JOB NO.: TCS00371/07

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DRAINAGE SERVICES DEPARTMENT
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 MAY 2009 (NO. 23)

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
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Ver. No.	Date	Remarks
1	5 June 2009	First Submission
2	10 June 2009	Amended against IEC's comment on 8 June 2009
3	11 June 2009	Amended against IEC's comment on 10 June 2009

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 (the Project) on 3 April 2007. According to the contract specification requirements, an Environmental Monitoring & Audit (EM&A) program has to be implemented by an 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 Projects and governed by an Environmental Permit (EP-231/2005/A).

ES03. Action-United Environmental Services and Consulting (AUES) has been commissioned by CCC to be the ET to implement the EM&A program in accordance with the requirements stated in the Environmental Permit and EM&A Manual for Secondary Channels KT14 & KT15 (August 2005). This Contract (DC/2006/02) only covers KT15; and KT14 will be carried out under another contract.

ES04. This Monthly EM&A Report for **May 2009 (No. 23)** presents the EM&A results for the period from **26 April to 25 May 2009 (the Reporting Period)**.

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES05. The dates and parameters of exceedances recorded in this Reporting Period are summarized in the following table.

Monitoring	Parameters	Action Level	Limit Level
Air Quality	1-hour TSP	-	-
	24-hour TSP	-	-
Noise	Leq (30min) Daytime	-	-
Stream Water	Dissolve Oxygen (DO)	-	-
	Turbidity (NTU)	-	-
	pH	-	-
	Suspended Solids (SS)	-	-
	Ammonia Nitrogen	-	27 Apr 09
	Zinc	-	-
Ecology	Number of species of wetland birds	-	25 May 09
	Total number of wetland birds	-	25 May 09
	Number of species of wetland fauna	-	25 May 09
	Total number of wetland fauna	-	25 May 09

Note: According to the EM&A Manual S7.5.1(b), fauna monitoring was only undertaken during wet seasons (April to July)

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 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 **June 2009** included backfilling of completed structure, road construction, gabion installation, sheet pile driving, stream diversion, tree protection and tree transplanting works, carrying out joined survey and utilities companies liaison. 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**	Events
• 24-hour TSP Monitoring	**5**	Events
• Noise Monitoring	**5**	Events
• Stream Water Quality	**18**	Events
• Ecology (Fauna)	**1**	Event
• Site Inspection Audit	**4**	Times

AIR QUALITY

ES11. No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level was recorded in this Reporting Period.

CONSTRUCTION NOISE

ES12. No construction noise complaint (an Action Level exceedance) was received and no construction noise monitoring result that exceeded the Limit Level was recorded in this Reporting Period.

STREAM WATER QUALITY

ES13. For stream water quality monitoring, one Limit Level exceedance in ammoniacal nitrogen was recorded at Location W9B on 27 April 2009. Investigation report concluded that the exceedance was due to natural variation of the water quality and no corrective actions were therefore required.

ECOLOGY (FAUNA)

ES14. No intrusions of construction activities into the wetland areas nor adverse impact on the wetlands was found during site audit on 25 May 2009. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent birds and fauna were 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 monitoring are presented below:-

Monitoring	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air Quality	1-hour TSP	0	Not Required for 0% Project Related
	24-hour TSP	0	Not Required for 0% Project Related
Noise	Leq (30min) Daytime	0	Not Required for 0% Project Related
Stream Water	Dissolve Oxygen	0	Not Required for 0% Project Related
	Turbidity (NTU)	0	Not Required for 0% Project Related
	pH	0	Not Required for 0% Project Related
	Suspended Solids	0	Not Required for 0% Project Related
	Ammonia Nitrogen	0	Not Required for 0% Project Related
	Zinc	0	Not Required for 0% Project Related
Ecology	Decrease in the total number of species or individuals of wetland dependent bird from baseline	0	Not Required for 0% Project Related Exceedance
	Decrease in the total number of species or individuals of wetland faunal 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 is only required to be undertaken in wet seasons (April to July) on a monthly basis.

SITE INSPECTION BY EXTERNAL PARTIES

ES16. No site visit or inspection was carried out by the Environmental Protection Department in this Reporting Period.

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LIST OF APPENDICES

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 (the Project) on 3 April 2007. According to the contract specification requirements the Project should implement an Environmental Monitoring & Audit (EM&A) program by an Environmental Team (ET) throughout the construction period in accordance 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 proposed 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 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 **May 2009** during the period from **26 April to 25 May 2009**.

REPORT STRUCTURE

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

Section 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 listed below:-

- Backfilling behind completed structure;
- Extract sheet pile;
- Stream diversion;
- Road construction;
- Dumping activities;
- Tree protection and tree transplanting works;
- Utilities companies liaison; and
- Carrying out joined survey

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	License/Permit Status
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

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 TSP		A10
Construction Noise	$Leq_{(30min)}$ during normal working hours		N10a*
	Supplementary data of L_{10} and L_{90} for reference		
Stream Water Quality	In Situ Measurement	• Dissolved Oxygen Concentration (mg/L);	W9A & W9B
		• Dissolved Oxygen Saturation (% Sat);	
		• Turbidity (NTU);	
		• pH;	
		• Salinity (%); Water Depth (m) and	
		• Temperature (^oC);	
	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 $Leq_{(30min)}$ 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 ($\mu g/m^3$)		Limit Level ($\mu g/m^3$)	
	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)#	W9B (Downstream)
Action Level	NA	< 0.3
Limit Level	NA	< 0.2
Turbidity (NTU)		
Action Level	NA	> 73.5*
Limit Level	NA	> 78.2**
pH		
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: # 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.

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	> 40% of individuals and species

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

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 Location	
N10*	Village House in Tin Sam San Tsuen
N10a	Village House in Tin Sam San Tsuen
Water Quality Locations	
W9A#	Tin Sam San Tsuen
W9B	Tin Sam San Tsuen

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
Act as control station in impact monitoring

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 **5** 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 **18** monitoring events were carried out in this Reporting Period.

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**.

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

Parameters	Equipment	Monitoring Equipment
1-hour TSP	Portable dust meter	Sibata LD-3 Laser Dust Meter
24-hour TSP	High Volume Sampler	Grasby Anderson GMWS 2310 HVS / Tisch High Volume Sampler 515N
	Calibration Kit	TISCH Model TE-5028A
Leq30min	Integrating Sound Level Meter	Cesva SC-20c Sound Level Meter
	Calibrator	Cesva CB-5 Acoustical Calibrator
	Portable Wind Speed Indicator	Testo Anemometer
Water Depth	Water Depth Detector	Eagle Sonar
Temperature	Thermometer & DO Meter	YSI 550A or YSI 55/12FT
DO	Thermometer & DO Meter	YSI 550A or YSI 55/12FT
pH	pH Meter	Hanna HI 98128 or 98107 or Extech Instruments, ExStik™ Model pH110
Turbidity	Turbidimeter	Hach 2100P
Salinity	Salinometer	ATAGO refractometer
-	Water Sampler	Teflon bailer / bucket
-	Sample Container	High density polythene bottles (provided by laboratory)
-	Storage Container	'Willow' 33-litter plastic cool box

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^3/min (20-60 SCFM) adjustable flow rate;
- A 7-day mechanical timer for 24-hour operation;
- An elapsed time indicator with ±2 minutes accuracy for 24-hour operation;
- Minimum exposed area of 63 in^2;
- Flow control accuracy of ±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 10m/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 55/12FT 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 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.

pH

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 4°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.

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	1st Result (μg/m³)	2nd Result (μg/m³)	3rd Result (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
28-Apr-09	09:21	74	81	79	> 307	> 500
6-May-09	09:21	91	98	102	> 307	> 500
12-May-09	09:26	77	82	79	> 307	> 500
18-May-09	09:29	73	80	83	> 307	> 500
23-May-09	09:21	22	25	20	> 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

Monitoring Date	Monitoring Results (μg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
27-Apr-09	79	> 165	> 260
5-May-09	55	> 165	> 260
11-May-09	46	> 165	> 260
16-May-09	48	> 165	> 260
22-May-09	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	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30
28-Apr-09	10:25	50.8	48.5	49.3	50.1	51.6	49.8	50.1
6-May-09	09:35	47.3	47.7	46.5	46.7	45.5	45.1	46.6
12-May-09	09:33	46.7	46.5	46.4	46.3	47.0	46.7	46.6
18-May-09	09:51	46.5	46.2	45.7	46.3	45.8	52.0	47.8
23-May-09	09:38	46.5	45.7	46.1	46.8	47.1	46.6	46.5
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 For stream water quality monitoring, one limit exceedance in ammoniacal nitrogen was recorded at Location W9B on 27 April 2009. Investigation report concluded that the exceedance was due to natural variation of the water quality, no corrective actions were therefore required. The impact monitoring schedules are shown in Appendix G.

5.08 The stream water quality monitoring results are summarized in **Table 5-4** and graphical plots are presented in **Appendix H**.

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

Monitoring	DO in mg/L		Turbidity (NTU)		pH		SS in mg/L		Ammonia nitrogen (mg/L)		Zinc (μg/L)	
Date	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B
27-Apr-09	3.4	4.7	11.2	26.1	6.8	6.9	30.0	20	20.0	**54.6**	47.0	64
29-Apr-09	4.0	4.8	35.7	17.0	6.9	6.9	11.0	14	41.2	14.5	28.0	22
4-May-09	3.7	4.5	37.9	27.1	6.9	6.8	17.0	6	40.1	9.9	48.0	27
6-May-09	3.6	4.7	47.8	24.8	6.8	6.8	42.0	17	96.2	18.1	118.0	37
11-May-09	3.2	4.7	27.1	18.3	6.8	6.9	19.0	24	63.9	16.7	38.0	22
13-May-09	3.2	4.3	43.1	20.2	6.8	6.8	31.0	16	76.4	29.4	92.0	42
18-May-09	3.6	4.5	49.4	31.2	6.8	6.9	19.0	35	92.7	31.6	64.0	55
20-May-09	3.3	4.1	71.3	26.4	7.1	6.9	33.0	18	76.2	24.6	97.0	35
25-May-09	4.2	4.6	41.9	12.4	6.8	6.7	10.0	10	5.2	2.2	66.0	54
Action Level	-	< 0.3*	-	> 73.5*	-	> 7.0*	-	> 148*	-	> 30.91*	-	> 242*
Limit Level	-	< 0.2**	-	> 78.2**	-	> 7.1**	-	> 159**	-	> 32.20**	-	> 252**

Notes: # Act as Control Station for the Impact Water Quality Monitoring.
Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level
* 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

5.09 Fifty nine (59) individuals of birds from sixteen (16) species were recorded during the survey for the present monthly monitoring on 25 May 2009. Among the birds recorded, zero(0) individual from one wetland bird species with abundance from the baseline (i.e. Cattle Egret and Chinese Pond Heron) was recorded. Compared with the average abundance of 1.2 individuals from 2 species of wetland dependent birds recorded during the baseline study for the KT15 Project Profile, both the individual number and the species number of wetland dependent bird recorded triggered the Limit Level for the monitoring requirements for ecology (i.e. decrease in the number of species or individuals > 40% from the baseline).

5.10 Twenty individuals of fauna from 8 species were recorded during the survey for the present monthly monitoring on 25 May 2009. Compared with the total average abundance of 44.99 individuals from 21 species of fauna recorded during the baseline study for the KT15 Project Profile, both the species number and the individual number of fauna recorded triggered the Limit Level for the monitoring requirements for ecology (i.e. decrease in the number of species or individuals > 40% from the baseline).

5.11 No intrusions of construction activities into the wetland areas nor adverse impact on the wetlands was found during site audit on 25 May 2009. Based on the findings in the pervious monthly monitoring, the non-compliance in wetland dependent birds and fauna were not caused by the project.

5.12 Photographic records are scheduled in six-month intervals, the last photographic records were taken in December 2009, and thus are NOT required in the present monthly monitoring.

5.13 Ecology Impact Monitoring Results are presented in the **Table 5-5** and **Table 5-6**.

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 May 09)
Scientific Name	**Common Name**	**Abundance reported in**	**Abundance recorded in the**
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	8
Hirundo rustica	Barn Swallow	Recorded only	7
Motacilla alba	White Wagtail	Recorded only	2
Pycnonotus jocosus	Red-whiskered Bulbul	Recorded only	3
Pycnonotus sinesis	Chinese Bulbul	Recorded only	5
Lanius schach	Long-tailed Shrike	Recorded only	
Copsychus saularis	Oriental Magpie Robin	Recorded only	4
Orthotomus sutorius	Common Tailorbird	Recorded only	1
Lonchura striata	White-rumped Munia	Recorded only	
Passer montanus	Eurasian Tree Sparrow	Recorded only	8
Sturnus nigricollis	Black-collared Starling	Recorded only	3
Acridotheres cristatellus	Crested Myna	Recorded only	4
Prinia flaviventris	Yellow-bellied Prinia	\	3
Eudynamis scolopacea	Common Koel	\	1
Halcyon smyrnensis	White-throated Kingfisher	\	
Garrulax perspicillatus	Masked Laughingthrush	\	5
Zosterops japonica	Japanese White Eye	\	3
Lonchura punctulata	Scaly-breasted Munia	\	
Egretta garzetta	Little Egret	\	

Scientific Name	Common Name	Abundance reported in the project profile	Abundance recorded in the present survey (25 May 09)
Anthus hodgsoni	Olive-backed Pipit	\	
Phylloscopus subaffinis	Dusky Warbler	\	
Phylloscopus inornatus	Yellow-Browed Warbler	\	
Parus major	Great Tit	\	
Prinia inornata	Plain Prinia	\	1
Sturnus sericeus	Red-billied Starling	\	
Centropus bengalensis	Lesser Coucal	\	
Centropus sinensis	Greater Coucal	\	
Tringa glareola	Wood Sandpiper	\	
Motacilla citreola	Grey Wagtail	\	
Species Number		**15 spp. recorded, (only 2 species of wetland birds with abundance)**	**16 spp. (0 sp. from the wetland birds with abundance in the baseline)**
Individual Number		**1.2 (from the 2 species of wetland birds with abundance)**	**59 (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

Table 5-6 Summary of Fauna Impact Monitoring Surveys

Scientific Name	Common Name	Abundance reported in the Project Profile	Abundance recorded in the present survey (25 May 09)
Mammals			
\	\	\	\
Herpetofauna			
Bufo melanostictus	Asian Common Toad	2	1
Rana guentheri	Gunther's Frog	2.33	
Polyedates megacephalus	Brown Tree Frog	1.33	
Calotes versicolor	Changeable Lizard	0.33	
Odonata			
Ischnura senegalensis	Common Bluetail	4.5	
Ceriagrion auranticum	Orange-tailed Sprite	6	
Orthetrum pruinosum	Common Red Skimmer	1.5	2
Trithemis aurora	Crimson Dropwing	0.5	
Tramea virginia	Saddlebag Glider	1	
Pantala flavescens	Wandering Glider	8.5	2
Orthetrum sabina	Green Skimmer	\	
Butterfly			
Graphium sarpedon	Common Bluebottle	0.5	
Papilio polytes	Common Mormon	1.5	1
Ariadne ariadne	Angled Castor	2	2
Euploea midamus	Blue-spotted Crow	2.5	1
Ideopsis similis	Ceylon Blue Glassy Tiger	1.5	
Mycalesis mineus	Dark-branded Bush Brown	1.5	
Catapsillia pomona	Lemon Emirgrant	0.5	
Eurema hecabe	Common Grass Yellow	1	
Zizeeria maha	Pale Grass Blue	2.5	6
Astictopterus jama	Forest Hopper	0.5	
Erionota torus	Banana Skipper	3	
Hypolimnas bolina	Great Egg-fly	\	
Pieris canidia	Indian Cabbage White	\	5
Hebomoia glaucippe	Great Orange Tip	\	
Danaus genutia	Common Tiger	\	
Papilio memnon	Great Mormon	\	
Elymnias hypermnestra	Common Palmfly	\	
Papilio helenus	Red Helen	\	
Total species number		**21 species with abundance**	**8 spp.**
Total individual number		**44.99**	**20**

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^3)	0	Public Filling
Reused in this Contract (Inert) (m^3)	0	N/A
Reused in other Projects (Inert) (m^3)	0	N/A
Disposal as Public Fill (Inert) (m^3)	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)	0	NA
Recycled Plastic (kg)	0	NENT Landfill
Chemical Wastes (kg)	0	License Collector
General Refuses (m^3)	0.0021	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	Location	Date	Total	Disposal Location
Type 1 Materials (m^3)	-	-	-	East Sha Chau (Pitch 4a & 4b)
Type 2 Materials (m^3)	-	-	-	East Sha Chau (Pitch 4c)

7.0 SITE INSPECTION

7.01 According to the EM&A Manual Section 9.1.2, the environmental weekly site inspection should been formulation by ET Leader. ET had carried out the environmental weekly site inspection on **30 April, 6, 13 and 20 May 2009** with the Representatives of the Engineer and the Contractor to evaluate the site environmental performance in this Reporting Period. The IEC monthly site audit was conducted on **20 May 2009** by IEC's representative with the Engineer's, the Contractor's and ET's representative. No non-compliance and **eight** observations were noted.

7.02 Findings of the site inspection and environmental audit are summarized below –

Table 7-1 Summary of Findings of Site Inspection and Environmental Audit

Date	Findings / Deficiencies	Follow-Up Status
30 Apr 09	● Stagnant water was cumulated in the un-used de-silting tank (Ch.200), the Contractor shall pump the water out to prevent mosquito breeding especially in wet season.	During the site inspection on 6 May 2009, Stagnant water at the un-used de- silting tank at Ch. 200 was removed
6 May 09	● The weeds accumulated in Bay 1 should be removed in order to maintain the site clean and tidy. ● The stagnant water accumulated in Bay 2 should be drained away or applied larvicidal oil to prevent mosquitoes breeding.	During the site inspection on 13 May 2009, the weeds accumulated in Bay 1 have been removed and the stagnant water accumulated in Bay 2 has been drained away.
13 May 09	● House keeping practice between Ch. 500 to Ch 650 shall be enhanced at Channel KT15.	During the site inspection on 20 May 2009, house keeping between Ch. 500 to Ch. 650 has been improved.
20 May 09	● The stagnant water accumulated in Ch.500 should be drained away or applied larvicidal oil to prevent mosquitoes breeding. ● The gravel stockpile on the site (Ch.520) should be covered with tarpaulin sheet in order to minimize dust nuisance.	Will be reported next reporting month
20 May 09	● Wheel washing facilities shall be provided at all site exit to remove any silt deposited on vehicles' bodies and wheels. ● Water spraying by water trucks should be provided on haul road frequently to minimize the fugitive dust emission.	Will be reported next reporting month

7.03 The ET weekly site inspection and IEC monthly site audit checklists are shown in **Appendix J**. In general, the construction area of KT15 was kept clean and tidy.

7.04 No site visit or inspection carried out by Environmental Protection Department 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		
	Frequency	Cumulative	Complaint Nature
July – December 2007	0	0	NA
January – December 2008	0	0	NA
January –April 2009	0	0	NA
May 2009	0	0	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Nature
July – December 2007	0	0	NA
January – December 2008	0	0	NA
January –April 2009	0	0	NA
May 2009	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Nature
July – December 2007	0	0	NA
January – December 2008	0	0	NA
January –April 2009	0	0	NA
May 2009	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 minimize 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 **May 2009** 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 Quality	1-hour TSP	0	Not Required for 0% Project Related
	24-hour TSP	0	Not Required for 0% Project Related
Noise	Leq (30min)	0	Not Required for 0% Project Related
Stream Water	Dissolve Oxygen	0	Not Required for 0% Project Related
	Turbidity (NTU)	0	Not Required for 0% Project Related
	pH	0	Not Required for 0% Project Related
	Suspended Solids	0	Not Required for 0% Project Related
	Ammonia Nitrogen	0	Not Required for 0% Project Related
	Zinc	0	Not Required for 0% Project Related
Ecology	Decrease in the total number of species or individuals of wetland dependent bird from baseline	0	Not Required for 0% Exceedance
	Decrease in the total number of species or individuals of wetland faunal from baseline	0	Not Required for 0% Exceedance

Note: According to the EM&A Manual S7.5.1(b), fauna monitoring only undertaken during wet seasons (April to July)

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 One stream water quality monitoring result trigger the Limit Level was recorded on 27 April 2009 in this Reporting Period. Investigation report showed that the exceedance is not works related under the project.

11.05 Non-compliance with the ecological criteria was found during the monitoring month on 25 May 2009. 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 or fauna was not caused by the project.

11.06 No environmental complaint, summons or prosecution was received in this Reporting Period.

11.07 The ET environmental weekly site inspection and IEC monthly site audit were conducted on **30 April, 6, 13 and 20 May 2009.** Although no non-compliance was found, however **eight** observations were recorded. Contractor has been reminded to improve the observed deficiency at the site audit immediately. Details of the observations as follows:-

- Stagnant water was cumulated in the un-used sedimentation tank (Ch.200), the Contractor shall pump the water out to prevent mosquito breeding especially in wet season.

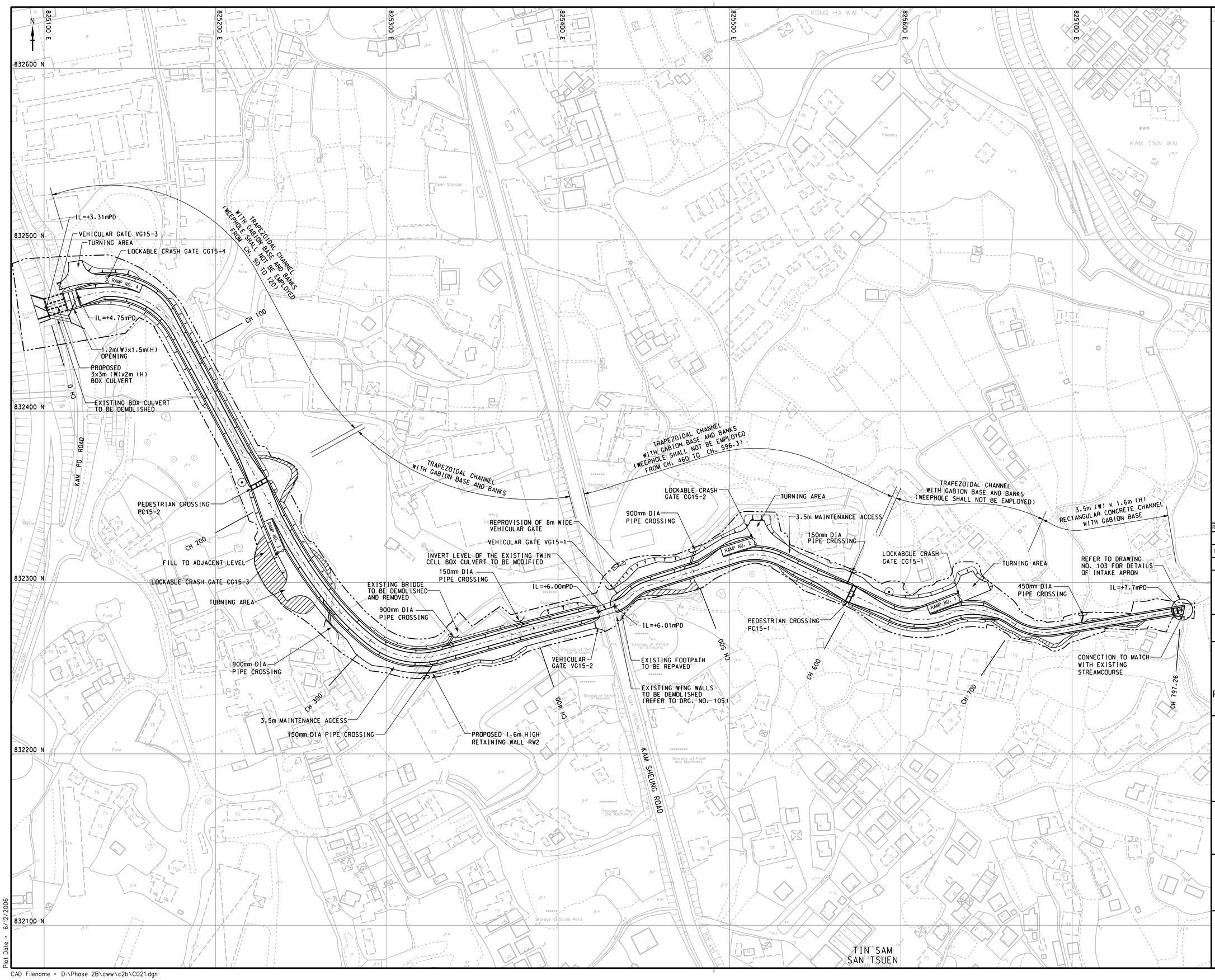
- The weeds accumulated in Bay 1 should be removed in order to maintain the site clean and tidy.
- The stagnant water accumulated in Bay 2 should be drained away or applied larvicidal oil to prevent mosquitoes breeding.
- House keeping practice between Ch. 500 to Ch 650 shall be enhanced at Channel KT15.
- The stagnant water accumulated in Ch.500 should be drained away or applied larvicidal oil to prevent mosquitoes breeding.
- The gravel stockpile on the site (Ch.520) should be covered with tarpaulin sheet in order to minimize dust nuisance.
- Wheel washing facilities shall be provided at all site exit to remove any silt deposited on vehicles' bodies and wheels
- Water spraying by water trucks should be provided on haul road frequently to minimize the fugitive dust emission.

11.08 No site visit or inspection carried out by Environmental Protection Department 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.

APPENDIX A

PROJECT SITE LAYOUT



NOTES :

1. REFER TO DRAWING NO. 020 FOR NOTES AND LEGENDS.

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Verified
Initial	SFL	KIL	MK	KIL
Date	12/05	12/05	12/05	12/05

Approved

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

Drawing title

CHANNEL KT15
GENERAL LAYOUT PLAN

Drawing no.	Scale
021	1:1000 A1 1:2000 A3

香港特別行政區政府渠務署
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
DRAINAGE SERVICES DEPARTMENT

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

Plot Date = 6/12/2006

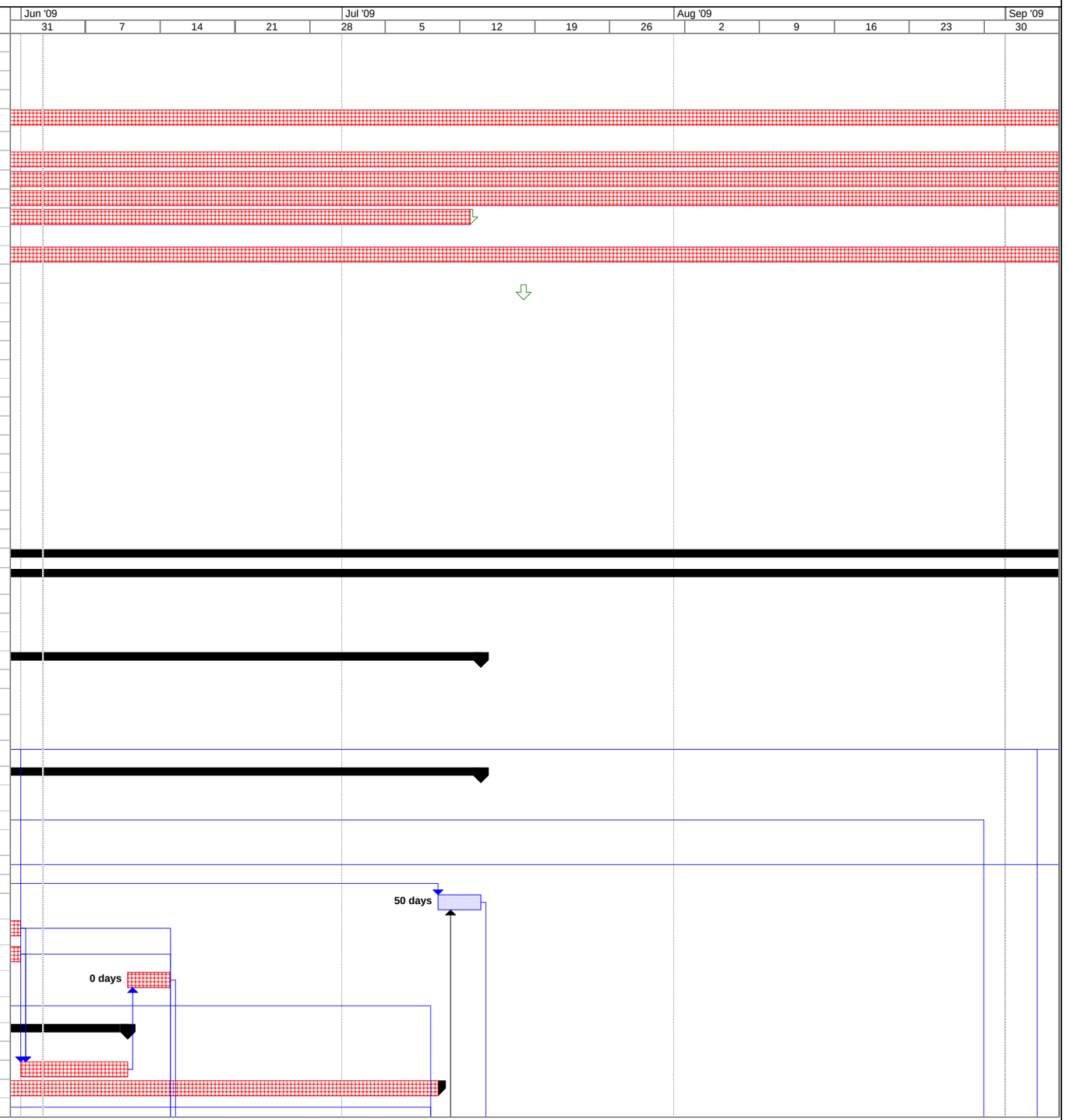
CAD Filename = D:\Phase 2B\cww\c2b\C021.dgn

APPENDIX B

THREE-MONTH CONSTRUCTION PROGRAM

PROGRAMME OF WORKS - MP06
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
1	Letter of Acceptance	1 day	Wed 21/3/07	Wed 21/3/07	
2	Date for commencement of Works	1 day	Fri 30/3/07	Fri 30/3/07	
3	Execution of Article of Agreement	1 day	Tue 3/4/07	Tue 3/4/07	
4					
5	**Master Program of Works**	**965 days**	**Fri 30/3/07**	**Wed 18/11/09**	
6					
7	**Completion Dates**	**905 days**	**Fri 30/3/07**	**Sat 19/9/09**	
8	Section I - portions 1, 2 and 3	905 days	Fri 30/3/07	Sat 19/9/09	
9	Section II - portions 4, 5 and 5C	905 days	Fri 30/3/07	Sat 19/9/09	
10	Section III - portions 5A1, 5A2 and 5B	746 days	Thu 28/6/07	Sun 12/7/09	20FS-1 day
11	Section IV - temp vehicular access at portion 5A1	90 days	Thu 28/6/07	Tue 25/9/07	20FS-1 day
12	Section V - preservation and protection of existing trees	905 days	Fri 30/3/07	Sat 19/9/09	
13					
14	**Possession of Site**	**200 days**	**Fri 30/3/07**	**Mon 15/10/07**	
15	Portion 1 - channel KT2	1 day	Fri 30/3/07	Fri 30/3/07	
16	Portion 2 - channel KT2	61 days	Fri 30/3/07	Tue 29/5/07	
17	Portion 3 - channel KT2	91 days	Fri 30/3/07	Thu 28/6/07	
18	Portion 4 - channel KT15	1 day	Fri 30/3/07	Fri 30/3/07	
19	Portion 5 - channel KT15	91 days	Fri 30/3/07	Thu 28/6/07	
20	Portion 5A1 - channel KT15	91 days	Fri 30/3/07	Thu 28/6/07	
21	Portion 5A2 - channel KT15	91 days	Fri 30/3/07	Thu 28/6/07	
22	Portion 5B - channel KT15	20 days	Wed 26/9/07	Mon 15/10/07	11
23	Portion 5C - channel KT15	91 days	Fri 30/3/07	Thu 28/6/07	
24	Portion 6 - Temp Storage Area at Chi Ho Road	1 day	Fri 30/3/07	Fri 30/3/07	
25	Portion 7 - Berthing Area	1 day	Fri 30/3/07	Fri 30/3/07	
26	Portion 8 - Site Accommodation	1 day	Fri 30/3/07	Fri 30/3/07	
27					
28	**Section I of Works**	**230 days**	**Mon 2/2/09**	**Sat 19/9/09**	
29	**Drainage Works, Waterworks and Roadworks in vincinity of Cheung Chun San Tsuen access**	**230 days**	**Mon 2/2/09**	**Sat 19/9/09**	
30	Backfill above Box Culvert Bay 4-6 up to formation	88 days	Mon 2/2/09	Thu 30/4/09	
31	Openning of Bay 1 to Kam Tin River	0 days	Mon 23/3/09	Mon 23/3/09	
32	Divert Traffic to Bay 32b	0 days	Mon 2/2/09	Mon 2/2/09	
33	**Stage 1**	**162 days**	**Mon 2/2/09**	**Mon 13/7/09**	
34	Construct the Channel Bay 28-29	68 days	Mon 2/2/09	Fri 10/4/09	32
35	Divert Tarffic to Temporary Access at North bank from Bay 14 to Bay 32	0 days	Tue 14/4/09	Tue 14/4/09	
36	Removal of existing crossing(yellow bridge)	5 days	Tue 14/4/09	Sat 18/4/09	31,35
37	Fill the existing stream bed to road formation near Crossing VC2-3 (Bay 33-Bay 36)	39 days	Sun 19/4/09	Wed 27/5/09	36
38	**Drainage Works**	**162 days**	**Mon 2/2/09**	**Mon 13/7/09**	
39	Construct Dia370 Drainage Pipe CP2-1A to CP2-1 and the catchpits	5 days	Mon 2/2/09	Fri 6/2/09	
40	Construct Half long U-channel CP2-1A.1	5 days	Sat 7/2/09	Wed 11/2/09	39
41	Construct Dia375 Drainage Pipe CP2-1B to CP2-3	3 days	Mon 2/2/09	Wed 4/2/09	
42	Construct U-channel CP2-1B.1 & CP2-1B.2	14 days	Thu 5/2/09	Wed 18/2/09	41
43	Construct Dia375 Drainage Pipe from Bay 27	4 days	Sat 11/4/09	Tue 14/4/09	34
44	Construct gullies G2-1 & G2-2 and dia150 pipes towards CP2-4	4 days	Fri 10/7/09	Mon 13/7/09	43,64
45	Construct Part of Dia150 Drainage Pipe towards Outlet 2-1	4 days	Thu 28/5/09	Sun 31/5/09	37
46	Construct Part of Dia600 Drainage Pipe towards Catchpit CP2-4A	4 days	Thu 28/5/09	Sun 31/5/09	37
47	Construct Gullies G2-3 & G2-4 and Dia150mm Pipes towards CP2-4A	4 days	Thu 11/6/09	Sun 14/6/09	51
48	Construct part of U-channel CP2-4A.2(near permanent access's end)	2 days	Thu 28/5/09	Fri 29/5/09	37
49	**Waterworks**	**41 days**	**Fri 1/5/09**	**Wed 10/6/09**	
50	Construct Watermain from Ch0 to Ch92	27 days	Fri 1/5/09	Wed 27/5/09	30
51	Construct Watermain from Ch340 to Ch380	10 days	Mon 1/6/09	Wed 10/6/09	45,46,37
52	**Construct the Permanent Road Pavement**	**101 days**	**Tue 31/3/09**	**Thu 9/7/09**	
53	Ch40-Ch80 (Panel Nos. RA4 & RA5)	5 days	Mon 13/4/09	Fri 17/4/09	



Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task
Split
Progress
Milestone
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External Tasks
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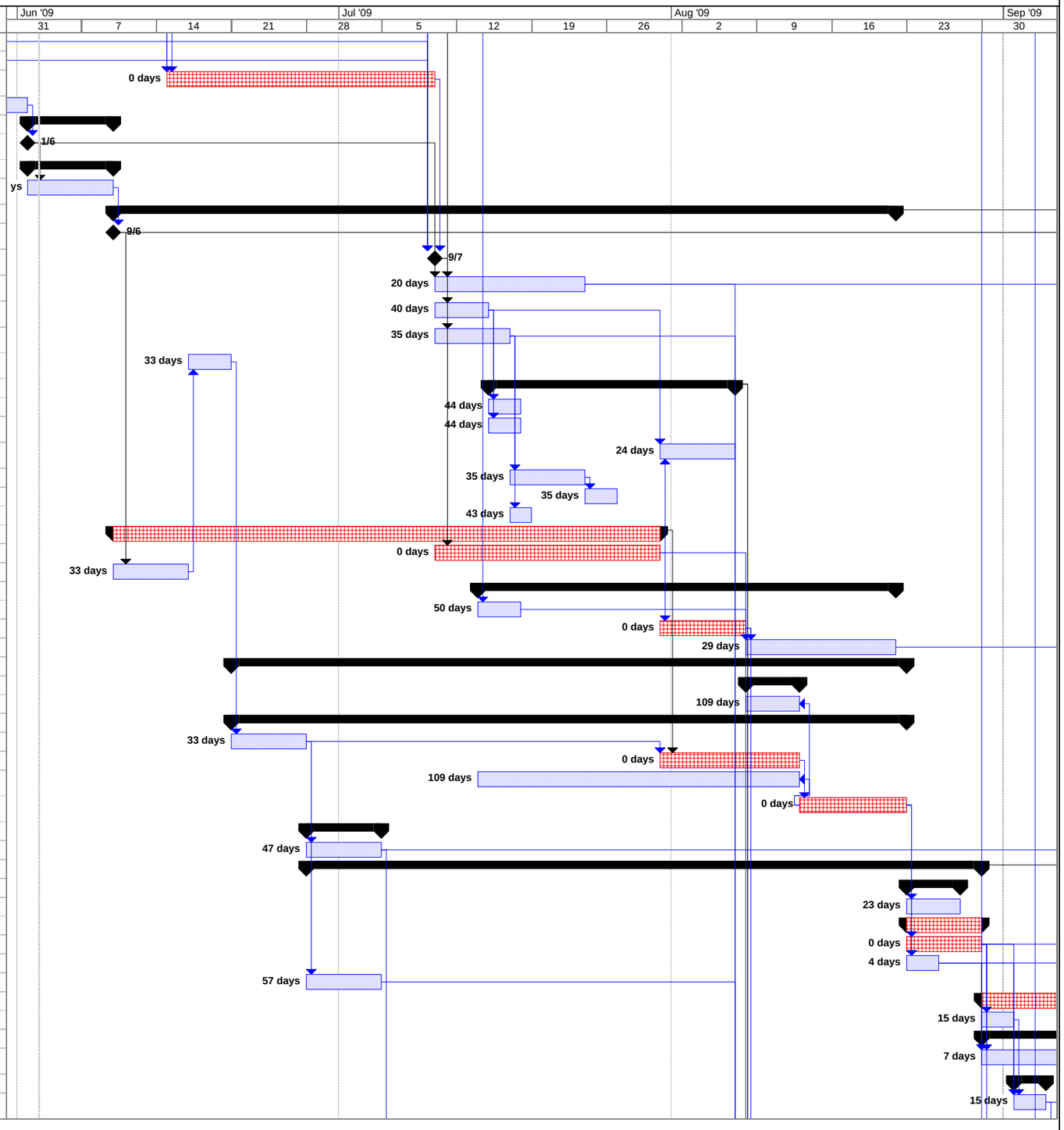
Critical

PROGRAMME OF WORKS - MP06
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
54	Ch140-Ch280 (Panel Nos. RA10 - RA16)	21 days	Tue 31/3/09	Mon 20/4/09	41
55	Ch280-ch300 (Panel No. RA 17a)	3 days	Tue 21/4/09	Thu 23/4/09	54
56	Ch300 - Ch380 and Pavement on VC2-3(excpet Panel No. RA19b)	25 days	Mon 15/6/09	Thu 9/7/09	45,46,47
57	Construct Temporary Access from Ch0 to Ch92	5 days	Thu 28/5/09	Mon 1/6/09	50
58	**Stage 2**	**8 days**	**Mon 1/6/09**	**Tue 9/6/09**	
59	Divert Traffic toward Cheung Chun San Tsuen to Temporary Access from Ch0-92	0 days	Mon 1/6/09	Mon 1/6/09	57
60	**Construct the Permanent Road Pavement**	**8 days**	**Tue 2/6/09**	**Tue 9/6/09**	
61	Ch92-Ch140 (Panel Nos. Bay RA7a, RA8a & RA9)	8 days	Tue 2/6/09	Tue 9/6/09	59
62	**Stage 3**	**73 days**	**Tue 9/6/09**	**Fri 21/8/09**	
63	Divert Traffic toward Cheung Chun San Tsuen to Permanet Access Ch92 to Ch140	0 days	Tue 9/6/09	Tue 9/6/09	61
64	Divert all Traffic to Permanent Access Ch140 to Ch380 & VC2-3	0 days	Thu 9/7/09	Thu 9/7/09	48,53,54,55,56
65	Removal of Temporary Acces at North Bank of Bay 4-Bay 14	14 days	Fri 10/7/09	Thu 23/7/09	59,64
66	Remove existing pavement Ch160 - Ch320	5 days	Fri 10/7/09	Tue 14/7/09	64
67	Removal of Temporary Access from Ch330 to Ch380(South Bank)	7 days	Fri 10/7/09	Thu 16/7/09	64
68	Construct Temporary Area for AFCD Car Park	4 days	Wed 17/6/09	Sat 20/6/09	78
69	**Drainage Works**	**23 days**	**Wed 15/7/09**	**Thu 6/8/09**	
70	Construct Catchpit CP2-3 and U-channel	3 days	Wed 15/7/09	Fri 17/7/09	66
71	Construct remaining pipes towards CP2-4A and the catchpit	3 days	Wed 15/7/09	Fri 17/7/09	66
72	Construct catchpit CP2-4 and U-channel CP2-4.1	7 days	Fri 31/7/09	Thu 6/8/09	66,77
73	Construct Outlet 2-1	7 days	Fri 17/7/09	Thu 23/7/09	67
74	Construct U-channel CP2-4A.1	3 days	Fri 24/7/09	Sun 26/7/09	73
75	Construct Remaining U-channel CP2-4A.2	2 days	Fri 17/7/09	Sat 18/7/09	67
76	**Waterworks**	**51 days**	**Wed 10/6/09**	**Thu 30/7/09**	
77	Construct Watermain from Ch180 to Ch340	21 days	Fri 10/7/09	Thu 30/7/09	64
78	Construct Watermain Ch92- Ch140	7 days	Wed 10/6/09	Tue 16/6/09	63
79	**Construct the Permanent Road Pavement**	**39 days**	**Tue 14/7/09**	**Fri 21/8/09**	
80	Ch310 - Ch330 (Panel No. RA19b)	4 days	Tue 14/7/09	Fri 17/7/09	44
81	Construct drawpit and cable duct Ch180-Ch355	8 days	Fri 31/7/09	Fri 7/8/09	77
82	Construct Pedestrian, Ch180-355	14 days	Sat 8/8/09	Fri 21/8/09	81,80
83	**Stage 4**	**63 days**	**Sun 21/6/09**	**Sat 22/8/09**	
84	**Drainage Works**	**5 days**	**Sat 8/8/09**	**Thu 13/8/09**	
85	Construct remaining U-channel CP2-3.1	5 days	Sat 8/8/09	Thu 13/8/09	90SF
86	**Waterworks**	**63 days**	**Sun 21/6/09**	**Sat 22/8/09**	
87	Construct Watermain Ch140 - Ch180	7 days	Sun 21/6/09	Sat 27/6/09	68
88	Testing to Completed Watermain	13 days	Fri 31/7/09	Wed 12/8/09	76,87
89	Request WSD to Connect Dia200 Watermain at four ends	30 days	Tue 14/7/09	Thu 13/8/09	90SF
90	Connection of Watermain by WSD near San Tam Road, Cheung Chun San Tsuen and AFCD (four	10 days	Thu 13/8/09	Sat 22/8/09	88
91	**Construct the Permanent Road Pavement**	**7 days**	**Sun 28/6/09**	**Sat 4/7/09**	
92	AFCD Entrance (Panel Nos. RA10b and 10c)	7 days	Sun 28/6/09	Sat 4/7/09	87
93	**Stage 5**	**63 days**	**Sun 28/6/09**	**Sat 29/8/09**	
94	**Drainage Works**	**5 days**	**Sun 23/8/09**	**Thu 27/8/09**	
95	Construct remaining U-channel CP2-1A.1	5 days	Sun 23/8/09	Thu 27/8/09	90
96	**Construct the Permanent Road Pavement**	**7 days**	**Sun 23/8/09**	**Sat 29/8/09**	
97	Ch0 - Ch40 (Panel No. RA1, RA2 , RA3)	7 days	Sun 23/8/09	Sat 29/8/09	90
98	Ch80-Ch92 (Panel Nos. RA6, RA7b, RA8b)	3 days	Sun 23/8/09	Tue 25/8/09	90
99	Construction the Pedestrian Ch160-Ch180	7 days	Sun 28/6/09	Sat 4/7/09	87
100	**Stage 6**	**18 days**	**Sun 30/8/09**	**Wed 16/9/09**	
101	Removal of Temporary access from Ch0 to Ch92	3 days	Sun 30/8/09	Tue 1/9/09	97
102	**Drainage Works**	**14 days**	**Sun 30/8/09**	**Sat 12/9/09**	
103	Construct remaining U-channel CP2-1.1 & CP2-1.2	14 days	Sun 30/8/09	Sat 12/9/09	97,98,40
104	**Construct the Permanent Road Pavement**	**3 days**	**Wed 2/9/09**	**Fri 4/9/09**	
105	Construct By-Pass at Ch0-Ch20 (Panel Nos. RA2b and RA3b)	3 days	Wed 2/9/09	Fri 4/9/09	97,98,101

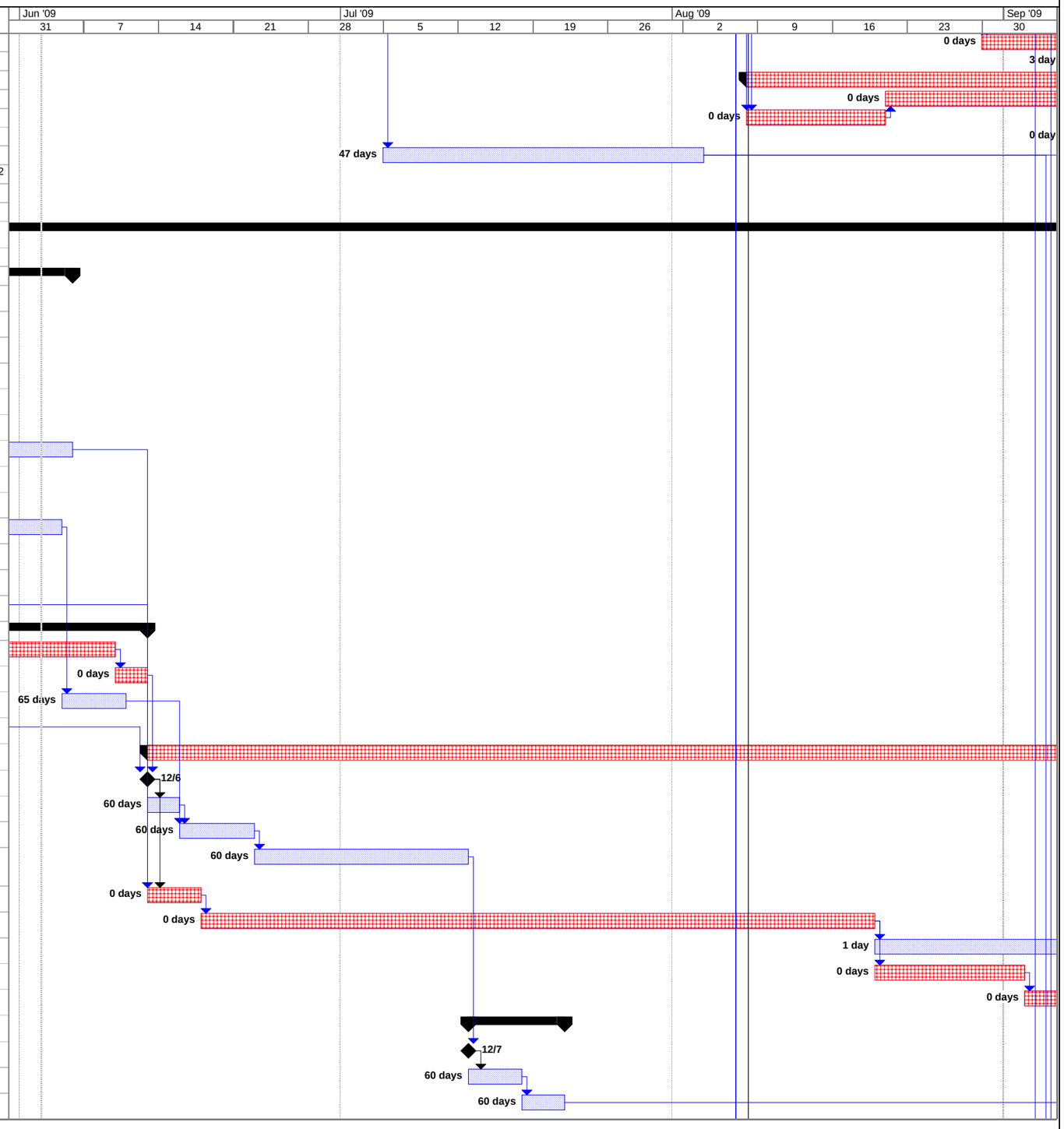


Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

PROGRAMME OF WORKS - MP06
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
106	Construct the drawpit and cable duct Ch40-Ch140	8 days	Sun 30/8/09	Sun 6/9/09	97,98
107	Construct Pedestrian, Ch0-Ch140	10 days	Mon 7/9/09	Wed 16/9/09	92,106
108	**LCEL erect light poles and laying cable**	**43 days**	**Sat 8/8/09**	**Sat 19/9/09**	
109	Request LCEL to erect poles and lay cable	30 days	Fri 21/8/09	Sat 19/9/09	110
110	Ch160 - Ch380	13 days	Sat 8/8/09	Thu 20/8/09	77,81
111	Ch0-Ch140	13 days	Mon 7/9/09	Sat 19/9/09	97,98,106
112	Construction of Slope adjacent to AFCD's Pond	30 days	Sun 5/7/09	Mon 3/8/09	92
113	Completion of Portion 1 and Portion 2	0 days	Sat 19/9/09	Sat 19/9/09	62,63,93,100,108,42
114					
115					
116	**Construction of Road and Channel in Vicinity of Crossing VC2-1**	**229 days**	**Mon 2/2/09**	**Fri 18/9/09**	
117	Completion of Channel Bay 71 to Bay 73	1 day	Mon 2/2/09	Mon 2/2/09	
118	**Stage 1**	**123 days**	**Tue 3/2/09**	**Fri 5/6/09**	
119	Backfill up to Road Formation	40 days	Tue 3/2/09	Sat 14/3/09	117
120	Demolishing part of existing road pavement at South Bank	3 days	Tue 3/2/09	Thu 5/2/09	117
121	Construct Drainage Pipe and catchpit at west side of road	15 days	Tue 10/2/09	Tue 24/2/09	119SS+7 days
122	Construct Watermain	12 days	Mon 4/5/09	Fri 15/5/09	119,120,121
123	Testing to Watermain	11 days	Sat 16/5/09	Tue 26/5/09	122
124	Request WSD to connect watermain	30 days	Mon 27/4/09	Wed 27/5/09	125SF
125	Connect new watermain to existing watermain by WSD	10 days	Wed 27/5/09	Fri 5/6/09	123
126	Construct new cable duct and pit for public lighting	10 days	Sat 16/5/09	Mon 25/5/09	122,130
127	Request LCEL to relocate pole and laying new cable	30 days	Sun 26/4/09	Tue 26/5/09	128SF
128	relocate light pole VA5367 and laying new cable by LCEL	10 days	Tue 26/5/09	Thu 4/6/09	126
129	Request PCCW to construct new cable and pit	30 days	Sun 8/3/09	Tue 7/4/09	130SF
130	Construct PCCW cable and pit(by PCCW)	10 days	Tue 7/4/09	Thu 16/4/09	119,120
131	Laying New Cable and Removal of PCCW's temporary overhead cable and poles	30 days	Fri 17/4/09	Sat 16/5/09	130
132	**Stage 2**	**28 days**	**Sat 16/5/09**	**Fri 12/6/09**	
133	Construct the permanent road pavement Panel No. RB29, RB28, RB27, RB26a RB26b	15 days	Tue 26/5/09	Tue 9/6/09	121,122,126
134	Curing of Permanent road	3 days	Wed 10/6/09	Fri 12/6/09	133
135	Demolishing part of existing road pavement at North Bank	6 days	Fri 5/6/09	Wed 10/6/09	128
136	Construct two new temporary accesses	5 days	Sat 16/5/09	Wed 20/5/09	122
137	**Stage 3**	**98 days**	**Fri 12/6/09**	**Fri 18/9/09**	
138	Divert Traffic to cosntructed permanent road pavement and new temporary access	0 days	Fri 12/6/09	Fri 12/6/09	134,136
139	Removal of remaining part of pavement near "Pet World"	3 days	Sat 13/6/09	Mon 15/6/09	138
140	Construct the remaining drainage pipe and catchpit near "Pet World"	7 days	Tue 16/6/09	Mon 22/6/09	135,139
141	Constrcut the remaining part of permanent road pavement near "Pet World" (Panel Nos. RB30, RB31a&b, RB32a&b, RB33a-d, RB34a&b, RB35a&b))	20 days	Tue 23/6/09	Sun 12/7/09	140
142	Removel of temporary access at Channel Bay74	5 days	Sat 13/6/09	Wed 17/6/09	125,138,131
143	Construct the Channel Bay 74 and Bay 75	63 days	Thu 18/6/09	Wed 19/8/09	142
144	Construct on gabion inside Bay 74 and 75	30 days	Thu 20/8/09	Fri 18/9/09	143
145	Backfilling to Final Ground Level	14 days	Thu 20/8/09	Wed 2/9/09	143
146	Construct the U-channel and handrailing near bay 74 and 75	10 days	Thu 3/9/09	Sat 12/9/09	145
147	**Stage 4**	**9 days**	**Sun 12/7/09**	**Tue 21/7/09**	
148	Divert traffic to all completed new road pavement	0 days	Sun 12/7/09	Sun 12/7/09	141
149	Removal of the new temporay access	5 days	Mon 13/7/09	Fri 17/7/09	148
150	Construct 375 U-channel under new temporary access	4 days	Sat 18/7/09	Tue 21/7/09	149

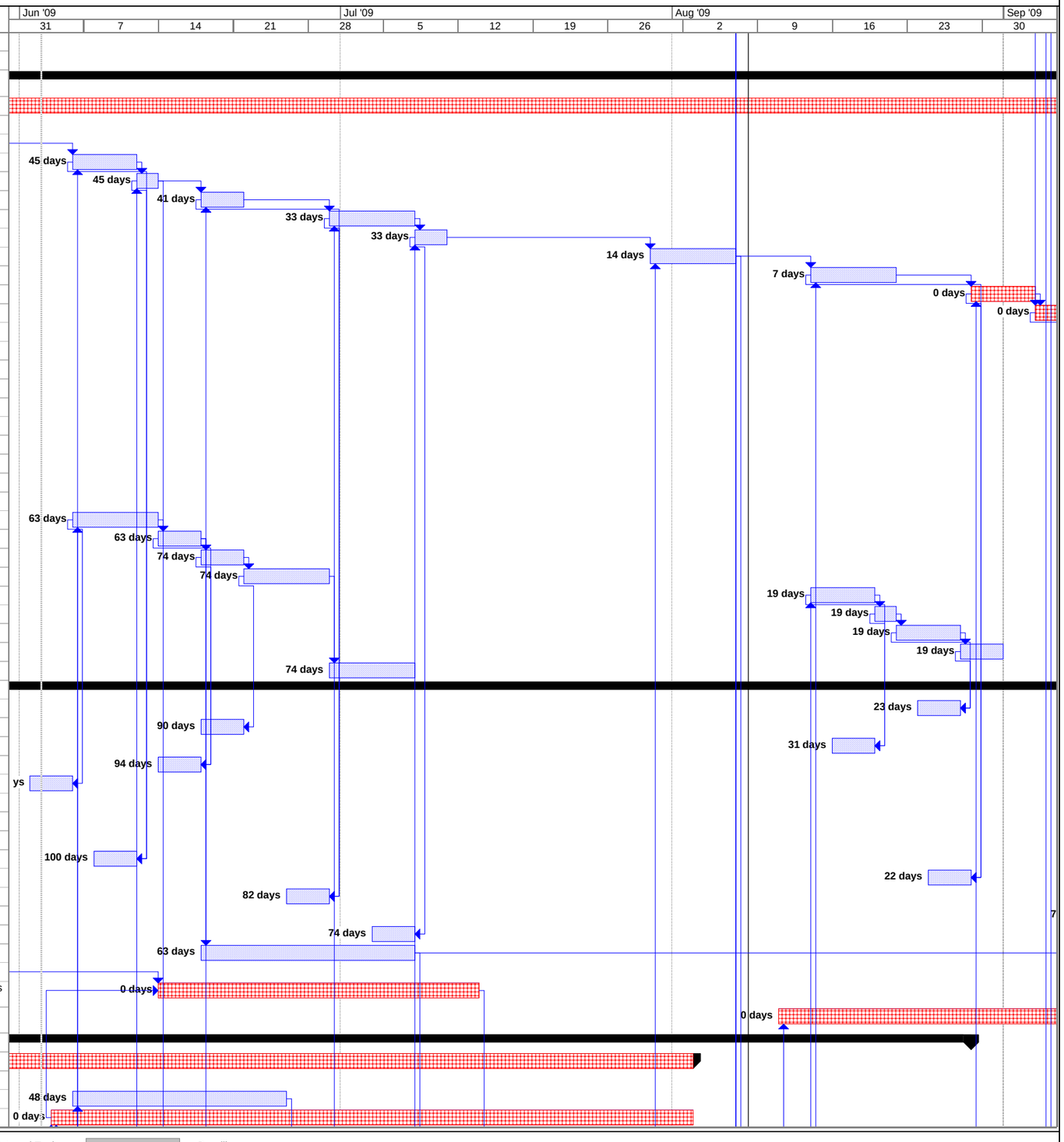


Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

PROGRAMME OF WORKS - MP06
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
151	Completion of Portion 3	0 days	Fri 18/9/09	Fri 18/9/09	144,150
152					
153	**Area except the Chenng Chun San Tsuen access and VC2-1 access**	**168 days**	**Sun 5/4/09**	**Sat 19/9/09**	
154	**U-channel**	**166 days**	**Tue 7/4/09**	**Sat 19/9/09**	
155	CP2-16.1(600U, 35m)	10 days	Tue 7/4/09	Thu 16/4/09	
156	CP2-8A.1(375U, 55m)	10 days	Wed 13/5/09	Fri 22/5/09	155,210
157	CP2-7.2(375U, 44m)	6 days	Sat 6/6/09	Thu 11/6/09	156,212
158	CP2-7.1(375U, 16m)	2 days	Fri 12/6/09	Sat 13/6/09	157,212
159	CP2-7A.2(375U, 26m)	4 days	Thu 18/6/09	Sun 21/6/09	158,213
160	CP2-7A.1(375U, 51m)	8 days	Tue 30/6/09	Tue 7/7/09	159,214
161	CP2-5A.1(375U, 18m)	3 days	Wed 8/7/09	Fri 10/7/09	160,214
162	CP2-9.1(600U, 58m)	8 days	Thu 30/7/09	Thu 6/8/09	161,220
163	CP2-6.2(375U, 59m)	8 days	Fri 14/8/09	Fri 21/8/09	162,221
164	CP2-6.1(750U, 29m)	6 days	Sat 29/8/09	Thu 3/9/09	163,222
165	CP2-5.2(600U, 47m)	9 days	Fri 4/9/09	Sat 12/9/09	164,37
166	CP2-5.1(375U, 34m)	7 days	Sun 13/9/09	Sat 19/9/09	165,37
167	CP2-11A.1(375U, 36m)	6 days	Fri 1/5/09	Wed 6/5/09	
168	CP2-11A.2(375U, 30m)	6 days	Thu 7/5/09	Tue 12/5/09	167
169	CP2-14B.1(375U, 4m)	2 days	Wed 13/5/09	Thu 14/5/09	168
170	CP2-14B.2(600U, 18m)	3 days	Fri 15/5/09	Sun 17/5/09	169
171	CP2-14C.1(375U, 20m)	4 days	Mon 18/5/09	Thu 21/5/09	170
172	CP2-12.1(375U, 34m)	6 days	Fri 22/5/09	Wed 27/5/09	171
173	CP2-19C.2(450U,30m)	4 days	Sun 17/5/09	Wed 20/5/09	205
174	CP2-19C.1(450U,20m)	4 days	Thu 21/5/09	Sun 24/5/09	173
175	Inlet 2-3.1(450U, 11m)	2 days	Mon 25/5/09	Tue 26/5/09	174
176	CP2-19B.1(600U, 38m)	8 days	Sat 6/6/09	Sat 13/6/09	216
177	CP2-19A.2(450U, 26m)	4 days	Sun 14/6/09	Wed 17/6/09	176
178	CP2-19A.1,(450U, 22m)	4 days	Thu 18/6/09	Sun 21/6/09	177
179	CP2-18.1(450U, 41m)	8 days	Mon 22/6/09	Mon 29/6/09	178
180	CP2-19.1(600U, 26m)	6 days	Fri 14/8/09	Wed 19/8/09	217
181	CP2-19.2(375U, 10m)	2 days	Thu 20/8/09	Fri 21/8/09	180
182	CP2-18A.1(375U,35m)	6 days	Sat 22/8/09	Thu 27/8/09	181
183	CP2-18A.2(450U,26m)	4 days	Fri 28/8/09	Mon 31/8/09	182
184	CP2-0.1(375U, 51m)	8 days	Tue 30/6/09	Tue 7/7/09	179
185	**Catchpit**	**127 days**	**Sat 9/5/09**	**Sun 13/9/09**	
186	CP2-18A	4 days	Mon 24/8/09	Fri 28/8/09	182SF,183SF
187	CP2-18	4 days	Thu 18/6/09	Mon 22/6/09	179SF
188	CP2-19	4 days	Sun 16/8/09	Thu 20/8/09	180SF,181SF
189	CP2-19A	4 days	Sun 14/6/09	Thu 18/6/09	177SF,178SF
190	CP2-19B	4 days	Tue 2/6/09	Sat 6/6/09	176SF
191	CP2-19C	4 days	Sun 17/5/09	Thu 21/5/09	173SF,174SF
192	CP2-14B	4 days	Mon 11/5/09	Fri 15/5/09	169SF,170SF
193	CP2-8A	4 days	Sat 9/5/09	Wed 13/5/09	156SF
194	CP2-7	4 days	Mon 8/6/09	Fri 12/6/09	157SF,158SF
195	CP2-6	4 days	Tue 25/8/09	Sat 29/8/09	163SF,164SF
196	CP2-7A	4 days	Fri 26/6/09	Tue 30/6/09	159SF,160SF
197	CP2-5	4 days	Wed 9/9/09	Sun 13/9/09	165SF,166SF
198	CP2-5A	4 days	Sat 4/7/09	Wed 8/7/09	161SF
199	New retaining wall near abondoned home	20 days	Thu 18/6/09	Tue 7/7/09	177
200	New Retaining wall near Ramp No.1	30 days	Fri 1/5/09	Sat 30/5/09	
201	Laying Sub-base to Road B (Ch800 to Ch1145 only, Total Panel number =34)	30 days	Sun 14/6/09	Mon 13/7/09	200,207SS+10 days
202	Concreting Road B (Ch800 to Ch1145 only, Total Panel number =34)	40 days	Tue 11/8/09	Sat 19/9/09	231
203	**Filling platform**	**146 days**	**Sun 5/4/09**	**Fri 28/8/09**	
204	**North Bank**	**118 days**	**Tue 7/4/09**	**Sun 2/8/09**	
205	Bay 84c-Bay 80	40 days	Tue 7/4/09	Sat 16/5/09	
206	Bay 79-Bay 76	20 days	Sat 6/6/09	Thu 25/6/09	216
207	Bay 56a1-Bay 71	60 days	Thu 4/6/09	Sun 2/8/09	218,289

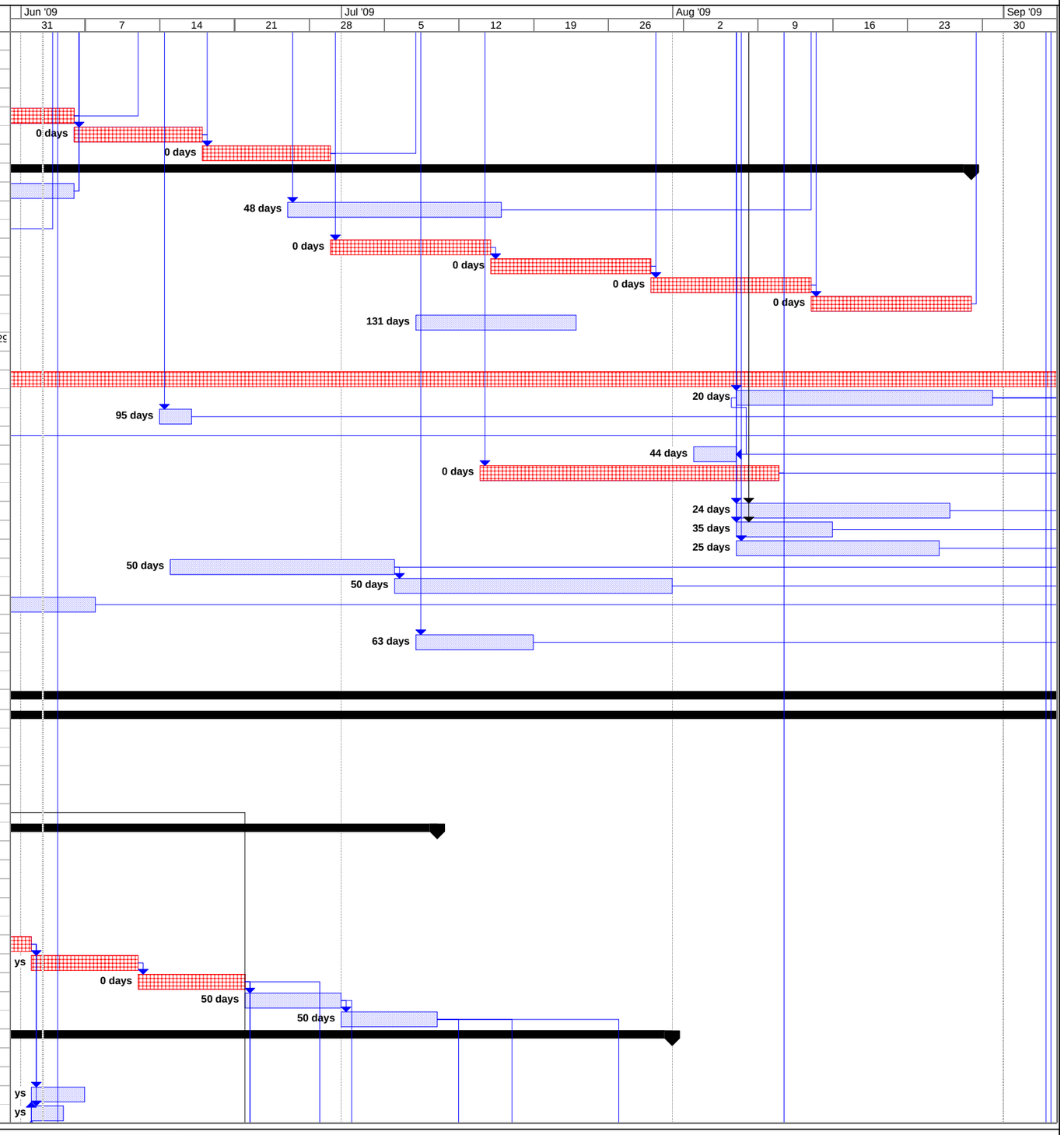


Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

PROGRAMME OF WORKS - MP06
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
208	Bay 54-Bay 52	12 days	Tue 7/4/09	Sat 18/4/09	
209	Bay 51-Bay 49	12 days	Sun 19/4/09	Thu 30/4/09	208
210	Bay 48-Bay 46	12 days	Fri 1/5/09	Tue 12/5/09	209
211	Bay 45-Bay 43	12 days	Wed 13/5/09	Sun 24/5/09	210
212	Bay 42-Bay 40	12 days	Mon 25/5/09	Fri 5/6/09	211
213	Bay 39-Bay 37	12 days	Sat 6/6/09	Wed 17/6/09	212
214	Bay 36-Bay 33	12 days	Thu 18/6/09	Mon 29/6/09	213
215	**South Bank**	**146 days**	**Sun 5/4/09**	**Fri 28/8/09**	
216	Bay 84c- Bay 80	20 days	Sun 17/5/09	Fri 5/6/09	205
217	Bay 80-Bay 76	20 days	Fri 26/6/09	Wed 15/7/09	206
218	Bay 56a1-Bay 71	51 days	Sun 5/4/09	Mon 25/5/09	
219	Bay 48-Bay 46	15 days	Tue 30/6/09	Tue 14/7/09	214
220	Bay 45-Bay 43	15 days	Wed 15/7/09	Wed 29/7/09	219
221	Bay 42-Bay 40	15 days	Thu 30/7/09	Thu 13/8/09	220
222	Bay 39-Bay 37	15 days	Fri 14/8/09	Fri 28/8/09	221
223	Bay 36-Bay 33	15 days	Wed 8/7/09	Wed 22/7/09	
224	Completion of Portion 3	0 days	Sat 19/9/09	Sat 19/9/09	154,185,199,228,229
225					
226	**Planting Trees**	**130 days**	**Wed 13/5/09**	**Sat 19/9/09**	
227	Bay 2-Bay 9, North Bank, 48 trees	24 days	Fri 7/8/09	Sun 30/8/09	65FS+14 days
228	Bay 41-Bay 42, North Bank, 7 trees	3 days	Sun 14/6/09	Tue 16/6/09	158
229	Bay 54& Bay 55d, North Bank, 13 trees	7 days	Wed 13/5/09	Tue 19/5/09	168
230	Bay 56c1, North Bank, 8 trees	4 days	Mon 3/8/09	Fri 7/8/09	227SF
231	Bay 64-Bay 72b, North Bank, 56 trees	28 days	Tue 14/7/09	Mon 10/8/09	201
232					
233	Bay 7-Bay 27, South Bank, 40 trees	20 days	Fri 7/8/09	Wed 26/8/09	99,69
234	Bay 30-Bay 33, South Bank, 17 trees	9 days	Fri 7/8/09	Sat 15/8/09	67,69
235	Bay 40-Bay 53, South Bank, 38 trees	19 days	Fri 7/8/09	Tue 25/8/09	162
236	Bay 56a2, South Bank, 42 trees	21 days	Mon 15/6/09	Sun 5/7/09	
237	Bay 57-Bay 66a, South Bank, 52 trees	26 days	Mon 6/7/09	Fri 31/7/09	236
238	Bay 68c-Bay 72a, South Bank, 26 trees	13 days	Tue 26/5/09	Sun 7/6/09	218
239	Bay 74-Bay 78, South Bank, 13 trees	7 days	Sun 13/9/09	Sat 19/9/09	146
240	Bay 79-Bay 83c, South Bank, 22 trees	11 days	Wed 8/7/09	Sat 18/7/09	199
241					
242					
243	**Section II of the Works**	**905 days**	**Fri 30/3/07**	**Sat 19/9/09**	
244	**Kam Sheung Road Upstream**	**905 days**	**Fri 30/3/07**	**Sat 19/9/09**	
245	Construction of Gabion at Bay 56 -Bay 62	26 days	Sat 28/3/09	Wed 22/4/09	
246	Pump Stream from Bay 49 to Bay 46	0 days	Thu 23/4/09	Thu 23/4/09	
247	Construrction of Gabion at Bay 49	5 days	Thu 23/4/09	Mon 27/4/09	245,246
248	Inspecion of New channel Bay 49- Bay 63 by DSD	14 days	Tue 28/4/09	Mon 11/5/09	247
249	Divert Stream to New Channel	0 days	Mon 11/5/09	Mon 11/5/09	248
250	**Drainage Works**	**833 days**	**Fri 30/3/07**	**Thu 9/7/09**	
251	CP Inlet 15-4	8 days	Fri 30/3/07	Fri 6/4/07	
252	MH15 F	25 days	Tue 24/3/09	Fri 17/4/09	251
253	MH15 E	13 days	Sat 18/4/09	Thu 30/4/09	252,272
254	CP15-8A	12 days	Fri 1/5/09	Tue 12/5/09	246,253
255	Outlet 15-3	12 days	Wed 13/5/09	Sun 24/5/09	254
256	CP15-5	8 days	Mon 25/5/09	Mon 1/6/09	255
257	Inlet 15-3	10 days	Tue 2/6/09	Thu 11/6/09	256
258	MH15 C	10 days	Fri 12/6/09	Sun 21/6/09	257
259	CP15-7	9 days	Mon 22/6/09	Tue 30/6/09	258
260	CP15-6	9 days	Wed 1/7/09	Thu 9/7/09	259
261	**U-channel**	**80 days**	**Wed 13/5/09**	**Fri 31/7/09**	
262	CP15-8A.2	15 days	Wed 13/5/09	Wed 27/5/09	254,272
263	CP15-8A.1	8 days	Wed 13/5/09	Wed 20/5/09	254,273
264	CP15-5.2	5 days	Tue 2/6/09	Sat 6/6/09	256,273
265	CP15-5.1	3 days	Tue 2/6/09	Thu 4/6/09	256,273

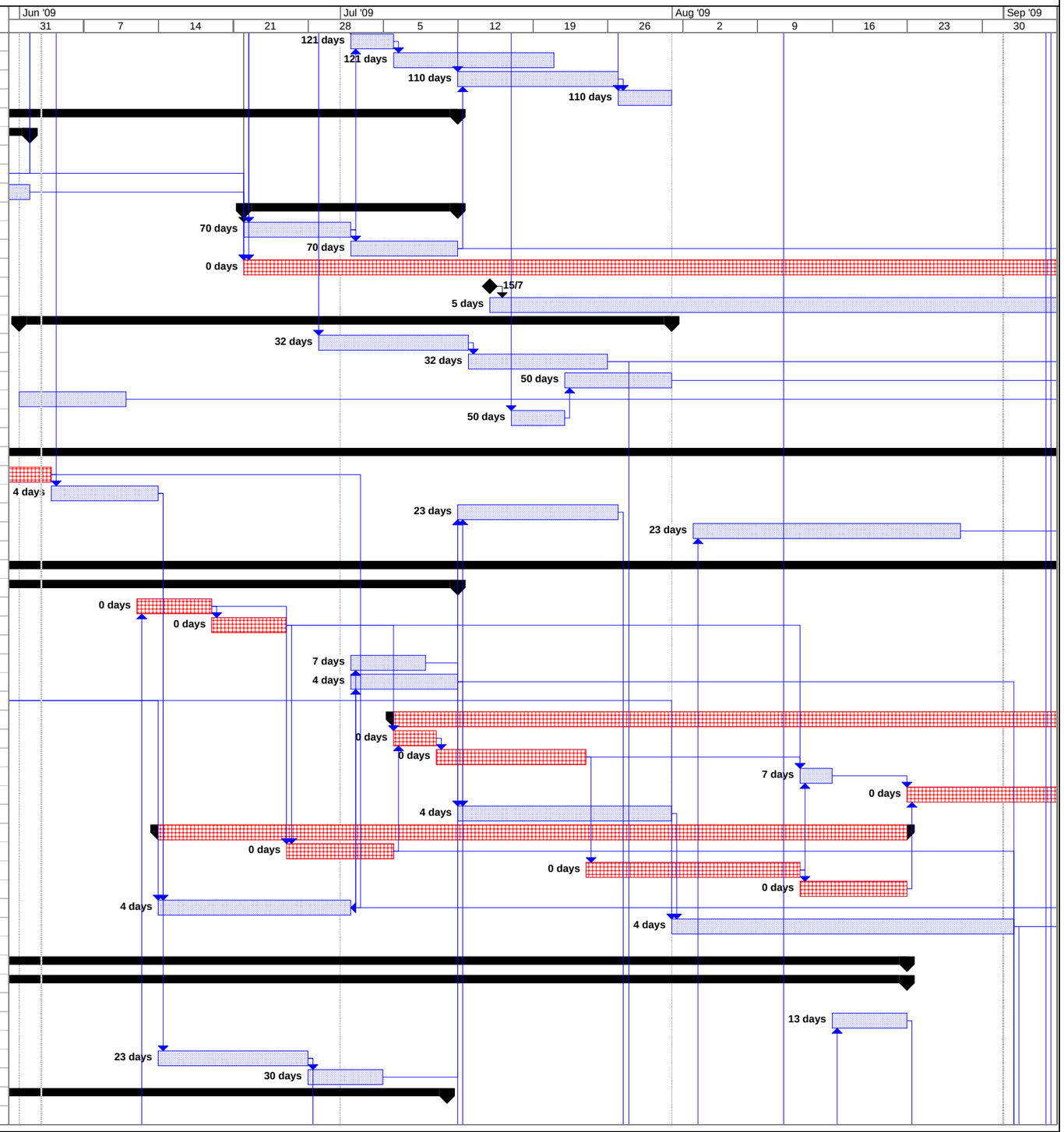


Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

PROGRAMME OF WORKS - MP06
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
266	CP15-7.2	4 days	Thu 2/7/09	Sun 5/7/09	259,276
267	CP15-7.1	15 days	Mon 6/7/09	Mon 20/7/09	266
268	CP15-6.2	15 days	Sun 12/7/09	Sun 26/7/09	260,277
269	CP15-6.1	5 days	Mon 27/7/09	Fri 31/7/09	260,268
270	**Backfilling**	**835 days**	**Fri 30/3/07**	**Sat 11/7/09**	
271	**North Bank**	**795 days**	**Fri 30/3/07**	**Mon 1/6/09**	
272	Bay 49-Bay 56	14 days	Fri 30/3/07	Thu 12/4/07	
273	Bay 44-48	18 days	Thu 23/4/09	Sun 10/5/09	246,272
274	Bay 37-Bay 43	22 days	Mon 11/5/09	Mon 1/6/09	246,273
275	**South Bank**	**20 days**	**Mon 22/6/09**	**Sat 11/7/09**	
276	Bay 55- Bay 58	10 days	Mon 22/6/09	Wed 1/7/09	249,258
277	Bay 47a - Bay 54	10 days	Thu 2/7/09	Sat 11/7/09	276
278	Road Construction(Panel Nos. RD2 - RD15C)	90 days	Mon 22/6/09	Sat 19/9/09	258,273,274
279	Diversion of CLP's cable on Kam Sheung Road	0 days	Wed 15/7/09	Wed 15/7/09	
280	Road Construction on Kam Sheung Road	62 days	Wed 15/7/09	Mon 14/9/09	279
281	**Planting of Trees**	**61 days**	**Mon 1/6/09**	**Fri 31/7/09**	
282	Bay 38 - Bay 43, North Bank, 28 trees	14 days	Mon 29/6/09	Sun 12/7/09	258FS+7 days
283	Bay 47b - Bay 55, North Bank, 26 trees	13 days	Mon 13/7/09	Sat 25/7/09	282
284	Bay 55 - Bay 58, North Bank, 20 trees	10 days	Wed 22/7/09	Fri 31/7/09	286
285	Bay 37 - Bay 42b, South Bank, 19 trees	10 days	Mon 1/6/09	Wed 10/6/09	
286	Bay 50 - Bay 55, South Bank, 10 trees	5 days	Fri 17/7/09	Tue 21/7/09	260FS+7 days
287					
288	**Kam Sheung Road Dowstream**	**905 days**	**Fri 30/3/07**	**Sat 19/9/09**	
289	Completion of Kam Po Road	15 days	Wed 20/5/09	Wed 3/6/09	293
290	Removal of Temporary Access	10 days	Thu 4/6/09	Sat 13/6/09	289
291	Construction of Bay 6	15 days	Sun 12/7/09	Sun 26/7/09	332,326,321
292	Construction of Gabion at Bay 6, 7 & 8	25 days	Mon 3/8/09	Thu 27/8/09	333
293	Completion of Bay 1	0 days	Tue 31/3/09	Tue 31/3/09	
294	**North Bank**	**897 days**	**Fri 30/3/07**	**Fri 11/9/09**	
295	**Drainage Works**	**103 days**	**Tue 31/3/09**	**Sat 11/7/09**	
296	CP15-2	7 days	Fri 12/6/09	Thu 18/6/09	350
297	CP15-2A	7 days	Fri 19/6/09	Thu 25/6/09	296
298	MH15 B	8 days	Fri 15/5/09	Fri 22/5/09	
299	CP15-1	7 days	Thu 2/7/09	Wed 8/7/09	312
300	CP15-01 & CP15-0	10 days	Thu 2/7/09	Sat 11/7/09	312
301	MH15-H	16 days	Tue 31/3/09	Wed 15/4/09	293
302	**U-channel and forming slope**	**68 days**	**Mon 6/7/09**	**Fri 11/9/09**	
303	CP15-2.1	4 days	Mon 6/7/09	Thu 9/7/09	297,309
304	CP15-2.2	14 days	Fri 10/7/09	Thu 23/7/09	303
305	CP15-2A.1	3 days	Thu 13/8/09	Sat 15/8/09	297,304,310
306	CP15-2A.2	20 days	Sun 23/8/09	Fri 11/9/09	305,311
307	CP15-1.1	20 days	Sun 12/7/09	Fri 31/7/09	299,300
308	**Backfilling**	**70 days**	**Sun 14/6/09**	**Sat 22/8/09**	
309	Bay 7-Bay 11	10 days	Fri 26/6/09	Sun 5/7/09	296,297
310	Bay 12 - Bay18	20 days	Fri 24/7/09	Wed 12/8/09	304
311	Bay 19- Bay 27	10 days	Thu 13/8/09	Sat 22/8/09	310
312	Bay 1- Bay 6	18 days	Sun 14/6/09	Wed 1/7/09	289FF,290,301
313	Road Construction (Panel RE1 to RE4)	32 days	Sat 1/8/09	Tue 1/9/09	301,307
314	Construction of Gabion (Bay 6-Bay 8)	22 days	Fri 30/3/07	Fri 20/4/07	
315	**South Bank**	**877 days**	**Fri 30/3/07**	**Sat 22/8/09**	
316	**Drainage Works**	**877 days**	**Fri 30/3/07**	**Sat 22/8/09**	
317	Inlet 15-1	7 days	Thu 26/3/09	Wed 1/4/09	346
318	CP15-3B	7 days	Sun 16/8/09	Sat 22/8/09	336
319	CP15-3	7 days	Fri 30/3/07	Thu 5/4/07	
320	Inlet 15-B	14 days	Sun 14/6/09	Sat 27/6/09	290
321	Outlet 15-A	7 days	Sun 28/6/09	Sat 4/7/09	320
322	**U-channel and Forming Slope**	**92 days**	**Fri 10/4/09**	**Fri 10/7/09**	
323	CP15-3B.1	35 days	Fri 10/4/09	Thu 14/5/09	328

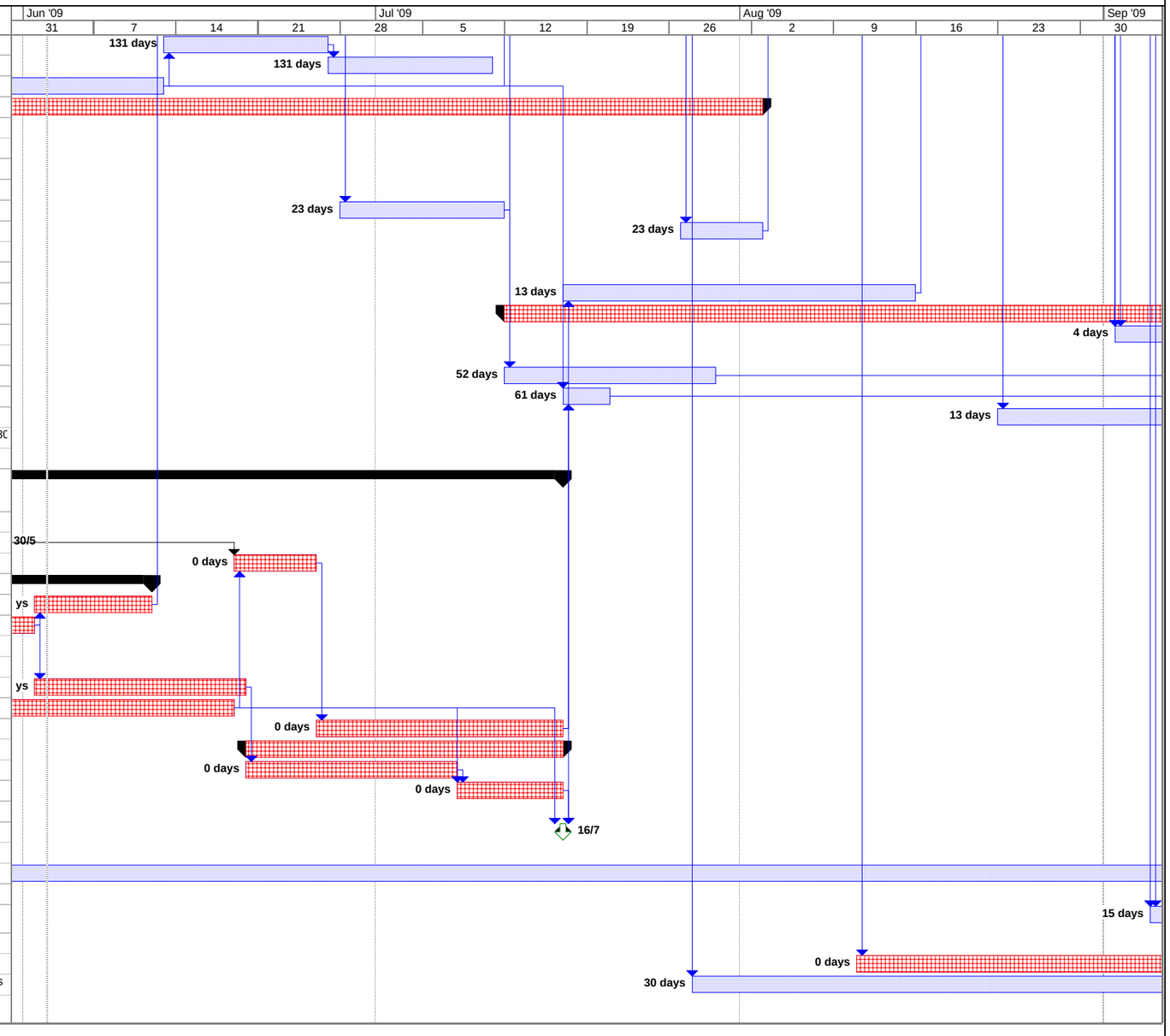


Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

PROGRAMME OF WORKS - MP06
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
324	CP15-3.2(1st section)	14 days	Sat 13/6/09	Fri 26/6/09	326
325	CP15-3.2(Remaing section	14 days	Sat 27/6/09	Fri 10/7/09	324
326	CP15-3.1	14 days	Sat 30/5/09	Fri 12/6/09	319,331,335
327	**Backfilling**	**135 days**	**Sat 21/3/09**	**Sun 2/8/09**	
328	Bay 16b - Bay 23	20 days	Sat 21/3/09	Thu 9/4/09	
329	Bay 24 - Bay 31	20 days	Fri 10/4/09	Wed 29/4/09	328
330	Bay 32 - Bay 35	10 days	Sat 21/3/09	Mon 30/3/09	
331	Bay 7 - Bay 16a	25 days	Sat 21/3/09	Tue 14/4/09	
332	Bay 3 - Bay 5	14 days	Sun 28/6/09	Sat 11/7/09	320
333	Bay 6	7 days	Mon 27/7/09	Sun 2/8/09	291
334					
335	Laid Su-base Material from Bay 20 to Bay 35	30 days	Thu 30/4/09	Fri 29/5/09	328,329,330
336	Constructing Road Pavement Bay 20- Bay 26	30 days	Fri 17/7/09	Sat 15/8/09	356
337	**Planting Trees**	**70 days**	**Sun 12/7/09**	**Sat 19/9/09**	
338	Bay 2 - Bay 9, North Bank, 29 trees	14 days	Wed 2/9/09	Tue 15/9/09	313,309,300
339	Bay 13 - Bay 18, North Bank, 16 trees and 25 bamboo	8 days	Sat 12/9/09	Sat 19/9/09	306
340	Bay 2 - Bay 6, South Bank, 35 trees	18 days	Sun 12/7/09	Wed 29/7/09	332
341	Bay 10 - Bay 11, South Bank, 8 trees and 18 bamboo	4 days	Fri 17/7/09	Mon 20/7/09	326,356
342	Bay 18 - Bay 26, South Bank, 29 trees	15 days	Sun 23/8/09	Sun 6/9/09	318
343	Completion of Portion 5	0 days	Sat 19/9/09	Sat 19/9/09	277,278,313,312,280
344					
345	**Section III of the Works - Portions 5A1, 5A2**	**116 days**	**Mon 23/3/09**	**Thu 16/7/09**	
346	Laying cable duct by PCCW's & HGC's Work at Kam Sheung Roa	3 days	Mon 23/3/09	Wed 25/3/09	
347	Diversion of HGC's cables(by HGC) at Kam Sheung Road	0 days	Sat 30/5/09	Sat 30/5/09	346
348	Concrete Surround to PCCW's cable ducts (By PCCW) at Kam S	7 days	Fri 19/6/09	Thu 25/6/09	347,355
349	**Drainage Works**	**73 days**	**Tue 31/3/09**	**Thu 11/6/09**	
350	Outlet 15-2	10 days	Tue 2/6/09	Thu 11/6/09	351
351	Inlet 15-2	10 days	Sat 23/5/09	Mon 1/6/09	298
352	CP15-4A.1	10 days	Tue 31/3/09	Thu 9/4/09	330
353					
354	Backfilling at Bay 28-Bay 35	18 days	Tue 2/6/09	Fri 19/6/09	351
355	Constructing Road Pavement Bay 27- Bay 34	20 days	Sat 30/5/09	Thu 18/6/09	335
356	Constructing Road Pavement Bay 35	21 days	Fri 26/6/09	Thu 16/7/09	348
357	**Planting Trees**	**27 days**	**Sat 20/6/09**	**Thu 16/7/09**	
358	Bay 23 - Bay 35, North Bank, 36 trees	18 days	Sat 20/6/09	Tue 7/7/09	354
359	Bay 27 - Bay 35 , South Bank, 17 trees	9 days	Wed 8/7/09	Thu 16/7/09	355,358
360					
361	Completion of Portion 5A1, 5A2 & 5B	0 days	Thu 16/7/09	Thu 16/7/09	356,355,359
362					
363	Section V of the Works - Preservation and protection to existing trees	905 days	Fri 30/3/07	Sat 19/9/09	
364					
365	Construction of Hard Paved Area above box cuvlert at South Bank	30 days	Sat 5/9/09	Sun 4/10/09	105,112
366	Erection of Fencing near Hard Paved Area	30 days	Mon 5/10/09	Tue 3/11/09	365
367	Erection of Fencing along Channel KT2	100 days	Tue 11/8/09	Wed 18/11/09	231
368	Erection of Fencing along Channel KT15	84 days	Tue 28/7/09	Mon 19/10/09	283,343FF+30 days
369	Construction of Hard Paved Area above box cuvlert at North Bank	30 days	Sun 13/9/09	Mon 12/10/09	103,65,227



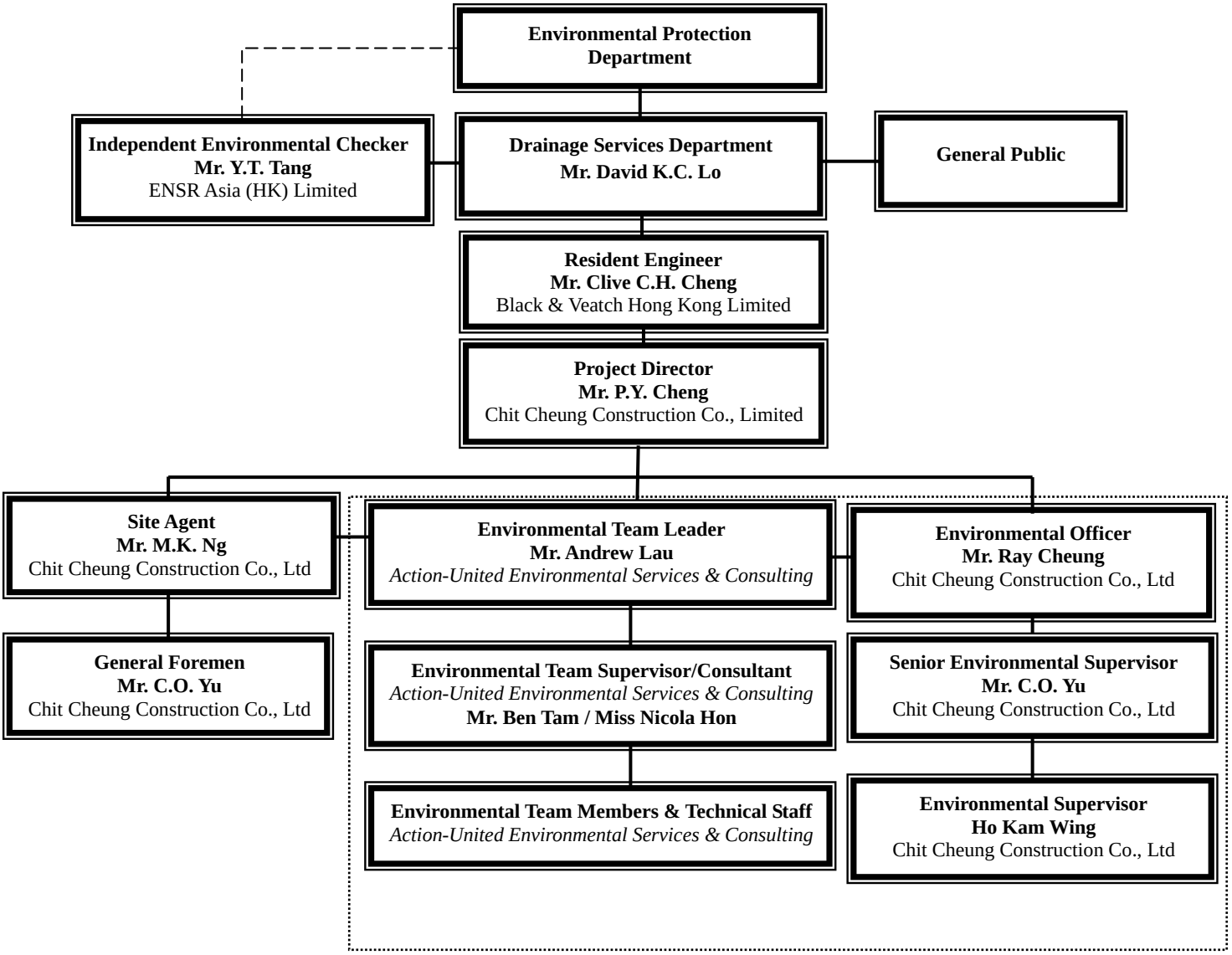
Project: Programme of Works - MP06(
Date: Wed 3/6/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone | Critical

APPENDIX C

ENVIRONMENTAL ORGANIZATION STRUCTURE

Environmental Organization Structure



Contractor's Environmental Team (CET)

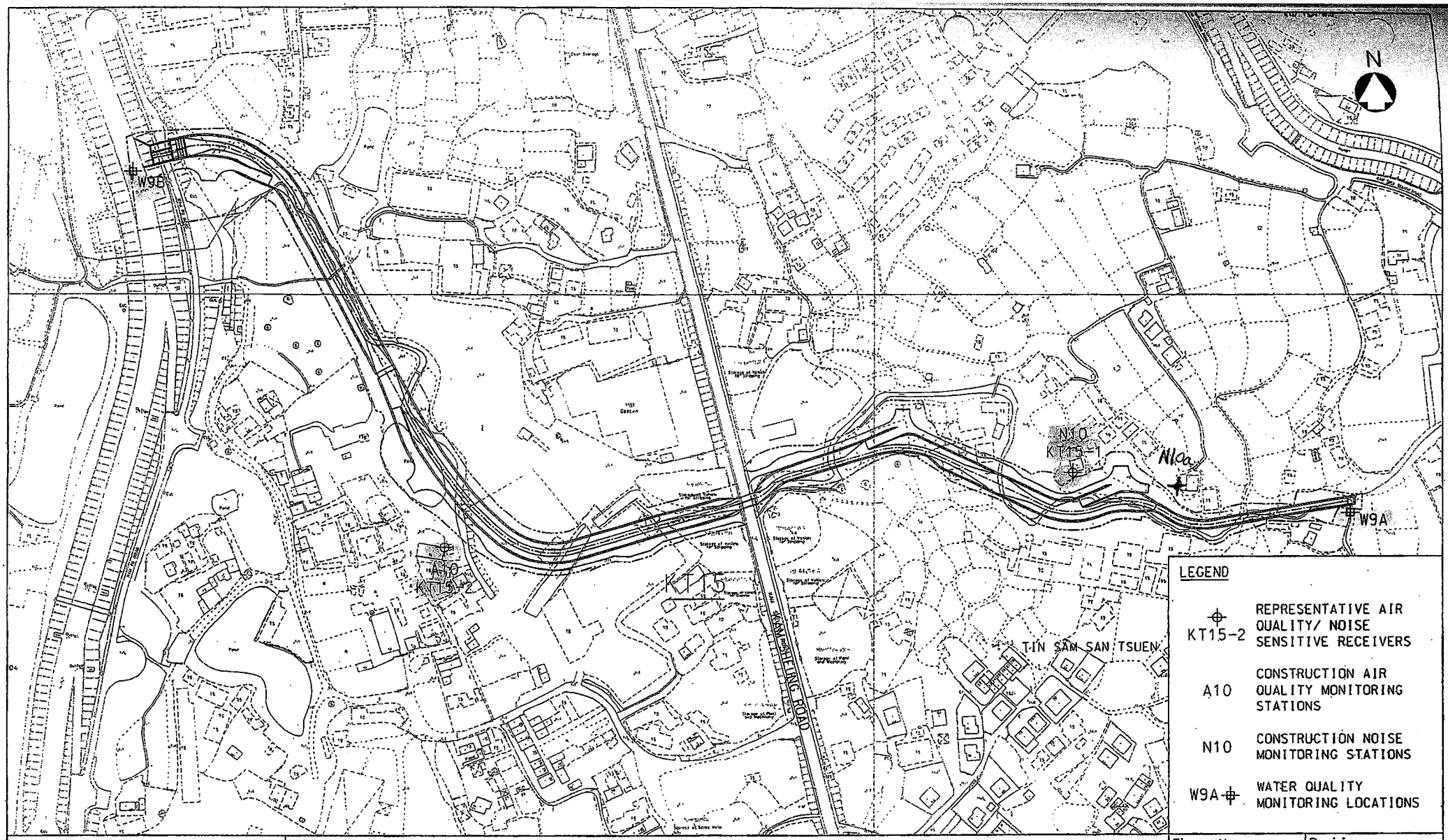
Contact Details of Key Personnel

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	2478-9396
ENSR	Independent Environmental Checker	Mr. Y.T. Tang	3105-8537	2891-0305
CCC	Project Director	Mr. P.Y. CHENG	9023-4821	2403-1162
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. Ray Cheung	6103-7404	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	Mr. Andrew Lau	2959-6059	2959-6079
AUES	Ecologist	Mr. Vincent Lai	9406-9784	2959-6079

Legend:
DSD (Employer) - Drainage Services Department
B&V (Engineer) - Black & Veatch Hong Kong Limited
CCC (Contractor) - Chit Cheung Construction Company Limited.
ENSR (IEC) - ENSR Asia (HK) Ltd.
AUES (ET) - Action-United Environmental Services & Consulting

APPENDIX D

LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA



YUEN LONG, KAM TIN,
NGAU TAM MEI AND TIN SHUI WAI
DRAINAGE IMPROVEMENT, STAGE1, PHASE 2B

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

Title :

CONSTRUCTION PHASE AIR QUALITY/NOISE/WATER QUALITY MONITORING LOCATIONS AT KT15

Figure No. ATT4-4.3	Revision -
Reference -	File Name 3820470201-137.DGN
Prepared WYC	Checked MC
Date DEC. 2002	Scale 1 : 2000

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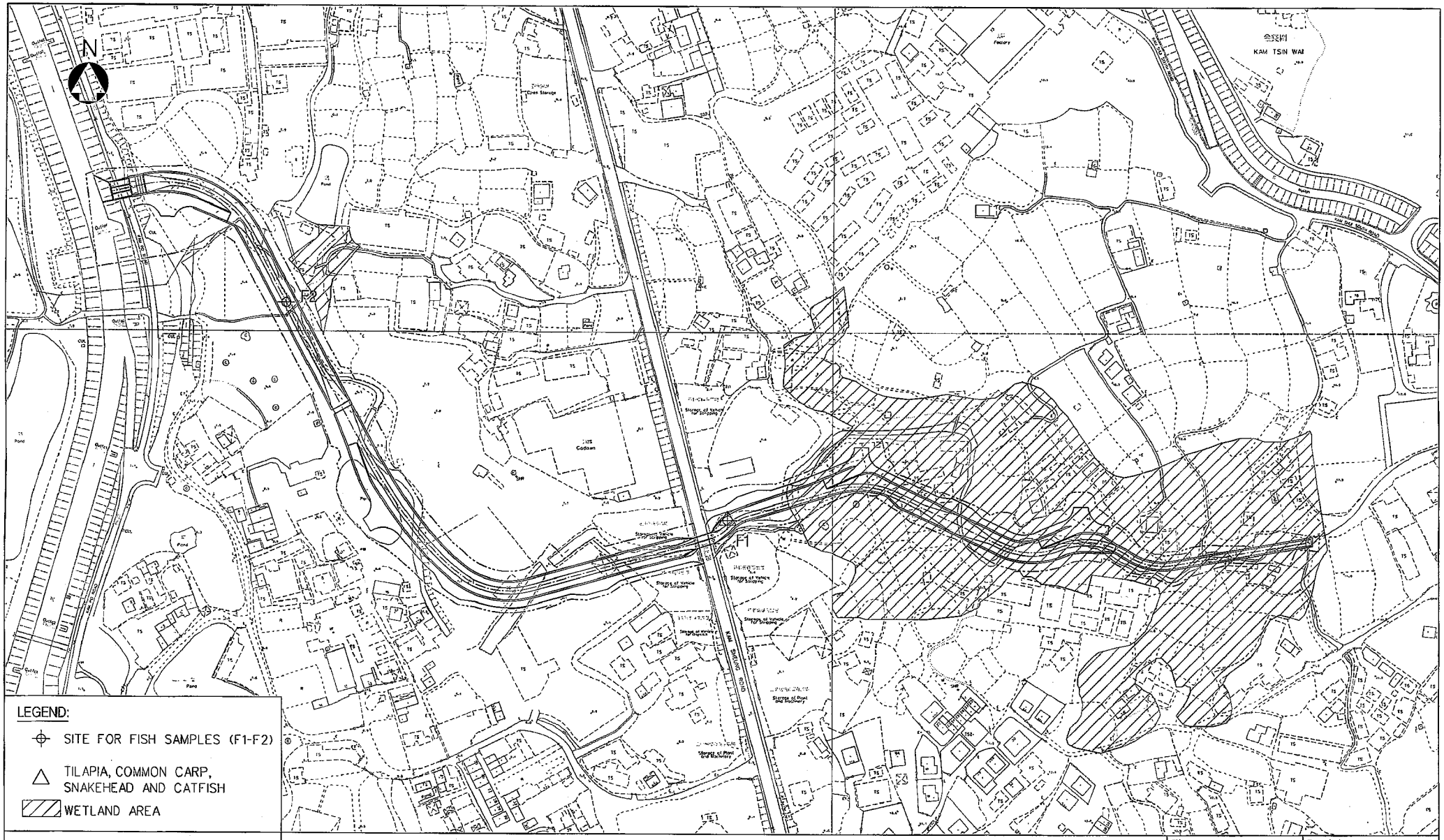

LEGEND:

- SITE FOR FISH SAMPLES (F1-F2)
- TILAPIA, COMMON CARP, SNAKEHEAD AND CATFISH
- WETLAND AREA

YUEN LONG, KAM TIN,
NGAU TAM MEI AND TIN SHUI WAI
DRAINAGE IMPROVEMENT, STAGE1, PHASE 2B

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

Title :

ECOLOGICAL MONITORING AREA KT15

Figure No.	Revision
3.3	0
Reference	File Name
-	3820470201-114.DGN
Prepared	Checked
AEC	WYC
Date	Scale
MAR. 2003	1 : 2000

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APPENDIX E

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

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	Engineer	Contractor
ACTION LEVEL				
1. Exeedance for one sample	1. Identify source 2. Inform IEC and Engineer 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working method	Notify Contractor	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exeedance for two or more consecutive samples	1. Identify source 2. Inform IEC and Engineer 3. Repeat measurements to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with IEC and Contractor on remedial actions required 6. If exceedance continues, arrange meeting with IEC and Engineer 7. 7. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advice Engineer on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
LIMIT LEVEL				
1. Exeedance for one sample	1. Identify source 2. Inform Engineer and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results	1. Check monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advice Engineer on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	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 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify IEC, Engineer and EPD 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with IEC and Engineer to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst Engineer, ET and Contractor on potential remedial actions 2. Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly 3. 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 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the Engineer until the exceedance is abated

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET Leader	**IEC**	**Engineer**	**Contractor**
ACTION LEVEL	1. Notify Contractor and Engineer 2. Carry out investigation 3. Report the results of investigation to the IEC and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analysed results submitted by ET 2. Review the proposed remedial measures by the Contractor and advice the Engineer accordingly 3. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures properly implemented	1. Submit noise mitigation proposals for remedial actions to IEC 2. Implement the agreed proposals
LIMIT LEVEL	1. Notify IEC, Engineer, EPD and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IEC, Engineer and EPD the causes & actions taken for the exceedances 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Engineer informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst Engineer, ET and Contractor on potential remedial actions 2. Review Contractor's remedial actions whether necessary to assure their effectiveness and advice the Engineer accordingly 3. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures properly implemented 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	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 4. Resubmit proposals if problem still not under control 5. 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)	1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC and Contractor 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC and Contractor 6. Repeat measurement on next day of exceedance	1. Discuss with ET and Contractor on the mitigation measures 2. Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures 2. Make agreement on the mitigation measures to be implemented	1. Inform Engineer and confirm notification of the non-compliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment 4. Consider changes of working methods 5. Discuss with ET and Contractor and propose mitigation measures to IEC and Engineer 6. Implement the agreed mitigation measures
ACTION LEVEL (being exceeded by more than one sampling day)	1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC, Engineer and Contractor 6. Repeat measurement on next day of exceedance 7. Ensure mitigation measures are implemented 8. Prepare to increase the monitoring frequency to daily 9. Repeat measurement on next day of exceedance	1. Discuss with ET and Contractor on the mitigation measures 2. Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures 2. Make agreement on the mitigation measures to be implemented 3. Assess the effectiveness of the implemented mitigation measures	1. Inform Engineer and confirm notification of the non-compliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment 4. Consider changes of working methods 5. Discuss with ET and IEC and propose mitigation measures to IEC and Engineer within 3 working days 6. Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by one sampling days)	1. Repeat in-situ measurement to confirm findings 2. Identify source(s) of impact 3. Inform IEC, Contractor and EPD 4. Check monitoring data, all plant, equipment and Contractor's working methods 5. Discuss mitigation measures IEC, Engineer and Contractor 6. Ensure mitigation measures are implemented 7. Increase the monitoring frequency to daily until no exceedance of Limit level	1. Discuss with ET and Contractor on the mitigation measures 2. Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures 2. Request Contractor to critically review the working methods 3. Make agreement on the mitigation measures to be implemented 4. Assess the effectiveness of the implemented mitigation measures	1. Inform Engineer and confirm notification of the non-compliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment 4. Consider changes of working methods 5. Discuss with ET, IEC and Engineer and propose mitigation measures to IEC and Engineer within 3 working days 6. Implement the agreed mitigation measures
LIMIT LEVEL (being exceeded by more than one sampling days)	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform Contractor, Engineer, IEC and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, Engineer and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level	1. Discuss with ET and Contractor on the mitigation measures 2. Review proposals on mitigation measures submitted by Contractor and advice Engineer accordingly 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures 2. Request Contractor to critically review the working methods 3. Make agreement on the mitigation measures to be implemented 4. Assess the effectiveness of the implemented mitigation measures 5. 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	1. Inform Engineer and confirm notification of the non-compliance in writing 2. Rectify unacceptable practice 3. Check all plant and equipment 4. Consider changes of working methods 5. 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 6. Implement the agreed mitigation measures; 7. As directed by Engineer, to slow down or to stop all or part of the construction activities

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

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	Tisch High Volume Sampler 515N (Serial No. 9833620)	8 Mar 09 7 May 09	8 May 09 7 Jul 09
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	Cesva CB-5 Acoustical Calibrator (Serial No. 030934)	28 Apr 09	28 Apr 10
5*		Cesva SC-20c Sound Level Meter (Serial No. T212509)	28 Apr 09	28 Apr 10
6	Water	YSI 55/12FT (Serial No. 97F0837)	18 Mar 09	19 Jun 09
7		Hanna pH Meter HI98107 (Serial No. S411364)	17 Mar 09	17 Jun 09
8*		Turbidimeter HACH 2100p (Serial No. 950900008735)	9 Mar 09	9 Jun 09
9		Hand refractometer ATAGO (Serial No. 289468)	21 Apr 09	21 Jul 09

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

CERTIFICATE OF ANALYSIS

Batch: HK0904487
Date of Issue: 24/03/2009
Client: ACTION UNITED ENVIRO SERVICES
Client Reference:

Calibration of Turbidity System

Item : HACH Turbidimeter

Model No. : HACH 2100P

Serial No. : 950900008735

Equipment No. : EQ091

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B

Date of Calibration : 09 March, 2009

Testing Results :

Expected Reading	Recording Reading
0.00 NTU	0.43 NTU
1 .00 NTU	0.91 NTU
2.00 NTU	2.01 NTU
4.00 NTU	4.10 NTU
16.0 NTU	16.6 NTU
40.0 NTU	40.4 NTU
80.0 NTU	79.4 NTU
160 NTU	159 NTU
400 NTU	409 NTU
600 NTU	642 NTU
800 NTU	858 NTU
Allowing Deviation	±10%

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tin Sam San Tsuen
Location ID : A10

Date of Calibration: 7-May-09
Next Calibration Date: 7-Jul-09
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1010.5	Corrected Pressure (mm Hg)	757.875
Temperature (^{o}C)	24.2	Temperature (K)	297

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.94872
Model->	515N	Qstd Intercept ->	0.00202
Serial # ->	9833620		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	4.6	4.6	9.2	1.555	51	51.07
13	3.2	3.2	6.4	1.297	42	42.05
10	2.6	2.6	5.2	1.169	33	33.04
7	2	2	4	1.025	25	25.03
5	1.2	1.2	2.4	0.794	14	14.02

LINEAR REGRESSION

Slope = 50.1622
Intercept = -25.5534
Corr. coeff. = 0.9945

Calculations :

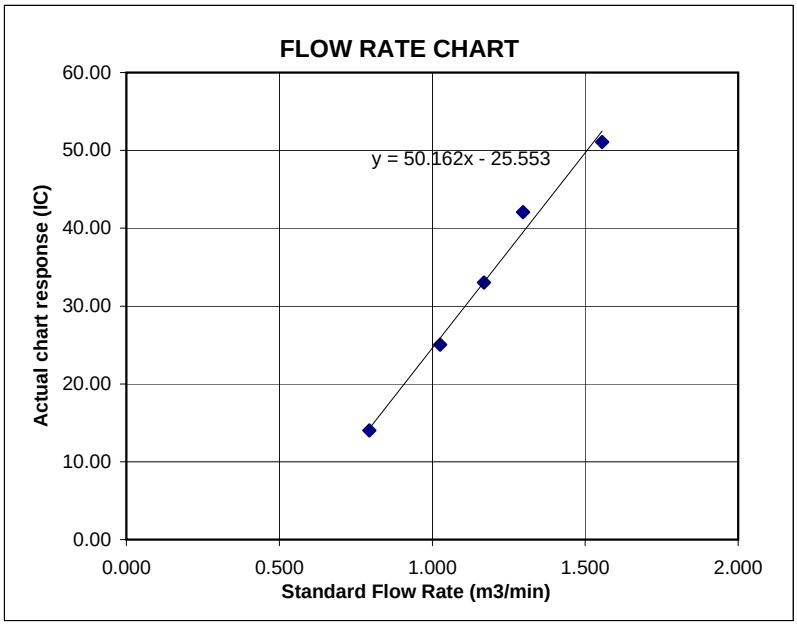
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

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



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092057

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Meter (EQ002)

Manufacturer : Cesva

Model No. : SC-20c

Serial No. : T212509

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C092057.

The equipment is supplied by

Co. Name : Action-United Environmental Services and Consulting

Address : Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

Date of Issue : 28 April 2009

Certified by : K C Lee

The test equipment used for calibration are traceable to the National Standards as specified in this report.

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C092057

Calibration Report

ITEM TESTED

DESCRIPTION : Sound Level Meter (EQ002)
MANUFACTURER : Cesva
MODEL NO. : SC-20c
SERIAL NO. : T212509

TEST CONDITIONS

AMBIENT TEMPERATURE : (23 ± 2)°C RELATIVE HUMIDITY : (55 ± 20)%
LINE VOLTAGE : ---

TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 27 April 2009 ***JOB NO.*** : IC09-0962

TEST RESULTS

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Tested by : *H C Chan* *Date : 28 April 2009*

Report No. : C092057

Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using external calibrator, Cesva CB-5, S/N : 030934 was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
L_F	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting			Applied Value		UUT Reading (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
L_F	A	F	94.00	1	94.1 (Ref.)
			104.00		104.2
			114.00		114.2

IEC 651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
L_F	A	F	94.00	1	94.1	Ref.
L_S		S			94.1	± 0.1

Report No. : C092057

Calibration Report

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Burst Duration		
L_F	A	F	106.00	Continuous	106.0	Ref.
L_F Maximum				200 ms	105.0	-1.0 ± 1.0
L_S		S		Continuous	106.0	Ref.
L_S Maximum				500 ms	102.1	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq.		
L_F	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
				63 Hz	68.0	-26.2 ± 1.5
				125 Hz	78.1	-16.1 ± 1.0
				500 Hz	91.0	-3.2 ± 1.0
				1 kHz	94.1	Ref.
				2 kHz	94.9	+1.2 ± 1.0
				4 kHz	93.5	+1.0 ± 1.0

6.3.2 C-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq.		
L_F	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
				63 Hz	93.4	-0.8 ± 1.5
				125 Hz	94.1	-0.2 ± 1.0
				500 Hz	94.2	0.0 ± 1.0
				1 kHz	94.1	Ref.
				2 kHz	93.6	-0.2 ± 1.0
				4 kHz	91.7	-0.8 ± 1.0

Report No. : C092057

Calibration Report

6.4 Time Averaging

UUT Setting			Applied Value					UUT	IEC 60804
Parameter	Freq. Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
L_{eq}	A	10 sec.	4	1	1/10	110.0	100	100.2	± 0.5
					$1/10^2$		90	90.2	± 0.5
		60 sec.			$1/10^3$		80	80.1	± 1.0
		5 min.			$1/10^4$		70	70.1	± 1.0

Remarks : - Mfr's Spec. : IEC 651 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB :	31.5 Hz - 125 Hz	: ± 0.35 dB
	500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz	: ± 0.35 dB
	4 kHz	: ± 0.35 dB
104 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092056

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Calibrator (EQ099)

Manufacturer : Cesva

Model No. : CB-5

Serial No. : 030934

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C092056.

The equipment is supplied by

Co. Name : Action-United Environmental Services and Consulting

Address : Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

Date of Issue : 28 April 2009

Certified by : K C Lee

The test equipment used for calibration are traceable to the National Standards as specified in this report.
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C092056

Calibration Report

ITEM TESTED

DESCRIPTION	:	Sound Level Calibrator (EQ099)
MANUFACTURER	:	Cesva
MODEL NO.	:	CB-5
SERIAL NO.	:	030934

TEST CONDITIONS

AMBIENT TEMPERATURE : (23 ± 2)°C RELATIVE HUMIDITY : (55 ± 20)%

LINE VOLTAGE : ---

TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 27 April 2009 ***JOB NO.*** : IC09-0962

TEST RESULTS

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by : *H C Chan* *Date : 28 April 2009*

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

Report No. : C092056

Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
TST150A	Measuring Amplifier	C080751
CL130	Universal Counter	C083083
CL281	Multifunction Acoustic Calibrator	DC090052

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2
104 dB, 1 kHz	103.9		± 0.3

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.989 5	1 kHz ± 1.5 %	± 0.1

Remark : - The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

APPENDIX G

IMPACT MONITORING SCHEDULES

Impact Monitoring Schedules in this Reporting Period

Date		Air Quality		Noise Leq 30min	Stream Water Quality	Ecology Surveys
		1-hour TSP	24-hour TSP			
26-Apr-09	Sum					
27-Apr-09	Mon		✓		✓	
28-Apr-09	Tue	✓		✓		
29-Apr-09	Wed				✓	
30-Apr-09	Thu					
1-May-09	Fri					
2-May-09	Sat					
3-May-09	Sun					
4-May-09	Mon				✓	
5-May-09	Tue		✓			
6-May-09	Wed	✓		✓	✓	
7-May-09	Thu					
8-May-09	Fri					
9-May-09	Sat					
10-May-09	Sun					
11-May-09	Mon		✓		✓	
12-May-09	Tue	✓		✓		
13-May-09	Wed				✓	
14-May-09	Thu					
15-May-09	Fri					
16-May-09	Sat		✓			
17-May-09	Sun					
18-May-09	Mon	✓		✓	✓	
19-May-09	Tue					
20-May-09	Wed				✓	
21-May-09	Thu					
22-May-09	Fri		✓			
23-May-09	Sat	✓		✓		
24-May-09	Sun					
25-May-09	Mon				✓	✓

✓	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedules in the Next Reporting Period

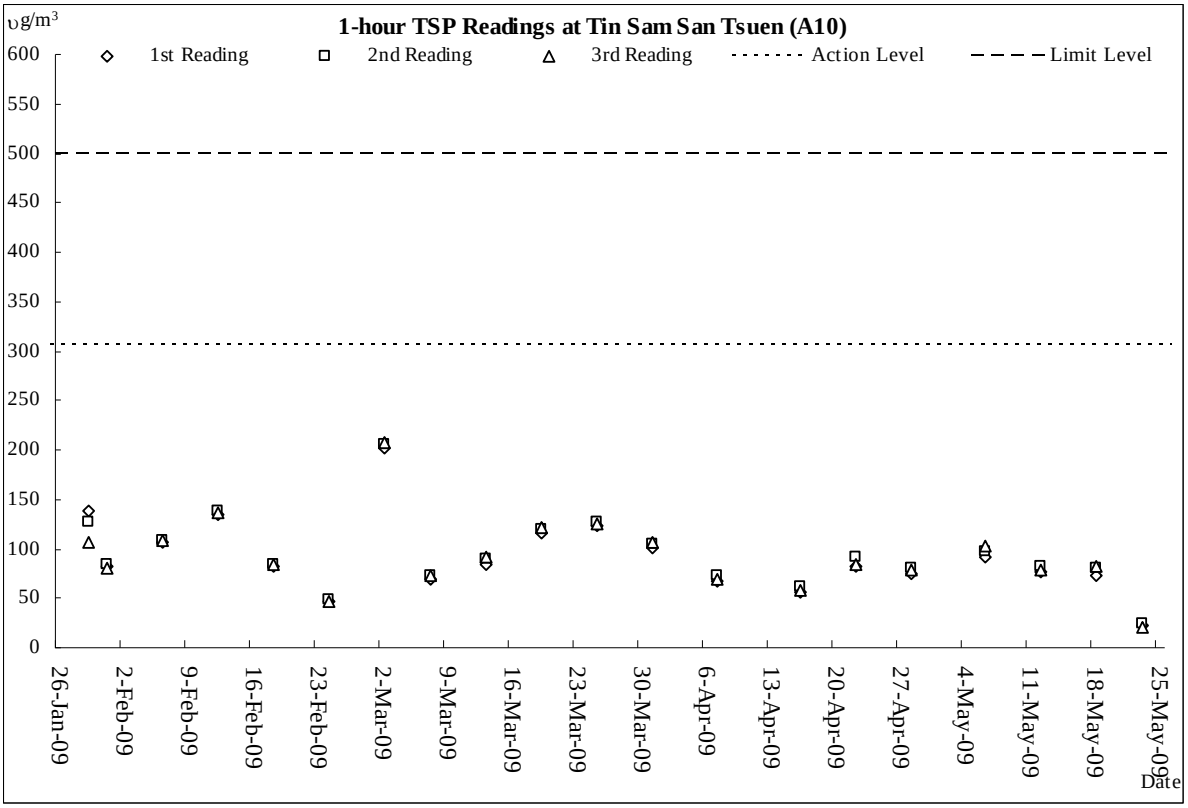
Date		Air Quality		NOISE LEQ 30MIN	WATER QUALITY	ECOLOGY SURVEYS
		1-Hr TSP	24-Hr TSP			
26-May-09	Tue					
27-May-09	Wed				✓	
28-May-09	Thu					
29-May-09	Fri		✓			
30-May-09	Sat	✓		✓		
31-May-09	Sun					
1-June-09	Mon				✓	
2-June-09	Tue					
3-June-09	Wed				✓	
4-June-09	Thu		✓			
5-June-09	Fri	✓		✓		
6-June-09	Sat					
7-June-09	Sun					
8-June-09	Mon				✓	
9-June-09	Tue					
10-June-09	Wed		✓		✓	
11-June-09	Thu	✓		✓		
12-June-09	Fri					
13-June-09	Sat					
14-June-09	Sun					
15-June-09	Mon				✓	
16-June-09	Tue		✓			
17-June-09	Wed	✓		✓	✓	
18-June-09	Thu					
19-June-09	Fri					
20-June-09	Sat					✓
21-June-09	Sun					
22-June-09	Mon		✓		✓	
23-June-09	Tue	✓		✓		
24-June-09	Wed				✓	
25-June-09	Thu					

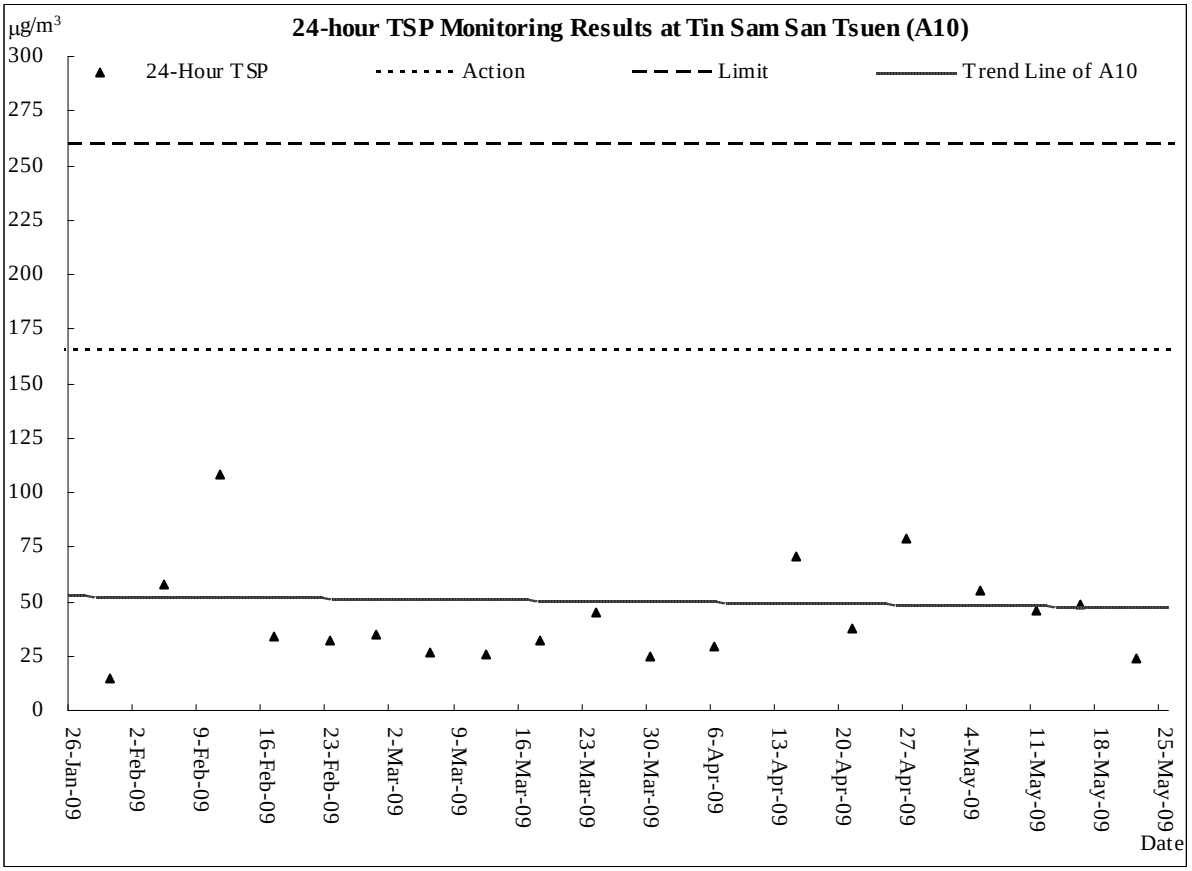
✓	Monitoring Day
	Sunday or Public Holiday

APPENDIX H

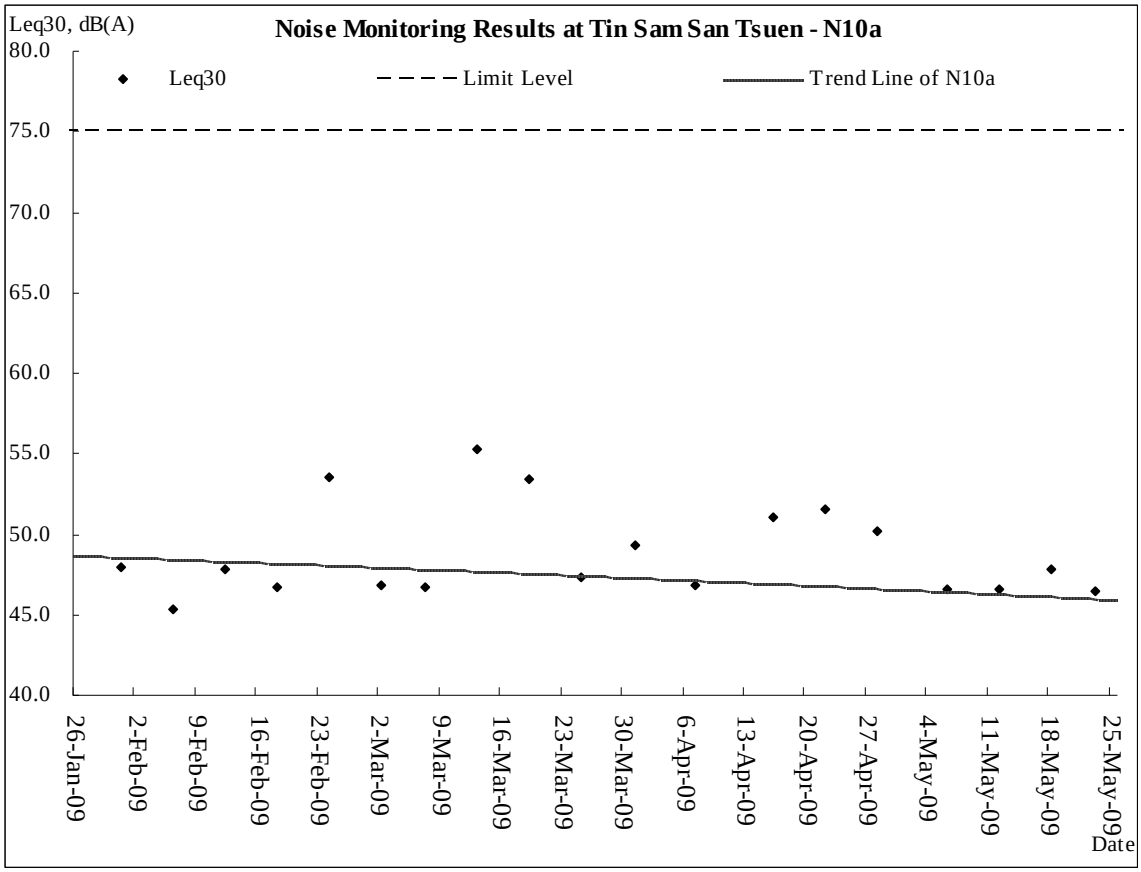
GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS

AIR QUALITY

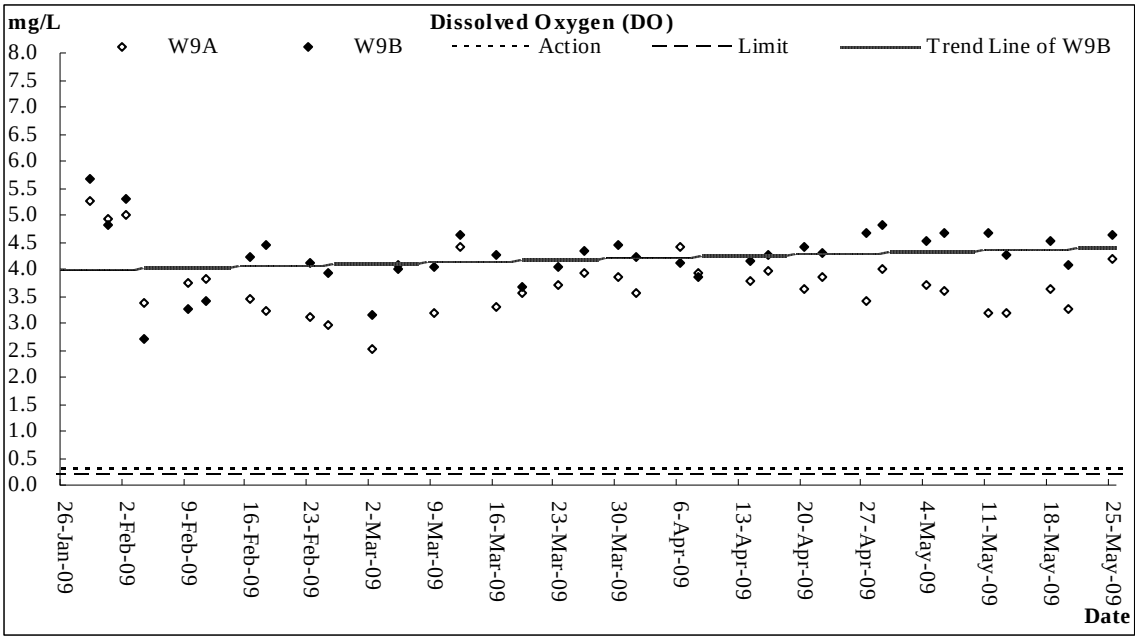

1-hour TSP Readings at Tin Sam San Tsuen (A10)
υg/m³
1st Reading
2nd Reading
3rd Reading
Action Level
Limit Level
600
550
500
450
400
350
300
250
200
150
100
50
0
26-Jan-09
2-Feb-09
9-Feb-09
16-Feb-09
23-Feb-09
2-Mar-09
9-Mar-09
16-Mar-09
23-Mar-09
30-Mar-09
6-Apr-09
13-Apr-09
20-Apr-09
27-Apr-09
4-May-09
11-May-09
18-May-09
25-May-09
Date

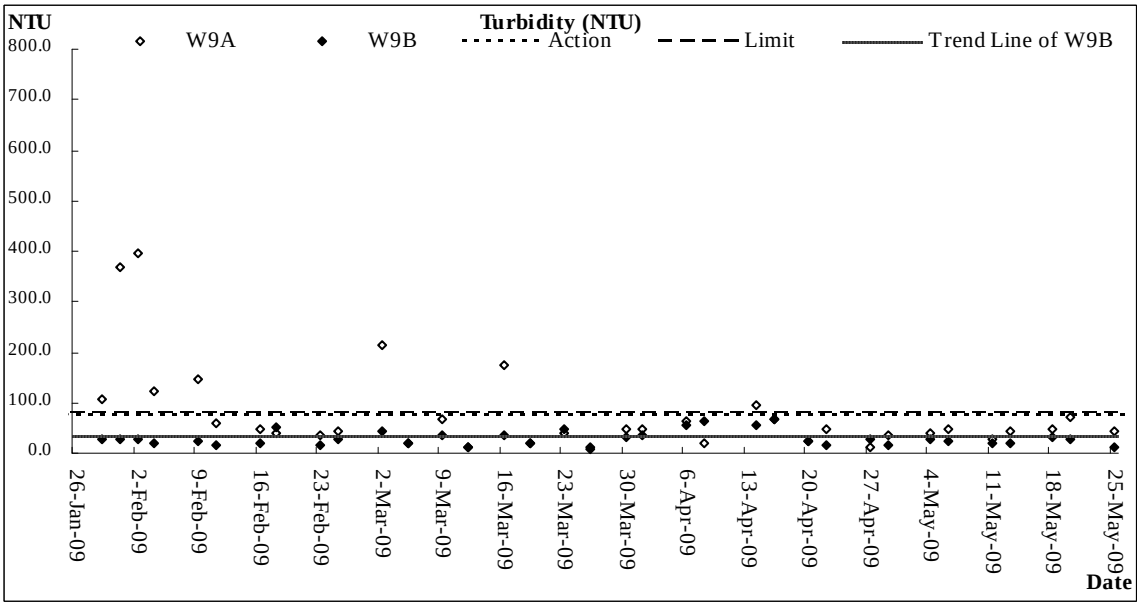

24-hour TSP Monitoring Results at Tin Sam San Tsuen (A10)
μg/m³
24-Hour TSP
Action
Limit
Trend Line of A10
300
275
250
225
200
175
150
125
100
75
50
25
0
26-Jan-09
2-Feb-09
9-Feb-09
16-Feb-09
23-Feb-09
2-Mar-09
9-Mar-09
16-Mar-09
23-Mar-09
30-Mar-09
6-Apr-09
13-Apr-09
20-Apr-09
27-Apr-09
4-May-09
11-May-09
18-May-09
25-May-09
Date

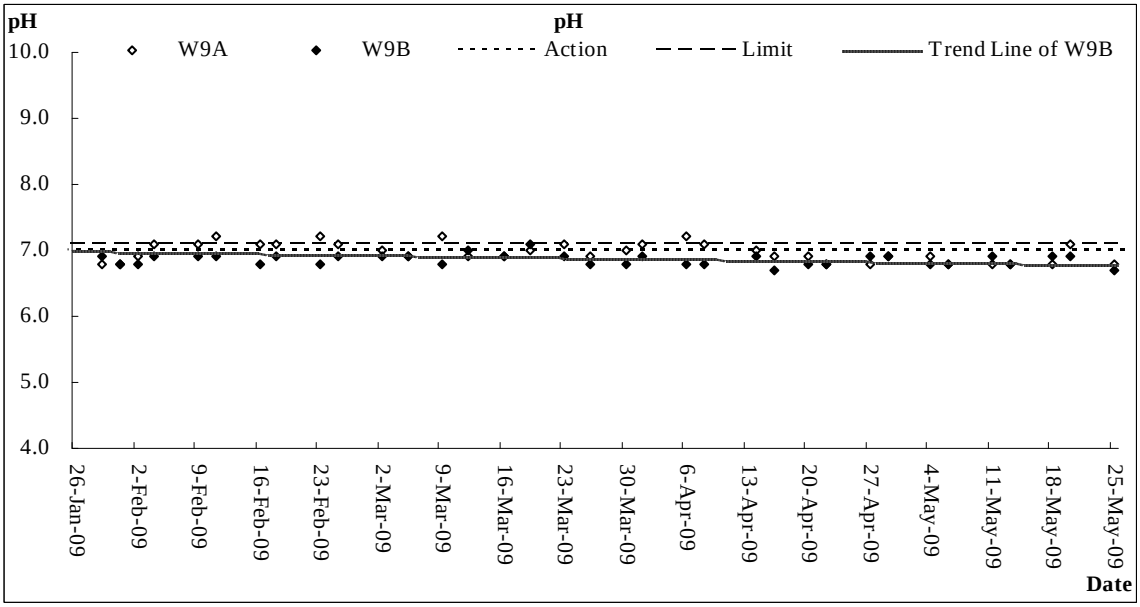
CONSTRUCTION NOISE

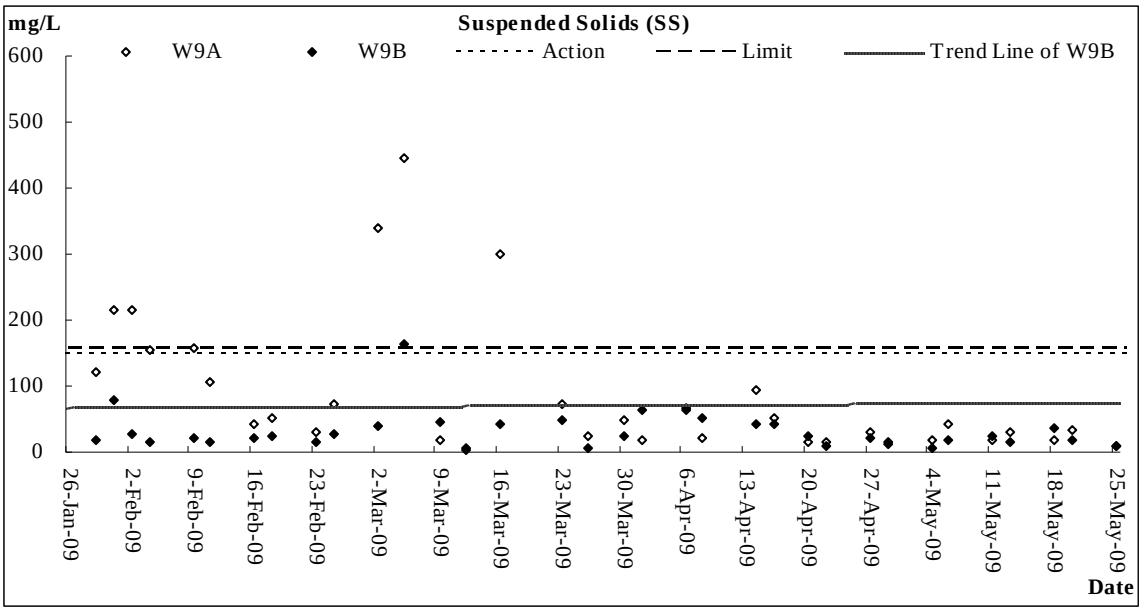


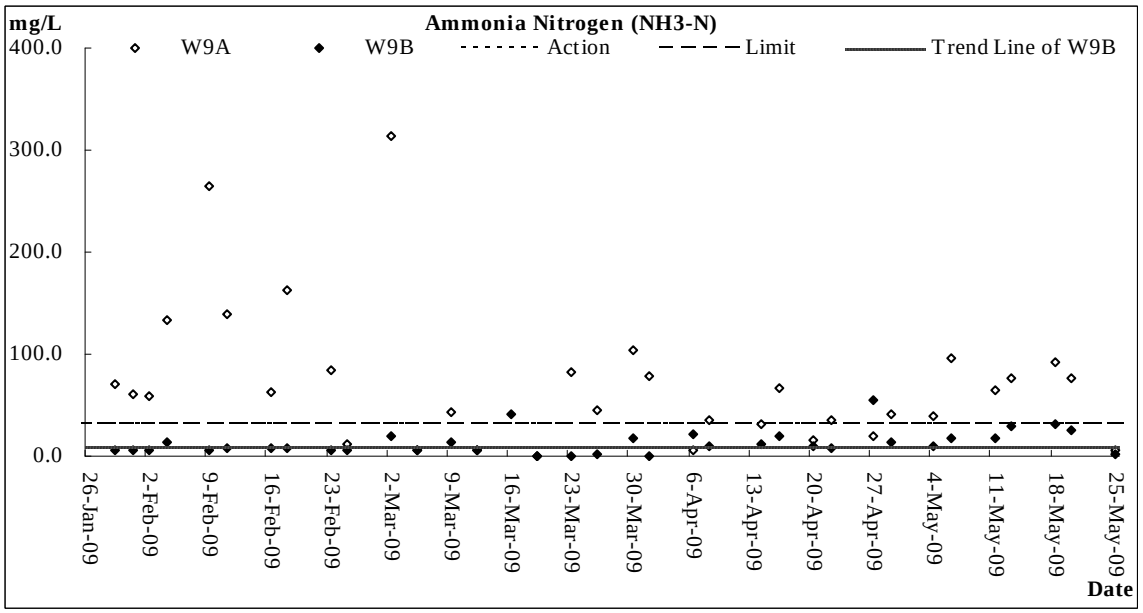
STREAM WATER QUALITY

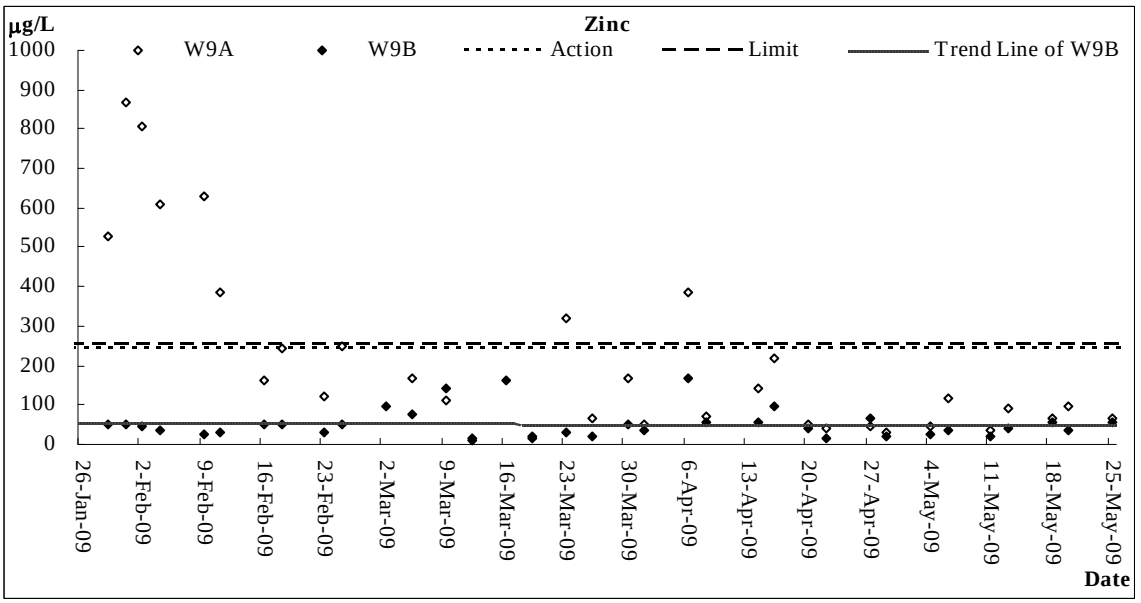







mg/L
Suspended Solids (SS)
W9A
W9B
Action
Limit
Trend Line of W9B
600
500
400
300
200
100
0
26-Jan-09
2-Feb-09
9-Feb-09
16-Feb-09
23-Feb-09
2-Mar-09
9-Mar-09
16-Mar-09
23-Mar-09
30-Mar-09
6-Apr-09
13-Apr-09
20-Apr-09
27-Apr-09
4-May-09
11-May-09
18-May-09
25-May-09
Date


mg/L
Ammonia Nitrogen (NH3-N)
W9A
W9B
Action
Limit
Trend Line of W9B
400.0
300.0
200.0
100.0
0.0
26-Jan-09
2-Feb-09
9-Feb-09
16-Feb-09
23-Feb-09
2-Mar-09
9-Mar-09
16-Mar-09
23-Mar-09
30-Mar-09
6-Apr-09
13-Apr-09
20-Apr-09
27-Apr-09
4-May-09
11-May-09
18-May-09
25-May-09
Date


µg/L
Zinc
W9A
W9B
Action
Limit
Trend Line of W9B
1000
900
800
700
600
500
400
300
200
100
0
26-Jan-09
2-Feb-09
9-Feb-09
16-Feb-09
23-Feb-09
2-Mar-09
9-Mar-09
16-Mar-09
23-Mar-09
30-Mar-09
6-Apr-09
13-Apr-09
20-Apr-09
27-Apr-09
4-May-09
11-May-09
18-May-09
25-May-09
Date

Date	27-Apr-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:50	0.12	23.3	23.3	3.36	3.40	45.7	46.1	10.9	11.2	0	0.0	6.80	6.80	30.0	20.0	47.0
			23.3		3.43		46.4		11.4		0		6.80				
W9B	10:00	0.22	23.6	23.6	4.71	4.69	50.6	50.2	26.9	26.1	0	0.0	6.90	6.90	20.0	54.6	64.0
			23.6		4.66		49.8		25.2		0		6.90				

Date	29-Apr-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	14:20	0.14	23.1	23.1	4.06	4.02	42.9	42.3	35.9	35.7	0	0.0	6.90	6.90	11.0	41.2	28.0
			23.1		3.97		41.7		35.4		0		6.90				
W9B	14:30	0.21	23.8	23.8	4.84	4.82	50.8	50.5	17.3	17.0	0	0.0	6.90	6.90	14.0	14.5	22.0
			23.8		4.8		50.2		16.7		0		6.90				

Date	4-May-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:20	0.14	23.4	23.4	3.73	3.72	39.4	39.2	38.2	37.9	0	0.0	6.90	6.90	17.0	40.1	48.0
			23.4		3.7		39.0		37.5		0		6.90				
W9B	09:30	0.19	24.2	24.2	4.54	4.52	47.9	47.6	27.4	27.1	0	0.0	6.80	6.80	6.0	9.9	27.0
			24.2		4.5		47.2		26.7		0		6.80				

Date	6-May-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:25	0.15	23.7	23.7	3.61	3.58	39.2	38.8	48.3	47.8	0	0.0	6.80	6.80	42.0	96.2	118.0
			23.7		3.54		38.4		47.2		0		6.80				
W9B	09:35	0.26	24.3	24.3	4.71	4.68	50.3	49.8	25.1	24.8	0	0.0	6.80	6.80	17.0	18.1	37.0
			24.3		4.64		49.2		24.4		0		6.80				

Date	11-May-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:25	0.13	24.3	24.3	3.16	3.18	33.6	33.9	27.4	27.1	0	0.0	6.80	6.80	19.0	63.9	38.0
			24.3		3.2		34.2		26.8		0		6.80				
W9B	09:35	0.22	24.7	24.7	4.64	4.68	48.6	49.1	18.4	18.3	0	0.0	6.90	6.90	24.0	16.7	22.0
			24.7		4.71		49.5		18.2		0		6.90				

Date	13-May-09																			
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:10	0.14	26.8	26.8	3.23	3.20	34.2	33.8	43.8	43.1	0	0.0	6.80	6.80	31.0	76.4	92.0
			26.8		3.17		33.4		42.4		0		6.80				
W9B	09:20	0.19	27.3	27.3	4.28	4.25	44.7	44.4	20.3	20.2	0	0.0	6.80	6.80	16.0	29.4	42.0
			27.3		4.21		44.0		20.1		0		6.80				

Date	18-May-09																		
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	10:00	0.12	27.4	27.4	3.64	3.63	39.1	38.9	49.6	49.4	0	0.0	6.80	6.80	19.0	92.7	64.0
			27.4		3.62		38.7		49.1		0		6.80				
W9B	10:10	0.18	28.2	28.2	4.48	4.53	46.7	47.3	31.3	31.2	0	0.0	6.90	6.90	35.0	31.6	55.0
			28.2		4.57		47.9		31.0		0		6.90				

Date	20-May-09																		
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:45	0.13	26.1	26.1	3.28	3.25	34.8	34.5	72.4	71.3	0	0.0	7.10	7.10	33.0	76.2	97.0
			26.1		3.22		34.1		70.1		0		7.10				
W9B	09:55	0.17	26.6	26.6	4.06	4.08	43.4	43.7	26.8	26.4	0	0.0	6.90	6.90	18.0	24.6	35.0
			26.6		4.1		44.0		26.0		0		6.90				

Date	25-May-09																		
Location	**Time**	**Depth (m)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**Salinity**		**pH**		**SS**	**NH3-N**	**Zinc**
W9A	09:15	0.16	24.5	24.5	4.22	4.19	44.8	44.4	42.3	41.9	0	0.0	6.80	6.80	10.0	5.2	66.0
			24.5		4.15		44.0		41.5		0		6.80				
W9B	09:25	0.20	24.3	24.3	4.64	4.62	48.9	48.6	12.6	12.4	0	0.0	6.70	6.70	10.0	2.2	54.0
			24.3		4.6		48.3		12.1		0		6.70				

APPENDIX I

METEOROLOGICAL DATA IN THE REPORTING PERIOD

Meteorological Data Extracted from HKO in the Reporting Period

Date		Weather		Lau Fau Shan Weather Station			
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
26-Apr-09	Sun	cloudy/sunny intervals/moderate/fresh	4.5	19	11	87	E/SE
27-Apr-09	Mon	sunny periods/cloudy/moderate/fresh	0	22.7	15.2	67	E/NE
28-Apr-09	Tue	fine/dry/fresh/strong	0	23.3	19.5	48.5	E
29-Apr-09	Wed	sunny periods/cloudy/moderate/fresh	0	23.2	16.2	44	E/SE
30-Apr-09	Thu	cloudy/sunny peniods/moderate/fresh	Trace	24.3	17	61	E
1-May-09	Fri	Holiday					
2-May-09	Sat	Holiday					
3-May-09	Sun	Holiday					
4-May-09	Mon	cloudy/sunny periods/moderate	0.3	25.1	12.5	71	E
5-May-09	Tue	fine/dry/moderate/fresh	0	24.9	11.2	66	E/NE
6-May-09	Wed	fine/dry/moderate/fresh	0	24.5	13	59	E/NE
7-May-09	Thu	sunny/very dry/fine/moderate/fresh	0	24.6	15	45.7	E
8-May-09	Fri	fine/dry/moderate/fresh	0	25.2	12	49.7	E/SE
9-May-09	Sat	fine/dry/cloudy/moderate	Trace	25.4	12.5	65	E/NE
10-May-09	Sun	cloudy/sunny periods/showers/inderate	Trace	27.2	11.5	67.2	E/SE
11-May-09	Mon	sunny periods/cloudy/moderate	0	26.8	6	76.5	E/NE
12-May-09	Tue	fine/hot/light winds	0	26.6	12.5	75.5	S/SE
13-May-09	Wed	fine/hot/cloudy/light winds/moderate	Trace	27.4	13	74.5	S/SE
14-May-09	Thu	cloudy/sunny intervals/fresh	T	27.3	15	69.3	E/SE
15-May-09	Fri	sunny periods/cloudy/moderate	0	27.6	10.5	69	E/NE
16-May-09	Sat	cloudy/rain/moderate/	0.1	26.4	11.5	65	S/SE
17-May-09	Sun	sunny periods/a few showers/moderate	0.2	28.3	14	78	W/SW
18-May-09	Mon	sunny periods/hot/moderate	0	29.6	10.5	79.5	W/SW
19-May-09	Tue	cloudy/showers/sunny periods/moderate	0.3	30.3	14.5	67	S/SE
20-May-09	Wed	cloudy/showers/sunny periods/moderate	10.9	26.9	19.5	79.5	S/SE
21-May-09	Thu	sunny intervals/shower/squally thunderstorn/moderate	1.4	27.5	3	83	E/SE
22-May-09	Fri	cloudy/a few showers/squally thunderstorm/moderate	2.3	28.8	12.7	73.5	E/NE
23-May-09	Sat	overcast/rain/squally thunderstorm/fresh/strong	62.3	25.2	16.5	76.2	E/NE
24-May-09	Sun	cloudy/showers/squally thunderstorm/showers/strong	61.2	24.8	18.5	91.7	E/NE
25-May-09	Mon	showers/squally thunderstorm/showers/fresh	29.8	25.5	18.5	87	E/NE

APPENDIX J

ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS

Environmental Site Inspection Checklist for KT15

AUES

Project:	**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**	**Inspected by**	
		RE/RE's representative:	K. P. Cheung
Inspection		**IEC/IEC's representative:**	-
Date:	30 April 2009	**ETL/ ET's representative:**	Ben Tam
Time:	11:00	**Contractor's representative:**	M.K. Ng
		Checklist No.	KT15-300409

PART A: GENERAL INFORMATION **Environmental Permit No. EP-231/2005/A**

Weather: ☑ Sunny ☐ Fine ☐ Cloudy ☐ Rainy

Temperature: 25 ^{0}C

Humidity: ☐ High ☑ Moderate ☐ Low

Wind: ☐ Strong ☐ Breeze ☑ Light ☐ Calm

PART B: SITE AUDIT

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

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
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.	☐	☑	☐	☐	☐	
1.25	No excavation is undertaken in the settlement area.	☐	☑	☐	☐	☐	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☑	☐	☐	☐	☐	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.	☐	☑	☐	☐	☐	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☐	☑	☐	☐	Remarks 1
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	☐	☑	☐	☐	☐	
2.03	Are the excavated materials sprayed with water during handling?	☐	☑	☐	☐	☐	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	☐	☑	☐	☐	☐	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	☐	☑	☐	☐	☐	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☑	☐	☐	☐	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	☐	☑	☐	☐	☐	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	☐	☑	☐	☐	☐	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	☐	☑	☐	☐	☐	
2.11	Is dark smoke emission from plant/equipment avoided?	☐	☑	☐	☐	☐	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	☑	☐	☐	☐	☐	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	☐	☑	☐	☐	☐	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	☐	☑	☐	☐	☐	
2.15	Is open burning avoided?	☐	☑	☐	☐	☐	
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.	☑	☐	☐	☐	☐	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition?	☐	☑	☐	☐	☐	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	☐	☑	☐	☐	☐	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	☑	☐	☐	☐	☐	

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

		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.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 6: Ecology							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?	☐	☑	☐	☐	☐	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

Remarks

Follow-Up of Last Site Inspection (24 April 2009):

C&D waste scattered over at Ch.250 has been removed.

Finding of Site Inspection on 30 April 2009:

1. Stagnant water was cumulated in the un-used sedimentation tank (Ch.200), the Contractor shall pump the water out to prevent mosquito breeding especially in wet season.

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

Environmental Site Inspection Checklist for KT15

AUES

Project:	**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**	**Inspected by**	
		RE/RE's representative:	Mr. Cheung
Inspection		**IEC/IEC's representative:**	-
Date:	06 May 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	14:00	**Contractor's representative:**	M. K. Ng
		Checklist No.	KT15-060509

PART A: GENERAL INFORMATION **Environmental Permit No. EP-231/2005/A**

Weather: ☑ Sunny ☐ Fine ☐ Cloudy ☐ Rainy

Temperature: 25.0 ^{0}C

Humidity: ☐ High ☑ Moderate ☐ Low

Wind: ☐ Strong ☐ Breeze ☑ Light ☐ Calm

PART B: SITE AUDIT

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

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

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

		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.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 6: Ecology							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?	☐	☑	☐	☐	☐	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

Remarks

Follow-Up of Last Site Inspection (30 April 2009):

Stagnant water at the un-used de-silting tank at Ch. 200 was removed.

Finding of Site Inspection on 06 May 2009:

1. The weeds accumulated in Bay 1 should be removed in order to maintain the site clean and tidy.

2. The stagnant water accumulated in Bay 2 should be drained away or applied larvicidal oil to prevent mosquitoes breeding.

RE's representative	IEC's representative	ET's representative	Contractor's representative
(K P CHEUNG)	( )	(Nicola Hon)	(W K Ng)

Environmental Site Inspection Checklist for KT15

AUES

Project:	**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**	**Inspected by**	
		RE/RE's representative:	Mr. Cheung
Inspection		**IEC/IEC's representative:**	-
Date:	13 May 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	14:00	**Contractor's representative:**	M. K. Ng
		Checklist No.	KT15-130509

PART A: GENERAL INFORMATION **Environmental Permit No. EP-231/2005/A**

Weather:	☑ Sunny	☐ Fine	☐ Cloudy	☐ Rainy
Temperature:	26.0 ^{0}C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ Light	☐ Calm

PART B: SITE AUDIT

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

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

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

		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.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 6: Ecology							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?	☐	☑	☐	☐	☐	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

Remarks

Follow-Up of Last Site Inspection (6 May 2009):

1. The weeds accumulated in Bay 1 have been removed.

2. The stagnant water accumulated in Bay 2 has been drained away.

Finding of Site Inspection on 13 May 2009:

House keeping practice between Ch. 500 to Ch 650 shall be enhanced at Channel KT15.

RE's representative	IEC's representative	ET's representative	Contractor's representative
(EP CHEUNG)	( )	(Nicola Hon)	( )

Environmental Site Inspection Checklist for KT15

AUES

Project:	**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**	**Inspected by**	
		RE/RE's representative:	Mr. Cheung
Inspection		**IEC/IEC's representative:**	Cyrus Lau
Date:	20 May 2009	**ETL/ ET's representative:**	Nicola Hon
Time:	15:00	**Contractor's representative:**	M. K. Ng
		Checklist No.	KT15-200509

PART A: GENERAL INFORMATION **Environmental Permit No. EP-231/2005/A**

Weather: ☑ Sunny ☐ Fine ☐ Cloudy ☐ Rainy

Temperature: 27.5 ^{0}C

Humidity: ☐ High ☑ Moderate ☐ Low

Wind: ☐ Strong ☐ Breeze ☑ Light ☐ Calm

PART B: SITE AUDIT

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

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.22	Are the oil interceptors/grease traps maintained properly?	☐	☐	☐	☐	☑	
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
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.	☐	☑	☐	☐	☐	
1.25	No excavation is undertaken in the settlement area.	☐	☑	☐	☐	☐	
1.26	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	☑	☐	☐	☐	☐	
1.27	Mobile toilets should provide on site and located away the KT15 stream course.	☐	☑	☐	☐	☐	
1.28	License collector should be employed for handling the sewage of mobile toilet.	☐	☑	☐	☐	☐	
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.	☐	☐	☐	☑	☐	Remarks 1
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☑	☐	☐	☐	
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	☐	☑	☐	☐	☐	
2.03	Are the excavated materials sprayed with water during handling?	☐	☑	☐	☐	☐	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	☐	☐	☐	☑	☐	Remarks 2
2.05	Is the exposed earth properly treated within six months after the last construction activities?	☐	☑	☐	☐	☐	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	☐	☑	☐	☐	☐	
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☑	☐	☐	☐	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	☐	☑	☐	☐	☐	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	☐	☑	☐	☐	☐	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	☐	☑	☐	☐	☐	
2.11	Is dark smoke emission from plant/equipment avoided?	☐	☑	☐	☐	☐	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	☑	☐	☐	☐	☐	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	☐	☑	☐	☐	☐	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	☐	☑	☐	☐	☐	
2.15	Is open burning avoided?	☐	☑	☐	☐	☐	
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.	☑	☐	☐	☐	☐	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition?	☐	☑	☐	☐	☐	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	☐	☑	☐	☐	☐	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	☑	☐	☐	☐	☐	

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

		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.	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☐	☑	☐	☐	☐	
Section 6: Ecology							
6.01	Gabion banks and base had been provide for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Prevent site effluent/runoff discharge to the seasonal wetlands at KT15?	☐	☑	☐	☐	☐	
6.03	Stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 are prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

Remarks

Follow-Up of Last Site Inspection (13 May 2009)

House keeping practice between Ch. 500 to Ch. 650 has been improved at Channel KT15.

Finding of Site Inspection on 20 May 2009:

1. The stagnant water accumulated in Ch.500 should be drained away or applied larvicidal oil to prevent mosquitoes breeding.

2. The gravel stockpile on the site (Ch.520) should be covered with tarpaulin sheet in order to minimize dust nuisance.

RE's representative	IEC's representative	ET's representative	Contractor's representative
(E P Cheung)	(Cyrus Lau)	(Nicola Hon)	(W K W)

AECOM

Environmental Site Inspection Checklist for KT15

Project:	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	**Inspected by**	
		RE's representative:	Joe Chan, K.P. Cheung
Inspection		**IEC's representative:**	Cyrus Lam
Date:	20-5-2009.	**ET's representative:**	Nida Hon
Time:	2:30 pm	**Contractor's representative:**	Chas Ho K.h.
		Checklist No.	/

PART A: GENERAL INFORMATION — **Environmental Permit No. EP-231/2005/A**

Weather:	☐ Sunny	☐ Fine	☑ Cloudy	☐ Rainy
Temperature:	29 °C			
Humidity:	☐ High	☐ Moderate	☑ Low	
Wind:	☐ Strong	☑ Breeze	☐ Light	☐ Calm

PART B: SITE AUDIT

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

Environmental Site Inspection Checklist for KT15

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?	☐	☐	☐	☐	☑	
1.24	Is designated settlement area for runoff / wheel wash water provided and located at the streambed with 1-2m deep, 12m long and around 50m^3 capacities for sedimentation?	☐	☑	☐	☐	☐	
1.25	Is excavation prohibited in the settlement area?	☐	☑	☐	☐	☐	
1.26	Is concreting wastes water neutralized below the pH Action Levels before discharge?	☑	☐	☐	☐	☐	
1.27	Are mobile toilets provided on site and located away from the KT15 stream course?	☐	☑	☐	☐	☐	
1.25	Is License collector employed for handling the sewage of mobile toilet?	☐	☑	☐	☐	☐	
Section 2: Air Quality							
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?	☐	☐	☐	☑	☐	Remark ②
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?	☐	☐	☐	☑	☐	Remark ②
2.03	Are the excavated materials sprayed with water during handling?	☑	☐	☐	☐	☐	
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	☐	☑	☐	☐	☐	
2.05	Is the exposed earth properly treated within six months after the last construction activities?	☐	☑	☐	☐	☐	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	☐	☐	☐	☑	☐	Remark ②
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	☐	☑	☐	☐	☐	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?	☐	☑	☐	☐	☐	
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?	☐	☑	☐	☐	☐	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?	☐	☐	☐	☑	☐	Remark ②
2.11	Is dark smoke emission from plant/equipment avoided?	☐	☑	☐	☐	☐	
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	☑	☐	☐	☐	☐	
2.13	Are site vehicles travelling within the speed limit not more than 15km/hour?	☐	☑	☐	☐	☐	
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?	☐	☑	☐	☐	☐	
2.15	Is open burning avoided?	☐	☑	☐	☐	☐	
2.16	Are excavated materials from the stream removed form site on the same day and be stored in covered impermeable skips while awaiting removal from site?	☐	☑	☐	☐	☐	
Section 3: Noise							
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	☐	☑	☐	☐	☐	
3.02	Is silenced equipment adopted?	☐	☑	☐	☐	☐	
3.03	Is idle equipment turned off or throttled down?	☐	☑	☐	☐	☐	
3.04	Are all plant and equipment well maintained and in good condition?	☐	☑	☐	☐	☐	
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	☑	☐	☐	☐	☐	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?	☑	☐	☐	☐	☐	
3.07	Are air compressors fitted with valid noise emission labels during operation?	☑	☐	☐	☐	☐	
3.08	Are flaps and panels of mechanical equipment closed during operation?	☐	☑	☐	☐	☐	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?	☐	☐	☐	☐	☑	

Environmental Site Inspection Checklist for KT15

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	☐	☐	☐	☐	☑	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?	☐	☐	☐	☐	☑	
3.12	Is quiet plant used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures)?	☐	☑	☐	☐	☐	
3.13	Are temporary / moveable noise barrier or site hoarding provided or erected at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments be shielded by the noise barrier which cannot be visible from NSRs (Level 2 mitigation measure)?	☑	☐	☐	☐	☐	
3.14	Are temporary / moveable noise barrier equal to or more than 3m height with 10kg/m² provided for noise mitigation measures (Level 2 mitigation measures)?	☑	☐	☐	☐	☐	
Section 4: Waste/Chemical Management							
4.01	Is the Waste Management Plan submitted to Engineer for approval?	☐	☑	☐	☐	☐	
4.02	Are receptacles available for general refuse collection?	☐	☑	☐	☐	☐	
4.03	Is general refuse sorting or recycling implemented?	☐	☑	☐	☐	☐	
4.04	Is general refuse disposed of properly and regularly?	☐	☑	☐	☐	☐	
4.05	Is the Contractor registered as a chemical waste producer?	☐	☑	☐	☐	☐	
4.06	Are the chemical waste containers properly labelled?	☑	☐	☐	☐	☐	
4.07	Are the chemical wastes stored in proper storage areas?	☐	☑	☐	☐	☐	
4.08	Is the chemical waste storage area properly labelled?	☐	☑	☐	☐	☐	
4.09	Is the chemical waste storage area used for storage of chemical waste only?	☐	☑	☐	☐	☐	
4.10	Are incompatible chemical wastes stored in different areas?	☐	☑	☐	☐	☐	
4.11	Are the chemical wastes disposed of by licensed collectors?	☐	☑	☐	☐	☐	
4.12	Are trip tickets for chemical wastes disposal available for inspection?	☐	☑	☐	☐	☐	
4.13	Are chemical/fuel storage areas bunded?	☐	☑	☐	☐	☐	
4.14	Are designated areas identified for storage and sorting of construction wastes?	☐	☑	☐	☐	☐	
4.15	Are construction wastes sorted (inert and non-inert) on site?	☐	☑	☐	☐	☐	
4.16	Are construction wastes reused?	☐	☑	☐	☐	☐	
4.17	Are construction wastes disposed of properly?	☐	☑	☐	☐	☐	
4.18	Are site hoardings and signboards made of durable materials instead of timber?	☐	☑	☐	☐	☐	
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	☐	☑	☐	☐	☐	
4.20	Are appropriate procedures followed if contaminated material exists?	☐	☑	☐	☐	☐	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	☐	☑	☐	☐	☐	
4.22	Is site cleanliness and appropriate waste management training provided for the site workers?	☐	☑	☐	☐	☐	
4.23	Are contaminated sediments managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002?	☐	☑	☐	☐	☐	
Section 5: Landscape & Visual							
5.01	Are retained and transplanted trees in health condition?	☐	☑	☐	☐	☐	

Environmental Site Inspection Checklist for KT15

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
5.02	Are retained and transplanted trees properly protected?	☐	☑	☐	☐	☐	
5.03	Are surgery works carried out for the damaged trees?	☑	☐	☐	☐	☐	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	☐	☑	☐	☐	☐	
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?	☑	☐	☐	☐	☐	
Section 6: Ecology							
6.01	Are gabion banks and base provided for channel linings and banks for typical sections of KT15?	☐	☑	☐	☐	☐	
6.02	Is site effluent/runoff discharge to the seasonal wetlands at KT15 prevented?	☐	☑	☐	☐	☐	
6.03	Are stockpiling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 prohibited?	☐	☑	☐	☐	☐	
Section 7: Others							
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?	☐	☑	☐	☐	☐	

< Follow up observations >:

① Sedimentation tank at Chainage 200 was not observed. (closed).

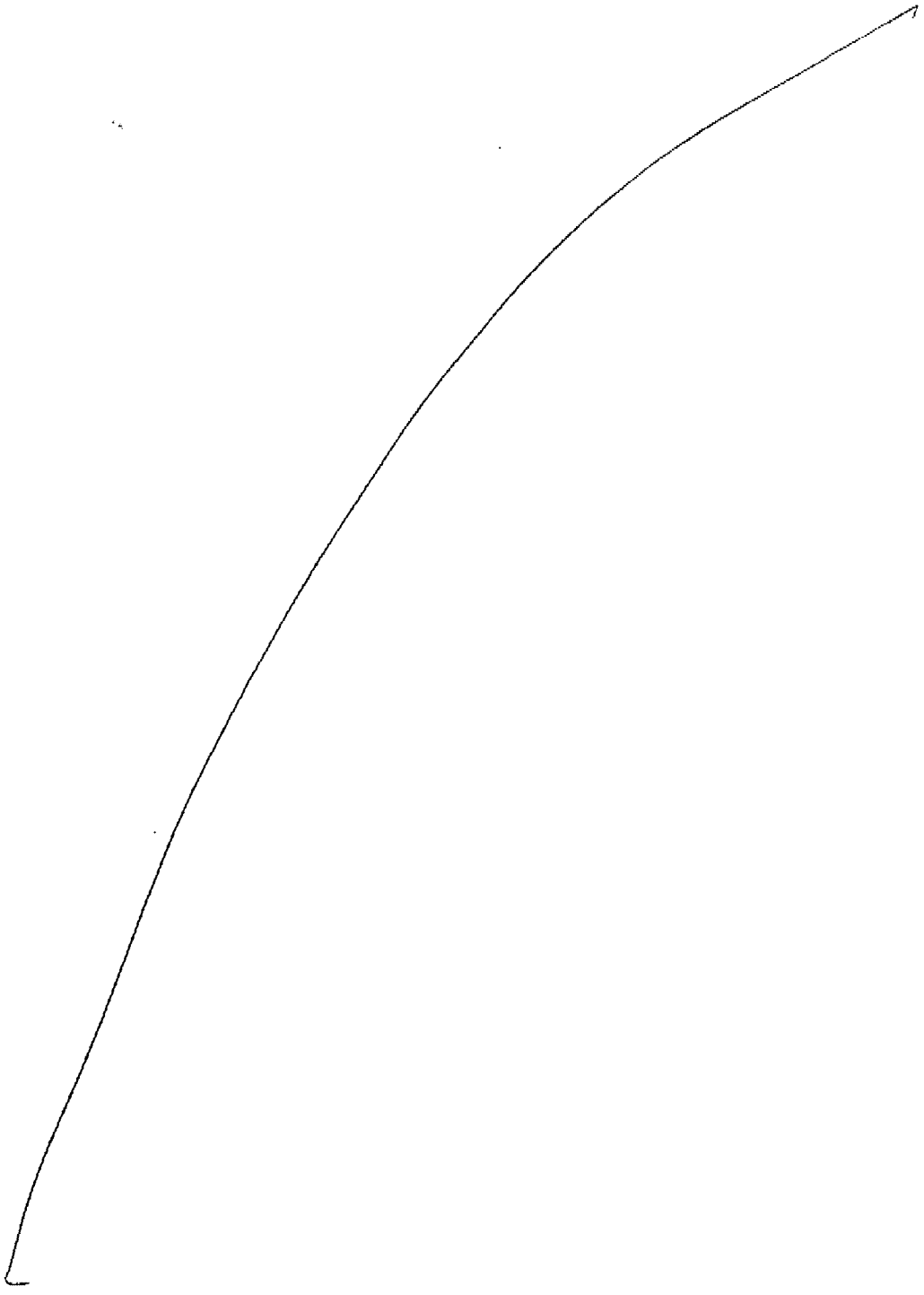
< New observations >:

② Wheel washing facilities shall be provided at all site exit to remove any silt deposited on vehicals' bodies & wheels.

③ Water spraying by water trucks should be provided on haul roads frequently to minimize the fugitive dust emission.

Environmental Site Inspection Checklist for KT15

Remarks



RE's representative	*IEC's representative*	*ET's representative*	*Contractor's representative*
(Joe Chan)	(Cyrus Law)	( )	( )

APPENDIX K

RESPONSE TO COMMENTS

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 May 2009 (R1321 Version 2) submit on
Response to IEC's comments [Received from e-mail on 10 June 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	Table 7-1	There is typo found in the table: ● For 20-May-2009 Findings/Deficiencies item no. 4, it should be "any silt deposited on vehicles' bodies **and** wheels." Please check and update the table accordingly.	The typo is noted and revised.
2	Section 11.07	There are typos found in the text: ● There are **8 observations** recorded during the reporting period. ● For item no. 7, it should be "any silt deposited on vehicles' bodies **and** wheels." Please check and update the text accordingly.	The typo is noted and revised.
3	Appendix F	Please update the table with provision of the serial number for the following equipment: ● Greasby Anderson GMWS2310 HVS ● Cerva CB-5 Acoustical Calibrator and Cesva SC-20c SLM Please provide the full calibration report of the sound level calibrator and sound level meter to demonstrate the fulfillment of the requirement.	The table is updated and the full calibration reports are enclosed in Appendix F.
4	Appendix J	In site inspection checklist on 06-May-09 the follow-up session, there is a typo in the text. It should be "the **un-used** de-silting tank..". Please check and revise the items accordingly.	Revised.
5	Appendix K	There is a typo in the RTC item no. 2. It should be "it was observed on 25 May 2009 **during** site audit."	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 Summary Report for May 2009 (R1321 Version 1) submit on
Response to IEC's comments [Received from e-mail on 8 June 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	ES05./Table 2-1/Table 6-3	Please update the table with fully showing the information listed in the table. -	Done.
2	ES14.	● Please add the date of the observations recorded during site audit as for easy reference. ● Please rewrite the last sentence as "…the non-compliance in wetland dependent birds and fauna..".	● It was observed on 25 May 2009 during site audit. ● Done.
3	Table 4-2/ Section 4.20/ Appendix F	Please keep consistency of the model number of the D.O. meter employed during the reporting period.	Checked and revised.
4	Table 5.4/ Appendix H	● The measured ammonia nitrogen recorded at W9B on 27-Apr-09 shall be bolded and underlined as it exceeds the Limit Level. ● According to the data set listed in Appendix H, the measured D.O. value at W9B on13-May-09 should be rounded off as 4.3 Please revise and update the captioned table.	Table 5-4 has been revised.
5	Section 5.09/ Table 5-5	● The total sum of individual recorded on 25 May 2009 shall be 59. Please check and revise it. ● Please check and revise the content. Zero wetland bird species with abundance from the baseline shall be recorded. ● The date of ecology impact monitoring survey shall be conducted on 25 May 2009.	Checked and revised.
6	Section 5.11	Please add the date of the findings as for easy reference. Please rewrite the last sentence as "…the non-compliance in wetland dependent birds and fauna were not caused by the project."	Done.

Items	Section / Paragraph	Comments	Response to Comments
7	Table 7-1	There are typos found in the table: ● For 30-Apr-2009 Follow-up Status, it should be "…the un-used de-silting tank.." ● For 6-May-2009 Findings/Deficiencies, it should be "..larvicidal oil.." ● For 20-May-2009 Findings/Deficiencies item no. 1, it should be "..drained away or.." ● For 20-May-2009 Findings/Deficiencies item no. 4, it should be "any silt deposited on vehicles' bodies and wheels." Please check and update the table accordingly.	The typos were noted and revised.
8	Section 11.07	There are typos found in the text: ● There are 8 observations recorded during the reporting period. ● For item no. 3, it should be "..larvicidal oil.." ● For item no. 5, it should be "..drained away or.." ● For item no. 7, it should be "any silt deposited on vehicles' bodies and wheels." Please check and update the text accordingly.	The typos were noted and revised.
9	Appendix C	The divider of Appendix C is missing. Please inert it as for easy reference. Please update the environmental organization structure and keep consistency of the content.	Done.
10	Appendix F	Please provide the update calibration certificates for: ● Greasby Anderson GMWS2310 HVS ● Cerva CB-5 Acoustical Calibrator and Cesva SC-20c SLM ● Turbidimeter HACH 2100p (Serial No. 950900008735)	They have been provided in Appendix F.
11	Appendix G	Please ensure the 1-Hr TSP monitoring shall be in 6-day monitoring period for all upcoming monitoring schedules.	Noted.
12	Appendix J	In site inspection checklist on 06-May-09, ● In the follow-up session, there is a typo in the text. It should be " the un-usedm de-silting tank..". ● In the finding item no. 2, it should be "larvicidal oil to prevent..". Please check and revise the items accordingly.	Revised.