

**JOB NO.: TCS00371/07** 

**REVISION No.: 3** 

DRAINAGE SERVICES DEPARTMENT (DSD)
CONTRACT NO. DC/2006/02

YUEN LONG, KAM TIN, NGAU TAM MEI AND TIN SHUI WAI DRAINAGE IMPROVEMENTS, STAGE 1, PHASE 2B – CHEUNG CHUN SAN TSUEN AND KAM TSIN WAI

KT15 - MONTHLY EM&A REPORT FOR AUGUST 2008 (No. 14)

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

## **Quality Index**

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Rev. No.	Date	Remarks
1	06 Sep 2008	First Submission
2	11 Sep 2008	Response to IEC's comments received on 11 September 2008 via e-mail
3	12 Sep 2008	Response to IEC's comments received on 12 September 2008 via e-mail

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## **EXECUTIVE SUMMARY**

- ES01. Chit Cheung Construction Company Limited (CCC) has been awarded the Drainage Services Department (DSD) Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B Cheung Chun San Tsuen and Kam Tsin Wai (hereinafter "the Project") on 03 April 2007. According to the contract specification requirements an Environmental Monitoring & Audit program to be implemented by an Independent Environmental Team (ET) throughout the contract period.
- ES02. Under the Project Profile for Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai, Drainage Improvement Stage 1 Phase 2B Kam Tin Secondary Drainage Channels KT14 & KT15 (Ref.: 382047/E/PP/Issue 5), KT14 & KT15 was defined as Designated Project and governed by Environmental Permit (EP-231/2005/A).
- ES03. Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC to be an Independent Environmental Team (ET) to implement the EM&A program in compliance with the requirements as stated in the Environmental Permit (EP-231/2005/A) and Environmental Monitoring &Audit Manual (EM&A Manual) for Secondary Channel KT14 & KT15 (August 2005). For this Contract (DC/2006/02) only covered KT15 and KT14 will carried out under other contract.
- ES04. This Monthly EM&A Report for **August 2008 (No. 14)** is present the environmental impact monitoring and audit (EM&A) results of the project EM&A program for the reporting month **August 2008** during the period from **26 July 2008 to 25 August 2008**.

## BREACH OF ACTION AND LIMIT (AL) LEVELS

ES05. Exceedance of ecology monitoring was recorded in this reporting period. Dated and exceedances parameter are summaries as following table.

Monitoring	Parameters	<b>Action Level</b>	Limit Level
Air Quality	1-Hour TSP	-	-
	24-Hour TSP	-	-
Noise	Leq (30min) Daytime	-	-
	Dissolve Oxygen (DO)	-	-
	Suspended Solids (SS)	-	-
Stream	Turbidity (NTU)	-	-
Water	pH	-	-
	Ammonia Nitrogen	-	-
	Zinc	-	-
Ecology	Number of species of wetland birds	-	25 August 08
	Total number of wetland birds	-	25 August 08
	Number of species of wetland fauna	-	-
	Total number of wetland fauna	-	-

#### **COMPLAINTS LOG**

ES06. No environmental complaint was received in this reporting period.

### NOTIFICATIONS OF ANY SUMMONS AND SUCCESSFUL PROSECUTIONS

ES07. There was no environmental summons or successful prosecution was recorded in this reporting period.





#### **REPORTING CHANGES**

ES08. There are no changes to be reported in this reporting period.

#### **FUTURE KEY ISSUES**

ES09. Construction activities to be undertaken in **September 2008** included Construction and Excavation works, Stream Diversion, Tree protection and tree transplanting works, Carrying out joined survey, Utilities companies liaison, Dumping activities and Gabion installation. Potential environmental impacts for this project generally include air quality, noise, ecology, surface runoff and construction waste. The contractor shall properly implement the required environmental mitigation measures as per the Implementation Schedule in the EM&A manual to ensure no significant adverse environmental impact arises from the construction works. The contractor was reminded to maintain good house-keeping throughout the construction phase.

### EM&A ACTIVITIES IN THE REPORTING PERIOD

ES10. A summary of the monitoring activities in this reporting period is listed below: -

•	1-Hour TSP Monitoring	15	<b>Events</b>
•	24-Hour TSP Monitoring	6	Events
•	Noise Monitoring	5	Events
•	Stream Water Quality	14	<b>Events</b>
•	Ecology (Fauna)	1	Event
•	Site Inspection Audit	4	Times

# AIR QUALITY

ES11. No 1-Hour and 24-Hour TSP monitoring results trigger the Action or Limit Level was recorded in this reporting period.

### **CONSTRUCTION NOISE**

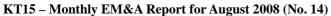
ES12. No construction noise compliant (Action Level) was received and no construction noise monitoring exceeded the Limit Level was recorded in this reporting period.

## STREAM WATER QUALITY

ES13. No stream water quality monitoring exceedance was recorded in the reporting period.

#### **ECOLOGY (FAUNA)**

ES14. Non-compliance with the ecological criteria was found during the monitoring month on 25 August 2008. No intrusions of construction activities into the wetland areas nor adverse impact was observed. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent bird and fauna was not caused by the project.





## SUMMARY OF MONITORING EXCEEDANCES

ES15. A summary of monitoring exceedances during the reporting period for air quality, construction noise, stream water quality and ecology (fauna) monitoring are presented below:-

Monitoring	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air	1-Hour TSP	0	Not Required for 0% Project Related Exceedance
Quality	24-Hour TSP	0	Not Required for 0% Project Related Exceedance
Noise	Leq (30min) Daytime	0	Not Required for 0% Project Related Exceedance
	Dissolve Oxygen (DO)	0	Not Required for 0% Project Related Exceedance
	Suspended Solids (SS)	0	Not Required for 0% Project Related Exceedance
Stream	Turbidity (NTU)	0	Not Required for 0% Project Related Exceedance
Water	pН	0	Not Required for 0% Project Related Exceedance
	Ammonia Nitrogen	0	Not Required for 0% Project Related Exceedance
	Zinc	0	Not Required for 0% Project Related Exceedance
Ecology	Decrease in number of species of wetland birds of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in number of species of wetland fauna of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in the total number of wetland birds of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in the total number of wetland fauna of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance

Note: According to the Project Profile Secondary Channels KT14 &KT15 Attachment 4 EM&A Manual Section 7.5.1 (b), fauna monitoring only undertaken in wet seasons (April to July) in monthly basis.

## SITE INSPECTION BY EXTERNAL PARTIES

ES16. No site inspection was undertaken by external parties in this reporting period.



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#### 1.0 INTRODUCTION

- 1.01 Chit Cheung Construction Company Limited (CCC) has been awarded the Drainage Services Department (DSD) Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B Cheung Chun San Tsuen and Kam Tsin Wai (hereinafter "the Project") on 03 April 2007. According to the contract specification requirements the Project should implemented an Environmental Monitoring & Audit (EM&A) program by an Independent Environmental Team (ET) throughout the construction period in compliance with the requirements as stated in the project particular specification, Environmental Permit (EP-231/2005/A) and EM&A Manual for KT15. Location plan of the project site is presented in Appendix A and the construction program is presented in Appendix B.
- 1.02 The works to be executed at the propose drainage Channel KT15 mainly comprise the following:
  - Construction of about 0.8 km secondary drainage channels;
  - Construction of DSD maintenances access;
  - Provisioning and re-provisioning of pedestrian crossings;
  - · Associated ancillary works; and
  - Construction of temporary vehicular access in Portion 5A1 of the site for vehicular access from Kam Sheung Road to Lot Nos. 398RP, 395 in DD106 which are adjacent to the site.
- 1.03 Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC to be the Independent Environmental Team (ET) for implementation of the EM&A program in accordance with the requirements as set out in the contract particular specification, Environmental Permit (EP-231/2005/A), EM&A Manual for KT15 and the Environment Impact Assessment Ordinance (EIAO).
- 1.04 This report presents the results of the project EM&A program for the reporting month August 2008 during the period from 26 July 2008 to 25 August 2008.

### REPORT STRUCTURE

1.05 The EM&A report is structured into the following sections:

Section 1	<b>INTRODUCTION</b>
occuon 1	INTRODUCTION

Section 2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

Section 3 SUMMARY OF MONITORING REQUIREMENTS

Section 4 IMPACT MONITORING METHODOLOGY

Section 5 IMPACT MONITORING RESULTS

**Section 6** WASTE MANAGEMENT

**Section 7 SITE INSPECTION** 

Section 8 Environmental Complaint and Non-Compliance

Section 9 IMPLEMENTATION STATUS OF MITIGATION MEASURES

**Section 10 IMPACT FORECAST** 

**Section 11 CONCLUSIONS** 

#### 2.0 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

#### PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

2.01 The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in **Appendix C**.

## **CONSTRUCTION PROGRESS**

- 2.02 The major construction activities undertaken in this reporting period are list below:-
  - Construction and excavation works;
  - Dumping activities;
  - Sheet pile driving;
  - Tree protection and tree transplanting works;
  - Utilities companies liaison;
  - Carrying out joined survey; and
  - Gabion Installation.

#### SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.03 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in this reporting period is presented in **Table 2-1**.

**Table 2-1** Status of Environmental Licenses and Permits

Items	Item Description	<b>License/Permit Status</b>
1	Environmental Permit (EP-231/2005/A)	-
2	Air Pollution Control (Construction Dust)	Notified EPD on 09 July 2007
3	Chemical Waste Producer Registration WPN:5296-519-C3430-01 (Portion 8, Ma Fung Ling Road, Tong Yan San Tsuen, Yuen Long)	Registration on 20 April 2007
4	Chemical Waste Producer Registration WPN:5113-533-C3434-09 (Kam Tsin Wai, Kam Tin, Yuen Long)	Registration on 20 April 2007
5	Chemical Waste Producer Registration WPN:5213-424-C3431-01 (Portion 7, Birthing Area, Hoi Wan Road, Tuen Mun)	Registration on 20 April 2007
6	Water Pollution Control Ordinance (Discharge License) License No.: 1U450/1	Obtained on 20 July 2007
7	Billing Account for Disposal of Construction Waste (Account Number: 7005311)	Valid on 07 May 2007
II .	Type 1 (Open Sea Disposal) Marine Dumping Permit (EP/MD/09-011)	
9	Type 2 (Confined Marine Disposal) Marine Dumping Permit (EP/MD/09-012)	04 Jul 08 – 03 Aug 08

## 3.0 SUMMARY OF IMPACT MONITORING REQUIREMENTS

- 3.01 Environmental monitoring and audit requirements are set out in the EM&A Manual. Air quality, construction noise, stream water quality and ecology have been identified to be the key environmental issues during the construction phase of the project.
- 3.02 A summary of the EM&A requirements for air quality, construction noise, stream water quality and ecology monitoring are shown in **Table 3-1**. The designated station of the air quality, construction noise, stream water quality locations and ecology monitoring area are shown in **Appendix D**.

**Table 3-1 Summary of EM&A Requirements** 

Environmental Aspect	Monitoring Parameters		Monitoring Stations
Air Quality	1-Hour and 24-Hour TS	SP	A10
Construction Noise	Leq <sub>(30min)</sub> during norma	l working hours	N10a*
	Supplementary data of	L <sub>10</sub> and L <sub>90</sub> for reference	
Stream Water Quality	11 3 10 70		W9A & W9B
	Laboratory Analysis  • Suspended Solids (mg/L);  • Ammonia Nitrogen (mg/L); and  • Zinc (µg/L).		
Ecology	Monthly monitoring of construction activities adjacent to the wetland areas to identify any intrusions of construction activities into the wetland areas;  Monthly monitoring of wetland areas themselves to check that there is no adverse impact on the wetlands as a consequence of changes to the water table that are attributable to the project, if any;  Photographic records at six-month intervals; and  Monthly surveys of fauna in the wetland areas during the wet season (April to July inclusive) for reptiles, amphibians, dragonflies, and butterflies, and throughout the year for birds.		

Note: \* The noise ambient condition within the victim area without significant change. Due to the accessibility, noise monitoring will undertake at N10a. Once the access is available, the impact noise monitoring will undertake at N10.

- 3.03 Air monitoring is carried out once every six days for 24-Hour TSP and 3 times every six days for 1-Hour TSP at one designated monitoring station A10.
- 3.04 Noise monitoring is conducted once per week at one designated monitoring location (N10a). Measurements of Leq<sub>(30min)</sub> shall be taken between 0700 and 1900 with supplementary  $L_{10}$  and  $L_{90}$  data will be collected for reference.
- 3.05 Stream water quality monitoring is conducted were undertaken at two locations (W9A and W9B) twice per week. Dissolved Oxygen (DO), pH and Turbidity (NTU) were measured in-situ, water depth, temperature and salinity will be collected for relevant data. Suspended Solids (SS), Ammonia Nitrogen and Zinc were determined in a HOKLAS accredited laboratory respectively.



- 3.06 Ecological monitoring is conducted in the seasonal wetland area as shown in Project profile of KT15 Figure ATT 4-7.2). Bird survey should be conducted in monthly through the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted monthly in wet season (April to July inclusive) only. Photographic record should be made at six month intervals.
- 3.07 A summary of the Action/Limit (A/L) Levels for air quality, construction noise, stream water quality and ecology monitoring are shown in Tables 3-2, 3-3, 3-4 & 3-5.

**Table 3-2 Action and Limit Levels for Air Quality Monitoring** 

Monitoring Station	Action Level (μg/m³)		Limit Level (μg/m³)	
Withhit ing Station	1-Hour TSP	24-Hour TSP	1-Hour TSP	24-Hour TSP
A10	> 307	> 165	> 500	> 260

**Table 3-3 Action and Limit Levels for Construction Noise Monitoring** 

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hrs on normal weekdays	When one or more documented complaints are received	>75* dB(A)

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

**Table 3-4 Action and Limit Levels for Stream Water Quality Monitoring** 

Dissolved Oxygen (mg/L)	W9A (Upstream) <sup>#</sup>	W9B (Downstream)
Action Level	NA	< 0.3
Limit Level	NA	< 0.2
Turbidity (NTU)		
Action Level	NA	> 73.5*
Limit Level	NA	> 78.2**
рН		
Action Level	NA	> 7.0*
Limit Level	NA	> 7.1**
Suspended Solids (mg/L)		
Action Level	NA	> 148*
Limit Level	NA	> 159**
Ammonia Nitrogen (mg/L)		
Action Level	NA	> 30.91*
Limit Level	NA	> 32.20**
Zinc (µg/L)		
Action Level	NA	> 242*
Limit Level	NA	> 252**

Note:

Table 3-5 Action and Limit Levels for Ecology Monitoring

Parameters	Action Level	Limit Level	
Fauna: decrease in the total number of wetland dependant species or individuals of the surveyed faunal groups from baseline	20 – 40% of individuals and species		

The Event/Action Plan of air quality, construction noise, stream water quality and 3.08 ecology monitoring has been implemented for this project. Details of the Event/Action Plan were presented in the **Appendix E**.

Act as Control Station for Impact Stream Water Quality Monitoring. Alternative Action Level is 120% of upstream control station of same day. Alternative Limit Level is 130% of upstream control station of same day.



#### 4.0 IMPACT MONITORING METHDOLOGY

#### MONITORING LOCATIONS

4.01 The 1-Hour and 24-Hour TSP monitoring was carried out at one designated station A10. Impact construction noise monitoring was undertaken at the designated location N10a. Stream water quality monitoring was undertaken at two designated locations (W9A & W9B). The ecology monitoring was conducted within the wetland area in according to the EM&A Manual of KT15. The descriptions of monitoring stations are presented in Tables 4-1. The geographically location are shown in Appendix D.

Table 4-1 Location of Air Quality, Construction Noise & Stream Water Quality Monitoring Station/Locations

Air Quality Station			
A10	Village House in Tin Sam San Tsuen		
Construction Noise Loc	cation		
N10*	Village House in Tin Sam San Tsuen		
N10a	Village House in Tin Sam San Tsuen		
Water Quality Locations			
W9A <sup>#</sup>	Tin Sam San Tsuen		
W9B	Tin Sam San Tsuen		

te: \* The noise ambient condition within the victim area without significant change. Due to the accessibility, noise monitoring will undertake at N10a. Once the access is available, the impact noise monitoring will undertake at N10

4.02 The meteorological data during the reporting period was extracted from the Lau Fau Shan Station of the Hong Kong Observatory (HKO).

## MONITORING FREQUENCY AND PERIOD

#### 1-HOUR TSP MONITORING

4.03 The 1-Hour TSP monitoring was conducted in designated station A10 in according to the EM&A Manual three times every 6 days. Total of **15** monitoring events were carried out in this reporting period.

## 24-HOUR TSP MONITORING

4.04 The 24-Hour TSP monitoring was conducted at station A10 once every six days. Total of **6** monitoring events were carried out in this reporting period.

## **NOISE MONITORING**

4.05 Impact noise monitoring was undertaken at location N10a once per week. Total of 5 monitoring events were carried out in this reporting period.

## **STREAM WATER QUALITY MONITORING**

4.06 The stream water quality monitoring was undertaken at two locations W9A & W9B twice per week. Total of **14** monitoring events were carried out in this reporting period.

<sup>#</sup> Act as control station in impact monitoring

## **ECOLOGY MONITORING**

4.07 Bird survey should be conducted in monthly throughout the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted monthly in wet season (April to July inclusive) in the seasonal wetland area. Photographic record should be made at six monthly intervals.

## MONITORING EQUIPMENT

4.08 Monitoring equipment used by the ET in EM&A program is presented in Table 4-2.

**Parameters Equipment Monitoring Equipment** 1-Hour TSP Portable dust meter Sibata LD-3 Laser Dust Meter Grasby Anderson GMWS 2310 HVS / Tisch High 24-Hour TSP High Volume Sampler Volume Sampler 515N Calibration Kit TISCH Model TE-5028A Integrating Sound Level Meter (Type1) Leq30min B&K Type 2238 B&K Type 4231 Calibrator Portable Wind Speed Indicator Testo Anemometer Water Depth Water Depth Detector Eagle Sonar Temperature Thermometer & DO Meter YSI 85/10FT DO YSI 85/10FT Thermometer & DO Meter Hanna HI 98128 pH Meter pН Turbidity Turbidimeter Hach 2100P Salinity Salinometer ATAGO refractometer Teflon bailer / bucket Water Sampler High density polythene bottles (provided by laboratory) Sample Container Storage Container 'Willow' 33-litter plastic cool box

**Table 4-2** Monitoring Equipment Used in EM&A Program

#### 24-HOUR TSP MONITORING

- 4.09 The 24-Hour TSP monitoring was carried out by a High Volume Sampler (HVS) in compliance with the USEPA Standards Title 40, Code of Federal Regulations Chapter 1 (Part 50) specifications. The HVS employed complied with the PS specifications including.
  - Power supply of 220v/50 hz for 24-Hour continuous operation;
  - 0.6-1.7 m<sup>3</sup>/min (20-60 SCFM) adjustable flow rate;
  - A 7-day mechanical timer for 24-Hour operation;
  - An elapsed time indicator with  $\pm 2$  minutes accuracy for 24-Hour operation;
  - Minimum exposed area of 63 in<sup>2</sup>;
  - Flow control accuracy of  $\pm 2.5\%$  deviation over 24-Hour operation;
  - An anodized aluminum shelter to protect the filter and sampler;
  - A motor speed-voltage control to control mass flow rate with accuracy of ±2.5% deviation over 24-Hour sampling period;
  - Provision of a flow recorder for continuous monitoring;
  - Provision of a peaked roof inlet;
  - Incorporation with a manometer; and
  - An 8"x10" stainless steel filter holder to hold, seal and easy to change the filter paper.



4.10 The filter papers used in 24-Hour TSP monitoring were of size 8"x10" and provided by a local HOKLAS-accredited laboratory, ALS Techichem Pty (HK) Limited (HOKLAS No. 66). The filters papers after measurements were returned to the laboratory for the required treatment and analysis.

## 1-HOUR TSP MONITORING

4.11 Measurement of 1-Hour TSP monitoring was taken by Sibata LD-3 Laser Dust Meter. That is a portable and battery-operated laser photometer capable of performing real time 1-Hour TSP measurements. A comparison test with HVS was carried out prior to baseline monitoring in compliance with the EM&A requirements and a conversion factor for direct reading of the dust meter has been established.

## WIND DATA MONITORING

4.12 The meteorological data during the reporting period was extracted from the Lau Fau Shan Station of the Hong Kong Observatory (HKO).

### **NOISE MONITORING**

- 4.13 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level ( $L_{eq}$ ) measured in decibels (dB). Supplementary statistical results such as  $L_{10}$  and  $L_{90}$  were also obtained for reference.
- 4.14 Hand-held sound level meters and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications were used for taking the impact noise measurements.
- 4.15 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).
- 4.16 No noise measurement was carried out in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s.

#### STREAM WATER QUALITY MONITORING

## Water Depth

- 4.17 Water quality monitoring will be conducted at the middle of the water columns (Mid-Depth) if the depths of the water columns at the sampling locations are less than 3 meters during monitoring. Or else, monitoring will be performed at two depths, at 1 meter from surface and bottom respectively when the water depth is less than 6m.
- 4.18 Water depths will be determined prior to measurement and sampling at W9A and W9B, using a portable battery operated depth detector, brand named 'Eagle Sonar', if the depths exceed 3 meter. For the depths well below 1 meter, an appropriate steel ruler or rope with appropriate weight will be used for the depth estimation.



### Water Temperature

4.19 Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 20°C for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter will be recorded in the field data sheets.

## Dissolved Oxygen (DO)

- 4.20 A portable YSI 85/10FT DO Meter will be 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.
- 4.21 Although the DO Meter automatically compensates ambient water temperature to a standard temperature of 200°C for ease of comparison of the data under the changing reality, the temperature readings of the DO Meter will be recorded in the field data sheets.

#### <u>рН</u>

4.22 A portable Hanna pH Meter will be 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 at least pH7 and pH10 shall be used for calibration of the instrument before and after use.

#### *Turbidity (NTU)*

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

## Salinity

4.24 A portable salinometer capable of measuring salinity in percentage (g/L) will be used for in-situ measure the salinity of stream water at each monitoring location.

## Water Sampler

4.25 Water samples will be collected by the ET using a water sampler and 'PE' (Poly-Ethylene) sampling bottles provided by the laboratory. The water sampler will be rinsed before collection with the sample to be taken. Kahlsico Water Sampler will be used for sampling. One liter or 1000mL water sample will be collected from each depth for SS determination. The samples collected are stored in a cool box maintained at 40°C and delivered to ALS upon completion of the sampling by end of each sampling day. Sampling in the stream with shallow water condition, plastic bucket will be used for sample collection.

## Sample Container

4.26 Water samples will be contained in screw-cap PE (Poly-Ethylene) bottles, which will be provided and pretreated immediately prior to sampling according to HOKLAS quality requirements by ALS. The sampling bottles will be rinsed with the water to be contained. Water sample is then transferred from the sampler to the sample bottles to 95% bottle capacity to allow possible volume changes during delivery and storage.



## Sample Storage

- 4.27 A 'Willow' 33-litter plastic cool box packed with ice will be used to preserve the collected water samples prior to arrival at the laboratory for SS determination. The water temperature of the cool box will be maintained at a temperature as close to 4°C as possible without being frozen. Samples collected will be delivered to the laboratory upon collection.
- 4.28 DO, water temperature, turbidity (NTU), pH, salinity and water depth were measured in-situ whereas SS, Ammonia Nitrogen and Zinc were determined in a HOKLAS accredited laboratory (ALS).

### **ECOLOGY MONITORING**

#### Study Area

4.29 The study area for the ecological monitoring programme for KT15 covers the seasonal wetland area as shown in Project Profile of KT15 Figures ATT 4-7.2.

## Survey Method

- 4.30 Monthly monitoring was conducted by means of walk through survey, along the boundary and within the wetland areas in KT15. Any adverse impacts to the habitat, intrusions of construction activities into the wetland areas, and adverse changes in the wetlands were checked and reported if any.
- 4.31 Photographic records on the fixed photo record points selected during the baseline survey are made every six months. The photos from the construction phase ecological monitoring will be compared with those taken during the baseline which is used as the baseline conditions.
- 4.32 Bird monitoring was conducted in the study areas monthly for KT15. Survey areas in KT15 was the seasonal wetland area covered same as the Project Profile of KT15 Figures ATT 4-7.2.
- 4.33 Fauna monitoring is conducted only during the wet season (April to July inclusive for KT15) in the same survey areas for bird monitoring. For KT15, the survey frequency is monthly, and the surveys cover reptiles, amphibians, dragonflies and butterflies.

## **Equipment**

4.34 Standard portable field survey equipment was used for ecological monitoring, including 1) Binoculars of 10 x 40 magnifications; 2) Digital camera; 3) Notebook; and/or 4) Butterfly net (when it is necessary to confirm identities of butterflies and dragonflies).

#### **EQUIPMENT CALIBRATION**

4.35 Initial calibration of the HVS was performed upon installation and thereafter at bi-monthly intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator. The calibration data are properly documented and the records are maintained by ET for future reference.



- 4.36 The 1-Hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment is checked before and after each monitoring event. A comparison test was carried out with a HVS. A conversion factor (K) of 4.0 was generated in accordance with the equipment manufacturer's instruction. The meter counts in minutes multiplied by the conversion factor will generate the equivalent dust concentration by HVS.
- 4.37 The sound level meters are calibrated using an acoustical calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustical 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.
- 4.38 All in-situ stream water quality monitoring instruments are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at 3 monthly intervals throughout all monitoring stages.
- 4.39 The calibration certificates of the monitoring equipment used during the impact monitoring program are attached in **Appendix F**.

#### ANALYTICAL LABORATORY

4.40 Our ET has commissioned a local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66) to provide analytical services for this project. ALS carried out sample and analysis control in accordance with the HOKLAS QA/QC requirements. The specified testing services provided by ALS as shown in **Table 4-3**.

Table 4-3 Analytical Method applied to Water Quality Samples

Determinant	Standard Method	Detection Limit
Suspended Solids	ALS Method EA025	2 mg/L
Ammonia Nitrogen	ALS Method EK055A	0.01 mg/L
Zinc	ALS Method EG020	10 μg/L

4.41 The analysis of suspended solids, ammonia nitrogen and zinc concentrations were follow the APHA Standard Methods for the Examination of Water and Wastewater 19ed 2540D. ALS Environmental has comprehensive quality assurance and quality control programs and has attained HOKLAS accreditation for a range of environmental testing. For QA/QC procedures, one duplicate sample for every batch of samples was analyses as required by the HOKLAS. The QA/QC results are presented in **Appendix H**.

## DATA MANAGEMENT AND DATA QA/QC CONTROL

4.42 The impact monitoring data are handled by the ET's systematic data recording and management, which complies with in-house Quality Management System. Standard Field Data Sheets (FDS) are used in the impact monitoring program.

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- 4.43 The monitoring data recorded in the equipment e.g. 1-Hour TSP meters and noise meters are downloaded directly from the equipment 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.
- 4.44 For monitoring activities require laboratory analysis, the local laboratory follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing.



#### 5.0 IMPACT MONITORING RESULTS

5.01 The impact monitoring was carried out by the ET in compliance with the project specific EM&A Manual. The impact monitoring schedules are shown in **Appendix G** and the monitoring results are present in the following sub-sections.

#### **AIR QUALITY**

5.02 The 1-Hour and 24-Hour TSP impact monitoring data are summarized in **Tables 5-1** and **5-2**. Graphical plots of the past four month monitoring results are shown in **Appendix H**.

Table 5-1 Summary of 1-Hour TSP Monitoring Results at A10

Monitoring Date	Start Time	1 <sup>st</sup> Result (μg/m <sup>3</sup> )	2 <sup>nd</sup> Result (μg/m <sup>3</sup> )	3 <sup>rd</sup> Result (μg/m <sup>3</sup> )	Action Level (µg/m³)	Limit Level (µg/m³)
31-Jul-08	09:10	35	34	35	> 307	> 500
8-Aug-08	09:05	22	20	20	> 307	> 500
12-Aug-08	09:05	48	45	46	> 307	> 500
18-Aug-08	09:13	22	29	26	> 307	> 500
23-Aug-08	09:06	38	35	36	> 307	> 500

Note: Bold and italic is exceed the Action Level.

Bold and underline is exceed the Limit Level

Table 5-2 Summary of 24-Hour TSP Monitoring Results at A10

<b>Monitoring Date</b>	Monitoring Results (μg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
26-Jul-08	39	> 165	> 260
1-Aug-08	13	> 165	> 260
8-Aug-08	15	> 165	> 260
13-Aug-08	23	> 165	> 260
19-Aug-08	24	> 165	> 260
25-Aug-08	24	> 165	> 260

Note: Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level

- 5.03 No 1-Hour and 24-Hour TSP monitoring results trigger the Action or Limit Level was recorded in this reporting period.
- 5.04 The meteorological data during the monitoring period are summarized in **Appendix I**.

### **CONSTRUCTION NOISE**

5.05 The impact construction noise monitoring results are summarized in **Table 5-3**. Graphical plots of the past four month monitoring results are shown in **Appendix H**.

 Table 5-3
 Summary of Noise Monitoring Results at N10a

Date	Start Time	1st Leq5	2nd Leq5	3 <sup>rd</sup> Leq5	4th Leq5	5th Leq5	6 <sup>th</sup> Leq5	Leq30
31-Jul-08	09:46	49.5	45.2	44.5	47.6	46.8	43.9	46.7
8-Aug-08	13:00	56.7	51.4	51.8	52.4	57.6	58.0	55.5
12-Aug-08	09:40	57.4	58.7	55.3	59.1	57.8	54.9	57.5
18-Aug-08	09:40	50.7	54.6	52.0	50.7	54.5	53.7	53.0
23-Aug-08	09:15	54.7	50.7	49.0	51.2	48.4	48.0	51.0
Limit L	Limit Level -					> 75 dB(A)		



5.06 No construction noise complaint (Action Level) was received and all noise level below the Limit Level in this reporting period.

## STREAM WATER QUALITY

- 5.07 Monitoring on 06 August 2008 was cancelled due to Tropical cyclone warning signals No. 8. Heavy rainfall at Kam Tin area was recorded on 07 August 2008, stream water monitoring cannot restore due to safety reason. Only one monitoring was undertaken from 03 to 09 August 2008. The stream water quality monitoring results are summarized in **Table 5-4** and graphical plots for each parameter are presented in **Appendix H**.
- 5.08 No stream water quality monitoring results exceeded the Action or Limit Level was recorded in this reporting period.

**Turbidity (NTU)** Monitoring DO in mg/L рH SS in mg/L Ammonia (mg/L) Zinc (µg/L) **W9A**# **W9A**#  $W9A^{\#}$ W9A# W9A# W9A# W9B W9B W9B W9B W9B W9B Date 28-Jul-08 2.6 125.5 23.8 7.1 136 4.58 132 4.2 6.6 9 4.78 17 31-Jul-08 2.5 4.3 16.5 33.7 6.7 6.6 35 11 12.80 2.71 64 19 Cancelled due to Tropical Cyclone Warning Signal No. 8 6-Aug-08 3.4 8-Aug-08 3.9 47.1 27.7 7.0 6.9 48 27.20 1.56 232 26 12 2.7 3.7 16.6 14.3 6.6 6.9 6 8 1.49 1.64 34 21 12-Aug-08 14-Aug-08 1.8 4.4 35.0 11.2 6.9 6.8 44 15 2.85 2.18 50 26 1.4 2.7 17.3 6.9 6.9 67 11 4.20 3.67 28 18-Aug-08 55.3 61 4.2 3.6 43.2 10.1 6.7 6.9 38 18 1.04 3.03 48 23-Aug-08 68 **Action Level** < 0.3\* > 73.5\* > 7.0\* > 148\* > 30.91\* > 242\* **Limit Level** < 0.2\*\* > 78.2\*\* > 7.1\*\* > 159\*\* > 32.20\*\* > 252\*\*

Table 5-4 Summary of Stream Water Quality Results at W9A & W9B

Notes: #

- # Act as Control Station for the Impact Water Quality Monitoring.
- \* Alternative Action Level is 120% of upstream control station of same day.
- \*\* Alternative Limit Level is 130% of upstream control station of same day.

## **ECOLOGY**

57 individuals of birds from 17 species were recorded during the present monthly monitoring on 25 August 2008. Among the birds recorded, no individual from any wetland bird species with abundance from the baseline (i.e. Cattle Egret and Chinese Pond Heron) was recorded. The average abundance of 1.2 individuals from 2 species of wetland dependent birds recorded during the baseline study for the KT15 Project Profile, the species number and total individual number of wetland dependent bird recorded fell within the Limit Level during the ecology monitoring (i.e. decrease in the number of species or individuals > 40% from the baseline).



- 5.10 No intrusions of construction activities into the wetland areas nor adverse impact on the wetlands was found. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent bird species and individual number was not caused by the project.
- 5.11 Fauna survey is required during wet season (i.e. April to July) and thus is not required in the present monthly monitoring. Photographic records are scheduled in six-month intervals, and thus are not required in the present monitoring month.
- 5.12 The ecology impact monitoring results are presented in **Table 5-5**.

Table 5-5 Summary of Ecology Impact Monitoring Surveys Bird Survey

Scientific Name	Common Name	Abundance reported in the project profile	Abundance recorded in the present survey (25 Aug 08)
Birds			
Bubulcus ibis	Cattle Egret	0.4	
Ardeola bacchus	Chinese Pond Heron	0.8	
Amaurornis phoenicurus	White-breasted Waterhen	Recorded only	1
Streptopelia chinensis	Spotted Dove	Recorded only	5
Hirundo rustica	Barn Swallow	Recorded only	8
Motacilla alba	White Wagtail	Recorded only	2
Pycnonotus jocosus	Red-whiskered Bulbul	Recorded only	4
Pycnonotus sinesis	Chinese Bulbul	Recorded only	2
Lanius schach	Long-tailed Shrike	Recorded only	
Copsychus saularis	Oriental Magpie Robin	Recorded only	1
Orthotomus sutorius	Common Tailorbird	Recorded only	
Lonchura striata	White-rumped Munia	Recorded only	
Passer montanus	Eurasian Tree Sparrow	Recorded only	6
Sturnus nigricollis	Black-collared Starling	Recorded only	4
Acridotheres cristatellus	Crested Myna	Recorded only	8
Prinia flaviventris	Yellow-bellied Prinia	\	1
Eudynamis scolopacea	Common Koel	\	1
Halcyon smyrnensis	White-throated Kingfisher	\	
Garrulax perspicillatus	Masked Laughingthrush	1	3
Zosterops japonica	Japanese White Eye	\	4
Lonchura punctulata	Scaly-breasted Munia	1	5
Egretta garzetta	Little Egret	\	
Anthus hodgsoni	Olive-backed Pipit	\	
Phylloscopus subaffinis	Dusky Warbler	\	
Phylloscopus inornatus	Yellow-Browed Warbler	\	
Parus major	Great Tit	\	1
Prinia inornata	Plain Prinia	\	
Sturnus sericeus	Red-billied Starling		
Centropus bengalensis	Lesser Coucal	\	
Centropus sinensis	Greater Coucal		1
Species Number		15 spp. recorded, (only 2 species of wetland birds with abundance)	wetland birds with abundance in the baseline)
Individual Number		1.2 (from the 2 species of wetland birds with abundance)	57 (0 from the wetland birds with abundance in the baseline)

Note: \* Wetland dependent species recorded with abundance during the baseline study with the names bolded



#### **6.0 WASTE MANAGEMENT**

6.01 The waste management was implemented by on-site Environmental Officer or Environmental Supervisor from time to time.

## **RECORDS OF WASTE QUANTITIES**

- 6.02 All types of waste arising from the construction work are classified into the following:
  - Construction & Demolition (C&D) Material;
  - Chemical Waste;
  - General Refuse; and
  - Excavated Soil.
- 6.03 The quantities of waste for disposal in this reporting period are summarized in **Tables**6-1 and 6-2. Whenever possible, materials were reused on-site as far as practicable.

Table 6-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
Broken Concrete (Inert) (m <sup>3</sup> )	0	Public Filling
Reused in this Contract (Inert) (m <sup>3</sup> )	0	N/A
Reused in other Projects (Inert) (m <sup>3</sup> )	0	N/A
Disposal as Public Fill (Inert) (m <sup>3</sup> )	0	Tuen Mun Area 38

**Table 6-2** Summary of Quantities of C&D Wastes

Type of Waste	Quantity	Disposal Location
Recycled Metal (kg)	0	NA
Recycled Paper / Cardboard Packing (kg)	8	NA
Recycled Plastic (kg)	0	NENT Landfill
Chemical Wastes (kg)	0	License Collector
General Refuses (m <sup>3</sup> )	42	NENT Landfill

6.04 The quantities of excavation soil for marine disposal in this reporting period are summarized in **Table 6-3**.

Table 6-3 Summary of Excavated Soil for Marine Disposal

Type of Waste	Quantity	<b>Disposal Location</b>
Type 1 Materials (m <sup>3</sup> )	0	East Sha Chau (Pitch 4a & 4b)
Type 2 Materials (m <sup>3</sup> )	0	East Sha Chau (Pitch 4c)



#### 7.0 SITE INSPECTION

- 7.01 According to the EM&A Manual Section 9.1.2, the environmental site inspection should been formulation by ET Leader. ET had carried out the environmental site inspection on 31 July, 08, 14 and 21 August 2008 with the Representatives of the Engineer and the Contractor to evaluate the site environmental performance in this reporting period. The monthly IEC site audit conducted on 14 August 2008 by IEC's representative with the Engineer's, the Contractor's and ET's representative. No non-compliance and two observations were noted.
- 7.02 The details of observation during the site inspections and monthly audit as follows:-
  - Un-used water collection drum was observed at Bay 41, the contractor was reminded to cover the drum to prevent any stagnant water accumulation;
  - Stagnant water was cumulated at KT-15 works area after the rainfall, the contractor was reminded to clean to prevent mosquito breeding;
- 7.03 The ET site inspection checklists are shown in **Appendix J**. In general, the construction area of KT15 was kept clean and tidy.
- 7.04 No site inspection was undertaken by external parties in this reporting period.



## 8.0 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

## ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.01 No environmental complaint, summons and prosecution was received in this reporting period. Statistical summaries environmental complaint, summon and prosecution are presented in **Tables 8-1**, **8-2** and **8-3**.

**Table 8-1 Statistical Summary of Environmental Complaints** 

Reporting Period	Environmental Complaint Statistics				
Reporting 1 criod	Frequency	Cumulative	Complaint Nature		
July – December 2007	0	0	NA		
January – July 2008	0	0	NA		
August 2008	0	0	NA		

**Table 8-2 Statistical Summary of Environmental Summons** 

Reporting Period	Environmental Summons Statistics						
Reporting 1 error	Frequency	Cumulative	Nature				
July – December 2007	0	0	NA				
January – July 2008	0	0	NA				
August 2008	0	0	NA				

**Table 8-3 Statistical Summary of Environmental Prosecution** 

Reporting Period	Environmental Prosecution Statistics							
Reporting Ferrod	Frequency	Cumulative	Nature					
July – December 2007	0	0	NA					
January – July 2008	0	0	NA					
August 2008	0	0	NA					

## 9.0 IMPLEMENTATION STATUS OF MITIGATION MEASURES

- 9.01 CCC has been implementing the required environmental mitigation measures according to the EM&A Manual of KT15 Mitigation Measures Implementation Schedule.
- 9.02 A summary of environmental mitigation measures generally implemented by CCC in this reporting period is presented as follows;

## **Water Quality**

- Wastewater were appropriately treated by treatment facilities;
- Drainage channels were provided to convey run-off into the treatment facilities;
- Drainage systems were regularly and adequately maintained.

## **Air Quality**

- Vehicles were cleaned of mud and debris before leaving the site;
- Site vehicles were limited to within 8 km/hr;
- Public roads around the site entrance/exit had been kept clean and free from dust;
- Dust suppression measures were properly provided to reduce dust emission from stockpile.

## **Noise**

- Works and equipment were located to minimise noise nuisance from the nearest sensitive receiver;
- Idle equipments were either turned off or throttled down;
- Some of the Powered Mechanical Equipments were covered or shielded by appropriate acoustic materials if practicable.

### Waste and Chemical Management

- Wastes were properly segregated into inert and non-inert in appropriate containers/areas;
- Excavated materials were reused where practicable.
- A chemical waste storage area had been provided on site;

### General

• The site was generally kept tidy and clean.





#### 10.0 IMPACT FORECAST

#### **KEY ISSUES FOR THE COMING MONTH**

10.01 Key issues to be considered in the coming month include:

- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due to dry/windy season (November to March) from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures.

10.02 The tentative 3-month rolling program is presented in **Appendix B**.



#### 11.0 CONCLUSION

11.01 The EM&A program in **August 2008** was undertaken in compliance with the EM&A Manual for KT15. A summary of environmental compliance of air, noise, stream water quality and ecology in this reporting period are presented in **Table 11-1**.

Table 11-1 Summary of the Exceedances for Impact Monitoring

Monitoring	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air	1-Hour TSP	0	Not Required for 0% Project Related Exceedance
Quality	24-Hour TSP	0	Not Required for 0% Project Related Exceedance
Noise	Leq (30min) Daytime	0	Not Required for 0% Project Related Exceedance
	Dissolve Oxygen (DO)	0	Not Required for 0% Project Related Exceedance
	Suspended Solids (SS)	0	Not Required for 0% Project Related Exceedance
Stream	Turbidity (NTU)	0	Not Required for 0% Project Related Exceedance
Water	pН	0	Not Required for 0% Project Related Exceedance
	Ammonia Nitrogen	0	Not Required for 0% Project Related Exceedance
	Zinc	0	Not Required for 0% Project Related Exceedance
Ecology	Decrease in number of species of wetland birds of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in number of species of wetland fauna of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in the total number of wetland birds of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance
	Decrease in the total number of wetland fauna of conservation importance from baseline.	0	Not Required for 0% Project Related Exceedance

- 11.02 No 1-Hour and 24-Hour TSP monitoring results trigger the Action or Limit Level was recorded in this reporting period.
- 11.03 No construction noise complaint (Action Level) was received and no monitoring noise level above the Limit Level was recorded in this reporting period.
- 11.04 No stream water quality exceeded the Action or Limit Level was recorded during the reporting period.
- 11.05 Non-compliance with the ecological criteria was found during the monitoring on 25 August 2008. No intrusions of construction activities into the wetland areas nor adverse impact was observed. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent bird and fauna was not caused by the project.
- 11.06 No environmental complaint, summons or prosecution was received in this reporting period.

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#### RECOMMENDATIONS

- 11.07 Based on the ET regular and monthly IEC site audit inspection records on 31 July, 08, 14 and 21 August 2008, no non-compliance and two observations were recorded. Details of the observations as follows:-
  - Un-used water collection drum was observed at Bay 41, the contractor was reminded to cover the drum to prevent any stagnant water accumulation;
  - Stagnant water was cumulated at KT-15 works area after the rainfall, the contractor was reminded to clean to prevent mosquito breeding;
- 11.08 No site inspection was undertaken by external parties in this reporting period.
- 11.09 The ET will continue to implement the EM&A program and audit the implementation of the environmental mitigation measures.

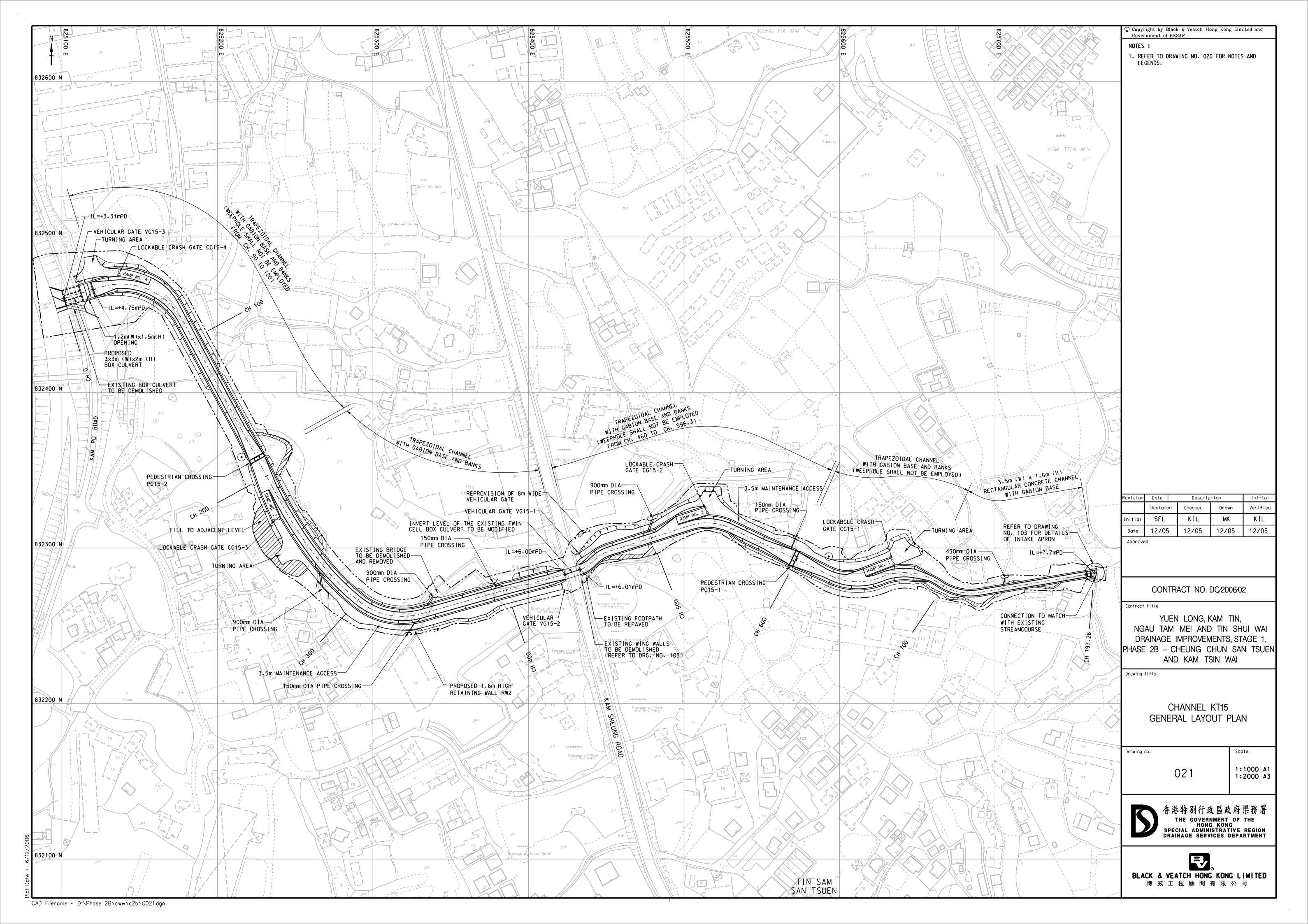
DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai

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# APPENDIX A

# PROJECT SITE LAYOUT





# APPENDIX B

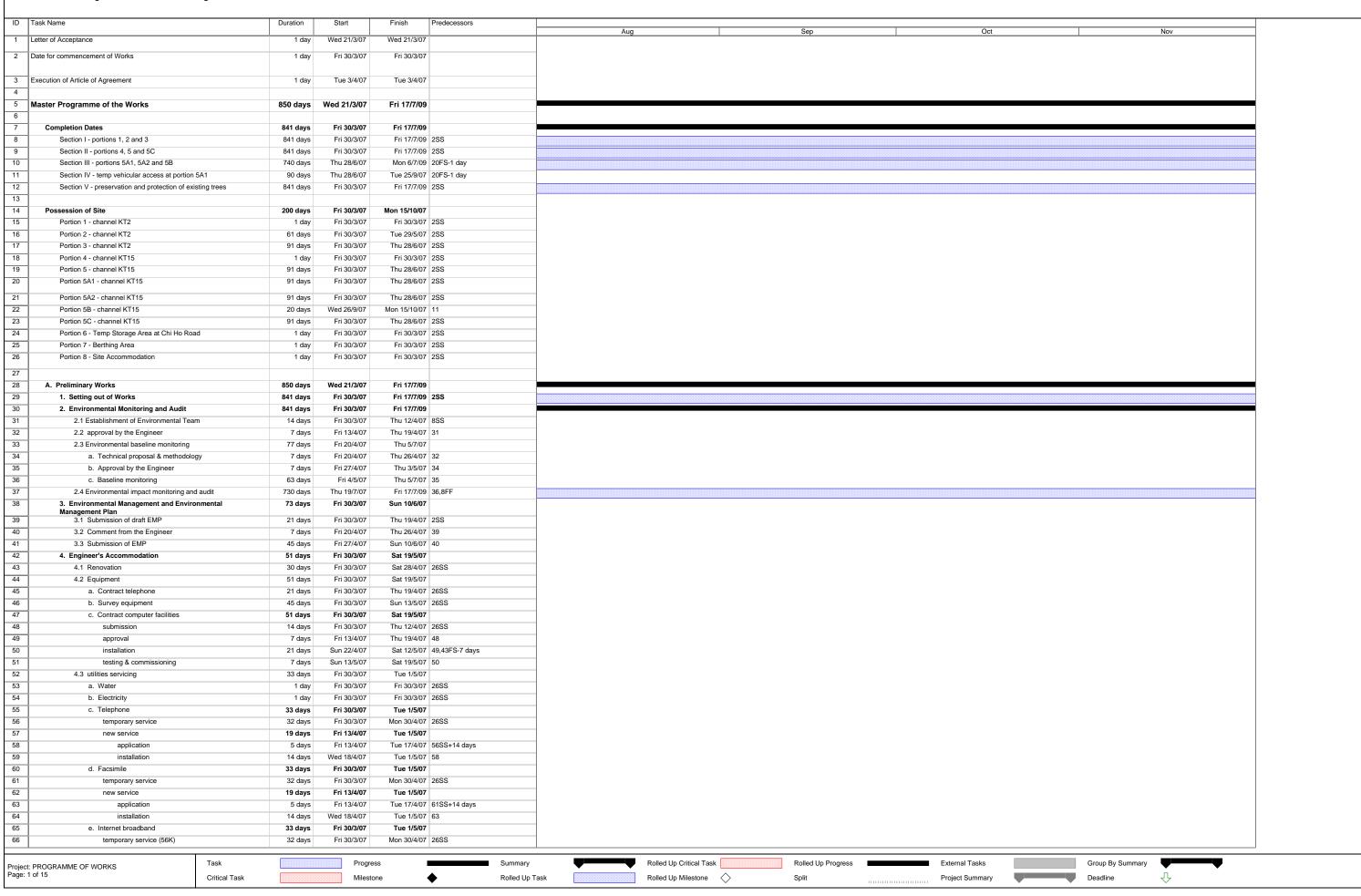
**THREE-MONTH CONSTRUCTION PROGRAM** 

CHIT CHEUNG CONSTRUCTION CO., LTD. DATE: MAY 2008

Contract No. : DC / 2006 / 02

Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,

Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai



PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

ID T	ask Name	Duration	Start	Finish	Predecessors			2	2 :			N	
67	new service	19 days	Fri 13/4/07	Tue 1/5/07		Aug		Sep	Oct			Nov	$\overline{}$
68	application	5 days	Fri 13/4/07		66SS+14 days								
69	installation	14 days	Wed 18/4/07	Tue 1/5/07	68								
70	5. Contractor's Accommodation	45 days	Fri 30/3/07	Sun 13/5/07									
71	5.1 Provision	45 days	Fri 30/3/07	Sun 13/5/07									
72	a. Premises	45 days	Fri 30/3/07	Sun 13/5/07	26SS								
73	b. Toilet facilities	21 days	Mon 23/4/07	Sun 13/5/07	72FF								
74	c. Telephone service	30 days	Sat 14/4/07	Sun 13/5/07	72FF								
75	d. Fascimile service	30 days	Sat 14/4/07	Sun 13/5/07	72FF								
76	e. Internet broadband service	30 days	Sat 14/4/07	Sun 13/5/07	72FF								
77	f. Water	1 day	Fri 30/3/07	Fri 30/3/07									
78	g. electricity	1 day	Fri 30/3/07	Fri 30/3/07	26SS								
79	6. Transport (land ) for the Engineer	124 days	Fri 30/3/07	Tue 31/7/07									
80	6.1 submission	7 days	Fri 30/3/07	Thu 5/4/07									
81	6.2 comment & approval	14 days	Fri 6/4/07	Thu 19/4/07									
82	6.3 delivery	103 days	Fri 20/4/07	Tue 31/7/07									
83	6.4 temp service	124 days	Fri 30/3/07	Tue 31/7/07									
84	7. Transport (land) for Public Works Regional Laboratory	124 days	Fri 30/3/07	Tue 31/7/07									
85 86	7.1 submission  7.2 comment, approval & instruction	7 days	Fri 30/3/07 Fri 6/4/07	Thu 5/4/07 Thu 19/4/07									
87	7.2 comment, approval & instruction  7.3 delivery	14 days	Fri 20/4/07	Tue 31/7/07									
88	7.3 delivery  8. Signboard	103 days 150 days	Fri 30/3/07	Sun 26/8/07									
89	8.1 Major	150 days	Fri 30/3/07	Sun 26/8/07 Sun 26/8/07									
90	submission	90 days	Fri 30/3/07	Wed 27/6/07									
91	comment & approval	90 days	Sun 29/4/07		90SS+30 days								
92	erection	90 days	Tue 29/5/07		91SS+30 days								
93	8.2 Minor	150 days	Fri 30/3/07	Sun 26/8/07	i i								
94	submission	90 days	Fri 30/3/07	Wed 27/6/07									
95	comment & approval	90 days	Sun 29/4/07	Fri 27/7/07	94SS+30 days								
96	erection	90 days	Tue 29/5/07	Sun 26/8/07	95SS+30 days								
97	9. Telephone hotline	15 days	Sun 29/4/07	Sun 13/5/07									
98	9.1 Engineer's instruction	1 day	Sun 29/4/07	Mon 30/4/07	99SF								
99	9.2 installation	14 days	Mon 30/4/07	Sun 13/5/07	74FF								
100	10. Contractual general submissions	850 days	Wed 21/3/07	Fri 17/7/09									<b>—</b>
101	10.1 programmes	28 days	Wed 21/3/07	Tue 17/4/07									
102	a. GCC Clause 16 programme	14 days	Wed 21/3/07	Tue 3/4/07									
103	b. Works programme & financial programme	14 days	Wed 4/4/07	Tue 17/4/07									
104	c. 3-month rolling programme	14 days	Wed 4/4/07	Tue 17/4/07									
105	10.2 contractor's superintendence	14 days	Fri 30/3/07	Thu 12/4/07									
106	a. Agent	7 days	Fri 30/3/07	Thu 5/4/07									
107	b. Surveyor	14 days	Fri 30/3/07	Thu 12/4/07									
108	c. Sub-agent	14 days	Fri 30/3/07	Thu 12/4/07									
109	d. Geotechnical Engineer	7 days	Fri 30/3/07	Thu 5/4/07									
110	e. Geotechnical Supervisor	14 days	Fri 30/3/07	Thu 12/4/07									
1112	f. Foreman - concrete	14 days	Fri 30/3/07 Fri 30/3/07	Thu 12/4/07 Thu 12/4/07	I I								
112	g. Foreman - drainage h. Staff Organization Plan	14 days	Fri 30/3/07	Thu 12/4/07									
114	10.3 Safety Organization	14 days	Fri 30/3/07	Thu 12/4/07									
115	a. Safety Officer	14 days	Fri 30/3/07	Thu 12/4/07									
116	b. Safety Supervisor	14 days	Fri 30/3/07	Thu 12/4/07									
117	c. Safety Representative	14 days	Fri 30/3/07	Thu 12/4/07									
118	10.4 TTMS design	7 days	Fri 30/3/07	Thu 5/4/07									
119	a. Independent Traffic Consultant	7 days	Fri 30/3/07	Thu 5/4/07									
120	b. Traffic Engineer	7 days	Fri 30/3/07	Thu 5/4/07									
121	10.5 Assistant to Engineer	33 days	Fri 30/3/07	Tue 1/5/07									
122	a. Chainmen (4)	33 days	Fri 30/3/07	Tue 1/5/07									
123	b. Watchmen (2)	33 days	Fri 30/3/07	Tue 1/5/07	2SS								
124	c. Field assistant (1)	33 days	Fri 30/3/07	Tue 1/5/07	2SS								
125	d. Technical assistant (1)	33 days	Fri 30/3/07	Tue 1/5/07									
126	e. Clerical assistant (1)	33 days	Fri 30/3/07	Tue 1/5/07	I I								
127	f. Office assistant (1)	33 days	Fri 30/3/07	Tue 1/5/07									
128	10.6 Underground service detection equipment	35 days	Fri 30/3/07	Thu 3/5/07									
129	a. Submission	7 days	Fri 30/3/07	Thu 5/4/07									
130	b. Comment & approval	14 days	Fri 6/4/07	Thu 19/4/07									
131	c. Provision	14 days	Fri 20/4/07	Thu 3/5/07									
132	10.7 Independent Checking of Temporary Works	28 days	Fri 30/3/07	Thu 26/4/07									
133	a. Submission of independent checking engineer	14 days	Fri 30/3/07	Thu 12/4/07									
134	b. Comment & approval	14 days	Fri 13/4/07	Thu 26/4/07									
135	10.8 Trip ticket system for C & D material	59 days	Fri 30/3/07	Sun 27/5/07									
Project: 5	PROGRAMME OF WORKS		Progres	ss I	Summary		Rolled Up Critical Task	Rolled Up Progress	External Tasks		Group By Summary		
Page: 2 d			Milestor	ne ·	Rolled Up Task	•	Rolled Up Milestone	Split	Project Summary		Deadline	$\bigcirc$	
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CHIT CHEUNG CONSTRUCTION CO., LTD. DATE : MAY 2008

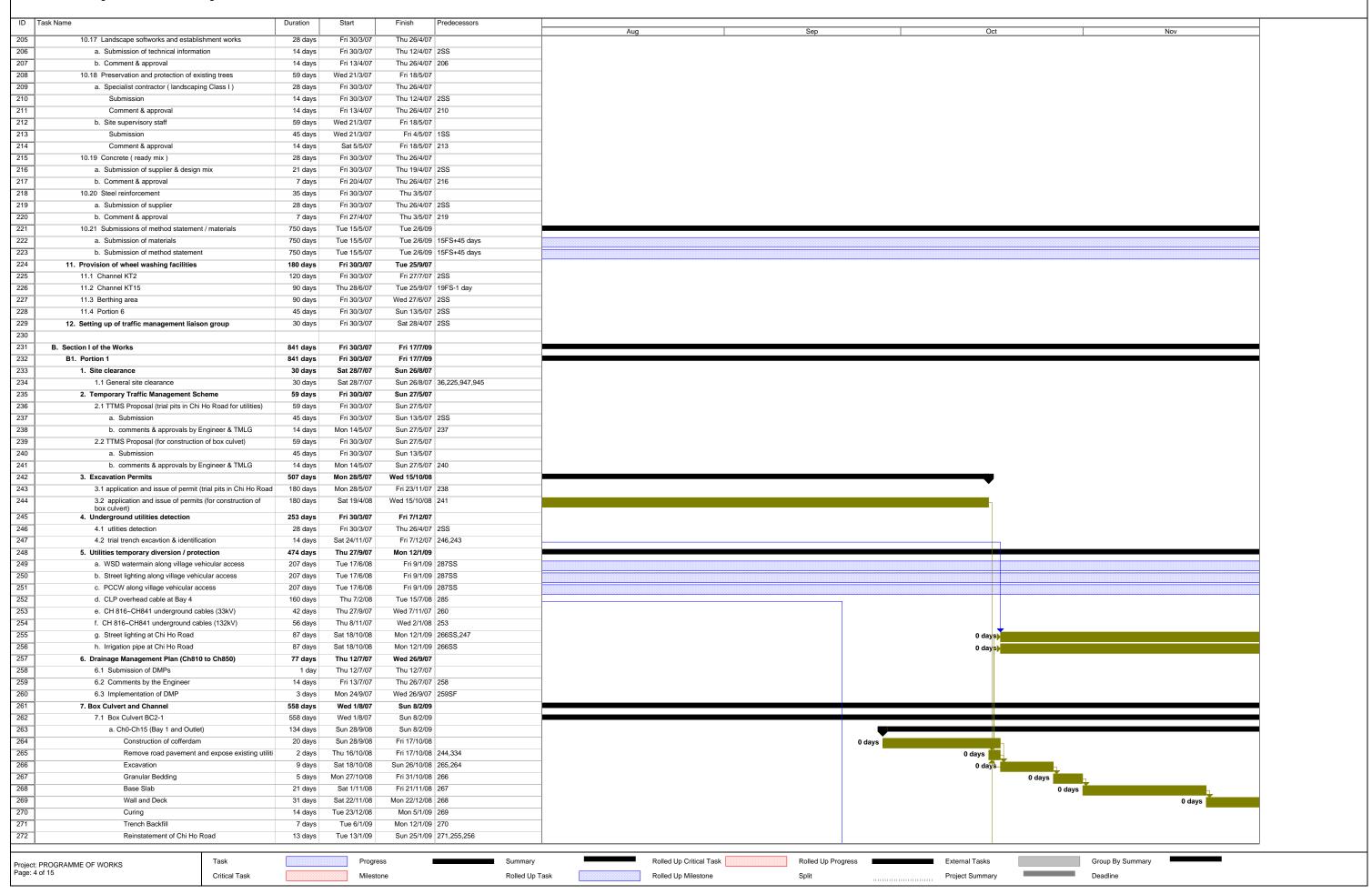
PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

136										
0	Submission of site management plan	45 days Fri 30	3/07 Sun 13/5/	 	Aug	Sep		Oct		Nov
37	b. Comment & approval	14 days Mon 14			-					
8	10.9. Condition survey and structral monitoring	841 days Fri 30	3/07 Fri 17/7/	09						
39	a. Submission of Independent Structural Engineer	14 days Fri 30.			1					
10	b. Comment & approval	7 days Fri 13								
1	c. Proposal for condition survey & structural monitoring	209 days Fri 20								
2	Portion 1, 4, 6, 7, 8	30 days Fri 20			_					
3	Portion 2 Portion 3, 5, 5A1, 5A2	30 days Wed 30, 30 days Fri 29,		07   16 07   17,19,20,21	_					
	Portion 5B	30 days Fri 29 30 days Tue 16/1								
,   3	d. Comment & approval	193 days Sun 20			-					
7	Portion 1, 4, 6, 7, 8	14 days Sun 20		07 142	-					
8	Portion 2	14 days Fri 29	6/07 Thu 12/7/	07 143	-					
19	Portion 3, 5, 5A1, 5A2	14 days Sun 29	7/07 Sat 11/8/	07 144	-					
0	Portion 5B	14 days Thu 15/1								
1	e. Condition survey & structural monitoring	776 days Sun 3								
52 53	Portion 1, 4, 6, 7, 8	776 days Sun 3								
4	Portion 2 Portion 3, 5, 5A1, 5A2	736 days Fri 13								
4 5	Portion 3, 5, 5A1, 5A2  Portion 5B	706 days Sun 12 597 days Thu 29/1								
56	10.10 Handling & disposal of Type 1 & 2 contaminated materials	74 days Sat 14			-					
7		·								
8	a. Proposed type of dump truck     Submission	44 days Sun 15, 30 days Sun 15,		07 757SS-44 days	-					
9	Comment & approval	14 days Tue 14			-					
0	b. Proposal of berthing area arrangement	44 days Mon 30								
51	Submission	30 days Mon 30			-					
2	Comment & approval	14 days Wed 29	3/07 Tue 11/9/	07 161	1					
3	c. Proposal of disposal arrangement	74 days Sat 14								
4	Submission	60 days Sat 14								
5	Comment & approval	14 days Wed 12								
7	10.11 Type 3 contaminated material	290 days Fri 30			_					
/ В	a. Decontamination specialist     Submission	134 days Fri 30, 120 days Fri 30,			-					
9	Comment & approval	120 days Fit 30,			-					
0	b. Statement & treatment programme	42 days Sat 11			-					
1	(1) Submission	28 days Sat 11		07 169	-					
2	(2) Comment & approval	14 days Sat 8			-					
3	by the Engineer	14 days Sat 8								
4	by the EPD	14 days Sat 8								
6	c. Setting up of Treatment Plant	60 days Thu 15/1								
7	10.12 Safety Plan	35 days Wed 21								
8	a. Submission of draft Safety Plan     b. Comment by the Engineer	14 days Wed 21, 7 days Wed 4,			-					
9	c. Submission of Safety Plan	14 days Wed 11			-					
0	10.13 Sub-contractor Management Plan	850 days Wed 21								
31	a. Submission of SMP	30 days Wed 21			-					
2	b. For information & Comments	14 days Fri 20.			1					
3	c. Update SMP	806 days Fri 4								
4	10.14 proof of plant ownership	841 days Fri 30.			_					
5 6	a. Submission of draft written undertaking	14 days Fri 30								
7	b. Comment by the Engineer / Employer     c. Engineer's request	14 days Fri 13. 813 days Fri 27.								
8	c. Engineer's request  10.15 Contractor's Management Team	841 days Fri 30								
9	a. Submission of staff member details	14 days Fri 30								
10	b. Update management / site supervision team	827 days Fri 13.			-					
1	10.16 Water supply pipeworks material	651 days Wed 21	3/07 Tue 30/12/	08						
2	a. Supplier	28 days Wed 21			1					
3	Submission	14 days Wed 21								
4	comment & approval	14 days Wed 4								
5	b. Manufacturer	28 days Wed 21								
5	Submission	14 days Wed 21								
7	comment & approval c. Independent Inspection Agent ( IIA )	14 days Wed 4/ 28 days Wed 21/								
99	Submission	14 days Wed 21/			-					
00	comment & approval	14 days Wed 21			-					
01	d. Representative of the IIA	28 days Wed 21			-					
02	Submission	14 days Wed 21		07 1SS	-					
03	comment & approval	14 days Wed 4	/07 Tue 17/4/	07 202	-					
	Т			·						
ct: PRC	GRAMME OF WORKS		Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	Exte	rnal Tasks	Group By Sum	mary
e: 3 of 15			Milestone	Rolled Up	Task Rolled Up Milestone	Split		ect Summary	Deadline	

Contract No. : DC / 2006 / 02

Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,

Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai



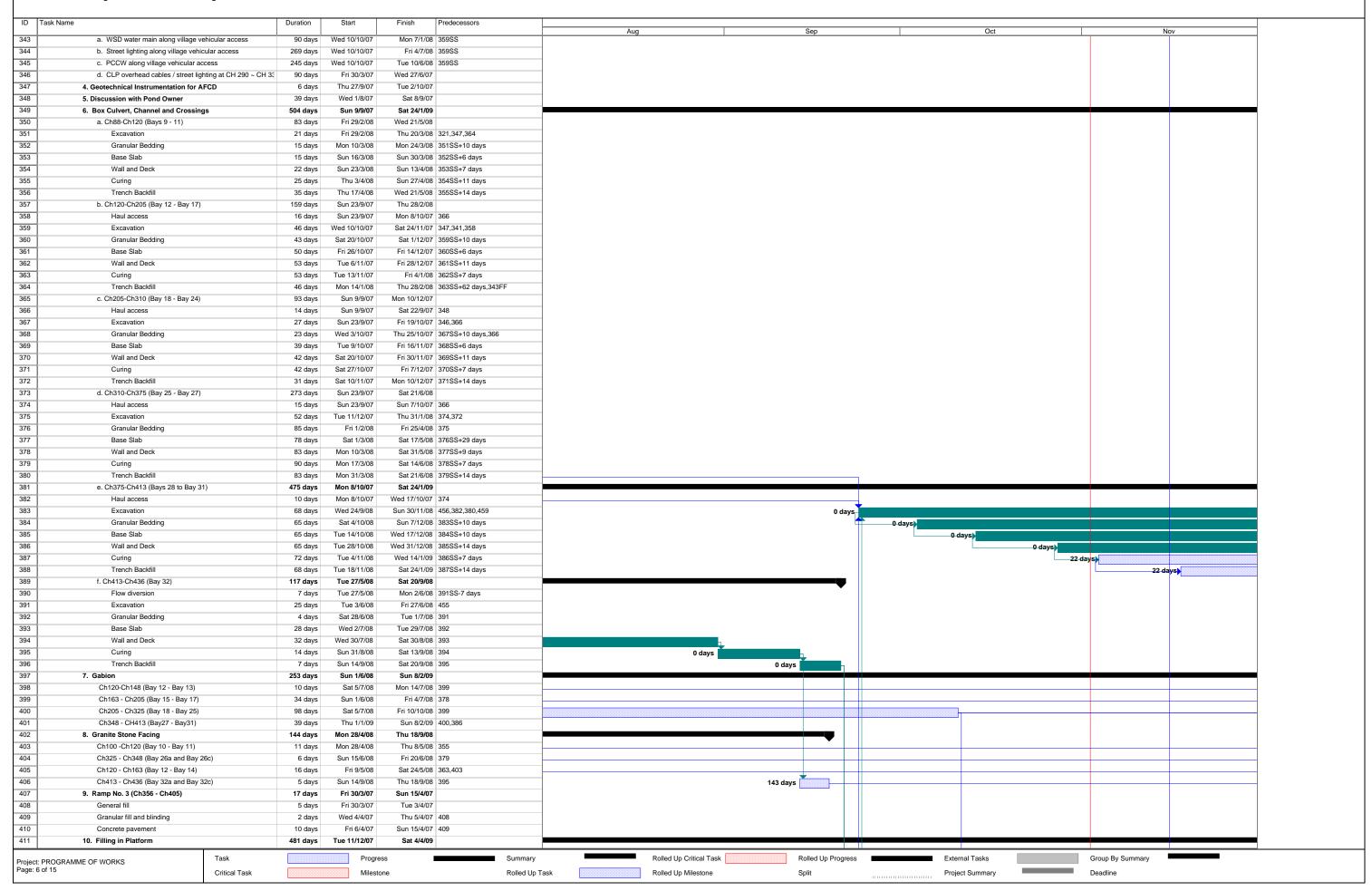
PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

Task Name	b. Temporary Bund in AFCD Pond  1. Proposal  2. Comments by the Engineer and AFCD  3.Modified chain link fence	Duration 87 days	Start Wed 1/8/07	Finish Predecessors	Aug	Sep		Oct	Nov
	Proposal     Comments by the Engineer and AFCD		Wed 1/8/07		Aug	Sep		Oct	Nov
	Proposal     Comments by the Engineer and AFCD		vvea 1/8/0/						
	2. Comments by the Engineer and AFCD			Fri 26/10/07					
		31 days	Wed 1/8/07 Sat 1/9/07	Fri 31/8/07 Sun 30/9/07   275					
	S.IVIOUINEU CHAITI IITIK TERICE	30 days	Sat 1/9/07 Mon 1/10/07	Sun 30/9/07   275 Thu 11/10/07   276					
	Construction of temporary bund	11 days	Fri 12/10/07	Fri 26/10/07   277					
		15 days							
	c. Ch15-Ch32 (Bays 2 & 3)	103 days	Sat 27/10/07	Wed 6/2/08					
	Excavation	25 days	Sat 27/10/07	Tue 20/11/07   278					
	Granular Bedding	7 days	Wed 21/11/07	Tue 27/11/07 280					
	Base Slab	18 days	Wed 28/11/07	Sat 15/12/07 281					
1	Wall and Deck	32 days	Sun 16/12/07	Wed 16/1/08 282					
	Curing	14 days	Thu 17/1/08	Wed 30/1/08 283					
	Trench Backfill	7 days	Thu 31/1/08	Wed 6/2/08 284					
	d. Ch32-Ch88 (Bays 4 - 8)	207 days	Tue 17/6/08	Fri 9/1/09					
	Excavation	95 days	Tue 17/6/08	Fri 19/9/08 454,252FF+66 days			<b>∤</b>		
	Granular Bedding	80 days	Fri 27/6/08	Sun 14/9/08 287SS+10 days					
	Base Slab (Bays 4, 5, 7 & 8)	95 days	Wed 9/7/08	Sat 11/10/08 288SS+12 days					
	Wall and Deck (Bays 4, 5, 7 & 8)	107 days	Fri 18/7/08	Sat 1/11/08 289SS+9 days				П	
j	Curing	105 days	Sun 3/8/08	Sat 15/11/08 290SS+16 days	ys				h
i	Trench Backfill	102 days	Sun 17/8/08	Wed 26/11/08 291SS+14 days	44 days				
	Modification of temporary support to watermain fo	7 days	Sun 16/11/08	Sat 22/11/08 291					0 days
	base slab (Bay 6)	10 days	Sun 23/11/08	Tue 2/12/08 293					0 days
	Wall and Deck (Bay 6)	14 days	Wed 3/12/08	Tue 16/12/08 294					0 0
	Curing (Bay 6)	14 days	Wed 17/12/08	Tue 30/12/08 295					
	Backfill (Bay 6)	10 days	Wed 31/12/08	Fri 9/1/09 296,249FF,250FF,251FF					
	7.2 Channel	189 days	Thu 3/1/08	Wed 9/7/08					
1	a. Ch840-Ch844 (Bay 56b)	91 days	Thu 3/1/08	Wed 2/4/08					
1	Excavation (including contamination materials)	25 days	Thu 3/1/08	Sun 27/1/08   254					
+	Granular Bedding	3 days	Mon 28/1/08	Wed 30/1/08   300					
+	Base Slab	22 days	Thu 31/1/08	Thu 21/2/08   301					
+	Wall and Deck	23 days	Fri 22/2/08	Sat 15/3/08   302					
	Curing	14 days	Sun 16/3/08	Sat 29/3/08   303					
+	Trench Backfill	4 days	Sun 30/3/08	Wed 2/4/08   304					
	b. Demolition of existing crossing	7 days	Sun 30/3/08	Sat 5/4/08   304					
-	c. Ch800-840 (Bay 56a)	95 days	Sun 6/4/08	Wed 9/7/08					
-	Excavation (including contamination materials)	8 days	Sun 6/4/08	Sun 13/4/08   306					
+	Granular Bedding	7 days	Mon 14/4/08	Sun 20/4/08   308					
	Base Slab		Mon 21/4/08	Fri 30/5/08   309					
	Wall and Deck	40 days	Sat 31/5/08	Mon 30/6/08   310					
	Curing	31 days 26 days	Tue 10/6/08	Sat 5/7/08 311SS+10 days					
	Trench Backfill	16 days	Tue 24/6/08	Wed 9/7/08 312SS+14 days					
	3. Filling in Platform	292 days	Thu 3/4/08	Mon 19/1/09					
•	8.1 Box Culvert	10 days	Sat 10/1/09	Mon 19/1/09					
-	a. Ch0-Ch15 (Bay 1 and Outlet)	3 days	Tue 13/1/09	Thu 15/1/09 271					
	b. Ch15-Ch88 (Bay 2 to Bay 8)			Mon 19/1/09   292,297					
-		10 days	Sat 10/1/09	Tue 29/7/08					
1	8.2 Channel	118 days	Thu 3/4/08						
	a. Ch840-Ch844 (Bay 56b)	5 days	Thu 3/4/08	Mon 7/4/08   305					
	b. Ch800-840 (Bay 56a)	20 days	Thu 10/7/08	Tue 29/7/08 313					
	D. Geotechnical Instrumentation for CLP Pylon	4 days	Mon 24/9/07	Thu 27/9/07					
	Trial pits for watermain under existing village access	4 days	Tue 17/6/08	Fri 20/6/08 454					
1	1. Temporary support to existing watermain	21 days	Sat 21/6/08	Fri 11/7/08 322					
	2. Drainage works (except Bays 56a and 56b)	45 days	Tue 20/1/09	Thu 5/3/09					
	a. storm drain with manhole	30 days	Tue 20/1/09	Wed 18/2/09 317					
	b. surface drain	45 days	Tue 20/1/09	Thu 5/3/09 317					
	3. Water supply pipeworks	60 days	Sun 12/4/09	Wed 10/6/09 197,204,328					
	4. Roads and paving (except Bays 56a and 56b)	52 days	Thu 19/2/09	Sat 11/4/09 325					
	5. Diversion of traffic to permanent access from Bay 4 to B	-	Sun 12/4/09	Sun 12/4/09 328					
10	6. Street furnitures / traffic sign / road marking (except Bay	30 days	Thu 11/6/09	Fri 10/7/09 327					
11	7. Landscape softworks / hardworks (except Bays 56a and	37 days	Thu 11/6/09	Fri 17/7/09 316,317,327					
	8. Road Diversion in Chi Ho Road	8 days	Wed 8/10/08	Wed 15/10/08			_		
	a. Construction of temporary footpath above Box Culvert	7 days	Wed 8/10/08	Tue 14/10/08			0 days	,	
i	b. Implementation of footpath diversion	1 day	Wed 15/10/08	Wed 15/10/08 333			0 days	μ	
i							_		
	Portion 2	841 days	Fri 30/3/07	Fri 17/7/09					
1.	. Site clearance	90 days	Tue 14/8/07	Sun 11/11/07					
	1.1 General clearance	90 days	Tue 14/8/07	Sun 11/11/07 36,951,225,953					
2.	2. Underground utilities detection	42 days	Tue 3/7/07	Mon 13/8/07					
1	2.1 utilities detection	28 days	Tue 3/7/07	Mon 30/7/07					
1	2.2 trial trench excavtion & identification	14 days	Tue 31/7/07	Mon 13/8/07 340					
				· ·					<u> </u>
ct: PROGRAMME	OF WORKS Task		Progres	Summary	Rolled U	Up Critical Task Rolled Up P	rogress External Tasks	Group	By Summary
: 5 of 15	Critical Task		Milesto	ne Rolled Up 1	ask Rolled U	Up Milestone Split	Project Summa	ary Deadl	ine

Contract No. : DC / 2006 / 02

Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,

Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai



PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

ID Task Name			Duration	Start	Finish	Predecessors							
412	10.1 Box Culvert BC2-1		10 days	Thu 22/5/08	Sat 31/5/08		Aug		Sep		Oct	N	ov
413	a. Ch88-Ch120 (South of Bay 9 - Bay 1	11)	10 days	Thu 22/5/08	Sat 31/5/08	356							
414	10.2 Channel and Crossing	,	481 days	Tue 11/12/07	Sat 4/4/09								
415	a. Ch120-Ch205 (Bay 12 - Bay 17)		90 days	Fri 29/2/08	Wed 28/5/08	364							
416	b. Ch205-Ch310 (Bay 18 - Bay 24)		118 days	Tue 11/12/07	Sun 6/4/08								
417	c. Ch310-Ch361 (Bay 25 - Bay 27)		31 days	Sun 22/6/08	Tue 22/7/08		_						
418	d. Ch361-Ch413 (Bay 28 - Bay 31)		48 days	Mon 16/2/09	Sat 4/4/09								
419	11. Drainage works		439 days	Mon 7/4/08	Fri 19/6/09	300,401							
420	11.1 storm drain with manhole and headwal	ller	384 days	Mon 7/4/08	Sat 25/4/09								
421	a. Ch88-Ch 120 (Bay 9 - Bay 11)	un en	20 days	Sun 1/6/08	Fri 20/6/08	413							
422	b. Ch120-Ch205 (Bay 12 - Bay 17)		20 days	Thu 29/5/08	Tue 17/6/08								
423	c. Ch205-Ch310 (Bay 18 - Bay 24)		20 days	Mon 7/4/08	Sat 26/4/08								
424	d. Ch310-Ch361 (Bay 25 - Bay 27)		20 days	Wed 23/7/08	Mon 11/8/08								
425	e. Ch361-Ch436 (Bay 28 - Bay 32)		21 days	Sun 5/4/09	Sat 25/4/09								
426	11.2. surface drain		389 days	Tue 27/5/08	Fri 19/6/09	-10							
427	a. Ch88-Ch 120 (Bay 9 - Bay 11)		10 days	Sun 8/3/09	Tue 17/3/09	413 435							
428	b. Ch120-Ch190 (Bay 12 - Bay 16)		10 days	Thu 23/4/09	Sat 2/5/09								
429	c. Ch190-Ch348 (Bay 17 - Bay 26)		15 days	Tue 27/5/08	Tue 10/6/08								
430	d. Ch348-Ch390 (Bay 27 - Bay 29)		10 days	Wed 23/7/08	Fri 1/8/08								
431	e. Ch390-Ch436 (Bay 30 - Bay 32)		10 days	Wed 10/6/09	Fri 19/6/09								
432	e. Ch390-Ch436 (Bay 30 - Bay 32)  12.1. Water supply pipeworks (Bay 9 to Bay 2	26)	60 days	Thu 23/4/09		418,439							
433			14 days	Sun 26/4/09		424,425,204	_						
434	<ul><li>12.2. Water supply pipeworks (Bay 27 to Bay</li><li>13. Roads and paving</li></ul>	y 52)	803 days	Fri 30/3/07	Tue 9/6/09	727,720,207							
435	a. Ch88-Ch 148 (Bay 9 - Bay 13)		17 days	Thu 19/2/09		422,413,421,325							
436	b. Ch148-Ch190 (Bay 14 - Bay 16)		17 days	Mon 13/4/09	Wed 22/4/09								
437	c. Ch190-Ch348 (Bay 17 - Bay 26)		50 days	Mon 7/4/08	Mon 26/5/08		-						
438	d. Ch348-Ch390 (Bay 27 - Bay 29)		10 days	Fri 30/3/07	Sun 8/4/07								
439	e. Ch390-Ch436 (Bay 30 to Bay 32)		45 days	Sun 26/4/09	Tue 9/6/09	424.425	-						
440	14. Road furnitures		808 days	Mon 9/4/07	Wed 24/6/09	,							
441	a. Ch88-Ch 120 (Bay 9 - Bay 11)		17 days	Sun 8/3/09	Tue 24/3/09	435							
442	b. Ch120-Ch205 (Bay 12 - Bay 17)		33 days	Thu 23/4/09	Mon 25/5/09		-						
443	c. Ch205-Ch348 (Bay 18 - Bay 26)		50 days	Tue 27/5/08	Tue 15/7/08		-						
444	d. Ch348-Ch390 (Bay 27 - Bay 29)		33 days	Mon 9/4/07	Fri 11/5/07		-						
445	e. Ch390-Ch436 (Bay 30 - Bay 32)		15 days	Wed 10/6/09	Wed 24/6/09		-						
446	e. Ch390-Ch436 (Bay 30 - Bay 32)  15. Landscape softworks / hardworks		132 days	Sun 8/3/09	Fri 17/7/09	700	-						
147	a. Ch88-Ch 120 (Bay 9 - Bay 11)		30 days	Sun 8/3/09	Mon 6/4/09	42755							
448	b. Ch120-Ch205 (Bay 12 - Bay 17)		70 days	Thu 23/4/09	Wed 1/7/09								
449	c. Ch205-Ch310 (Bay 18 - Bay 24)		62 days	Thu 23/4/09	Tue 23/6/09								
450	d. Ch310-Ch436 (Bay 25 - Bay 32)		38 days	Wed 10/6/09		430SS,431SS							
451	16. Final trimming of north platform from Bay	v 26 to Pay 22	26 days	Wed 10/6/09	Sun 5/7/09	·							
452	17. Construct temporary access (Bay 5 to Bay		25 days	Thu 22/5/08	Sun 15/6/08								
453	18. Removal of existing public light controller		1 day	Sun 15/6/08	Sun 15/6/08	330,304							
454	19. Traffic diversion at north of Bay 5 to Bay 1	-	1 day	Mon 16/6/08	Mon 16/6/08	453 452							
455	20. Temporary Village Access on Bay 28 - Bay		•	Sun 1/6/08	Mon 2/6/08								
456	21. Temporary Village Access on Bay 26 - Bay 21. Temporary Village Access on Bay 32	_, ••	2 days 3 days	Sun 21/9/08	Tue 23/9/08		-		0 days	_			
457	22. Diversion of traffice to permanent access	s between Bay 1	1 day	Sun 25/1/09	Sun 25/1/09		-		u days				
.5.	Siversion of training to permanent access	Sourcen Day 1	i uay	Out 20/1/03	Jun 20/1/09	555,707							
458	23. Temporary pipe crossing at south of Bay 3	730	4 days	Wed 17/9/08	Sat 20/0/09	459SS-4 days	-		300 days				
									300 days				
459	24. Diversion of traffic from Cheung Chun Sar	an Chuen to the	1 day	Sun 21/9/08	Sun 21/9/08	396			2 days				
460	25. Diversion of existing stream to constructe	ted channel	4 days	Mon 9/2/09	Thu 12/2/09	401,273,398,399,400,403,404,40	5		_				
161	26. Demolition of existing vehicular bridge		3 days	Fri 13/2/09	Sun 15/2/09	460							
462					<b>_</b>								
	Portion 3		737 days	Thu 12/7/07	Fri 17/7/09								
464	1. Site clearance		90 days	Sat 15/9/07	Thu 13/12/07	47.005.057.050							
465 466	1.1 General clearance		90 days	Sat 15/9/07		17,225,957,959							
	2. Underground utilities detection		42 days	Tue 31/7/07	Mon 10/9/07	240							
467	2.1 utilities detection		28 days	Tue 31/7/07	Mon 27/8/07								
468	2.2 trial trench excavtion & identification		14 days	Tue 28/8/07	Mon 10/9/07	46/							
469	3. Utilities temporary diversion / protection		153 days	Mon 5/1/09	Sat 6/6/09								
470	a. WSD water main along village access at		153 days	Mon 5/1/09		565SS,570FF+60 days							
471	b. Street lighting along village access at CH		93 days	Mon 5/1/09		565SS,570FF							
472	c. PCCW along village access at CH 1150	)	153 days	Mon 5/1/09		565SS,570FF+60 days							
473	4. Drainage Management Plan		720 days	Thu 12/7/07	Tue 30/6/09								
474	4.1 Submission of DMPs		1 day	Thu 12/7/07	Thu 12/7/07								
475	4.2 Comments by the Engineer		14 days	Fri 13/7/07	Thu 26/7/07								
476	4.3 Implementation of DMP		659 days	Tue 11/9/07	Tue 30/6/09	571FF,475							
477	5. Channel and Crossings		697 days	Sat 28/7/07	Tue 23/6/09								
Project: PROGRAMI	ME OF WORKS Task	sk		Progre	ss I	Summary	Rolled Up 0	Critical Task	Rolled Up Progres	ss Ex	ernal Tasks	Group By Summary	
Page: 7 of 15		tical Task		Milesto	ne	Rolled Up	Task Rolled Up N	Milestone	Split	Pro	ject Summary	Deadline	
									· · · · · · · · · · · · · · · · · · ·		•		

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Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,

Critical Task

Milestone

Rolled Up Task

Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai ID Task Name Duration Finish Predecessors 478 a, Ch436-Ch535 (Bay 33 - Bay 39) 435 days Thu 18/10/07 Thu 25/12/08 479 6 days Thu 18/10/07 Tue 23/10/07 382 Haul access 480 Mon 2/6/08 481SS-10 days Flow diversion Sat 24/5/08 10 days 481 Excavation (including contamination material) 90 days Tue 3/6/08 Sun 31/8/08 455 482 Thu 30/10/08 481SS+30 days Granular Bedding 120 days Thu 3/7/08 483 Base Slab 122 days Sun 13/7/08 Tue 11/11/08 482SS+10 days 484 Wall and Deck Sun 27/7/08 Fri 28/11/08 483SS+14 days 125 days 485 132 days Sun 3/8/08 Fri 12/12/08 484SS+7 days 486 Trench Backfill 131 days Sun 17/8/08 Thu 25/12/08 485SS+14 days 119 days 487 b. Ch535-Ch625 (Bay 40 - Bay 45) 626 days Sat 28/7/07 Mon 13/4/09 Haul access 15 days Sat 28/7/07 Sat 11/8/07 225 489 Flow diversion 10 days Sun 2/11/08 Tue 11/11/08 490SS-10 days 490 Excavation (including contamination material) 100 days Sun 2/11/08 Mon 9/2/09 290 0 days 491 Granular Bedding 96 days Wed 12/11/08 Sun 15/2/09 490SS+10 days 492 Base Slab 100 days Tue 18/11/08 Wed 25/2/09 491SS+6 days 0 days 493 Wall and Deck 103 days Sat 29/11/08 Wed 11/3/09 492SS+11 days Wed 25/3/09 493SS+7 days 494 110 days Sat 6/12/08 Curing 495 Mon 13/4/09 494SS+14 days Trench Backfill 115 days Sat 20/12/08 496 c. Ch625-Ch738 (Bay 46 - Bay 53) 501 days Sun 12/8/07 Wed 24/12/08 497 15 days Sun 26/8/07 488 Haul access Sun 12/8/07 498 10 days Fri 5/9/08 Sun 14/9/08 499SS-10 days 306 days 11 days 499 Sun 2/11/08 513.497 Mon 15/9/08 Excavation (including contamination material) 49 days 500 Granular Bedding 45 days Thu 25/9/08 Sat 8/11/08 499SS+10 days 11 days 501 Base Slab 50 davs Wed 1/10/08 Wed 19/11/08 500SS+6 days 11 days 502 Wall and Deck 53 days Sun 12/10/08 Wed 3/12/08 501SS+11 days 11 days 503 Curina 60 days Sun 19/10/08 Wed 17/12/08 502SS+7 days 11 days Wed 24/12/08 503SS+14 days 504 Trench Backfill 53 days Sun 2/11/08 505 d. Ch738-Ch800 (Bay 54 - Bay 55) 380 days Sat 1/9/07 Sun 14/9/08 506 Haul access 6 days Sat 1/9/07 Thu 6/9/07 497 507 Flow diversion 10 days Sun 3/2/08 Tue 12/2/08 508SS-10 days 508 Excavation (including contamination material) 120 days Wed 13/2/08 Wed 11/6/08 465SS+10 days,468,957,506,227 509 Granular Bedding Tue 17/6/08 508SS+10 days 116 days Sat 23/2/08 510 Base Slab Fri 29/2/08 Tue 8/7/08 509SS+6 days 131 days 511 Wall and Deck 144 days Tue 11/3/08 Fri 1/8/08 510SS+11 days 512 151 days Tue 18/3/08 Fri 15/8/08 511SS+7 days 513 Sun 14/9/08 512SS+14 days Trench Backfill 167 days Tue 1/4/08 514 e. Ch844-Ch925 (Bay 56c - Bay 59) 206 days Fri 7/9/07 Sun 30/3/08 515 10 days Fri 7/9/07 Sun 16/9/07 506 Haul access 516 Flow diversion 10 days Mon 5/11/07 Wed 14/11/07 517SS-10 days 517 Thu 15/11/07 Sat 19/1/08 515 Excavation (including contamination material) 66 days 518 Granular Bedding 64 days Sun 25/11/07 Sun 27/1/08 517SS+10 days 519 Base Slab (except Bay 59) 79 days Sat 1/12/07 Sun 17/2/08 518SS+6 days 520 Wall and Deck (except Bay 59) 82 days Wed 12/12/07 Sun 2/3/08 519SS+11 days 521 Curing (except Bay 59) 89 days Wed 19/12/07 Sun 16/3/08 520SS+7 days 522 Trench Backfill (except Bay 59) 89 days Wed 2/1/08 Sun 30/3/08 521SS+14 days 523 f. Construction of channel Bay 59 41 days Tue 26/8/08 Sun 5/10/08 524 Base Slab Thu 4/9/08 591 10 days Tue 26/8/08 525 Wall and Deck 7 days Fri 5/9/08 Thu 11/9/08 524 66 days 526 Curina 14 days Fri 12/9/08 Thu 25/9/08 525 527 Trench Backfill 10 days Fri 26/9/08 Sun 5/10/08 526 66 days 528 g. Ch925-Ch1038 (Bay 60 - Bay 67) 218 days Mon 17/9/07 Mon 21/4/08 529 Haul access 10 days Mon 17/9/07 Wed 26/9/07 515 530 Flow diversion 10 days Wed 10/10/07 Fri 19/10/07 531SS-10 days 531 Excavation and Handling of Type 3 Contaminated Mate 116 days Sat 20/10/07 Tue 12/2/08 532 Granular Bedding Tue 30/10/07 Fri 22/2/08 531SS+10 days 116 days 533 Base Slab 127 days Mon 5/11/07 Mon 10/3/08 532SS+6 days 534 Wall and Deck 130 days Fri 16/11/07 Mon 24/3/08 533SS+11 days 535 Curing 137 days Fri 23/11/07 Mon 7/4/08 534SS+7 days 536 Trench Backfill 137 days Fri 7/12/07 Mon 21/4/08 535SS+14 days 537 h. Ch1038-Ch1146 (Bay 68 - Bay 71) 327 days Thu 27/9/07 Mon 18/8/08 538 Mon 1/10/07 529 Haul access 5 days Thu 27/9/07 Sun 13/1/08 540SS-10 days 539 Flow diversion 10 days Fri 4/1/08 540 Excavation and Handling of Type 3 Contaminated 154 days Mon 14/1/08 Sun 15/6/08 175 541 Granular Bedding 150 days Thu 24/1/08 Sat 21/6/08 540SS+10 days 542 Wed 30/1/08 Tue 1/7/08 541SS+6 days Base Slab 154 days 543 Wall and Decl 157 days Sun 10/2/08 Tue 15/7/08 542SS+11 days Curing 164 days Sun 17/2/08 Tue 29/7/08 543SS+7 days 545 Trench Backfill 170 days Sun 2/3/08 Mon 18/8/08 544SS+14 days Task Progress Rolled Up Critical Task Group By Summary Project: PROGRAMME OF WORKS

Rolled Up Milestone

Split

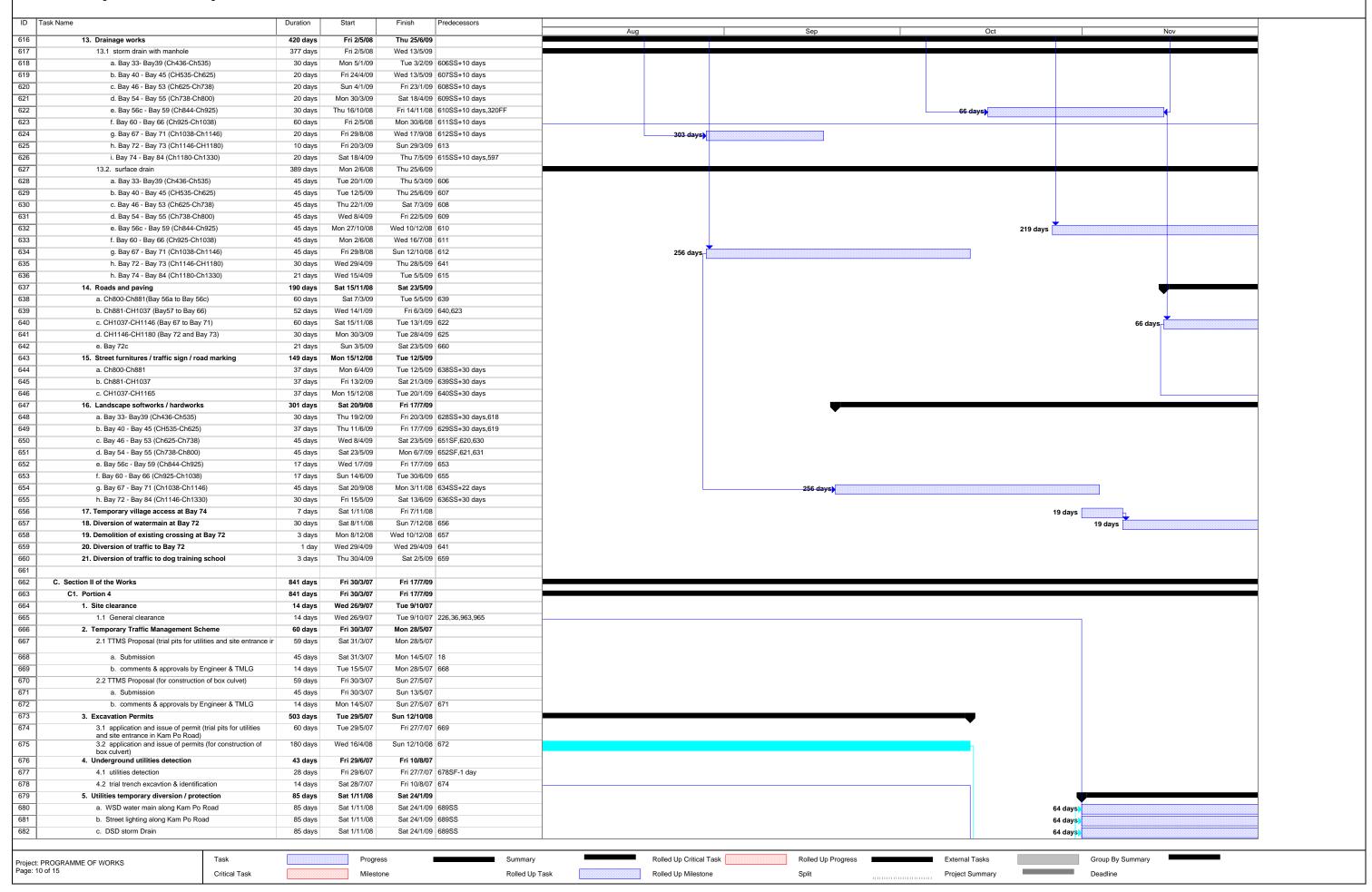
Project Summary

Deadline

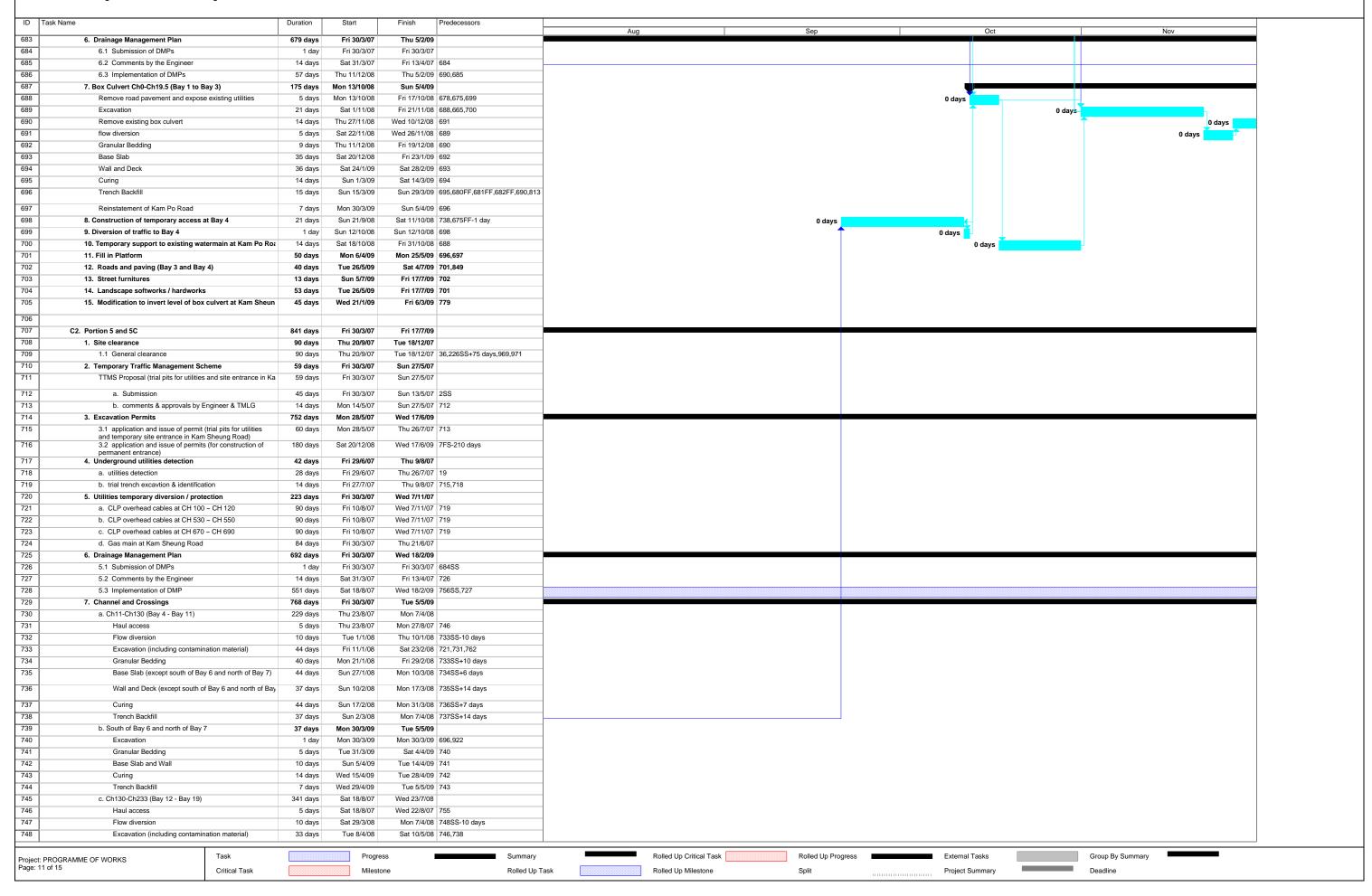
PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

Task Name	D	ration Start	Finish	Predecessors							
					Aug		Sep		Oct	Nov	
7 Excavation		30 days Thu 11/		09 658							
8 Granular Bedding		30 days Wed 17/		09 547SS+6 days							
9 Base Slab 0 Wall and Deck		30 days Sat 27/ 30 days Sat 10		09 548SS+10 days 09 549SS+14 days	-						
1 Curing		30 days Sat 10 30 days Sat 24		09   550SS+14 days	-						
2 Trench Backfill		30 days Fri 13		09 551SS+20 days	-						
3 j. Construction of channel Bay 74		55 days Thu 30			-						
4 Excavation		14 days Thu 30			+						
5 Granular Bedding		3 days Thu 14			-						
6 Base Slab		7 days Sun 17	/5/09 Sat 23/5/	09 555	-						
7 Wall and Deck	1	10 days Sun 24	/5/09 Tue 2/6/	09 556							
8 Curing	1	14 days Wed 3	/6/09 Tue 16/6/	09 557							
9 Trench Backfill		7 days Wed 17	/6/09 Tue 23/6/	09 558							
0 k. Ch1146-Ch1330 (Bay 75 - Bay 8	84) 45	50 days Mon 14									
1 Haul access		5 days Fri 17/		08 565SS-15 days					269 days)		
2 Flow diversion		10 days Wed 22/		08 565SS-10 days					259 days)		
Handling of Type 3 Contamin		78 days Mon 14									
Demolition of existing footbrid Excavation		7 days Mon 17/								24 days	
		20 days Sat 1/ 16 days Tue 11/		09   545 09   565SS+10 days	-				0 da		
6 Granular Bedding 7 Base Slab		16 days Tue 11/ 16 days Mon 17/		09 566SS+10 days	-					0 days	
8 Wall and Deck		12 days Fri 28/		09 567SS+11 days	-					0 days	0 days
9 Curing		19 days Fri 5/		09 568SS+7 days	+						o udys
0 Trench Backfill		10 days Fri 19/		09   569SS+14 days	+						
1 6. Gabion		61 days Sat 5									
a. Bay 33- Bay39 (Ch436-Ch535)		58 days Sat 13/			1						
3 b. Bay 40 - Bay 45 (CH535-Ch625	5) 7	74 days Thu 26	/3/09 Sun 7/6/	09 494							
c. Bay 46 - Bay 53 (Ch625-Ch738)		94 days Thu 18/						<u> </u>			
e. Bay 57 - Bay 59 (Ch881-Ch925		58 days Fri 26					237 days	-			
f. Bay 60 - Bay 66 (Ch925-Ch1038		48 days Sat 5		08 535,399			_				
g. Bay 67 - Bay 71 (Ch1038-Ch11		57 days Sat 11/		08 544,400				130	0 days		
h. Bay 73 - Bay 82 (Ch1165-Ch13		-		09 569,577							
7. Granite Stone Facing		54 days Wed 30									
0 Bay 54 to Bay 56 (Ch738 - Ch881) 1 Bay 67, Bay 68 and Bay 69a (Ch1		78 days Sat 16 23 days Wed 30			258 days						
2 Granite facing stone Bay 72 (Ch11		-									
3 Bay 83 and Bay 84 (Ch1301-Ch13	,	-	/4/09 Thu 9/4/		-						
4 8. Ramp No. 2 (Ch752 - Ch800, Bay 5		17 days Sun 22			-						
5 General fill		5 days Sun 22		09 512,574	-						
6 Granular fill and blinding		2 days Fri 27			-						
7 Concrete pavement	1	10 days Sun 29	/3/09 Tue 7/4/	09 586	1						
9. Ramp No. 1 (Ch1052 - Ch1103, Ba	ay 68) 34	10 days Wed 30	/7/08 Sat 4/7/	09							
9 base slab	1	12 days Wed 30		08 544,543SS+21 days	ь.						
0 Wall	1	10 days Mon 11			66 days	<u> </u>					
1 General fill		5 days Thu 21			66 da	ays					
2 Granular fill and blinding		2 days Wed 1		09 591,578	1						
Concrete pavement		•	/7/09 Sat 4/7/								
10. Pedestrian Temporary Crossing a 11.1 Construction		50 days Tue 11/			-						
5 11.1 Construction 6 11.2 Pedestrian diversion		5 days Tue 11/2 1 day Sun 16/2		08 565SS+10 days	-					24 days	
7 11.3 Demolition of Temp crossing	1	1 day Sun 16/ 2 days Wed 8			-					24 days	
8 11. Retaining Wall RW1 (Ch430-Ch49		73 days Thu 1/			-						
9 Excavation	•	26 days Thu 1/			+						
0 Granular bedding		7 days Tue 27/			-						
1 Base slab		24 days Tue 4/			-						
2 Wall		56 days Fri 28/			1						
3 Curing		14 days Fri 22			1						
	n and catchpit) 4	46 days Fri 7	/3/08 Mon 21/4/	08 603	1						
Backfilling (including sub-soil drain	43	33 days Tue 22	/4/08 Sun 28/6/	09				<del></del>			
Backfilling (including sub-soil drain  12. Filling in Platform	40		12/08 Mon 19/1/		]						
5 <b>12. Filling in Platform</b> 6 a. Bay 33- Bay39 (Ch436-Ch535)		25 days Fri 26/		09 495	1						
5	2	25 days Fri 26/ 28 days Tue 14	/4/09 Mon 11/5/	00 400							
5	2 5) 2 ) 2	28 days Tue 14 28 days Thu 25/	12/08 Wed 21/1/	09 504							
5	2 5) 2 ) 2 )) 1	28 days Tue 14 28 days Thu 25/ 19 days Fri 20	12/08 Wed 21/1/ /3/09 Tue 7/4/	09 504 09 513,587FF				Ш	,		
5	2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/	12/08 Wed 21/1/ /3/09 Tue 7/4/ 10/08 Sun 26/10/	09 504 09 513,587FF 08 522,527				66 days	ի		
5	2 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 3	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22	12/08 Wed 21/1// /3/09 Tue 7/4/ 10/08 Sun 26/10/ /4/08 Sun 1/6/	09 504 09 513,587FF 08 522,527 08 536				66 days			
5	2 2 2 3 3 3 4 4 4 6) 2 2 3 2 4 2 5 3 5 4 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Tue 19	12/08 Wed 21/1// //3/09 Tue 7/4/ 10/08 Sun 26/10/ //4/08 Sun 1/6/ //8/08 Thu 28/8/	99 504 99 513,587FF 98 522,527 98 536 98 545	256 days			66 days			
5	2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Sun 15	12/08 Wed 21/1// /3/09 Tue 7/4/ 10/08 Sun 26/10/ /4/08 Sun 1/6/ /8/08 Thu 28/8/ /3/09 Thu 19/3/	09 504 09 513,587FF 08 522,527 08 536 08 545 09 552	256 days			66 days	,		
5 12. Filling in Platform 6 a. Bay 33- Bay39 (Ch436-Ch535) 7 b. Bay 40 - Bay 45 (CH535-Ch625) 8 c. Bay 46 - Bay 53 (Ch625-Ch738) 9 d. Bay 54 - Bay 55 (Ch738-Ch800) 0 e. Bay 56c - Bay 59 (Ch844-Ch92) 1 f. Bay 60 - Bay 66 (Ch925-Ch1038) 2 g. Bay 67 - Bay 71 (Ch1038-Ch11) 3 h. Bay 72 - Bay 73 (Ch1146-CH11) 4 i. Bay 74 (Ch1180-CH1195)	2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Tue 19 5 days Sun 15 5 days Wed 24	12/08 Wed 21/1// /3/09 Tue 7/4/ 10/08 Sun 26/10/ /4/08 Sun 1/6/ /8/08 Thu 28/8/ /3/09 Thu 19/3/ /6/09 Sun 28/6/	09 504 09 513,587FF 08 522,527 08 536 08 545 09 552 09 559	256 days	-		66 days	,		
5	2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Sun 15	12/08 Wed 21/1// /3/09 Tue 7/4/ 10/08 Sun 26/10/ /4/08 Sun 1/6/ /8/08 Thu 28/8/ /3/09 Thu 19/3/ /6/09 Sun 28/6/	09 504 09 513,587FF 08 522,527 08 536 08 545 09 552 09 559	256 days			66 days			
12. Filling in Platform  a. Bay 33- Bay39 (Ch436-Ch535)  b. Bay 40 - Bay 45 (CH535-Ch625)  c. Bay 46 - Bay 53 (Ch625-Ch738)  d. Bay 54 - Bay 55 (Ch738-Ch800)  e. Bay 56c - Bay 59 (Ch844-Ch92)  f. Bay 60 - Bay 66 (Ch925-Ch1038)  g. Bay 67 - Bay 71 (Ch1038-Ch11)  h. Bay 72 - Bay 73 (Ch1146-CH11)  i. Bay 74 (Ch1180-CH1195)  j. Bay 75 - Bay 84 (Ch1195-Ch133)	2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Tue 19 5 days Sun 15 5 days Wed 24	12/08 Wed 21/1// /3/09 Tue 7/4/ 10/08 Sun 26/10/ /4/08 Sun 1/6/ /8/08 Thu 28/8/ /3/09 Thu 19/3/ /6/09 Sun 28/6/	09 504 09 513,587FF 08 522,527 08 536 08 545 09 552 09 559	256 days	Rolled Up C	itical Task Rolled Up Progress ■	66 days	External Tasks	Group By Summary	
12. Filling in Platform  a. Bay 33- Bay39 (Ch436-Ch535) b. Bay 40 - Bay 45 (CH535-Ch625 c. Bay 46 - Bay 53 (Ch625-Ch738) d. Bay 54 - Bay 55 (Ch738-Ch800) e. Bay 56c - Bay 59 (Ch844-Ch92) f. Bay 60 - Bay 66 (Ch925-Ch1038 g. Bay 67 - Bay 71 (Ch1038-Ch11 h. Bay 72 - Bay 73 (Ch1146-CH11 i. Bay 74 (Ch1180-CH1195) j. Bay 75 - Bay 84 (Ch1195-Ch133	2 2 5) 2 2 1) 2 2 1) 1 1 55 2 3) 4 46) 1 1 880)	28 days Tue 14 28 days Thu 25/ 19 days Fri 20 21 days Mon 6/ 41 days Tue 22 10 days Tue 19 5 days Sun 15 5 days Wed 24	12/08 Wed 21/1// //3/09 Tue 7/4// 10/08 Sun 26/10/ //4/08 Sun 1/6/ //8/08 Thu 28/8/ //3/09 Thu 19/3/ /6/09 Sun 28/6/	09 504 09 513,587FF 08 522,527 08 536 08 545 09 552 09 559 09 570			lestone Split	66 days	External Tasks Project Summary		

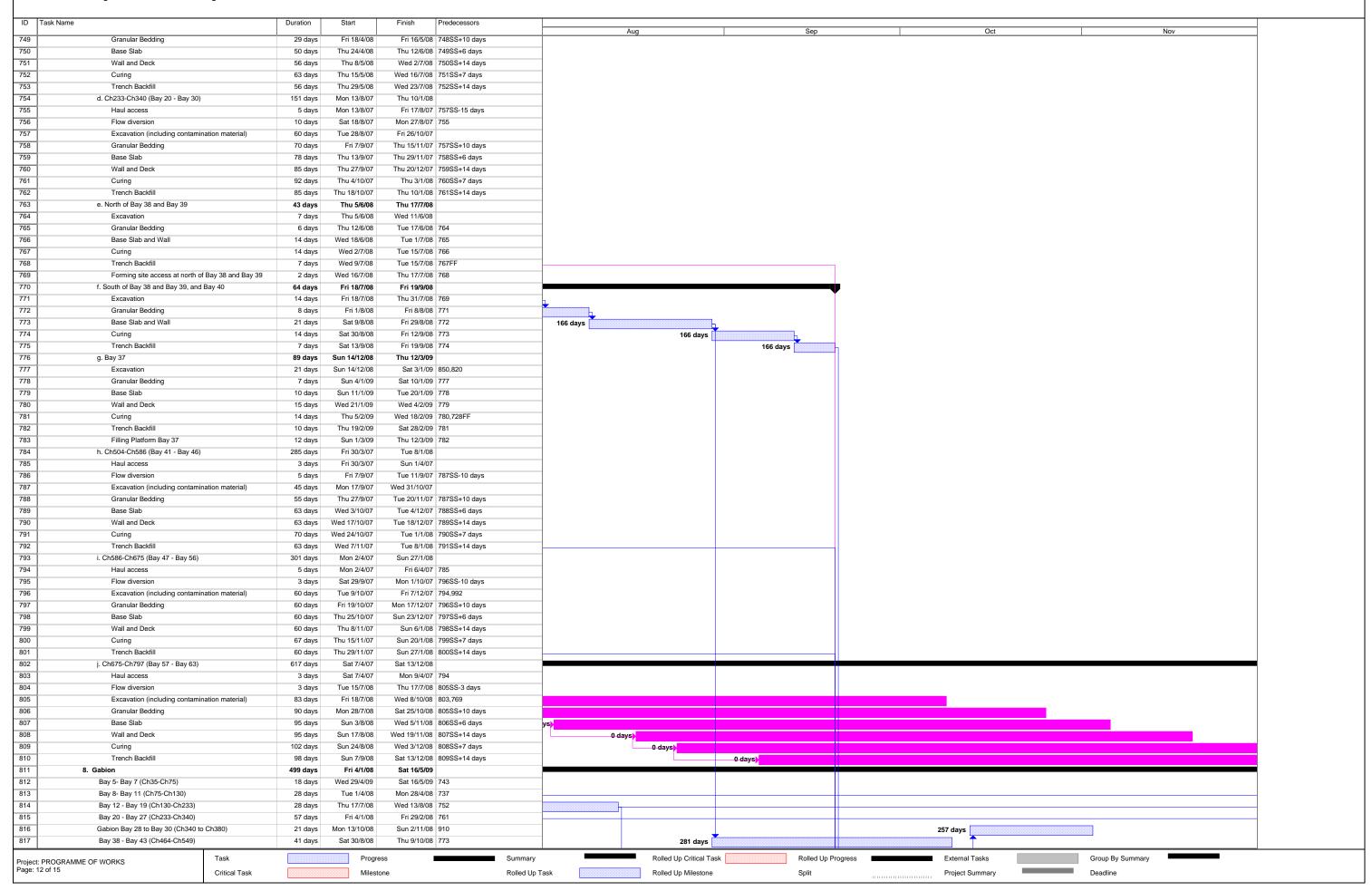
Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,



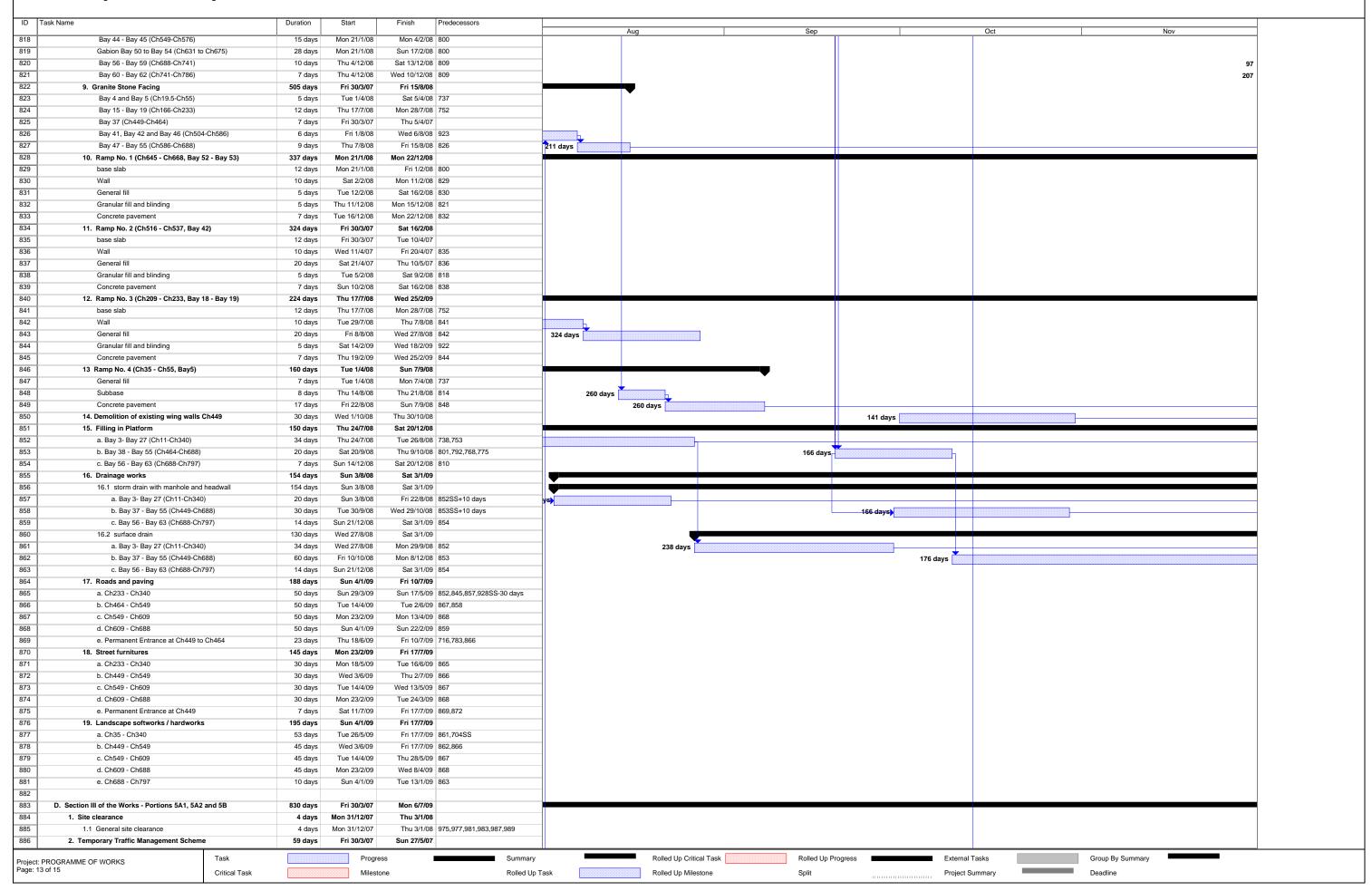
Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,



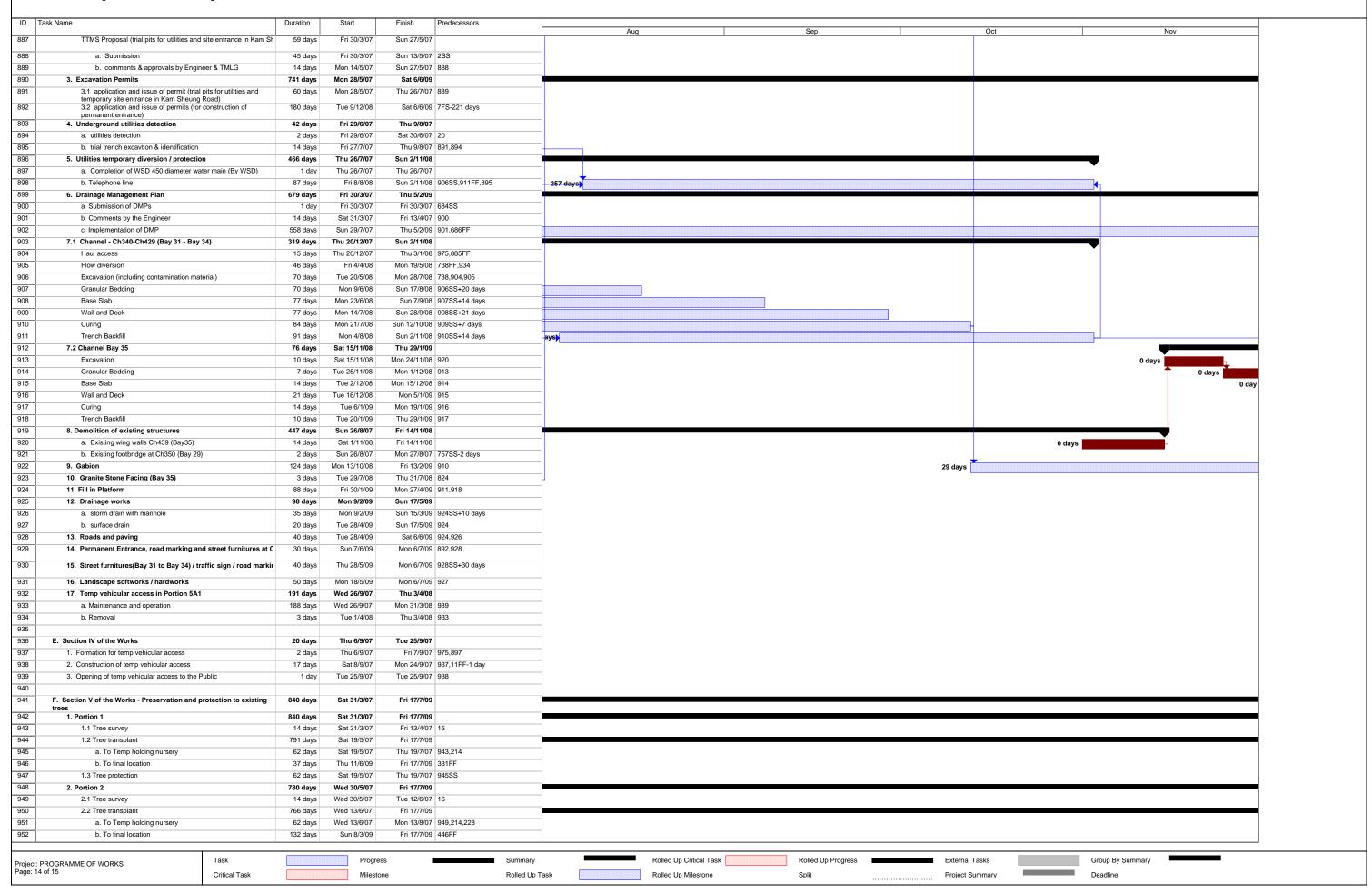
Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,



Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,



Contract Title: Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,



PROGRAMME OF WORKS - RP13
Contract No. : DC / 2006 / 02
Contract Title : Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements,
Stage 1, Phase 2B - Cheung Chun San Tsuen and Kam Tsin Wai

CHIT CHEUNG CONSTRUCTION CO., LTD. DATE: MAY 2008

ID	Task Name	Duration	Start	Finish	Predecessors				
953	2.3 Tree protection	62 days	Wed 13/6/07	Mon 13/8/07	95188	Aug	Sep	Oct	Nov
954	3. Portion 3	750 days	Fri 29/6/07	Fri 17/7/09					
955	3.1 Tree survey	14 days	Fri 29/6/07	Thu 12/7/07					
956	3.2 Tree transplant	736 days	Fri 13/7/07	Fri 17/7/09					
957	a. To Temp holding nursery	64 days	Fri 13/7/07	Fri 14/9/07					
958	b. To final location	301 days	Sat 20/9/08	Fri 17/7/09	1 '		0 days		
959	3.3 Tree protection	64 days	Fri 13/7/07	Fri 14/9/07			0 44,0		
960	4. Portion 4	840 days	Sat 31/3/07	Fri 17/7/09					
961	4.1 Tree survey	14 days	Sat 31/3/07	Fri 13/4/07					
962	4.2 Tree transplant	791 days	Sat 19/5/07	Fri 17/7/09					
963	a. To Temp holding nursery	62 days	Sat 19/5/07	Thu 19/7/07	961,214				
964	b. To final location	53 days	Tue 26/5/09	Fri 17/7/09	704FF				
965	4.3 Tree protection	62 days	Sat 19/5/07	Thu 19/7/07	963SS				
966	5. Portion 5	750 days	Fri 29/6/07	Fri 17/7/09					
967	5.1 Tree survey	14 days	Fri 29/6/07	Thu 12/7/07	19				
968	5.2 Tree transplant	736 days	Fri 13/7/07	Fri 17/7/09					
969	a. To Temp holding nursery	69 days	Fri 13/7/07	Wed 19/9/07	967,214				
970	b. To final location	195 days	Sun 4/1/09	Fri 17/7/09	876FF				
971	5.3 Tree protection	69 days	Fri 13/7/07	Wed 19/9/07	969SS				
972	6. Portion 5A1	739 days	Fri 29/6/07	Mon 6/7/09					
973	6.1 Tree survey	7 days	Fri 29/6/07	Thu 5/7/07	20				
974	6.2 Tree transplant	732 days	Fri 6/7/07	Mon 6/7/09					
975	a. To Temp holding nursery	62 days	Fri 6/7/07	Wed 5/9/07	973,214				
976	b. To final location	61 days	Thu 7/5/09	Mon 6/7/09	931FF				
977	6.3 Tree protection	62 days	Fri 6/7/07	Wed 5/9/07	1				
978	7. Portion 5A2	739 days	Fri 29/6/07	Mon 6/7/09					
979	7.1 Tree survey	14 days	Fri 29/6/07	Thu 12/7/07					
980	7.2 Tree transplant	725 days	Fri 13/7/07	Mon 6/7/09					
981	a. To Temp holding nursery	62 days	Fri 13/7/07	Wed 12/9/07					
982	b. To final location	61 days	Thu 7/5/09	Mon 6/7/09					
983	7.3 Tree protection	62 days	Fri 13/7/07	Wed 12/9/07	1				
984	8. Portion 5B	630 days	Tue 16/10/07	Mon 6/7/09					
985	8.1 Tree survey	14 days	Tue 16/10/07	Mon 29/10/07					
986	8.2 Tree transplant	616 days	Tue 30/10/07	Mon 6/7/09					
987	a. To Temp holding nursery	62 days	Tue 30/10/07	Sun 30/12/07					
988	b. To final location	61 days	Thu 7/5/09	Mon 6/7/09					
989	8.3 Tree protection	62 days	Tue 30/10/07	Sun 30/12/07	987SS				
990		440.5	14/5/5						
991	G. Berthing Area	148 days	Mon 14/5/07	Mon 8/10/07					
992	1. Construction of Loading Facilities	27 days	Wed 12/9/07	Mon 8/10/07					
993	2. Removal of Loading Facilities	2 days	Mon 14/5/07	Tue 15/5/07					
994	3. Reinstatement of Berthing Area	7 days	Wed 16/5/07	Tue 22/5/07	993				

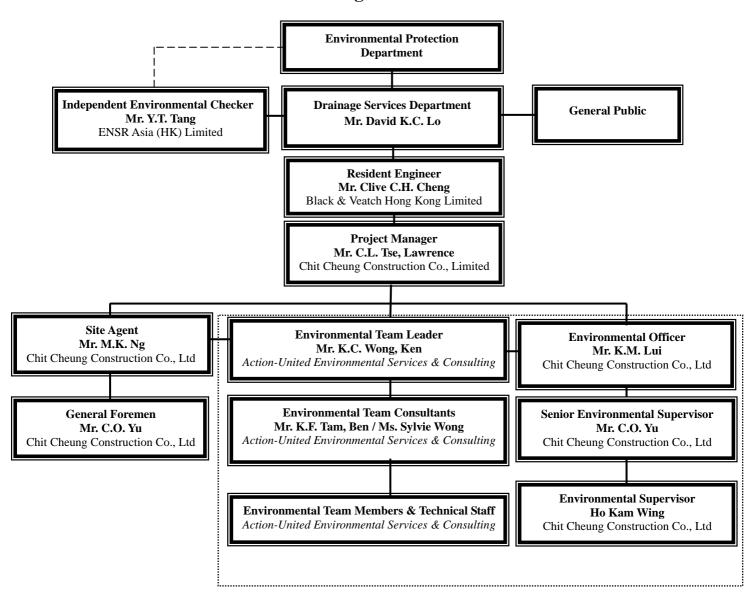


## **APPENDIX C**

**ENVIRONMENTAL ORGANIZATION STRUCTURE** 



#### **Environmental Organization Structure**



Contractor's Environmental Team (CET)



KT15 – Monthly EM&A Report for August 2008 (No. 14)

#### **Contact Details of Key Personnel**

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. David K.C. LO	2594-7254	2827-8526
B&V	Engineer	Mr. Kelvin N.F. LAU	2601-1000	2601-3988
B&V	Engineer's Representative	Mr. Clive C.H. CHENG	2478-9161	2443-7300
ENSR	Independent Environmental Checker	Mr. Y.T. Tang	3105-8537	2891-0305
CCC	Project Director	Mr. P.Y. CHENG	9023-4821	2403-1162
CCC	Project Manager	Mr. Lawrence TSE	9752-0748	2479-1365
CCC	Site Agent	Mr. M.K. NG	6603-9711	2479-1365
CCC	Site Engineer	Mr. Jimmy CHAN	9234-8632	2479-1365
CCC	Environmental Officer	Mr. LUI Kam Man	9257-9111	2479-1365
CCC	Senior Environmental Supervisor	Mr. YU Chor-on	9026-9501	2479-1365
CCC	Environmental Supervisor	Ho Kam Wing	9016-0592	2479-1365
CCC	Safety Officer	Mr. SHEA Yan Keung	6086-4658	2479-1365
AUES	Environmental Team Leader	Ken Wong	2959-6059	2959-6079
AUES	Environmental Team Supervisor	Ben Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ben Tam/Sylvie Wong	2959-6059	2959-6079
AUES	Ecologist	Vincent Lai	9406-9784	2959-6079
AUES	Decontamination Specialist	FN Wong	2959-6059	2959-6079

Legend:
DSD (Employer)
B&V (Engineer)
CCC (Contractor)
ENSR (IEC) Drainage Services Department Black & Veatch Hong Kong Limited
Chit Cheung Construction Company Limited.

ENSR Asia (HK) Ltd.

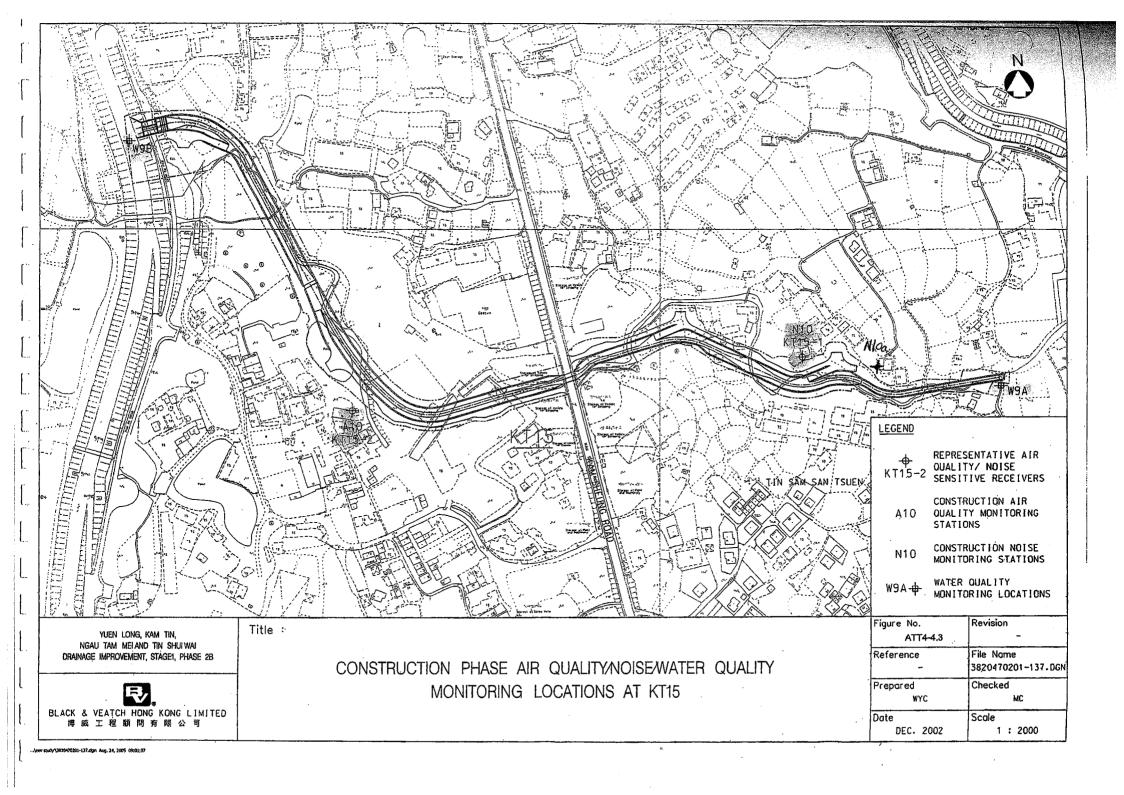
AUES (ET) Action-United Environmental Services & Consulting

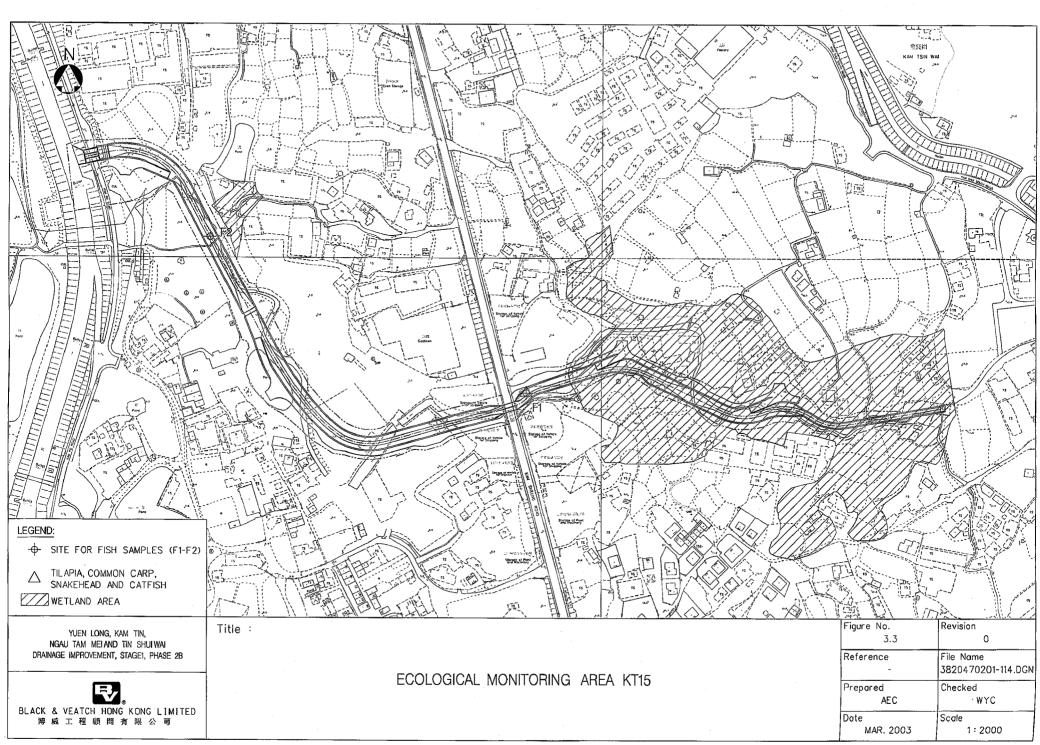


KT15 – Monthly EM&A Report for August 2008 (No. 14)

### APPENDIX D

## LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA





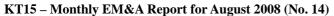
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KT15 – Monthly EM&A Report for August 2008 (No. 14)

### APPENDIX E

EVENT/ACTION PLAN FOR AIR QUALITY, CONSTRUCTION NOISE, STREAM WATER QUALITY AND ECOLOGY

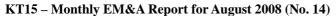




### **Event/Action Plan for Air Quality**

EVENT	ACTION								
EVENI	ET	IEC	Engineer	Contractor					
ACTION LEVEL									
Exeedance for one sample	Identify source     Inform IEC and Engineer     Repeat measurement to confirm finding     Increase monitoring frequency to daily	Check monitoring data submitted by ET     Check Contractor's working method	Notify Contractor	Rectify any unacceptable practice     Amend working methods if appropriate					
Exeedance for two or more consecutive samples	Identify source     Inform IEC and Engineer     Repeat measurements to confirm findings     Increase monitoring frequency to daily     Discuss with IEC and Contractor on remedial actions required     Fexceedance continues, arrange meeting with IEC and Engineer     T. If exceedance stops, cease additional monitoring	Check monitoring data submitted by ET     Check Contractor's working method     Discuss with ET and Contractor on possible remedial measures     Advice Engineer on the effectiveness of the proposed remedial measures     Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Ensure remedial measures properly implemented	Submit proposals for remedial actions to IEC within 3 working days of notification     Implement the agreed proposals     Amend proposal if appropriate					
LIMIT LEVEL									
Exeedance for one sample	Identify source     Inform Engineer and EPD     Repeat measurement to confirm finding     Increase monitoring frequency to daily     Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results	Check monitoring data submitted by ET     Check Contractor's working method     Discuss with ET and Contractor on possible remedial measures     Advice Engineer on the effectiveness of the proposed remedial measures     Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance     Submit proposals for remedial actions to IEC within 3 working days of notification     Implement the agreed proposals     Amend proposal if appropriate					
Exceedance for two or more consecutive samples	Notify IEC, Engineer and EPD     Identify source     Repeat measurement to confirm findings     Increase monitoring frequency to daily     Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.     Arrange meeting with IEC and Engineer to discuss the remedial actions to be taken     Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results     If exceedance stops, cease additional monitoring	Discuss amongst Engineer, ET and Contractor on potential remedial actions     Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly     Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented 4. Discuss amongst Environmental Team Leader and the Contractor potential remedial actions 5. Ensure remedial measures properly implemented 6. 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	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals if problem still not under control 5. Stop the relevant portion of works as determined by the Engineer until the exceedance is abated					

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai





#### **Event/Action Plan for Construction Noise**

EVENT	ACTION									
EVENI	ET Leader	IEC	Engineer	Contractor						
ACTION LEVEL	Notify Contractor and Engineer     Carry out investigation     Report the results of investigation to the IEC and Contractor     Discuss with the Contractor and formulate remedial measures     Increase monitoring frequency to check mitigation effectiveness	Review the analysed results submitted by ET     Review the proposed remedial measures by the Contractor and advice the Engineer accordingly     Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Require Contractor to propose remedial measures for the analysed noise problem     Ensure remedial measures properly implemented	Submit noise mitigation proposals for remedial actions to IEC     Implement the agreed proposals						
LIMIT LEVEL	Notify IEC, Engineer, EPD and Contractor     Identify source     Repeat measurement to confirm findings     Increase monitoring frequency     Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented     Inform IEC, Engineer and EPD the causes & actions taken for the exceedances     Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results     If exceedance stops, cease additional monitoring	Discuss amongst Engineer, ET and Contractor on potential remedial actions     Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly     Supervise implementation of remedial measures	Confirm receipt of notification of failure in writing     Notify Contractor     Require Contractor to propose remedial measures for the analysed noise problem     Ensure remedial measures properly implemented     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	Take immediate action to avoid further exceedance     Submit proposals for remedial actions to IEC within 3 working days of notification     Implement the agreed proposals     Resubmit proposals if problem still not under control     Stop the relevant portion of works as determined by the Engineer until the exceedance is abated						

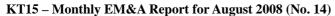




### **Event and Action Plan for Stream Water Quality**

Event	ET Leader	IEC	Engineer	Contractor
ACTION LEVEL (being exceeded by one sampling day)	Repeat in-situ measurement to confirm findings     Identify source(s) of impact     Inform IEC and Contractor     Check monitoring data, all plant, equipment and Contractor's working methods     Discuss mitigation measures IEC and Contractor     Repeat measurement on next day of exceedance	Discuss with ET and Contractor on the mitigation measures     Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly     Assess the effectiveness of the implemented mitigation measures	Discuss with IEC on the proposed mitigation measures     Make agreement on the mitigation measures to be implemented	Inform Engineer and confirm notification of the non-compliance in writing     Rectify unacceptable practice     Check all plant and equipment     Consider changes of working methods     Discuss with ET and Contractor and propose mitigation measures to IEC and Engineer     Implement the agreed mitigation measures
ACTION LEVEL (being exceeded by more than one sampling day)	Repeat in-situ measurement to confirm findings     Identify source(s) of impact     Inform IEC, Contractor and EPD     Check monitoring data, all plant, equipment and Contractor's working methods     Discuss mitigation measures IEC, Engineer and Contractor     Repeat measurement on next day of exceedance     Ensure mitigation measures are implemented     Prepare to increase the monitoring frequency to daily     Repeat measurement on next day of exceedance	Discuss with ET and Contractor on the mitigation measures     Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly     Assess the effectiveness of the implemented mitigation measures	Discuss with IEC on the proposed mitigation measures     Make agreement on the mitigation measures to be implemented     Assess the effectiveness of the implemented mitigation measures	Inform Engineer and confirm notification of the non-compliance in writing     Rectify unacceptable practice     Check all plant and equipment     Consider changes of working methods     Discuss with ET and IEC and propose mitigation measures to IEC and Engineer within 3 working days     Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by one sampling days)	Repeat in-situ measurement to confirm findings     Identify source(s) of impact     Inform IEC, Contractor and EPD     Check monitoring data, all plant, equipment and Contractor's working methods     Discuss mitigation measures IEC, Engineer and Contractor     Ensure mitigation measures are implemented     Increase the monitoring frequency to daily until no exceedance of Limit level	Discuss with ET and Contractor on the mitigation measures     Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly     Assess the effectiveness of the implemented mitigation measures	Discuss with IEC, ET and Contractor on the proposed mitigation measures     Request Contractor to critically review the working methods     Make agreement on the mitigation measures to be implemented     Assess the effectiveness of the implemented mitigation measures	Inform Engineer and confirm notification of the non-compliance in writing     Rectify unacceptable practice     Check all plant and equipment     Consider changes of working methods     Discuss with ET, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days     Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by more than one sampling days)	Repeat in-situ measurement to confirm findings;     Identify source(s) of impact;     Inform Contractor, Engineer, IEC and EPD;     Check monitoring data, all plant, equipment and Contractor's working methods;     Discuss mitigation measures with IEC, Engineer and Contractor;     Ensure mitigation measures are implemented;     Increase the monitoring frequency to daily until no exceedance of Limit level	Discuss with ET and Contractor on the mitigation measures     Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly     Assess the effectiveness of the implemented mitigation measures	Discuss with IEC, ET and Contractor on the proposed mitigation measures     Request Contractor to critically review the working methods     Make agreement on the mitigation measures to be implemented     Assess the effectiveness of the implemented mitigation measures     Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until daily until no exceedance of Limit level	Inform Engineer and confirm notification of the non-compliance in writing     Rectify unacceptable practice     Check all plant and equipment     Consider changes of working methods     Discuss with ET, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days Propose mitigation measures to Engineer within 3 working days     Implement the agreed mitigation measures;     As directed by Engineer, to slow down or to stop all or part of the construction activities

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai





### **Event/Action Plan for Ecology**

Event	ET Leader	IEC	Engineer	Contractor	
Fauna The total number of species or individuals of the surveyed wetland dependent faunal groups is reduced by 20-40% from baseline	Notify IEC and Contractor;     Check the position and state of the current works to identify the causes;     Discuss mitigation measures with IEC and Contractor	Discuss with ET and Contractor on the mitigation measures     Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly     Assess the effectiveness of the implemented mitigation measures	Discuss with IEC on the proposed mitigation measures;     Reach agreement on the mitigation measures to be implemented	Inform Engineer and confirm notification of the non-compliance in writing Take immediate action to avoid further exceedances; Check all plant and equipment and working methods, especially noise emanating ones Discuss with ET and IEC and propose mitigation measures to IEC and Engineer Implement the agreed mitigation measures	



## APPENDIX F

## **EQUIPMENT CALIBRATION CERTIFICATES**

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai



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## Equipment Calibration List for Construction of Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai Project

Items	Aspect	Description of Equipment	Date of Calibration	Date of Next Calibration
1	Air	Greasby Anderson GMWS2310 High Volume Sampler	07 Jul 08	07 Sep 08
2		EQ094 - Sibata LD-3 Laser Dust Meter	20 Jun 08	19 Jun 09
3		EQ096 - Sibata LD-3 Laser Dust Meter	20 Jun 08	19 Jun 09
4	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	22 Apr 08	22 Apr 09
5		Bruel & Kjaer 2238 Integrating Sound Level Meter	22 Apr 08	22 Apr 09
6	Water	YSI Multimeter YSI 550A (Serial No. 05F2063AZ)	16 Jul 08	16 Oct 08
7		Hanna pH Meter HI98107 (Serial No. 388220)	27 Jun 08	27 Sep 08
8		Turbidimeter HACH 2100p (Serial No. 911100342)	05 Jun 08	05 Sep 08
9		Hand refractometer ATAGO (Serial No. 289468)	17 Jul 08	17 Oct 08

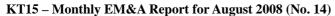
Note: \*Calibration certificates will only be provided if monitoring equipment is re-calibrated or new.



KT15 – Monthly EM&A Report for August 2008 (No. 14)

## APPENDIX G

## **IMPACT MONITORING SCHEDULES**





#### **Impact Monitoring Schedules in this Reporting Period**

Date		Air (	Quality	Noise Leq 30min	Stream Water	Ecology Surveys
Date		1-Hour TSP	24-Hour TSP	Noise Deq 30mm	Quality	Ecology Bulveys
26-July-08	Sat		✓			
27-July-08	Sun					
28-July-08	Mon				✓	
29-July-08	Tue					
30-July-08	Wed					
31-July-08	Thu	✓		✓	✓	
1-Aug-08	Fri		✓			
2-Aug-08	Sat					
3-Aug-08	Sun					
4-Aug-08	Mon					
5-Aug-08	Tue					
6-Aug-08	Wed				✓	
7-Aug-08	Thu					
8-Aug-08	Fri	✓	✓	✓	✓	
9-Aug-08	Sat					
10-Aug-08	Sun					
11-Aug-08	Mon					
12-Aug-08	Tue	✓		✓	✓	
13-Aug-08	Wed		✓			
14-Aug-08	Thu				✓	
15-Aug-08	Fri					
16-Aug-08	Sat					
17-Aug-08	Sun					
18-Aug-08	Mon	✓		✓	✓	
19-Aug-08	Tue		✓			
20-Aug-08	Wed					
21-Aug-08	Thu					
22-Aug-08	Fri					
23-Aug-08	Sat	✓		✓	✓	
24-Aug-08	Sun					
25-Aug-08	Mon		✓			✓

Note: Stream Water Quality Monitoring on 06 August 2008 was cancelled due to Tropical Cyclone Signal No. 8.

✓	Monitoring Day				
	Sunday or Public Holiday				

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai



KT15 – Monthly EM&A Report for August 2008 (No. 14)

#### **Impact Monitoring Schedules in the Next Reporting Period**

Date		Air (	Quality	Noise Leq 30min	Stream Water	Ecology Surveys
Bate		1-Hour TSP	24-Hour TSP	Troise Eeq comm	Quality	Leology but veys
26-Aug-08	Tue				✓	
27-Aug-08	Wed					
28-Aug-08	Thu					
29-Aug-08	Fri	✓		✓	✓	
30-Aug-08	Sat		✓			
31-Aug-08	Sun					
1-Sep-08	Mon					
2-Sep-08	Tue				✓	
3-Sep-08	Wed					
4-Sep-08	Thu	✓		✓	✓	
5-Sep-08	Fri		✓			
6-Sep-08	Sat					
7-Sep-08	Sun					
8-Sep-08	Mon					
9-Sep-08	Tue				✓	
10-Sep-08	Wed	✓		✓		
11-Sep-08	Thu		✓		✓	
12-Sep-08	Fri					
13-Sep-08	Sat					✓
14-Sep-08	Sun					
15-Sep-08	Mon					
16-Sep-08	Tue				✓	
17-Sep-08	Wed	✓		✓		
18-Sep-08	Thu		✓		✓	
19-Sep-08	Fri					
20-Sep-08	Sat					
21-Sep-08	Sun					
22-Sep-08	Mon					
23-Sep-08	Tue	✓		✓	✓	
24-Sep-08	Wed		✓			
25-Sep-08	Thu				✓	

✓	Monitoring Day
	Sunday or Public Holiday



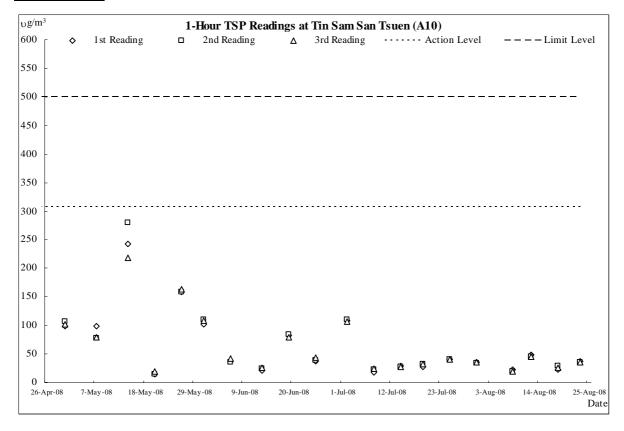
APPENDIX H

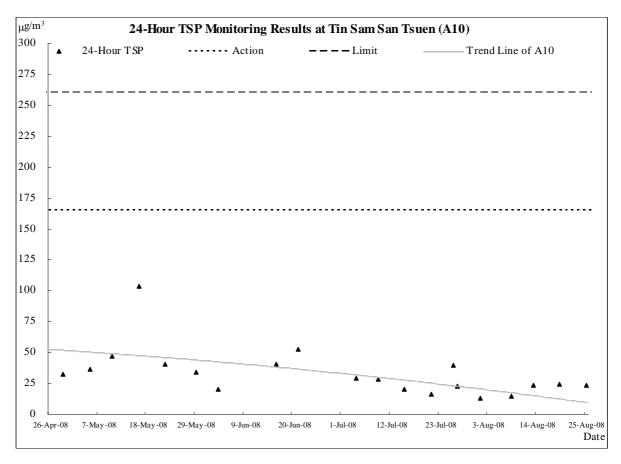
GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS



KT15 – Monthly EM&A Report for August 2008 (No. 14)

#### **AIR QUALITY**

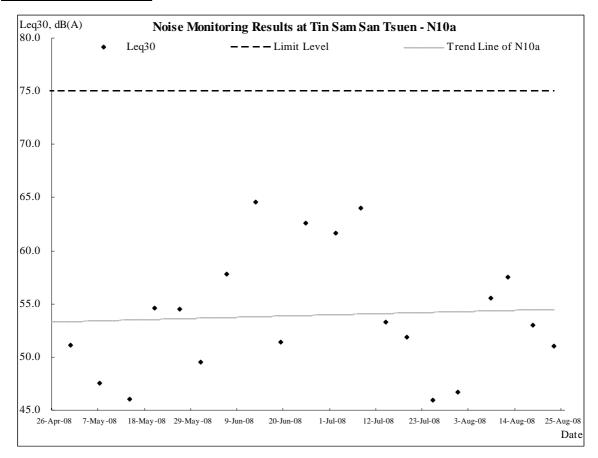






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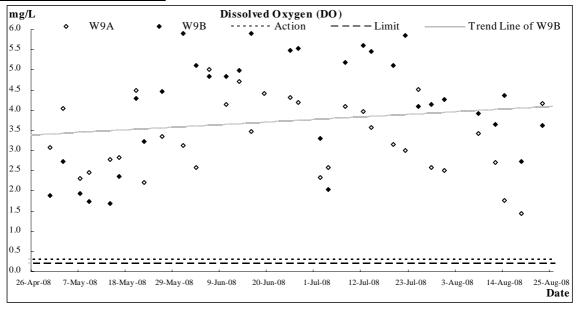
#### **CONSTRUCTION NOISE**

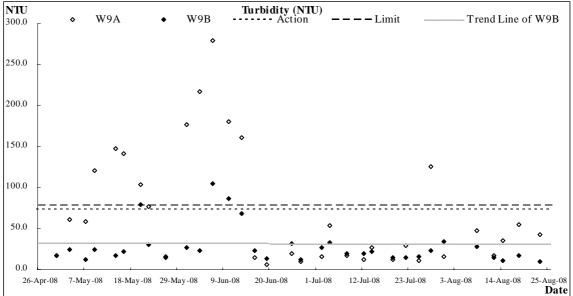


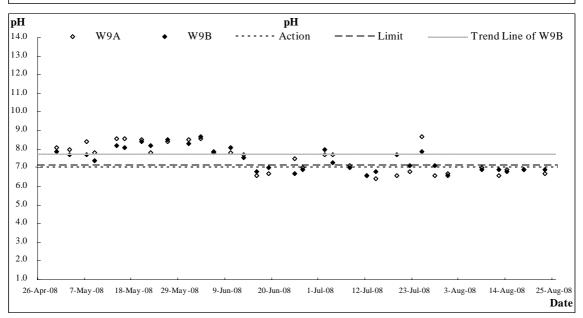




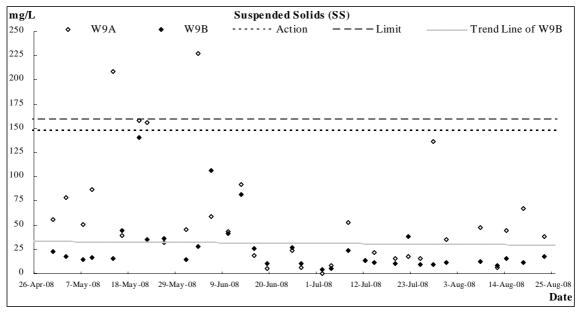
#### **STREAM WATER QUALITY**

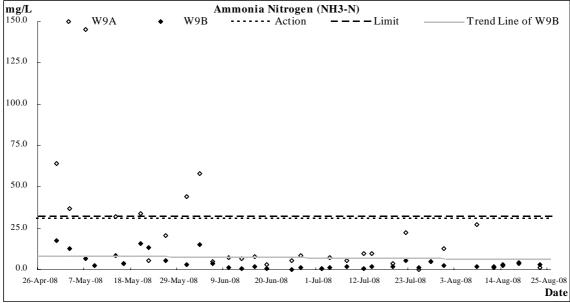


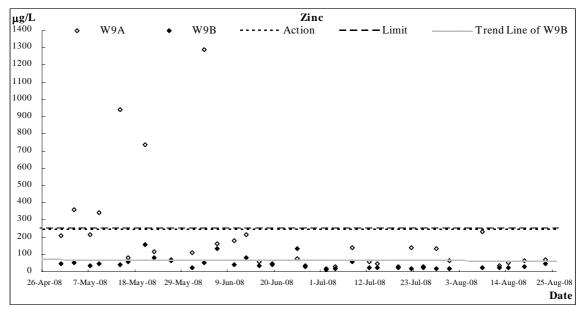












Note: Monitoring on 06 August 2008 was cancelled due to Tropical Cyclone Signal No. 8

## DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Report for August 2008 (No. 14)



Date	2	8-Jul-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	,	Salinity		pН	SS	NH3-N	Zinc
W/O A	14.00	0.20	32.8	32.8	2.6	2.59	33.0	32.9	127.0	125.5	0	0.0	6.60	6.60	136.0	1.6	132.0
W9A 14:09	0.20	32.8	32.8	2.58	2.39	32.7	32.9	124.0	123.3	0	0.0	6.60	0.00	130.0	4.6	132.0	
WOD	14.25	0.29	32.7	22.7	4.17	4 15	58.2	57.0	24.1	22.0	0	0.0	7.10	7.10	0.0	4.0	17.0
W9B 14:25	14:25	0.38	32.7	32.7	4.13	4.15	57.6	57.9	23.4	23.8	0	0.0	7.10	7.10	9.0	4.8	17.0

Date	3	1-Jul-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	9	Salinity		pН	SS	NH3-N	Zinc
W9A	13:35	0.15	31.2	31.2	2.51	2.50	31.3	31.0	16.6	16.5	0	0.0	6.70	6.70	35.0	12.8	64.0
W9A	15.55	0.13	31.2	31.2	2.49	2.30	30.7	31.0	16.3	10.3	0	0.0	6.70	0.70	33.0	12.8	04.0
WOD	14.10	0.21	32.1	22.1	4.28	4.07	54.7	515	34.3	22.7	0	0.0	6.60	( (0	11.0	2.7	10.0
W9B	14:10	0.31	32.1	32.1	4.26	4.27	54.2	54.5	33.1	33.7	0	0.0	6.60	6.60	11.0	2.1	19.0

Date	6	-Aug-08															
Location	Time	Depth (m)	Ten	ap (oC)	DO	(mg/L)	DC	OS (%)	Turbid	ity (NTU)		Salinity		pН	SS	NH3-N	Zinc
W9A	-	-	-	-	-	-	-	-	-	-	-	_	-	_	-	-	-
W9B	-	-	-	-	-	-	-	-	-	-	-	_		_	-	-	-

Note: Monitoring on 06 August 2008 was cancelled due to Tropical Cyclone Signal No. 8

Date	8	-Aug-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	;	Salinity		pН	SS	NH3-N	Zinc
WO A	17.20	0.26	26.5	26.5	3.43	2.42	48.4	48.4	45.4	47.1	0	0.0	7.00	7.00	48.0	27.2	222.0
W9A	17:20	0.26	26.5	20.5	3.42	3.43	48.3	48.4	48.7	47.1	0	0.0	7.00	7.00	48.0	21.2	232.0
WOD	17.25	0.22	26.8	26.0	3.92	2.01	53.6	52.4	26.3	27.7	0	0.0	6.90	6.00	12.0	1.6	26.0
W9B	17:35	0.32	26.8	26.8	3.9	3.91	53.1	53.4	29.1	27.7	0	0.0	6.90	6.90	12.0	1.6	26.0

# DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Report for August 2008 (No. 14)



Date	12	2-Aug-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	:	Salinity		pН	SS	NH3-N	Zinc
W9A	15:40	0.15	31.1	31.1	2.71	2.70	36.9	36.8	16.7	16.6	0	0.0	6.60	6.60	6.0	1.5	34.0
W9A	13:40	0.13	31.1	31.1	2.68	2.70	36.6	30.8	16.5	10.0	0	0.0	6.60	0.00	0.0	1.3	34.0
WOD	15.00	0.42	31.3	31.3	3.66	2.66	49.5	49.4	14.9	14.2	0	0.0	6.90	6.90	8.0	1.6	21.0
W9B	15:00	0.42	31.3	31.3	3.65	3.66	49.3	49.4	13.7	14.3	0	0.0	6.90	0.90	8.0	1.6	21.0

Date	14	1-Aug-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)		Salinity		pН	SS	NH3-N	Zinc
W9A	15:20	0.16	30.5	30.5	1.76	1.75	25.2	25.0	35.2	35.0	0	0.0	6.90	6.90	4.4	2.0	50.0
W9A	13:20	0.16	30.5	30.3	1.74	1.73	24.8	23.0	34.7	33.0	0	0.0	6.90	0.90	44	2.9	30.0
WOD	15.50	0.40	32.6	22.6	4.37	1.26	60.8	(0.7	11.5	11.2	0	0.0	6.80	C 90	15.0	2.2	26.0
W9B	15:50	0.40	32.6	32.6	4.35	4.36	60.5	60.7	10.9	11.2	0	0.0	6.80	6.80	15.0	2.2	26.0

Date	18	8-Aug-08															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ity (NTU)	:	Salinity		pН	SS	NH3-N	Zinc
W9A	12:15	0.08	29.6	29.6	1.44	1.43	19.6	19.5	55.4	55.2	0	0.0	6.90	6.90	67.0	4.2	61.0
W9A	12:13	0.08	29.6	29.0	1.42	1.43	19.3	19.3	55.2	55.3	0	0.0	6.90	0.90	67.0	4.2	61.0
WOD	12.40	0.20	31.9	21.0	2.74	2.74	37.8	27.7	17.4	17.2	0	0.0	6.90	<i>C</i> 00	11.0	2.7	20.0
W9B	12:40	0.20	31.9	31.9	2.73	2.74	37.6	37.7	17.2	17.3	0	0.0	6.90	6.90	11.0	3./	28.0

Date	23	3-Aug-08															
Location	Time	Depth (m)	Ten	ıp (oC)	DO	(mg/L)	DC	OS (%)	Turbidi	ty (NTU)	\$	Salinity		pН	SS	NH3-N	Zinc
W9A	13:00	0.12	27.2	27.2	4.17	116	52.4	52.3	43.5	42.2	0	0.0	6.70	6.70	38.0	1.0	68.0
W9A	13:00	0.13	27.2	21.2	4.15	4.16	52.1	32.3	42.8	43.2	0	0.0	6.70	6.70	38.0	1.0	08.0
W9B	14:10	0.42	27.1	27.1	3.62	2.61	46.3	46.1	10.1	10.1	0	0.0	6.90	6.90	18.0	3.0	48.0
WAD	14:10	0.42	27.1	27.1	3.6	3.61	45.9	40.1	10.0	10.1	0	0.0	6.90	0.90	18.0	3.0	46.0



### APPENDIX I

## METEOROLOGICAL DATA IN THE REPORTING PERIOD





## Meteorological Data Extracted from HKO in the Reporting Period

				Lau I	au Shan W	eather Stat	tion
Date		Weather	Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
26-Jul-08	Sat	fine/very hot/isolated showers/thunderstorm/moderate	0	29.8	12	74	W/SW
27-Jul-08	Sun	fine/hazy/very hot/a few showers/squally thunderstorm/moderate	Trace	28.4	37	76	W/SW
28-Jul-08	Mon	fine/hazy/very hot/a few showers/squally thunderstorm/moderate	Trace	30.7	10	80	W/SW
29-Jul-08	Tue	cloudy/a dew showers/moderate/fresh	Trace	31.2	15	66.2	W/SW
30-Jul-08	Wed	cloudy/a few showers/fresh/strong	Trace	29.1	23.5	76	SW
31-Jul-08	Thu	cloudy/a few showers/squally thunderstorm/moderate	Trace	29.2	13.5	76.7	S/SE
1-Aug-08	Fri	sunny periods/showers/fine/moderate	Trace	28.3	15.5	78.5	E/NE
2-Aug-08	Sat	fine/hot/moderate	Trace	29	18	78	Е
3-Aug-08	Sun	fine/very hot/moderate	0	29.8	10.2	69.5	E/NE
4-Aug-08	Mon	fine/very hot/isolated showers/moderate	Trace	30.1	6.5	76	E/NE
5-Aug-08	Tue	cloudy/squally showers/fresh	6.1	27	15	78	N
6-Aug-08	Wed	No.8 Southeast Gale Of Storm Signal					
7-Aug-08	Thu	cloudy/squally showers/fresh	72.3	26.7	23.5	86.5	E/SE
8-Aug-08	Fri	cloudy/scattered showers/squally thunderstorm/moderate	48.3	26.7	14.5	85	Е
9-Aug-08	Sat	cloudy/isolated showers/moderate	0	28.5	10.5	83.5	E/NE
10-Aug-08	Sun	cloudy/isolated showers/moderate	0	27.7	11.2	78.5	S/SE
11-Aug-08	Mon	cloudy/rain/squally thunderstorm/moderate	17.7	25.3	7.5	89	S/SE
12-Aug-08	Tue	fine/isolated showers/moderate	Trace	27.8	12	81	E/SE
13-Aug-08	Wed	fine/hot/moderate	0	28.8	13	79.5	S/SE
14-Aug-08	Thu	fine/hot/moderate	0	29.4	14	73.5	W/SW
15-Aug-08	Fri	fine/hot/moderate/fresh	0	29.5	14.2	76.5	S/SW
16-Aug-08	Sat	fine/hot/moderate/fresh	0	29.4	18	75.5	S/SW
17-Aug-08	Sun	fine/hot/showers/moderate	Trace	29.8	17.5	70.5	S/SE
18-Aug-08	Mon	fine/hot/showers/moderate	Trace	29.2	6.5	80	E/NE
19-Aug-08	Tue	fine/very hot/moderate	Trace	30	12	74	S/SE
20-Aug-08	Wed	fine/very hot/isolated showers/light winds	0	29.6	15	70.5	S/SE
21-Aug-08	Thu	cloudy/scattered showers/squally thunderstorm/moderate	Trace	30.1	12	71.5	W/SW
22-Aug-08	Fri	increasing Gale Or Storm Signal No. 9					
23-Aug-08	Sat	cloudy/squally showers/fresh/strong			Maintenance	81.5	Maintenance
24-Aug-08	Sun	fine/hot/moderate	Trace	28.5	Maintenance	73	Maintenance
25-Aug-08	Mon	fine/hot/moderate	Trace	29.5	Maintenance	76.5	Maintenance



### APPENDIX J

**ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS** 

#### **Environmental Site Inspection Checklist for KT15**

**AUES** 

Proje	ct: Contract No.: DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B –	In	nspected b	ру				
	Cheung Chun San Tsuen and Kam Tsin Wai	R	E/RE's re	oresentat	ive:	Mr. A.F.I	Ng	
Inspe	ction	IE	EC/IEC's re	epresenta	tive:			
Date:	31 July 2008	E	TL/ ET's r	epresenta	tive:	Ben Tan	1	
Time:	14:00		ontractor'	•	entative:	M.K.Ng/I		
		С	hecklist N	lo.		KT15-31	0708	
PART	A: GENERAL INFORMATION Environment	tal Pe	ermit No. I	EP-231/20	05/A			
Weath			Rainy					
Temp	erature: 28 °C							
Humid	dity: High Moderate Low		_					
Wind:	Strong Breeze Light	L	✓ Calm					
PART	B: SITE AUDIT							
			Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section	on 1: Water Quality							
1.01	Is an effluent discharge license obtained for the Project?			$\checkmark$				
1.02	Is the effluent discharged in accordance with the discharlicence?	rge		$\checkmark$				
1.03	Is the discharge of turbid water avoided?			$\checkmark$				
1.04	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?	to		$\checkmark$				
1.05	Are there channels, sandbags or bunds to direct surface run-off sedimentation tanks?	f to		$\checkmark$				
1.06	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?	to		$\checkmark$				
1.07	Is drainage system well maintained?			$\checkmark$				
1.08	As excavation proceeds, are temporary access roads protected crushed stone or gravel?	by		$\checkmark$				
1.09	Are temporary exposed slopes properly covered?					$\checkmark$		
1.10	Are earthworks final surfaces well compacted or protected?						$\overline{\checkmark}$	
1.11	Are manholes adequately covered or temporarily sealed?			$\overline{\checkmark}$				
1.12	Are there any procedures and equipment for rainstorm protection	า?		$\overline{\checkmark}$				
1.13	Are wheel washing facilities well maintained?			$\overline{\checkmark}$				
1.14	Is runoff from wheel washing facilities avoided?			$\checkmark$				
1.15	Are there toilets provided on site?			$\checkmark$				
1.16	Are toilets properly maintained?			$\checkmark$				
1.17	Are the vehicle and plant servicing areas paved and located with roofed areas?	hin					$\overline{\checkmark}$	
1.18	Is the oil leakage or spillage avoided?			$\checkmark$				
1.19	Are there any measures to prevent leaked oil from entering t drainage system?	the		$\checkmark$				
1.20	Are there any measures to collect spilt cement and concrewashings during concreting works?	ete					$\overline{\checkmark}$	
1.21	Are there any oil interceptors/grease traps in the drainage system for vehicle and plant servicing areas, canteen kitchen, etc?	ms					$\checkmark$	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?					$\checkmark$	
1.23	Is used bentonite recycled where appropriate?					$\checkmark$	
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.					$\checkmark$	
1.25	No excavation is undertaken in the settlement area.					$\checkmark$	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					$\checkmark$	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.		$\checkmark$				
1.25	License collector should be employed for handling the sewage of mobile toilet.		$\checkmark$				
1.26	Prevent any stagnant water accumulated within the excavation trench or site working area.		$\checkmark$				Remarks 2
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		$\checkmark$				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?					$\checkmark$	
2.03	Are the excavated materials sprayed with water during handling?		$\checkmark$				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?					$\checkmark$	
2.05	Is the exposed earth properly treated within six months after the last construction activities?		$\checkmark$				
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		$\checkmark$				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?		$\checkmark$				
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		$\checkmark$				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?		$\checkmark$				
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		$\checkmark$				
2.11	Is dark smoke emission from plant/equipment avoided?		$\checkmark$				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					$\checkmark$	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?		$\checkmark$				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		$\checkmark$				
2.15	Is open burning avoided?		$\checkmark$				
2.16	Excavated materials from the stream must be removed from site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.					$\checkmark$	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?		$\checkmark$				
3.02	Is silenced equipment adopted?		$\checkmark$				
3.03	Is idle equipment turned off or throttled down?		$\checkmark$				
3.04	Are all plant and equipment well maintained and in good condition?		$\checkmark$				
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?		$\checkmark$				
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					$\checkmark$	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.07	Are air compressors fitted with valid noise emission labels during operation?					$\checkmark$	
3.08	Are flaps and panels of mechanical equipment closed during operation?		$\checkmark$				
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					$\checkmark$	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					$\checkmark$	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					$\checkmark$	
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).		$\checkmark$				
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)		$\checkmark$				
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).		$\checkmark$				
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		$\overline{\mathbf{V}}$				
4.02	Are receptacles available for general refuse collection?		$\overline{\checkmark}$				
4.03	Is general refuse sorting or recycling implemented?		$\checkmark$				
4.04	Is general refuse disposed of properly and regularly?		$\checkmark$				
4.05	Is the Contractor registered as a chemical waste producer?		$\checkmark$				
4.06	Are the chemical waste containers properly labelled?		$\checkmark$				
4.07	Are the chemical wastes stored in proper storage areas?		$\checkmark$				
4.08	Is the chemical waste storage area properly labelled?		$\checkmark$				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		$\checkmark$				
4.10	Are incompatible chemical wastes stored in different areas?		$\checkmark$				
4.11	Are the chemical wastes disposed of by licensed collectors?		$\checkmark$				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		$\checkmark$				
4.13	Are chemical/fuel storage areas bunded?		$\checkmark$				
4.14	Are designated areas identified for storage and sorting of construction wastes?		$\checkmark$				
4.15	Are construction wastes sorted (inert and non-inert) on site?		$\checkmark$				
4.16	Are construction wastes reused?		$\checkmark$				
4.17	Are construction wastes disposed of properly?		$\checkmark$				Remarks 1
4.18	Are site hoardings and signboards made of durable materials instead of timber?		$\checkmark$				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		$\checkmark$				
4.20	Are appropriate procedures followed if contaminated material exists?		$\checkmark$				
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		$\checkmark$				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		$\checkmark$				

**AUES** 

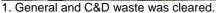
		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		V				
Section	on 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		$\checkmark$				
5.02	Are retained and transplanted trees properly protected?		$\checkmark$				
5.03	Are surgery works carried out for the damaged trees?					$\checkmark$	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		$\checkmark$				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		$\checkmark$				
Section	on 6: Ecology						
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?					$\checkmark$	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?		$\checkmark$				
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?		$\checkmark$				
Section	on 7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?		$\checkmark$				



#### Remarks

### Last Site Inspection (25 July 2008):







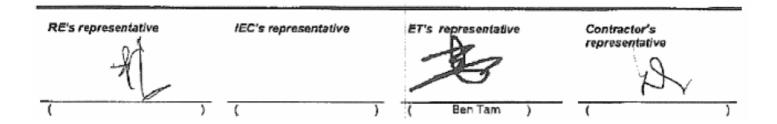
2. Stagnant water was pumping at CH-230

### Finding of Site Inspection on 31 July 2008:

Site inspection was covered the site area from CH000-800 and Portion 8 (Site office).



3. Un-used water collection drum was observed at Bay 41, the contractor was reminded to cover the drum to prevent any stagnant water accumulation.



**AUES** 

Projec	ct:	Contract No.: DC/2006/02  Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B –	Inspected I	by						
		Cheung Chun San Tsuen and Kam Tsin Wai	RE/RE's representative:		Mr. A.F.Ng					
Inspe	ction		IEC/IEC's representative:			- Day Tarr				
Date: Time:		08 August 2008	ETL/ ET's r	•		Ben Tam M.K.Ng/Man				
mine.		14:30	Contractor Checklist N	-	illalive.	KT15-08				
PART	Δ-	GENERAL INFORMATION Environmental	tal Permit No. EP-231/2005/A							
Weath		Sunny Fine Cloudy	Rainy	LI 201/20	.00/A					
Tempe	erature:	27 °C								
Humid	dity:	High Moderate Low								
Wind:		Strong Breeze Light	✓ Calm							
PART	В:	SITE AUDIT								
			Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks		
Section	on 1: Wa	ater Quality				-				
1.01	Is an e	ffluent discharge license obtained for the Project?		$\checkmark$						
1.02	Is the	effluent discharged in accordance with the discharge e?		$\checkmark$						
1.03	Is the	discharge of turbid water avoided?		$\checkmark$						
1.04		ere proper desilting facilities in the drainage systems to S levels in effluent?	· 🗆	$\checkmark$						
1.05		ere channels, sandbags or bunds to direct surface run-off to entation tanks?	· 🗆	$\checkmark$						
1.06		ere any perimeter channels provided at site boundaries to ept storm runoff from crossing the site?	P	$\checkmark$						
1.07	Is drain	nage system well maintained?		$\checkmark$						
1.08		cavation proceeds, are temporary access roads protected by did stone or gravel?	′ 🔲	$\checkmark$						
1.09	Are ter	mporary exposed slopes properly covered?				$\checkmark$				
1.10	Are ea	rthworks final surfaces well compacted or protected?					$\checkmark$			
1.11	Are ma	anholes adequately covered or temporarily sealed?		$\checkmark$						
1.12	Are the	ere any procedures and equipment for rainstorm protection?		$\checkmark$						
1.13	Are wh	neel washing facilities well maintained?		$\checkmark$						
1.14	Is runc	off from wheel washing facilities avoided?		$\checkmark$						
1.15	Are the	ere toilets provided on site?		$\checkmark$						
1.16	Are toi	lets properly maintained?		$\checkmark$						
1.17		e vehicle and plant servicing areas paved and located within areas?					$\checkmark$			
1.18	Is the	oil leakage or spillage avoided?		$\checkmark$						
1.19		ere any measures to prevent leaked oil from entering the ge system?		$\checkmark$						
1.20		ere any measures to collect spilt cement and concrete ags during concreting works?					$\checkmark$			
1.21		ere any oil interceptors/grease traps in the drainage systems nicle and plant servicing areas, canteen kitchen, etc?	S 🗌				$\checkmark$			



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?					$\checkmark$	
1.23	Is used bentonite recycled where appropriate?					$\checkmark$	
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.					$\checkmark$	
1.25	No excavation is undertaken in the settlement area.					$\checkmark$	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					$\checkmark$	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.		$\checkmark$				
1.25	License collector should be employed for handling the sewage of mobile toilet.		$\checkmark$				
1.26	Prevent any stagnant water accumulated within the excavation trench or site working area.		$\checkmark$				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		$\checkmark$				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?					$\checkmark$	
2.03	Are the excavated materials sprayed with water during handling?		$\checkmark$				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?					$\checkmark$	
2.05	Is the exposed earth properly treated within six months after the last construction activities?		$\checkmark$				
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		$\checkmark$				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?		$\checkmark$				
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		$\checkmark$				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?		$\checkmark$				
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		$\checkmark$				
2.11	Is dark smoke emission from plant/equipment avoided?		$\overline{\checkmark}$				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					$\checkmark$	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?		$\overline{\checkmark}$				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		$\checkmark$				
2.15	Is open burning avoided?		$\overline{\checkmark}$				
2.16	Excavated materials from the stream must be removed from site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.					$\checkmark$	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?		$\checkmark$				
3.02	Is silenced equipment adopted?		$\checkmark$				
3.03	Is idle equipment turned off or throttled down?		$\checkmark$				
3.04	Are all plant and equipment well maintained and in good condition?		$\checkmark$				
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?		$\checkmark$				
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					$\checkmark$	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.07	Are air compressors fitted with valid noise emission labels during operation?					$\checkmark$	
3.08	Are flaps and panels of mechanical equipment closed during operation?		$\checkmark$				
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					$\checkmark$	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					$\checkmark$	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					$\checkmark$	
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).		$\checkmark$				
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)		$\checkmark$				
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).		$\checkmark$				
Section	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		$\checkmark$				
4.02	Are receptacles available for general refuse collection?		$\checkmark$				
4.03	Is general refuse sorting or recycling implemented?		$\checkmark$				
4.04	Is general refuse disposed of properly and regularly?		$\checkmark$				
4.05	Is the Contractor registered as a chemical waste producer?		$\checkmark$				
4.06	Are the chemical waste containers properly labelled?		$\checkmark$				
4.07	Are the chemical wastes stored in proper storage areas?		$\checkmark$				
4.08	Is the chemical waste storage area properly labelled?		$\checkmark$				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		$\checkmark$				
4.10	Are incompatible chemical wastes stored in different areas?		$\checkmark$				
4.11	Are the chemical wastes disposed of by licensed collectors?		$\checkmark$				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		$\checkmark$				
4.13	Are chemical/fuel storage areas bunded?		$\checkmark$				
4.14	Are designated areas identified for storage and sorting of construction wastes?		$\checkmark$				
4.15	Are construction wastes sorted (inert and non-inert) on site?		$\checkmark$				
4.16	Are construction wastes reused?		$\checkmark$				
4.17	Are construction wastes disposed of properly?		$\checkmark$				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		$\checkmark$				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		$\checkmark$				
4.20	Are appropriate procedures followed if contaminated material exists?		$\checkmark$				
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		$\checkmark$				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		$\checkmark$				

**AUES** 

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		$\checkmark$				
Section	on 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		$\checkmark$				
5.02	Are retained and transplanted trees properly protected?		$\checkmark$				
5.03	Are surgery works carried out for the damaged trees?					$\checkmark$	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		$\checkmark$				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		$\checkmark$				
Section	on 6: Ecology						
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?					$\checkmark$	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?		$\checkmark$				
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?		$\checkmark$				
Section	on 7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?		$\checkmark$				

#### Remarks

### Last Site Inspection (31 July 2008):

1. Un-used water collection drum at Bay 41 was removed.

### Finding of Site Inspection on 08 August 2008:

Site inspection was covered the site area from CH000-800 and Portion 8 (Site office).



2. Stagnant water was cumulated at KT-15 works area after the rainfall, the contractor was reminded to clean to prevent mosquito breeding.

RE's representative	IEC's representative	ET's representative	Contractor's representative
( )	( )	( Ben Tam )	( )



Proje	ct: Contract No.: DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B –	Inspected by									
	Cheung Chun San Tsuen and Kam Tsin Wai	R	E/RE's re	presentat	ive:	Mr. A.F.	Ng				
Inspe	ction	IE	C/IEC's re	epresenta	tive:	Benny Li	iu				
Date:	14 August 2008	E.	TL/ ET's r	epresenta	itive:	Ken Wong					
Time:	14:30	C	ontractor	s represe	entative:	M.K.Ng/Man					
		С	hecklist N	lo.		KT15-14	8080				
PART	A: GENERAL INFORMATION Environment	tal Pe	ermit No. I	EP-231/20	05/A						
Weath	ner: Sunny Fine Cloudy		Rainy								
Temp	erature: 32 °C										
Humid	dity: High  Moderate Low										
Wind:	Strong Breeze Light	٧	Calm								
PART	PART B: SITE AUDIT										
			Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks			
Section	on 1: Water Quality										
1.01	Is an effluent discharge license obtained for the Project?			$\checkmark$							
1.02	Is the effluent discharged in accordance with the discharlicence?	rge		$\checkmark$							
1.03	Is the discharge of turbid water avoided?			$\checkmark$							
1.04	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?	to		$\checkmark$							
1.05	Are there channels, sandbags or bunds to direct surface run-off sedimentation tanks?	f to		$\checkmark$							
1.06	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?	to		$\checkmark$							
1.07	Is drainage system well maintained?			$\checkmark$							
1.08	As excavation proceeds, are temporary access roads protected crushed stone or gravel?	by		$\checkmark$							
1.09	Are temporary exposed slopes properly covered?					$\checkmark$					
1.10	Are earthworks final surfaces well compacted or protected?						$\overline{\checkmark}$				
1.11	Are manholes adequately covered or temporarily sealed?			$\checkmark$							
1.12	Are there any procedures and equipment for rainstorm protection	1?		$\checkmark$							
1.13	Are wheel washing facilities well maintained?			$\checkmark$							
1.14	Is runoff from wheel washing facilities avoided?			$\checkmark$							
1.15	Are there toilets provided on site?			$\checkmark$							
1.16	Are toilets properly maintained?			$\checkmark$							
1.17	Are the vehicle and plant servicing areas paved and located with roofed areas?	hin					$\overline{\checkmark}$				
1.18	Is the oil leakage or spillage avoided?			$\checkmark$							
1.19	Are there any measures to prevent leaked oil from entering the drainage system?	the		$\checkmark$							
1.20	Are there any measures to collect spilt cement and concrewashings during concreting works?	ete					$\overline{\checkmark}$				
1.21	Are there any oil interceptors/grease traps in the drainage system for vehicle and plant servicing areas, canteen kitchen, etc?	ms					$\checkmark$				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?					$\checkmark$	
1.23	Is used bentonite recycled where appropriate?					$\checkmark$	
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.					$\checkmark$	
1.25	No excavation is undertaken in the settlement area.					$\checkmark$	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					$\checkmark$	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.		$\checkmark$				
1.25	License collector should be employed for handling the sewage of mobile toilet.		$\checkmark$				
1.26	Prevent any stagnant water accumulated within the excavation trench or site working area.		$\checkmark$				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		$\checkmark$				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?					$\checkmark$	
2.03	Are the excavated materials sprayed with water during handling?		$\checkmark$				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?					$\checkmark$	
2.05	Is the exposed earth properly treated within six months after the last construction activities?		$\checkmark$				
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		$\checkmark$				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?		$\checkmark$				
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		$\checkmark$				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?		$\checkmark$				
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		$\checkmark$				
2.11	Is dark smoke emission from plant/equipment avoided?		$\checkmark$				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					$\checkmark$	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?		$\checkmark$				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		$\checkmark$				
2.15	Is open burning avoided?		$\checkmark$				
2.16	Excavated materials from the stream must be removed from site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.					$\checkmark$	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?		$\checkmark$				
3.02	Is silenced equipment adopted?		$\checkmark$				
3.03	Is idle equipment turned off or throttled down?		$\checkmark$				
3.04	Are all plant and equipment well maintained and in good condition?		$\checkmark$				
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?		$\checkmark$				
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					$\checkmark$	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.07	Are air compressors fitted with valid noise emission labels during operation?					$\checkmark$	
3.08	Are flaps and panels of mechanical equipment closed during operation?		$\checkmark$				
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					$\checkmark$	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					$\checkmark$	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					$\checkmark$	
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).		$\checkmark$				
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)		$\checkmark$				
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).		$\checkmark$				
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		$\checkmark$				
4.02	Are receptacles available for general refuse collection?		$\checkmark$				
4.03	Is general refuse sorting or recycling implemented?		$\checkmark$				
4.04	Is general refuse disposed of properly and regularly?		$\checkmark$				
4.05	Is the Contractor registered as a chemical waste producer?		$\checkmark$				
4.06	Are the chemical waste containers properly labelled?		$\checkmark$				
4.07	Are the chemical wastes stored in proper storage areas?		$\checkmark$				
4.08	Is the chemical waste storage area properly labelled?		$\checkmark$				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		$\checkmark$				
4.10	Are incompatible chemical wastes stored in different areas?		$\checkmark$				
4.11	Are the chemical wastes disposed of by licensed collectors?		$\checkmark$				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		$\checkmark$				
4.13	Are chemical/fuel storage areas bunded?		$\checkmark$				
4.14	Are designated areas identified for storage and sorting of construction wastes?		$\checkmark$				
4.15	Are construction wastes sorted (inert and non-inert) on site?		$\checkmark$				
4.16	Are construction wastes reused?		$\checkmark$				
4.17	Are construction wastes disposed of properly?		$\checkmark$				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		$\checkmark$				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		$\checkmark$				
4.20	Are appropriate procedures followed if contaminated material exists?		$\checkmark$				
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		$\checkmark$				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		$\checkmark$				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		$\checkmark$				
Section	on 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		$\checkmark$				
5.02	Are retained and transplanted trees properly protected?		$\checkmark$				
5.03	Are surgery works carried out for the damaged trees?					$\checkmark$	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		$\checkmark$				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		$\checkmark$				
Section	on 6: Ecology						
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?					$\checkmark$	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?		$\checkmark$				
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?		$\checkmark$				
Section	on 7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?		$\checkmark$				



#### Remarks

### Last Site Inspection (08 August 2008):

1. Stagnant water observed at last inspection was cleared.

### Finding of Site Inspection on 13 August 2008:

Site inspection was covered the site area from CH000-800 and Portion 8 (Site office).

No environmental issue was observed during the site inspection.

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



Proje	Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B –	e 1, Phase 2B –			Mr. A. F. No.					
	Cheung Chun San Tsuen and Kam Tsin Wai	RE/RE's representative:			Mr. A.F.Ng					
•	Inspection IEC/IEC's representative  Date: 21 August 2008 ETL/ ET's representative					Ron Tom				
Time:		ETL/ ET's representative:  Contractor's representative:			Ben Tam M.K.Ng/Man					
			hecklist N	-		KT15-210808				
PART	A: GENERAL INFORMATION Environment	tal P	ermit No. I	EP-231/20	05/A			_		
Weath	ner: ✓ Sunny Fine Cloudy		Rainy							
Temp	erature: 30 °C	_								
Humid	dity: High 🗸 Moderate Low									
Wind:	Strong Breeze Light		✓ Calm							
PART	B: SITE AUDIT									
.,			Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks		
Section	on 1: Water Quality	ļ	000.			чь		Remarks		
1.01	Is an effluent discharge license obtained for the Project?			$\checkmark$						
1.02	Is the effluent discharged in accordance with the discharlicence?	rge		$\checkmark$						
1.03	Is the discharge of turbid water avoided?			$\checkmark$						
1.04	Are there proper desilting facilities in the drainage systems t reduce SS levels in effluent?			$\checkmark$						
1.05	1.05 Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?			$\checkmark$						
1.06	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?	to		$\checkmark$						
1.07	Is drainage system well maintained?			$\checkmark$						
1.08	As excavation proceeds, are temporary access roads protected crushed stone or gravel?	by		$\checkmark$						
1.09	Are temporary exposed slopes properly covered?					$\checkmark$				
1.10	Are earthworks final surfaces well compacted or protected?						$\checkmark$			
1.11	Are manholes adequately covered or temporarily sealed?			$\checkmark$						
1.12	Are there any procedures and equipment for rainstorm protection	า?		$\checkmark$						
1.13	Are wheel washing facilities well maintained?			$\checkmark$						
1.14	Is runoff from wheel washing facilities avoided?			$\checkmark$						
1.15	Are there toilets provided on site?			$\checkmark$						
1.16	Are toilets properly maintained?			$\checkmark$						
1.17 Are the vehicle and plant servicing areas paved and located within roofed areas?		hin					$\checkmark$			
1.18 Is the oil leakage or spillage avoided?				$\checkmark$						
1.19 Are there any measures to prevent leaked oil from entering the drainage system?				$\checkmark$						
1.20	1.20 Are there any measures to collect spilt cement and concrete washings during concreting works?						$\checkmark$			
1.21 Are there any oil interceptors/grease traps in the drainage systems for vehicle and plant servicing areas, canteen kitchen, etc?							$\checkmark$			



		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?					$\overline{\checkmark}$	
1.23	Is used bentonite recycled where appropriate?					$\checkmark$	
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.					$\checkmark$	
1.25	No excavation is undertaken in the settlement area.					$\checkmark$	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					$\checkmark$	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.		$\checkmark$				
1.25	License collector should be employed for handling the sewage of mobile toilet.		$\checkmark$				
1.26	Prevent any stagnant water accumulated within the excavation trench or site working area.		$\checkmark$				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		$\checkmark$				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?					$\checkmark$	
2.03	Are the excavated materials sprayed with water during handling?		$\checkmark$				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?					$\checkmark$	
2.05	Is the exposed earth properly treated within six months after the last construction activities?		$\checkmark$				
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		$\checkmark$				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?		$\checkmark$				
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		$\checkmark$				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?		$\checkmark$				
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		$\checkmark$				
2.11	Is dark smoke emission from plant/equipment avoided?		$\checkmark$				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					$\checkmark$	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?		$\checkmark$				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		$\checkmark$				
2.15	Is open burning avoided?		$\checkmark$				
2.16	Excavated materials from the stream must be removed from site on the same day. The materials shall be stored in covered impermeable skips awaiting removal from site.					$\checkmark$	
Section	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?		$\checkmark$				
3.02	Is silenced equipment adopted?		$\checkmark$				
3.03	Is idle equipment turned off or throttled down?		$\checkmark$				
3.04	Are all plant and equipment well maintained and in good condition?		$\checkmark$				
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?		$\checkmark$				
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					$\checkmark$	



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.07	Are air compressors fitted with valid noise emission labels during operation?					$\checkmark$	
3.08	Are flaps and panels of mechanical equipment closed during operation?		$\checkmark$				
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					$\checkmark$	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					$\checkmark$	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					$\checkmark$	
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).		$\checkmark$				
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)		$\checkmark$				
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).		$\checkmark$				
Sectio	n 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		$\checkmark$				
4.02	Are receptacles available for general refuse collection?		$\checkmark$				
4.03	Is general refuse sorting or recycling implemented?		$\checkmark$				
4.04	Is general refuse disposed of properly and regularly?		$\checkmark$				
4.05	Is the Contractor registered as a chemical waste producer?		$\checkmark$				
4.06	Are the chemical waste containers properly labelled?		$\checkmark$				
4.07	Are the chemical wastes stored in proper storage areas?		$\checkmark$				
4.08	Is the chemical waste storage area properly labelled?		$\checkmark$				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		$\checkmark$				
4.10	Are incompatible chemical wastes stored in different areas?		$\checkmark$				
4.11	Are the chemical wastes disposed of by licensed collectors?		$\checkmark$				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		$\checkmark$				
4.13	Are chemical/fuel storage areas bunded?		$\checkmark$				
4.14	Are designated areas identified for storage and sorting of construction wastes?		$\checkmark$				
4.15	Are construction wastes sorted (inert and non-inert) on site?		$\checkmark$				
4.16	Are construction wastes reused?		$\checkmark$				
4.17	Are construction wastes disposed of properly?		$\checkmark$				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		$\checkmark$				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		$\checkmark$				
4.20	Are appropriate procedures followed if contaminated material exists?		$\checkmark$				
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		$\checkmark$				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		$\checkmark$				



		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		$\checkmark$				
Section	on 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		$\checkmark$				
5.02	Are retained and transplanted trees properly protected?		$\checkmark$				
5.03	Are surgery works carried out for the damaged trees?					$\checkmark$	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		$\checkmark$				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		$\checkmark$				
Section	on 6: Ecology						
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?					$\checkmark$	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?		$\checkmark$				
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?		$\checkmark$				
Section	on 7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?		$\checkmark$				



#### Remarks

Last Site Inspection (13 August 2008):

Nil

### Finding of Site Inspection on 21 August 2008:

Site inspection was covered the site area from CH000-800 and Portion 8 (Site office).

No environmental issue was observed during the site inspection, as a reminder water spraying is needed to prevent dust generation.

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

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai

KT15 – Monthly EM&A Report for August 2008 (No. 14)



## APPENDIX K

**RESPONSE TO COMMENT** 

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Report for August 2008 (No. 14)



DSD Contract No.: DC/2006/02

Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Summary Report for August 2008 (R0891 Revision 1) submit on 06 September 08 (13:20)

Response to IEC's comments [Received from e-mail on 11 September 2008 14:58]

No.	o. Section / Paragraph Comments			Response to Comments
1	ES10., Table 5-4, 7.01, 11.07 The numbers of stream water quality monitoring and site inspection audit listed in the ES do not correspond to the numbers mentioned in the text. Please check and revise accordingly.			Noted
2	Table 2-1	Type 2 Marine Dumping Permit has been expired in 3 Aug 2008. Please check if there was any new permit applied or received in the reporting period.	1	According to the Contractor latest information, no renew dumping was obtained.
3	Table 5-1, Table 5-2, Table 5-3 / Appendix G	The dates of monitoring do not correspond to the dates described in the monitoring schedule in the reporting month. Please check and revise accordingly.	1	Noted.
4	Table 5-4, Appendix H / Appendix G	The stream water quality monitoring result on 6 Aug 2008 (according to the monitoring schedule) is missing in Table 5-4 and Appendix H. Please provide all monitoring results in the reporting monitoring period.	1	Notice of reschedule the 1-hour TSP, noise monitoring and cancellation of stream water monitoring was issued to relevant parties on 07 August 2008 (Our Ref.: TCS00371/07/300/F860)
5	5.09 / Table 5-5	The number of bird species recorded in the ecology survey does not match the number counted from Table 5-5. Please check and revise accordingly.	-	Noted.
6	Appendix C	In the table of Contact Details of Key Personnel, the Engineer's Representative, Mr. Clive C.H. CHENG, cannot be reached by the Tel. No. and Fax No. listed. Please check and update the table.	-	Noted
7	Appendix F	Please provide the calibration certificates for inspection.	ı	As mention in the note of Appendix F, calibration certificate will be provide when the equipment is re-calibrated.
8	Appendix J	Please provide the ET site inspection checklists and summaries for inspection	-	Noted.

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Report for August 2008 (No. 14)



DSD Contract No.: DC/2006/02

Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Summary Report for August 2008 (R0891 Revision 2) submit on 11 September 08 (17:40)

Response to IEC's comments [Received from e-mail on 12 September 2008 10:45]

No.	Section / Paragraph	Comments	Ref.	Response to Comments
1	4.06	The number of stream water quality monitoring events is incorrect. Also please state and explain	-	Explanation as state in the Section 5.07.
		the reason of the cancellation of a scheduled monitoring in this section.		
2	5.09	The number of bird species recorded in the survey is incorrect.	-	Noted.
3	Appendix J	The date of site inspection with IEC representative should be 14 August 2008 instead of 13 August	-	Noted.
		2008. Please amend.		