1457	Bulk excavation	20 d	1/12/2010	20/12/2010	1/12/2010	20/12/2010							
1458	Formation	5 d	21/12/2010	25/12/2010	21/12/2010	25/12/2010							
1459	Formwork and rebar fixing (base slab)	12 d	28/12/2010	8/1/2011	28/12/2010	8/1/2011							
1460	Concreting (base slab)	3 d	7/1/2011	9/1/2011	7/1/2011	9/1/2011							
1461	Stripping off formwork (wall stem)	2 d	10/1/2011	11/1/2011	10/1/2011	11/1/2011							
1462	Formwork and rebar fixing (wall stem)	10 d	11/1/2011	21/1/2011	11/1/2011	21/1/2011							
1463	Concreting (wall stem)	2 d	22/1/2011	24/1/2011	22/1/2011	24/1/2011							
1464	Stripping off formwork (wall stem)	3 d	24/1/2011	26/1/2011	24/1/2011	26/1/2011							
1465	Retaining Wall (ch. 500-530 RH5) TR3	67 d	21/12/2010	26/3/2011	21/12/2010	26/3/2011							
1466	Bulk excavation	30 d	21/12/2010	20/1/2011	21/12/2010	20/1/2011							
1467	Formation	5 d	1/2/2011	5/2/2011	1/2/2011	5/2/2011							
1468	Formwork and rebar fixing (base slab)	12 d	6/2/2011	17/2/2011	6/2/2011	17/2/2011							
1469	Concreting (base slab)	3 d	16/2/2011	18/2/2011	16/2/2011	18/2/2011							
1470	Stripping off formwork (wall stem)	2 d	21/2/2011	22/2/2011	21/2/2011	22/2/2011							
1471	Formwork and rebar fixing (wall stem)	13 d	23/2/2011	4/3/2011	23/2/2011	4/3/2011							
1472	Concreting (wall stem)	2 d	5/3/2011	6/3/2011	5/3/2011	6/3/2011							
1473	Stripping off formwork (wall stem)	3 d	7/3/2011	9/3/2011	7/3/2011	9/3/2011							
1474	Demolition of existing Footbridge T-B (ch. 625)	12 d	11/12/2010	12/1/2011	11/12/2010	12/1/2011							
1475	Demolition works	12 d	12/1/2011	12/1/2011	12/1/2011	12/1/2011							
1476	Footbridge T/B (ch. 525)	497 d	9/11/2009	20/3/2011	9/11/2009	20/3/2011							
1477	Bulk excavation for forming (Abutment A)	10 d	11/12/2009	16/12/2009	11/12/2009	16/12/2009							
1478	Formation - Abutment A	1 d	18/12/2009	18/12/2009	18/12/2009	18/12/2009							
1479	Formwork and rebar fixing (Abutment A, footing)	5 d	20/11/2009	24/11/2009	20/11/2009	24/11/2009							
1480	Concreting (Abutment A, footing)	1 d	25/11/2009	25/11/2009	25/11/2009	25/11/2009							
1481	Stripping off formwork (Abutment A, footing)	2 d	28/11/2009	29/11/2009	28/11/2009	29/11/2009							
1482	Rebar fixing and shuttering formwork (Abutment A, column)	1 d	29/11/2009	29/11/2009	29/11/2009	29/11/2009							
1483	Concreting (Abutment A, column)	1 d	4/12/2009	4/12/2009	4/12/2009	4/12/2009							
1484	Stripping off formwork (Abutment A, column)	3 d	5/12/2009	7/12/2009	5/12/2009	7/12/2009							
1485	Bulk excavation for forming (Abutment B)	10 d	1/12/2009	10/12/2009	1/12/2009	10/12/2009							
1486	Formation - Abutment B	1 d	11/12/2009	11/12/2009	11/12/2009	11/12/2009							
1487	Formwork and rebar fixing (Abutment B, footing)	5 d	12/12/2009	16/12/2009	12/12/2009	16/12/2009							
1488	Concreting (Abutment B, footing)	1 d	17/12/2009	17/12/2009	17/12/2009	17/12/2009							
1489	Stripping off formwork (Abutment B, footing)	3 d	18/12/2009	20/12/2009	18/12/2009	20/12/2009							

Project: Revised M. Prog. (Rev.08) Roller Up Progress  
 Date Draw: Aug. 2009 Roller Up Critical Task  
 Consultant: AECOM Roller Up Milestone  
Roller Up Summary

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# Drainage Services Department

## Contract No. DC/2007/06 River Improvement Works in Upper Lam Teuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Start	Finish	2007	2008	2009	2010	2011	2012	2013
1489	Rebar fixing and shuttering formwork (Abutment B, column)	5 d	21/12/2009	25/12/2009	21/12/2009	25/12/2009							
1490	Concrete (Abutment B, column)	1 d	26/12/2009	26/12/2009	26/12/2009	26/12/2009							
1491	Stripping off formwork (Abutment H, column)	3 d	27/12/2009	29/12/2009	27/12/2009	29/12/2009							
1492	Formwork and rebar fixing for decking	20 d	2/1/2010	20/1/2010	2/1/2010	20/1/2010							
1493	Concrete (decking)	20 d	2/1/2010	20/1/2010	2/1/2010	20/1/2010							
1494	Stripping off formwork (decking)	3 d	13/1/2010	15/1/2010	13/1/2010	15/1/2010							
1495	Harding installation (decking)	5 d	15/1/2010	19/1/2010	15/1/2010	19/1/2010							
1496	Formwork	14 d	1/2/2010	14/2/2010	1/2/2010	14/2/2010							
1497	Formwork and rebar fixing (base slab)	3 d	13/2/2010	15/2/2010	13/2/2010	15/2/2010							
1498	Concrete (base slab)	3 d	16/2/2010	18/2/2010	16/2/2010	18/2/2010							
1499	Stripping off formwork (wall stem)	2 d	17/2/2010	18/2/2010	17/2/2010	18/2/2010							
1500	Formwork and rebar fixing (wall stem)	10 d	19/2/2010	28/2/2010	19/2/2010	28/2/2010							
1501	Concrete (wall stem)	2 d	31/2/2010	1/3/2010	31/2/2010	1/3/2010							
1502	Stripping off formwork (wall stem)	3 d	2/3/2010	4/3/2010	2/3/2010	4/3/2010							
1503	Formwork and rebar fixing (wall stem)	5 d	25/2/2010	30/2/2010	25/2/2010	30/2/2010							
1504	Concrete (wall stem)	5 d	28/2/2010	3/3/2010	28/2/2010	3/3/2010							
1505	Stripping off formwork (wall stem)	12 d	4/3/2010	15/3/2010	4/3/2010	15/3/2010							
1506	Formwork and rebar fixing (base slab)	3 d	16/3/2010	18/3/2010	16/3/2010	18/3/2010							
1507	Concrete (base slab)	2 d	17/3/2010	18/3/2010	17/3/2010	18/3/2010							
1508	Stripping off formwork (wall stem)	10 d	21/3/2010	30/3/2010	21/3/2010	30/3/2010							
1509	Formwork and rebar fixing (wall stem)	2 d	31/3/2010	1/4/2010	31/3/2010	1/4/2010							
1510	Concrete (wall stem)	3 d	2/4/2010	4/4/2010	2/4/2010	4/4/2010							
1511	Stripping off formwork (wall stem)	57 d	21/11/2009	18/1/2010	21/11/2009	18/1/2010							
1512	Formwork and rebar fixing (wall stem)	20 d	2/1/2010	21/1/2010	2/1/2010	21/1/2010							
1513	Concrete (wall stem)	5 d	11/2/2010	15/2/2010	11/2/2010	15/2/2010							
1514	Stripping off formwork (base slab)	12 d	16/2/2010	27/2/2010	16/2/2010	27/2/2010							
1515	Formwork and rebar fixing (base slab)	3 d	28/2/2010	30/2/2010	28/2/2010	30/2/2010							
1516	Concrete (base slab)	2 d	31/2/2010	1/3/2010	31/2/2010	1/3/2010							
1517	Stripping off formwork (wall stem)	10 d	2/3/2010	11/3/2010	2/3/2010	11/3/2010							
1518	Formwork and rebar fixing (wall stem)	2 d	12/3/2010	13/3/2010	12/3/2010	13/3/2010							
1519	Concrete (wall stem)	3 d	14/3/2010	16/3/2010	14/3/2010	16/3/2010							
1520	Stripping off formwork (wall stem)	87 d	11/2/2010	28/4/2010	11/2/2010	28/4/2010							
1521	Formwork and rebar fixing (wall stem)	5 d	1/5/2010	5/5/2010	1/5/2010	5/5/2010							
1522	Concrete (wall stem)	5 d	2/5/2010	6/5/2010	2/5/2010	6/5/2010							
1523	Stripping off formwork (base slab)	12 d	26/4/2010	7/5/2010	26/4/2010	7/5/2010							
1524	Formwork and rebar fixing (base slab)	2 d	7/5/2010	8/5/2010	7/5/2010	8/5/2010							
1525	Concrete (base slab)	3 d	10/5/2010	12/5/2010	10/5/2010	12/5/2010							
1526	Stripping off formwork (wall stem)	10 d	13/5/2010	22/5/2010	13/5/2010	22/5/2010							
1527	Formwork and rebar fixing (wall stem)	2 d	23/5/2010	24/5/2010	23/5/2010	24/5/2010							
1528	Concrete (wall stem)	3 d	24/5/2010	26/5/2010	24/5/2010	26/5/2010							
1529	Stripping off formwork (wall stem)	67 d	1/11/2009	28/1/2010	1/11/2009	28/1/2010							
1530	Formwork and rebar fixing (wall stem)	50 d	1/11/2009	20/1/2010	1/11/2009	20/1/2010							
1531	Concrete (wall stem)	5 d	21/1/2010	25/1/2010	21/1/2010	25/1/2010							
1532	Stripping off formwork (base slab)	13 d	28/1/2010	9/2/2010	28/1/2010	9/2/2010							
1533	Formwork and rebar fixing (base slab)	3 d	7/2/2010	9/2/2010	7/2/2010	9/2/2010							
1534	Concrete (base slab)	2 d	10/2/2010	11/2/2010	10/2/2010	11/2/2010							
1535	Stripping off formwork (wall stem)	10 d	12/2/2010	21/2/2010	12/2/2010	21/2/2010							
1536	Formwork and rebar fixing (wall stem)	2 d	23/2/2010	24/2/2010	23/2/2010	24/2/2010							
1537	Concrete (wall stem)	3 d	24/2/2010	26/2/2010	24/2/2010	26/2/2010							
1538	Stripping off formwork (wall stem)	39 d	16/11/2009	24/1/2010	16/11/2009	24/1/2010							
1539	Formwork and rebar fixing (wall stem)	10 d	16/11/2009	25/1/2010	16/11/2009	25/1/2010							
1540	Concrete (wall stem)	3 d	28/1/2010	29/1/2010	28/1/2010	29/1/2010							
1541	Stripping off formwork (base slab)	5 d	29/1/2010	3/2/2010	29/1/2010	3/2/2010							
1542	Formwork and rebar fixing (base slab)	2 d	4/2/2010	5/2/2010	4/2/2010	5/2/2010							
1543	Concrete (base slab)	2 d	6/2/2010	7/2/2010	6/2/2010	7/2/2010							
1544	Stripping off formwork (base slab)	12 d	8/2/2010	19/2/2010	8/2/2010	19/2/2010							
1545	Formwork and rebar fixing (wall stem) and roof slab)	2 d	20/2/2010	21/2/2010	20/2/2010	21/2/2010							
1546	Concrete (wall stem and roof slab)	3 d	22/2/2010	24/2/2010	22/2/2010	24/2/2010							
1547	Stripping off formwork	57 d	21/1/2009	28/3/2009	21/1/2009	28/3/2009							
1548	Formwork and rebar fixing (base slab)	20 d	21/1/2009	2/2/2009	21/1/2009	2/2/2009							
1549	Concrete (base slab)	5 d	27/1/2009	2/2/2009	27/1/2009	2/2/2009							
1550	Stripping off formwork (base slab)	12 d	27/1/2009	7/2/2009	27/1/2009	7/2/2009							

Project: Revised M. Prog (Rev.08)  
 Data Date: Aug 2009  
 Consultant: AECOM

Task: Task Progress  
 Critical Task: Critical Task

Milestone: Milestone  
 Summary: Summary

Rollover Progress: Rollover Progress  
 Rollover Critical Task: Rollover Critical Task  
 Rollover Milestone: Rollover Milestone

Split: Split  
 External Tasks: External Tasks

P: Task

# Drainage Services Department

## River Improvement Works in Upper Lam Tsuen River, She Shan River and Upper Tai Po River Revised Master Programme (Rev. 06)

Contract No. DC/2007/06

ID	Task Name	Duration	Early Start		Early Finish		Start	Finish	2007		2008		2009		2010		2011		2012		2013	
			1st Half	2nd Half	1st Half	2nd Half			1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half
1551	Concreting (base slab)	3 d	5/12/2009		5/12/2009		11/12/2009															
1552	Stripping off formwork (wall stem)	2 d	12/12/2009		13/12/2009		13/12/2009															
1553	Formwork and rebar fixing (wall stem)	12 d	14/12/2009		23/12/2009		23/12/2009															
1554	Concreting (wall stem)	2 d	24/12/2009		25/12/2009		25/12/2009															
1555	Stripping off formwork (wall stem)	3 d	26/12/2009		29/12/2009		29/12/2009															
1556	Remaining Wall (ch 553-610 RH&S) TR3	62 d	2/1/2010		21/2/2010		21/2/2010															
1557	Bulk excavation	25 d	2/1/2010		25/1/2010		25/1/2010															
1558	Formwork	5 d	27/1/2010		31/1/2010		31/1/2010															
1559	Formwork and rebar fixing (these etc)	12 d	2/2/2010		14/2/2010		14/2/2010															
1560	Concreting (base slab)	3 d	14/2/2010		17/2/2010		17/2/2010															
1561	Stripping off formwork (wall stem)	2 d	17/2/2010		19/2/2010		19/2/2010															
1562	Formwork and rebar fixing (wall stem)	10 d	19/2/2010		29/2/2010		29/2/2010															
1563	Concreting (wall stem)	2 d	29/2/2010		31/2/2010		31/2/2010															
1564	Stripping off formwork (wall stem)	3 d	3/3/2010		6/3/2010		6/3/2010															
1565	Piezometer and Standpipe	465 d	23/10/2004		31/1/2010		23/10/2004															
1566	PS41 (ch 60 RH&S)	31 d	23/10/2008		22/11/2008		23/10/2008															
1567	PS42 (ch 140 RH&S)	31 d	23/10/2008		22/11/2008		23/10/2008															
1568	PS43 (ch 220 RH&S)	9 d	23/11/2008		29/11/2008		23/11/2008															
1569	PS44 (ch 275 LH&S)	30 d	21/10/10		31/12/10		21/10/10															
1570	PS45 (ch 340 RH&S)	30 d	21/10/10		31/12/10		21/10/10															
1571	PS46 (ch 530 RH&S)	30 d	1/12/2009		12/12/2009		1/12/2009															
1572	PS47 (ch 580 RH&S)	30 d	1/12/2009		12/12/2009		1/12/2009															
1573	Ground settlement marker	433 d	18/10/2006		13/1/2010		18/10/2006															
1574	GS41 (ch 60 RH&S)	31 d	18/10/2008		17/11/2008		18/10/2008															
1575	GS42 (ch 140 RH&S)	1 d	18/10/2008		18/10/2008		18/10/2008															
1576	GS43 (ch 220 RH&S)	1 d	25/10/2008		25/10/2008		25/10/2008															
1577	GS44 (ch 275 LH&S)	17 d	2/1/2010		13/1/2010		2/1/2010															
1578	GS45 (ch 340 RH&S)	12 d	1/12/2009		12/12/2009		1/12/2009															
1579	GS46 (ch 530 RH&S)	12 d	1/12/2009		12/12/2009		1/12/2009															
1580	GS47 (ch 580 RH&S)	12 d	1/12/2009		12/12/2009		1/12/2009															
1581	Verification Order	916 d	25/5/2008		31/12/2010		25/5/2008															
1582	VO 4 - Access for house 496	62 d	24/5/2008		18/6/2008		24/5/2008															
1583	VO 9 - Tubular railing on existing bridges	24 d	20/7/2008		12/8/2008		20/7/2008															
1584	VO 11 - Revised Detail of Protect Signboard in Upper Tai Po River	10 d	20/7/2008		29/7/2008		20/7/2008															
1585	VO 21 - Sewerage Diversion at Maintenance Access D	53 d	10/4/2010		1/6/2010		10/4/2010															
1586	VO 33 - Box Culvert TR3	76 d	15/1/2010		31/3/2010		15/1/2010															
1587	VO 34 - Modifications of Boulder Trap and Retaining Walls at Maintenance Access D	439 d	2/1/2009		1/6/2010		2/1/2009															
1588	VO 62 - Modifications of Footbridge TR3 in Upper Tai Po River	368 d	31/12/2009		31/12/2010		31/12/2009															
1589	VO 73 - Improvement to the Formation of Creakin Wells at Ch. 40 to Ch. 265	47 d	7/2/2009		31/3/2009		7/2/2009															
1590	VO 74 - Gabion in front of Boulder Trap	27 d	1/12/2009		17/12/2009		1/12/2009															
1591	VO 86 - Welding of addition steel pipe on existing handrail	3 d	6/5/2009		8/5/2009		6/5/2009															
1592	VO 89 - Protective flood measure	7 d	6/5/2009		12/5/2009		6/5/2009															
1593	VO 90 - Partial Demolition and Reinstatement Works of House 43C of She Po Tsai Village	25 d	16/2/2009		10/3/2009		16/2/2009															
1594	VO 101 - Safety measure at Boulder trap	13 d	6/8/2009		17/8/2009		6/8/2009															
1595	VO 102 - Provision of Temporary Vehicular Gate at Maintenance Access D	6 d	9/7/2009		14/7/2009		9/7/2009															
1596	VO 110 - Modification of Footbridge TR3 in Upper Tai Po River	365 d	31/12/2009		31/12/2010		31/12/2009															
1597	VO 111 - Provision of Chain Link Fence and Modification of Railing	13 d	4/7/2009		17/7/2009		4/7/2009															
1598	VO 113 - Further Enhancement on the Flood Preventive Measures at Akaruihate CH 230	10 d	13/7/2009		23/7/2009		13/7/2009															
1599	VO 121 - Make Good the Damaged Bridge Deck and Re-provision of L-anchal for Gutter P	18 d	12/8/2009		29/8/2009		12/8/2009															
1600	Tree Killing	14 d	24/7/2009		6/8/2009		24/7/2009															
1601	B248, B160, B151, B160 & B162	1 d	24/3/2009		24/3/2009		24/3/2009															
1602	B252	3 d	4/4/2009		6/4/2009		4/4/2009															
1603	Site Instruction	5 d	20/7/2008		24/7/2008		20/7/2008															
1604	Protection of road slope at TR3 after typhoon 2009-Jun-9	5 d	20/7/2009		24/7/2009		20/7/2009															
1605																						
1606	Section 4 - Box Culvert at Ping Loog	837 d	28/9/2007		1/11/2010		28/9/2007															
1608	Section 4 - Box Culvert (Area A)	816 d	28/9/2007		2/11/2009		28/9/2007															
1609	Commissioning of Walls	1 d	28/9/2007		28/9/2007		28/9/2007															
1610	Provision to Position of the Site (Area A)	0 d	28/9/2007		28/9/2007		28/9/2007															
1611	Material Submission	90 d	28/9/2007		27/12/2007		28/9/2007															
1612	Material Submission Approval	0 d	10/12/2006		10/12/2006		10/12/2006															

Project: Revised M. Prog (Rev.06)  
 Date: Aug 2009  
 Consultant: AECOM

Task: **Task Progress**  
 Task Progress: Task Progress  
 Critical Task: Critical Task  
 Milestone: Milestone  
 Summary: Summary

Rolled Up Task: Rolled Up Task  
 Rolled Up Critical Task: Rolled Up Critical Task  
 Rolled Up Milestone: Rolled Up Milestone

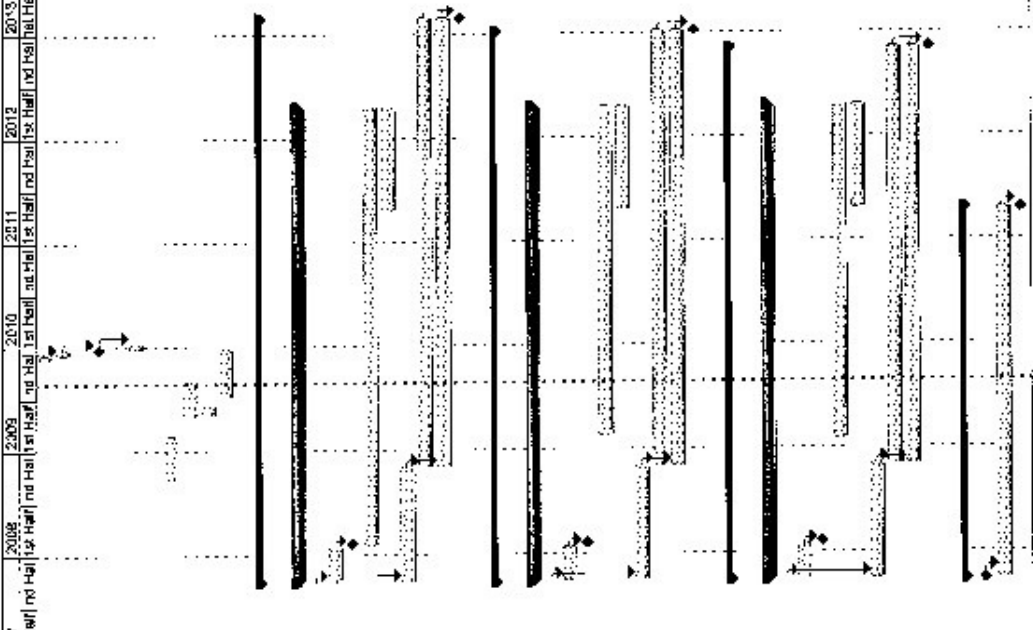
Railed Up Progress: Railed Up Progress  
 Split: Split  
 External Tasks: External Tasks

PTask: PTask

# 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 (Rev. 08)

ID	Task Name	Duration	Early Start	Early Finish	Slack	Finish	2007	2008	2009	2010	2011	2012	2013
							1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half
1678	Road Reimbursement (Stage 2)	18 d	16/11/2009	31/12/2009	18/11/2009	31/12/2009							
1677	Road Paving (Remedial (Stage 1))	18 d	4/11/2009	21/12/2009	4/11/2009	21/12/2009							
1676	Completion of Work at Section 4	0 d	2/11/2009	2/11/2009	2/11/2009	2/11/2009							
1680	CULP spare duct installation	21 d	22/12/2009	11/1/2010	22/12/2009	11/1/2010							
1681	Variation Order No.23 Construction of 300mm dia. Ductile Iron Pipe underneath the Proposed Piling	190 d	28/9/2008	22/2/2010	28/9/2008	22/2/2010							
1682	Variation Order No. 34 Watermain Diversion Works at Ping Long	125 d	30/4/2009	1/8/2010	30/4/2009	1/8/2010							
1683	Variation Order No. 85 Clearing of Siltbank Course between Ping Long Box Culvert and Upper Le	31 d	7/5/2009	6/6/2009	7/5/2009	6/6/2009							
1684	Variation Order No. 115 Manual Vehicular Traffic Signal for TPA at Ping Long	105 d	8/7/2009	2/12/2009	8/7/2009	2/12/2009							
1687	Section 5 - Landscape Establishment Works (Portion B, C, D, E, F, G, H & I)	1360 d	23/9/2007	27/2/2013	23/9/2007	27/2/2013							
1688	Section 5 Landscape Works	1695 d	28/9/2007	18/4/2012	28/9/2007	18/4/2012							
1689	Commencement of Works	1 d	28/9/2007	28/9/2007	28/9/2007	28/9/2007							
1691	Material Submission	120 d	25/9/2007	28/1/2008	25/9/2007	28/1/2008							
1692	Submission Approval	0 d	8/2/2008	8/2/2008	8/2/2008	8/2/2008							
1693	Landscape Handworks	1540 d	31/1/2008	18/4/2012	31/1/2008	18/4/2012							
1694	Landscape Softworks	365 d	20/4/2011	18/4/2012	20/4/2011	18/4/2012							
1695	Submission of Tree Survey	400 d	29/5/2007	1/11/2008	29/5/2007	1/11/2008							
1696	Preservation and Protection of Preserved Trees	1678 d	2/11/2008	27/2/2013	2/11/2008	27/2/2013							
1697	Landscape Establishment Works	1575 d	2/11/2008	27/2/2013	2/11/2008	27/2/2013							
1698	Completion of Works	0 d	27/2/2013	27/2/2013	27/2/2013	27/2/2013							
1699	Section 6 - Landscape Establishment Works (Portion J, K & M)	1830 d	28/9/2007	8/1/2013	28/9/2007	8/1/2013							
1700	Section 6 Landscape Works	1665 d	28/9/2007	18/4/2012	28/9/2007	18/4/2012							
1701	Commencement of Works	1 d	28/9/2007	28/9/2007	28/9/2007	28/9/2007							
1702	Material Submission	120 d	25/9/2007	28/1/2008	25/9/2007	28/1/2008							
1703	Submission Approval	0 d	8/2/2008	8/2/2008	8/2/2008	8/2/2008							
1704	Landscape Handworks	1191 d	14/2/2009	19/4/2012	14/2/2009	19/4/2012							
1705	Landscape Softworks	365 d	21/4/2011	18/4/2012	21/4/2011	18/4/2012							
1706	Submission of Tree Survey	400 d	28/9/2007	1/11/2008	28/9/2007	1/11/2008							
1707	Preservation and Protection of Preserved Trees	1528 d	2/11/2008	8/1/2013	2/11/2008	8/1/2013							
1708	Landscape Establishment Works	1528 d	2/11/2008	8/1/2013	2/11/2008	8/1/2013							
1709	Completion of Works	0 d	8/1/2013	8/1/2013	8/1/2013	8/1/2013							
1710	Section 7 - Landscape Establishment Works (Portion L, N & P)	1868 d	28/9/2007	7/1/2012	28/9/2007	7/1/2012							
1711	Section 7 Landscape Works	1695 d	28/9/2007	18/4/2012	28/9/2007	18/4/2012							
1712	Commencement of Works	1 d	28/9/2007	28/9/2007	28/9/2007	28/9/2007							
1713	Material Submission	120 d	25/9/2007	28/1/2008	25/9/2007	28/1/2008							
1714	Submission Approval	0 d	8/2/2008	8/2/2008	8/2/2008	8/2/2008							
1715	Landscape Handworks	1176 d	30/1/2009	18/4/2012	30/1/2009	18/4/2012							
1716	Landscape Softworks	365 d	21/4/2011	18/4/2012	21/4/2011	18/4/2012							
1717	Submission of Tree Survey	400 d	28/9/2007	1/11/2008	28/9/2007	1/11/2008							
1718	Preservation and Protection of Preserved Trees	1467 d	2/11/2008	7/1/2012	2/11/2008	7/1/2012							
1719	Landscape Establishment Works	1467 d	2/11/2008	7/1/2012	2/11/2008	7/1/2012							
1720	Completion of Works	0 d	7/1/2012	7/1/2012	7/1/2012	7/1/2012							
1721	Section 8 - All Remaining Work at all Portions	1900 d	28/9/2007	18/4/2011	28/9/2007	18/4/2011							
1722	Commencement of Works	0 d	28/9/2007	28/9/2007	28/9/2007	28/9/2007							
1723	All remaining works at all Areas	1900 d	28/9/2007	18/4/2011	28/9/2007	18/4/2011							
1724	Completion of Works	0 d	18/4/2011	18/4/2011	18/4/2011	18/4/2011							



Project: Revised M. Prog (Rev.08)  
 Date: Aug. 2009  
 Consultant: AECOM

Task Progress:  Task  
 Critical Task Progress:  Critical Task  
 Milestone:  Milestone  
 Summary:  Summary

Rolled Up Progress:  Rolled Up Progress  
 Rolled Up Critical Task:  Rolled Up Critical Task  
 Rolled Up Milestone:  Rolled Up Milestone

External Tasks:  External Tasks

**Appendix J: Baseline Vibration Monitoring Results provided by the Contractor**

# 昭興

# 昭興建築運輸有限公司



## Chiu Hing Construction & Transportation Co. Ltd.

Our Ref: DC0706/M1.2/CL/3187

20 January 2010

AECOM Asia Co. Ltd.  
8/F., Grand Central Plaza,  
138 Shatin Rural Committee Road,  
Shatin, N. T., Hong Kong.

Attn.: Mr. K.Y. Chan (SRE)

Dear Sir,

**Contract No. DC/2007/06**  
**River Improvement Works in Upper Lam Tsuen River,**  
**She Shan River and Upper Tai Po River**  
**Upper Tai Po River – Baseline Vibration monitoring at Fan Sin Temple and Wun Yiu**

I6967

Contract No. DC/2007/06		
Incoming Received	20 JAN 2010	
File	R05/200(37)	
	Action	Info
SRE	/	
RE1		/
RE2		/
RE3		/
ARE		
ARE		
IOW		/
AOW		
SO(Q)1, 2		
SO(E)1, 2		
TO(C)		
LRO		
CC 807		
A		

We attach the baseline vibration monitoring at Fan Sin Temple and Wun Yiu, Tai Po River as per the EM&A manual for your information.

Thank you for your kind attention.

Yours faithfully,

For and on behalf of  
Chiu Hing Construction & Transportation Co. Ltd.

\_\_\_\_\_  
Daniel Tai  
Site Agent

Encl.

c.c. AECOM – Attn.: Mr. Robert Chan



**Histogram Start Time** 14:16:03 December 7, 2009  
**Histogram Finish Time** 14:29:36 December 7, 2009  
**Number of Intervals** 162 at 5 seconds  
**Range** Geo :254 mm/s  
**Sample Rate** 1024sps  
**Job Number:** 1

**Serial Number** BE10425 V 8.01-8.0 MiniMate Plus  
**Battery Level** 6.1 Volts  
**Calibration** April 16, 2008 by EPC- Eddie Wan  
**File Name** L425D0G2.AR0

**Notes**

**Location:** ~~LB06 (Lam Teuen River)~~ Tai Po River  
**Client:**  
**User Name:** AY (Fan Sin Temple)  
**General:** DC/2007/06

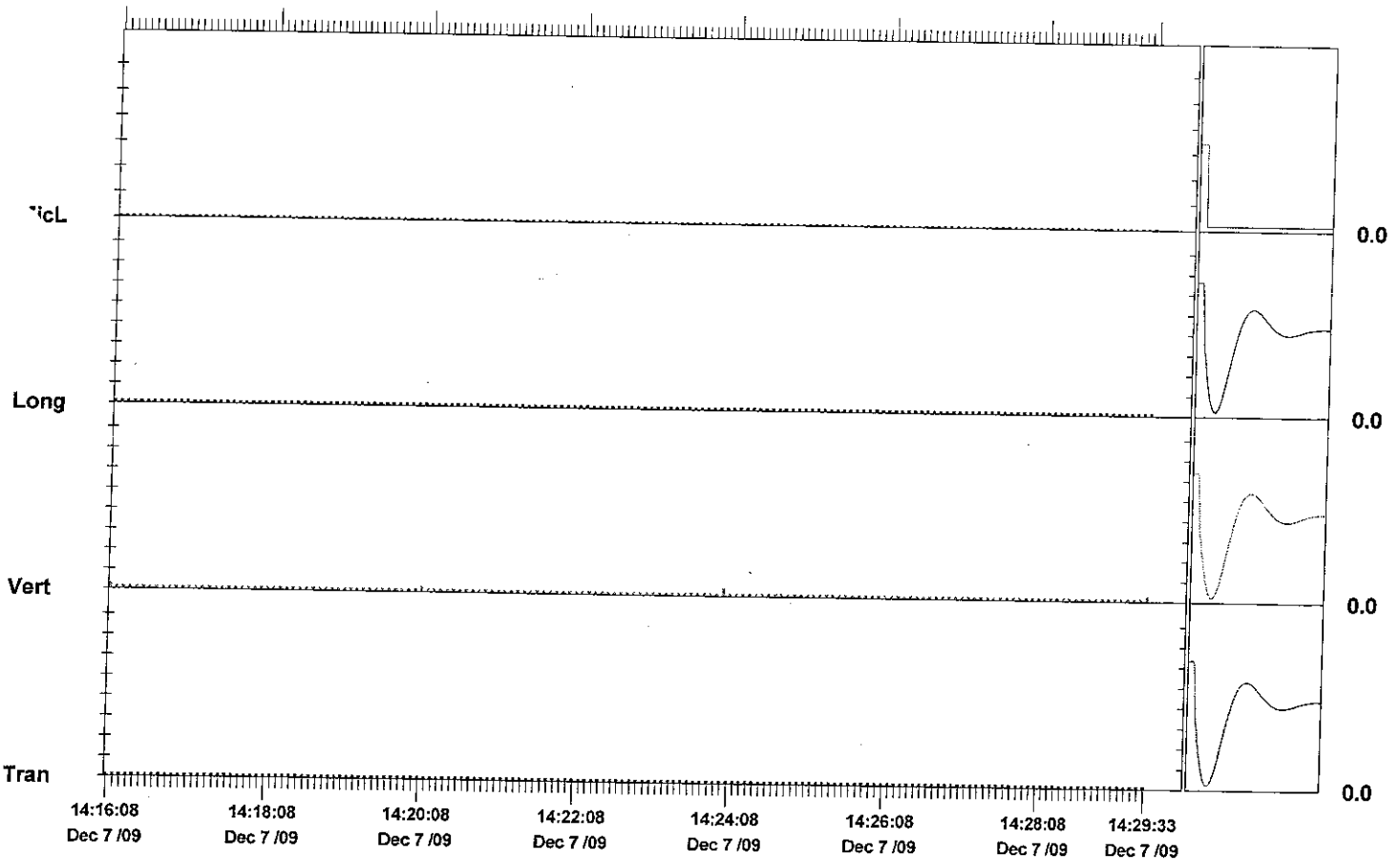
**Post Event Notes**

**Microphone** Linear Weighting  
**PSPL** <0.500 pa.(L) on December 7, 2009 at 14:16:08  
**ZC Freq** N/A  
**Channel Test** Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
<b>&gt;V</b>	0.127	0.381	0.127	mm/s
<b>ZC Freq</b>	>100	73	>100	Hz
<b>Date</b>	Dec 7 /09	Dec 7 /09	Dec 7 /09	
<b>Time</b>	14:16:08	14:24:03	14:16:08	
<b>Sensorcheck</b>	Passed	Passed	Passed	
<b>Frequency</b>	7.4	7.5	7.7	Hz
<b>Overswing Ratio</b>	4.0	3.7	4.0	

**Peak Vector Sum** 0.402 mm/s on December 7, 2009 at 14:24:03

**N/A:** Not Applicable



**Time Scale:** 5 seconds /div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 5.00 pa.(L)/div

Sensorcheck

**Histogram Start Time** 14:20:12 December 28, 2009  
**Histogram Finish Time** 14:30:13 December 28, 2009  
**Number of Intervals** 120 at 5 seconds  
**Range** Geo :254 mm/s  
**Sample Rate** 1024sps  
**Job Number:** 1

**Serial Number** BE10425 V 8.01-8.0 MiniMate Plus  
**Battery Level** 6.0 Volts  
**Calibration** April 16, 2008 by EPC- Eddie Wan  
**File Name** L425D11Y.H00

**Notes**

Location: ~~L800 (Lam Tsuen River)~~ *Tai Po River (Wan Yiu)*  
 Client:  
 User Name: AY  
 General: DC/2007/06 *Baseline Vibration monitoring*

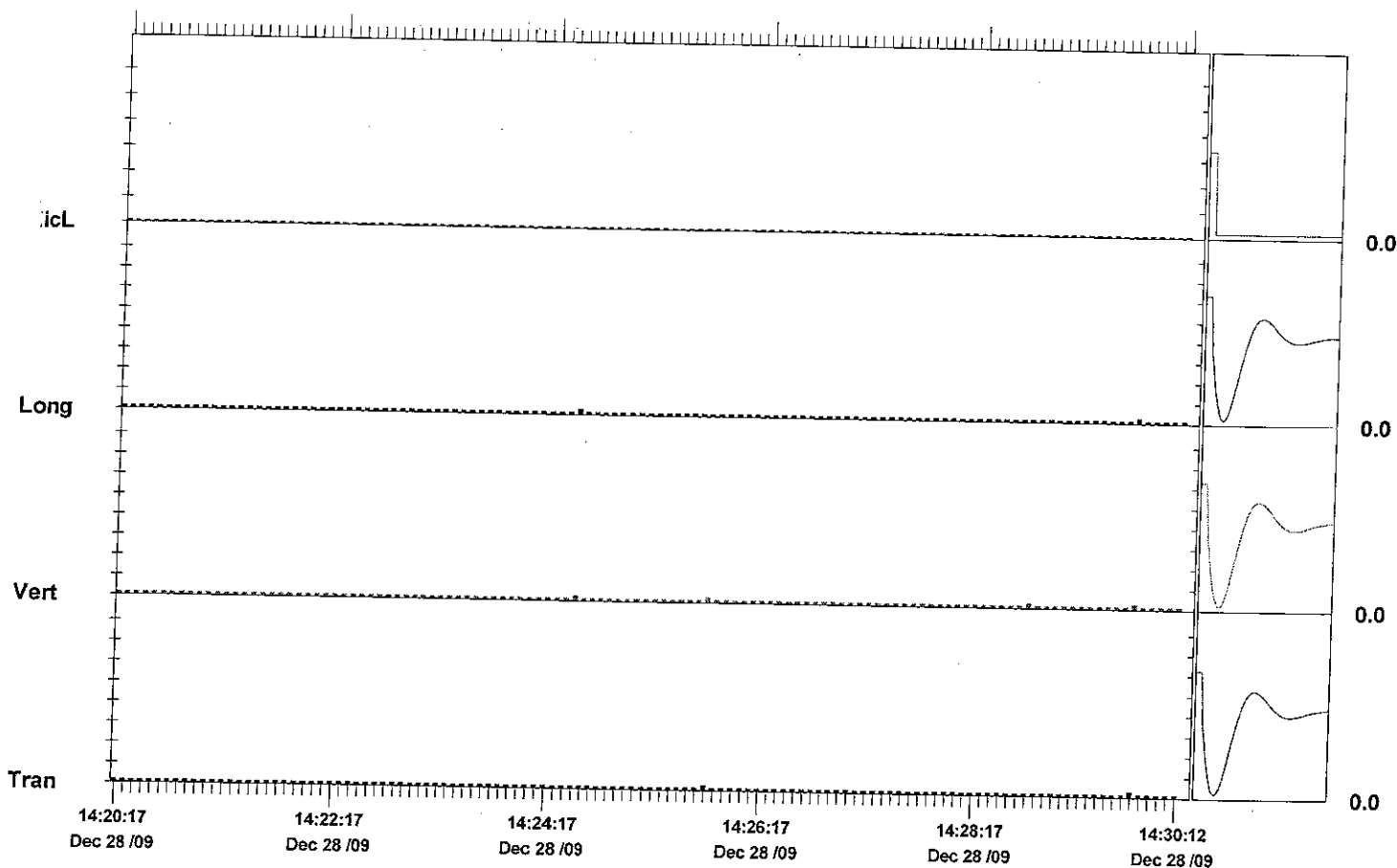
**Post Event Notes**

**Microphone** Linear Weighting  
**PSPL** <0.500 pa.(L) on December 28, 2009 at 14:20:17  
**ZC Freq** N/A  
**Channel Test** Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
RPV	0.254	0.254	0.254	mm/s
ZC Freq	>100	>100	>100	Hz
Date	Dec 28 /09	Dec 28 /09	Dec 28 /09	
Time	14:25:47	14:24:32	14:24:32	
Sensorcheck	Passed	Passed	Passed	
Frequency	7.2	7.4	7.5	Hz
Overswing Ratio	4.1	3.7	4.2	

**Peak Vector Sum** 0.381 mm/s on December 28, 2009 at 14:24:32

N/A: Not Applicable



**Time Scale:** 5 seconds /div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 5.00 pa.(L)/div

Sensorcheck