

PROJECT No.: TCS00409/08



DSD CONTRACT No. DC/2007/08  
DRAINAGE IMPROVEMENTS WORKS IN TAI PO TIN,  
PING CHE, MAN UK PIN AND LIN MA HANG

19<sup>TH</sup> MONTHLY ENVIRONMENTAL MONITORING &  
AUDIT REPORT FOR THE NON-DESIGNATED WORKS  
UNDER THE PROJECT – JUNE 2010  
CHANNELS TKL02, TKL07, MUP01 AND MUP02

PREPARED FOR

CHIU HING CONSTRUCTION & TRANSPORTATION COMPANY  
LIMITED

### Quality Index

Date	Reference No.	Prepared By	Certified by
19 July 2010	TCS00409/08/600/R0813v3		
		Ray Cheung Environmental Consultant	T.W. Tam Environmental Team Leader

Version	Date	Prepared By	Certified By	Remarks
1	14 July 2010	Ray Cheung	T.W. Tam	First Submission
2	16 July 2010	Ray Cheung	T.W. Tam	Amended against IEC comments on 16 July 2010
3	19 July 2010	Ray Cheung	T.W. Tam	Amended against IEC comments on 19 July 2010

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**ENVIRON**

Ref.: DSDFANLGEM01\_0\_0753L.10

19 July 2010

By Fax (2659-8323) and By Post

Engineer's Representative Office  
Black & Veatch Hong Kong Ltd  
503 Tai Po Tin, Ta Kwu Ling  
Fanling, New Territories

Attention: Mr. Gilbert Ying

Dear Mr. Ying,

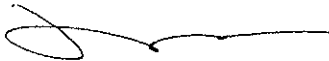
**Re: Contract No. DC/2007/08  
Drainage Improvement Works at Tai Po Tin, Ping Che,  
Man Uk and Lin Ma Hang  
Monthly EM&A Report for Channels TKL02, TKL07, MUP01 and MUP02 for  
June 2010 (Rev. 3)**

Reference is made to ET's submission of the 19<sup>th</sup> Monthly EM&A Report for June 2010 (R0813v3, dated 19 July 2010) for the Non-Designated Project Channels TKL02, TKL07, MUP01 and MUP02 by email on 19 July 2010.

We would like to inform that we have no comment on the captioned report.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung  
Independent Environmental Checker

c.c. AUES

Attn: Mr. T.W. Tam

Fax: 2959-6079

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EXECUTIVE SUMMARY

- ES.01 This is the 19<sup>th</sup> monthly EM&A Report for Channels TKL02, TKL07, MUP01 and MUP02 covering a period from 26 May to 25 June 2010 (the Reporting Period). These works are not classified as Designated Projects under the Environmental Impact Assessment Ordinance (Cap. 499) and therefore do not require an Environmental Permit for construction.
- ES.02 Construction noise monitoring results demonstrated no exceedance of the relevant Action and Limit Levels. No NOE or corrective action was required.
- ES.03 For air quality monitoring, no exceedance of Action or Limit Levels was found in 1-hour TSP monitoring as well as 24-hr TSP. No NOE or corrective action was required.
- ES.04 For water quality monitoring, two (2) Limit of Level exceedances were recorded during the Reporting Period. Based on the finding in the investigation reports, it is advised that there was no construction works at the upstream of captioned locations. Also, muddy water was observed at the upstream that reflected in the water data collected on the same day with noticeable turbidity value. It was concluded that the exceedances were not works related. No associated corrective actions were therefore required.

Station	DO		Turbidity		pH Value		SS		Total	
	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
MUP01/02-W3 <sup>(a)</sup>	0	0	0	0	0	0	0	1	0	1
MUP01/02-W4 <sup>(b)</sup>	0	0	0	1	0	0	0	0	0	1
TKL02-W2	0	0	0	0	0	0	0	0	0	0
TKL07-W2	0	0	0	0	0	0	0	0	0	0
Number of Exceedances	0	0	0	1	0	0	0	1	0	2

Remarks: <sup>(a)</sup> impact station; <sup>(b)</sup> Temporary or mobile station

- ES.05 No written or verbal complaint, notification of summons or successful prosecution was registered during the Reporting Period.
- ES.06 No adverse environmental impacts were observed during the site inspection. Nevertheless, the Contractor was reminded to fully implement all environmental mitigation measures stipulated in the EM&A Manual during works inside the channels. General refuse and fugitive dust were observed in some cases during weekly site inspection. The Contractor had committed to maintain good house keeping practice as follow-up actions. Minor deficiencies identified during the site inspection and audit were generally rectified within the specified deadlines.
- ES.07 Overall, the environmental performance of the Project was considered satisfactory.
- ES.08 As wet season has come, special attention should be paid to ingress of runoff into the river within the area of Channels TKL02, TKL07 and MUP01/02 during rainy days in the forthcoming months, when water quality may become the key issue. Mitigation measures for water quality should therefore be planned ahead. Also, wheel wash facilities should be maintained to be functional.
- ES.09 In addition, attention should also be paid to construction noise and dust or other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the Environmental Study Report (ES) and summarized in the Mitigation Measure Implementation Schedule should be fully implemented.

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## 1. INTRODUCTION

The Chiu Hing Construction & Transportation Company Limited (CHCT) was appointed by the Drainage Services Department (DSD) to perform a contract – Contract No. DC/2007/08 *Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang* (the Project). Total construction time is approximately 32 months.

The Project involves construction of various river channels: some classified as Designated Project (DP) and some Non-designated Project (Non-DP) under the Environmental Impact Assessment Ordinance (Cap. 499), as summarized in **Table 1-1**.

This report covers the non-DP works for Channels TKL02, TKL07, MUP01 and MUP02 only. A set of location plans showing all Non-DP works covered in this report are illustrated in **Appendix A**.

**Table 1-1 Summary of the Channels under the Project**

Channel ID	Location	Designated / Non-Designated
TKL02	Tai Po Tin	Non-Designated
TKL07	Ping Che / Ta Kwu Ling	Non-Designated
MUP01	Man Uk Pin	Non-Designated
MUP02		Non-Designated
MUP03A and MUP03B		Designated (EP277/2007/A)
MUP04A and MUP04B		Designated (EP277/2007/A)
MUP05		Designated (EP277/2007/A)
LMH01	Lin Ma Hang	Designated (EP277/2007/A)

It has been agreed among the Engineer's Representative (ER), the Independent Environmental Checker (IEC), the Contractor (CHCT), the Environmental Team (ET) and the Environmental Protection Department (EPD) that 25<sup>th</sup> of each month is the cut-off day of each Reporting Period. Data collected after the 26<sup>th</sup> of every month will be reported in the next issue.

This is the 19<sup>th</sup> monthly EM&A report covering a period from **26 May to 25 June 2010** (the Reporting Period). This Report presents the monitoring results of air quality, construction noise, water quality and ecology for the Non-DP works at Channels TKL02, TKL07, MUP01 and MUP02 under the Environmental Monitoring & Audit Manual [382486/83//Issue 1].

### 1.1 REPORT STRUCTURE

This Report has been written in accordance with the requirements set out in the *Environmental Monitoring and Audit Manual – Non-designated* (EM&A Manual) with the following structure:

<i>Section 1</i>	Introduction
<i>Section 2</i>	Basic Project Information
<i>Section 3</i>	Environmental Status
<i>Section 4</i>	Summary of Impact EM&A Requirements
<i>Section 5</i>	Impact Monitoring Results
<i>Section 6</i>	Report on Non-Compliance, Complaint, Notification of Summons and Successful Prosecution
<i>Section 7</i>	Conclusions and Recommendations

**2. BASIC PROJECT INFORMATION**

**2.1 PROJECT ORGANIZATION**

The organization chart and lines of communication with respect to the on-site environmental management and the management structure are shown in **Appendix B**.

**2.2 MASTER CONSTRUCTION PROGRAM FOR THE PROJECT**

The Master Construction Program of the Project is shown in **Appendix C**. The environmental mitigation measures implemented are also included in **Appendix C**.

**2.3 WORKS UNDERTAKEN DURING THE REPORTING PERIOD**

Works undertaken during the Reporting Period are summarized in Table 2-1.

**Table 2-1 Construction Activities Undertaken in the Reporting Month**

Location	Construction Activities
Channel TKL02	• Survey setting out
	• Construction of site access
	• Site Clearance
	• Construction of inlet chambers, access ramps and gabion wall
Channel TKL07	• Survey setting out
	• Site clearance
	• Construction of site access
	• Construction of footbridge, retaining wall, access ramps, inlet chambers and gabion wall
Channels MUP01 / MUP02	• Survey setting out
	• Construction of site access
	• Site clearance
	• Construction of access ramp, retaining wall and gabion wall

3. ENVIRONMENTAL STATUS

3.1 WORK UNDERTAKEN DURING THE MONTH WITH ILLUSTRATIONS OF ENVIRONMENTAL MITIGATION MEASURE

During the Reporting Period, construction works were undertaken at Channels TKL07, TKL02, MUP01 and MUP02. The environmental mitigation measures to be implemented are summarized in **Table 3-1**.

**Table 3-1 Environmental Mitigation Measures Undertaken during the Month**

Location	Construction Activities	Environmental Mitigation Measures to be deployed
Tai Po Tin, TKL02	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced.</li> </ul>
	Site clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of site access	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> </ul>
	Construction of inlet chambers access ramps and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Water spraying will be provided before and during handling of excavated material.</li> <li>Retained tree will be properly protected before works commenced</li> </ul>
Ping Che, TKL07	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced</li> </ul>
	Construction of site access	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> </ul>
	Site Clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of footbridge, retaining wall, access ramps, inlet chambers and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Concrete lorry mixers will be thoroughly cleansed before leaving the site</li> <li>Wash water, waste concrete and concrete slurry generated will be collected by sump pit and diverted to sedimentation tank before discharge</li> <li>Barriers will be erected to alleviate noise impact for works proximity to the Noise Sensitive Receiver (NSR) on need basis</li> </ul>
Man Uk Pin, MUP01/02	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced.</li> </ul>
	Construction of site access	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> </ul>
	Site clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of access ramp, retaining wall and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Water spraying will be provided before and during handling of excavated material.</li> <li>Retained tree will be properly protected before works commenced</li> </ul>



**3.2 IMPLEMENTATION OF ENVIRONMENTAL PROTECTION AND POLLUTION CONTROL**

The implementation of environmental protection and pollution control/mitigation measures as recommended in the EM&A Manual or ES are shown in **Appendix C**.

A summary of the environmental protection status for permits, licenses, and/or notifications during the Reporting Period are presented in **Table 3-2**.

**Table 3-2 Status of Environmental Licenses and Permits**

Item	Item Description	Permit Status
1	Air Pollution Control (Construction Dust)	Notification to EPD on 27 December 2007
2	Chemical Waste Producer Registration <ul style="list-style-type: none"> <li>• 5213-652-C3251-04</li> <li>• 5213-652-C3251-05</li> </ul>	Valid date: 23 July 2008 Valid date: 15 August 2008
3	Water Pollution Control (Discharge license) <ul style="list-style-type: none"> <li>• W5/1G34/1</li> <li>• W5/1G35/1</li> <li>• W5/1I324/1</li> <li>• W5/1I325/1</li> </ul>	Expiry date: 31 August 2013 Expiry date: 31 August 2013 Expiry date: 31 August 2013 Expiry date: 31 August 2013
4	Account for Disposal of Construction Waste No. 7006522	Valid date: 9 January 2008
5	Environmental Permit or Construction Noise Permit	Nil

#### 4. SUMMARY OF IMPACT MONITORING REQUIREMENTS

Environmental monitoring and audit for air quality, noise, water quality and ecology have been stipulated in the EM&A Manual. The key requirements are summarized below.

##### 4.1 MONITORING PARAMETERS

The monitoring parameters are presented in **Table 4-1**.

**Table 4-1 Summary of Monitoring Parameters**

Environmental Aspect	Parameters	
Air Quality	<ul style="list-style-type: none"> <li>1-hour Total Suspended Particulate (1-hour TSP); and</li> <li>24-hour Total Suspended Particulate (24-hour TSP).</li> </ul>	
Construction Noise	<ul style="list-style-type: none"> <li>A-weighted equivalent continuous sound pressure level (30min) (Leq(30min)) during the normal working hours; and</li> <li>A-weighted equivalent continuous sound pressure level (5min) (Leq(5min)) for construction work during the Restricted Hours.</li> </ul>	
Water Quality	In-situ Measurement	Temperature, Dissolved Oxygen (DO), Dissolved Oxygen Saturation (DOS), pH value, Water Depth, Temperature & Turbidity
	Laboratory Analysis	Suspended Solids (SS)
Ecology	MUP01&02	<ul style="list-style-type: none"> <li>The stream conditions monitoring (in-situ measurements of DO, pH and turbidity; laboratory testing of SS);</li> <li>General site audit to reporting the mitigation measures are properly implemented during the construction phase</li> </ul>

##### 4.2 MONITORING LOCATIONS

###### 4.2.1 Monitoring Locations Proposed in the EM&A manuals

Monitoring locations have been identified in the EM&A Manual. They are shown in **Appendix D** and summarized in **Table 4-2**.

**Table 4-2 Monitoring Locations Proposed in the EM&A Manuals**

Issue	Channel	Sensitive Receiver	Monitoring Location ID	Detailed Address
Air	TKL02	TKL02-1	TKL02-A1	Village house at Tai Po Tin
		TKL02-5	TKL02-A2a*	Village house at Sheung Shan Kai Wat
	TKL07	TKL07-1	TKL07-A1	Village house at Ping Che / Ta Kwu Ling
		TKL07-4	TKL07-A2a**	Village house at Ping Che / Ta Kwu Ling
	MUP01&02	MUP01/02-1	MUP01/02-A1	Village house at Man Uk Pin
			(same as MUP-A1)	(same as Village north of Loi Tung)
	MUP01/02-3	MUP01/02-A2	Village house at No.26C Man Uk Pin	
Noise	TKL02	TKL02-1	TKL02-N1	Village house at Tai Po Tin
		TKL02-5	TKL02-N2	Village house at Sheung Shan Kai Wat
	TKL07	TKL07-1	TKL07-N1	Village house at Ping Che / Ta Kwu Ling
		TKL07-4	TKL07-N2	Village house at Ping Che / Ta Kwu Ling
	MUP01& 02	MUP01/02-1	MUP01/02-N1	Village house at Ping Che / Ta Kwu Ling
			(same as MUP-N1)	
	MUP01/02-3	MUP01/02-N2	Village house at No.26C Man Uk Pin	
Water	TKL02	Control Station	TKL02-W1	Upstream of TKL02 works
		Impact Station	TKL02-W2	Downstream of TKL02 works
	TKL07	Control Station	TKL07-W1	Upstream of TKL07 works
		Impact Station	TKL07-W2	Downstream of TKL07 works
	MUP01& 02	Control Station	MUP01/02-W1	Upstream of MUP01 works
			(same as MUP-W1)	
		Control Station	MUP01/02-W2	Upstream of MUP02 works
			(same as MUP-W2)	
Impact Station	MUP01/02-W3	Downstream of the discharge point of MUP01/02		
Temporary and mobile Station	MUP01/02-W4	Within MUP01 or MUP02 works		

Issue	Channel	Sensitive Receiver	Monitoring Location ID	Detailed Address
Ecology	MUP01& 02	Water quality of stream		Upstream and downstream of Construction site
		General site audit (with emphasis on ecological mitigation measures)		Along stream channel, within 100m upstream and downstream of construction site

Notes \*TKL02 A2a is the replacement of TKL02A2, the access of which has been denied by the owner.  
 \*\*TKL07 A2a is the replacement of TKL07A2, which has been abandoned and no longer a sensitive receiver.

#### 4.3 MONITORING FREQUENCY

The impact monitoring should be conducted during the construction activities pass through the contract period to ensure the ambient environmental conditions comply with the environmental performance criteria i.e. Action and Limit Levels for the Project. The impact monitoring frequency specified in the EM&A Manual is summarized below.

##### Air Quality

Parameters: 24-hour TSP and 1-hour TSP.  
Frequency: Once every 6 days for 24-hour TSP & 3 times every 6 days for 1-hour TSP.  
Duration: During the course of construction works

##### Construction Noise

Parameters: Leq(30 min) in six consecutive Leq (5 min) measurements..  
Frequency: Once a week during 0700-1900 on normal weekdays:  
Duration: During the course of construction works

##### Water Quality

Parameters: Duplicate in-situ measurements of water depth, temperature, DO, pH & turbidity; and laboratory testing of SS. Relevant data will also be measured time of sampling, DO saturation, weather conditions and relevant phenomena observed on site  
Depths: All measurements will be carried out at three water depths, namely, 1m below water surface, mid-water depth, and 1m above river bed. If the water depth is less than 6m, the mid-depth measurement will be omitted. If the depth is less than 3m, only the mid-depth measurement will be taken.  
Frequency: 3 days a week with an interval of at least 36 hours between two consecutive sampling days  
Duration: During the construction period of the channel works

##### Ecology

According to the EM&A Manual [382486/83//Issue1], ecology monitoring is only performed at the Channels MUP01&02 during the construction phase, the monitoring requirements are listed as following:

##### Parameters:

- (i) General site audit with emphasis on ecology mitigation measure;
- (ii) Water quality of stream (DO, pH, turbidity and SS); and

##### Frequency:

- (i) Once a week for general site audit throughout the construction period; and
- (ii) Three times per week for stream monitoring;

##### Duration:

Throughout the whole construction period

#### 4.4 MONITORING EQUIPMENT

The monitoring equipments for air quality, construction noise, stream water quality and ecology are summarized below.

#### 4.4.1 Air Quality

A list of air quality monitoring equipments is shown in **Table 4-3**.

**Table 4-3 Air Quality Monitoring Equipment**

Equipment	Model
<b>24-hour TSP</b>	
High Volume Air Sampler (HVS)	Grasby Anderson GMWS 2310 HVS
Calibration Kit	TISCH Model TE-5028A
<b>1-hour TSP</b>	
Portable Dust Meter	TSI DustTrak Model 8520 / Sibata LD-3 Laser Dust Meter

#### 4.4.2 Construction Noise

A list of construction noise monitoring equipments is shown in **Table 4-4**.

**Table 4-4 Construction Noise Monitoring Equipment**

Equipment	Model
Integrating Sound Level Meter	B&K Type 2236
Calibrator	B&K Type 4231
Portable Wind Speed Indicator	Testo Anemometer

#### 4.4.3 Water Quality

Monitoring Equipments for water quality are shown in **Table 4-5**.

**Table 4-5 Water Quality Monitoring Equipment**

Equipment	Model / Description
<b>In-situ Measurement</b>	
Water Depth Detector	Eagle Sonar
Water Sampler	Teflon bailer / bucket
Thermometer & DO meter	YSI Multimeter
pH meter	Extech pH EC 500
Turbidimeter	Hach 2100p
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-litter plastic cool box
<b>Laboratory Analysis</b>	
Suspended Solids	HOKLAS accredited Laboratory

#### 4.4.4 Equipment Calibration

The calibration certificates of all monitoring equipments used during the impact monitoring program are attached in **Appendix E** and the calibration requirements are described below:

##### Air Quality

The calibration of the HVS is performed quarterly in accordance with the manufacturer's instruction manual using the NIST-certified standard calibrator (Tisch Calibration Kit Model No. TE-5028A). The calibration data are properly documented and the associated records are maintained by the ET for future reference.

The 1-hour TSP meter is calibrated annually in accordance with the in-house method. Zero response of the equipment is checked before and after each monitoring event.

##### Noise

The sound level meters are calibrated using an acoustic calibrator prior to and after measurements. The meters are regularly calibrated by HOKLAS accredited laboratory. Prior to and following each noise measurement, the accuracy of the sound level meter is checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements are considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.

Water Quality

In-situ monitoring instruments are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme quarterly.

**4.4.5 Ecology**

The following equipment will be used for monitoring:-

- General: field note books and survey forms, digital camera; and
- Binoculars (7-10x and 8 x 30 magnification);

**4.4.6 Others EM&A Requirement**

Landscape & Visual

Landscape and visual mitigation measures should be implemented during construction phase according to the EM&A Manual. The construction phase landscape and visual EM&A shall be carried out as part of the site audit program. Site inspection will be undertaken at least once every two weeks throughout the construction period

Cultural Heritage

No cultural heritage monitoring is required for Channels TKL02, TKL07 and MUP01&02 in accordance with the EM&A Manual [382486/73//Issue 1].

**4.5 MONITORING PROCEDURE**

The monitoring methodology and procedure during the impact monitoring are presented below:

**4.5.1 Air Quality**

1-hour TSP

Operation of the 1-hour TSP meter follows manufacturer's instruction manual. The 1-hour TSP monitor, a TSI Dust Track Aerosol Monitor Model 8520, or a Sibata LD-3 Laser Dust Meter, is a portable, battery-operated laser photometer. It provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:

- A pump to draw sample aerosol through the optic chamber where TSP is measured;
- A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and
- A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

The 1-hour TSP meter to be used should be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

24-hour TSP

The equipment used for 24-hour TSP measurement is the high volume air sampling system (HSV) brand named Thermo Andersen, Model GS2310, which complies with EPA Code of Federal Regulation, Appendix B to Part 50. The HVS consists of the following:

- An anodized aluminum shelter;
- A 8"x10" stainless steel filter holder;
- A blower motor assembly;
- A continuous flow/pressure recorder;
- A motor speed-voltage control/elapsed time indicator;
- A 6-day mechanical timer, and
- A power supply of 220v/50 Hz

The HVS is calibrated prior to monitoring, following the manufacturer's instruction using the NIST-certified standard calibrator brand named Tisch Calibration Kit Model TE-5028A. Regular HVS operation and maintenance as well as filter paper installation and collection will be performed by the ET's competent technicians, whereas laboratory analyses will be conducted in a local

HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS). The analyzed 24-hour TSP filters are kept in ALS for six months prior to disposal.

#### Meteorological Information

All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper is recorded in detail.

Meteorological information is sourced from the Hong Kong Observatory (Ta Kwu Ling Station). The data include wind direction, wind speed, humidity, rainfall, air pressure and temperature, etc., that in general are required for evaluating the air quality for air quality monitoring.

#### **4.5.2 Construction Noise**

Sound level meters listed above comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications, and are recommended in Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO).

All noise measurements are performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). The Leq(30min) measurements are used as the monitoring parameter throughout the construction phase.

The sound level meter is set higher than 1.2m above the local ground. The microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield is fitted for all measurements. The measurement point at impact locations is normally set close to the exterior of the building.

Immediately prior to and following each noise measurement, the accuracy of the sound level meter is checked using an acoustic calibrator generating a known sound pressure level at a known frequency (94dBA). Measurements are accepted as valid if the calibration levels from before and after the noise measurement agree to within 1.0dB.

#### **4.5.3 Water Quality**

Water quality monitoring is conducted at the middle of the water columns (mid-depth) since water columns at all sampling locations are usually less than 3.0 meters during monitoring in a river channel.

##### Water Depth

Water depths are determined prior to measurement and sampling. A steel ruler with a suitable weight is dropped to the bottom of the water column to measure the water depth, which is actually well below 1 meter.

##### Dissolved Oxygen (DO)

A portable Extech Instrument, ExStik R DO600 DO Meter is used for in-situ DO measurement. The DO meter is capable of measuring DO in the range of 0-20 mg/L and 0-200 % saturation and checked against water saturated ambient air on each monitoring day prior to monitoring.

Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 20<sup>0</sup>C, for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter are recorded.

##### pH

A portable Extech Instrument, ExStik TM Models pH110 pH Meter is used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 – 14 and readable to 0.1. Standard buffer solutions of pH 7 and pH 10 or pH 7 and pH 4 are used for calibration of the instrument before and after measurement, depending on the pH range of the water body to be monitored.

##### Turbidity

A portable Hach 2100p turbidity meter is used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 – 1000 NTU.

Suspended Solids (SS)

SS is determined by ALS using HOKLAS accredited analytical methods named as ALS Method EA-025. The limit of reporting of the parameter is 2 mg/L

Water Sampler

Water samples are collected by the ET using a plastic sampler to avoid metal contamination. Due to water depth for both sampling locations are lesser than 0.5m, a cleaned plastic beaker is used for sample collection. The sampler is rinsed before collection with the sample to be taken. A 1,000mL water sample is collected from mid-depth for laboratory analyses.

Sample Container

Water samples are contained in screw-cap PE (Poly-Ethylene) bottles provided by ALS. The PE bottles are pretreated by laboratory in accordance with the corresponding analytical requirements of HOKLAS. Where appropriate, the sampling bottles are rinsed with the water to be contained. Water sample is transferred from the sampler to the sample bottles to 95% bottle capacity to allow possible volume expansion during delivery and storage.

Sample Storage and delivery

A 'Willow' 33-litter plastic cool box packed with ice is used to preserve the collected water samples prior to arrival at the laboratory. The temperature of the cool box is maintained as close to 4°C as possible without being frozen. Samples are delivered to the laboratory by the end of the sampling day or the following day in compliance with the maximum storage time requirement.

Chemical Analysis

ALS Technichem (HK) Pty Ltd (HOKLAS No. 66) is appointed by the ET to provide analytical services for the Project. The analysis of suspended solids is carried out following the APHA Standard Methods for the Examination of Water and Wastewater 19ed 2540D. The QA/QC for sample preparation and analysis are performed by the laboratory following HOKLAS requirements.

**4.5.4 Ecology**

Weekly site audit covering the whole assessment area is conducted during the construction work at Channels MUP01 and MUP02 with a focus on the status/condition of the study area and its immediate vicinity, especially those sensitive habitats that have been identified in the ES report and/or habitats of conservation importance as stated in the EIAO TM.

Any changes found during the site audit will be marked and reported in the monthly EM&A report, and for those changes predicted to possibly or probably have an impact on flora and fauna distribution or numbers will be highlighted in the monthly EM&A report.

Ecological monitoring of water quality at the stream is undertaken upstream and downstream of Channels MUP01/02. The location of monitoring stations and requirements are identical to those for the Water Quality Monitoring of Channels MUP01/02. The procedure of water monitoring for ecological monitoring purpose follows the previously stated methods.

**4.6 ENVIRONMENTAL QUALITY PERFORMANCE LIMITS**

The baseline monitoring was carried out from 17 September to 13 October 2008, including ecological baseline monitoring for the habitat updating performed on 16 September 2008 in accordance with the EM&A Manuals requirements. A summary of Action/Limit (A/L) Levels for air quality, construction noise, stream water quality, ecology and Landscape & Visual are shown in **Tables 4-6, 4-7, 4-8, 4-9** and **4-10** respectively.

**Table 4-6 Action and Limit Levels for Air Quality**

Monitoring Station	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
TKL02-A1	323	171	500	260
TKL02-A2a	346	160	500	260
TKL07-A1	325	166	500	260
TKL07-A2a	302	155	500	260

Monitoring Station	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
MUP01/02-A1 (same as MUP-A1)	307	156	500	260
MUP01/02-A2	306	154	500	260

**Table 4-7 Action and Limit Levels for Construction Noise**

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hours on normal weekdays	When one documented complaint is received	75* dB(A)

Note: \* Reduces to 70 dB(A) for schools and 65 dB(A) during the school examination periods.

**Table 4-8 Action and Limit Levels for Water Quality**

Monitoring Location		DO (mg/L)		Turbidity (NTU)		pH (Unit)		SS (mg/L)	
ID	Station Type	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
TKL02-W1	Control	NA	NA	NA	NA	NA	NA	NA	NA
TKL02-W2	Impact	3.08	3.06	45.74	54.19	6.5 – 8.5	6.0 - 9.0	39.05	43.01
TKL07-W1	Control	NA	NA	NA	NA	NA	NA	NA	NA
TKL07-W2	Impact	3.18	3.01	42.58	49.80	6.5 – 8.5	6.0 - 9.0	37.90	38.78
MUP01/02-W1	Control	NA	NA	NA	NA	NA	NA	NA	NA
MUP01/02-W2	Control	NA	NA	NA	NA	NA	NA	NA	NA
MUP01/02-W3	Impact	3.92	3.91	8.62	9.32	6.5 – 8.5	6.0 - 9.0	4.00	4.00
MUP01/02-W4	Temp./mobile	5.12	5.11	8.34	8.47	6.5 – 8.5	6.0 - 9.0	77.25	123.45

Note: - For DO, non-compliance of water quality limits occurs when monitoring result is lower than the limits.  
 - For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.  
 - For pH, non-compliance of water quality limits occurs when monitoring result exceeds the range of limits.

**Table 4-9 Action and Limit Levels for Ecology in Construction Phase at Channels MUP01/02**

Parameter	Action Level	Limit Level
<ul style="list-style-type: none"> <li>Any construction works do not cause adverse ecological impacts outside the work site of Channels</li> <li>Where natural banks are to be retained are protected from adverse effects of engineering works, including impacts to riparian vegetation along these banks</li> <li>The existing natural stream channel is protected from adverse effect of engineering works, including potential indirect impacts through increased sedimentation</li> <li>Rock/fines used to form the bottom of the widened channel have the appropriate physical characteristics to permit re-establishment of semi-natural stream conditions</li> <li>The recommended mitigation measures are properly implemented by the Contractor</li> </ul>	Non-conformity on one occasion	Repeated Non-conformity

**Table 4-10 Action Level for Landscape and Visual Impact in Construction Phase**

Parameter	Action Level	Limit Level
Any trespass by the contractor outside the limit of the works, including any damage to existing trees, woodland and vegetation	Non-conformity on one occasion	Repeated non-conformity

#### 4.7 EVENT AND ACTION PLANS

The Event Action Plans for air quality, construction noise and water quality are presented in **Appendix F**.



#### **4.8 ENVIRONMENTAL MITIGATION MEASURES**

The ES has recommended environmental mitigation measures to minimize potential environmental impacts arising from the construction of the project. A full list of the mitigation measures is detailed in **Appendix C**.

#### **4.9 DATA MANAGEMENT AND DATA QA/QC CONTROL**

The impact monitoring data are handled by the ET's systematic data recording and management system, which complies with in-house certified (ISO 9001:2000) Quality Management System. Standard Field Data Sheets (FDS) are used in the EM&A program.

The monitoring data recorded in the equipment e.g. 1-hour TSP meters and noise meters are downloaded directly at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data.

For monitoring activities require laboratory analysis, the ET requires that ALS follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing

5. IMPACT MONITORING RESULTS

The environmental monitoring results will be compared against the Action and Limit Levels established based on the baseline monitoring results and statutory criteria. In case the measured data exceed the environmental quality criteria, remedial actions will be triggered according to the Event and Action Plan enclosed in **Appendix F**. The impact monitoring schedule at all channel are presented in **Appendix G** and the monitoring results are detailed in the following sub-sections.

5.1 AIR QUALITY

Results of 24-hour and 1-hour TSP are summarized in **Tables 5-1 to 5-6**. Detailed 24-hour TSP data are tabulated in **Appendix H**, while graphical plots are shown in **Appendix I**. Meteorological data during the Reporting Period are summarized in **Appendix J**.

**Table 5-1 Summary of Air Quality Monitoring Results – Channel TKL07-A1**

Date	24-hour TSP (µg/m <sup>3</sup> )	1-hour TSP (µg/m <sup>3</sup> )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	30	26-May-10	09:49	84	86	81
5-Jun-10	74	1-Jun-10	09:47	84	86	81
11-Jun-10	71	7-Jun-10	09:49	83	86	80
18-Jun-10	46	12-Jun-10	09:54	86	88	83
24-Jun-10	32	19-Jun-10	09:49	84	86	82
		25-Jun-10	09:47	82	85	80
<b>Average</b>	50	<b>Average</b>		84		
<b>Min</b>	30	<b>Min</b>		80		
<b>Max</b>	74	<b>Max</b>		88		

Bold indicated limit level exceedance.

**Table 5-2 Summary of Air Quality Monitoring Results – Channel TKL07-A2a**

Date	24-hour TSP (µg/m <sup>3</sup> )	1-hour TSP (µg/m <sup>3</sup> )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	63	26-May-10	09:34	83	86	81
5-Jun-10	78	1-Jun-10	09:31	87	89	84
11-Jun-10	23	7-Jun-10	09:37	79	83	77
18-Jun-10	#	12-Jun-10	09:46	83	85	81
24-Jun-10	#	19-Jun-10	09:37	84	87	81
		25-Jun-10	09:37	89	92	86
<b>Average</b>	55	<b>Average</b>		84		
<b>Min</b>	23	<b>Min</b>		77		
<b>Max</b>	78	<b>Max</b>		92		

# Power failure of HVS recorded

Bold indicated limit level exceedance.

**Table 5-3 Summary of Air Quality Monitoring Results – Channels MUP01/02-A1 / MUP-A1 (MUP 05)**

Date	24-hour TSP (µg/m <sup>3</sup> )	1-hour TSP (µg/m <sup>3</sup> )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	32	26-May-10	13:49	89	92	87
5-Jun-10	#	1-Jun-10	13:47	84	87	82
11-Jun-10	136	7-Jun-10	13:49	87	89	84
18-Jun-10	18	12-Jun-10	13:47	82	85	80
24-Jun-10	#	19-Jun-10	13:28	87	90	85
		25-Jun-10	13:46	87	89	84
<b>Average</b>	62	<b>Average</b>		86		
<b>Min</b>	18	<b>Min</b>		80		
<b>Max</b>	138	<b>Max</b>		92		

# Power failure of HVS recorded

Bold indicated limit level exceedance.

**Table 5-4 Summary of Air Quality Monitoring Results – Channels MUP01/02-A2**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	24	26-May-10	13:04	79	83	77
5-Jun-10	33	1-Jun-10	13:07	82	85	79
11-Jun-10	61	7-Jun-10	13:07	82	85	80
18-Jun-10	26	12-Jun-10	13:07	89	92	87
24-Jun-10	26	19-Jun-10	13:47	83	85	81
		25-Jun-10	13:06	81	83	79
<b>Average</b>	34	<b>Average</b>		83		
<b>Min</b>	24	<b>Min</b>		77		
<b>Max</b>	61	<b>Max</b>		92		

Bold indicated limit level exceedance.

**Table 5-5 Summary of Air Quality Monitoring Results – Channels TKL02- A1**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	37	26-May-10	09:14	84	87	81
5-Jun-10	72	1-Jun-10	09:16	84	87	82
11-Jun-10	89	7-Jun-10	09:16	86	88	84
18-Jun-10	104	12-Jun-10	09:17	87	89	85
24-Jun-10	60	19-Jun-10	09:18	88	90	85
		25-Jun-10	09:16	86	89	83
<b>Average</b>	72	<b>Average</b>		86		
<b>Min</b>	37	<b>Min</b>		81		
<b>Max</b>	104	<b>Max</b>		90		

Bold indicated limit level exceedance.

**Table 5-6 Summary of Air Quality Monitoring Results – Channels TKL02- A2**

Date	24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )				
		Date	Start Time	1 <sup>st</sup> Measurement	2 <sup>nd</sup> Measurement	3 <sup>rd</sup> Measurement
31-May-10	22	26-May-10	09:02	82	85	80
5-Jun-10	36	1-Jun-10	09:02	80	82	78
11-Jun-10	46	7-Jun-10	09:02	84	86	81
18-Jun-10	23	12-Jun-10	09:02	84	86	81
24-Jun-10	25	19-Jun-10	09:09	87	89	84
		25-Jun-10	09:02	82	85	80
<b>Average</b>	30	<b>Average</b>		83		
<b>Min</b>	22	<b>Min</b>		78		
<b>Max</b>	46	<b>Max</b>		89		

Bold indicated limit level exceedance.

As shown in Tables 5-1 to 5-6, all successful measured 1-hour results were fluctuated well below the corresponding Action Levels. However, in the 24-hour TSP monitoring, a total of 4 events of unsuccessful monitoring due to power failure of HVS occurred at Station TKL07-A2a and MUP01/02-A1. ET has liaised with the Contractor and noted that the power supply at those stations was stopped by the landlord. Owing that the ongoing activities undertaken at both locations would not create significant air pollutant, it is considered that air quality at the days of power failure incident of 24-hour TSP were not likely exceed the air performance criteria.

Although there were no exceedances in air monitoring, the Contractor was advised to maintain the frequency of watering in haul road especially during hot and sunny weather as a precautionary measure.

5.2 CONSTRUCTION NOISE

Noise monitoring data are summarized in **Tables 5-7 to 5-12**, and plotted in **Appendix I**.

**Table 5-7 Summary of Construction Noise Monitoring Results – Channels TKL07-N1**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	11:02	63.9	63.7	63.2	63.7	63.4	63.1	63.5
1-Jun-10	11:07	62.4	62.7	62.3	62.1	62.6	62.4	62.4
7-Jun-10	10:49	64.2	64.5	64.3	64.9	64.6	64.5	64.5
12-Jun-10	10:49	62.7	62.4	62.1	62.9	63.0	62.4	62.6
19-Jun-10	11:02	68.2	67.4	67.6	67.7	67.9	67.4	67.7
25-Jun-10	10:46	64.3	64.1	63.7	63.2	64.0	63.8	63.9
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

**Table 5-8 Summary of Construction Noise Monitoring Results – Channels TKL07-N2**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	10:17	66.9	67.0	66.4	66.2	67.2	67.3	66.9
1-Jun-10	10:27	66.2	65.9	65.7	66.0	66.4	65.8	66.0
7-Jun-10	10:07	64.9	64.2	63.9	64.7	64.3	64.6	64.4
12-Jun-10	10:07	64.9	63.7	64.2	64.3	63.8	64.0	64.2
19-Jun-10	10:26	67.1	67.9	67.4	67.3	67.9	67.8	67.6
25-Jun-10	10:02	67.2	67.3	67.6	66.9	66.7	67.4	67.2
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

**Table 5-9 Summary of Construction Noise Monitoring Results – Channels MUP01/02-N1 / MUP01/02-N1 (MUP05)**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	15:40	66.4	66.1	66.0	66.3	65.9	65.7	66.1
1-Jun-10	15:56	67.4	67.3	67.0	67.5	67.4	67.2	67.3
7-Jun-10	15:11	66.7	67.2	66.8	67.1	66.9	66.7	66.9
12-Jun-10	15:56	68.1	67.7	67.9	68.4	67.6	68.3	68.0
19-Jun-10	15:47	66.7	66.9	65.9	67.0	66.4	66.5	66.6
25-Jun-10	15:09	66.2	66.1	65.9	65.7	65.4	66.4	66.0
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

**Table 5-10 Summary of Construction Noise Monitoring Results – Channels MUP01/02-N2**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	13:02	65.1	63.8	63.7	64.1	64.2	65.2	64.4
1-Jun-10	13:04	63.7	62.9	63.4	63.6	63.5	63.4	63.4
7-Jun-10	11:30	63.2	63.6	64	63.7	63.9	63.6	63.7
12-Jun-10	13:04	65.7	65.9	66.4	66.2	65.8	65.4	65.9
19-Jun-10	13:04	62.7	62.9	63.4	62.8	63.1	63.4	63.1
25-Jun-10	11:30	61.4	61.7	61.2	61.6	61.4	62.0	61.6
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

**Table 5-11 Summary of Construction Noise Monitoring Results –Channels TKL02-N1**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	09:26	65.7	63.9	65.5	63.6	64.2	65.1	64.7
1-Jun-10	09:46	61.4	62.0	61.1	61.6	61.5	61.2	61.5
7-Jun-10	09:28	59.7	59.4	59.1	59.6	59.7	59.9	59.6
12-Jun-10	09:27	56.7	57.3	57.1	56.9	57.3	57.6	57.2
19-Jun-10	09:42	56.7	57.1	57.0	57.6	56.9	57.3	57.1
25-Jun-10	09:27	62.7	62.4	63.0	62.9	63.6	63.1	63.0
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

**Table 5-12 Summary of Construction Noise Monitoring Results – Channels TKL02-N2**

Date	Start Time	1st Leq 5min	2nd Leq 5min	3rd Leq 5min	4th Leq 5min	5th Leq 5min	6th Leq 5min	Leq 30min
26-May-10	08:44	64.9	65.0	64.7	64.6	64.7	65.3	64.9
1-Jun-10	09:01	60.9	61.4	60.5	60.8	61.0	61.2	61.0
7-Jun-10	08:46	57.2	56.9	56.4	56.7	57.0	56.9	56.9
12-Jun-10	08:48	59.2	59.7	60.2	59.6	59.8	59.9	59.7
19-Jun-10	09:01	59.4	58.7	59.1	59.3	58.9	59.0	59.1
25-Jun-10	08:43	58.7	59.2	58.4	58.1	59.3	58.4	58.7
Limit Level: Leq30		75 dB(A)						

\* No façade correction, all measurements in dB(A)

As shown in **Tables 5-7 to 5-12**, the construction noise levels fluctuated well below the Limit Level. No documented complaints against the construction noise were registered during the Reporting Period. No NOE of construction noise or corrective action was, therefore, required for the parameter.

### 5.3 WATER QUALITY

Water quality monitoring results at Channels TKL02, TKL07 and MUP01/02 during the Reporting Period are tabulated in Appendix H, where graphical plots of trends of the monitored parameters are presented **Appendix I**.

For water quality monitoring, two (2) Limit of Level exceedances were recorded during the Reporting Period. Based on the finding in the investigation reports, it is advised that there was no construction works at the upstream of captioned locations. Also, muddy water was observed at the upstream that reflected in the water data collected on the same day with noticeable turbidity value. It was concluded that the exceedances were not works related. No associated corrective actions were therefore required. The exceedances are summarized in Table 5-13.

**Table 5-13 Summarized of Water Quality Exceedances of Existing Action and Limit Levels**

Station	DO		Turbidity		pH Value		SS		Total	
	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
MUP01/02-W3 <sup>(a)</sup>	0	0	0	0	0	0	0	1	0	1
MUP01/02-W4 <sup>(b)</sup>	0	0	0	1	0	0	0	0	0	1
TKL02-W2	0	0	0	0	0	0	0	0	0	0
TKL07-W2	0	0	0	0	0	0	0	0	0	0
Number of Exceedances	0	0	0	1	0	0	0	1	0	2

Remarks: <sup>(a)</sup> impact station; <sup>(b)</sup> Temporary or mobile station

Notice of Exceedance of environmental quality criteria (NOE) were issued upon confirmation of the monitoring results, and also investigations of the NOE were conducted upon receipt of the information of construction activities and the implemented mitigation measures provided by CHCT.

#### 5.4 ECOLOGY

According to the EM&A Manual [382486/73/Issue2], ecology monitoring is required for Channels MUP01 and MUP02 during the construction phase. In this reporting period, the construction works of Channels MUP01/02 were commenced on 10 March 2009.

Five site visits were carried out on 27 May 2010, 4 June 2010, 10 June 2010, 19 June 2010 and 24 June 2010 by an ecological specialist and no non-compliance was identified during the reporting period. Moreover, the contractor has been reminded to review the temporary drainage measures in MUP02 to ensure that no contaminated water will enter the water bodies after any rainstorm event. The detailed finding and the checklists are attached in **Appendix L**.

**Table 5-8 Summary of Defects and Deficiencies Identified and Follow-up Actions and Remedies Taken**

Date of Audit	Defects and Deficiencies Identified	Recommendation	Follow-up Actions and Remedies Taken
27 May 2010	N/A	All mitigation measures were found efficiently implemented.	N/A
4 June 2010	N/A	The contractor has been reminded to review the temporary drainage measures to ensure that no contaminated water entering the water bodies	Under review
10 June 2010	Muddy water was found in the stream after rainstorm.	To review the temporary drainage measures as such to ensure no contaminated water will enter the water bodies	Under review
19 June 2010	N/A	All mitigation measures were found efficiently implemented.	N/A
24 June 2010	N/A	The contractor has been reminded to review the temporary drainage measures to ensure that no contaminated water entering the water bodies	Under review

#### 5.5 OTHER FACTORS INFLUENCING THE MONITORING RESULTS

There were no other noticeable external factors generally affecting the monitoring results in this Reporting Period.

#### 5.6 QA/QC RESULTS AND DETECTION LIMITS

Not applicable.

## 6. REPORT ON NON-COMPLIANCE, COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

### 6.1 RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

In this reporting month, **two** Limit level exceedances in turbidity and suspended solids were recorded for water quality monitoring. No Action or Limit Level exceedance was identified for construction noise monitoring and air quality monitoring in this Reporting Period. However, based on the investigation, the exceedances of water quality were not related to the works of this Project.

### 6.2 ENVIRONMENTAL COMPLAINT

No written or verbal complaint was registered during the Reporting Period.

### 6.3 RECORD OF NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

No notification of summons and successful prosecution was reported during this month.

### 6.4 OTHERS

#### 6.4.1 Solid and Liquid Waste Management Status

The quantity of waste for disposal or reuse is summarized in **Tables 6-1** and **6-2**. The monthly summary waste flow table is shown in **Appendix M**.

**Table 6-1 Summary of Quantities of Waste for Disposal**

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (in '000m <sup>3</sup> )	-	Tuen Mun 38 Fill Bank
	1.991	Reused in other Projects
C&D Materials (Non-Inert) (in '000m <sup>3</sup> )	0	NENT
Chemical Waste (in '000kg)	0	NA
General Refuse (in '000m <sup>3</sup> )	0	NA

**Table 6-2 Summary of Quantities of Waste for Reuse/Recycling**

Type of Waste	Quantity	Disposal Location
Metals for Recycling (in '000kg)	0	NA
Paper for Recycling (in '000kg)	0	NA
Plastics for Recycling (in '000kg)	0	NA

#### 6.4.2 Site Inspection and Environmental Audit

A total of 5 weekly environmental site inspection and audit were conducted jointly by the ER, EO and ET during the Reporting Period on **27 May, 3, 11, 17 and 24 June 2010** and there was also an IEC audit undertaken on **11 June 2010**. No adverse environmental impacts were observed which indicated that the mitigation measures implemented were effective. Minor deficiencies found in the site inspections and audit was promptly rectified within the specified deadlines. Findings of the site inspection and environmental audit are summarized below. Performa of the weekly ET site inspection and audit activities are presented in **Appendix K**.

**Table 6-3 Summary of Findings of Site Inspection and Environmental Audit**

Date	Findings / Deficiencies	Follow-Up Status
<b>27<sup>th</sup> May 2010</b>	<ul style="list-style-type: none"> <li>The cut-off slope should implement relative mitigation measures to prevent any surface runoff. (MUP 02)</li> <li>Retained tree within the site was damaged, the contractor was reminded to protect the tree from works properly. (MUP 02)</li> <li>The soil stockpiled on the site should be covered with tarpaulin sheets in order to minimize the dust nuisance. (TKL 07)</li> </ul>	The deficiencies have been improved during site inspection on 3 <sup>rd</sup> June 2010
<b>3<sup>rd</sup> June 2010</b>	<ul style="list-style-type: none"> <li>As a reminder, after rainfall the contractor was reminded to clear the stagnant water within the site to prevent muddy water run-off. (TKL 02 &amp; MUP 02)</li> </ul>	The deficiencies have been improved during site inspection on 11 <sup>th</sup> June

Date	Findings / Deficiencies	Follow-Up Status
		2010
<b>11<sup>th</sup> June 2010</b>	<ul style="list-style-type: none"> <li>General refuse to be removed from drainage channel.</li> <li>Stagnant water was observed. Larvidical oil or pumped out should be undertaken to prevent mosquitoes breeding</li> </ul>	The deficiencies have been improved during site inspection on 17 <sup>th</sup> June 2010
<b>17<sup>th</sup> June 2010</b>	<ul style="list-style-type: none"> <li>Stagnant water was observed. Larvidical oil or pumped out should be undertaken to prevent mosquitoes breeding (TKL02 &amp; MUP 05)</li> <li>The contractor was reminded to deploy rock barrier or any protective layer at the discharge point in order to prevent stirring up turbidity of water body. (MUP 05)</li> </ul>	The deficiencies have been improved during site inspection on 24 <sup>th</sup> June 2010
<b>24<sup>th</sup> June 2010</b>	<ul style="list-style-type: none"> <li>Stagnant water was observed. Larvidical oil or pumped out should be undertaken with higher frequency to prevent mosquitoes breeding (MUP 05)</li> <li>The contractor was reminded to remove the C&amp;D waste floating on stagnant water and the stagnant water should be pumped away to prevent mosquitoes breeding (TKL 02)</li> </ul>	Will be reported on next month

#### 6.4.3 Works and the Mitigation Measures to be Undertaken Next Month

Works to be undertaken next month are shown in the construction program enclosed in **Appendix C**. The activities and mitigation measures will be undertaken next month to summary in below:

Location	Construction Activities	Environmental Mitigation Measures to be deployed
Tai Po Tin, TKL02	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced.</li> </ul>
	Site clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of site access	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> </ul>
	Construction of access ramp, inlet chambers and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Water spraying will be provided before and during handling of excavated material.</li> <li>Retained tree will be properly protected before works commenced</li> </ul>
Ping Che, TKL07	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced</li> </ul>
	Construction of site access	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> </ul>
	Site Clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of footbridge, access ramp, inlet chambers and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Concrete lorry mixers will be thoroughly cleansed before leaving the site</li> <li>Wash water, waste concrete and concrete slurry generated will be collected by sump pit and diverted to sedimentation tank before discharge</li> <li>Barriers will be erected to alleviate noise impact for works proximity to the Noise Sensitive Receiver (NSR) on need basis</li> </ul>
Man Uk Pin	Survey setting out	<ul style="list-style-type: none"> <li>Trees will be properly protected before works commenced.</li> </ul>
	Construction of site	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be</li> </ul>



Location	Construction Activities	Environmental Mitigation Measures to be deployed
	access	dampened/covered before dispose off-site
	Site clearance	<ul style="list-style-type: none"> <li>Water spraying will be provided before and during handling of excavated material.</li> </ul>
	Construction of access ramp retaining wall and gabion wall	<ul style="list-style-type: none"> <li>Excavated area and stockpile of soil material will be dampened/covered before dispose off-site</li> <li>Water spraying will be provided before and during handling of excavated material.</li> <li>Retained tree will be properly protected before works commenced</li> </ul>
	Trees transplant	<ul style="list-style-type: none"> <li>Excavated area and stockpile of C&amp;D material will be dampened/covered before dispose off-site</li> <li>Retained tree will be properly protected before works commenced</li> </ul>

#### 6.4.4 Future Key Issues for the Forthcoming Month

As wet season comes, special attention should be paid to ingress of runoff into the river within the area of Channels TKL02, TKL07 and MUP01/02 during rainy days in the forthcoming months; when water quality may become the key issue. Mitigation measures for water quality should therefore be planned ahead. Also, wheel wash facilities should be maintained to be functional. To reminder that water quality mitigation measures should be properly maintained as recommended in the ESR and summarized in the Mitigation Measure Implementation Schedule should be fully implemented during excavation work undertaken at the channel.

Attention should also be paid to construction noise, dust and other environmental issues identified in the EM&A Manual. Mitigation measures recommended in the ESR and summarized in the Mitigation Measure Implementation Schedule should be fully implemented.

## **7. CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 CONCLUSIONS**

This is the 19<sup>th</sup> monthly EM&A Report for Channels TKL02, TKL07, MUP01 and MUP02 (Non-DP works), covering a period from 26 May to 25 June 2010.

Monitoring results demonstrated no exceedance of Action or Limit Levels in construction noise monitoring. No NOE or corrective action was required during the Reporting Period.

For air quality monitoring, no exceedance of Action or Limit Levels was found in 1-hour TSP monitoring. Also, there is no Action or Limit Level exceedance in 24-hr TSP recorded.

For water quality monitoring, two (2) Limit Level exceedances in Turbidity and SS were recorded during the Reporting Period. Based on the finding in the investigation reports, it is advised that there was no construction works at the upstream of captioned locations. Also, muddy water was observed at the upstream that reflected in the water data collected on the same day with noticeable turbidity value. It was concluded that the exceedances were not works related. No associated corrective actions were therefore required.

No written or verbal complaint, notification of summons or successful prosecution was reported during the month.

No adverse environmental impacts were observed during the site inspections. Nevertheless, the Contractor was reminded to fully implement all environmental mitigation measures stipulated in the EM&A Manual during works within the river channels. General refuse and stagnant water were observed in some cases. The contractor was reminded that good house keeping practice shall be maintained. Minor deficiencies identified during the site inspection and audit was generally rectified within the specified deadlines.

The environmental performance of the Project was therefore considered satisfactory.

### **7.2 RECOMMENDATIONS**

As rainy season comes, ingress of runoff control measures should be planned to avoid untreated effluent directly flow into the Channels. Also, wheel wash facilities should be maintained to be functional. To reminder that water quality mitigation measures should be properly maintained as recommended in the ESR and summarized in the Mitigation Measure Implementation Schedule should be fully implemented during excavation work undertaken at the channel.

In addition, attention should also be paid to construction noise, dust emission and other environmental issues recommended in the EM&A Manual. Those mitigation measures recommended in the ES and summarized in the Mitigation Measure Implementation Schedule should be fully implemented at all times.

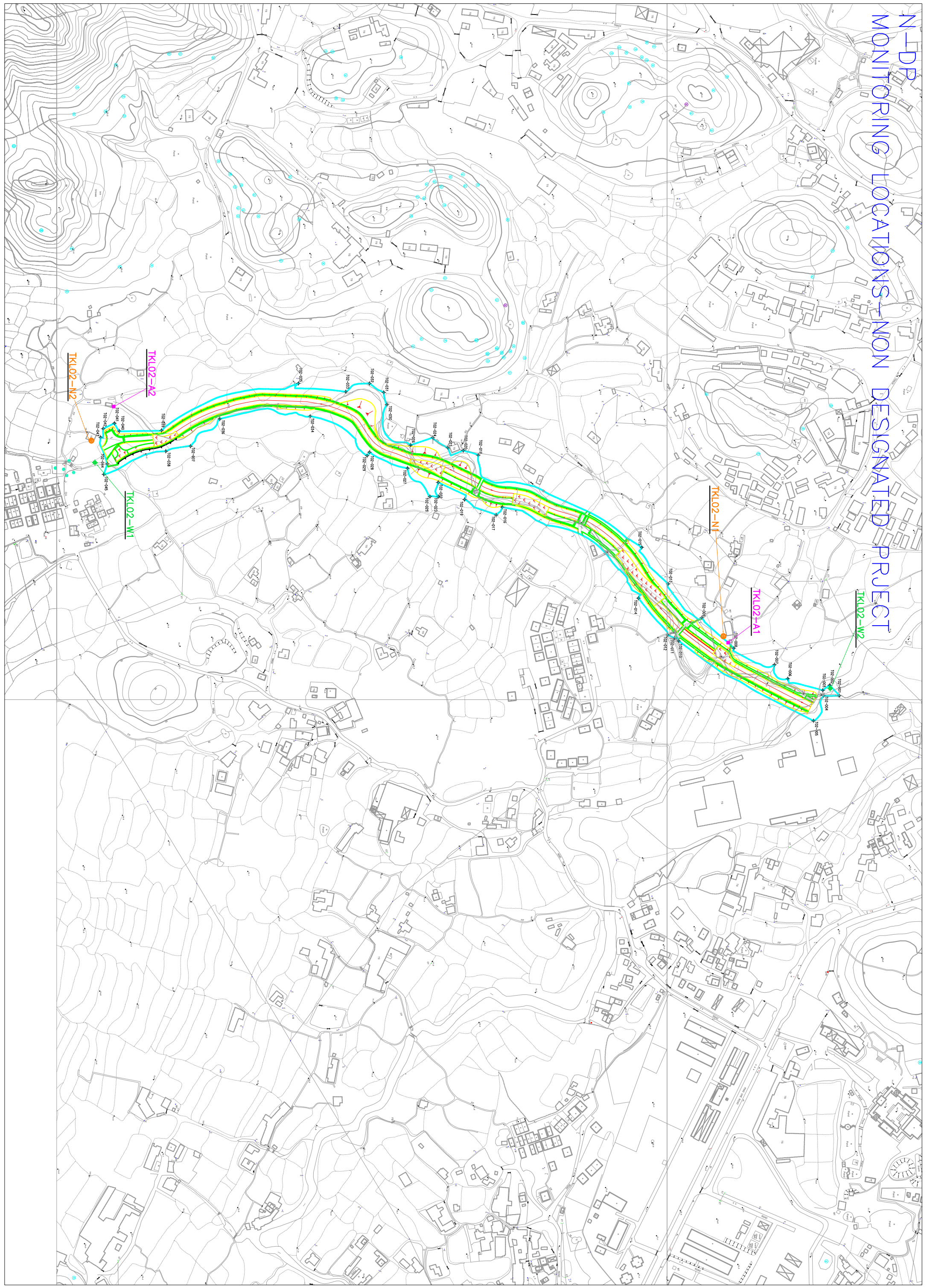
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## **Appendix A**

### **Project Site Location Plan**

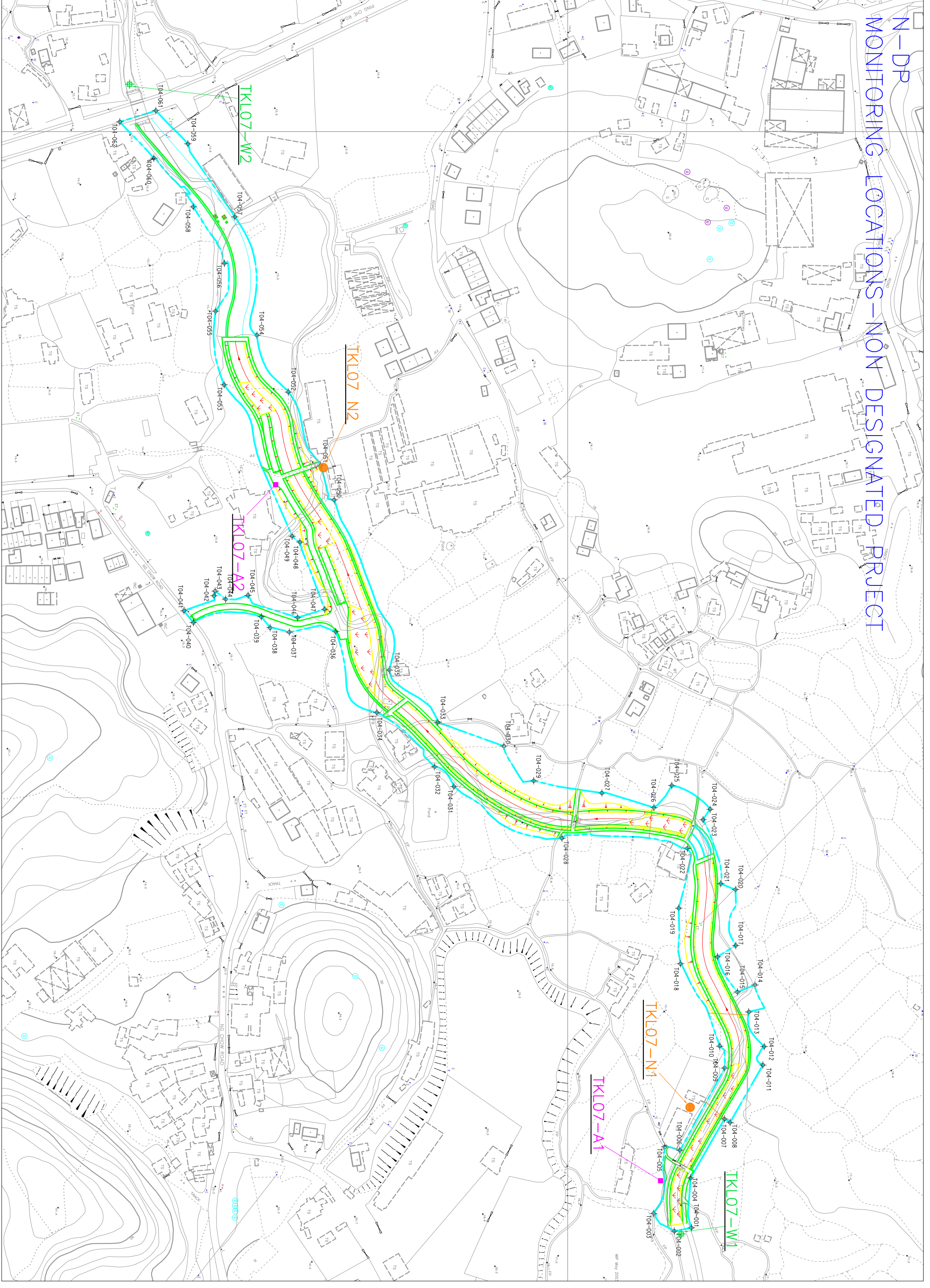
## **Channel TKL02**

N-DRP  
MONITORING LOCATIONS - NON DESIGNATED PROJECT



## **Channel TKL07**

N-DP  
MONITORING LOCATIONS - NON DESIGNATED PROJECT

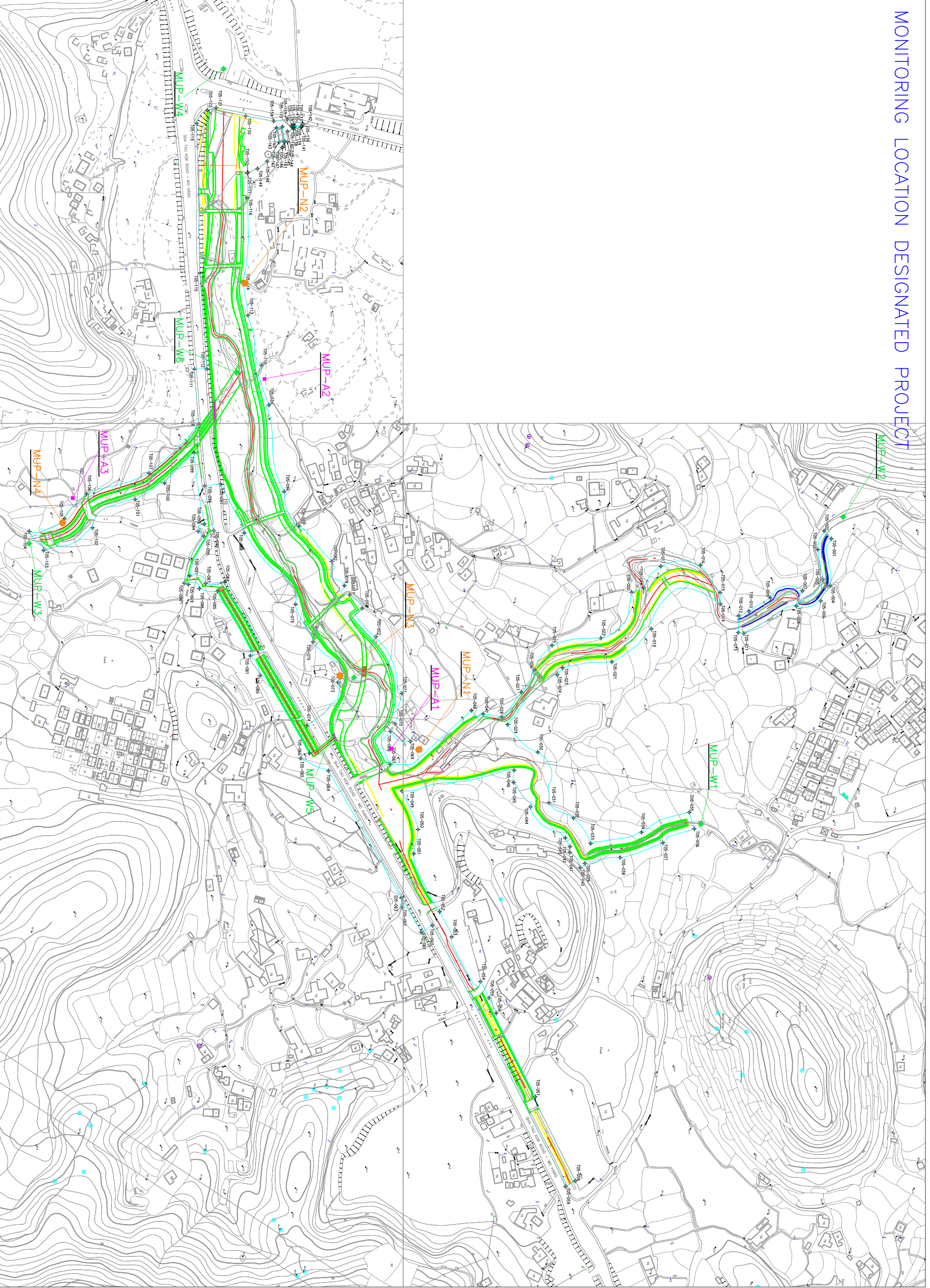


MAP MAY 2005

## **Channels MUP01 & MUP02**

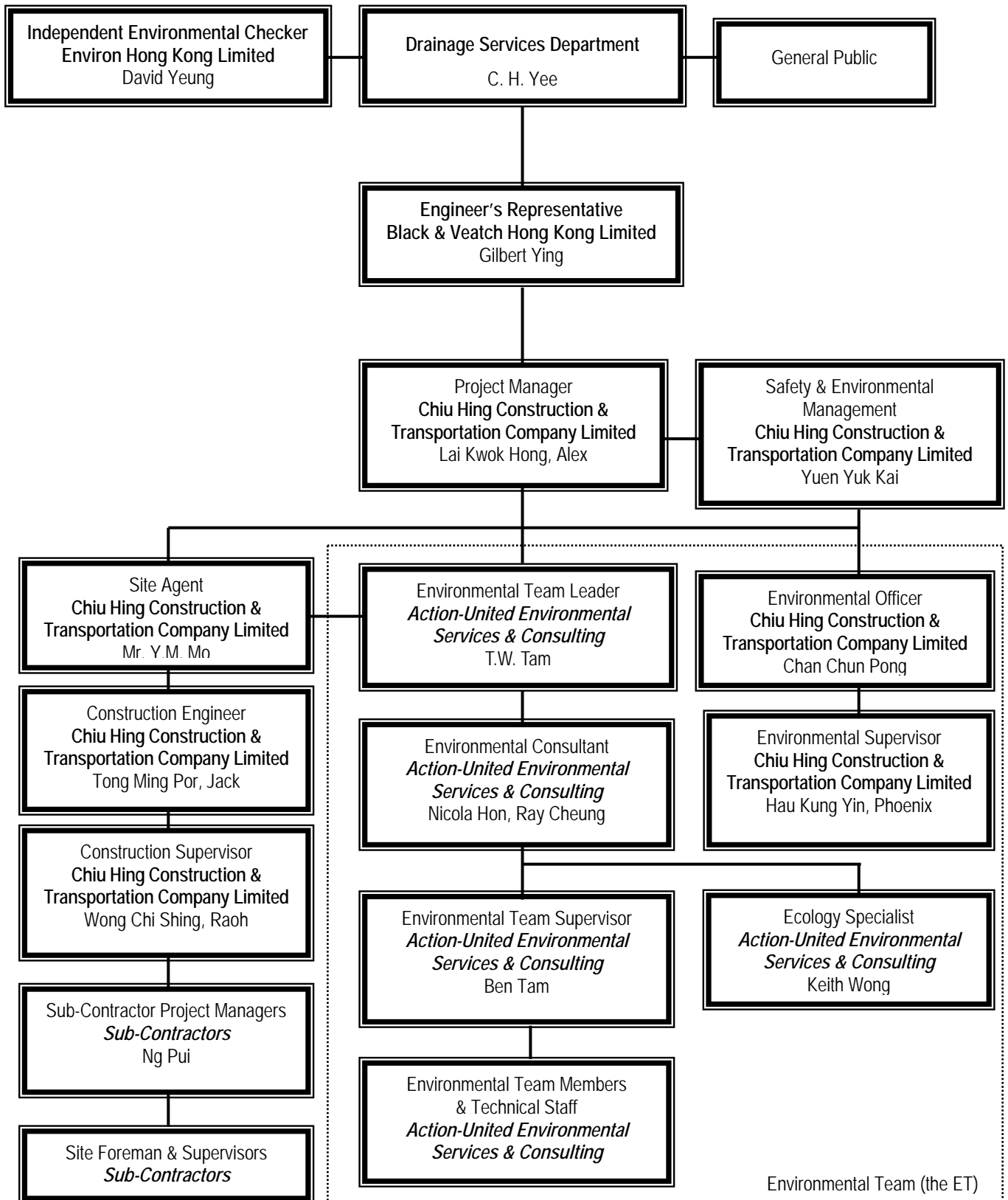


# MONITORING LOCATION DESIGNATED PROJECT



## **Appendix B**

### **Organization Chart and Lines of Communication with Environmental Management**



Environmental Management Organization

**Contact Details of Key Personnel**

<b>Organization</b>	<b>Project Role</b>	<b>Name of Key Staff</b>	<b>Tel No.</b>	<b>Fax No.</b>
DSD	Employer	Mr. C. H. Yee	2594-7347	2827-8700
B&V	Engineer's Representative	Mr. Gilbert Ying	2659-8787	2659-8323
Environ	Independent Environmental Checker	Mr. David Yeung	3743-0788	3548-6988
CHCT	Project Manager	Mr. Lai Kwok Hong, Alex	2659-8221	2659-8232
CHCT	Safety & Environmental Manager	Mr. Yuen Yuk Kai	2659-8221	2659-8232
CHCT	Site Agent	Mr. Y.M. Mo	2659-8221	2659-8232
CHCT	Construction Engineer	Mr. Tong Ming Por, Jacky	2659-8221	2659-8232
CHCT	Construction Supervisor	Mr. Roah Wong	2659-8221	2659-8232
CHCT	Structural Engineer	Mr. Kwok Chin Ming	2659-8221	2659-8232
CHCT	Site Forman	Mr. Chung Ping Kai	2659-8221	2659-8232
CHCT	Environmental Officer	Mr. C. P. Chan	2659-8221	2659-8232
CHCT	Environmental Supervisor	Miss Phoenix Hau	2659-8221	2659-8232
Kin Tat	Sub-contractor Project Manager	Mr. Ng Pui	2659-8221	2659-8232
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Miss Nicola Hon	2959-6059	2959-6079
AUES	Assistant Environmental Consultant	Mr. Ray Cheung	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Ben Tam	2959-6059	2959-6079
AUES	Ecologist	Dr. Keith Wong	2959-6059	2959-6079

Legends:

*DSD (Employer) – Drainage Services Department*

*B&V (Engineer) – Black & Veatch Hong Kong Limited*

*CHCT (Main Contractor) – Chiu Hing Construction & Transportation Company Limited*

*Environ (IEC) – Environ Hong Kong Limited*

*AUES (ET) – Action-United Environmental Services & Consulting*

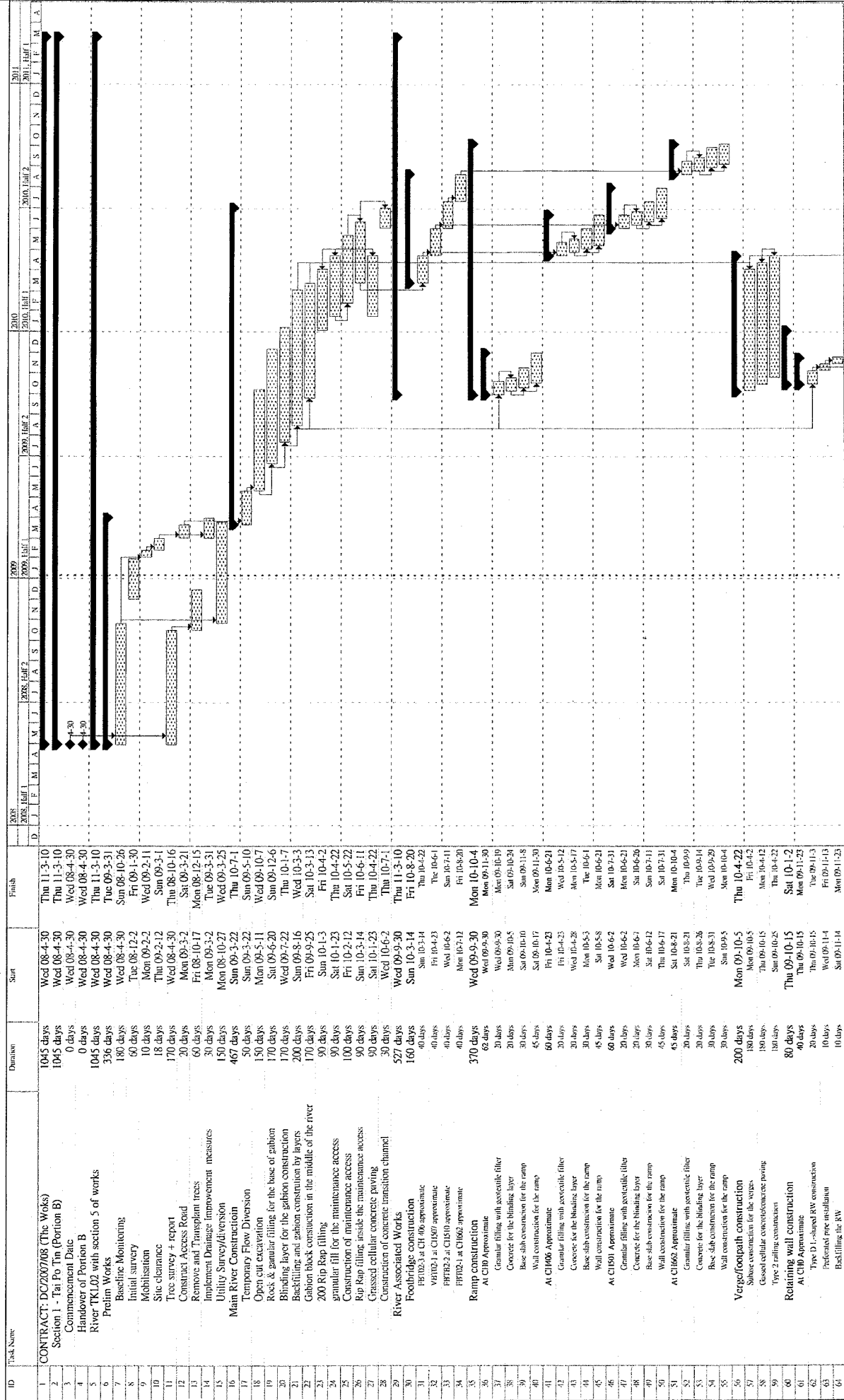
## **Appendix C**

### **Master Construction Program, Three-Month Roll Program & Environmental Mitigation Implementation Schedule**

## **Master Construction Program**

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 1 of works)**

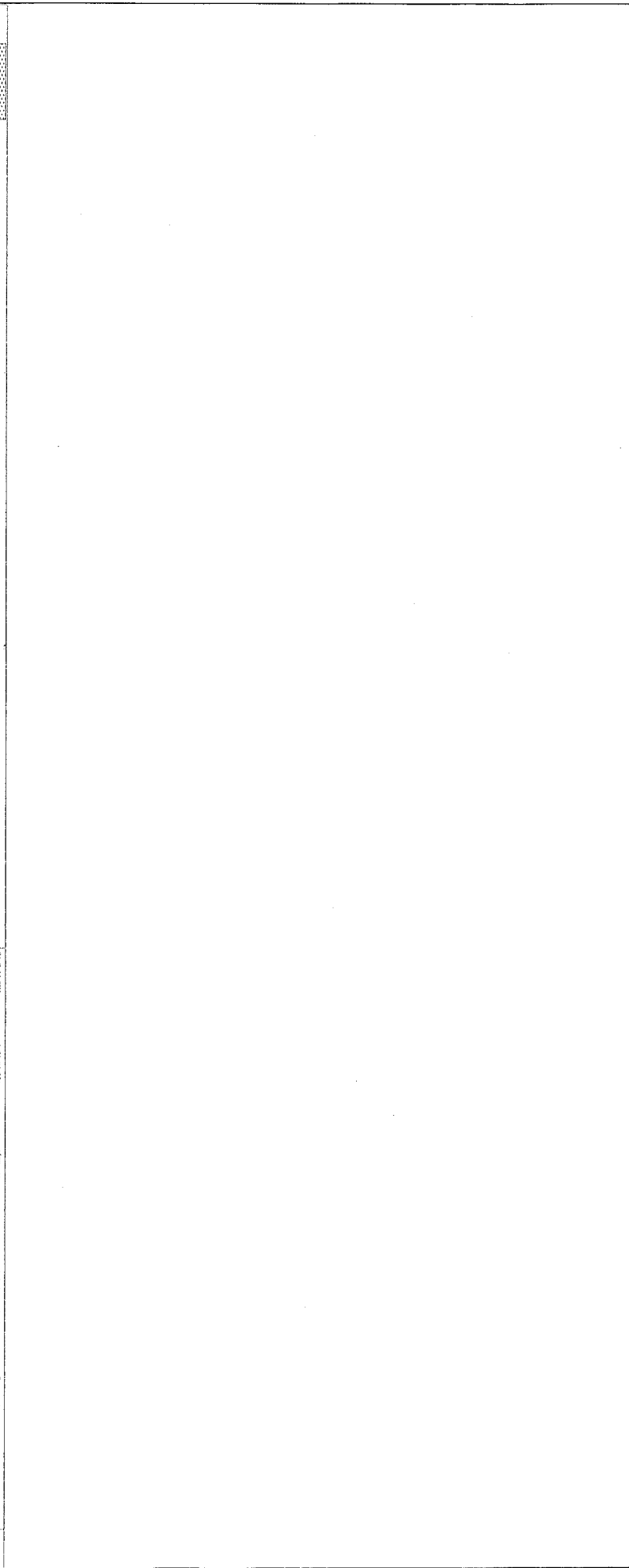
**CONTRACT: DC/2007/08 DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**



ID	Task Name	Duration	Start	Finish	Task Type
1	CONTRACT: DC/2007/08 (The Works)	1045 days	Wed 08-4-30	Thu 11-3-10	Summary
2	Section 1 - Tai Po Tin (Portion B)	1045 days	Wed 08-4-30	Thu 11-3-10	Summary
3	Commencement Date	0 days	Wed 08-4-30	Wed 08-4-30	Milestone
4	Handover of Portion B	0 days	Wed 08-4-30	Wed 08-4-30	Milestone
5	River TK102 with section 5 of works	1045 days	Wed 08-4-30	Thu 11-3-10	Summary
6	Prelim Works	336 days	Wed 08-4-30	Tue 09-3-31	Summary
7	Baseline Monitoring	180 days	Wed 08-4-30	Sun 08-10-26	Summary
8	Initial survey	60 days	Tue 08-12-2	Fri 09-1-30	Summary
9	Mobilisation	10 days	Mon 09-2-2	Wed 09-2-11	Summary
10	Site clearance	18 days	Thu 09-2-12	Sun 09-3-1	Summary
11	Tree survey + report	170 days	Wed 08-4-30	Thu 10-10-16	Summary
12	Construct Access Road	20 days	Mon 09-3-2	Sat 09-3-21	Summary
13	Remove and Transplant trees	60 days	Fri 08-10-17	Mon 08-12-15	Summary
14	Implement Drainage Improvement measures	30 days	Mon 09-3-2	Tue 09-3-31	Summary
15	Utility Survey/diversion	150 days	Mon 08-10-27	Wed 09-3-25	Summary
16	Main River Construction	467 days	Sun 09-3-22	Thu 10-7-1	Summary
17	Temporary Flow Diversion	50 days	Sun 09-3-22	Sun 09-5-10	Summary
18	Open cut excavation	150 days	Mon 09-5-11	Wed 09-10-7	Summary
19	Rock & granular filling for the base of gabion	170 days	Sat 09-6-20	Sun 09-12-6	Summary
20	Binding layer for the gabion construction	170 days	Wed 09-7-22	Thu 10-1-7	Summary
21	Backfilling and gabion construction by layers	200 days	Sun 09-8-16	Wed 10-3-3	Summary
22	Gabion block construction in the middle of the river	170 days	Fri 09-9-25	Sat 10-3-13	Summary
23	200 Rip Rap filling	90 days	Sun 10-1-3	Fri 10-4-2	Summary
24	Construction of maintenance access	90 days	Sat 10-1-23	Thu 10-4-22	Summary
25	Construction of maintenance access	100 days	Fri 10-2-12	Sat 10-5-22	Summary
26	Rip Rap filling inside the maintenance access	90 days	Sun 10-3-14	Fri 10-6-11	Summary
27	Grassed cellular concrete paving	90 days	Sat 10-1-23	Thu 10-4-22	Summary
28	Construction of concrete transition channel	30 days	Wed 10-6-2	Thu 10-7-1	Summary
29	River Associated Works	527 days	Wed 09-9-30	Thu 11-3-10	Summary
30	Footbridge construction	160 days	Sun 10-3-14	Fri 10-8-20	Summary
31	FF102-1 at CH 4th approximate	40 days	Sun 10-3-14	Thu 10-6-1	Summary
32	VH102-1 at CH107 approximate	40 days	Fri 10-4-23	Thu 10-6-1	Summary
33	FF102-2 at CH101 approximate	40 days	Wed 10-6-2	Thu 10-6-1	Summary
34	FF102-1 at CH162 approximate	40 days	Mon 10-7-12	Fri 10-8-20	Summary
35	Ramp construction	370 days	Wed 09-9-30	Mon 10-10-4	Summary
36	At CH1 Approximate	62 days	Wed 09-9-30	Mon 09-11-30	Summary
37	Granular filling with geotextile filter	20 days	Wed 09-9-30	Mon 09-10-19	Summary
38	Concrete for the binding layer	20 days	Mon 09-10-5	Sat 09-10-24	Summary
39	Base slab construction for the ramp	30 days	Sun 09-10-10	Sun 09-11-8	Summary
40	Wall construction for the ramp	45 days	Sat 09-10-17	Mon 09-11-30	Summary
41	At CH106 Approximate	60 days	Fri 10-4-23	Mon 10-6-21	Summary
42	Granular filling with geotextile filter	20 days	Fri 10-4-23	Wed 10-5-12	Summary
43	Concrete for the binding layer	20 days	Mon 10-5-5	Mon 10-5-17	Summary
44	Base slab construction for the ramp	30 days	Mon 10-5-5	Thu 10-6-1	Summary
45	Wall construction for the ramp	45 days	Sat 10-5-8	Mon 10-6-21	Summary
46	At CH101 Approximate	60 days	Wed 10-6-2	Sat 10-7-31	Summary
47	Granular filling with geotextile filter	20 days	Wed 10-6-2	Mon 10-6-21	Summary
48	Concrete for the binding layer	20 days	Mon 10-6-7	Sat 10-6-26	Summary
49	Base slab construction for the ramp	30 days	Sat 10-6-12	Sun 10-7-11	Summary
50	Wall construction for the ramp	45 days	Thu 10-6-17	Sat 10-7-31	Summary
51	At CH1662 Approximate	45 days	Sat 10-8-21	Mon 10-10-4	Summary
52	Granular filling with geotextile filter	20 days	Sat 10-8-21	Thu 10-9-9	Summary
53	Concrete for the binding layer	20 days	Thu 10-8-16	Thu 10-9-9	Summary
54	Base slab construction for the ramp	30 days	Tue 10-8-31	Wed 10-9-29	Summary
55	Wall construction for the ramp	30 days	Sun 10-9-5	Mon 10-10-4	Summary
56	Verge/footpath construction	200 days	Mon 09-10-5	Thu 10-4-22	Summary
57	Subsoe construction for the verges	180 days	Mon 09-10-5	Fri 10-4-2	Summary
58	Grassed cellular concrete/concrete paving	180 days	Sun 09-10-25	Thu 10-4-12	Summary
59	Type 2 railing construction	80 days	Sat 09-10-15	Thu 10-4-12	Summary
60	Retaining wall construction	80 days	Thu 09-10-15	Sat 10-1-2	Summary
61	At CH1 Approximate	40 days	Thu 09-10-15	Mon 09-11-23	Summary
62	Type D.L.-shaped RW construction	20 days	Thu 09-11-3	Thu 09-11-3	Summary
63	Preferred pipe installation	10 days	Wed 09-11-1	Thu 09-11-3	Summary
64	Backfilling the RW	10 days	Sat 09-11-13	Mon 09-11-23	Summary

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 ( Section 1 of works)**  
**CONTRACT: DC/2007/8. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**

ID	Task Name	Duration	Start	Finish	2008	2009	2010	2011
65	AT CH500 Approximate Type D U-shaped RW construction	40 days	Wed 09-11-04	Sun 09-12-13				
66	Preferential pipe installation	20 days	Wed 09-11-04	Mon 09-11-23				
67	Backfilling the RW	10 days	Tue 09-11-24	Thu 09-12-3				
68		10 days	Fri 09-12-4	Sun 09-12-13				
69	AT CH800 Approximate Type D U-shaped RW construction	40 days	Tue 09-11-24	Sat 10-1-2				
70	Preferential pipe installation	20 days	Tue 09-11-24	Sun 09-12-13				
71	Backfilling the RW	10 days	Mon 09-12-14	Wed 09-12-23				
72		10 days	Thu 09-12-24	Sat 10-1-2				
73		392 days	Fri 10-2-12	Thu 11-3-10				
74	<b>U Channel construction</b>	106 days	Fri 10-2-12	Fri 10-5-28				
75	600 UC at CH0 Approximate	60 days	Fri 10-2-12	Mon 10-4-12				
76	Trench excavation	90 days	Sun 10-2-28	Fri 10-5-28				
77	Concrete for the U channel	106 days	Sat 10-5-29	Sat 10-9-11				
78	450 UC at CH501 Approximate	60 days	Sat 10-5-29	Tue 10-7-27				
79	Trench excavation	90 days	Mon 10-6-14	Sat 10-9-11				
80	Concrete for the U channel	226 days	Wed 10-7-28	Thu 11-3-10				
81	300 UC at CH800 Approximate	80 days	Wed 10-7-28	Fri 10-10-15				
82	Trench excavation	110 days	Fri 10-7-28	Tue 10-11-30				
83	Concrete for the U channel	100 days	Fri 10-8-13	Thu 11-3-10				
84	the remaining section 5 of works for TK102	100 days	Wed 10-12-1					



Project: Master Programme (Rev 05)  
 Date: 01/2009

Task: Critical Task

Milestone

Summary

Rolled Up Task

Rolled Up Milestone

Rolled Up Progress

Rolled Up Split

External Tasks

Project Summary

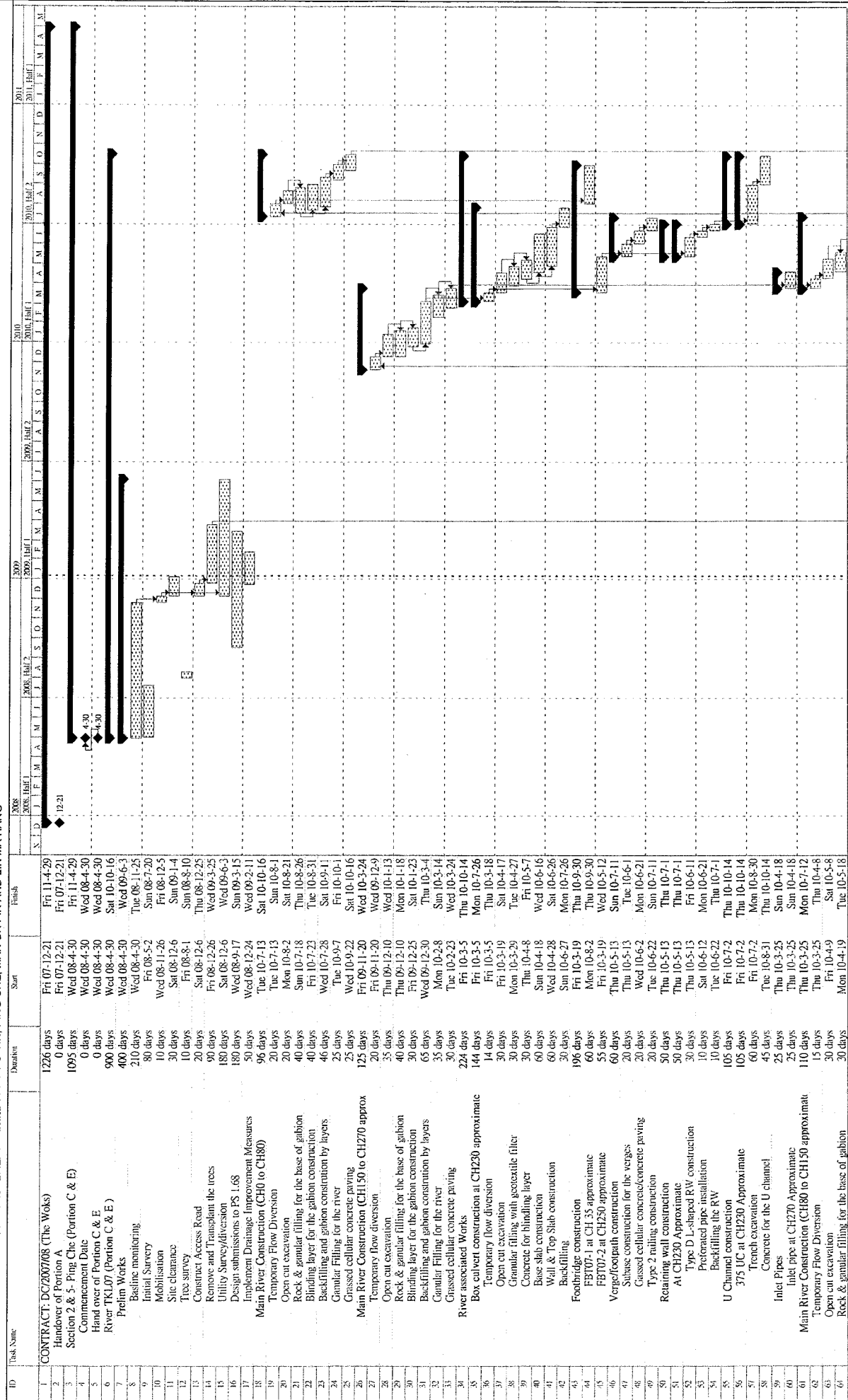
Group By Summary

Deadline

Page 2



**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 2 of works)**  
**CONTRACT: DC/2007/B. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**



Project: Master Programme (Rev.06) Date: 01/2009

Task: Critical Task

Progress: Milestone

Summary: Relist Up Task

Relist Up Critical Task

Relist Up Milestone

Relist Up Progress

Split

External Tasks

Project Summary

Group By Summary

Deadline

Page 1

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 2 of works)**  
**CONTRACT: DC/2007/8 DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**

ID	Task Name	Duration	Start	Finish	2008	2009	2010	2011
					Jan	Feb	Mar	Apr
65	Blinding layer for the gabion construction	20 days	Sun 10-5-28	Fri 10-5-28				
66	Backfilling and gabion construction by layers	45 days	Wed 10-5-19	Fri 10-7-2				
67	Granular Filling for the river	25 days	Sun 10-6-13	Wed 10-7-7				
68	Grassed cellular concrete paving	25 days	Mon 10-7-12	Mon 10-7-12				
69	Main River Construction (CH270 to CH670 approxima	195 days	Tue 09-5-19	Sun 09-11-29				
70	Temporary Flow Diversion	25 days	Tue 09-5-19	Fri 09-6-12				
71	Open cut excavation	60 days	Sat 09-6-13	Tue 09-8-11				
72	Rock & granular filling for the base of gabion	60 days	Fri 09-8-21	Fri 09-8-21				
73	Blinding layer for the gabion construction	60 days	Fri 09-7-3	Mon 09-8-31				
74	Backfilling and gabion construction by layers	75 days	Mon 09-7-13	Fri 09-9-25				
75	Gabion block construction in the middle of the river	50 days	Mon 09-8-17	Mon 09-10-5				
76	200 Rip Rap filling	40 days	Sun 09-9-6	Thu 09-10-15				
77	Granular fill for the Maintenance access	35 days	Tue 09-9-1	Mon 09-10-5				
78	Construction of Maintenance access	65 days	Fri 09-9-11	Sat 09-11-4				
79	Rip Rap filling inside the Maintenance access	45 days	Fri 09-10-6	Thu 09-11-19				
80	Grassed cellular concrete paving	45 days	Fri 09-10-6	Sun 09-11-29				
81	River Associated Works	838 days	Mon 09-1-12	Fri 11-4-29				
82	Box culvert construction at (CH1670 to CH838 appr	177 days	Mon 09-1-12	Mon 09-5-18				
83	Temporary flow diversion	20 days	Thu 09-3-26	Tue 09-4-14				
84	Open cut excavation	30 days	Mon 09-1-12	Tue 09-2-10				
85	Granular filling with geotextile filter	30 days	Thu 09-1-22	Fri 09-2-20				
86	Concrete for blinding layer	20 days	Sun 09-2-1	Fri 09-2-20				
87	Base slab construction	80 days	Wed 09-2-11	Fri 09-5-1				
88	Wall & Top Slab construction	80 days	Wed 09-2-18	Fri 09-5-8				
89	Backfilling	20 days	Wed 09-4-29	Mon 09-5-18				
90	Footbridge construction	180 days	Wed 09-4-29	Tue 10-5-18				
91	FBT07-3 at CH317 approximate	45 days	Fri 09-11-20	Sun 10-1-3				
92	FBT07-4 at CH445 approximate	45 days	Fri 09-11-20	Wed 10-2-17				
93	FBT07-5 at CH600 approximate	45 days	Mon 10-1-4	Sat 10-4-3				
94	FBT07-6 at CH687 approximate	45 days	Thu 10-2-18	Sat 10-4-3				
95	Ramp construction	120 days	Sun 10-4-4	Tue 10-5-18				
96	At CH317 Approximate	60 days	Sat 09-9-26	Sat 10-1-23				
97	Granular filling with geotextile filler	20 days	Sat 09-9-26	Tue 09-11-24				
98	Concrete for the blinding layer	20 days	Sat 09-9-26	Thu 09-10-15				
99	Base slab construction for the ramp	30 days	Thu 09-10-1	Thu 09-10-20				
100	Wall construction for the ramp	45 days	Sun 09-10-6	Wed 09-11-4				
101	At CH600 Approximate	60 days	Sun 09-10-1	Tue 09-11-24				
102	Granular filling with geotextile filler	20 days	Wed 09-11-25	Sat 10-1-23				
103	Concrete for the blinding layer	20 days	Wed 09-11-25	Mon 09-12-14				
104	Base slab construction for the ramp	30 days	Mon 09-11-30	Sat 09-12-19				
105	Wall construction for the ramp	45 days	Sat 09-12-5	Sun 10-1-3				
106	Verge/footpath construction	140 days	Thu 09-12-10	Sat 10-1-23				
107	Subbase construction for the verges	120 days	Fri 09-10-16	Thu 10-3-4				
108	Grassed cellular concrete/concrete paving	120 days	Fri 09-10-16	Fri 10-2-12				
109	Type 2 railing construction	120 days	Mon 09-10-26	Mon 10-2-22				
110	Reinforcing wall construction	50 days	Thu 09-11-5	Thu 10-3-4				
111	At CH687 Approximate	50 days	Fri 09-10-16	Fri 09-12-4				
112	Type D L-shaped RW construction	30 days	Fri 09-10-16	Fri 09-12-4				
113	Preformed pipe installation	10 days	Fri 09-10-16	Sat 09-11-4				
114	Backfilling the RW	10 days	Sun 09-11-15	Tue 09-11-24				
115	U Channel construction	120 days	Wed 09-11-25	Fri 09-12-4				
116	375x525 UC at CH352 Approximate	40 days	Sat 09-12-5	Sat 10-4-3				
117	Trench excavation	20 days	Sat 09-12-5	Wed 10-1-13				
118	Concrete for the U channel	30 days	Thu 09-12-15	Wed 10-1-13				
119	Trench excavation	40 days	Thu 10-1-14	Mon 10-2-22				
120	Concrete for the U channel	30 days	Thu 10-1-14	Tue 10-2-2				
121	Trench excavation	30 days	Sun 10-1-24	Mon 10-2-22				
122	Concrete for the U channel	40 days	Tue 10-2-23	Sat 10-4-3				
123	Trench excavation	20 days	Tue 10-2-23	Sun 10-3-14				
124	Concrete for the U channel	30 days	Fri 10-3-5	Sat 10-4-3				
125	Inlet Pipes	581 days	Sat 09-9-26	Fri 11-4-29				
126	Inlet pipe at CH100 Approximate	25 days	Sat 09-9-26	Tue 09-10-20				
127	Inlet pipe at CH400 Approximate	25 days	Wed 09-10-21	Sat 09-11-14				
128	Inlet pipe at CH408 Approximate	25 days	Sun 09-11-15	Wed 09-12-9				

Project Master Programme (Rev 05)  
 Date: 01/2009

Task: Critical Task, Milestone

Process: Milestone

Summary: Summary, Rolled Up Task, Rolled Up Milestone

Rolled Up Progress: Rolled Up Progress, Split

External Tasks: External Tasks, Project Summary

Group By Summary: Group By Summary, Deadline

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**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 2 of works)**  
**CONTRACT: DC/2007/8, DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**

ID	Task Name	Duration	Start	Finish
129	Inlet pipe at CH450 Approximate	25 days	Thu 09-12-10	Sun 10-1-3
130	Inlet pipe at CH570 Approximate	25 days	Mon 10-1-4	Thu 10-1-28
131	Inlet pipe at CH630 Approximate	25 days	Fri 10-1-29	Mon 10-2-22
132	Inlet pipe at CH750 Approximate	25 days	Tue 10-2-23	Fri 10-3-19
133				
134	Section 5 of works for TR0107	195 days	Sun 10-10-17	Fri 11-4-29

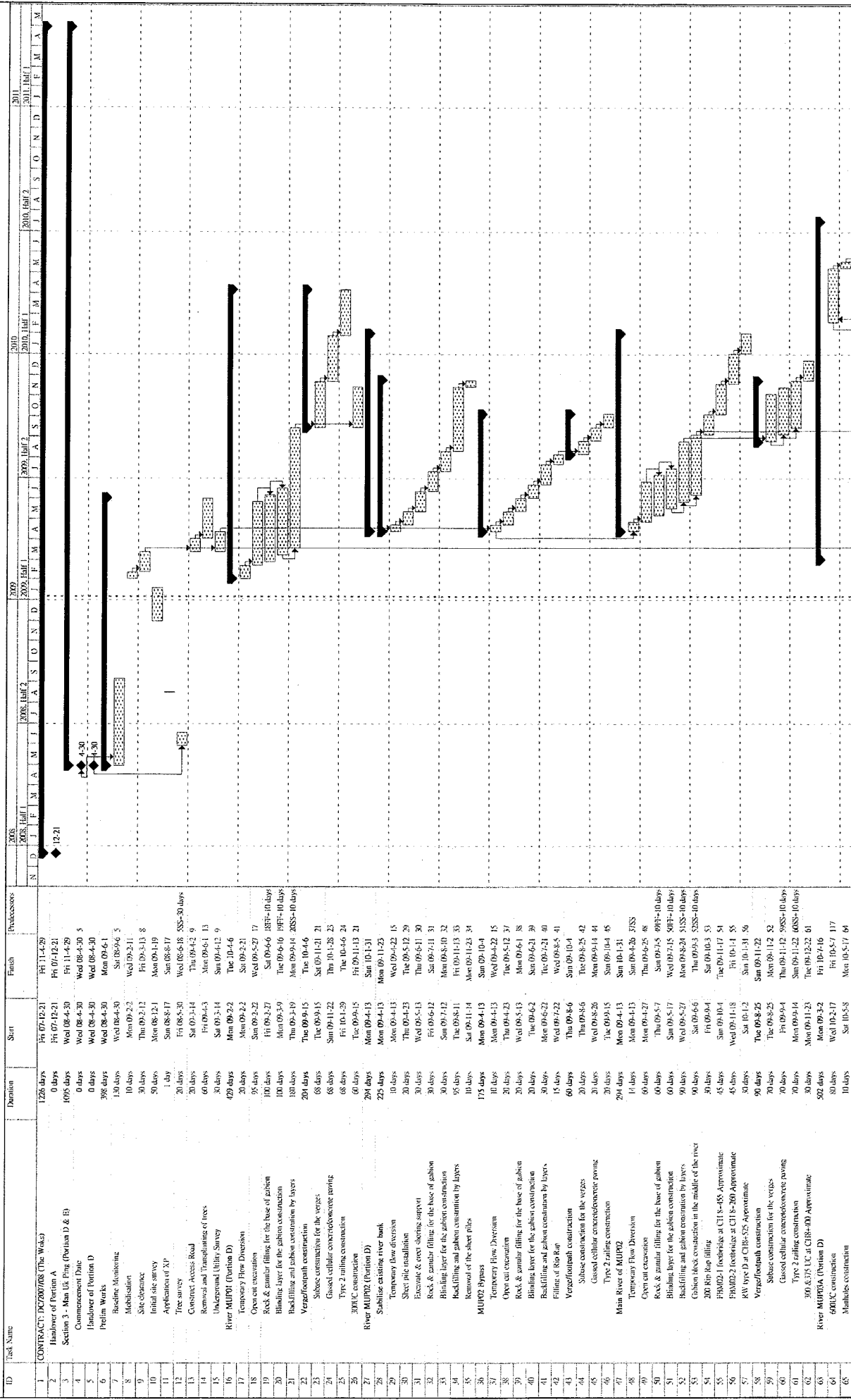


Task  
 Critical Task  
 Progress  
 Milestone  
 Summary  
 Rolled Up Task  
 Rolled Up Progress  
 Rolled Up Milestone  
 Rolled Up Critical Task  
 Rolled Up Milestone  
 Rolled Up Progress  
 Rolled Up Task  
 External Tasks  
 Project Summary  
 Group By Summary  
 Detailing

Project: Master Programme (Rev.05)  
 Date: 01/2009

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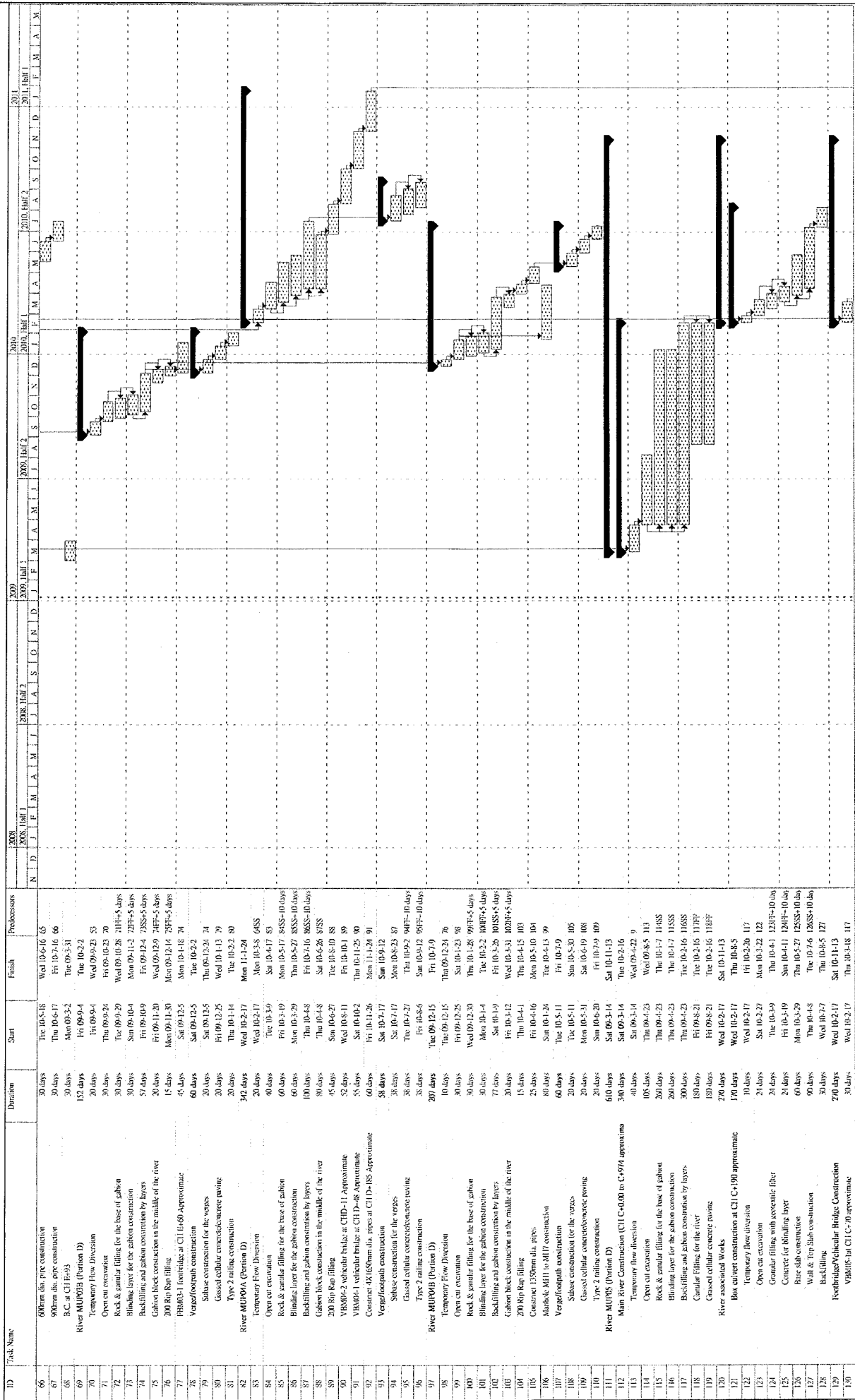
**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 3 of works)**  
**CONTRACT: DC/2007/8 - DRAINAGE IMPROVEMENT WORKS AT TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**



Project Master Programme (Rev.05)      Task      Process      Milestone      Summary      Rolled Up Task      Rolled Up Milestone      Rolled Up Process      Split      External Tasks      Project Summary      Group By Summary      Detail

Date: 01/02/09      Page 1

**CHU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 3 of works)**  
**CONTRACT: DC/2007/B. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIM MA HANG**



**Project: Master Programme (Rev:05)**  
**Date: 01/2009**

**Task**  
 Task  
 Critical Task

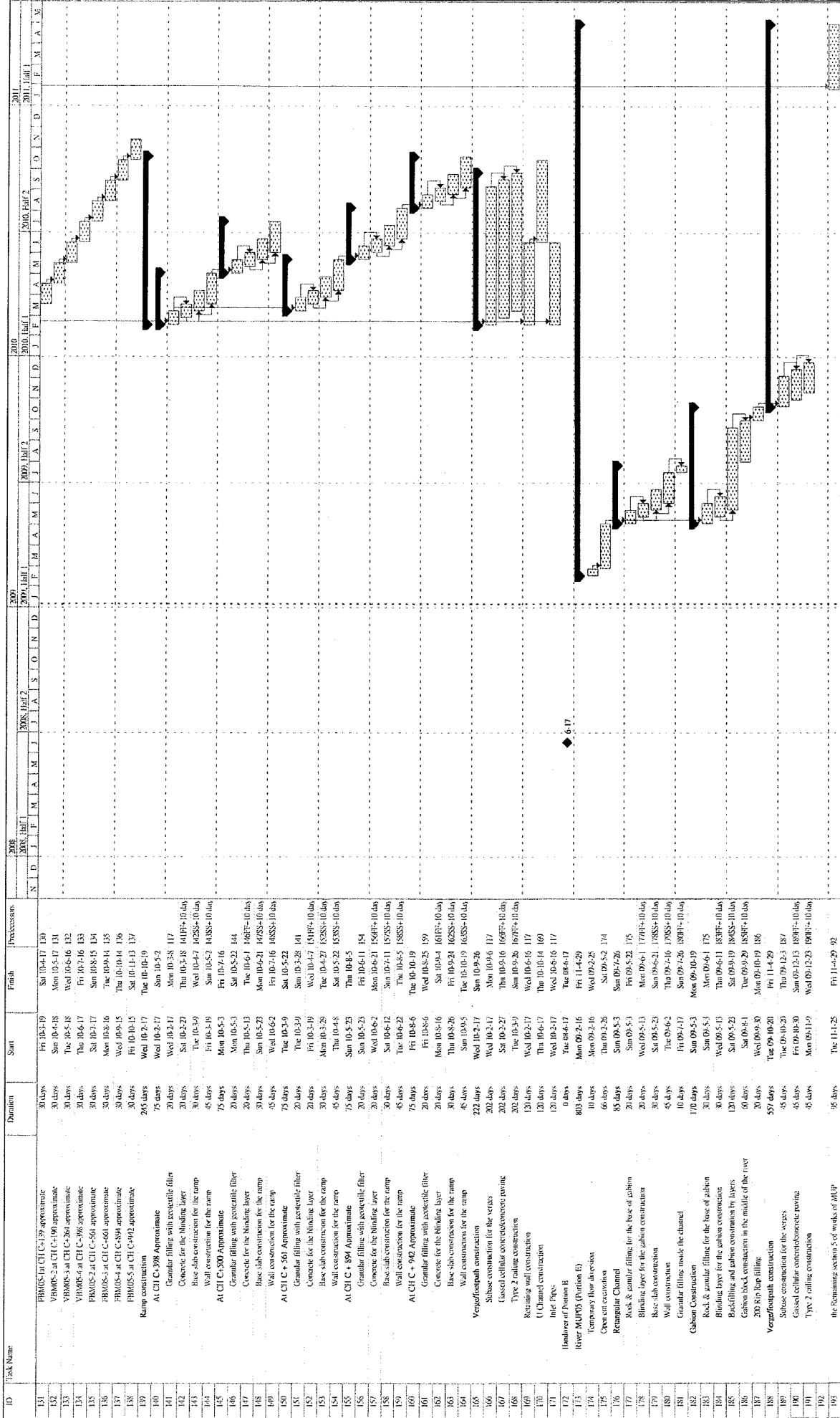
**Progress**  
 Progress  
 Milestone

**Summary**  
 Summary  
 Rolled Up Task  
 Rolled Up Milestone

**External Tasks**  
 External Tasks  
 Project Summary

**Deadline**  
 Green By Summary  
 Deadline

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 3 of works)**  
**CONTRACT: DC2007/B, DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**

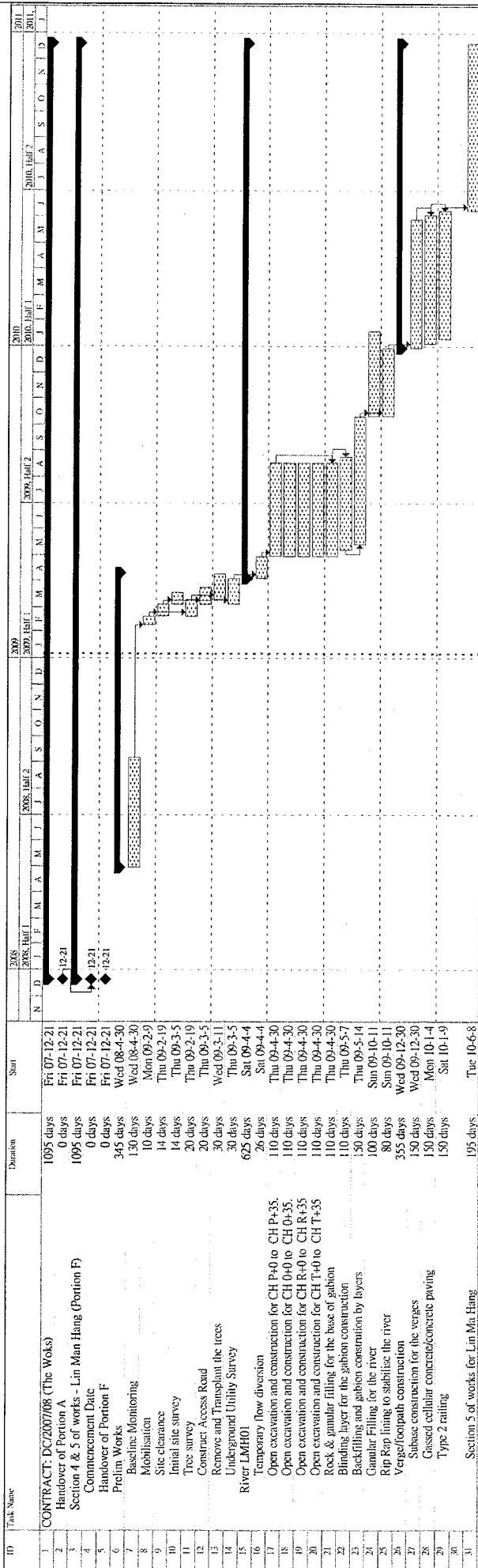


Legend:

- Task: Solid black bar
- Critical Task: Dotted pattern bar
- Physios: Horizontal dashed line
- Milestone: Diamond symbol
- Summary: Thick solid black bar
- Roll Up Task: Thin solid black bar
- Roll Up Milestone: Diamond symbol
- Roll Up Critical Task: Dotted pattern bar
- Roll Up Progress: Horizontal dashed line
- Roll Up Summary: Thick solid black bar
- External Tasks: Horizontal dashed line
- Project Summary: Thick solid black bar
- Deadline: Horizontal dashed line
- Group By Summary: Thick solid black bar
- Outline: Horizontal dashed line

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**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**  
**MASTER PROGRAMME 05 (Section 4 of works)**  
**CONTRACT: DC/2007/8. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LIN MA HANG**



Project: Master Programme (Rev.05)  
 Date: 01/2009

Task: Critical Task

Process: Milestone

Summary: Rolled Up Task

Rollup Up Critical Task: Rolled Up Milestone

Rollup Up Progress: Split

External Tasks: Project Summary

Group By Summary: Deadline

## **Program for Next Month**



**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/B. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half				
					July	August	Aug	September	Sept
1	CONTRACT: DC/2007/08 (The Works)	1526 days	Fri 21/12/07	Thu 23/2/12					
2	Handover of Portion A	0 days	Fri 21/12/07	Fri 21/12/07					
3	Prelim Works	260 days	Fri 21/12/07	Fri 5/9/08					
4	Mobilization and setting up	80 days	Fri 21/12/07	Sun 9/3/08					
5	Submissions	150 days	Fri 21/12/07	Sun 18/5/08					
6	Baseline Monitoring for Environmental Protection	90 days	Mon 10/3/08	Sat 7/6/08					
7	Monitoring point set up	25 days	Sun 8/6/08	Wed 2/7/08					
8	Structural Condition survey	120 days	Mon 10/3/08	Mon 7/7/08					
9	Apply XP for the Works carrying out at Hyds Road	180 days	Mon 10/3/08	Fri 5/9/08					
10	Section 5 - Works Area (Portion A)	152 days	Fri 21/12/07	Tue 20/5/08					
11	Setting out for Works Area	7 days	Fri 21/12/07	Thu 27/12/07					
12	Initial Survey and Photos for Works Area	14 days	Fri 28/12/07	Thu 10/1/08					
13	Underground Utility Detection	7 days	Fri 11/1/08	Thu 17/1/08					
14	Fencing/hoarding construction	20 days	Fri 18/1/08	Wed 6/2/08					
15	Construct Run in/out access	14 days	Thu 7/2/08	Wed 20/2/08					
16	Construct Site drainage system	14 days	Thu 7/2/08	Wed 20/2/08					
17	Erection of Site Office at Works Area	45 days	Thu 7/2/08	Sat 22/3/08					
18	Install electricity and telephone line for site offices	14 days	Sun 23/3/08	Sat 5/4/08					
19	Project Signboard construction	10 days	Sun 11/5/08	Tue 20/5/08					
20	Section 1 - Tai Po Tin (Portion B)	976 days	Wed 30/4/08	Fri 31/12/10					
21	Handover of Portion B - River TK1.02	0 days	Wed 30/4/08	Wed 30/4/08					
22	Main River Construction	820 days	Mon 22/9/08	Mon 20/12/10					
23	Temporary Flow Diversion	60 days	Mon 22/9/08	Thu 20/11/08					
24	Gabion Wall Construction at CH 0+0 to CH 90+0 Right Bank	70 days	Mon 22/9/08	Sun 30/11/08					
25	Gabion Wall Construction at CH 0+0 to CH 90+0 Left Bank	70 days	Mon 1/12/08	Sun 8/2/09					
26	Gabion Wall Construction at CH 90+0 to CH 180+0 Right Bank	70 days	Mon 9/2/09	Sun 19/4/09					
27	Gabion Wall Construction at CH 90+0 to CH 180+0 Left Bank	70 days	Mon 20/4/09	Sun 28/6/09					
28	Gabion Wall Construction at CH 180+0 to CH 270+0 Right Bank	70 days	Mon 29/6/09	Sun 6/9/09					
29	Gabion Wall Construction at CH 180+0 to CH 270+0 Left Bank	70 days	Mon 7/9/09	Sun 15/11/09					
30	Gabion Wall Construction at CH 270+0 to CH 360+0 Right Bank	70 days	Mon 16/11/09	Sun 24/1/10					
31	Gabion Wall Construction at CH 270+0 to CH 360+0 Left Bank	80 days	Mon 25/1/10	Wed 10/4/10					
32	Gabion Wall Construction at CH 360+0 to CH 450+0 Right Bank	45 days	Thu 15/4/10	Sat 29/5/10					
33	Gabion Wall Construction at CH 360+0 to CH 450+0 Left Bank	80 days	Sun 30/5/10	Tue 17/8/10					
34	Gabion Wall Construction at CH 450+0 to CH 540+0 Right Bank	45 days	Wed 18/8/10	Fri 1/10/10					
35	Gabion Wall Construction at CH 450+0 to CH 540+0 Left Bank	80 days	Sat 2/10/10	Mon 20/12/10					
36	Gabion Wall Construction at CH 540+0 to CH 630+0 Right Bank	80 days	Fri 13/3/09	Sun 31/5/09					
37	Gabion Wall Construction at CH 540+0 to CH 630+0 Left Bank	80 days	Mon 1/6/09	Wed 19/8/09					
38	Gabion Wall Construction at CH 630+0 to CH 720+0 Right Bank	80 days	Thu 20/8/09	Sat 7/11/09					
39	Gabion Wall Construction at CH 630+0 to CH 720+0 Left Bank	45 days	Sun 8/11/09	Tue 22/12/09					
40	Gabion Wall Construction at CH 720+0 to CH 810+0 Right Bank	80 days	Wed 23/12/09	Fri 12/3/10					
41	Gabion Wall Construction at CH 720+0 to CH 810+0 Left Bank	80 days	Sat 13/3/10	Mon 31/5/10					
42	Rip Rap filling and gabion block installation in middle of River Channel	250 days	Tue 30/3/10	Sat 4/12/10					
43	Grassed cellular concrete paving	250 days	Mon 12/4/10	Fri 17/12/10					
44	River Associated Works	631 days	Fri 10/4/09	Fri 31/12/10					
45	Footbridge construction	180 days	Thu 15/4/10	Mon 11/10/10					
46	FBT02-3 at CH 406 approximate	60 days	Thu 15/4/10	Sun 13/6/10					
47	VBT02-1 at CH510 approximate	60 days	Mon 14/6/10	Thu 12/8/10					
48	FBT02-1 at CH1662 approximate	60 days	Fri 13/8/10	Mon 11/10/10					
49	Ramp construction	263 days	Wed 21/10/09	Sat 10/7/10					
50	At CH 0+0 to CH 45+0 Approximate	109 days	Wed 21/10/09	Sat 6/2/10					
51	At CH 375+0 to CH 440+0 Approximate	60 days	Mon 1/3/10	Thu 29/4/10					
52	At CH 485+0 to CH 555+0 Approximate	60 days	Wed 28/4/10	Sat 26/6/10					
53	At CH 630+0 to CH 690+0 Approximate	60 days	Wed 12/5/10	Sat 10/7/10					
54	Verge/footpath construction	180 days	Mon 5/7/10	Fri 31/12/10					
55	Subse construction for the verges	160 days	Mon 5/7/10	Sat 11/12/10					
56	Grassed cellular concrete/concrete paving	160 days	Mon 5/7/10	Sat 11/12/10					
57	Type 2 railing construction	150 days	Wed 4/8/10	Fri 31/12/10					
58	Retaining wall construction	495 days	Fri 10/4/09	Tue 17/8/10					
59	At CH0 Approximate	60 days	Fri 10/4/09	Mon 8/6/09					
60	At CH501 Approximate	90 days	Fri 30/4/10	Wed 28/7/10					
61	At CH800 Approximate	90 days	Thu 20/5/10	Tue 17/8/10					
62	U Channel construction	228 days	Thu 15/4/10	Sun 28/11/10					
63	600 UC at CH0 Approximate	120 days	Thu 15/4/10	Thu 12/8/10					

Project: Master Programme (Rev 10) Date: 23/03/2010

Task: [Pattern] Progress [Pattern] Summary [Pattern] External Tasks [Pattern] Deadline [Pattern]

Split: [Pattern] Milestone [Pattern] Project Summary [Pattern] External Milestone [Pattern]

Remarks: The critical path as highlighted in red colour

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/8. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half			
					July	August	September	October
64	450 LC at CH501 Approximate	120 days	Tue 25/5/10	Tue 21/9/10	[Task bar spanning July to September]			
65	300 LC at CH800 Approximate	150 days	Fri 2/7/10	Sun 28/11/10	[Task bar spanning July to November]			
66					[Task bar spanning July to November]			
67					[Task bar spanning July to November]			
68	Section 2 - Ping Che (Portion C & E)	976 days	Wed 30/4/08	Fri 31/12/10	[Task bar spanning April 2008 to December 2010]			
69	Commencement Date	976 days	Wed 30/4/08	Fri 31/12/10	[Task bar spanning April 2008 to December 2010]			
70	Hand over of Portion C & E - River TKL07	0 days	Wed 30/4/08	Wed 30/4/08	[Task bar spanning April 2008 to April 2008]			
71	Main River Construction (CH80 to CH150 approximate)	109 days	Fri 1/8/08	Mon 17/11/08	[Task bar spanning August 2008 to November 2008]			
72	Temporary Flow Diversion	14 days	Fri 1/8/08	Thu 14/8/08	[Task bar spanning August 2008 to August 2008]			
73	Open cut excavation	25 days	Fri 15/8/08	Mon 8/9/08	[Task bar spanning August 2008 to September 2008]			
74	Rock & granular filling for the base of gabion	25 days	Mon 25/8/08	Thu 18/9/08	[Task bar spanning August 2008 to September 2008]			
75	Blinding layer for the gabion construction	25 days	Thu 4/9/08	Sun 28/9/08	[Task bar spanning September 2008 to September 2008]			
76	Backfilling and gabion construction by layers	45 days	Sun 14/9/08	Tue 28/10/08	[Task bar spanning September 2008 to October 2008]			
77	Granular Filling for the river	30 days	Thu 9/10/08	Fri 7/11/08	[Task bar spanning October 2008 to November 2008]			
78	Grassed cellular concrete paving	30 days	Sun 19/10/08	Mon 17/11/08	[Task bar spanning October 2008 to November 2008]			
79	Main River Construction (CH270 to CH670 approximate)	270 days	Sun 5/4/09	Wed 30/12/09	[Task bar spanning April 2009 to December 2009]			
80	Temporary Flow Diversion	25 days	Sun 5/4/09	Wed 29/4/09	[Task bar spanning April 2009 to April 2009]			
81	Open cut excavation	80 days	Thu 30/4/09	Sat 18/7/09	[Task bar spanning April 2009 to July 2009]			
82	Rock & granular filling for the base of gabion	80 days	Sun 10/5/09	Tue 28/7/09	[Task bar spanning May 2009 to July 2009]			
83	Blinding layer for the gabion construction	80 days	Wed 20/5/09	Fri 7/8/09	[Task bar spanning May 2009 to August 2009]			
84	Backfilling and gabion construction by layers	130 days	Sat 30/5/09	Tue 6/10/09	[Task bar spanning May 2009 to October 2009]			
85	Gabion block construction in the middle of the river	50 days	Fri 28/8/09	Fri 16/10/09	[Task bar spanning August 2009 to October 2009]			
86	200 Rip Rap filling	60 days	Fri 28/8/09	Mon 26/10/09	[Task bar spanning August 2009 to October 2009]			
87	Granular fill for the Maintenance access	60 days	Tue 18/8/09	Fri 16/10/09	[Task bar spanning August 2009 to October 2009]			
88	Construction of Maintenance access	110 days	Fri 28/8/09	Tue 15/12/09	[Task bar spanning August 2009 to December 2009]			
89	Rip Rap filling inside the Maintenance access	50 days	Sun 1/11/09	Sun 20/12/09	[Task bar spanning November 2009 to December 2009]			
90	Grassed cellular concrete paving	50 days	Wed 11/11/09	Wed 30/12/09	[Task bar spanning November 2009 to December 2009]			
91	River Associated Works	856 days	Thu 28/8/08	Fri 31/12/10	[Task bar spanning August 2008 to December 2010]			
92	Box culvert construction at (CH685 to CH735 approximate)	230 days	Thu 28/8/08	Tue 14/4/09	[Task bar spanning August 2008 to April 2009]			
93	Temporary flow diversion	10 days	Thu 28/8/08	Sat 6/9/08	[Task bar spanning August 2008 to August 2008]			
94	Open cut excavation	90 days	Sun 7/9/08	Fri 5/12/08	[Task bar spanning August 2008 to December 2008]			
95	Granular filling with geotextile filter	30 days	Sun 16/11/08	Mon 15/12/08	[Task bar spanning November 2008 to December 2008]			
96	Concrete for blinding layer	10 days	Tue 16/12/08	Thu 25/12/08	[Task bar spanning December 2008 to December 2008]			
97	Base slab construction	90 days	Fri 26/12/08	Wed 25/3/09	[Task bar spanning December 2008 to March 2009]			
98	Wall & Top Slab construction	90 days	Mon 5/1/09	Sat 4/4/09	[Task bar spanning January 2009 to April 2009]			
99	Backfilling	45 days	Sun 1/3/09	Tue 14/4/09	[Task bar spanning March 2009 to April 2009]			
100	Box culvert construction at (CH735 to CH838 approximate)	245 days	Sat 1/5/10	Fri 31/12/10	[Task bar spanning May 2010 to December 2010]			
101	Temporary flow diversion	10 days	Sat 1/5/10	Mon 10/5/10	[Task bar spanning May 2010 to May 2010]			
102	Open cut excavation	120 days	Tue 11/5/10	Tue 7/9/10	[Task bar spanning May 2010 to September 2010]			
103	Granular filling with geotextile filter	30 days	Mon 19/7/10	Tue 17/8/10	[Task bar spanning July 2010 to August 2010]			
104	Concrete for blinding layer	21 days	Wed 18/8/10	Tue 7/9/10	[Task bar spanning August 2010 to August 2010]			
105	Base slab construction	90 days	Wed 8/9/10	Mon 6/12/10	[Task bar spanning August 2010 to December 2010]			
106	Wall & Top Slab construction	122 days	Wed 1/9/10	Fri 31/12/10	[Task bar spanning August 2010 to December 2010]			
107	Backfilling	65 days	Thu 28/10/10	Fri 31/12/10	[Task bar spanning October 2010 to December 2010]			
108	Footbridge construction	556 days	Mon 5/1/09	Wed 14/7/10	[Task bar spanning January 2009 to July 2010]			
109	FBT07-3 at CH317 approximate	30 days	Mon 5/1/09	Tue 3/2/09	[Task bar spanning January 2009 to January 2009]			
110	FBT07-4 at CH445 approximate	30 days	Wed 4/2/09	Thu 5/3/09	[Task bar spanning January 2009 to February 2009]			
111	FBT07-5 at CH600 approximate	30 days	Fri 6/3/09	Sat 4/4/09	[Task bar spanning February 2009 to March 2009]			
112	FBT07-6 at CH687 approximate	30 days	Sun 5/4/09	Mon 4/5/09	[Task bar spanning March 2009 to April 2009]			
113	FBT07-2 at CH250 approximate	30 days	Tue 5/5/09	Wed 3/6/09	[Task bar spanning March 2009 to April 2009]			
114	FBT07-1 at CH35 approximate	90 days	Fri 16/4/10	Wed 14/7/10	[Task bar spanning April 2010 to July 2010]			
115	Ramp construction	277 days	Sat 3/10/09	Tue 6/7/10	[Task bar spanning October 2009 to July 2010]			
116	At CH435 Approximate	60 days	Thu 15/10/09	Sun 13/12/09	[Task bar spanning October 2009 to December 2009]			
117	At CH517 Approximate	60 days	Sat 3/10/09	Tue 1/12/09	[Task bar spanning October 2009 to December 2009]			
118	At CH600 Approximate	60 days	Wed 18/11/09	Sat 16/1/10	[Task bar spanning November 2009 to January 2010]			
119	At CH35 Approximate	90 days	Thu 8/4/10	Tue 6/7/10	[Task bar spanning April 2010 to July 2010]			
120	Verge/footpath construction	170 days	Thu 15/7/10	Fri 31/12/10	[Task bar spanning July 2010 to December 2010]			
121	Subbase construction for the verges	145 days	Thu 15/7/10	Mon 6/12/10	[Task bar spanning July 2010 to December 2010]			
122	Grassed cellular concrete/concrete paving	135 days	Wed 4/8/10	Thu 16/12/10	[Task bar spanning August 2010 to December 2010]			
123	Type 2 railing construction	138 days	Mon 16/8/10	Fri 31/12/10	[Task bar spanning August 2010 to December 2010]			
124	Retaining wall construction	290 days	Thu 21/5/09	Sat 6/3/10	[Task bar spanning May 2009 to March 2010]			
125	At CH35 to CH1105 Approximate	290 days	Thu 21/5/09	Sat 6/3/10	[Task bar spanning May 2009 to March 2010]			
126	Type D L-shaped RW construction	200 days	Thu 21/5/09	Sun 6/12/09	[Task bar spanning May 2009 to December 2009]			

Project: Master Programme (Rev 10)  
 Date: 23/03/2010

Task: [Pattern] Progress [Pattern] Summary [Pattern] External Tasks [Pattern] Deadline [Pattern]

Split: [Pattern] Milestone [Pattern] Project Summary [Pattern] External Milestone [Pattern]

Remark:  
 The critical path as highlighted in red colour

**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/8. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half			
					July	August	September	October
127	Backfilling the RW	90 days	Mon 7/12/09	Sat 6/3/10				
128	U Channel construction	80 days	Fri 8/10/10	Sun 26/12/10				
129	375&525 UC at CH352 Approximate	70 days	Sat 16/10/10	Fri 24/12/10				
130	Trench excavation	20 days	Sat 16/10/10	Thu 4/11/10				
131	Concrete for the U channel	60 days	Tue 26/10/10	Fri 24/12/10				
132	525UC at CH552 Approximate	55 days	Mon 25/10/10	Sat 18/12/10				
133	Trench excavation	20 days	Mon 25/10/10	Sat 13/11/10				
134	Concrete for the U channel	45 days	Thu 4/11/10	Sat 18/12/10				
135	525&600 UC at CH690 Approximate	80 days	Fri 8/10/10	Sun 26/12/10				
136	Trench excavation	20 days	Fri 8/10/10	Wed 27/10/10				
137	Concrete for the U channel	70 days	Mon 18/10/10	Sun 26/12/10				
138	Inlet Pipes	175 days	Wed 7/10/09	Tue 30/3/10				
139	Inlet pipe at CH100 Approximate	25 days	Wed 7/10/09	Sat 31/10/09				
140	Inlet pipe at CH400 Approximate	25 days	Sun 1/11/09	Wed 25/11/09				
141	Inlet pipe at CH408 Approximate	25 days	Thu 26/11/09	Sun 20/12/09				
142	Inlet pipe at CH450 Approximate	25 days	Mon 21/12/09	Thu 14/1/10				
143	Inlet pipe at CH570 Approximate	25 days	Fri 15/1/10	Mon 8/2/10				
144	Inlet pipe at CH630 Approximate	25 days	Tue 9/2/10	Fri 5/3/10				
145	Inlet pipe at CH750 Approximate	25 days	Sat 6/3/10	Tue 30/3/10				
146								
147								
148	Section 3 - Man Uk Ping (Portion D & E)	1395 days	Wed 30/4/08	Thu 23/2/12				
149	Commencement Date	0 days	Wed 30/4/08	Wed 30/4/08				
150	Handover of Portion D	0 days	Wed 30/4/08	Wed 30/4/08				
151	Prelim Works	300 days	Wed 30/4/08	Mon 23/2/09				
152	Baseline Monitoring	90 days	Wed 30/4/08	Mon 28/7/08				
153	Mobilisation	30 days	Tue 29/7/08	Wed 27/8/08				
154	Site clearance	30 days	Thu 28/8/08	Fri 26/9/08				
155	Initial site survey	30 days	Sat 27/9/08	Sun 26/10/08				
156	Tree survey	20 days	Fri 30/5/08	Wed 18/6/08				
157	Construct Access Road	20 days	Sat 27/9/08	Thu 16/10/08				
158	Remove and Transplant the trees	30 days	Thu 19/6/08	Fri 18/7/08				
159	Underground Utility Survey	150 days	Sat 27/9/08	Mon 23/2/09				
160	River MU01 (Portion D)	650 days	Tue 24/2/09	Sun 5/12/10				
161	Temporary Flow Diversion	20 days	Tue 24/2/09	Sun 15/3/09				
162	Open cut excavation	120 days	Mon 16/3/09	Mon 13/7/09				
163	Rock & granular filling for the base of gabion	120 days	Thu 26/3/09	Thu 23/7/09				
164	Blinding layer for the gabion construction	100 days	Sat 25/4/09	Sun 2/8/09				
165	Backfilling and gabion construction by layers	180 days	Tue 5/5/09	Sat 31/10/09				
166	Verge/footpath construction	400 days	Sun 1/11/09	Sun 5/12/10				
167	Subase construction for the verges	100 days	Sun 1/11/09	Mon 8/2/10				
168	Gassed cellular concrete/concrete paving	150 days	Tue 9/2/10	Thu 8/7/10				
169	Type 2 railing construction	150 days	Fri 9/7/10	Sun 5/12/10				
170	300UC construction	120 days	Mon 19/7/10	Mon 15/11/10				
171	River MU02 (Portion D)	445 days	Sun 1/11/09	Wed 19/1/11				
172	Stabilise existing river bank	360 days	Sun 1/11/09	Tue 26/10/10				
173	Temporary flow diversion	30 days	Sun 1/11/09	Mon 30/11/09				
174	Sheet pile installation	20 days	Tue 1/12/09	Sun 20/12/09				
175	Excavate & erect shoring support	60 days	Mon 21/12/09	Thu 18/2/10				
176	Rock & granular filling for the base of gabion	90 days	Fri 19/2/10	Wed 19/5/10				
177	Blinding layer for the gabion construction	30 days	Thu 20/5/10	Fri 18/6/10				
178	Backfilling and gabion construction by layers	120 days	Sat 19/6/10	Sat 16/10/10				
179	Removal of the sheet piles	10 days	Sun 17/10/10	Tue 26/10/10				
180	MU02 Bypass	381 days	Mon 4/1/10	Wed 19/1/11				
181	Temporary Flow Diversion	10 days	Mon 4/1/10	Wed 13/1/10				
182	Open cut excavation	90 days	Thu 14/1/10	Tue 13/4/10				
183	Rock & granular filling for the base of gabion	60 days	Wed 14/4/10	Sat 12/6/10				
184	Blinding layer for the gabion construction	21 days	Sun 13/6/10	Sat 3/7/10				
185	Backfilling and gabion construction by layers	100 days	Sun 4/7/10	Mon 11/10/10				
186	Filling of Rip Rap	75 days	Tue 12/10/10	Sat 25/12/10				
187	Verge/footpath construction	200 days	Sun 4/7/10	Wed 19/1/11				
188	Subase construction for the verges	45 days	Sun 4/7/10	Tue 17/8/10				
189	Gassed cellular concrete/concrete paving	90 days	Wed 18/8/10	Mon 15/11/10				

Project: Master Programme (Rev. 10) Date: 23/03/2010

Task: [Pattern] Progress Summary: [Arrow] External Tasks: [Pattern] Deadline: [Pattern]

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**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/B. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half			
					July	August	September	October
190	Type 2 railing construction	65 days	Tue 16/11/10	Wed 19/1/11				
191	Main River of MUPO2	379 days	Sun 1/11/09	Sun 14/1/10				
192	Temporary Flow Diversion	14 days	Sun 1/11/09	Sat 14/1/10				
193	Open cut excavation	60 days	Sun 15/1/09	Wed 13/1/10				
194	Rock & granular filling for the base of gabion	60 days	Wed 25/1/09	Sat 23/1/10				
195	Blinding layer for the gabion construction	60 days	Sat 5/1/2009	Tue 2/2/10				
196	Backfilling and gabion construction by layers	90 days	Tue 15/1/2009	Sun 14/3/10				
197	Gabion block construction in the middle of the river	90 days	Fri 25/1/2009	Wed 24/3/10				
198	200 Rip Rap filling	30 days	Thu 25/3/10	Fri 23/4/10				
199	FBM02-1 footbridge at CH 8+455 Approximate	45 days	Sat 24/4/10	Mon 7/6/10				
200	RW type D at C18+525 Approximate	30 days	Tue 8/6/10	Wed 7/7/10				
201	Verge/footpath construction	200 days	Mon 15/3/10	Thu 30/9/10				
202	Subase construction for the verges	100 days	Mon 15/3/10	Tue 22/6/10				
203	Gassed cellular concrete/concrete paving	100 days	Thu 25/3/10	Fri 2/7/10				
204	Type 2 railing construction	90 days	Sat 3/7/10	Thu 30/9/10				
205	300 & 375 UC at C18+400 Approximate	45 days	Fri 1/10/10	Sun 14/11/10				
206	River MUPO3A (Portion D)	461 days	Thu 25/3/10	Tue 28/6/11				
207	600UC construction	120 days	Thu 25/3/10	Thu 22/7/10				
208	Manholes construction	90 days	Fri 23/7/10	Wed 20/10/10				
209	600mm dia. pipe construction	90 days	Fri 31/12/10	Wed 30/3/11				
210	900mm dia. pipe construction	90 days	Thu 31/3/11	Tue 28/6/11				
211	River MUPO3B (Portion D)	581 days	Thu 25/3/10	Wed 26/10/11				
212	Temporary Flow Diversion	20 days	Thu 25/3/10	Tue 13/4/10				
213	Open cut excavation	30 days	Wed 14/4/10	Thu 13/5/10				
214	Rock & granular filling for the base of gabion	30 days	Mon 19/4/10	Tue 18/5/10				
215	Blinding layer for the gabion construction	30 days	Sat 24/4/10	Sun 23/5/10				
216	Backfilling and gabion construction by layers	57 days	Thu 29/4/10	Thu 24/6/10				
217	Gabion block construction in the middle of the river	121 days	Wed 31/3/10	Thu 29/7/10				
218	200 Rip Rap filling	45 days	Sun 20/6/10	Tue 3/8/10				
219	FBM03-1 footbridge at CH E+60 Approximate	70 days	Fri 25/6/10	Thu 2/9/10				
220	1.35m high box culvert crossing construction	120 days	Wed 29/6/11	Wed 26/10/11				
221	Verge/footpath construction	209 days	Fri 25/6/10	Wed 19/1/11				
222	Subase construction for the verges	49 days	Fri 25/6/10	Thu 12/8/10				
223	Gassed cellular concrete/concrete paving	90 days	Fri 13/8/10	Wed 10/11/10				
224	Type 2 railing construction	70 days	Thu 11/11/10	Wed 19/1/11				
225	River MUPO4A (Portion D)	701 days	Thu 25/3/10	Thu 23/2/12				
226	Temporary Flow Diversion	15 days	Thu 25/3/10	Thu 8/4/10				
227	Open cut excavation	60 days	Fri 9/4/10	Mon 7/6/10				
228	Rock & granular filling for the base of gabion	60 days	Tue 8/6/10	Fri 6/8/10				
229	Blinding layer for the gabion construction	30 days	Fri 18/6/10	Sat 17/7/10				
230	Backfilling and gabion construction by layers	126 days	Sun 18/7/10	Sat 20/11/10				
231	Gabion block construction in the middle of the river	90 days	Wed 22/9/10	Mon 20/12/10				
232	200 Rip Rap filling	30 days	Tue 21/12/10	Wed 19/1/11				
233	VBM04-2 vehicular bridge at CHD+11 Approximate	90 days	Sun 18/7/10	Fri 15/10/10				
234	VBM04-1 vehicular bridge at CH D+48 Approximate	90 days	Sat 16/10/10	Thu 13/1/11				
235	Construct 4X1650mm dia. pipes at CH D+185 Approximate	120 days	Thu 27/10/11	Thu 23/2/12				
236	Verge/footpath construction	127 days	Wed 15/9/10	Wed 19/1/11				
237	Subase construction for the verges	90 days	Wed 15/9/10	Mon 13/12/10				
238	Gassed cellular concrete/concrete paving	71 days	Wed 10/11/10	Wed 19/1/11				
239	Type 2 railing construction	108 days	Mon 4/10/10	Wed 19/1/11				
240	River MUPO4B (Portion D)	169 days	Wed 4/8/10	Wed 19/1/11				
241	Temporary Flow Diversion	10 days	Wed 4/8/10	Fri 13/8/10				
242	Open cut excavation	30 days	Sat 14/8/10	Sun 12/9/10				
243	Rock & granular filling for the base of gabion	30 days	Thu 19/8/10	Fri 17/9/10				
244	Blinding layer for the gabion construction	30 days	Tue 24/8/10	Wed 22/9/10				
245	Backfilling and gabion construction by layers	77 days	Sun 29/8/10	Sat 13/11/10				
246	Gabion block construction in the middle of the river	20 days	Sat 30/10/10	Thu 18/11/10				
247	200 Rip Rap filling	15 days	Fri 19/11/10	Fri 3/12/10				
248	Construct 1350mm dia. pipes	47 days	Sat 4/12/10	Wed 19/1/11				
249	Verge/footpath construction	67 days	Sun 14/11/10	Wed 19/1/11				
250	Subase construction for the verges	20 days	Sun 14/11/10	Fri 3/12/10				
251	Gassed cellular concrete/concrete paving	27 days	Sat 4/12/10	Thu 30/12/10				
252	Type 2 railing construction	20 days	Fri 3/1/11	Wed 19/1/11				

Project: Master Programme (Rev.10) Date: 23/03/2010

Task: [Pattern] Progress [Pattern] Summary [Pattern] External Tasks [Pattern] Deadline [Pattern]

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**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/B. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half			
					July	August	Aug	September
253	River MU105 (Portion D)	678 days	Mon 12/4/10	Sat 18/2/12				
254	Main River Construction (CH C+0.00 to C+100 approximate)	345 days	Fri 31/12/10	Sat 10/12/11				
255	Temporary flow diversion	40 days	Fri 31/12/10	Tue 8/2/11				
256	Open cut excavation	200 days	Wed 9/2/11	Sat 27/8/11				
257	Rock & granular filling for the base of gabion	150 days	Thu 2/2/11	Sat 23/7/11				
258	Blinding layer for the gabion construction	150 days	Sun 6/3/11	Tue 2/8/11				
259	Backfilling and gabion construction by layers	250 days	Wed 16/3/11	Sun 20/11/11				
260	Granular Filling for the river	150 days	Mon 4/7/11	Wed 30/11/11				
261	Grassed cellular concrete paving	180 days	Tue 14/6/11	Sat 10/12/11				
262	River associated Works	678 days	Mon 12/4/10	Sat 18/2/12				
263	Box culvert construction at CH C+190 approximate	170 days	Fri 31/12/10	Sat 18/6/11				
264	Temporary flow diversion	10 days	Fri 31/12/10	Sun 9/1/11				
265	Open cut excavation	24 days	Mon 10/1/11	Wed 2/2/11				
266	Granular filling with geotextile filter	24 days	Thu 20/1/11	Sat 12/2/11				
267	Concrete for blinding layer	24 days	Sun 30/1/11	Tue 22/2/11				
268	Base slab construction	60 days	Wed 9/2/11	Sat 9/4/11				
269	Wall & Top Slab construction	90 days	Sat 19/2/11	Thu 19/5/11				
270	Backfilling	30 days	Fri 20/5/11	Sat 18/6/11				
271	Footbridge/Vehicular Bridge Construction	383 days	Mon 12/4/10	Fri 29/4/11				
272	VBM05-1at CH C+70 approximate	30 days	Fri 31/12/10	Sat 29/1/11				
273	FBM05-1at CH C+139 approximate	30 days	Sun 30/1/11	Mon 28/2/11				
274	VBM05-2 at CH C+190 approximate	30 days	Tue 1/3/11	Wed 30/3/11				
275	VBM05-3 at CH C+264 approximate	30 days	Thu 31/3/11	Fri 29/4/11				
276	VBM05-4 at CH C+398 approximate	60 days	Mon 12/4/10	Thu 10/6/10				
277	FBM05-2 at CH C+561 approximate	60 days	Fri 11/6/10	Mon 9/8/10				
278	FBM05-3 at CH C+661 approximate	58 days	Tue 10/8/10	Wed 6/10/10				
279	FBM05-4 at CH C+894 approximate	55 days	Thu 7/10/10	Tue 30/11/10				
280	FBM05-5 at CH C+942 approximate	50 days	Wed 1/12/10	Wed 19/1/11				
281	Ramp construction	350 days	Fri 31/12/10	Thu 15/12/11				
282	At CH C+398 Approximate	105 days	Fri 31/12/10	Thu 14/4/11				
283	Granular filling with geotextile filter	45 days	Fri 31/12/10	Sun 13/2/11				
284	Concrete for the blinding layer	20 days	Fri 4/2/11	Wed 23/2/11				
285	Base slab construction for the ramp	60 days	Mon 14/2/11	Thu 14/4/11				
286	Wall construction for the ramp	45 days	Thu 24/2/11	Sat 9/4/11				
287	At CH C+500 Approximate	105 days	Sun 10/4/11	Sat 23/7/11				
288	Granular filling with geotextile filter	45 days	Sun 10/4/11	Tue 24/5/11				
289	Concrete for the blinding layer	20 days	Sun 15/5/11	Fri 3/6/11				
290	Base slab construction for the ramp	60 days	Wed 25/5/11	Sat 23/7/11				
291	Wall construction for the ramp	45 days	Sat 4/6/11	Mon 18/7/11				
292	At CH C + 561 Approximate	105 days	Mon 14/7/11	Sun 29/5/11				
293	Granular filling with geotextile filter	45 days	Mon 14/7/11	Wed 30/3/11				
294	Concrete for the blinding layer	20 days	Mon 21/3/11	Sat 9/4/11				
295	Base slab construction for the ramp	60 days	Thu 31/3/11	Sun 29/5/11				
296	Wall construction for the ramp	45 days	Sun 10/4/11	Tue 24/5/11				
297	At CH C + 894 Approximate	105 days	Wed 25/5/11	Tue 6/9/11				
298	Granular filling with geotextile filter	45 days	Wed 25/5/11	Fri 8/7/11				
299	Concrete for the blinding layer	20 days	Wed 29/6/11	Mon 18/7/11				
300	Base slab construction for the ramp	60 days	Sat 9/7/11	Tue 6/9/11				
301	Wall construction for the ramp	45 days	Tue 19/7/11	Thu 1/9/11				
302	At CH C + 942 Approximate	105 days	Fri 29/11	Thu 15/12/11				
303	Granular filling with geotextile filter	45 days	Fri 29/11	Sun 16/10/11				
304	Concrete for the blinding layer	20 days	Fri 7/10/11	Wed 26/10/11				
305	Base slab construction for the ramp	60 days	Mon 17/10/11	Thu 15/12/11				
306	Wall construction for the ramp	45 days	Thu 27/10/11	Sat 10/12/11				
307	Verge/footpath construction	80 days	Fri 11/1/11	Sun 29/1/12				
308	Subbase construction for the verges	50 days	Mon 21/1/11	Mon 9/1/12				
309	Grassed cellular concrete/concrete paving	70 days	Fri 11/1/11	Thu 19/1/12				
310	Type 2 railing construction	70 days	Mon 21/1/11	Sun 29/1/12				
311	Retaining wall construction	45 days	Mon 21/1/11	Wed 4/1/12				
312	U Channel construction	45 days	Thu 5/1/12	Sat 18/2/12				
313	Inlet Pipes	70 days	Mon 21/1/11	Sun 29/1/12				
314	Handover of Portion E	445 days	Sun 1/11/09	Wed 19/1/11				
315	River MU105 (Portion E)	445 days	Sun 1/11/09	Wed 19/1/11				

Project: Master Programme (Rev. 10) Date: 23/03/2010

Task: [Pattern] Progress: [Bar] Summary: [Bar] External Tasks: [Bar] Deadline: [Bar]

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**CHIU HING CONSTRUCTION & TRANSPORTATION Co., Ltd**

MASTER PROGRAMME 10

CONTRACT: DC/2007/8. DRAINAGE IMPROVEMENT WORKS at TAI PO TIN, PING CHE, MAN UK PIN AND LINN MA HANG

ID	Task Name	Duration	Start	Finish	2nd Half			
					July	August	September	Oct
316	Temporary flow diversion	10 days	Sun 1/11/09	Tue 10/11/09				
317	Open cut excavation	70 days	Wed 11/1/09	Tue 19/1/10				
318	Rectangular Channel	115 days	Wed 20/1/10	Fri 14/5/10				
319	Rock & granular filling for the base of gabion	60 days	Wed 20/1/10	Sat 20/3/10				
320	Blinding layer for the gabion construction	30 days	Mon 1/3/10	Tue 30/3/10				
321	Base slab construction	60 days	Thu 11/3/10	Sun 9/5/10				
322	Wall construction	45 days	Sun 21/3/10	Tue 4/5/10				
323	Granular filling inside the channel	10 days	Wed 5/5/10	Fri 14/5/10				
324	Gabion Construction	170 days	Sat 15/5/10	Sun 31/10/10				
325	Rock & granular filling for the base of gabion	30 days	Sat 15/5/10	Sun 13/6/10				
326	Blinding layer for the gabion construction	30 days	Tue 25/5/10	Wed 23/6/10				
327	Backfilling and gabion construction by layers	120 days	Fri 4/6/10	Fri 1/10/10				
328	Gabion block construction in the middle of the river	60 days	Fri 13/8/10	Mon 11/10/10				
329	200 Rip Rap filling	20 days	Tue 12/10/10	Sun 31/10/10				
330	Verge/footpath construction	85 days	Wed 27/10/10	Wed 19/1/11				
331	Subbase construction for the verges	45 days	Mon 1/11/10	Wed 15/12/10				
332	Gassed cellular concrete/concrete paving	60 days	Wed 27/10/10	Sat 25/12/10				
333	Type 2 railing construction	55 days	Fri 26/11/10	Wed 19/1/11				
334								
335								
336	Section 4 - Lin Man Hang (Portion F)	1095 days	Fri 21/12/07	Sun 19/12/10				
337	Commencement Date	0 days	Fri 21/12/07	Fri 21/12/07				
338	Handover of Portion F	0 days	Fri 21/12/07	Fri 21/12/07				
339	Prelim Works	101 days	Thu 1/5/08	Sat 9/8/08				
340	Baseline Monitoring	90 days	Thu 1/5/08	Tue 29/7/08				
341	Mobilisation	20 days	Sun 1/6/08	Fri 20/6/08				
342	Site clearance	14 days	Sat 21/6/08	Fri 4/7/08				
343	Initial site survey	14 days	Sat 5/7/08	Fri 18/7/08				
344	Tree survey	20 days	Sat 21/6/08	Thu 10/7/08				
345	Construct Access Road	20 days	Sat 5/7/08	Thu 24/7/08				
346	Remove and Transplant the trees	30 days	Fri 11/7/08	Sat 9/8/08				
347	Underground Utility Survey	30 days	Sat 5/7/08	Sun 3/8/08				
348	River LM101	673 days	Mon 4/8/08	Mon 7/6/10				
349	Temporary flow diversion	60 days	Mon 4/8/08	Thu 2/10/08				
350	Open cut excavation	120 days	Fri 3/10/08	Fri 30/1/09				
351	Rock & granular filling for the base of gabion	120 days	Mon 13/10/08	Mon 9/2/09				
352	Blinding layer for the gabion construction	120 days	Mon 27/10/08	Mon 23/2/09				
353	Backfilling and gabion construction by layers	225 days	Mon 10/11/08	Mon 22/6/09				
354	Granular Filling for the river	150 days	Tue 23/6/09	Thu 19/11/09				
355	Rip Rap lining to stabilise the river	130 days	Tue 23/6/09	Fri 30/10/09				
356	Verge/footpath construction	220 days	Sat 31/10/09	Mon 7/6/10				
357	Subbase construction for the verges	180 days	Sat 31/10/09	Wed 28/4/10				
358	Gassed cellular concrete/concrete paving	180 days	Fri 20/11/09	Tue 18/5/10				
359	Type 2 railing	180 days	Thu 10/12/09	Mon 7/6/10				
360	Section 5-others	1095 days	Fri 21/12/07	Sun 19/12/10				
361	Landscape and Establishment Works	1095 days	Fri 21/12/07	Sun 19/12/10				
362	Flood Siren System at Lin Ma Hang	90 days	Wed 15/10/08	Mon 12/1/09				
363	Construction of paving	150 days	Tue 13/1/09	Thu 11/6/09				
364	Fencing Works	120 days	Fri 12/6/09	Fri 9/10/09				
365	Signage Works	60 days	Sat 10/10/09	Tue 8/12/09				
366	Handover of Portion G	0 days	Wed 15/10/08	Wed 15/10/08				
367	Hedge planting at Portion G	120 days	Sun 24/1/10	Sun 23/5/10				
368	Footpath construction at Portion G	180 days	Mon 24/5/10	Fri 19/11/10				

Project Master Programme (Rev.10) Date: 23/03/2010

Task: [Pattern] Progress: [Bar] Summary: [Bar] External Tasks: [Bar] Deadline: [Bar]

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## **Environmental Mitigation Implementation Schedule**

Implementation Schedule of Air Quality Impact Assessment

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
<b>Air Quality - Construction Phase</b>									
**	2.9.2	<p><i>General</i></p> <p>General requirements for air pollution control as stated in the EPD's recommended Pollution Control Clauses for Construction Contracts are listed below:</p> <p>(i) The Contractor shall observed and comply with the Air Pollution Control Ordinance and its subsidiary regulations, particularly the Air Pollution Control (Open Burning) Regulation and Air Pollution Control (Construction Dust) Regulation and Air Pollution Control (Smoke) Regulation.</p> <p>(ii) The Contractor shall undertake at all times to prevent dust nuisance and smoke as a result of his activities.</p> <p>(iii) The Contractor shall ensure that there will be adequate water supply / storage for dust suppression.</p> <p>(iv) The Contractor shall devise, arrange methods of working and carrying out the works in such a manner so as to minimise dust impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are</p>	To prevent air quality impacts on sensitive receivers during construction	All works site / during construction	Construction Contractor		√		Air Pollution Control Ordinance Air Pollution Control (Open Burning) Regulation Air Pollution Control (Construction Dust) Regulation Air Pollution Control (Smoke) Regulation



ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
**	2.9.3	<p>implemented.</p> <p>(v) Before the commencement of any work, the Engineer may require the methods of working, plant, equipment and air pollution control system to be used on the site to be made available for inspection and approval to ensure that they are suitable for the project.</p> <p><i>Dust</i></p> <p>The following good construction practices are recommended to be adopted on-site to minimize potential air quality impacts from dust emissions:</p> <p>(i) Use of regular watering (at least twice daily) to reduce dust emissions from exposed site surfaces, particularly during dry weather.</p> <p>(ii) Side enclosure and covering of any aggregate or dusty material stockpiles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be employed to aggregate fines.</p> <p>(iii) Tarpaulin covering of all dusty vehicle loads transported to and from site locations.</p>	To prevent dust nuisance on sensitive receivers during construction	All works site / during construction	Construction Contractor		√		Air Pollution Control Ordinance Air Pollution Control (Construction Dust) Regulation
**	2.9.4	<p><i>Odour</i></p> <p>The following site practices are recommended to minimize potential air quality impacts from odour nuisance:</p> <p>(i) Any odorous excavated material shall be</p>	To prevent odour nuisance on sensitive receivers during construction	All works site / during construction	Construction Contractor		√		

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		<p>placed as far away from receivers as possible.</p> <p>(ii) Any stockpiles of odorous excavated material shall be covered with tarpaulin sheets.</p> <p>(iii) Any odorous stockpiled material shall be removed from site as soon as possible (within 3 days) to reduce the amount of time available for decomposition of organic matter.</p>							

D = Design, C = Construction, O = Operation

**Implementation Schedule of Ecological Impact Measures**

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
		<b>MUP01/02</b>							
3.16.15	6.5.15	<b>Existing stream course</b> The proposed works within the stream channel should be carried out within the dry season (1 <sup>st</sup> October – 31 <sup>st</sup> March)	Minimize ecological impact on MUP01/02 during construction	All works sites at MUP01/02 during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004
3.16.16	6.5.16	Appropriate site management procedures during the construction phase should be adopted, as recommended in ETWB TCW No. 5/2005, to minimize potential disturbance impacts and pollution risks (water quality impacts) to the stream. This should include the location of access to the site and storage of materials, and treatment of construction site waste to prevent pollution of the stream. These site management measures are listed in the subsequent section.	Minimize ecological impact on MUP01/02 during construction	All works sites at MUP01/02 during construction			√		ETWB TCW No. 5/2005
3.16.17	6.5.17	In addition, the widened stream bottom should be floored with natural materials (natural rock and fines of varying sizes) to approximate as closely as possible to the rocky components of a natural stream bottom. Natural materials of a smaller particle size (sand and silt grains) will soon be deposited naturally.	Minimize ecological impact on MUP01/02 during construction	All works sites at MUP01/02 during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004
3.16.18	6.5.18	<b>Stream banks and riparian vegetation</b> The nature of the woks limits the extent to which minimization of adverse impacts during the construction stage is feasible. However, where possible native riparian trees which would be impacted during construction works should be transplanted to suitable locations within the project area. Impacts to mature native trees close to the stream should be avoided by retaining the trees in-situ wherever possible, especially in those areas of riparian woodland along MUP02 which are to be retained (e.g. along the bypassed meander).	Minimize ecological impact on MUP01/02 during construction in riparian trees	All works sites at TKL02 and TKL07 during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004
		<b>TKL02 &amp; 07</b>							
3.16.20	6.5.20	<b>Existing stream course</b> Appropriate site management procedures during the construction phase should be adopted, as recommended in ETWB TCW No. 5/2005, to minimize potential disturbance impacts and pollution risks (water quality impacts) to the stream. This should include the location of access to the site and storage of materials, and treatment of construction site waste to prevent pollution of the stream. These site management measures are listed in the subsequent section.	Minimize ecological impact on TKL02 and TKL07 during construction	All works sites at TKL02 and TKL07 during construction	Construction Contractor		√		ETWB TCW No. 5/2005
3.16.21	6.5.21	Potential ecological value of the channelised stream beds will be considerably influenced by the extent to which the grasscrete area has the potential to be colonized by a range of facultative or obligate wetland plant species. Accordingly the grasscrete paving should be not more than 33% concrete (i.e. not	Minimize ecological impact on MUP01/02 during construction	All works sites at TKL02 and TKL07 during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
		less than 67% "hole")							
3.16.22	6.5.22	<p><b><i>Stream banks and riparian vegetation</i></b></p> <p>The nature of the woks limits the extent to which minimization of adverse impacts during the construction stage is feasible. However, where possible native riparian trees which would be impacted during construction works should be transplanted to suitable locations within the project area. Impacts to mature native trees close to the stream should be avoided by retaining the trees in-situ wherever possible,</p>	Minimize ecological impact on MUP01/02 during construction in particular riparian trees	All works sites at TKL02 and TKL07 during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004
3.6.23	6.5.23	<p><b><i>Proposed Site Management Measures during Construction</i></b></p> <p>The recommended site management measures are generally good site practices and proper water quality control / waste management measures to be implemented by the contractor for all works near stream courses. These measures include:</p> <ul style="list-style-type: none"> <li>• Construction activities should be restricted to works area that should be clearly demarcated.</li> <li>• Excavation works should be carried out during the dry season where stream flow is low. Where adequate spare is available, works should be carefully phased such that only on side of the channel is constructed and not all of the stream is impacted at any time, to provide refuge for aquatic organisms. Temporary diversion should be provided to ensure continuous water flow to the downstream section.</li> <li>• The proposed works site inside or in the proximity of natural streams should be temporarily isolated by containment structures, such as using bounds or sandbag barriers (wrapped with getextile fabric) or other similar techniques, to facilitate a dry or at least confined excavation within the water courses and to prevent adverse impacts on the stream water quality.</li> <li>• For the stream section where the existing natural stream bed and bank will be left untouched, no disturbance to the stream bed and bank should be allowed from construction works, equipment or workers. If temporary access track on streambed is unavoidable, this should be carefully planned and located to minimize disturbance to the substrate of stream and riparian vegetation by construction equipment. Temporary access track should be kept to the minimum width and length. Temporary stream crossings should be supported on stilts above the stream bed.</li> <li>• Adequate temporary drainage measures including sediment and oil/grease traps should be provided to prevent contaminated site run-off entering the water bodies.</li> </ul>	Minimize ecological impact on the proposed streams during construction	All works sites / during construction	Construction Contractor		√		DSD Technical Circular No. 2/2004 ETWB TCW No. 5/2005

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
		<ul style="list-style-type: none"> <li>Stockpiling of construction materials, spoils and waste should be properly covered and located away from water bodies to prevent silty runoff and other pollutants from entering the water bodies during rain storms.</li> <li>Construction effluent, site run-off and sewage should be properly collected, treated and disposed.</li> <li>Supervisory staff of the contractor should be assigned to station on site to closely supervise and monitor the construction works. All workers should be regularly briefed to avoid disturbing the flora and fauna near the works area.</li> </ul>							
3.16.24	6.5.24	The contractor should provide details of the mitigation measures to be implemented during construction stage as part of their working method statement to the Engineer for approval. This should be reviewed by the Environmental Team Leader.							
3.16.27 Tables 3.78 & 3.79 Figures 3.42 – 3.48	6.5.27 Tables 6.5 & 6.6	<p><i>Proposed Measures to Mitigate for Adverse Ecological Impacts</i></p> <p>Mitigation planting of native trees, shrubs and bamboos should be undertaken in locations where the project area includes sufficient space adjacent to the stream but outside the channel itself. Appropriate locations for tree and bamboo planting are detail on Figures 3.42 – 3.48 (of ES Report). Table 3.78 details appropriate species of trees and bamboos for streamside planting, whilst Table 3.79 details appropriate species for woodland planting</p> <p>Tree and bamboo species for riparian planting at TKL02 and TKL07:</p> <ul style="list-style-type: none"> <li><i>Celtis tetranda (sinensis)</i></li> <li><i>Ficus hispida</i></li> <li><i>Ficus virens (superba)</i></li> <li><i>Sapium sebiferum</i></li> <li><i>Schefflera octophylla</i></li> <li><i>Bambusa eutuldoides</i></li> </ul>	To mitigate for the loss of shaded stream sections due to loss of bank side trees at TKL02 and TKL07	Mitigation planting at TKL02 and TKL07 in locations as shown in Figures 3.42 – 3.48 (of ES Report) / during construction	Construction Contractor		√		
3.16.28	6.5.28	Detailed planting plans showing location, species and numbers of trees (together with any trees to be transplanted) as part of the Landscape Plan should be prepared and adopted prior to commencement of the project.	To mitigate for the loss of shaded stream sections due to loss of bank side trees at TKL02 and TKL07	Mitigation planting at TKL02 and TKL07 in locations as shown in Figures 3.42 – 3.48 (of ES Report) / during construction	Construction Contractor		√		

**Implementation Schedule of Landscape and Visual Impact Measures**

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
5.2.51 – 5.2.52	7.5.10 – 7.5.11	<p><b>Landscape Mitigation -TKL02</b></p> <p>To minimize cutting of native tree species at the proposed channel's beginning, the alignment should be adjusted to reduce tree felling. Where unavoidable, re-vegetation efforts should concentrate on using native species. One of the area's landscape features are the mature bamboo growth clusters. They have been retained in the latest design.</p> <p>The current drainage design includes gabion walls with a tiled angle of 10 degree. This would allow vegetation to establish better when combined with the application of a growth medium, providing more micro-habitat space.</p>	To minimize landscape and visual impact form the Project	TKL02 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006
5.2.58 – 5.2.60	7.5.12 – 7.5.14	<p><b>Landscape Mitigation - TKL07</b></p> <p>To minimize cutting of native tree species at the proposed channel's centre section. Where unavoidable, re-vegetation efforts should concentrate on using native species.</p> <p>To compensate for the loss of riparian habitat due to the river training works and to create breeding and foraging habitats for wetland dependent wildlife, the retained meanders may be developed into marshes.</p> <p>The current drainage design includes gabion walls with a tiled angle of 10 degree. This would allow vegetation to establish better when combined with the application of a growth medium, providing more micro-habitat space.</p>	To minimize landscape and visual impact form the Project	TKL07 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006
5.2.76 – 5.2.79	7.5.16 – 7.5.19	<p><b>Landscape Mitigation - MUP01 &amp; MUP02</b></p> <p>The design modifies to the existing streamcourse only in those areas where there is a particular risk of flooding. Some localized bank stabilization will use materials permitting decolonization by riparian vegetation such as gabion baskets.</p> <p>The proposed treatment would be beneficial, especially in the less disturbed up-stream areas providing roosting and foraging grounds for at least 36 wetland dependent species, the highest number of all studied sites.</p> <p>Natural stream bottom should be retained in situ and works involving disturbance to the stream bottom should be restricted to short sections proceeding upstream to permit survival and subsequent decolonization of worked areas by stream fauna.</p> <p>To minimize cutting of native tree species at southern section of MUP01 and MUP02, the alignment should be adjusted as much as possible so to reduce the need for tree felling (this section represents approximately 200m to 280m downstream from the proposed channel start). If removal of trees remains unavoidable, re-vegetation efforts after work completion should focus on the use of native species as found in the affected areas.</p>	To minimize landscape and visual impact form the Project	MUP01 and MUP02 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
5.3.41 – 5.3.42	7.5.26 – 7.5.27	<b>Visual Mitigation – TKL02</b> To minimize cutting of native tree species at the proposed channel's beginning, the alignment should be adjusted to reduce tree felling and maintain this visual amenity.  The current drainage design includes gabion walls with a tilted angle of 10 degree. This would allow vegetation to establish better when combined with the application of a growth medium, providing more micro-habitat space, reducing visual impacts furthermore.	To minimize landscape and visual impact form the Project	TKL02 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006
5.3.46 – 5.3.47	7.5.28 – 7.5.29	<b>Visual Mitigation – TKL07</b> As much as possible, riverside tree cover should be retained. The current drainage design includes vertical gabion walls. The current drainage design includes gabion walls with a tilted angle of 10 degree. This would be allow vegetation to establish better when combined with the application of a growth medium, providing more micro-habitat space.	To minimize landscape and visual impact form the Project	TKL07 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006
5.3.60	7.5.31	<b>Visual Mitigation – MUP01 and MUP02</b> To minimize cutting of the Fung Shui woodland at the southern section of MUP01, the alignment should be adjusted. If removal of trees remains unavoidable, re-vegetation efforts after work completion should focus on the use of native species as found in the affected areas.	To minimize landscape and visual impact form the Project	MUP01 and MUP02 / during detailed design and construction	Detailed Design Engineer & Construction Contractor	√	√		ETWB TCW No. 3/2006

D = Design, C = Construction, O = Operation

**Implementation Schedule of Noise Mitigation Measures**

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
2.6.2 – 2.6.5	Table 3.4	<p><b>Level 1 Mitigation – Use of Quiet Plant</b></p> <p>The use of quiet plant is considered to be the most effective ways of alleviating Construction noise impact. The Contractor should use quiet plant with sound power level lower than that stipulated in the TM-GW as the Level 1 mitigation for construction noise. The quiet plant used in the construction noise calculation is shown in Appendix B. The Contractor can propose other suitable alternative equipment with similar or lower sound power level.</p> <p>The use of mini or lower power rating equipment (e.g. mini excavator) should also be considered where practical. This technique would be feasible and practical at some locations given the limited space available for using large size construction equipment and the small scale works involved.</p> <p>The Contractor should take note of ETWB TCW No. 19/2005 – Environmental Management on Construction Sites which sets out the policy and procedure requiring contractors to among others, adopt Quality Power Mechanical Equipment (QPME)</p>	To Protect NSRs from noise during construction	All works site / during construction	Construction Contractor		√		ProPECC PN 2/93
2.6.7 – 2.6.8 (Figures 2.9 – 2.15)	Table 3.4	<p><b>Level 2 Mitigation – Use of Temporary Noise Barriers</b></p> <p>Since most of the NSRs within the Project area, are typically low-rise village houses of not more than 3 storeys tall, it would be effective to have noise screening structures or temporary noise barriers purposely-built along the site boundary to provide additional protection to NSRs close to the construction site boundary. This could be in the form of purposely-built site hoarding constructed from appropriate materials with a minimum superficial density of 7kg/m<sup>3</sup>. Noise barrier should be provide for noisy construction activities that would be undertaken close (about 25m or less) to NSRs. The noise barriers should have a vertical height of at least 2.5m or (depending on the height of the NSRs to be protected) a height ensuring that the operating equipment can be shielded from the view of the NSRs. It should have no gaps or opening at joints. The Contractor should regularly inspect and maintain the noise barrier to ensure its effectiveness.</p> <p>For the construction works which have the potential to exceed the noise standards on nearby NSR and shoes line of sight cannot be effectively blocked by the temporary noise barrier, movable (mobile) barriers should be provided. Movable barriers of at least 2.5m height with a small cantilevered upper portion and skid footing can be located within a few meters of stationary plant (e.g. generator, compressor) and within about 5m or more of a mobile equipment (e.g. excavator, mobile crane), such that the line of sight to the NSR is blocked by the barriers.</p>	To Protect NSRs from noise during construction	Locations as per Figures 2.9 – 2.15 of ES or all works site located at 25m or less from NSRs / during construction	Construction Contractor		√		ProPECC PN 2/93



ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
2.9.1	3.8.1	The location of the temporary noise barriers should be further reviewed during the detailed design stage by the detailed design engineer or by the Environmental Team (ET) Leader during construction stage based on the latest construction programme and contemporary site conditions, including any changes with respect to NSRs.	To ensure the proposed temporary noise barriers are effectively implemented	Locations as per Figures 2.9 – 2.15 of ES or all works site located at 25m or less from NSRs / during construction	Detailed Design Engineer / Construction Contractor	√	√		ProPECC PN 2/93
2.6.2 – 2.6.5	Table 3.4	<p><b>Good Site Practices</b></p> <p>In general, potential construction noise impact can be minimized or avoided by imposing a combination of the following good site practices as mitigation measures:</p> <p>(a) Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction period.</p> <p>(b) Construction plant should be sited away from NSRs.</p> <p>(c) Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</p> <p>(d) Equipment known to emit sound strongly in one direction should be orientated such that the noise is directed away from nearby NSRs.</p> <p>(e) Material stockpiles and other structures (such as site offices) should be effectively utilized to shield on-site construction activities.</p> <p>(f) Stationary equipment should be located within the channel when weather conditions permit (e.g. dry season).</p> <p>(g) The Contractor shall devise, arrange methods of working and carrying out the works in such manner as to minimize noise impacts on the surrounding environment and shall provide experienced personnel with suitable training to ensure that these measures are implemented properly.</p> <p>(h) In the event that new schools are built near the works area, the contractor should minimize construction noise exposure to the school (especially during examination periods). The Contractor should liaise with the school and the Examination Authority to ascertain the exact dates and times of all examination periods during the course of the contract and to avoid noisy activities during these periods.</p>	To Protect NSRs from noise during construction	All works site / during construction	Construction Contractor		√		ProPECC PN 2/93
2.6.14	Table 3.4	<p><b>Public Relation Strategy</b></p> <p>To maintain an effective communication channel with the public, a 24-hour hotline system should be established by the project office for the Contractor to receive any enquiry and complaint lodged by the public in the respect of the Project.</p>	To promote good public relation and maintain effective communication	All works site / during construction	Project Office (Engineer) & Construction		√		-----

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
		Upon receipt of enquiry / complaint, the Contractor (or its ET) should investigate the causes of the incident and take the appropriate action to rectify the situation. Periodic newsletters, information leaflets, notices or other means of communication should be provided to the affected villages, communities, and residents advising them the current progress, the schedule of works in future, the potential environmental impacts arising from the works and the corresponding mitigation measures.	during construction		Contractor				
2.9.1	3.8.1	The Contractor should design, construct, operate and maintain the mitigation measures throughout the construction stage and as required by the Engineer. Before commencement of the works, the Contractor should submit to the Engineer for approval (as part of their method statement) details of the mitigation measures to be employed under the works. The Contractor's proposed mitigation measures should also be certified by the Environmental Team (ET) Leader and verified by the Independent Environmental Checker (IEC) to ensure the intended noise reduction effectiveness can be achieved.	To ensure proper implementation of noise mitigation measures by the Contractor	All works site / during construction	Construction Contractor		√		ProPECC PN 2/93

D = Design, C = Construction, O = Operation

**Implementation Schedule of Sediment Quality Investigation**

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Time	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines
						D	C	O	
6.7.1	5.1.38	Excavated sediment from existing stream should be reused on-site as backfilling material.	To minimize offsite disposal of sediment	For channels where sediment removal is required / during construction	Construction Contractor		√		
6.7.2	5.1.39	To minimize the potential impacts on water quality, sediment must be excavated with care	To minimize offsite disposal of sediment	For channels where sediment removal is required / during construction	Construction Contractor		√		
6.7.3	5.1.40	The use of containment structures (e.g, bunds) and diversion channels is recommended wherever practicable to facilitate a dry or at least confined excavation within water courses. By limiting or confining the works areas, the extent of disturbance to the surrounding water bodies will be significantly reduced, and thus the resulting impacts on water quality from sediment re-suspension will also be reduced. Furthermore, excavation works should be carried out during periods of low flow (during dry season) as far as practicable to minimize impacts on downstream water quality and sensitive receivers	To minimize offsite disposal of sediment	For channels where sediment removal is required / during construction	Construction Contractor		√		
6.7.4	5.1.41	The impact arising from water being pumped from streams into adjacent streams, channels or temporary ponds should be mitigated to avoid pollutants. The water should be pumped to temporary sedimentation or other silt removal facilities to allow settlement of suspended solids before any water is discharged into local water courses. If large volumes of water need to be removed from the works area, temporary dams should be constructed using sandbags to prevent mixing of polluted and turbid water with cleaner water blow the dam.	To minimize offsite disposal of sediment	For channels where sediment removal is required / during construction	Construction Contractor		√		
6.7.5	5.1.42	After dewatering of the streams, the sediments should be allowed to dry before excavation. This will facilitate excavation of the sediment and also minimize the risk of drained water following back into water courses as the sediment is handled. Where time or weather constraints require handling of wet sediment, care should be taken in the removal of the sediment and the storage area should be banded to prevent silty runoff entering water courses.	To minimize offsite disposal of sediment	For channels where sediment removal is required / during construction	Construction Contractor		√		

D = Design, C = Construction, O = Operation

Implementation Schedule of Waste

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
<b>Waste - Construction Phase</b>									
7.5.2	5.1.2	<p><i>General</i></p> <p>Upon appointment, the main contractor of each construction contract should prepare and implement an Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/2005 – Environmental Management on Construction Sites which should include among other environmental nuisances abatement measures the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The contractor should implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated (preferably monthly) by the contractor. The EMP should take into account the recommended mitigation measures in the ES Report.</p>	Waste reduction, reuse, recycle and proper disposal of waste	All works site / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.3	5.1.3	The contractor also should refer to the Construction and Demolition Material Management Plan (C&DMMP) conducted under the Project when preparing the EMP.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005
7.5.4	5.1.4	Training of construction staff should be undertaken by the contractor about the concept of site cleanliness and appropriate waste management procedures. The contractor should develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials. Requirements for staff training should be included in the EMP.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005
7.5.5	5.1.5	Good planning and site management practice should be employed to eliminate over ordering or mixing of construction materials to reduce wastage. Proper storage and site practices will minimise the damage or contamination of construction materials.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005
7.5.6	5.1.6	Where waste generation is unavoidable, the potential for recycling or reuse should be rigorously explored. If wastes cannot be recycled, disposal routes as described below should be followed. A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be implemented. In order to monitor the disposal of C&D materials and solid wastes at public filling	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 31/2004

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.7	5.1.7	facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make reference to ETWB TCW No. 31/2004 for details.  Regular cleaning and maintenance of the waste storage area should be provided.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance  ETWB TCW No. 19/2005
7.5.8	5.1.8	<i>On-site Sorting, Reuse and Recycling</i>  All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> <li>• excavated materials suitable for reuse on-site;</li> <li>• excavated materials suitable for public filling facilities;</li> <li>• remaining C&amp;D waste for landfill;</li> <li>• chemical waste; and</li> <li>• general refuse for landfill.</li> </ul>	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance  ETWB TCW No. 19/2005
7.5.9	5.1.9	Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert wastes.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance  ETWB TCW No. 19/2005
7.5.10	5.1.10	Sorting is important to recover materials for reuse and recycling. Specific area should be allocated for on-site sorting of C&D materials and to	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.11	5.1.11	<p>provide a temporary storage area for those sorted materials such as metals, concrete, timber, plastics, glass, excavated spoils, bricks / tiles and waste papers. If area is limited, all C&amp;D materials should at least be sorted on-site into inert and non-inert component. Non-inert materials (C&amp;D waste) such as bamboo, timber, vegetation, packaging waste and other organic materials should be reused and recycled wherever possible and disposed of to designated landfill only as a last resort. Inert materials (public fill) such as concrete, stone, clay, brick, soil, asphalt and the like should be separated and reuse in this or other projects (subject to approval by the relevant parties in accordance with the ETWB TCW No. 31/2004) before disposed of at a public filling facility operated by Civil Engineering and Development Department (CEDD). Steel and other metals should be recovered from demolition waste stream and recycled.</p> <p>The reuse of inert materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials. With the use of a crusher coarse material can be crushed to make it suitable for use as fill material where fill is required in the works. This minimises the use of imported material and maximises use of the C&amp;D material produced.</p>	<p>waste</p> <p>Waste reduction, reuse, recycle and proper disposal of waste</p>	All work sites / during construction	Construction Contractor		√		<p>ETWB TCW No. 19/2005, 31/2004</p> <p>Waste Disposal Ordinance</p> <p>ETWB TCW No. 19/2005</p>

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.12	5.1.12	Prior to export of material from the site, the potential for it to be reused should be assessed. With the exception of excavated clay most C&D material can easily be reused. Waste separation methods should be followed to ensure that C&D waste is separated at source. Suitable soft materials should be used for landscaping and grading of embankments. Fine material should be separated out and used as topsoil.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005
7.5.13	5.1.13	The feasibility of using recycled aggregates in lieu of virgin materials should be rigorously considered during the detailed design and construction stages as stipulated in WBTC No. 12/2002 and ETWB TCW No. 24/2004. In general, recycled aggregates are suitable for use as fill materials in earthworks, road sub-base formation, and drainage works. Recycled aggregates can also be used in concrete (up to Grade 35) for mass concrete walls and other minor structures such as planter boxes, toe wall planters and pavement, etc.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005, 24/2004 WBTC No. 12/2002
7.5.14	5.1.14	Recycled inert C&D material should be used in the works as sub-bases for access roads and footpaths of the proposed channels. Recycled aggregates should be considered for use in concrete as outlined in the above mentioned technical circulars. Some recycled rock material can be reused in the gabions, as rock fill or as	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005



ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		stream bed material. This is dependent on size of rock fragments but can be achieved by appropriate use of a crusher.							
7.5.15	5.1.15	<p><i>Site Clearance / Demolition Materials</i></p> <p><i>Excavated Materials</i></p> <p>All C&amp;D materials should be sorted on-site into inert and non-inert components by the contractor. Non inert materials (C&amp;D waste) such as wood, glass and plastic should be reuse and recycle before disposal to a designated landfill as a last resort (currently assume to be the nearby NENT Landfill). Inert materials (public fill) such as soil, rubble, sand, rock, brick and concrete should be separated and where appropriate broken down to size suitable for subsequent filling. Inert materials should be reused on-site or in other projects approved by relevant parties in accordance with the ETWB TCW No. 31/2004 before disposed of at public filling facilities. Steel and other metals should be recovered from C&amp;D materials and recycled.</p>	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005, 31/2004
7.5.16	5.1.16	Excavated sediment from existing stream should be reuse on-site as backfilling material.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005
7.5.17	5.1.17	Good quality reusable topsoil should be stockpiled for later landscaping works. Stockpiles	Waste reduction, reuse, recycle and	All work sites / during	Construction Contractor		√		Waste Disposal Ordinance

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.18	5.1.18	<p>should be less than 2 m in height, formed to a safe angle of repose and hydroseeded or covered with tarpaulin to prevent erosion during the rainy season and to minimize dust generation.</p> <p>Control measures for temporary stockpiles on-site should be taken in order to minimize the noise, generation of dust, pollution of water and visual impact. These measures include:</p> <ul style="list-style-type: none"> <li>• surface of stockpiled soil should be regularly wetted with water especially during dry season;</li> <li>• disturbance of stockpiled soil should be minimized;</li> <li>• stockpiled soil should be properly covered with tarpaulins especially heavy rain storms are predicted;</li> <li>• stockpiling areas should be enclosed where space is available;</li> <li>• stockpiling location should be away from the water bodies; and</li> <li>• an independent surface water drainage system equipped with silt traps should be installed at the stockpiling area.</li> </ul>	<p>proper disposal of waste</p> <p>Waste reduction, reuse, recycle and proper disposal of waste</p>	<p>construction</p> <p>All work sites / during construction</p>	Construction Contractor		√		<p>ETWB TCW No. 19/2005</p> <p>Waste Disposal Ordinance</p> <p>ETWB TCW No. 19/2005</p>
7.5.19	5.1.19	The Public Fill Committee (PFC) of CBDD should be consulted on designated outlets (e.g.	Waste reduction, reuse, recycle and	All work sites / during	Construction Contractor		√		Waste Disposal Ordinance

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.20	5.1.20	public filling area) for public fill, whilst EPD should be consulted on landfills for C&D waste. Disposal of C&D waste to landfill must not have more than 30% (by weight) inert material. The C&D waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight.  In order to avoid dust or odour impacts, any vehicle leaving a works area carrying C&D waste or public fill should have their load covered.	proper disposal of waste  Waste reuse, proper waste	construction  All work sites / during construction	Construction Contractor		√		ETWB TCW No. 19/2005  Waste Disposal Ordinance
7.5.21	5.1.21	C&D materials should be disposed of at designated public filling facilities or landfills. Disposal of these materials for use at other construction projects is subject to the approval of the Engineer and/or relevant authorities, such as LandsD, PlanD, etc. Furthermore, unauthorized disposal of C&D materials in particular on private agricultural land is prohibited and may be subject to relevant enforcement and regulating actions. The contractor shall refer and strictly follow the trip-ticket system for the disposal of C&D material as stipulated in the ETWB TCW No. 31/2004.	Waste reuse, proper waste	reduction, recycle and disposal of  All work sites / during construction	Construction Contractor		√		ETWB TCW No. 19/2005  Waste Disposal Ordinance  ETWB TCW No. 19/2005, 31/2004
7.5.22	5.1.22	<i>Chemical Waste</i>  Where the construction processes produce chemical waste, the contractor must register with	Waste reuse,	reduction, recycle and  All work sites / during	Construction Contractor		√		Waste Disposal (Chemical Waste) (General)

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD. An updated list of licensed chemical waste collector can be obtained from EPD.	proper disposal of waste	construction.					Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste
7.5.23	5.1.23	Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and should be collected by a licensed chemical waste collector.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste
7.5.24	5.1.24	Suitable containers should be used for specific types of chemical wastes, containers should be properly labelled (English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, stored safely and closely secure. Stored volume should not be kept more than 450 liters unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.25	5.1.25	<p>m height or height of tallest container with adequate ventilation and space.</p> <p>Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any grease traps should be collected and disposed of by a licensed contractor.</p>		Work sites / During construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste
7.5.26	5.1.26	<p>Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. If possible, such waste should be sent to oil recycling companies, and the empty oil drums collected by appropriate companies for reuse or refill.</p>	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.27	5.1.27	The registered chemical waste producer (i.e. the contractor) has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the Chemical Waste Treatment Centre in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes.	Waste reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste
7.5.28	5.1.28	No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.	Waste reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging Labelling and Storage of Chemical Waste
7.5.29	5.1.29	<i>Concrete Waste</i> Dry concrete waste (considered as public fill) should be sorted out from the other wastes and recycled for reuse or sorted out for disposal at designated public filling facilities.	Waste reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No. 19/2005, 33/2002
7.5.30	5.1.30	<i>Wooden Materials</i> All wooden materials used on-site should be kept separate from other wastes to avoid damage and to facilitate reuse. Timber which cannot be reused	Waste reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance ETWB TCW No.

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.31	5.1.31	should be sorted out from other waste and stored separately from all inert waste before being disposed of to landfill.  Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	waste  Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		19/2005, 33/2002  Waste Disposal Ordinance  ETWB TCW No. 19/2005, 33/2002  WBTC No. 19/2001
7.5.32	5.1.32	Only waste material need be taken to a landfill. It should be separated from recyclable wood and steel materials. As for all waste types these materials should be reused on-site or other approved sites before disposal is considered as an option. Disposal to landfill should only be considered as a final option. Contractors are responsible for storage of re-usable materials on-site.	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance  ETWB TCW No. 19/2005, 33/2002
7.5.33	5.1.33	<i>Municipal Waste</i>  General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at designated landfill. A temporary	Waste reduction, reuse, recycle and proper disposal of waste	All work sites / during construction	Construction Contractor		√		Waste Disposal Ordinance  ETWB TCW No.

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.5.34	5.1.34	<p>refuse collection point should be set up by the contractor to facilitate the collection of refuse by licensed contractors. The removal of waste from the site should be arranged on a daily or at least on every second day by the contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.</p> <p>The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the contractor. The contractor should also be responsible for arranging recycling companies to collect these materials.</p>	<p>waste</p> <p>Waste reduction, reuse, recycle and proper disposal of waste</p>	All work sites / during construction	Construction Contractor		√		<p>19/2005</p> <p>Waste Disposal Ordinance</p> <p>ETWB TCW No. 19/2005</p>
7.5.35	5.1.35	<p>The burning of refuse on-site is prohibited under the Air Pollution Control Ordinance (APCO) (Cap.311).</p>	<p>Waste reduction, reuse, recycle and proper disposal of waste, minimize air quality impacts from burning of refuse on-site</p>	All work sites / during construction	Construction Contractor		√		<p>Waste Disposal Ordinance</p> <p>ETWB TCW No. 19/2005</p> <p>Air Pollution Control Ordinance</p>
7.9.1	5.1.43	<p><i>Land Contamination</i></p> <p>A site at TKL10 to be resumed may have the potential of contaminated land (Figure 7.1). As</p>	<p>To investigate the potential of</p>	TKL10 (as per Figure 7.1) / prior	Construction Contractor's		√		ProPECC PN 3/94



ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
Figure 7.1	Figure 5.1	detailed site investigation study cannot be undertaken at the design stage, it is recommended that the contractor shall engaged an Environmental Team (ET) to conduct detailed site investigation and if necessary prepare a Contamination Assessment Plan for approval by EPD prior to commencement of construction works.	contaminated land at TKL10	to commencement of construction	Environmental Team				
7.9.2	5.1.44	The ET shall conduct a full site inspection to review the validity of the preliminary CAP and define the exact number of sampling points, sampling locations and sampling parameters for site investigation, taking into account the contractor's site clearance / excavation works in the areas. If necessary, the ET shall then prepare an updated CAP in accordance with EPD's Guidance Notes for Investigation and Remediation of Contaminated Sites for Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops and ProPECC PN 3/94 – Contaminated Land Assessment and Remediation for EPD's endorsement prior to commencement of the site sampling	To investigate the potential of contaminated land at TKL10	TKL10 (as per Figure 7.1) / prior to commencement of construction	Construction Contractor's Environmental Team		√		ProPECC PN 3/94
7.9.3	5.1.45	The ET shall conduct a site contamination assessment and remediation (if necessary) for the identified location in accordance with the endorsed CAP. The ET shall complete the corresponding laboratory tests, prepare and complete the Contamination Assessment Report	To investigate the potential of contaminated land at TKL10	TKL10 (as per Figure 7.1) / prior to commencement of construction	Construction Contractor's Environmental Team		√		ProPECC PN 3/94

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to address	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
7.6.24	5.1.46	<p>(CAR) and Remediation Action Plan (RAP), where necessary and submit to EPD for approval prior to the commencement of any construction works in order to avoid or minimise any associated risks or hazards</p> <p>Should contaminated materials be identified, the contractor shall carry out the following environmental health and safety precautionary measures, or any other measures as instructed by the Engineer:</p> <p>(1) Site workers should wear appropriate personal protective equipment (gloves, dust mask) when exposed to contaminated materials.</p> <p>(2) The stockpile of contaminated materials, if permitted by the Engineers, should be segregated from the uncontaminated ones. In addition, the contaminated materials (whether stockpiled or being transported) should be properly covered during wet seasons to avoid leaching out of contaminants.</p> <p>(3) Eating, drinking and smoking should not be allowed in contaminated areas to avoid inadvertent ingestion of contaminants. Adequate washing facilities should be provided.</p>	To ensure health and safety to the workers in the event contaminated soil is found at TKL10	TKL10 (as per Figure 7.1) / during construction	Construction Contractor's Environmental Team		√		ProPECC PN 3/94

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		(4) Bulk earth moving equipment should be utilised as much as possible to minimize workers' handling and contact of the contaminated materials.  (5) The stockpiling area should be separated from the nearby water drainage network.							

D = Design, C = Construction, O = Operation

Implementation Schedule of Water Quality Impact Assessment

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Major Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
<b>Water Quality - Construction Phase</b>									
**	4.9.2	The Contractor shall observe and comply with the Water Pollution Control Ordinance and its subsidiary regulations. The Contractor shall carry out the Works in such a manner as to minimize adverse impacts on the water quality during execution of the works. In particular he shall arrange his method of working to minimize the effect on the water quality within and outside the Site and on the transport routes.	To minimize adverse water quality impact during construction	All works site / during construction	Construction Contractor		√		Water Pollution Control Ordinance
**	4.9.3	Proper site management measures shall be implemented to control site runoff and drainage, and thereby prevent high sediment loadings from reaching downstream sections of the river and adjacent agricultural land. The Contractor shall follow the practices, and be responsible for the design, construction and maintenance of all the mitigation measures as specified in ProPECC PN 1/94 "Construction Site Drainage". The design of the mitigation measures shall be submitted by the Contractor to the Engineer for approval. These mitigation measures shall include the following practices to minimize site surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge:  (i) Before commencing any site formation work, all sewer and drainage connections	To minimize adverse water quality impact during construction	All works site / during construction	Construction Contractor		√		Water Pollution Control Ordinance ProPECC PN 1/94

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		<p>shall be sealed to prevent debris, soil, sand etc. from entering public sewers / drains.</p> <p>(ii) Provision of perimeter channels to intercept storm-runoff from outside the site. These shall be constructed in advance of site formation works and earthworks.</p> <p>(iii) Temporary ditches such as channels, earth bunds or sand bag barriers shall be included to facilitate runoff discharge into the stormwater drain, via a sand/silt basin/trap.</p> <p>(iv) Works programmes shall be designed to minimize works areas at any one time, thus minimizing exposed soil areas and reducing the potential for increased siltation and runoff.</p> <p>(v) Sand/silt removal facilities such as sand traps, silt traps and sediment basins shall be provided to remove the sand/silt particles from run-off. These facilities shall be properly and regularly cleaned and maintained. These facilities shall be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.</p> <p>(vi) Carefully programming of the works to</p>							

ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
**	4.9.4	<p>minimize excavation works during the rainy season.</p> <p>(vii) Temporary access roads shall be protected by crushed gravel and exposed slope surfaces shall be protected when rainstorms are likely.</p> <p>(viii) Open stockpiles of construction materials on-site shall be covered with tarpaulin or similar fabric during rainstorms to prevent erosion.</p> <p>The use of containment structures and diversion channels is recommended wherever practicable to facilitate a dry or at least confined excavation within watercourses. By limiting or confining the works areas the extent of disturbance to the surrounding water bodies will be significantly reduced, and thus resulting impacts on water quality from sediment resuspension will be reduced. Furthermore, excavation works shall be carried out during periods of low flow (dry season) as far as possible to minimize impacts on downstream water quality and sensitive receivers.</p>	To minimize adverse water quality impact during construction	All works site / during construction	Construction Contractor		√		Water Pollution Control Ordinance ProPECC PN 1/94
**	4.9.5	Portable toilets shall be provided by the Contractors, where necessary, to handle sewage from the workforce. To prevent spillage of fuels and solvents to water courses, all fuel tanks and storage areas shall be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	To minimize adverse water quality impact during construction	All works site / during construction	Construction Contractor		√		Water Pollution Control Ordinance ProPECC PN 1/94
**	4.9.6	The Contractor shall not discharge directly or	To minimize adverse	All works site /	Construction		√		Water Pollution

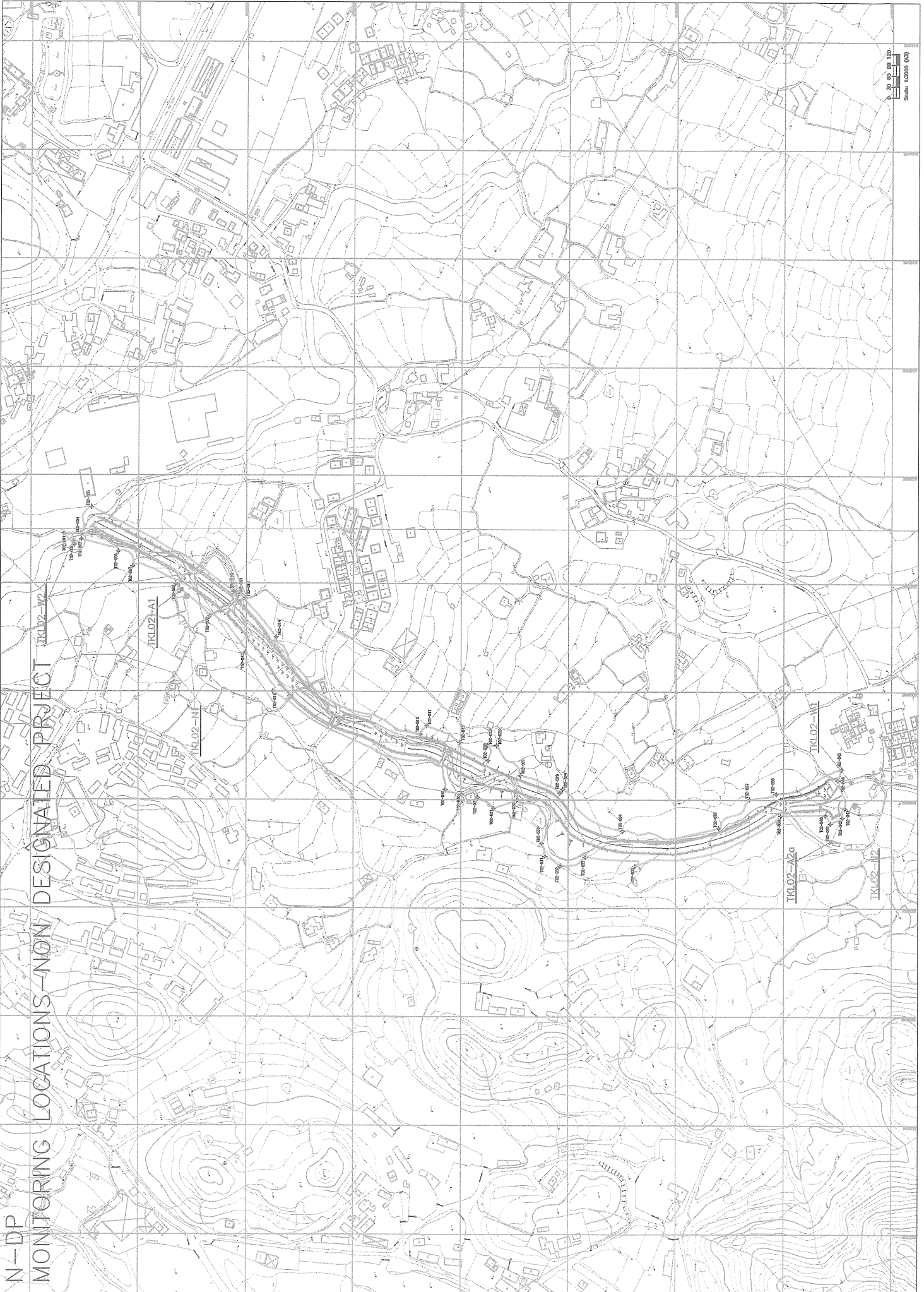
ES Ref	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures and Main Concerns to addressed	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation & Guidelines
						D	C	O	
		indirectly or cause or permit or suffer to be discharged into any public sewer, stormwater drain, channel, stream-course or sea any trade effluent or foul or contaminated water or cooling or hot water without the prior written consent of the Engineer in consultation with the Director of Environmental Protection and Director of Water Supplies, who may as a condition of granting his consent require the Contractor to provide, operate and maintain at the Contractor's own expense to the satisfaction of the Engineer suitable works for the treatment and disposal of such trade effluent or foul or contaminated or cooling or hot water. The design of such treatment works shall be submitted to the Engineer for approval not less than one month before the commencement of the relevant works.	water quality impact during construction	during construction	Contractor				Control Ordinance ProPECC PN 1/94
**	4.9.7	If any office, site canteen or toilet facilities is erected, foul water effluent shall be directly to a foul sewer or to a sewage treatment and disposal facility either directly or indirectly by means of pumping or other means approved by the Engineer.	To minimize adverse water quality impact during construction.	All works site / during construction	Construction Contractor		√		Water Pollution Control Ordinance ProPECC PN 1/94

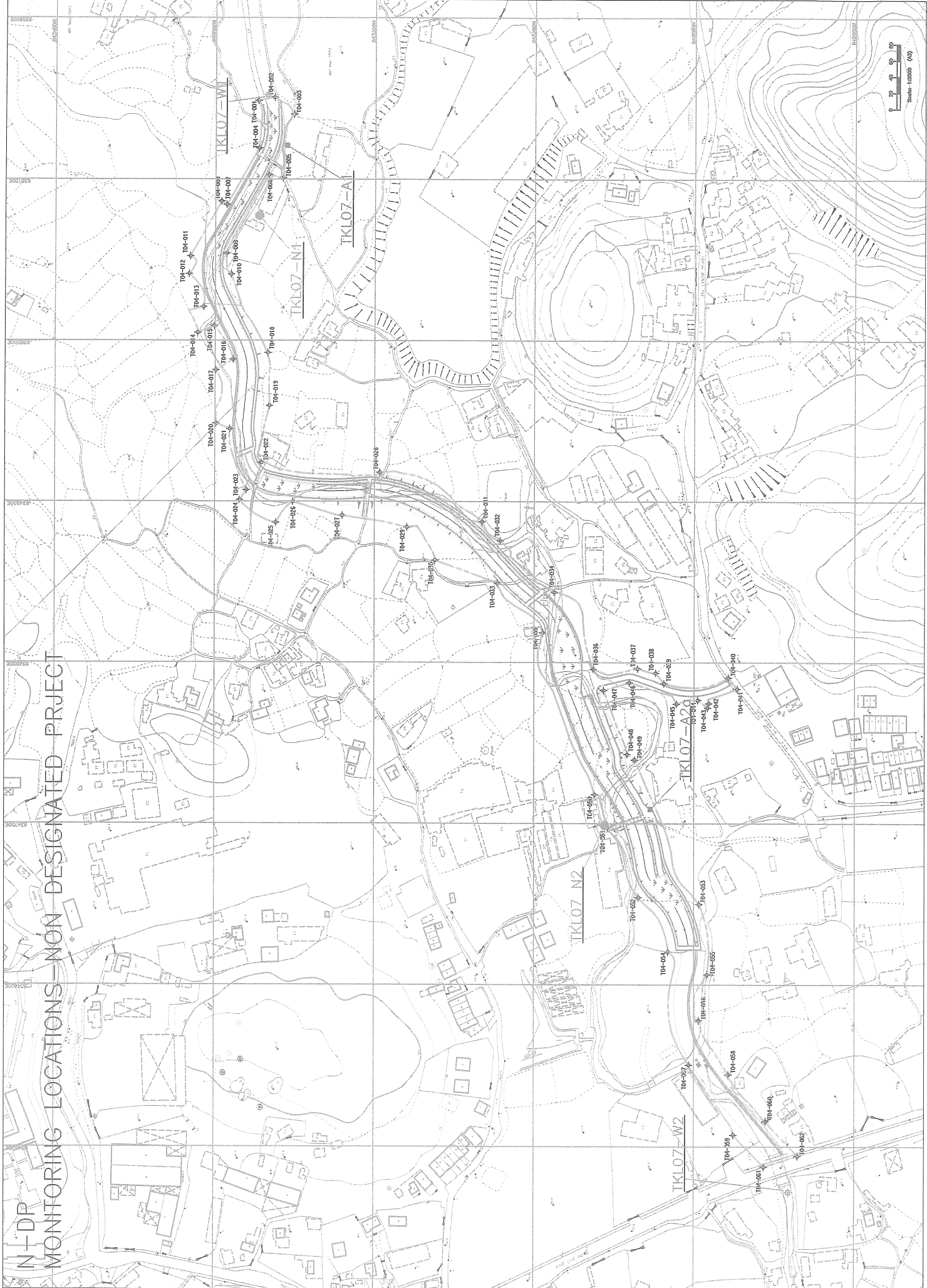
D = Design, C = Construction, O = Operation

## **Appendix D**

### **Environmental Monitoring Locations**







Scale: 1:5000 (03)

N+DP  
MONITORING LOCATIONS - NON DESIGNATED PROJECT



N-**DP**  
MONITORING LOCATIONS—NON DESIGNATED PROJECT

MUP01/02-W2

MUP01/02-A2

MUP01/02-W4

MUP01/02-W1

MUP01/02-N1

MUP01/02-A1

MUP01/02-W3

84220001

84220002

84220003

84220004

84220005

Scale: 1:20,000 (1"=200')

## **Appendix E**

### **Certificates of Calibration**

**Equipment Calibration List**

Items	Aspect	Description of Equipment	Date of Calibration	Date of Next Calibration
1*	Air	TSP Sampler Calibration Spreadsheet for MUP01012-A1	10 Mar 10	10 Jun 10
			1 Jun 10	1 Sep 10
2*		TSP Sampler Calibration Spreadsheet for MUP01012 –A2	10 Mar 10	10 Jun 10
			1 Jun 10	1 Sep 10
3*		TSP Sampler Calibration Spreadsheet for TKL02-A1	1 Mar 10	1 Jun 10
			1 Jun 10	1 Sep 10
4*		TSP Sampler Calibration Spreadsheet for TKL02-A2	1 Mar 10	1 Jun 10
			1 Jun 10	1 Sep 10
5*		TSP Sampler Calibration Spreadsheet for TKL07-A1	1 Mar 10	1 Jun 10
			1 Jun 10	1 Sep 10
6*		TSP Sampler Calibration Spreadsheet for TKL07-A2a	1 Mar 10	1 Jun 10
			1 Jun 10	1 Sep 10
7*		TSI DustTrak Model 8520 (Serial No. 21060)	18 Jun 09	18 Jun 10
			12 Dec 2009	12 Dec 2010
8*		TSI DustTrak Model 8520 (Serial No. 23080)	18 Jun 09	18 Jun 10
			12 Dec 2009	12 Dec 2010
9*	TSI DustTrak Model 8520 (Serial No. 23079)	18 Jun 09	18 Jun 10	
		5 May 2010	5 May 2011	
10	Noise	Bruel & Kjaer Integrating Sound Level Meter (Serial No. 2285762)	26 Apr 10	26 Apr 11
11		Bruel & Kjaer Integrating Sound Level Meter (Serial No. 2285721)	16 Apr 10	16 Apr 11
12		Bruel & Kjaer Acoustical Calibrator (Serial No. 2326408)	26 Apr 10	26 Apr 11
13		Cesva Acoustical Calibrator CB-5 (Serial No. 030023)	16 Apr 10	16 Apr 11
14	Water	YSI DO Meter 55 (Serial No. 97F0837AM)	19 Apr 10	19 Jul 10
15		Extect pH Meter EC500	19 Apr 10	19 Jul 10
16		HACH Turbidimeter 2100p (Serial No. 950900008735)	19 Apr 10	19 Jul 10

Note: \*Calibration certificates will only be provided when monitoring equipment is re-calibrated or new.

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Man Uk Pin Near DD46 Lot 820      Date of Calibration: 1-Jun-10  
 Location ID : MUP-A1      Next Calibration Date: 1-Sep-10  
Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	24.2	Temperature (K)	297

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	515N	Qstd Intercept ->	-0.02851

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.2	5.2	10.4	1.612	47	47.00	Slope = 36.1506 Intercept = -11.4305 Corr. coeff. = 0.9986
13	4.1	4.1	8.2	1.433	40	40.00	
10	2.9	2.9	5.8	1.208	33	33.00	
7	2.0	2	4.0	1.005	24	24.00	
5	1.1	1.1	2.2	0.749	16	16.00	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg F)

Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m((I) [\text{Sqrt}(298/Tav)(Pav/760)] - b)$$

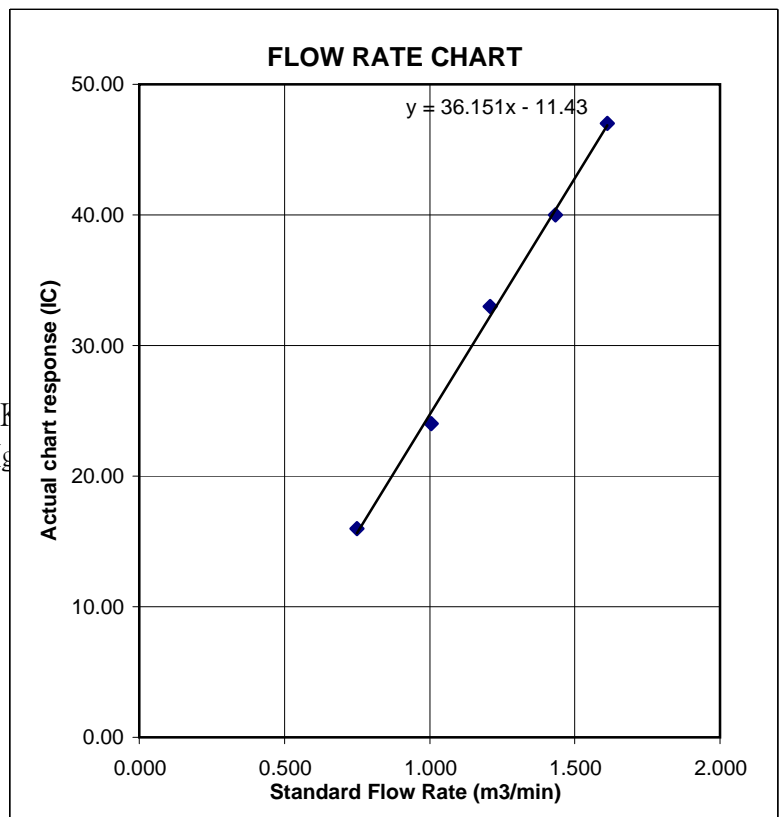
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village house at No.26C Man Uk Pin      Date of Calibration: 1-Jun-10  
 Location ID : MUP01/02-A2      Next Calibration Date: 1-Sep-10  
Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	24.2	Temperature (K)	297

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	515N	Qstd Intercept ->	-0.02851

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.3	5.3	10.6	1.627	48	48.00	Slope = 32.4495 Intercept = -4.8811 Corr. coeff. = 0.9990
13	3.8	3.8	7.6	1.380	40	40.00	
10	2.8	2.8	5.6	1.187	33	33.00	
7	1.7	1.7	3.4	0.928	26	26.00	
5	1.0	1.0	2.0	0.715	18	18.00	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

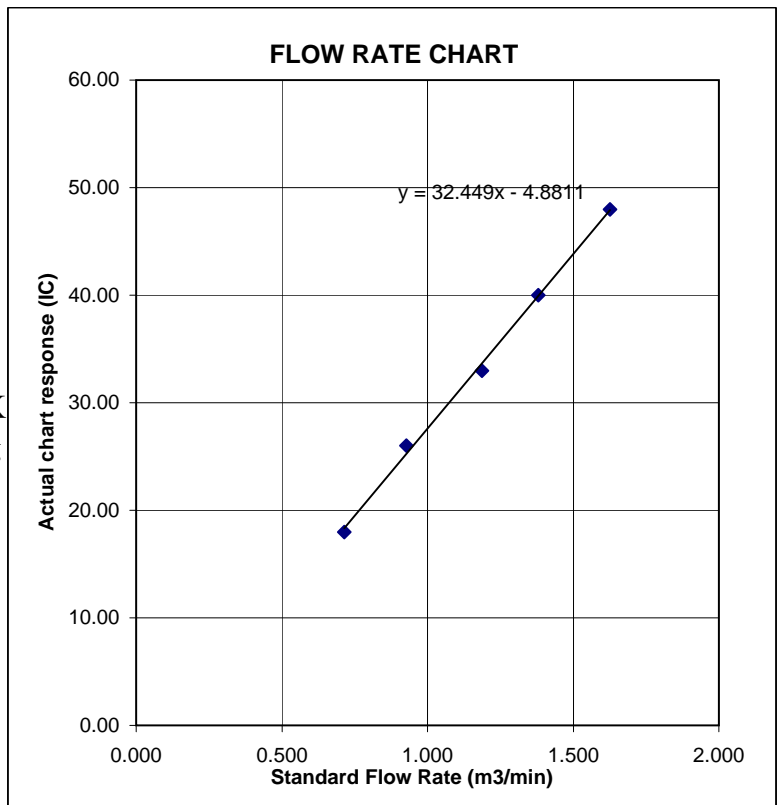
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Village house at Tai Po Tin	Date of Calibration: 1-Jun-10
Location ID :	TKL02-A1	Next Calibration Date: 1-Sep-10
		Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	24.2	Temperature (K)	297

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	TE-5025A	Qstd Intercept ->	-0.02851

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.4	5.4	10.8	1.643	52	52.00	Slope = 37.3885 Intercept = -9.9450 Corr. coeff. = 0.9987
13	4.0	4.0	8.0	1.416	43	43.00	
10	3.1	3.1	6.2	1.248	36	36.00	
7	2.1	2.1	4.2	1.030	28	28.00	
5	1.2	1.2	2.4	0.782	20	20.00	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K)

Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

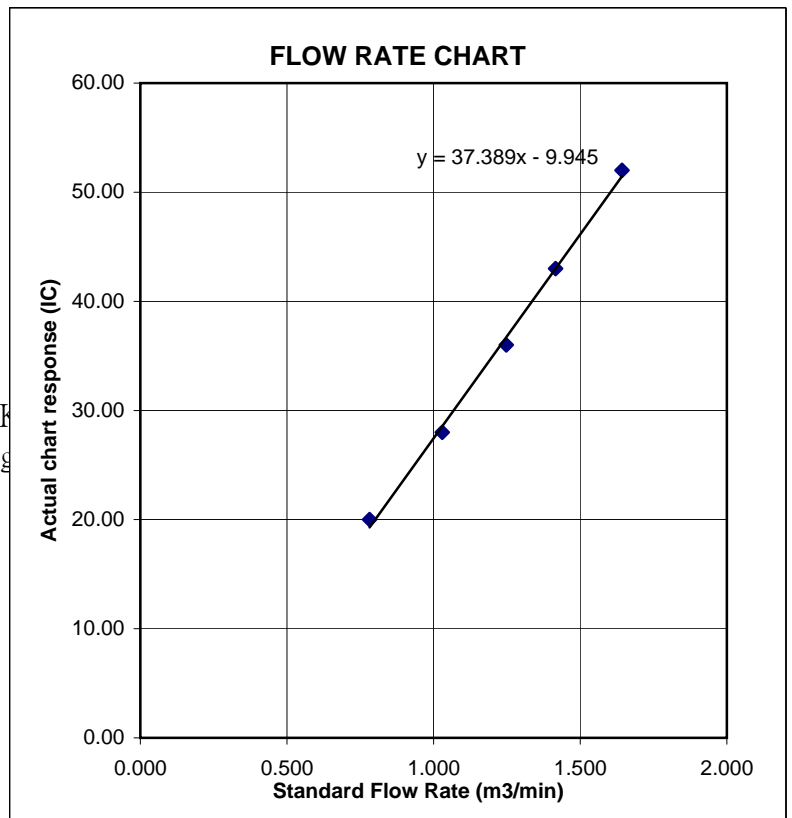
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure





## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village house at Sheung Shan Kai Wat Date of Calibration: 1-Jun-10  
 Location ID : TKL02-A2a Next Calibration Date: 1-Sep-10  
 Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	24.2	Temperature (K)	297

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	TE-5025A	Qstd Intercept ->	-0.02851

### CALIBRATION

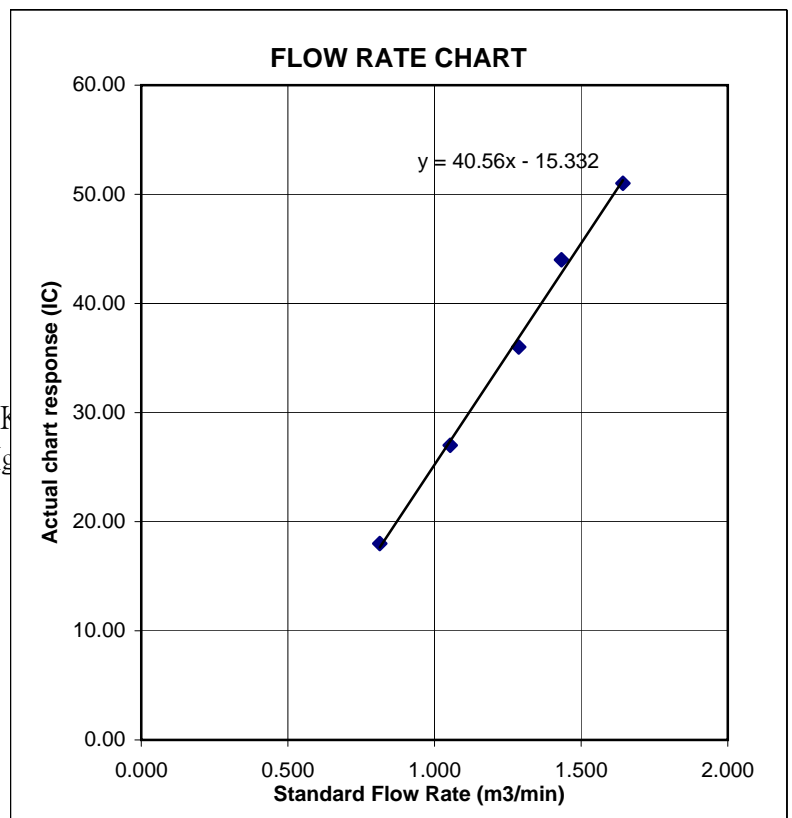
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.4	5.4	10.8	1.643	51	51.00	Slope = 40.5597 Intercept = -15.3324 Corr. coeff. = 0.9981
13	4.1	4.1	8.2	1.433	44	44.00	
10	3.3	3.3	6.6	1.287	36	36.00	
7	2.2	2.2	4.4	1.054	27	27.00	
5	1.3	1.3	2.6	0.813	18	18.00	

**Calculations :**

$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$   
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$   
  
 Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$   
  
 m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Village house at Tai Po Tin	Date of Calibration: 1-Jun-10
Location ID :	TKL07-A1	Next Calibration Date: 1-Sep-10
		Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	24.2	Temperature (K)	297

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.01546
Model->	515N	Qstd Intercept ->	-0.02851

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.3	5.3	10.6	1.627	47	47.00	Slope = 34.8231 Intercept = -10.2886 Corr. coeff. = 0.9963
13	4.1	4.1	8.2	1.433	40	40.00	
10	3.2	3.2	6.4	1.268	33	33.00	
7	2.3	2.3	4.6	1.077	26	26.00	
5	1.2	1.2	2.4	0.782	18	18.00	

#### Calculations :

$$Q_{std} = 1/m[\text{Sqrt}(H_2O(P_a/P_{std})(T_{std}/T_a)) - b]$$

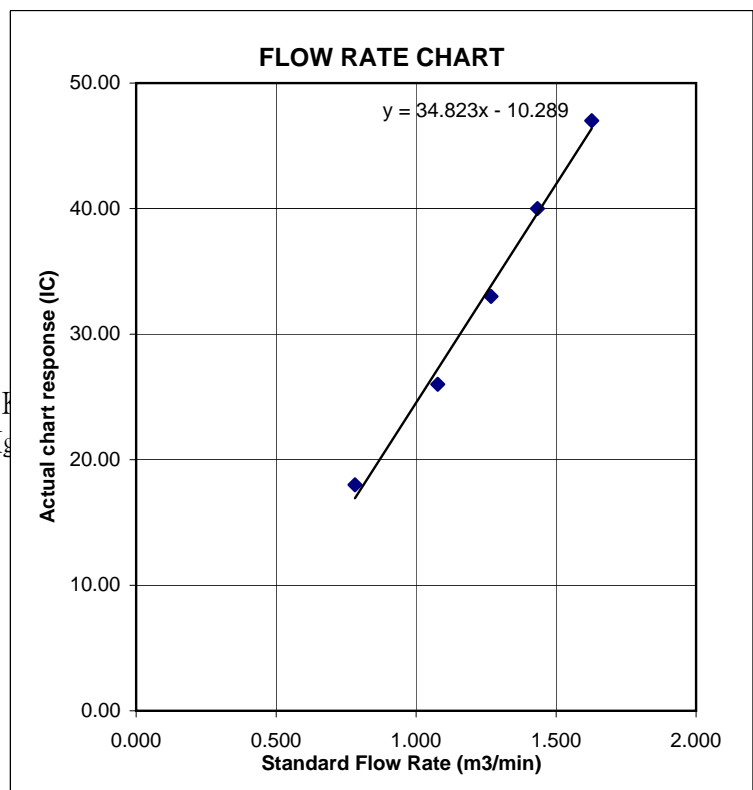
$$IC = I[\text{Sqrt}(P_a/P_{std})(T_{std}/T_a)]$$

$Q_{std}$  = standard flow rate  
 $IC$  = corrected chart responses  
 $I$  = actual chart response  
 $m$  = calibrator  $Q_{std}$  slope  
 $b$  = calibrator  $Q_{std}$  intercept  
 $T_a$  = actual temperature during calibration ( deg F)  
 $P_{std}$  = actual pressure during calibration ( mm Hg)

#### For subsequent calculation of sampler flow:

$$1/m(( I )[\text{Sqrt}(298/T_{av})(P_{av}/760)] - b)$$

$m$  = sampler slope  
 $b$  = sampler intercept  
 $I$  = chart response  
 $T_{av}$  = daily average temperature  
 $P_{av}$  = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Village house at Ping Che / Ta Kwu Lin Date of Calibration: 1-Jun-10  
 Location ID : TKL07-A2a Next Calibration Date: 1-Sep-10  
 Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa) 1008      Corrected Pressure (mm Hg) 756  
 Temperature (°C) 24.2      Temperature (K) 297

### CALIBRATION ORIFICE

Make-> TISCH      Qstd Slope -> 2.01546  
 Model-> 515N      Qstd Intercept -> -0.02851

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.3	5.3	10.6	1.627	49	49.00	Slope = 35.7060 Intercept = -9.7449 Corr. coeff. = 0.9973
13	4.0	4.0	8.0	1.416	41	41.00	
10	3.1	3.1	6.2	1.248	34	34.00	
7	2.1	2.1	4.2	1.030	26	26.00	
5	1.1	1.1	2.2	0.749	18	18.00	

**Calculations :**

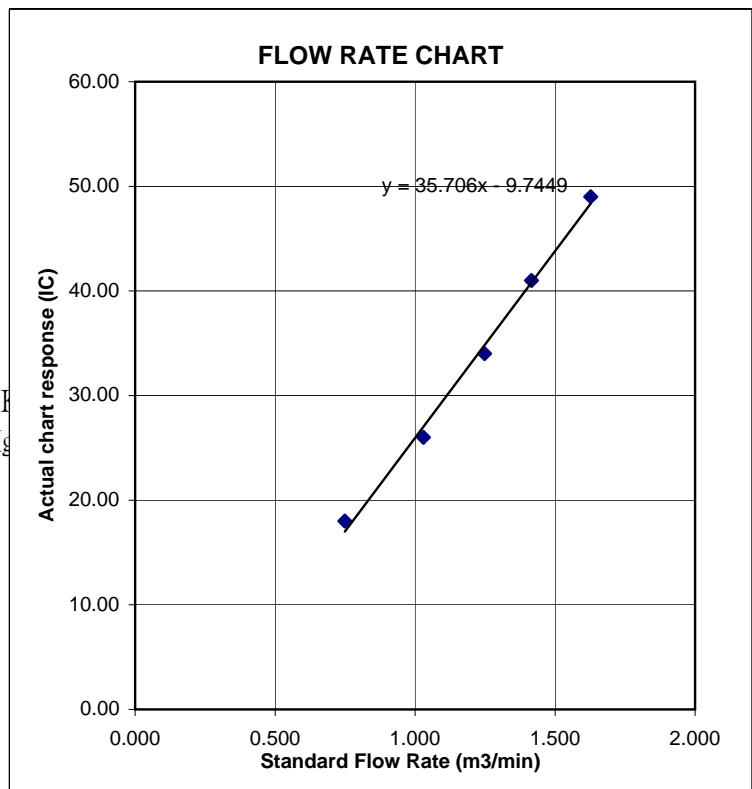
$Qstd = 1/m[\text{sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$   
 $IC = I[\text{sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg F)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$1/m(( I )[\text{sqrt}(298/Tav)(Pav/760)] - b)$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



## Equipment Calibration Record

### Equipment Calibrated:

Type: Dust Trak Model 8520  
 Manufacturer: TSI  
 Serial No. 21060  
 Equipment Ref: EQ021

### Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: Block A of Government Dockyard Offices  
 Equipment Ref: AM8  
 Last Calibration Date: 2-Dec-09

### Equipment Calibration Results:

Calibration Date: 12-Dec-09

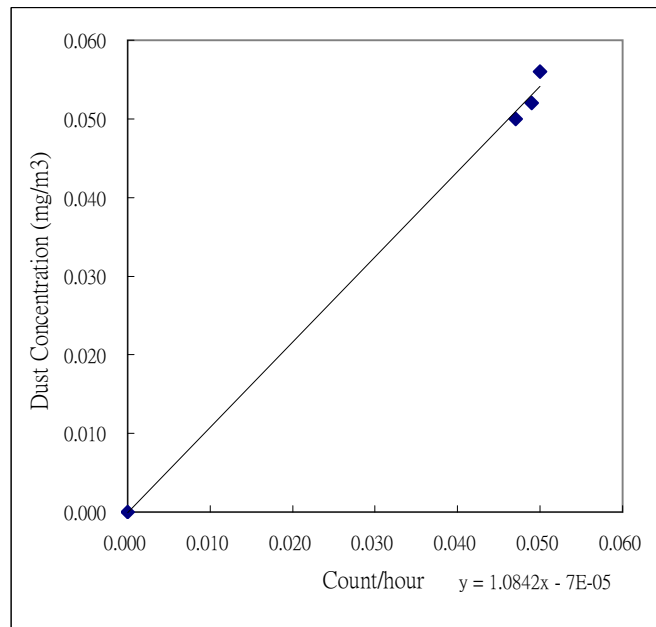
Hour	Time	Temp °C	RH %	Dust Concentration in mg/m <sup>3</sup>	
				(Standard Equipment)	(Calibrated Equipment)
1	9:00 ~ 10:00	20.2	87	0.050	0.056
1	10:05 ~ 11:05	20.5	83	0.049	0.052
1	11:10 ~ 12:10	20.7	82	0.047	0.050

Sensitivity Adjustment Zero Calibration (Before Calibration) 0 (mg/m<sup>3</sup>)

Sensitivity Adjustment Zero Calibration (After Calibration) 0 (mg/m<sup>3</sup>)

### Linear Regression of Y or X

Slope: 0.0012  
 Correlation Coefficient 0.9987  
 Validity of Calibration Record 12-Dec-10



Operator : Billy Ng

Signature : 

Date : #####

QC Reviewer Ben Tam

Signature : 

Date : #####

## Equipment Calibration Record

### Equipment Calibrated:

Type: Dust Trak Model 8520  
 Manufacturer: TSI  
 Serial No. 23080  
 Equipment Ref: EQ063

### Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: Block A of Government Dockyard Offices  
 Equipment Ref: AM8  
 Last Calibration Date: 2-Dec-09

### Equipment Calibration Results:

Calibration Date: 12-Dec-09

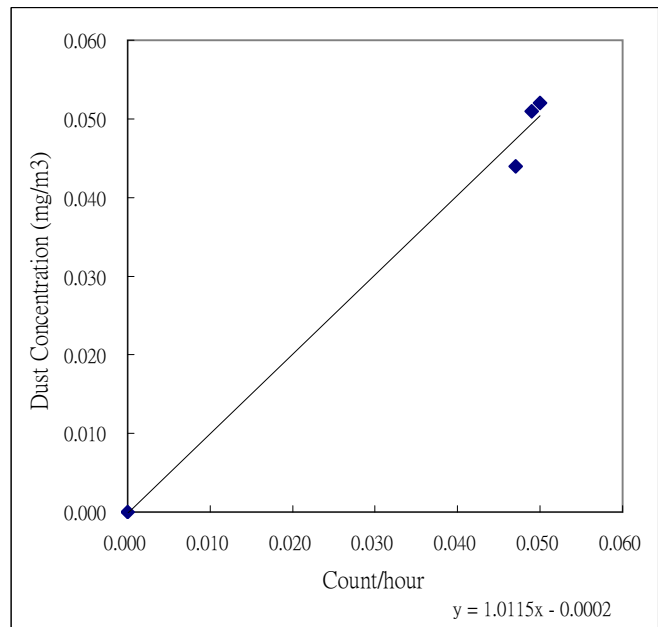
Hour	Time	Temp °C	RH %	Dust Concentration in mg/m <sup>3</sup>	
				(Standard Equipment)	(Calibrated Equipment)
1	9:00 ~ 10:00	20.2	87	0.050	0.052
1	10:05 ~ 11:05	20.5	83	0.049	0.051
1	11:10 ~ 12:10	20.7	82	0.047	0.044

Sensitivity Adjustment Zero Calibration (Before Calibration) 0 (mg/m<sup>3</sup>)

Sensitivity Adjustment Zero Calibration (After Calibration) 0 (mg/m<sup>3</sup>)

### Linear Regression of Y or X

Slope: 0.0018  
 Correlation Coefficient 0.9955  
 Validity of Calibration Record 12-Dec-10



Operator : Billy Ng

Signature : 

Date : #####

QC Reviewer Ben Tam

Signature : 

Date : #####

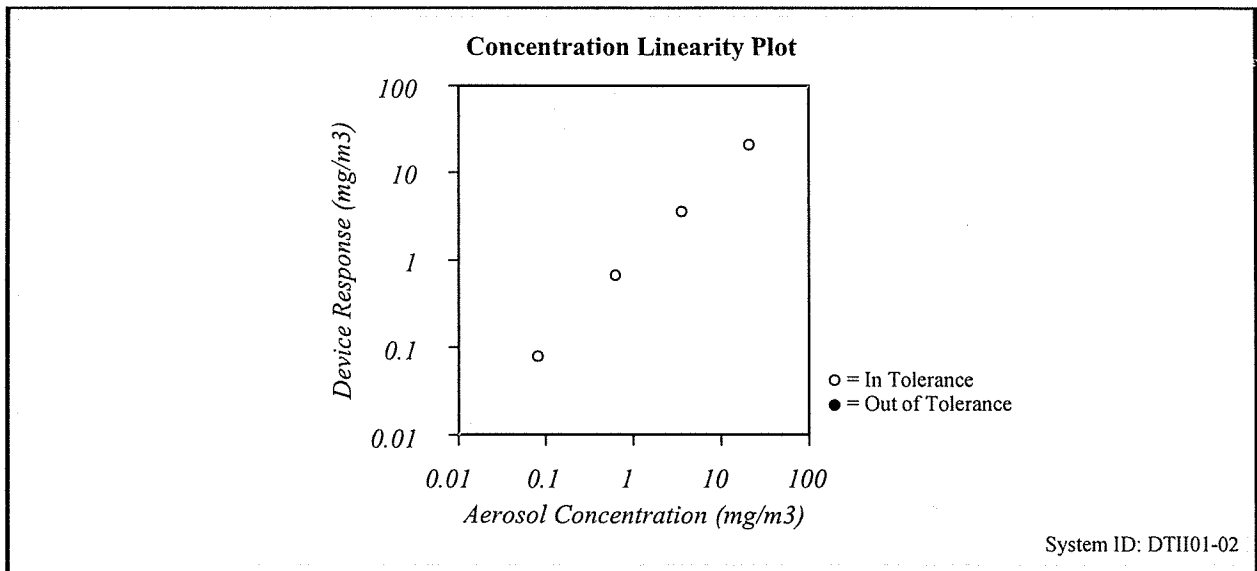


# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
 Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

Environment Condition			Model	<b>8520</b>
Temperature	75.0 (23.9)	°F (°C)		
Relative Humidity	24	%RH	Serial Number	<b>23079</b>
Barometric Pressure	28.58 (967.8)	inHg (hPa)		

<input checked="" type="checkbox"/> As Left	<input checked="" type="checkbox"/> In Tolerance
<input type="checkbox"/> As Found	<input type="checkbox"/> Out of Tolerance



Zero Stability Results			
Average:	Minimum:	Maximum:	Time:
0.000 :mg/m <sup>3</sup>	0.000 :mg/m <sup>3</sup>	0.001 :mg/m <sup>3</sup>	4:00 :hrs.

*TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass of standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1*

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Barometric Pressure	E003733	12-26-09	12-26-10	Temperature	E002873	02-23-10	02-23-11
Humidity	E002873	02-23-10	02-23-11	DC Voltage	E003314	01-06-09	07-06-10
DC Voltage	E003315	01-06-09	07-06-10	Photometer	E003319	12-30-09	06-30-10
Microbalance	E003403	01-07-10	01-07-11	Flow and Temperature	E003512	02-03-10	02-03-11
Pressure	E003511	11-12-09	11-12-10				

Tom Jay

\_\_\_\_\_  
Calibrated

Final Function Check

May 5, 2010  
\_\_\_\_\_  
Date

## **Appendix F**

### **Details of the Event Action Plan**

**Event/Action Plan for Air Quality**

EVENT	ACTION			
	ET Leader	IEC	ER	Contractor
<b>ACTION LEVEL</b>				
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform IEC, ER and Contractor</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET Leader</li> <li>2. Check Contractor's working method</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice</li> <li>2. Amend working methods if appropriate</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform IEC, ER and Contractor</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Discuss with IEC, Contractor and ER on remedial actions required</li> <li>6. If exceedance continue, arrange meeting with IEC, ER and Contractor</li> <li>7. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET Leader</li> <li>2. Check Contractor's working method</li> <li>3. Discuss with ET Leader and Contractor on possible remedial measures</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures</li> <li>5. Supervise implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Ensure remedial measure properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC and ER within 3 working days notification</li> <li>2. Implement the agreed proposals</li> <li>3. Amend proposal if appropriate</li> </ol>
<b>LIMIT LEVEL</b>				
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform IEC, ER, EPD and Contractor</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Access effectiveness of Contractor's remedial actions and kept IEC, EPD and ER informed of results</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET Leader</li> <li>2. Check Contractor's working method</li> <li>3. Discuss with ET Leader and Contractor on possible remedial measures</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures</li> <li>5. Audit implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Ensure remedial measures properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid for the exceedance</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Amend proposal if appropriate</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD</li> <li>2. Identify source</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken</li> <li>7. Access effectiveness of Contractor's remedial actions and kept IEC, EPD and ER informed of results</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET Leader and Contractor on the potential remedial actions</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</li> <li>3. Audit the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. In consultation with IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>4. Ensure remedial measures properly implemented</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid for the exceedance</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Resubmit proposals if problem still not under control</li> <li>5. Stop the relevant portion of works as determined by the ER unit the exceedance is abate</li> </ol>



**Event/Action Plan for Construction Noise**

EVENT	Action			
	ET Leader	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC, Contractor and ER</li> <li>2. Carry out investigation and identify source</li> <li>3. Report the results of investigation to IEC, Contractor and ER</li> <li>4. Discuss with the Contractor and formulate remedial measures</li> <li>5. Increase monitoring frequency</li> <li>6. Check compliance to Action/limit Levels after application of mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET Leader</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER &amp; ER accordingly</li> <li>3. Review the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint in writing</li> <li>2. Notify Contractor</li> <li>3. Check monitoring data submitted by the ET</li> <li>4. Require Contractor to propose remedial measures for the analysed noise problem</li> <li>5. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to ER and IEC within three working days</li> <li>2. Liaise with the ER to ensure the effectiveness of the agreed mitigation</li> <li>3. Amend proposal if required</li> <li>4. Implement noise mitigation proposals</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Notify IEC, Contractor and ER</li> <li>2. Identify source</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>6. Inform IEC, ER and EPD the causes &amp; actions taken form the exceedances</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Discuss amongst ER, ET Leader and Contractor on the potential remedial actions</li> <li>3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER &amp; ET accordingly</li> <li>4. Audit the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance</li> <li>2. Notify Contractor</li> <li>3. Check monitoring data submitted by the ET</li> <li>4. Require Contractor to propose remedial measures for the analysed noise problem</li> <li>5. Discuss with ET, IEC and Contractor on proposed remedial actions to be implemented</li> <li>6. Ensure remedial measures are properly implemented</li> <li>7. Assess the effectiveness of the remedial actions and keep the Contractor informed</li> <li>8. If exceedance continues, consider what prortion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to ER within three working days of notification</li> <li>3. Liaise with the ER to ensure the effectiveness of the agreed mitigation</li> <li>4. Amend proposal if required</li> <li>5. Implement the agreed proposals</li> <li>6. Resubmit proposals if problem still not under control</li> <li>7. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>

**Event/Action Plan for Water Quality**

<b>EVENT</b>	<b>ET Leader</b>	<b>IEC</b>	<b>ER</b>	<b>Contractor</b>
Action Level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings</li> <li>2. Identify source(s) of impact</li> <li>3. Inform IEC and Contractor</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods</li> <li>5. Discuss mitigation measures with IEC and Contractor</li> <li>6. Repeat measurement on next day of exceedance</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly</li> <li>3. Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures</li> <li>2. Make agreement on the mitigation measures to be implemented</li> <li>3. Assess effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing</li> <li>2. Rectify unacceptable practice</li> <li>3. Check all plant and equipment</li> <li>4. Consider changes of working methods</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and ER</li> <li>6. Implement the agreed mitigation measures</li> </ol>
Action Level being exceeded by more than one consecutive sampling day	<ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings</li> <li>2. Identify source(s) of impact</li> <li>3. Inform IEC and Contractor</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods</li> <li>5. Discuss mitigation measures with IEC and Contractor</li> <li>6. Ensure mitigation measures are implemented</li> <li>7. Prepare to increase the monitoring frequency to daily</li> <li>8. Repeat measurement on next day of exceedance</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly</li> <li>3. Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures</li> <li>2. Make agreement on the mitigation measures to be implemented</li> <li>3. Assess effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing</li> <li>2. Rectify unacceptable practice</li> <li>3. Check all plant and equipment</li> <li>4. Consider changes of working methods</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days</li> <li>6. Implement the agreed mitigation measures</li> </ol>
Limit Level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings</li> <li>2. Identify source(s) of impact</li> <li>3. Inform IEC, Contractor and EPD</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods</li> <li>5. Discuss mitigation measures with IEC, ER and Contractor</li> <li>6. Ensure mitigation measures are implemented</li> <li>7. Increase the monitoring frequency to daily until no exceedance of Limit Level</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly</li> <li>3. Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures</li> <li>2. Request Contractor to critically review the working methods</li> <li>3. Make agreement on the mitigation measures to be implemented</li> <li>4. Assess effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing</li> <li>2. Rectify unacceptable practice</li> <li>3. Check all plant and equipment</li> <li>4. Consider changes of working methods</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days</li> <li>6. Implement the agreed mitigation measures</li> </ol>
Limit Level being exceeded by more than one consecutive sampling day	<ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings</li> <li>2. Identify source(s) of impact</li> <li>3. Inform IEC, Contractor and EPD</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods</li> <li>5. Discuss mitigation measures with IEC, ER and Contractor</li> <li>6. Ensure mitigation measures are implemented</li> <li>7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly</li> <li>3. Assess the effectiveness of the implemented mitigation measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures</li> <li>2. Request Contractor to critically review the working methods</li> <li>3. Make agreement on the mitigation measures to be implemented</li> <li>4. Assess effectiveness of the implemented mitigation measures</li> <li>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the work until no exceedance of Limit Level</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing</li> <li>2. Rectify unacceptable practice</li> <li>3. Check all plant and equipment</li> <li>4. Consider changes of working methods</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days</li> <li>6. Implement the agreed mitigation measures</li> <li>7. As directed by the ER, to slow down or to stop all or part of the work or construction activities</li> </ol>

**Event/Action Plan for Ecology**

EVENT	ACTION			
	ET Leader	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the IEC and ER</li> <li>3. Discuss remedial actions with 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 monitoring results</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> <li>5. Check the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> <li>3. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in the case of serious non-conformity until situation is rectified</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further problem</li> <li>2. Amend working methods if needed</li> <li>3. Submit proposals for remedial actions to ET, ER and IEC</li> <li>4. Rectify damage and implement the agreed remedial actions</li> </ol>
Repeated Non-conformity	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the IEC, ER, EPD and AFCD</li> <li>3. Increase monitoring frequency</li> <li>4. Discuss remedial actions with 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 results</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and Contractor on possible remedial measures</li> <li>4. Supervise the implementation of remedial measures</li> <li>5. Advise the ER on effectiveness of proposed remedial measures and keep EPD and AFCD informed</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> <li>3. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in the case of serious non-conformity until situation is rectified</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further problem</li> <li>2. Amend working methods if needed</li> <li>3. Submit proposals for remedial actions to ET, ER and IEC</li> <li>4. Rectify damage and implement the agreed remedial actions</li> </ol>

**Event/Action Plan for Landscape and Visual Impact**

EVENT	ACTION			
	ET Leader	IEC	ER	Contractor
Non-conformity on one occasion	<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 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 Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods if needed</li> <li>2. Rectify damage and undertake remedial measures or any necessary replacement</li> </ol>
Repeated Non-conformity	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the IEC, ER, EPD and AFCD</li> <li>3. Increase monitoring (site audit) frequency</li> <li>4. Discuss remedial actions with 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 (site audit)</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 Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> <li>5. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Amend working methods if needed</li> <li>2. Rectify damage and undertake remedial measures or any necessary replacement</li> </ol>

## **Appendix G**

### **Monitoring Schedule**

**Monitoring Schedule for Channel MUP 01-05 in the Reporting Period**

Date		Air Quality		Noise Leq 30min	Water Quality	Ecology	
		1-hour TSP	24-hour TSP			Water Quality	Ecology Surveys
Wed	26-May-10						
Thu	27-May-10						
Fri	28-May-10						
Sat	29-May-10						
Sun	30-May-10						
Mon	31-May-10						
Tue	1-June-10						
Wed	2-June-10						
Thu	3-June-10						
Fri	4-June-10						
Sat	5-June-10						
Sun	6-June-10						
Mon	7-June-10						
Tue	8-June-10						
Wed	9-June-10						
Thu	10-June-10						
Fri	11-June-10						
Sat	12-June-10						
Sun	13-June-10						
Mon	14-June-10						
Tue	15-June-10						
Wed	16-June-10						
Thu	17-June-10						
Fri	18-June-10						
Sat	19-June-10						
Sun	20-June-10						
Mon	21-June-10						
Tue	22-June-10						
Wed	23-June-10						
Thu	24-June-10						
Fri	25-June-10						

	Monitoring Day
	Sunday or Public Holiday

**Monitoring Schedule for Channel TKL-07 in the Reporting Period**

Date		Air Quality		Noise Leq 30min	Water Quality
		1-hour TSP	24-hour TSP		
Wed	26-May-10				
Thu	27-May-10				
Fri	28-May-10				
Sat	29-May-10				
Sun	30-May-10				
Mon	31-May-10				
Tue	1-June-10				
Wed	2-June-10				
Thu	3-June-10				
Fri	4-June-10				
Sat	5-June-10				
Sun	6-June-10				
Mon	7-June-10				
Tue	8-June-10				
Wed	9-June-10				
Thu	10-June-10				
Fri	11-June-10				
Sat	12-June-10				
Sun	13-June-10				
Mon	14-June-10				
Tue	15-June-10				
Wed	16-June-10				
Thu	17-June-10				
Fri	18-June-10				
Sat	19-June-10				
Sun	20-June-10				
Mon	21-June-10				
Tue	22-June-10				
Wed	23-June-10				
Thu	24-June-10				
Fri	25-June-10				

	Monitoring Day
	Sunday or Public Holiday

**Monitoring Schedule for Channel TKL-02 in the Reporting Period**

Date		Air Quality		Noise Leq 30min	Water Quality
		1-hour TSP	24-hour TSP		
Wed	26-May-10				
Thu	27-May-10				
Fri	28-May-10				
Sat	29-May-10				
Sun	30-May-10				
Mon	31-May-10				
Tue	1-June-10				
Wed	2-June-10				
Thu	3-June-10				
Fri	4-June-10				
Sat	5-June-10				
Sun	6-June-10				
Mon	7-June-10				
Tue	8-June-10				
Wed	9-June-10				
Thu	10-June-10				
Fri	11-June-10				
Sat	12-June-10				
Sun	13-June-10				
Mon	14-June-10				
Tue	15-June-10				
Wed	16-June-10				
Thu	17-June-10				
Fri	18-June-10				
Sat	19-June-10				
Sun	20-June-10				
Mon	21-June-10				
Tue	22-June-10				
Wed	23-June-10				
Thu	24-June-10				
Fri	25-June-10				

	Monitoring Day
	Sunday or Public Holiday

## Monitoring Schedule for MUP 01-05 in Coming Month

Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY	
		1-hour TSP	24-hour TSP			Water Quality	ECOLOGY SURVEYS
Fri	25-June-10						
Sat	26-June-10						
Sun	27-June-10						
Mon	28-June-10						
Tue	29-June-10						
Wed	30-June-10						
Thu	1-July-10						
Fri	2-July-10						
Sat	3-July-10						
Sun	4-July-10						
Mon	5-July-10						
Tue	6-July-10						
Wed	7-July-10						
Thu	8-July-10						
Fri	9-July-10						
Sat	10-July-10						
Sun	11-July-10						
Mon	12-July-10						
Tue	13-July-10						
Wed	14-July-10						
Thu	15-July-10						
Fri	16-July-10						
Sat	17-July-10						
Sun	18-July-10						
Mon	19-July-10						
Tue	20-July-10						
Wed	21-July-10						
Thu	22-July-10						
Fri	23-July-10						
Sat	24-July-10						
Sun	25-July-10						

	Monitoring Day
	Sunday or Public Holiday



**Monitoring Schedule for TKL-07 in Coming Month**

Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY
		1-hour TSP	24-hour TSP		
Sat	26-June-10				
Sun	27-June-10				
Mon	28-June-10				
Tue	29-June-10				
Wed	30-June-10				
Thu	1-July-10				
Fri	2-July-10				
Sat	3-July-10				
Sun	4-July-10				
Mon	5-July-10				
Tue	6-July-10				
Wed	7-July-10				
Thu	8-July-10				
Fri	9-July-10				
Sat	10-July-10				
Sun	11-July-10				
Mon	12-July-10				
Tue	13-July-10				
Wed	14-July-10				
Thu	15-July-10				
Fri	16-July-10				
Sat	17-July-10				
Sun	18-July-10				
Mon	19-July-10				
Tue	20-July-10				
Wed	21-July-10				
Thu	22-July-10				
Fri	23-July-10				
Sat	24-July-10				
Sun	25-July-10				

	Monitoring Day
	Sunday or Public Holiday

Monitoring Schedule for TKL-02 in Coming Month

Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY
		1-hour TSP	24-hour TSP		
Sat	26-June-10				
Sun	27-June-10				
Mon	28-June-10				
Tue	29-June-10				
Wed	30-June-10				
Thu	1-July-10				
Fri	2-July-10				
Sat	3-July-10				
Sun	4-July-10				
Mon	5-July-10				
Tue	6-July-10				
Wed	7-July-10				
Thu	8-July-10				
Fri	9-July-10				
Sat	10-July-10				
Sun	11-July-10				
Mon	12-July-10				
Tue	13-July-10				
Wed	14-July-10				
Thu	15-July-10				
Fri	16-July-10				
Sat	17-July-10				
Sun	18-July-10				
Mon	19-July-10				
Tue	20-July-10				
Wed	21-July-10				
Thu	22-July-10				
Fri	23-July-10				
Sat	24-July-10				
Sun	25-July-10				

	Monitoring Day
	Sunday or Public Holiday

## **Appendix H**

### **Detailed Impact Monitoring Data of Air Quality and Water Quality**

DSD CONTRACT NO. DC/2007/08  
Drainage Improvements Works in Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

24-Hr TSP Monitoring Data

DATE	SAMPLE NUMBER	ELAPSED TIME INITIAL	ELAPSED TIME FINAL	ELAPSED TIME (min)	MIN CHART READING	MAX CHART READING	AVG CHART READING	AVG TEMP (oC)	AVG PRESS (hPa)	STANDARD FLOW RATE (m3/min)	AIR VOLUME (std m3)	BLANK SAMPLE NUMBER	BLANK INTIAL WEIGHT (g)	BLANK FINAL WEIGHT (g)	BLANK DIFF WEIGHT (g)	INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECT (g)	Dust 24-Hr TSP in Air (ug/m3)	Action Level	Limit Level
<b>24-hour TSP Monitoring Data for TKL-07-A1</b>																					
31-May-10	22010	2284.92	2309.11	1451.40	36	38	37	24.7	1007.9	1.368	1986.046	NA	2.8659	2.8663	0.001	2.9360	2.9956	0.0596	30	166	260
5-Jun-10	22062	2309.11	2333.14	1441.80	36	38	37	24.9	1009.6	1.356	1955.348	NA	2.8663	2.8655	0.001	2.9073	3.0524	0.1451	74	166	260
11-Jun-10	22093	2333.14	2357.17	1441.80	36	38	37	28.2	1008.5	1.350	1946.118	NA	2.8655	2.8656	0.001	2.9109	3.0505	0.1396	71	166	260
18-Jun-10	22087	2357.17	2381.2	1441.80	36	38	37	29.8	1008.1	1.347	1941.796	NA	2.8652	2.8648	0.001	2.9070	2.9964	0.0894	46	166	260
24-Jun-10	22150	2381.2	2405.31	1446.60	36	38	37	29.0	1003.6	1.346	1946.871	NA	2.8648	2.8639	0.001	2.7946	2.8573	0.0627	32	166	260
<b>24-hour TSP Monitoring Data for TKL-07-A2a</b>																					
31-May-10	22009	2214.64	2238.36	1423.20	36	38	37	24.7	1007.9	1.315	1871.563	NA	2.8659	2.8663	0.001	2.9253	3.0450	0.1197	63	155	260
5-Jun-10	22070	2238.36	2262.57	1452.60	36	38	37	24.9	1009.6	1.307	1899.163	NA	2.8663	2.8655	0.001	2.9240	3.0726	0.1486	78	155	260
11-Jun-10	22092	2262.57	2287.01	1466.4	36	38	37	27.2	1008.5	1.303	1910.559	NA	2.8655	2.8656	0.001	2.9146	2.9592	0.0446	23	155	260
18-Jun-10	Power failure																		155	260	
24-Jun-10	Power failure																		155	260	
<b>24-hour TSP Monitoring Data for MUP01/02- A1</b>																					
31-May-10	22014	2099.08	2122.60	1411.20	36	38	37	24.7	1007.9	1.2996	1833.95	NA	2.9208	2.9799	0.001	2.9208	2.9799	0.0591	32	156	260
5-Jun-10	Power failure																		156	260	
11-Jun-10	22066	2122.6	2146.26	1419.60	36	38	37	27.2	1008.5	1.3335	1893.03	NA	2.8655	2.8656	0.001	2.8945	3.1532	0.2587	136	156	260
18-Jun-10	22115	2146.26	2169.94	1420.80	36	38	37	29.8	1008.1	1.3289	1888.13	NA	2.8652	2.8648	0.001	2.7548	2.7904	0.0356	18	156	260
24-Jun-10	Power failure																		156	260	
<b>24-hour TSP Monitoring Data for MUP01/02- A2</b>																					
31-May-10	22011	1979.45	2003.47	1441.20	36	38	37	24.7	1007.9	1.2661	1824.65	NA	2.8659	2.8663	0.001	2.9295	2.9749	0.0454	24	154	260
5-Jun-10	22063	2003.47	2027.49	1441.20	36	38	37	24.9	1009.6	1.2887	1857.34	NA	2.8663	2.8655	0.001	2.9201	2.9819	0.0618	33	154	260
11-Jun-10	22094	2027.49	2051.52	1441.80	36	38	37	27.2	1008.5	1.2838	1850.92	NA	2.8655	2.8656	0.001	2.8956	3.0093	0.1137	61	154	260
18-Jun-10	22086	2051.52	2075.55	1441.80	36	38	37	29.8	1008.1	1.2787	1843.57	NA	2.8652	2.8648	0.001	2.9351	2.9833	0.0482	26	154	260
24-Jun-10	22167	2075.55	2099.56	1440.60	36	38	37	29	1003.6	1.2776	1840.55	NA	2.8648	2.8639	0.001	2.7642	2.8135	0.0493	26	154	260
<b>24-hour TSP Monitoring Data for TKL02- A1</b>																					
31-May-10	22008	1410.23	1434.37	1448.4	36	38	37	24.7	1007.9	1.2549	1817.53	NA	2.8659	2.8663	0.001	2.9315	2.9997	0.0682	37	171	260
5-Jun-10	22060	1434.37	1458.49	1447.2	36	38	37	24.9	1009.6	1.2539	1814.70	NA	2.8663	2.8655	0.001	2.9222	3.0532	0.131	72	171	260
11-Jun-10	22091	1458.49	1482.52	1441.8	36	38	37	28.2	108.5	0.5881	847.90	NA	2.8655	2.8656	0.001	2.9053	3.0879	0.1826	89	171	260
18-Jun-10	22122	1482.52	1506.55	1441.8	36	38	37	29.8	1008.1	1.2452	1795.31	NA	2.8652	2.8648	0.001	2.7937	2.9808	0.1871	104	171	260
24-Jun-10	22148	1506.55	1530.59	1442.40	36	38	37	29	1003.6	1.2443	1794.76	NA	2.8648	2.8639	0.001	2.7858	2.8949	0.1091	60	171	260
<b>24-hour TSP Monitoring Data for TKL02- A2</b>																					
31-May-10	22007	1600.46	1624.31	1431	36	38	37	24.7	1007.9	1.2983	1857.84	NA	2.8659	2.8663	0.001	2.913	2.9543	0.0413	22	160	260
5-Jun-10	22005	1624.31	1648.24	1435.8	36	38	37	24.9	1009.6	1.2887	1850.35	NA	2.8663	2.8655	0.001	2.9273	2.9944	0.0671	36	160	260
11-Jun-10	22090	1648.24	1672.16	1435.2	36	38	37	27.2	1008.5	1.2847	1843.85	NA	2.8655	2.8656	0.001	2.909	2.9942	0.0852	46	160	260
18-Jun-10	22109	1672.16	1696.08	1435.2	36	38	37	29.8	1008.1	1.2807	1838.00	NA	2.8652	2.8648	0.001	2.7592	2.802	0.0428	23	160	260
24-Jun-10	22147	1696.08	1719.94	1431.60	36	38	37	29	1003.6	1.2798	1832.20	NA	2.8648	2.8639	0.001	2.7889	2.8359	0.0470	25	160	260

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**Water Quality Monitoring Data for TKL-02**

Baseline														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1 (control)			n/a	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a
			n/a	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a
TKL02-W2			n/a	n/a	Action	3.08	Action	n/a	Action	45.74	Action	6.5-8.5	Action	39.05
			n/a	n/a	Limit	3.06	Limit	n/a	Limit	54.19	Limit	6.0-9.0	Limit	43.01
Date		26-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:20	0.2	28.3	28.3	3.11	3.1	50.60	50.7	13.10	13.3	7.30	7.3	5.00	5.0
			28.3		3.14		50.80		13.40		7.30		5.00	
TKL02-W2	01:07	0.2	28.6	28.6	3.19	3.2	51.50	51.8	14.10	14.0	7.20	7.2	8.00	8.0
			28.6		3.24		52.00		13.80		7.20		8.00	
Date		28-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:30	0.2	28.5	28.5	3.05	3.1	48.60	49.0	11.50	11.6	7.20	7.2	10.00	10.0
			28.5		3.09		49.30		11.60		7.20		10.00	
TKL02-W2	01:14	0.2	28.3	28.3	3.19	3.2	51.00	51.2	13.30	13.2	7.10	7.2	3.00	3.0
			28.3		3.23		51.40		13.10		7.20		3.00	
Date		31-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	09:35	0.25	24.9	24.9	3.20	3.2	52.90	52.8	24.20	24.3	7.10	7.2	4.00	4.0
			24.9		3.18		52.60		24.40		7.20		4.00	
TKL02-W2	09:20	0.3	24.9	24.9	3.30	3.3	54.10	54.0	10.60	10.7	7.20	7.2	19.00	19.0
			24.9		3.27		53.80		10.80		7.20		19.00	
Date		2-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:05	0.2	21.6	21.6	3.19	3.2	52.00	52.1	26.90	27.0	7.10	7.2	16.00	16.0
			21.6		3.24		52.20		27.10		7.20		16.00	
TKL02-W2	12:50	0.2	21.5	21.5	3.28	3.3	52.60	52.6	10.20	10.3	7.20	7.2	3.00	3.0
			21.5		3.27		52.60		10.40		7.10		3.00	
Date		4-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:24	0.2	24.4	24.4	3.24	3.2	52.20	52.0	28.80	28.7	7.30	7.3	3.00	3.0
			24.4		3.23		51.80		28.60		7.20		3.00	
TKL02-W2	01:10	0.3	24.3	24.3	3.27	3.3	53.10	53.4	14.20	14.3	7.20	7.2	12.00	12.0
			24.3		3.30		53.60		14.40		7.20		12.00	
Date		7-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:20	0.15	26.5	26.5	3.24	3.3	52.30	52.1	9.28	9.3	7.10	7.2	5.00	5.0
			26.5		3.26		51.80		9.24		7.20		5.00	
TKL02-W2	01:05	0.2	26.6	26.6	3.29	3.3	51.90	52.1	13.40	13.4	7.20	7.2	5.00	5.0
			26.6		3.34		52.20		13.30		7.20		5.00	
Date		9-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:00	0.15	25.6	25.6	3.23	3.2	52.00	51.8	98.30	98.5	7.10	7.1	48.00	48.0
			25.6		3.22		51.60		98.60		7.10		48.00	
TKL02-W2	12:47	0.25	25.7	25.7	3.40	3.4	53.00	53.1	28.90	29.1	7.20	7.2	11.00	11.0
			25.7		3.37		53.10		29.30		7.20		11.00	
Date		11-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:20	0.2	28.2	28.2	3.18	3.2	52.20	52.1	12.80	12.7	7.20	7.2	6.00	6.0
			28.2		3.17		52.00		12.60		7.20		6.00	
TKL02-W2	01:04	0.2	28.2	28.2	3.22	3.2	52.90	53.1	14.30	14.3	7.10	7.1	8.00	8.0
			28.2		3.27		53.30		14.20		7.10		8.00	

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**Water Quality Monitoring Data for TKL-02**

Baseline														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1 (control)			n/a	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a
			n/a	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a
TKL02-W2			n/a	n/a	Action	3.08	Action	n/a	Action	45.74	Action	6.5-8.5	Action	39.05
			n/a	n/a	Limit	3.06	Limit	n/a	Limit	54.19	Limit	6.0-9.0	Limit	43.01
Date		14-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:17	0.1	29.4	29.4	3.08	3.1	51.10	51.0	21.70	21.8	7.10	7.2	7.00	7.0
			29.4		3.04		50.80		21.90		7.20		7.00	
TKL02-W2	01:00	0.3	29.1	29.1	3.16	3.2	50.90	51.1	15.00	15.2	7.20	7.2	11.00	11.0
			29.1		3.20		51.30		15.40		7.20		11.00	
Date		17-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	08:46	0.15	27.4	27.4	3.08	3.1	52.20	52.1	9.43	9.4	7.20	7.2	57.00	57.0
			27.4		3.04		52.00		9.46		7.20		57.00	
TKL02-W2	08:30	0.2	27.4	27.4	3.19	3.2	51.90	52.1	12.40	12.3	7.20	7.3	5.00	5.0
			27.4		3.23		52.30		12.20		7.30		5.00	
Date		19-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	08:44	0.15	29.2	29.2	3.04	3.1	48.80	49.2	17.80	17.9	7.20	7.2	16.00	16.0
			29.2		3.09		49.60		17.90		7.20		16.00	
TKL02-W2	08:30	0.2	29.3	29.3	3.16	3.2	50.20	50.3	16.40	16.3	7.10	7.1	4.00	4.0
			29.3		3.18		50.30		16.20		7.10		4.00	
Date		21-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:24	0.2	29.3	29.3	3.09	3.1	50.30	50.5	65.30	65.5	7.30	7.3	96.00	96.0
			29.3		3.11		50.60		65.60		7.30		96.00	
TKL02-W2	01:10	0.15	29.2	29.2	3.17	3.2	51.10	51.3	14.50	14.8	7.20	7.2	10.00	10.0
			29.2		3.19		51.50		15.00		7.20		10.00	
Date		23-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:20	0.15	26.6	26.6	3.19	3.2	50.60	50.7	51.40	51.2	7.30	7.3	33.00	33.0
			26.6		3.21		50.80		51.00		7.20		33.00	
TKL02-W2	01:06	0.2	26.6	26.6	3.24	3.3	53.10	53.2	32.80	32.6	7.10	7.1	5.00	5.0
			26.6		3.27		53.30		32.30		7.10		5.00	
Date		25-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL02-W1	01:30	0.2	26.8	26.8	3.04	3.0	50.30	50.2	13.00	13.3	7.20	7.3	7.00	7.0
			26.8		3.01		50.00		13.60		7.30		7.00	
TKL02-W2	01:16	0.2	26.7	26.7	3.17	3.2	53.10	52.7	14.40	14.6	7.20	7.2	4.00	4.0
			26.7		3.14		52.20		14.70		7.20		4.00	

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**Water Quality Monitoring Data for TKL-07**

Baseline														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)			n/a	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a
			n/a	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a
TKL07-W2			n/a	n/a	Action	3.20	Action	n/a	Action	42.60	Action	6.5-8.5	Action	38.00
			n/a	n/a	Limit	3.00	Limit	n/a	Limit	50.00	Limit	6.0-9.0	Limit	38.80
Date		26-May-10												

Date	28-May-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:48	0.3	28.4	28.4	3.09	3.08	51.60	51.40	21.80	21.60	7.50	7.50	12.00	12.00
			28.4		3.07		51.20		21.40		7.50		12.00	
TKL07-W2	01:33	0.65	28.6	28.6	3.29	3.28	52.80	52.60	10.50	10.55	7.40	7.40	14.00	14.00
			28.6		3.27		52.40		10.60		7.40		14.00	

Date	31-May-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:50	0.2	28.4	28.4	3.06	3.05	51.80	51.65	57.90	57.80	7.30	7.35	46.00	46.00
			28.4		3.04		51.50		57.70		7.40		46.00	
TKL07-W2	01:36	0.55	28.4	28.4	3.20	3.22	52.20	52.25	15.80	15.65	7.40	7.40	14.00	14.00
			28.4		3.23		52.30		15.50		7.40		14.00	

Date	2-Jun-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	10:04	0.3	24.8	24.8	3.31	3.56	53.60	54.15	52.60	52.45	7.20	7.20	46.00	46.00
			24.8		3.80		54.70		52.30		7.20		46.00	
TKL07-W2	09:50	0.6	24.6	24.6	3.42	3.43	54.60	54.80	13.40	13.20	7.40	7.40	10.00	10.00
			24.6		3.44		55.00		13.00		7.40		10.00	

Date	4-Jun-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:56	0.3	24.3	24.3	3.11	3.13	51.10	51.40	57.60	57.25	7.60	7.55	78.00	78.00
			24.3		3.14		51.70		56.90		7.50		78.00	
TKL07-W2	01:40	0.55	24.2	24.2	3.26	3.28	53.00	53.05	16.50	16.65	7.20	7.25	14.00	14.00
			24.2		3.29		53.10		16.80		7.30		14.00	

Date	7-Jun-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:50	0.3	26.8	26.8	3.03	3.02	49.60	49.45	39.40	39.55	6.90	6.80	30.00	30.00
			26.8		3.01		49.30		39.70		6.70		30.00	
TKL07-W2	01:35	0.45	26.4	26.4	3.18	3.21	51.10	51.45	13.80	13.70	7.00	7.05	4.00	4.00
			26.4		3.23		51.80		13.60		7.10		4.00	

Date	9-Jun-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:26	0.25	25.7	25.7	3.30	3.29	53.60	53.45	221.00	223.00	7.10	7.10	122.00	122.00
			25.7		3.28		53.30		225.00		7.10		122.00	
TKL07-W2	01:13	0.55	25.4	25.4	3.36	3.38	52.40	52.60	38.60	38.35	7.00	7.00	28.00	28.00
			25.4		3.39		52.80		38.10		7.00		28.00	

Date	11-Jun-10													
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:33	0.3	27.9	27.9	3.11	3.13	53.30	53.50	16.40	16.50	6.90	6.90	12.00	12.00
			27.9		3.14		53.70		16.60		6.90		12.00	
TKL07-W2	01:48	0.45	27.9	27.9	3.23	3.25	54.40	54.50	10.40	10.45	7.10	7.05	9.00	9.00
			27.9		3.26		54.60		10.50		7.00		9.00	

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**Water Quality Monitoring Data for TKL-07**

Baseline														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)			n/a	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a	Action	n/a
			n/a	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a	Limit	n/a
TKL07-W2			n/a	n/a	Action	3.20	Action	n/a	Action	42.60	Action	6.5-8.5	Action	38.00
			n/a	n/a	Limit	3.00	Limit	n/a	Limit	50.00	Limit	6.0-9.0	Limit	38.80
Date		14-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:44	0.2	29.2	29.2	3.10	3.12	50.30	50.60	13.60	13.65	6.80	6.80	10.00	10.00
			29.2		3.13		50.90		13.70		6.80		10.00	
TKL07-W2	01:31	0.65	29.3	29.3	3.23	3.22	52.10	52.20	15.90	15.85	7.00	6.95	5.00	5.00
			29.3		3.21		52.30		15.80		6.90		5.00	
Date		17-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	09:12	0.2	27.2	27.2	3.10	3.12	51.10	51.40	42.70	42.70	7.60	7.60	9.00	9.00
			27.2		3.14		51.70		42.70		7.60		9.00	
TKL07-W2	08:58	0.55	27.6	27.6	3.26	3.25	51.60	51.70	17.60	17.45	7.40	7.35	3.00	3.00
			27.6		3.23		51.80		17.30		7.30		3.00	
Date		19-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	09:14	0.2	29.4	29.4	3.11	3.09	50.60	50.40	33.50	33.60	7.40	7.45	29.00	29.00
			29.4		3.06		50.20		33.70		7.50		29.00	
TKL07-W2	08:58	0.5	29.6	29.6	3.19	3.21	51.30	51.50	14.70	14.80	7.40	7.40	8.00	8.00
			29.6		3.23		51.70		14.90		7.40		8.00	
Date		21-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:49	0.3	29.0	29.0	3.04	3.05	49.60	49.75	24.50	24.65	7.70	7.70	20.00	20.00
			29.0		3.06		49.90		24.80		7.70		20.00	
TKL07-W2	01:36	0.55	29.1	29.1	3.19	3.20	50.10	50.35	15.90	15.85	7.40	7.40	6.00	6.00
			29.1		3.21		50.60		15.80		7.40		6.00	
Date		23-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	01:53	0.2	26.4	26.4	3.18	3.18	51.30	51.20	175.00	176.00	7.40	7.40	97.00	97.00
			26.4		3.17		51.10		177.00		7.40		97.00	
TKL07-W2	01:34	0.6	26.8	26.8	3.23	3.24	51.90	52.15	33.20	33.55	7.20	7.20	12.00	12.00
			26.8		3.24		52.40		33.90		7.20		12.00	
Date		25-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
TKL07-W1 (control)	02:03	0.25	26.8	26.8	3.04	3.02	50.10	49.50	27.30	27.55	7.10	7.15	2.00	2.00
			26.8		2.99		48.90		27.80		7.20		2.00	
TKL07-W2	01:46	0.55	26.9	26.9	3.18	3.21	50.50	50.80	13.10	13.25	7.30	7.30	31.00	31.00
			26.9		3.23		51.10		13.40		7.30		31.00	



Water Quality Monitoring Data for MUP01/02

Date		26-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:19	0.2	28.3	28.3	3.28	3.3	51.10	50.7	8.79	8.8	7.10	7.1	3.00	3.0
			28.3		3.26		50.30		8.77		7.10		3.00	
W2 (Control)	02:00	0.2	28.4	28.4	5.22	5.2	59.60	59.8	10.80	10.7	7.20	7.2	2.00	2.0
			28.4		5.24		59.90		10.50		7.20		2.00	
W3 (Impact)	03:05	0.5	28.6	28.6	4.43	4.4	53.30	53.2	7.21	7.2	7.10	7.2	3.00	3.0
			28.6		4.40		53.00		7.22		7.20		3.00	
W4 (Temp)	02:15	0.2	28.4	28.4	5.25	5.2	60.30	60.2	5.69	5.7	7.20	7.3	3.00	3.0
			28.4		5.24		60.00		5.66		7.30		3.00	

Date		28-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:12	0.2	28.3	28.3	3.17	3.2	51.60	51.3	8.36	8.4	7.20	7.2	<2	2.0
			28.3		3.14		51.00		8.38		7.20		<2	
W2 (Control)	02:03	0.2	28.2	28.2	5.20	5.2	59.80	59.9	8.87	8.9	7.10	7.1	<2	2.0
			28.2		5.22		59.90		8.86		7.10		<2	
W3 (Impact)	02:58	0.65	28.4	28.4	4.23	4.3	55.30	54.6	5.92	5.9	7.10	7.2	2.00	2.0
			28.4		4.28		53.90		5.88		7.20		2.00	
W4 (Temp)	02:11	0.15	28.2	28.2	5.22	5.2	60.10	60.3	3.54	3.6	7.10	7.1	2.00	2.0
			28.2		5.24		60.50		3.58		7.10		2.00	

Date		31-May-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	11:35	0.3	25.2	25.2	3.51	3.5	54.00	54.1	14.40	14.4	7.10	7.1	3.00	3.0
			25.2		3.54		54.10		14.30		7.10		3.00	
W2 (Control)	10:20	0.3	24.6	24.6	5.44	5.4	62.90	62.5	10.10	10.0	7.20	7.2	3.00	3.0
			24.6		5.40		62.10		9.94		7.10		3.00	
W3 (Impact)	11:20	0.7	25.4	25.4	4.51	4.5	57.10	57.1	6.01	6.0	7.20	7.3	3.00	3.0
			25.4		4.49		57.10		6.03		7.30		3.00	
W4 (Temp)	10:30	0.2	24.7	24.7	5.42	5.4	63.30	63.6	7.47	7.5	7.10	7.1	2.00	2.0
			24.7		5.44		63.80		7.44		7.10		2.00	

Date		2-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:10	0.3	21.1	21.1	3.40	3.4	53.00	52.9	14.70	14.7	7.50	7.5	8.00	8.0
			21.1		3.34		52.70		14.60		7.40		8.00	
W2 (Control)	01:55	0.3	21.3	21.3	5.28	5.3	63.40	63.3	3.23	3.2	7.00	7.1	<2	2.0
			21.3		5.27		63.10		3.26		7.10		<2	
W3 (Impact)	02:56	0.65	21.0	21.0	4.79	4.8	56.60	56.4	5.97	6.0	7.20	7.2	<2	2.0
			21.0		4.77		56.10		6.03		7.20		<2	
W4 (Temp)	02:10	0.2	21.2	21.2	5.27	5.3	62.80	62.9	3.53	3.5	7.10	7.1	<2	2.0
			21.2		5.29		63.00		3.49		7.10		<2	

Date		4-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:28	0.2	24.1	24.1	3.32	3.3	52.00	52.2	10.10	10.2	7.10	7.2	9.00	9.0
			24.1		3.33		52.30		10.30		7.20		9.00	
W2 (Control)	02:10	0.2	24.1	24.1	5.30	5.3	59.60	59.3	18.80	18.7	7.20	7.2	<2	2.0
			24.1		5.28		59.00		18.60		7.10		<2	
W3 (Impact)	03:12	0.6	24.4	24.4	4.70	4.7	54.70	54.8	7.31	7.3	7.30	7.3	3.00	3.0
			24.4		4.63		54.80		7.36		7.30		3.00	
W4 (Temp)	02:20	0.2	24.1	24.1	5.27	5.3	59.90	59.8	11.40	11.5	7.10	7.2	4.00	4.0
			24.1		5.26		59.70		11.60		7.20		4.00	

Date		7-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:21	0.2	26.6	26.6	3.31	3.3	53.10	53.0	23.20	23.4	7.20	7.3	4.00	4.0
			26.6		3.34		52.80		23.60		7.30		4.00	
W2 (Control)	02:05	0.2	26.4	26.4	5.19	5.2	59.70	59.8	6.91	6.9	7.20	7.2	2.00	2.0
			26.4		5.17		59.90		6.92		7.20		2.00	
W3 (Impact)	03:05	0.65	26.7	26.7	4.31	4.3	53.80	54.1	6.31	6.3	7.20	7.2	15.00	15.0
			26.7		4.36		54.40		6.34		7.20		15.00	
W4 (Temp)	02:16	0.2	26.3	26.3	5.17	5.2	60.20	60.4	5.19	5.2	7.20	7.2	2.00	2.0
			26.3		5.16		60.60		5.23		7.20		2.00	

Date		9-Jun-10												
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	02:50	0.3	26.0	26.0	3.34	3.4	53.30	53.4	10.70	10.8	7.10	7.1	6.00	6.0
			26.0		3.37		53.50		10.80		7.00		6.00	
W2 (Control)	01:38	0.3	25.6	25.6	5.29	5.3	63.30	63.5	12.40	12.5	7.10	7.1	5.00	5.0
			25.6		5.34		63.70		12.60		7.10		5.00	
W3 (Impact)	02:36	0.65	25.8	25.8	4.76	4.8	58.00	58.1	8.24	8.2	7.10	7.1	3.00	3.0
			25.8		4.79		58.20		8.23		7.10		3.00	
W4 (Temp)	01:50	0.2	25.7	25.7	5.30	5.3	63.10	63.2	8.03	8.0	7.10	7.2	3.00	3.0
			25.7		5.34		63.30		8.05		7.20		3.00	

Date		11-Jun-10												
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DSD CONTRACT NO. DC/2007/08  
 Drainage Improvements Works in Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

AUES

Water Quality Monitoring Data for MUP01/02

Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS	
W1 (Control)	03:18	0.2	28.3	28.3	3.07	3.1	53.60	53.8	11.50	11.4	7.40	7.4	2.00	2.0
			28.3		3.13		53.90		11.30		7.30		2.00	
W2 (Control)	02:02	0.2	27.9	27.9	5.25	5.3	62.80	63.1	6.54	6.5	7.00	7.0	<2	2.0
			27.9		5.28		63.30		6.52		7.00		<2	
W3 (Impact)	03:03	0.65	28.4	28.4	4.39	4.4	54.90	55.1	7.31	7.3	7.10	7.2	<2	2.0
			28.4		4.44		55.30		7.28		7.20		<2	
W4 (Temp)	02:13	0.15	28.0	28.0	5.26	5.3	62.70	62.8	4.77	4.8	7.00	7.0	<2	2.0
			28.0		5.28		62.90		4.79		7.00		<2	

Date	14-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	03:09	0.1	28.5	28.5	3.22	3.2	53.90	53.9	9.26	9.3	6.80	6.9	3.00	3.0	
			28.5		3.26		53.80		9.28		6.90		3.00		
W2 (Control)	01:56	0.2	28.4	28.4	5.23	5.2	59.90	60.1	4.23	4.2	7.10	7.1	<2	2.0	
			28.4		5.26		60.20		4.21		7.10		<2		
W3 (Impact)	02:53	0.65	28.6	28.6	4.23	4.3	54.10	54.3	4.93	4.9	7.10	7.1	<2	2.0	
			28.6		4.27		54.40		4.91		7.10		<2		
W4 (Temp)	02:04	0.2	28.5	28.5	5.26	5.3	59.60	59.5	4.20	4.2	7.10	7.1	<2	2.0	
			28.5		5.27		59.40		4.21		7.10		<2		

Date	17-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	10:35	0.2	27.7	27.7	3.33	3.3	53.20	52.8	10.20	10.2	7.00	7.1	4.00	4.0	
			27.7		3.30		52.40		10.10		7.10		4.00		
W2 (Control)	09:25	0.2	27.2	27.2	5.23	5.2	60.00	60.3	6.70	6.7	7.10	7.2	<2	2.0	
			27.2		5.26		60.60		6.68		7.20		<2		
W3 (Impact)	10:21	0.6	27.6	27.6	4.32	4.4	54.10	54.3	5.43	5.4	7.30	7.3	<2	2.0	
			27.6		4.39		54.40		5.44		7.20		<2		
W4 (Temp)	09:36	0.15	27.1	27.1	5.26	5.3	60.60	60.7	4.61	4.6	7.20	7.2	<2	2.0	
			27.1		5.27		60.80		4.64		7.10		<2		

Date	19-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	10:42	0.2	29.5	29.5	3.20	3.2	52.10	52.0	11.70	11.7	7.30	7.3	5.00	5.0	
			29.5		3.18		51.80		11.60		7.20		5.00		
W2 (Control)	09:30	0.2	28.9	28.9	5.18	5.2	58.60	58.4	5.33	5.3	7.10	7.2	2.00	2.0	
			28.9		5.16		58.20		5.36		7.20		2.00		
W3 (Impact)	10:25	0.6	29.4	29.4	4.36	4.3	53.80	53.7	6.94	6.9	7.10	7.1	<2	2.0	
			29.4		4.30		53.50		6.88		7.10		<2		
W4 (Temp)	09:38	0.15	28.7	28.7	5.19	5.2	59.10	59.0	5.32	5.3	7.10	7.1	<2	2.0	
			28.7		5.23		58.80		5.30		7.10		<2		

Date	21-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	03:29	0.2	29.1	29.1	3.17	3.2	52.90	53.0	14.80	14.6	7.00	7.0	6.00	6.0	
			29.1		3.18		53.10		14.40		7.00		6.00		
W2 (Control)	02:10	0.2	28.8	28.8	5.19	5.2	59.40	59.3	6.61	6.6	7.10	7.1	3.00	3.0	
			28.8		5.16		59.20		6.63		7.10		3.00		
W3 (Impact)	03:12	0.6	29.5	29.5	4.39	4.4	53.30	53.5	6.72	6.7	7.30	7.3	3.00	3.0	
			29.5		4.36		53.60		6.75		7.20		3.00		
W4 (Temp)	02:20	0.15	28.9	28.9	5.17	5.2	59.20	59.1	4.62	4.6	7.10	7.2	4.00	4.0	
			28.9		5.16		59.00		4.60		7.20		4.00		

Date	23-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	03:19	0.2	26.6	26.6	3.25	3.3	52.80	53.2	15.90	16.0	7.10	7.1	5.00	5.0	
			26.6		3.26		53.60		16.10		7.10		5.00		
W2 (Control)	02:05	0.2	26.3	26.3	5.24	5.2	61.70	61.6	8.86	8.8	7.00	7.0	2.00	2.0	
			26.3		5.21		61.40		8.82		7.00		2.00		
W3 (Impact)	03:03	0.65	26.4	26.4	4.30	4.3	53.30	53.7	8.12	8.1	7.30	7.4	3.00	3.0	
			26.4		4.33		54.00		8.16		7.40		3.00		
W4 (Temp)	02:15	0.2	26.3	26.3	5.28	5.3	62.00	62.3	5.44	5.5	7.00	7.0	<2	2.0	
			26.3		5.29		62.50		5.47		7.00		<2		

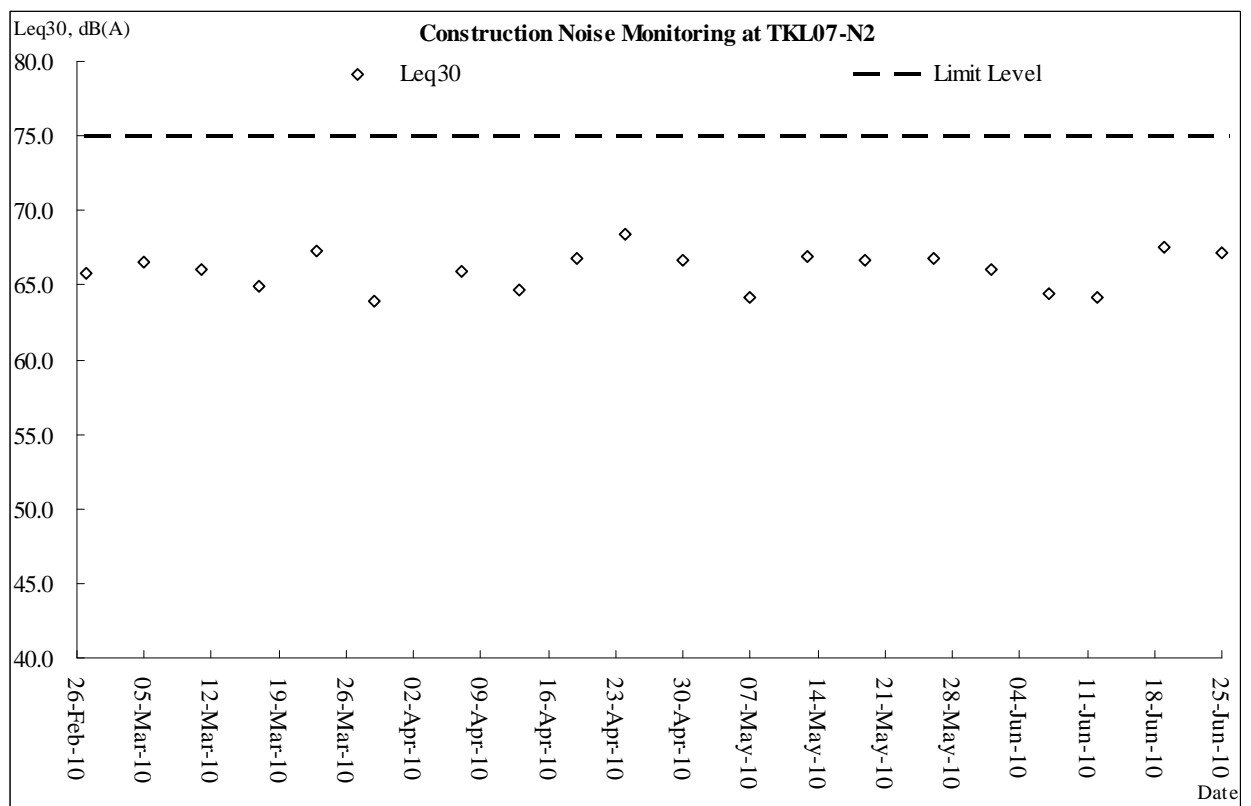
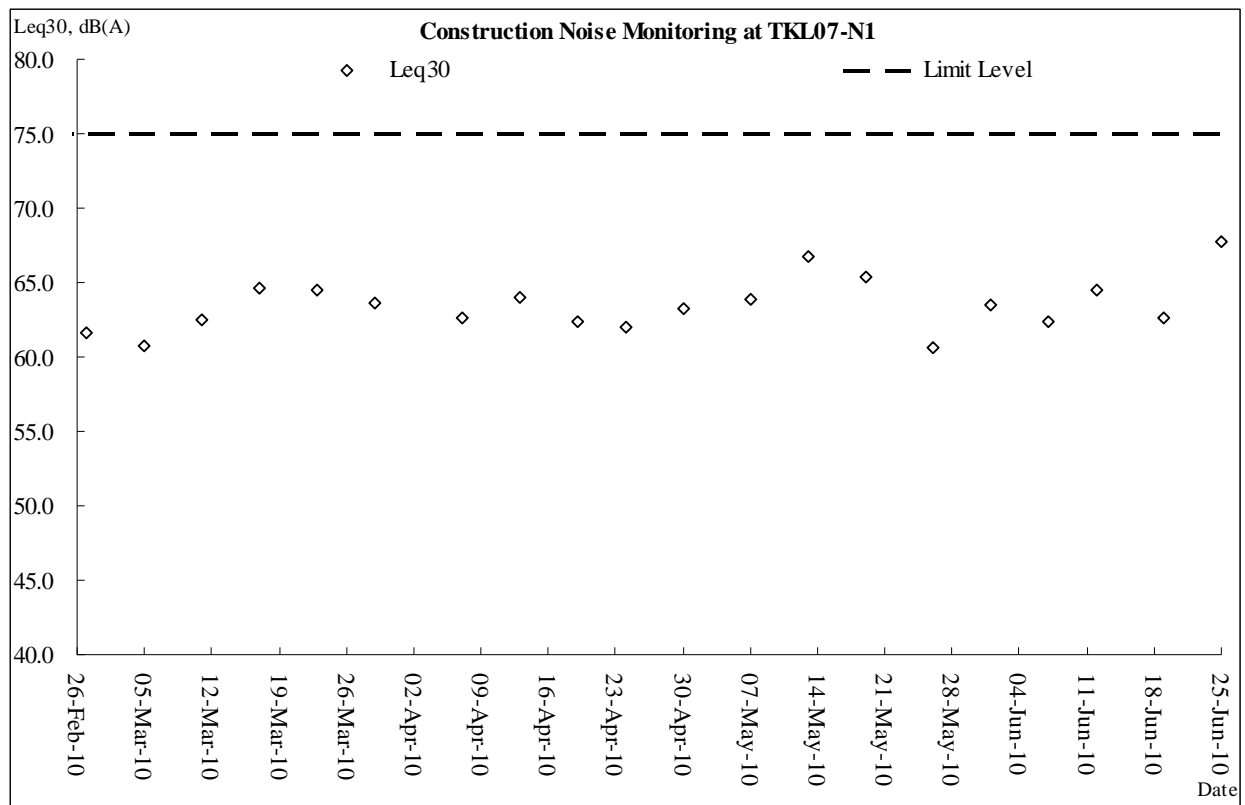
Date	25-Jun-10														
Location	Time	Depth (m)	Temp(oC)		DO (mg/L)		DOS(%)		Turbidity(NTU)		pH		SS		
W1 (Control)	03:30	0.2	27.1	27.1	3.11	3.1	51.60	52.0	1.70	6.6	7.30	7.3	3.00	3.0	
			27.1		3.18		52.30		11.40		7.30		3.00		
W2 (Control)	02:18	0.2	26.6	26.6	5.19	5.2	60.10	60.3	4.77	4.7	7.00	7.0	<2	2.0	
			26.6		5.23		60.40		4.72		7.00		<2		
W3 (Impact)	03:16	0.6	26.9	26.9	4.24	4.2	53.90	53.8	8.11	8.1	7.00	7.0	<2	2.0	
			26.9		4.20		53.70		8.15		7.00		<2		
W4 (Temp)	02:30	0.15	26.8	26.8	5.22	5.2	60.80	60.8	3.64	3.7	7.00	7.1	<2	2.0	
			26.8		5.26		60.80		3.66		7.10		<2		

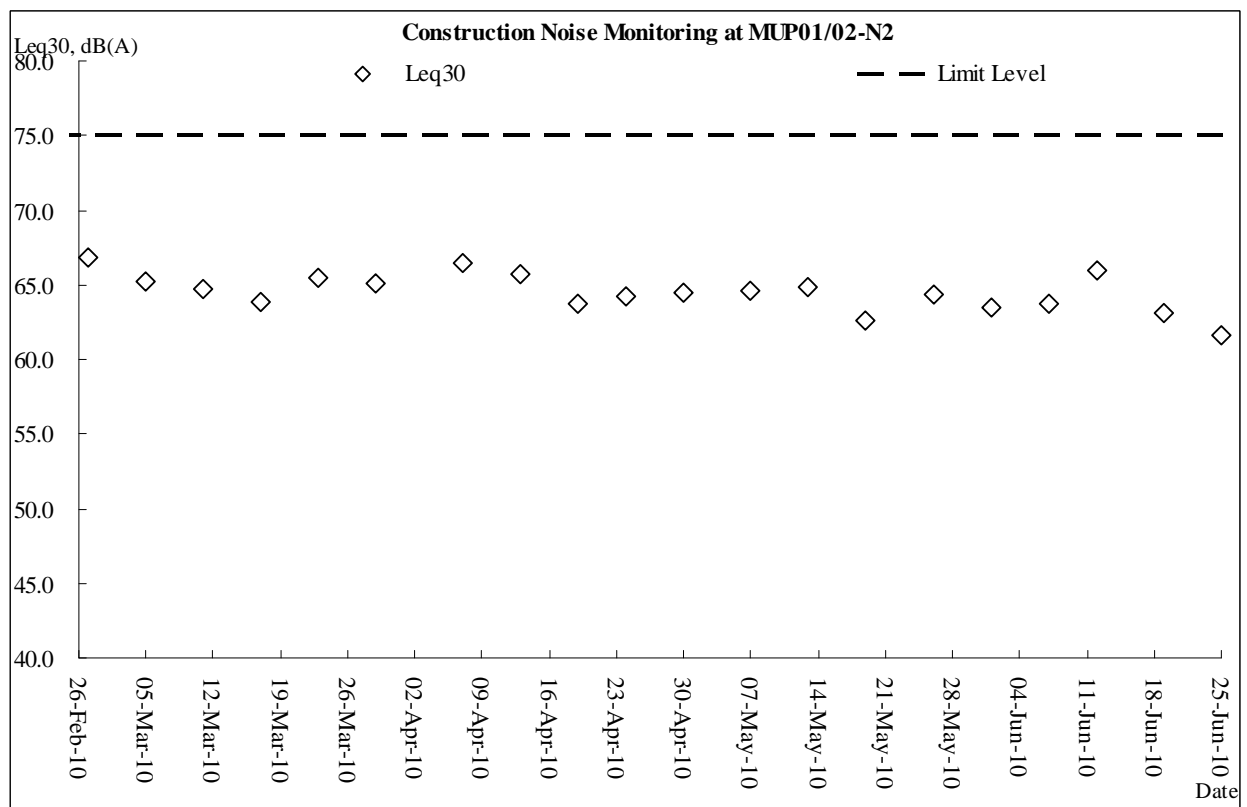
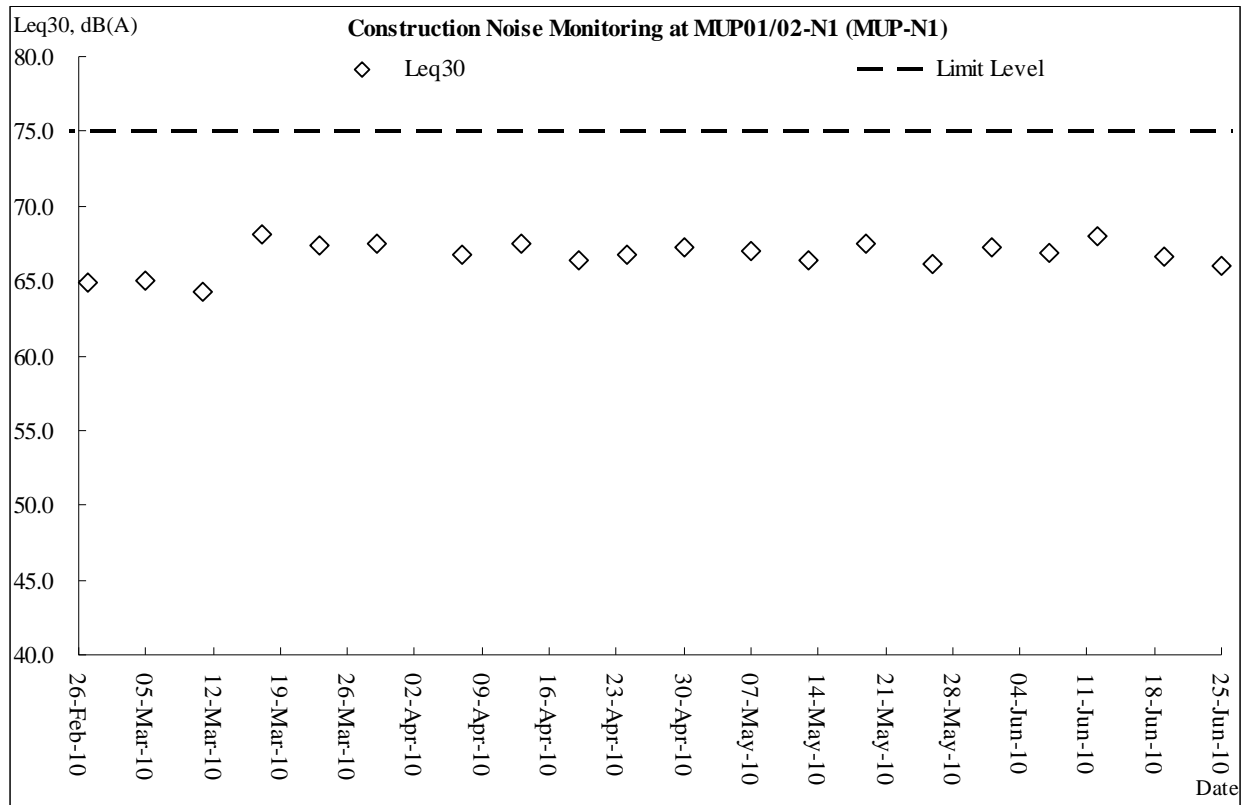
## **Appendix I**

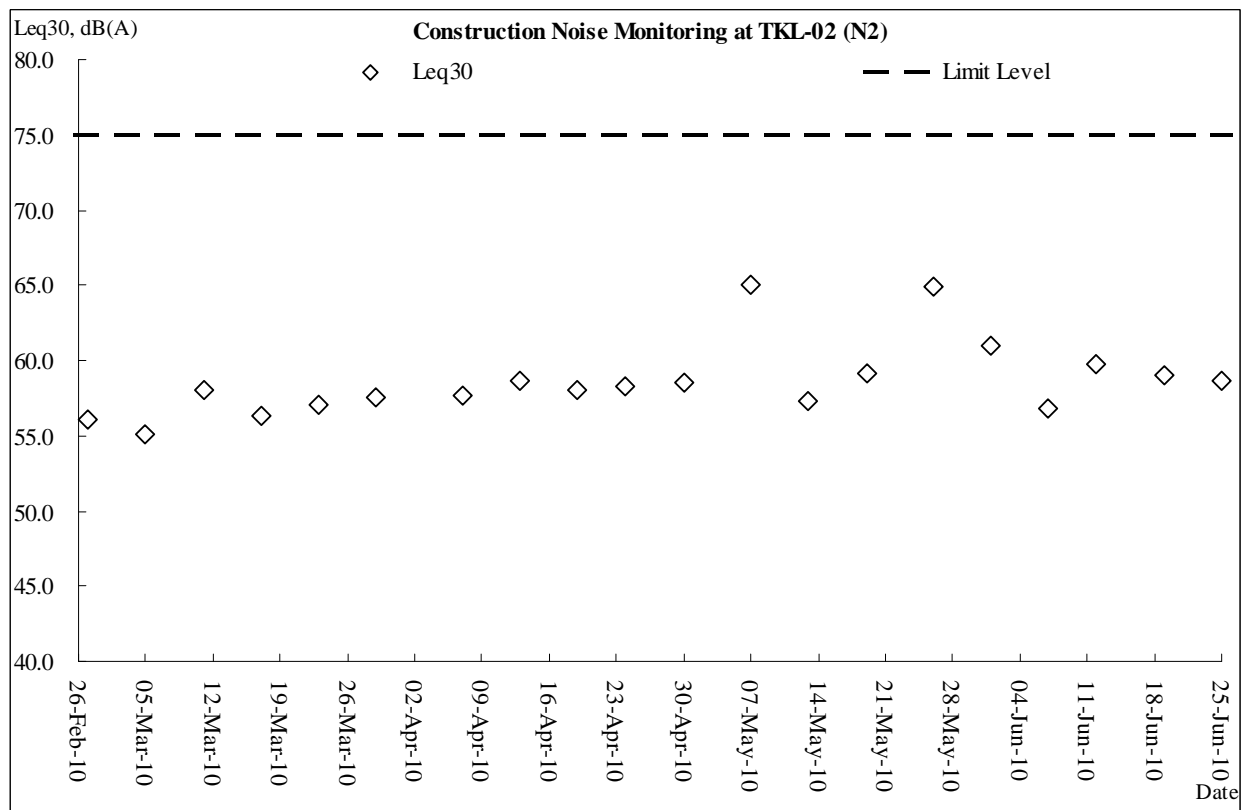
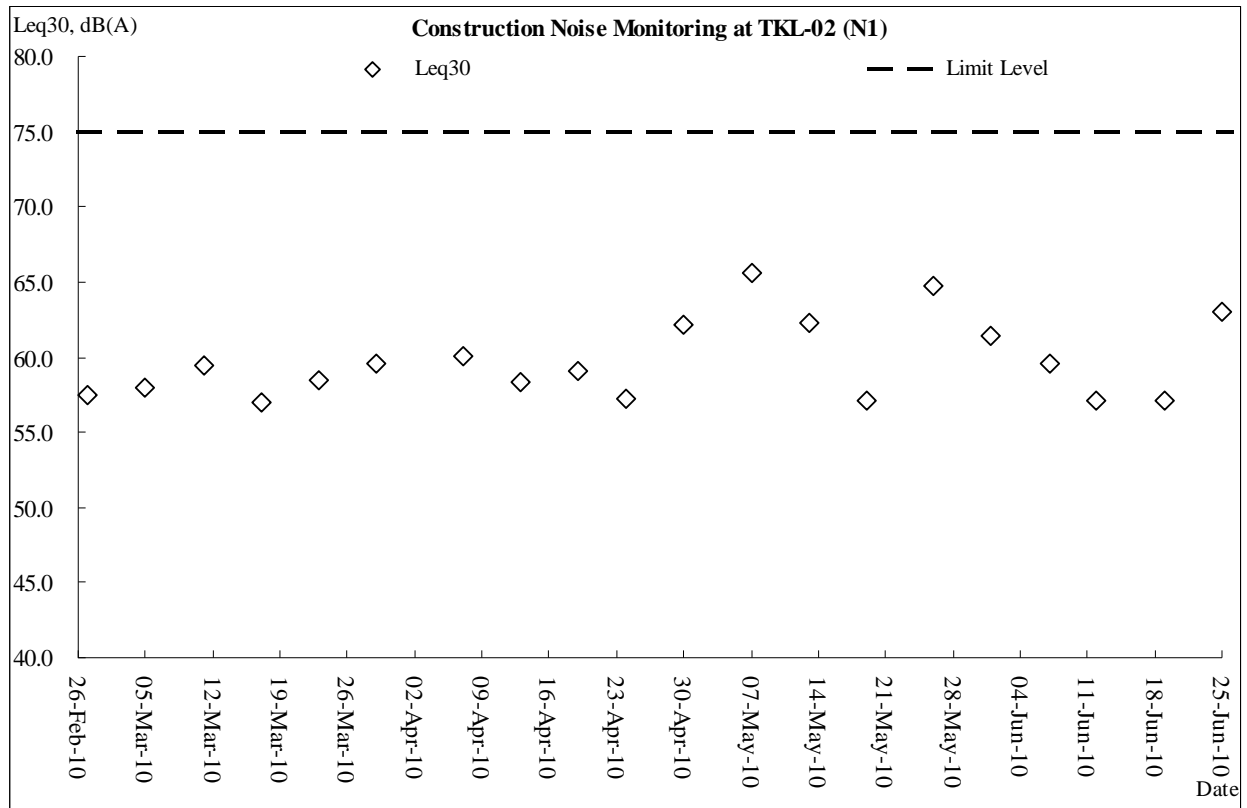
### **Graphic Plot of Monitoring**

- 1. Construction Noise**
- 2. Air Quality**
- 3. Water Quality**

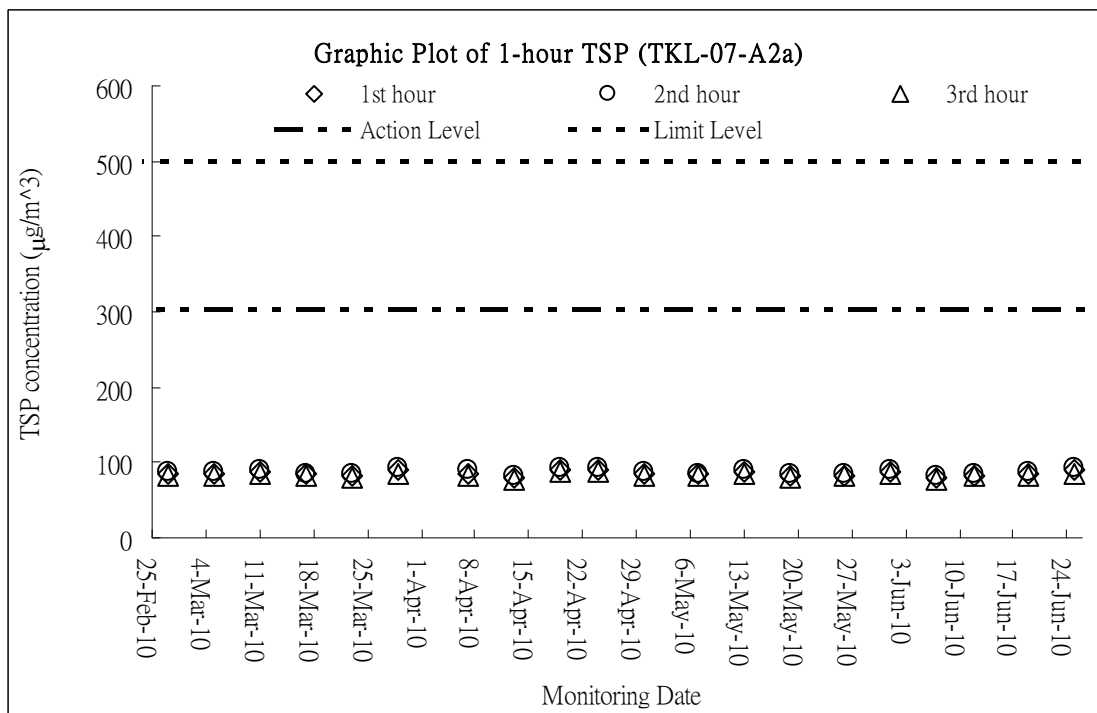
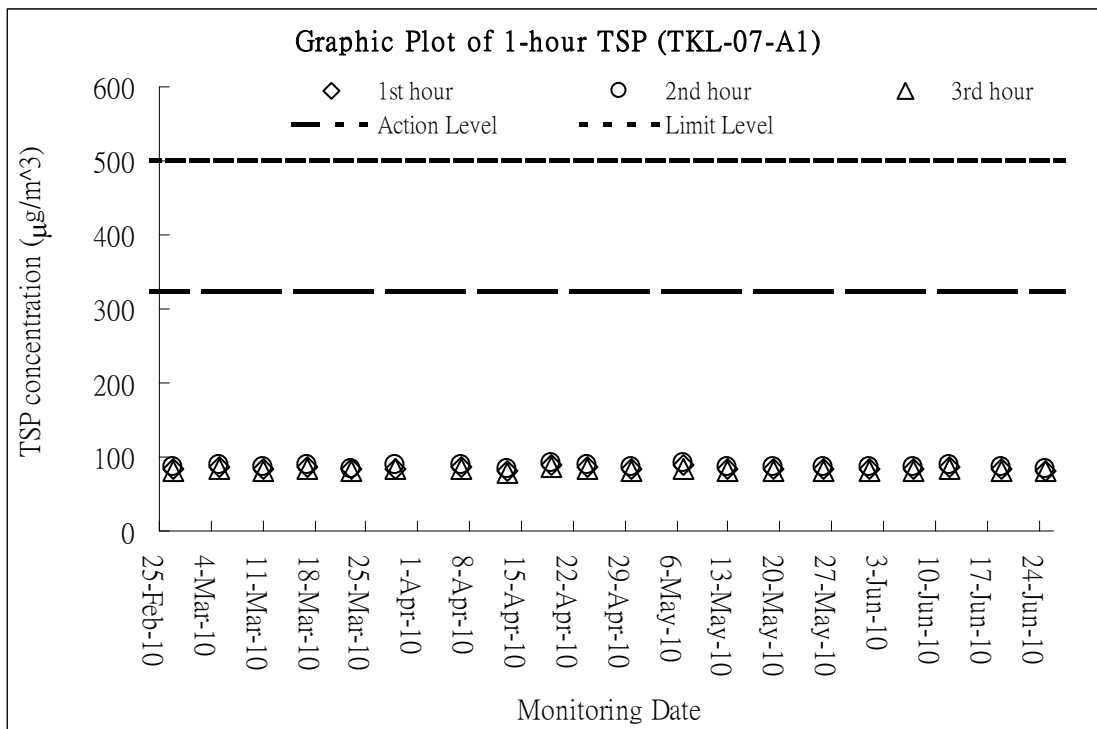
**Graphic Plot of Monitoring – Construction Noise**

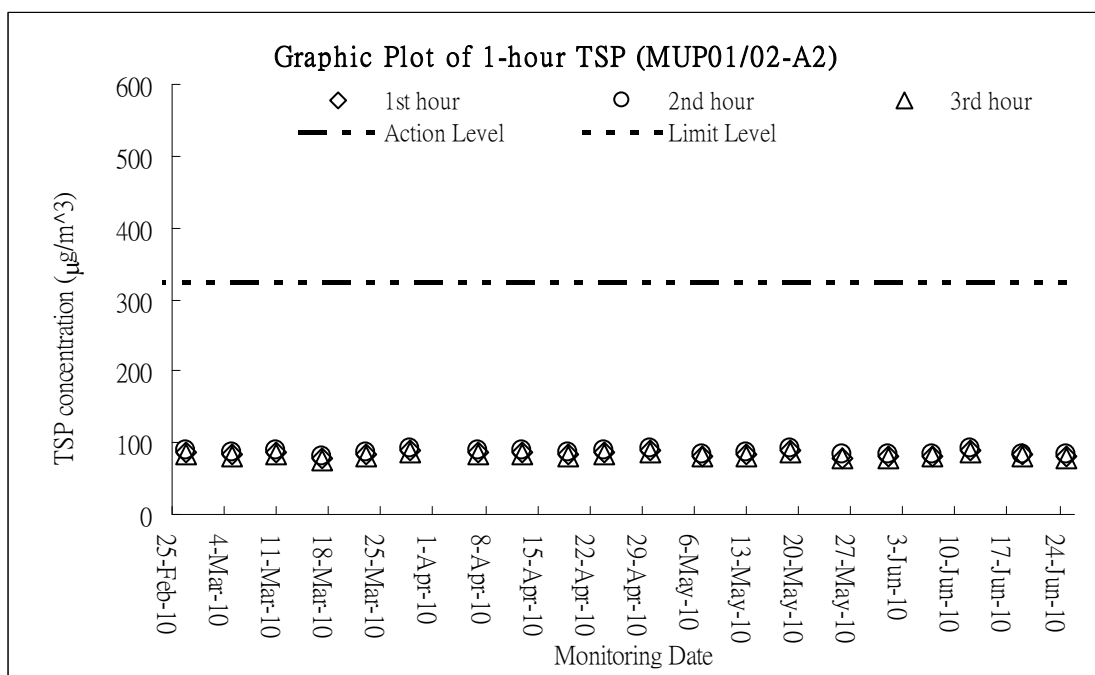
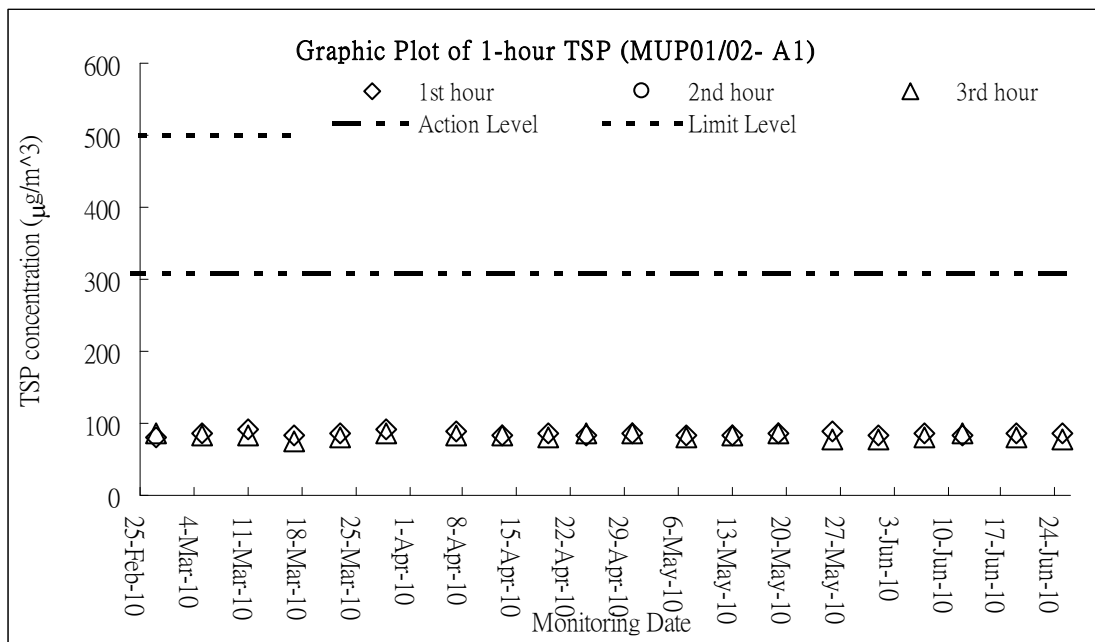




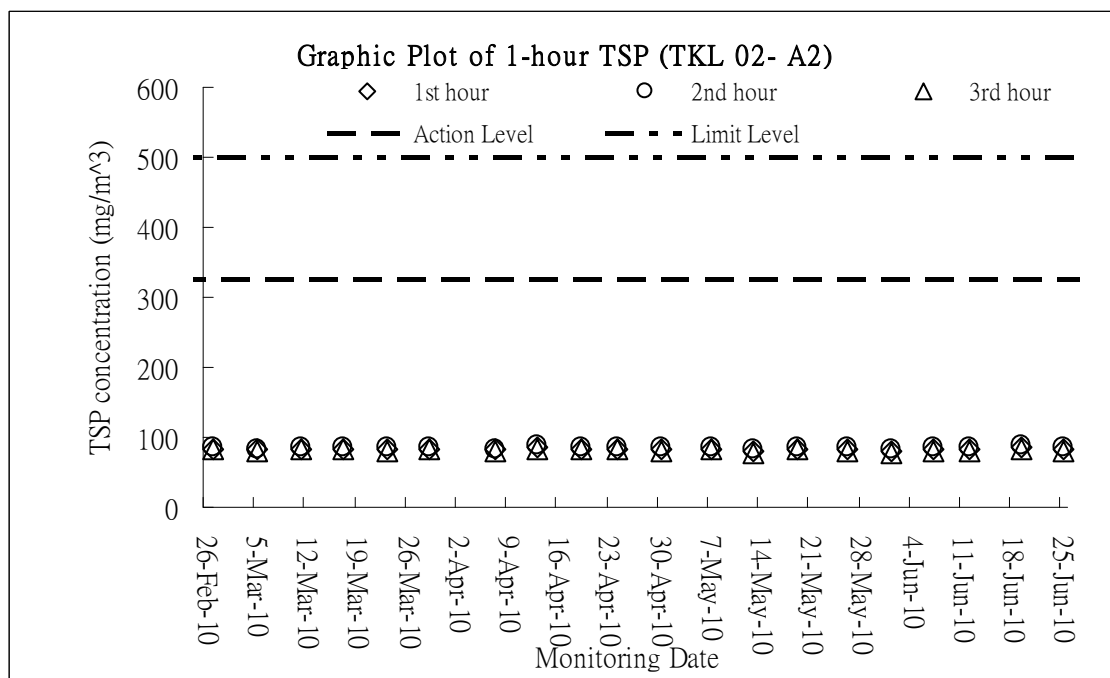
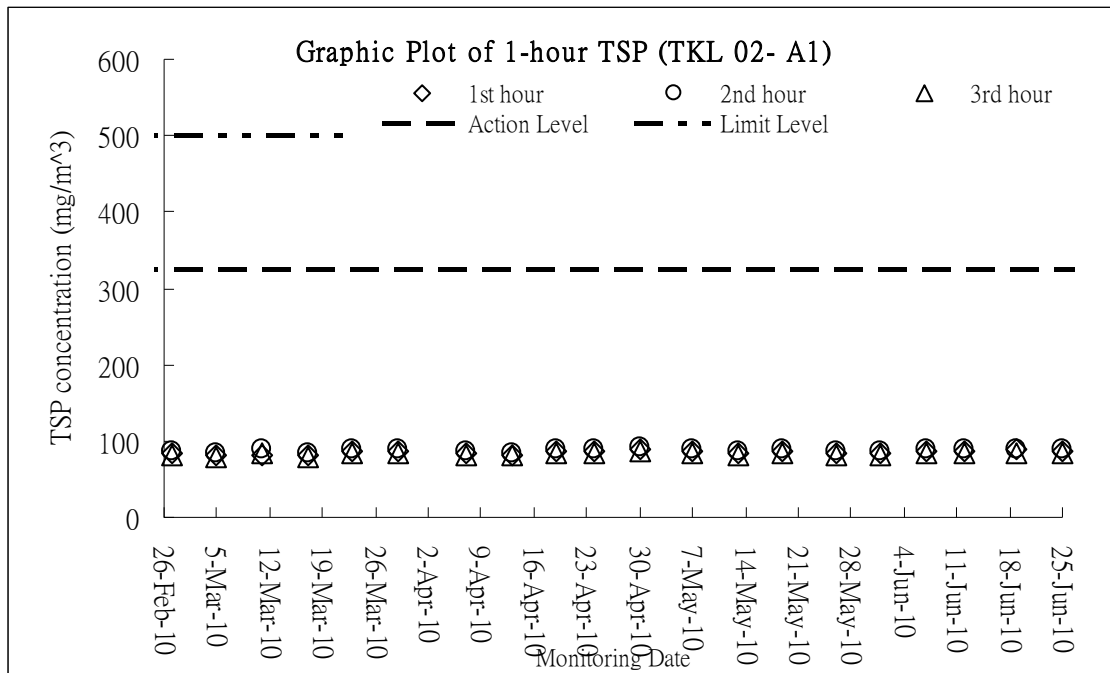


**Graphic Plot of Monitoring – Air Quality (1-Hr TSP)**

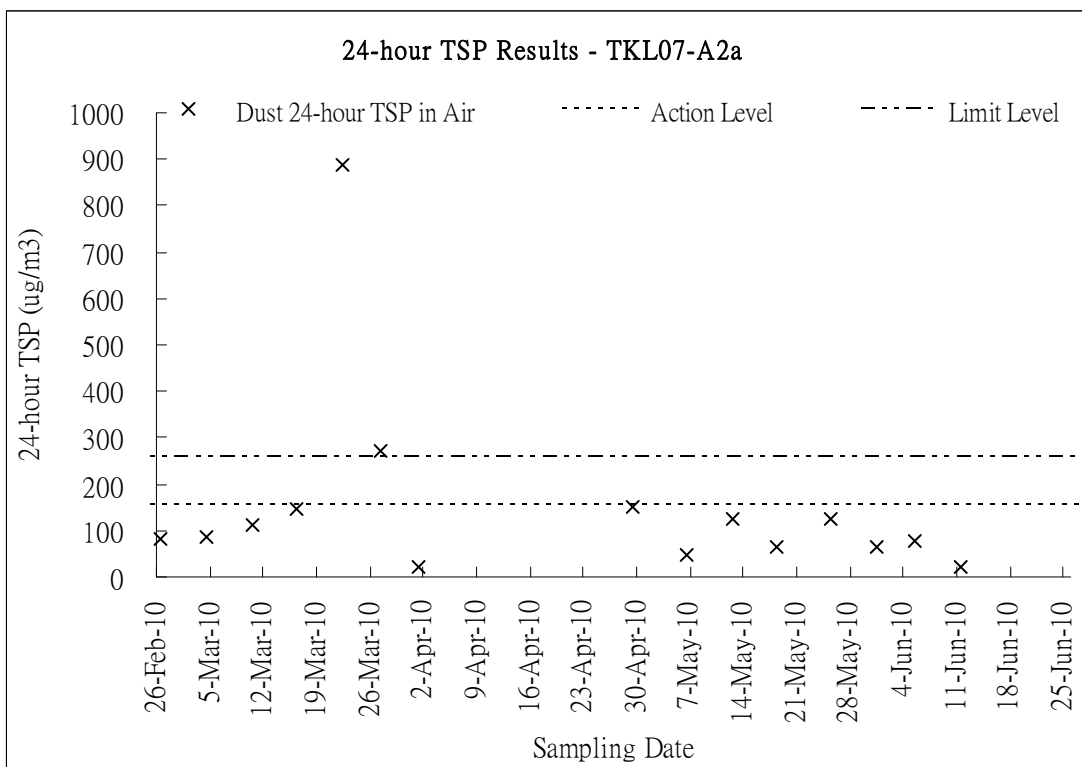
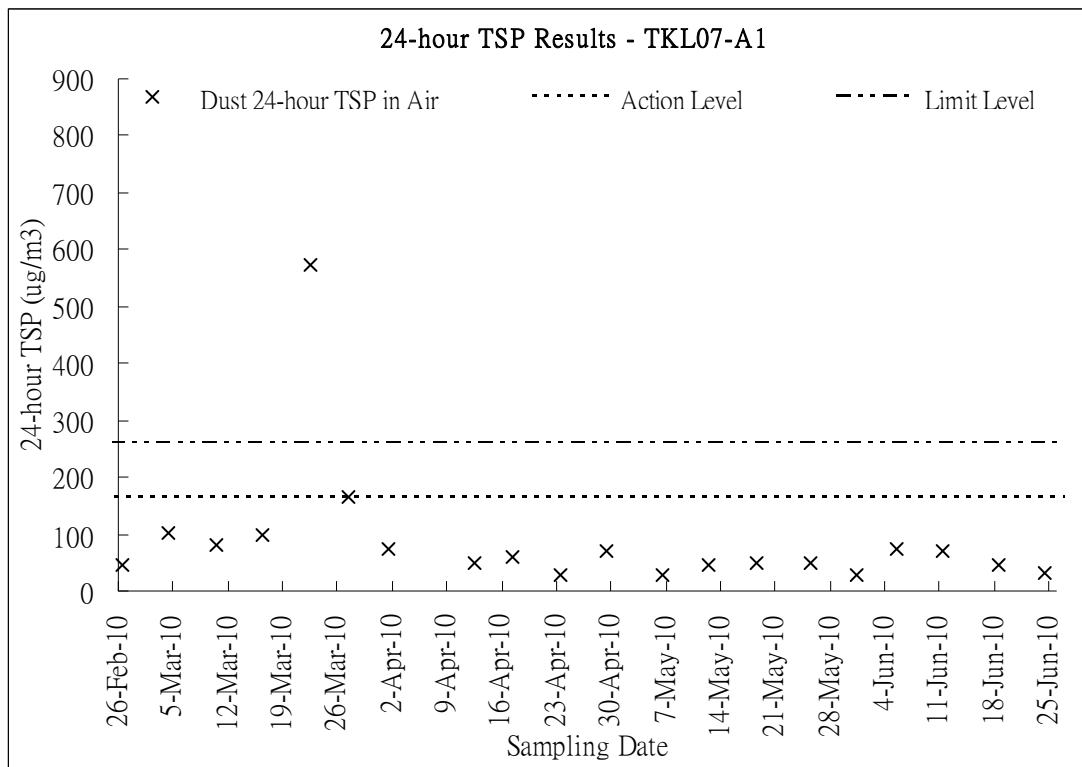


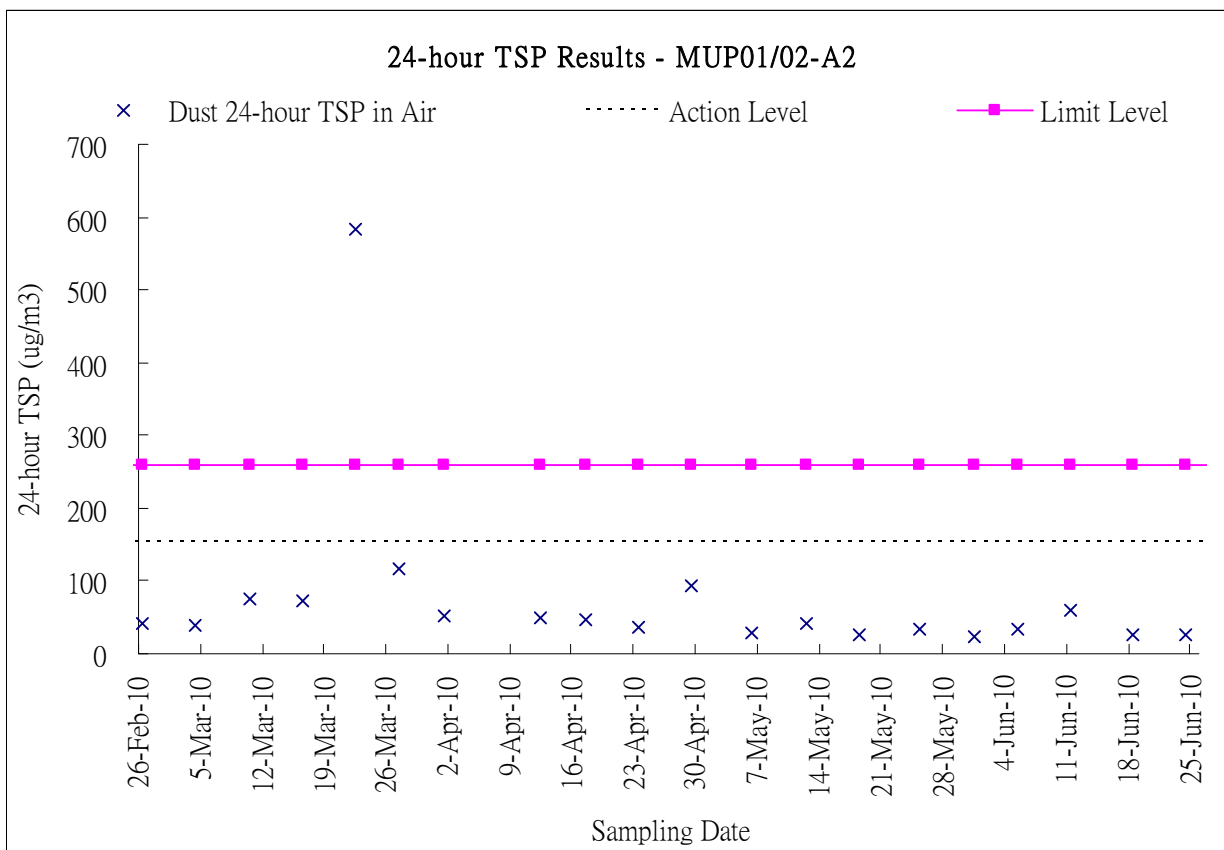
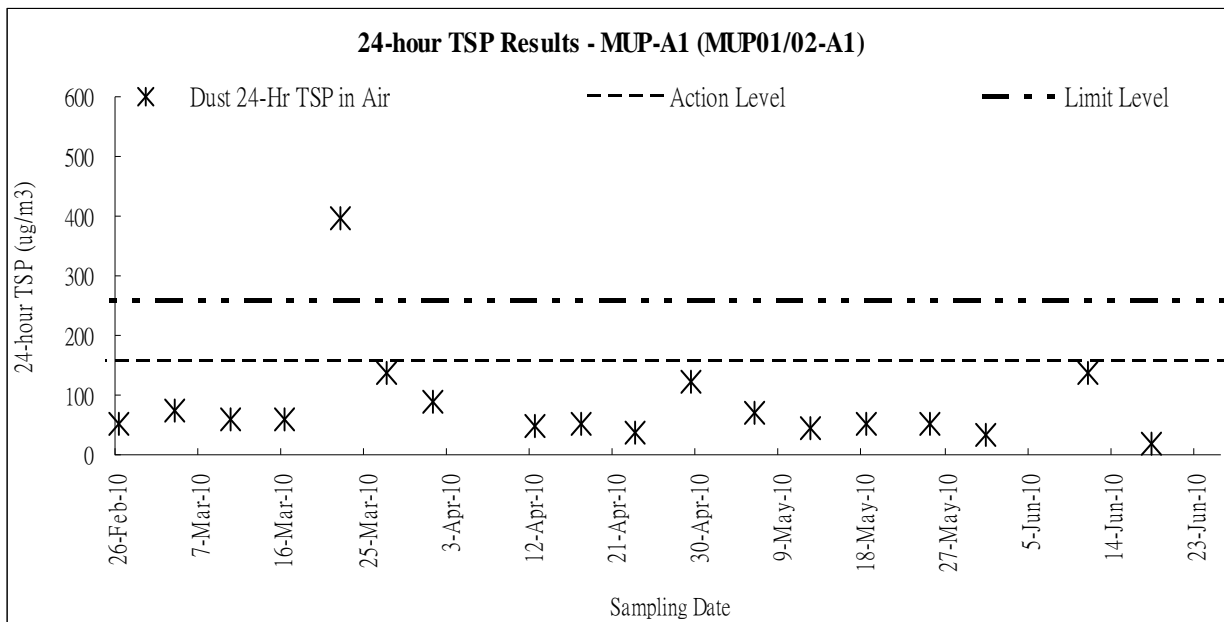


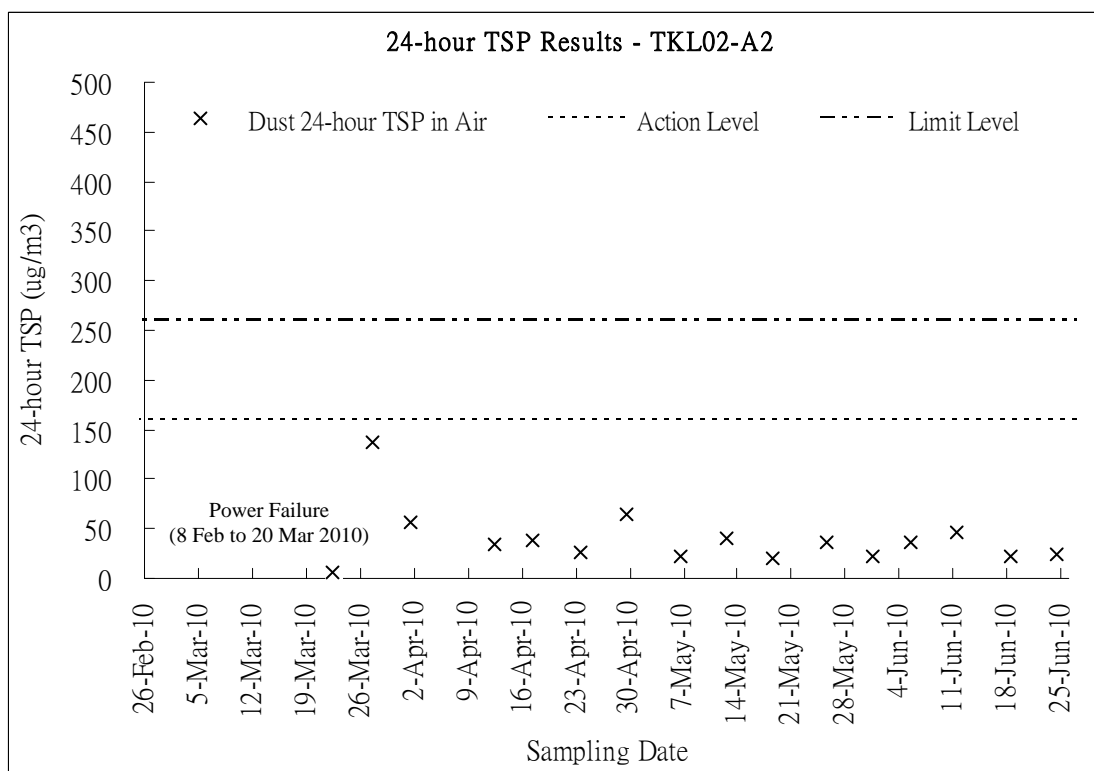
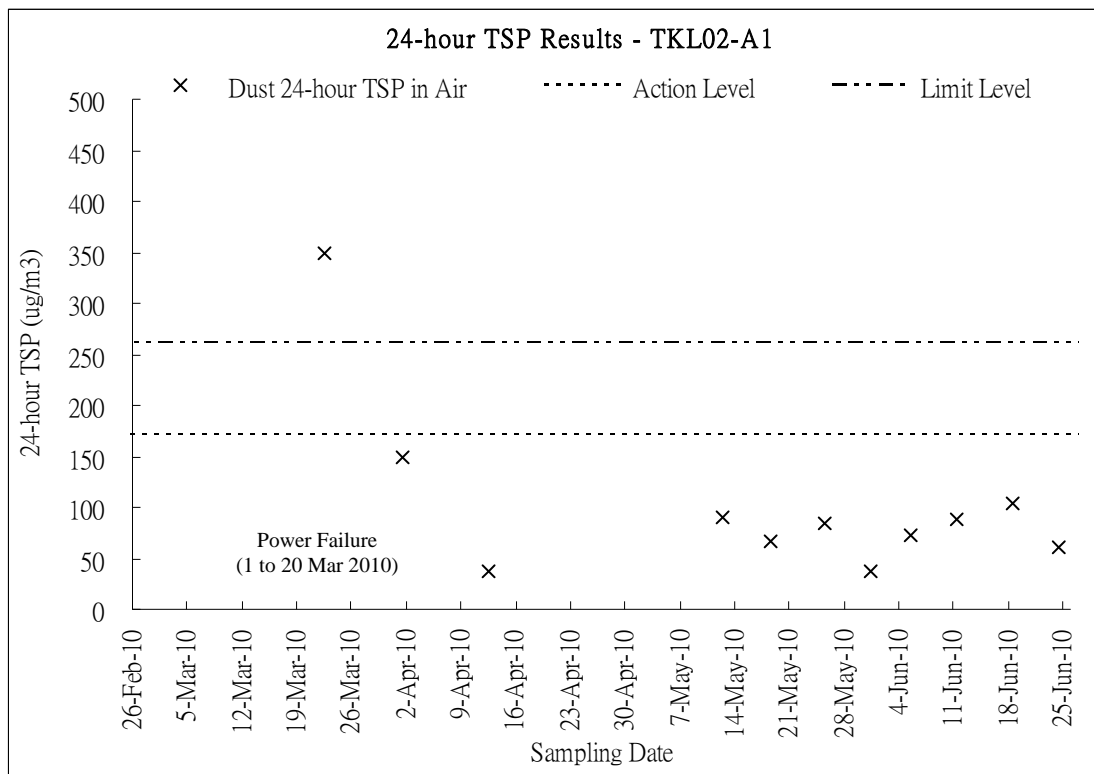




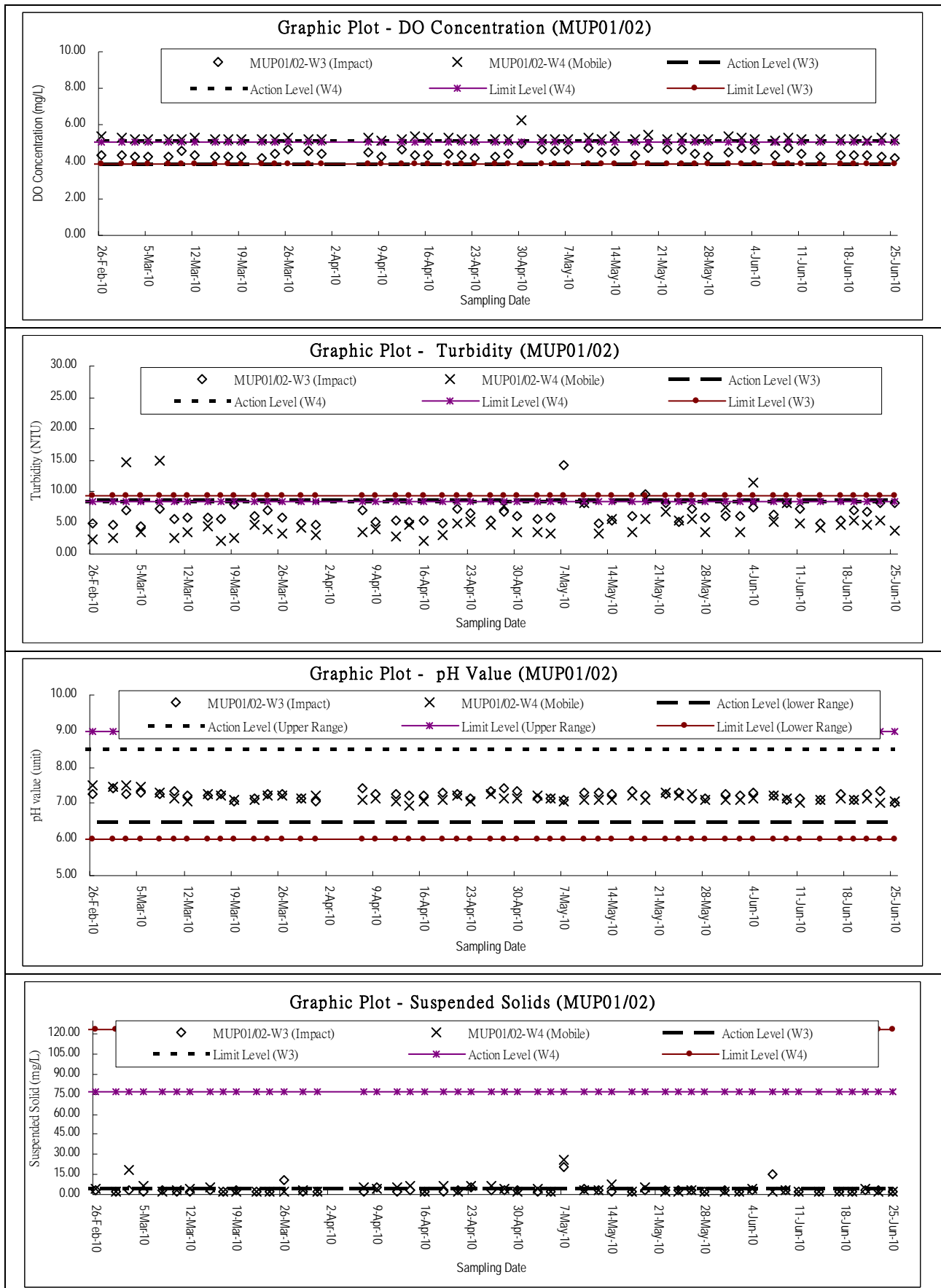
**Graphic Plot of Monitoring – Air Quality (24-Hour TSP)**



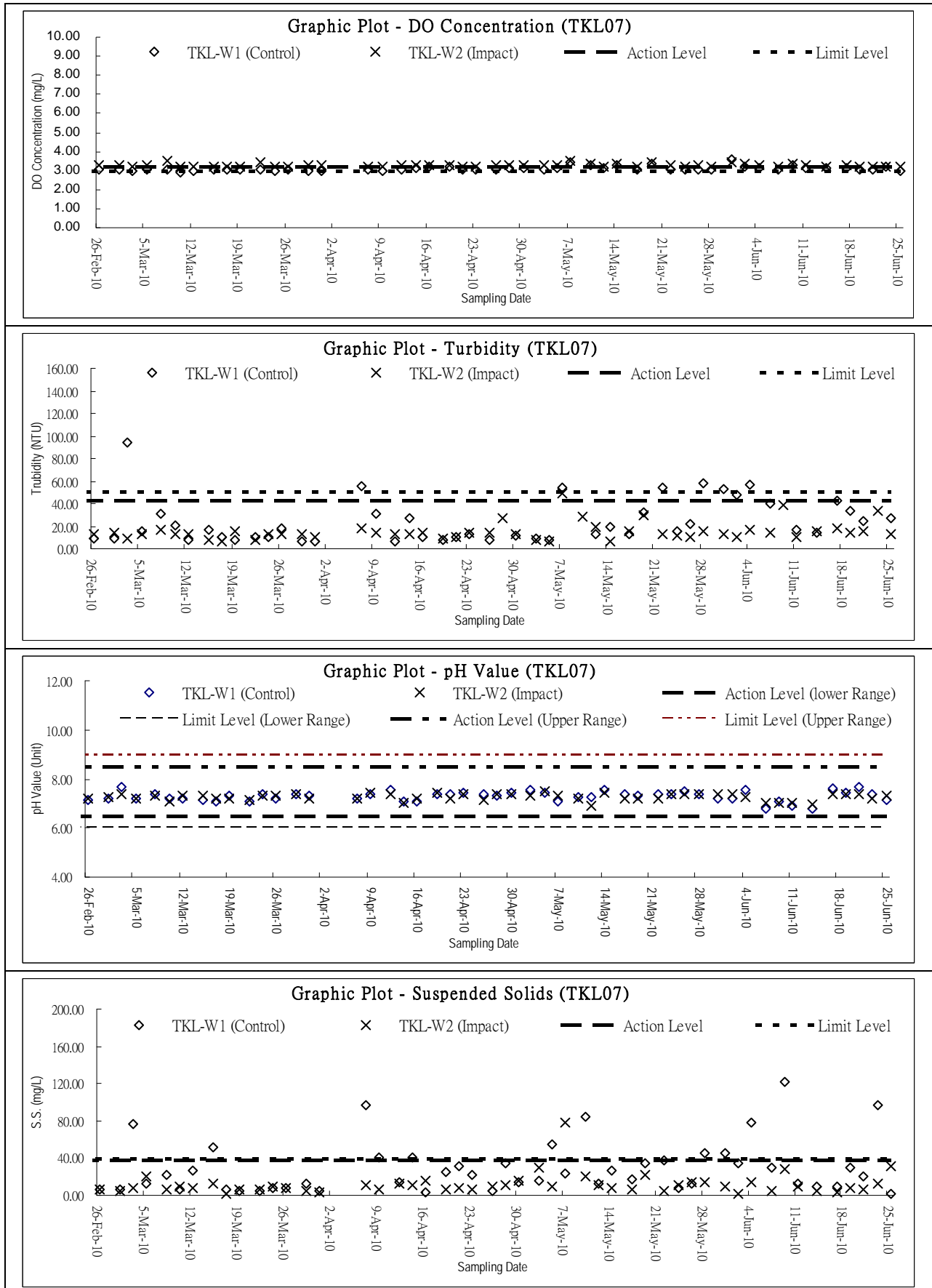




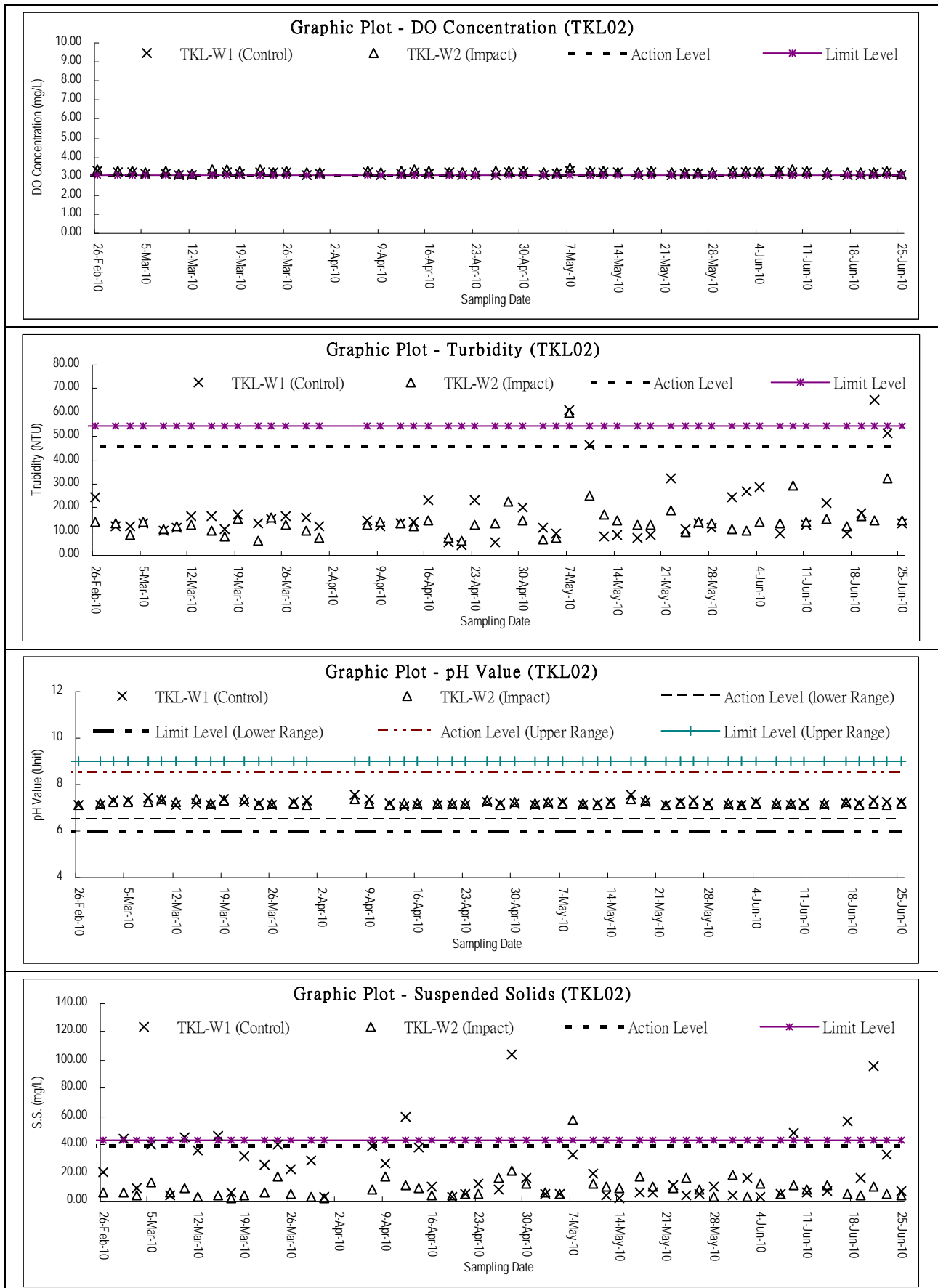
Graphic Plot of Monitoring - Water Quality (MUP01/02)



Graphic Plot of Monitoring - Water Quality (TKL07)



Graphic Plot of Monitoring - Water Quality (TKL02)



## **Appendix J**

### **Meteorological Records for the Reporting Period**



**Meteorological Data in this Reporting Period**

Date	Weather	Total Rainfall (mm)	Ta Kwu Ling				
			Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction	
Wed	26-May-10	Mainly cloudy with one or two showers.	0	25.6	7.5	76.5	E
Thu	27-May-10	A few showers later. There will be swells.	Trace	26.4	6	82.5	E/SE
Fri	28-May-10	Moderate south to southeasterly winds.	0	27.6	8.2	80	E
Sat	29-May-10	Cloudy with a few rain patches.	22.6	27.1	8.5	85.5	E/SE
Sun	30-May-10	Moderate to fresh easterly winds.	5.3	26.3	5.5	91	E/SE
Mon	31-May-10	Strong over offshore waters later.	0.3	25.2	9.5	85	E/SE
Tue	1-Jun-10	Mainly cloudy with one or two light rain patches.	16.1	24.2	14.2	68.5	E/SE
Wed	2-Jun-10	Light to moderate northerly winds.	29.3	21.3	8	91	E/SE
Thu	3-Jun-10	There will be swells.	1	22.9	8.5	83	N
Fri	4-Jun-10	Mainly cloudy. Sunny periods in the afternoon.	Trace	25.3	5	77.7	N
Sat	5-Jun-10	Sunny periods in the afternoon. Cloudy tonight.	8.2	26.1	7.7	78.5	E/SE
Sun	6-Jun-10	Mainly fine. Hot in the afternoon.	0	25.5	7.7	76	E
Mon	7-Jun-10	Moderate easterly winds.	0	25	8.7	75.7	E/SE
Tue	8-Jun-10	Moderate southerly winds.	Trace	25.4	10.5	77.5	E
Wed	9-Jun-10	Cloudy with occasional rain.	16.7	26.2	7	87.5	E
Thu	10-Jun-10	Rain will be heavy at times with a few squally thunderstorms.	58.4	25.5	5.5	94.2	E/SE
Fri	11-Jun-10	Cloudy with sunny intervals.	Trace	28.1	5.5	81.7	E/SE
Sat	12-Jun-10	Some rain later. Light winds.	Trace	27.7	5	82	N/NW
Sun	13-Jun-10	Moderate to fresh southwesterly winds.	29	29.1	7	79.2	S/SW
Mon	14-Jun-10	Mainly cloudy with a few showers.	6.4	29.4	10	80.7	S/SW
Tue	15-Jun-10	Mainly cloudy with a few showers.	0.1	28.9	10	80	S/SW
Wed	16-Jun-10	Moderate to fresh southwesterly winds.	3.8	29	7.5	82	S/SW
Thu	17-Jun-10	Cloudy periods overnight.	Trace	29.5	8.5	81.5	S/SW
Fri	18-Jun-10	Mainly fine and hot tomorrow.	0	29.2	10.2	74.5	S/SW
Sat	19-Jun-10	A few showers.	Trace	29.5	9	73	S/SW
Sun	20-Jun-10	Hot with sunny periods in the afternoon.	1.9	29	6.5	78.5	S/SW
Mon	21-Jun-10	Moderate southwesterly winds.	1.4	29.2	7.5	76	S/SW
Tue	22-Jun-10	A few showers. Hot with sunny periods.	4.6	29	7.7	77.5	S/SW
Wed	23-Jun-10	Cloudy with showers and a few squally thunderstorms.	41	28	12	84	S/SW
Thu	24-Jun-10	Showers will be heavy at times tomorrow.	39	28.9	9	82.2	S/SW
Fri	25-Jun-10	Cloudy with showers. Showers will be heavy	2.9	28.1	10.2	76.2	SW

\* The record was extracted from The Hong Kong Observatory Weather Stations

# missing (less than 24 hourly observations a day)

## **Appendix K**

### **Proforma of the Weekly ET Site Inspection Checklist**

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/ RE's Representative: William Tang  
 ETL/ ET's Representative: Ray Cheung  
 EO/ EO's Representative: C.P. Chan  
 Contractor's Representative: Y. M. Mo

Checklist No. DC200708-270510

**Inspection**

Date: 27 May 2010  
 Time: 10:00am

**PART A:**

**GENERAL INFORMATION**

Environmental Permit No. EP-277/2007/A

Weather:  Sunny  Fine  Cloudy  Rainy  Calm   
 Temperature: 27.5 °C   
 Humidity:  High  Moderate  Low  N/A  
 Wind:  Strong  Breeze  Light  Calm

**Channel**

**Area Inspected**

TKL02  
 TKL07  
 MUP01/02  
 MUP05

**PART B:**

**SITE AUDIT**

<b>Note:</b>	<b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance;	<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
	<b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable						

**Section 1: Water Quality**

		<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
1.01	Is an effluent discharge license obtained for the Project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>1</b>
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bunded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Ecology</b>							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands are prohibited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Remarks**

**Follow-Up of Last Site Inspection:**



C&D waste within the channel has been removed. (TKL 02)



De-silting rock barrier was repaired to avoid discharging turbidity water. (MUP 02)

Findings of Site Inspection on 27<sup>th</sup> May 2010:

<p>1. The cut-off slope should implement relative mitigation measures to prevent any surface runoff. (MUP 02)</p>	<p>2. Retained tree within the site was damaged, the contractor was reminded to protect the tree from works properly. (MUP 02)</p>	
<p>3. The soil stockpiled on the site should be covered with tarpaulin sheets in order to minimize the dust nuisance. (TKL 07)</p>		

IEC's representative

RE's representative

ET's representative

EO's representative

Contractor's representative

( ) ( ) ( Ray Cheung ) ( ) ( )

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/ RE's Representative: William Tang  
 ETL/ ET's Representative: Ray Cheung  
 EO/ EO's Representative: C.P. Chan  
 Contractor's Representative: Y. M. Mo

**Inspection**

Date: 3 June 2010  
 Time: 10:00am

**PART A:**

**GENERAL INFORMATION**

Environmental Permit No. EP-277/2007/A

Weather:  Sunny  Fine  Cloudy  Rainy  Calm   
 Temperature: 25.3 °C   
 Humidity:  High  Moderate  Low  N/A  
 Wind:  Strong  Breeze  Light  Calm

**Channel**

**Area Inspected**

TKL02  
 TKL07  
 MUP01/02  
 MUP05

**PART B:**

**SITE AUDIT**

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 1: Water Quality</b>							
1.01	Is an effluent discharge license obtained for the Project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	





Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas banded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Ecology</b>							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands are prohibited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Others:

Stagnant water was observed after rainfall, contractor was reminded to eliminate it for mosquito control. Photo 1&2

<b>Remarks</b>	
<b>Follow-Up of Last Site Inspection:</b>	
	
Retained tree within the site was protected and isolated (MUP 02)	The cut-off slope is flattened to prevent surface run-off (MUP 02 )



Soil stockpiled on the site was disposed off site. (TKL 07)

**Findings of Site Inspection on 3<sup>rd</sup> June 2010:**



1. As a reminder, after rainfall the contractor was reminded to clear the stagnant water within the site to prevent muddy water run-off. (TKL 02 & MUP 02)

**IEC's representative**

**RE's representative**

**ET's representative**

**EO's representative**

**Contractor's representative**

( ) ( William Tang ) ( Ray Cheung ) ( C. P. Chan ) ( Y. M. Mo )

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: Edmund Cheung  
 RE/ RE's Representative: William Tang  
 ETL/ ET's Representative: Ray Cheung  
 EO/ EO's Representative: C.P. Chan  
 Contractor's Representative: Y. M. Mo

**Inspection**

Date: 11 June 2010  
 Time: 14:00pm

**PART A: GENERAL INFORMATION Environmental Permit No. EP-277/2007/A**

Weather:  Sunny  Fine  Cloudy  Rainy  Calm   
 Temperature: 30.1 °C   
 Humidity:  High  Moderate  Low  N/A  
 Wind:  Strong  Breeze  Light  Calm

**Channel**

**Area Inspected**

TKL02  
 TKL07  
 MUP01/02  
 MUP05

**PART B: SITE AUDIT**

<b>Note:</b>	<b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance;	<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
	<b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable						

**Section 1: Water Quality**

1.01	Is an effluent discharge license obtained for the Project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>1</b>
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	


Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b>	<b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance; <b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable	<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bunded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Ecology</b>							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands are prohibited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Others:

Stagnant water was observed after rainfall, contractor was reminded to eliminate it for mosquito control. Photo 2

Remarks
<p><b>Follow-Up of Last Site Inspection:</b></p> <div style="display: flex; justify-content: space-around;">   </div> <p>Stagnant water was eliminated. (TKL 02 &amp; MUP 02)</p>



Findings of Site Inspection on 11<sup>th</sup> June 2010:



1. General refuse to be removed from drainage channel.

2. Stagnant water was observed. Larvidical oil or pumped out should be undertaken to prevent mosquitoes breeding

*IEC's representative*

*RE's representative*

*ET's representative*

*EO's representative*

*Contractor's representative*

( ) ( William Tang ) ( Ray Cheung ) ( C. P. Chan ) ( Y. M. Mo )

<b>Project:</b> <u>DSD Contract No. DC/2007/08</u> <u>Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang</u>	<b>Inspected by</b> IEC/IEC's Representative: RE/ RE's Representative: ETL/ ET's Representative: EO/ EO's Representative: Contractor's Representative:	<b>Checklist No.</b> <u>DC200708-170610</u> _____ William Tang _____ Ray Cheung _____ C.P. Chan _____ Y. M. Mo
<b>Inspection</b> <b>Date:</b> <u>17 June 2010</u> <b>Time:</b> <u>10:00am</u>		

<b>PART A:</b>	<b>GENERAL INFORMATION</b>	<b>Environmental Permit No. EP-277/2007/A</b>
Weather:	<input type="checkbox"/> Sunny <input checked="" type="checkbox"/> Fine <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Calm	<input type="checkbox"/>
Temperature:	<u>31.4</u> °C	<input type="checkbox"/>
Humidity:	<input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low	<input type="checkbox"/> N/A
Wind:	<input type="checkbox"/> Strong <input type="checkbox"/> Breeze <input checked="" type="checkbox"/> Light <input type="checkbox"/> Calm	
<b>Channel</b>	<b>Area Inspected</b>	
TKL02 TKL07 MUP01/02 MUP05		

**PART B: SITE AUDIT**

Note: <b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance; <b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 1: Water Quality</b>						
1.01 Is an effluent discharge license obtained for the Project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02 Is the effluent discharged in accordance with the discharge licence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03 Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04 Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05 Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06 Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07 Is drainage system well maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>2</b>
1.08 As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09 Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10 Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11 Are manholes adequately covered or temporarily sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12 Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13 Are wheel washing facilities well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14 Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15 Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16 Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17 Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18 Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19 Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20 Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



Note:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bunded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Ecology</b>							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands are prohibited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Others:

Stagnant water was observed after rainfall, contractor was reminded to eliminate it for mosquito control. Photo 1

<b>Remarks</b>	
<b>Follow-Up of Last Site Inspection:</b>	
 <p>1. General refuse was removed from drainage channel at</p>	 <p>2. Stagnant water was was pumped out to prevent mosquitoes breeding</p>

**Findings of Site Inspection on 17<sup>th</sup> June 2010:**



1. Stagnant water was observed. Larvidical oil or pumped out should be undertaken to prevent mosquitoes breeding (TKL02 & MUP 05)



2. The contractor was reminded to deploy rock barrier or any protective layer at the discharge point in order to prevent stirring up turbidity of water body. (MUP 05)

<i>IEC's representative</i>	<i>RE's representative</i>	<i>ET's representative</i>	<i>EO's representative</i>	<i>Contractor's representative</i>
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*Ray*

( ) ( William Tang ) ( Ray Cheung ) ( C. P. Chan ) ( Y. M. Mo )

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/ RE's Representative: William Tang  
 ETL/ ET's Representative: Ray Cheung  
 EO/ EO's Representative: C.P. Chan  
 Contractor's Representative: Y. M. Mo

**Inspection**

Date: 24 June 2010  
 Time: 10:00am

**PART A:**

**GENERAL INFORMATION**

Environmental Permit No. EP-277/2007/A

Weather:  Sunny  Fine  Cloudy  Rainy  Calm   
 Temperature: 30.2 °C   
 Humidity:  High  Moderate  Low  N/A  
 Wind:  Strong  Breeze  Light  Calm

**Channel**

**Area Inspected**

TKL02  
 TKL07  
 MUP01/02  
 MUP05

**PART B:**

**SITE AUDIT**

<b>Note:</b>	<b>Not Obs.:</b> Not Observed; <b>Yes:</b> Compliance; <b>No:</b> Non-Compliance;	<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
	<b>Follow Up:</b> Observations requiring follow-Up actions <b>N/A:</b> Not Applicable						

**Section 1: Water Quality**

		<b>Not Obs.</b>	<b>Yes</b>	<b>No</b>	<b>Follow Up</b>	<b>N/A</b>	<b>Photo/Remarks</b>
1.01	Is an effluent discharge license obtained for the Project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is the effluent discharged in accordance with the discharge licence?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is the discharge of turbid water avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Is drainage system well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	As excavation proceeds, are temporary access roads protected by crushed stone or gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are temporary exposed slopes properly covered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are earthworks final surfaces well compacted or protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are manholes adequately covered or temporarily sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are there any procedures and equipment for rainstorm protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Are wheel washing facilities well maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Is runoff from wheel washing facilities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are there toilets provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are toilets properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.18	Is the oil leakage or spillage avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.20	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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1.21	Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.22	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.23	Is used bentonite recycled where appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.24	Designated settlement area for runoff/wheel wash waste is provide and located at the streambed with 1-2m deep, 12m long and around 50m3 capacities for sedimentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	No excavation is undertaken in the settlement area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.27	Mobile toilets should provide on site and located away the stream course.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.25	License collector should be employed for handling the sewage of mobile toilet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 2: Air Quality</b>							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Are the excavated materials sprayed with water during handling?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Is dark smoke emission from plant/equipment avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15	Is open burning avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16	Excavated materials from the stream must remove form site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 3: Noise</b>							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is silenced equipment adopted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are all plant and equipment well maintained and in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



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3.08	Are flaps and panels of mechanical equipment closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Waste Management Plan had been submit to Engineer for approval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are receptacles available for general refuse collection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is general refuse sorting or recycling implemented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is the Contractor registered as a chemical waste producer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are the chemical wastes stored in proper storage areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Are chemical/fuel storage areas bunded?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.17	Are construction wastes disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are appropriate procedures followed if contaminated material exists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Note:</b> Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-Up actions N/A: Not Applicable		Not Obs.	Yes	No	Follow Up	N/A	Photo/ Remarks
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Are retained and transplanted trees in health condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.02	Are retained and transplanted trees properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.03	Are surgery works carried out for the damaged trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
5.04	Is damage to trees outside site boundary due to construction activities avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Section 6: Ecology</b>							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands are prohibited?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Section 7: Others</b>							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Others:

Stagnant water was observed after rainfall, contractor was reminded to eliminate it for mosquito control. Photo 1

<b>Remarks</b>
<b>Follow-Up of Last Site Inspection:</b>

Findings of Site Inspection on 24<sup>th</sup> June 2010:

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1. Stagnant water was observed. Larvicidal oil or pumped out should be undertaken with higher frequency to prevent mosquitoes breeding (MUP 05)



2. The contractor was reminded to remove the C&D waste floating on stagnant water and the stagnant water should be pumped away to prevent mosquitoes breeding (TKL 02)

<i>IEC's representative</i>	<i>RE's representative</i>	<i>ET's representative</i>	<i>EO's representative</i>	<i>Contractor's representative</i>
-----------------------------	----------------------------	----------------------------	----------------------------	------------------------------------

*Ray*

( ) ( William Tang ) ( Ray Cheung ) ( C. P. Chan ) ( Y. M. Mo )

## **Appendix L**

### **Proforma of Ecology Site Audit Checklist**

Environmental Team – Ecological Site Inspection and Audit Checklist



Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at  
Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/RE's Representative: \_\_\_\_\_  
 ETL/ ET's Representative: YW Wong  
 EO/EO's Representative: C P CHAN  
 Contractor's Representative: \_\_\_\_\_

Inspection  
 Date: 27-05-2010  
 Time: 11:00

**PART A: GENERAL INFORMATION** Environmental Permit No. EP-277/2007A

Weather:  Sunny  Fine  Cloudy  Rainy  Calm  EP-277/2007A

Temperature: 26 °C  EP-277/2007A

Humidity:  High  Moderate  Low  N/A

Wind:  Strong  Breeze  Light  Calm

Channel: MUP05 / MUP01/02 Area Inspected: all

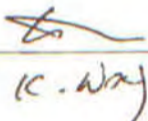

**PART B: SITE AUDIT**

Note	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance, No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.01	6.5.8	earthworks to widen the stream have been undertaken from the landward side and existing stream untouched except during the final stage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.9	widened stream bottom floored with natural materials to approximate as closely as possible to the rocky components of a natural stream bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no work on stream bed</u>
1.02	6.5.10	Any essential works outside the dry season have been temporarily isolated from the stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.03	6.5.11	Excavation works have been restricted to 300m length at any one time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.13	native riparian trees which would be impacted during construction works have been transplanted to suitable sites within the project area where possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>on-going</u>
1.05	6.5.22	Construction activities have been restricted to works area that should be clearly demarcated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	6.5.22	Temporary diversions have been provided to ensure continuous water flow to the downstream section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	6.5.22	The proposed works site inside or in the proximity of natural streams have been temporarily isolated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	6.5.22	no disturbance to the stream bed and bank have been found from construction works, equipment or workers for the stream section where the existing natural stream bed and bank will be left untouched	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	6.5.22	Temporary access track on streambed have been kept to the minimum width and length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no access to streambed</u>
1.09	6.5.22	Temporary stream crossings are supported on stilts above the stream bed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>MUP05</u>
1.10	6.5.22	Adequate temporary drainage measures including sediment and oil/grease traps have been provided to prevent contaminated site run-off entering the water bodies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	EM&A REF:	Not Obs. Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.12	6.5.22	Supervisory staff of the contractor have been assigned to station on site to closely supervise and monitor the construction works	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	6.5.22	workers have been regularly briefed to avoid disturbing the flora and fauna near the works area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	6.5.22	Construction effluent, site run-off and sewage have been properly collected, treated and disposed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	6.5.22	details of the mitigation measures to be implemented during construction stage have been submitted to the Engineer for approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks

All mitigation measures were found effectively implemented in M&E 01/02/05.

IEC's representative	RE's representative	ET's representative	EO's representative	Contractor's representative
( )	( )	(  )	(  )	( )

# Environmental Team – Ecological Site Inspection and Audit Checklist

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at  
Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspection  
 Date: 4-6-19  
 Time: 11:00

Inspected by  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/RE's Representative: \_\_\_\_\_  
 ETL/ ET's Representative: YW Wong  
 EO/EO's Representative: EP CHAN  
 Contractor's Representative: \_\_\_\_\_

Checklist No. 1006-1

**PART A: GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  Calm  Environmental Permit No. EP-277/2007A

Temperature: 26 °C  N/A

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

Channel: MUP05 / MUP05/02 Area Inspected: see

## PART B: SITE AUDIT

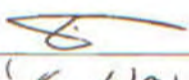

Note:	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 6: Ecology</b>								
1.01	6.5.8	earthworks to widen the stream have been undertaken from the landward side and existing stream untouched except during the final stage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.9	widened stream bottom floored with natural materials to approximate as closely as possible to the rocky components of a natural stream bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no work on stream bed</u>
1.02	6.5.10	Any essential works outside the dry season have been temporarily isolated from the stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.03	6.5.11	Excavation works have been restricted to 300m length at any one time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.13	native riparian trees which would be impacted during construction works have been transplanted to suitable sites within the project area where possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>on-going</u>
1.05	6.5.22	Construction activities have been restricted to works area that should be clearly demarcated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	6.5.22	Temporary diversions have been provided to ensure continuous water flow to the downstream section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	6.5.22	The proposed works site inside or in the proximity of natural streams have been temporarily isolated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	6.5.22	no disturbance to the stream bed and bank have been found from construction works, equipment or workers for the stream section where the existing natural stream bed and bank will be left untouched	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	6.5.22	Temporary access track on streambed have been kept to the minimum width and length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no access to stream bed</u>
1.09	6.5.22	Temporary stream crossings are supported on stilts above the stream bed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>MUP05</u>
1.10	6.5.22	Adequate temporary drainage measures including sediment and oil/grease traps have been provided to prevent contaminated site run-off entering the water bodies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.12	6.5.22	Supervisory staff of the contractor have been assigned to station on site to closely supervise and monitor the construction works	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	6.5.22	workers have been regularly briefed to avoid disturbing the flora and fauna near the works area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	6.5.22	Construction effluent, site run-off and sewage have been properly collected, treated and disposed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	6.5.22	details of the mitigation measures to be implemented during construction stage have been submitted to the Engineer for approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks

MUP01 / 05 - All mitigation measures implemented effectively.

MUP02 - The contractor has been reminded to review the effectiveness of the temporary drainage measures to make sure no contaminated site run-off entering the water bodies.

IEC's representative	RE's representative	ET's representative	EO's representative	Contractor's representative
( )	( )	(  )	(  )	( )
		( R. Way )	( C-P. Chan )	



Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at  
Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspection  
 Date: 10-06-2010  
 Time: 11:00

Inspected by \_\_\_\_\_  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/RE's Representative: \_\_\_\_\_  
 ETL/ ET's Representative: YW Wong  
 EO/EO's Representative: C P CHAN  
 Contractor's Representative: \_\_\_\_\_

Checklist No. 106-2

**PART A: GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  Calm

Temperature: 27 °C

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

Channel: MUP05 / MUP01 / MUP02

Area Inspected: All

Environmental Permit No. EP-277/2007A

**PART B: SITE AUDIT**



Note	EM&A REF:	Not Obs.: Not Observed, Yes: Compliance, No: Non-Compliance, Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 6: Ecology</b>								
1.01	6.5.8	earthworks to widen the stream have been undertaken from the landward side and existing stream untouched except during the final stage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.9	widened stream bottom floored with natural materials to approximate as closely as possible to the rocky components of a natural stream bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>No work on stream bed</u>
1.02	6.5.10	Any essential works outside the dry season have been temporarily isolated from the stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.03	6.5.11	Excavation works have been restricted to 300m length at any one time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.13	native riparian trees which would be impacted during construction works have been transplanted to suitable sites within the project area where possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>on-going</u>
1.05	6.5.22	Construction activities have been restricted to works area that should be clearly demarcated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	6.5.22	Temporary diversions have been provided to ensure continuous water flow to the downstream section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	6.5.22	The proposed works site inside or in the proximity of natural streams have been temporarily isolated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	6.5.22	no disturbance to the stream bed and bank have been found from construction works, equipment or workers for the stream section where the existing natural stream bed and bank will be left untouched	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	6.5.22	Temporary access track on streambed have been kept to the minimum width and length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no access to stream bed</u>
1.09	6.5.22	Temporary stream crossings are supported on stilts above the stream bed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>MUP05</u>
1.10	6.5.22	Adequate temporary drainage measures including sediment and oil/grease traps have been provided to prevent contaminated site run-off entering the water bodies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.12	6.5.22	Supervisory staff of the contractor have been assigned to station on site to closely supervise and monitor the construction works	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	6.5.22	workers have been regularly briefed to avoid disturbing the flora and fauna near the works area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	6.5.22	Construction effluent, site run-off and sewage have been properly collected, treated and disposed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	6.5.22	details of the mitigation measures to be implemented during construction stage have been submitted to the Engineer for approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Remarks**

MUP01 - mitigation measures were found effectively implemented

MUP02/05 - The contractor has been reminded to renew the temporary drainage measures to ensure no contaminated water entering the water bodies.

		 ( K. Wong )	 ( S.P. Chen )	
<small>IEC's representative</small>	<small>RE's representative</small>	<small>ET's representative</small>	<small>EO's representative</small>	<small>Contractor's representative</small>

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at  
Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspection  
 Date: 19-6-2010  
 Time: 1100

Inspected by  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/RE's Representative: \_\_\_\_\_  
 ETL/ ET's Representative: YW Wong  
 EO/EO's Representative: CP CHAN  
 Contractor's Representative: \_\_\_\_\_

Checklist No. 1006-3

**PART A: GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  Calm  EP-277/2007A

Temperature: 28 °C  N/A

Humidity:  High  Moderate  Low

Wind:  Strong  Breeze  Light  Calm

Channel: MUP05 1MUP01102 Area Inspected: BU

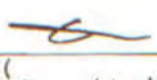
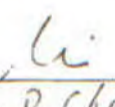
**PART B: SITE AUDIT**

Note:	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 6: Ecology</b>								
1.01	6.5.8	earthworks to widen the stream have been undertaken from the landward side and existing stream untouched except during the final stage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.9	widened stream bottom floored with natural materials to approximate as closely as possible to the rocky components of a natural stream bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no work on stream bed</u>
1.02	6.5.10	Any essential works outside the dry season have been temporarily isolated from the stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.03	6.5.11	Excavation works have been restricted to 300m length at any one time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.13	native riparian trees which would be impacted during construction works have been transplanted to suitable sites within the project area where possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>ok-going</u>
1.05	6.5.22	Construction activities have been restricted to works area that should be clearly demarcated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	6.5.22	Temporary diversions have been provided to ensure continuous water flow to the downstream section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	6.5.22	The proposed works site inside or in the proximity of natural streams have been temporarily isolated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	6.5.22	no disturbance to the stream bed and bank have been found from construction works, equipment or workers for the stream section where the existing natural stream bed and bank will be left untouched	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	6.5.22	Temporary access track on streambed have been kept to the minimum width and length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>no access to stream bed</u>
1.09	6.5.22	Temporary stream crossings are supported on stilts above the stream bed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>MUP05</u>
1.10	6.5.22	Adequate temporary drainage measures including sediment and oil/grease traps have been provided to prevent contaminated site run-off entering the water bodies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	EM&A REF:	Not Obs.: Not Observed, Yes: Compliance, No: Non-Compliance, Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.12	6.5.22	Supervisory staff of the contractor have been assigned to station on site to closely supervise and monitor the construction works	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	6.5.22	workers have been regularly briefed to avoid disturbing the flora and fauna near the works area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	6.5.22	Construction effluent, site run-off and sewage have been properly collected, treated and disposed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	6.5.22	details of the mitigation measures to be implemented during construction stage have been submitted to the Engineer for approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks

All mitigation measures were found effectively implemented in HSP01/02/05.

IEC's representative	RE's representative	ET's representative	EO's representative	Contractor's representative
( )	( )	 ( R. Wong )	 ( C.P. Chan )	( )

Project: DSD Contract No. DC/2007/08  
Drainage Improvement Works at  
Tai Po Tin, Ping Che, Man Uk Pin and Lin Ma Hang

Inspection  
 Date: 24-6-2010  
 Time: 11:00

Inspected by  
 IEC/IEC's Representative: \_\_\_\_\_  
 RE/RE's Representative: \_\_\_\_\_  
 ETL/ ET's Representative: YW Wong  
 EO/EO's Representative: C P Chan  
 Contractor's Representative: \_\_\_\_\_

Checklist No. 100006

**PART A: GENERAL INFORMATION**

Weather:  Sunny  Fine  Cloudy  Rainy  Calm  EP-277/2007A

Temperature: 28 °C  N/A

Humidity:  High  Moderate  Low  N/A

Wind:  Strong  Breeze  Light  Calm

Channel: MUP05 / MUP01 / MUP02 Area Inspected

**PART B: SITE AUDIT**

Note:	EM&A REF:	Not Obs.: Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
<b>Section 6: Ecology</b>								
1.01	6.5.8	earthworks to widen the stream have been undertaken from the landward side and existing stream untouched except during the final stage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.9	widened stream bottom floored with natural materials to approximate as closely as possible to the rocky components of a natural stream bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>1.0 work on stream-bed</u>
1.02	6.5.10	Any essential works outside the dry season have been temporarily isolated from the stream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>rest section</u>
1.03	6.5.11	Excavation works have been restricted to 300m length at any one time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	6.5.13	native riparian trees which would be impacted during construction works have been transplanted to suitable sites within the project area where possible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>on going</u>
1.05	6.5.22	Construction activities have been restricted to works area that should be clearly demarcated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.06	6.5.22	Temporary diversions have been provided to ensure continuous water flow to the downstream section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	6.5.22	The proposed works site inside or in the proximity of natural streams have been temporarily isolated	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	6.5.22	no disturbance to the stream bed and bank have been found from construction works, equipment or workers for the stream section where the existing natural stream bed and bank will be left untouched	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	6.5.22	Temporary access track on streambed have been kept to the minimum width and length	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	6.5.22	Temporary stream crossings are supported on stilts above the stream bed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>MUP05 only</u>
1.10	6.5.22	Adequate temporary drainage measures including sediment and oil/grease traps have been provided to prevent contaminated site run-off entering the water bodies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	6.5.22	Stockpiling of construction materials, spoils and						


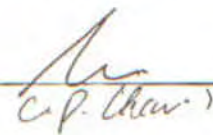
Note	EM&A REF:	Not Obs., Not Observed; Yes: Compliance; No: Non-Compliance; Follow Up: Observations requiring follow-up actions N/A: Not Applicable	Not Obs.	Yes	No	Follow Up	N/A	Photo/Remarks
1.12	6.5.22	Supervisory staff of the contractor have been assigned to station on site to closely supervise and monitor the construction works	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	6.5.22	workers have been regularly briefed to avoid disturbing the flora and fauna near the works area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	6.5.22	Construction effluent, site run-off and sewage have been properly collected, treated and disposed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	6.5.22	details of the mitigation measures to be implemented during construction stage have been submitted to the Engineer for approval	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks

MUP 01 - All mitigation measures in place

MUP 02 - The contractor has been reminded to review the temporary drainage measures to ensure that no contaminated water enters the water bodies.

IEC's representative      RE's representative      ET's representative      EO's representative      Contractor's representative

( )      ( )      (  )      (  )      ( )

K. Wong      C.P. Chow

## **Appendix M**

### **Monthly Summary Waste Flow Table**

Name of Department: DSD

Contract No.: DC/2007/08Date: 2-Jul-10**Monthly Summary Waste Flow Table for 2010 (26 May to 25 June)**

Month	Actual Quantities of Inert C&D Wastes Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)
Jan	10.532	0	0	9.422	0	1.11	0.2	0	0	0	0.006
Feb	5.665	0	0	5.335	0	0.33	0.15	0	0	0	0
Mar	5.935	0	0	5.605	0	0.33	0	0	0	0	0
Apr	7.072	0	3.502	1.887	0	1.683	0.1	0	0	0	0
May	9.638	0	4.42	3.108	0	2.11	0	0	0	0	0
Jun	6.155	0	0.864	1.991	0	3.3	0	0	0	0	0
Sub-total	44.997	0	8.786	27.348	0	8.863	0.45	0	0	0	0.006
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	44.997	0	8.786	27.348	0	8.863	0.45	0	0	0	0.006



Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000m <sup>3</sup> )
283.5	35.1	47.5	107	32	24	60	1	1	1	10

- Notes:
- (1) The performance targets are given in PS Clause 25.01F(14).
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
  - \* (4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m<sup>3</sup>. (PS Clause 25.01E(4)(b) refers). [Delete Note (4) and the table above on the forecast, where inapplicable].

**Summary Table for Work Processes or Activities Requiring Timber for Temporary Works**

Contract No. : DC/2007/08

Date: : 02 July 2010

Contract Title: DRAINAGE IMPROVEMENT WORKS AT TAI PO TIN, PING CHE, MAN UK PIN & LIN MA HANG

<b>Item No.</b>	<b>Description of Works Process or Activity</b> [see note (a) below]	<b>Justifications for Using Timber in Temporary Construction Works</b>	<b>Est. Quantities of Timber Used (m<sup>3</sup>)</b>	<b>Actual Quantities used (m<sup>3</sup>)</b>	<b>Remarks</b>
1.	Construction access ramp and inlet chamber at channel TKL02	Wall formwork of ramp 2 and formwork of inlet chambers	4.9	5.5	
2.	Construction of footbridge and inlet chamber at channel MUP02	Wall formwork of FBT 02-1 and wall formwork of inlet chambers	4.7	5.4	
3	Construction access ramp at channel TKL07	Filling mass concrete to FBT07	1.5	1.8	
<b>Total Estimated Quantity of Timber Used</b>			11.1		

- Notes:
- (a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.
  - (b) The summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.01E(5).