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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 October 2009 (No. 28)

PREPARED FOR

CHIT CHEUNG CONSTRUCTION COMPANY LIMITED

Quality Index

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Ver. No.	Date	Remarks
1	9 November 2009	First Submission
2	12 November 2009	Amended against IEC's comments on 11 Nov 2009
3	12 November 2009	Amended against IEC's comments on 12 Nov 2009

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EXECUTIVE SUMMARY

- ES01. Chit Cheung Construction Company Limited (CCC) has been awarded the Drainage Services Department (DSD) Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai (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 were 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 as stated in the Environmental Permit and EM&A Manual for Secondary Channels KT14 & KT15 (August 2005). This Contract (DC/2006/02) covers KT15 only; and KT14 will be carried out under another contract.
- ES04. This Monthly EM&A Report for October 2009 (No. 28) presents the EM&A results for the period from 26 September to 25 October 2009 (the Reporting Period).

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES05. The monitored results of air quality, construction noise and water quality were in full compliance with the environmental quality criteria except for ecology as shown below.

Monitoring	Parameters	Action Level	Limit Level
Air Quality	1-hour TSP	-	-
All Quality	24-hour TSP	-	-
Noise	Leq (30min) Daytime	-	-
	Dissolve Oxygen (DO)	-	-
Stream Water	Turbidity (NTU)	-	-
	pH	-	-
	Suspended Solids (SS)	-	-
	Ammonia Nitrogen	-	-
	Zinc	-	-
Ecology	Number of species of wetland birds	-	20 October 2009
	Total number of wetland birds	-	-

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 November 2009 include tree protection and tree transplanting works, carrying out joined survey, utilities companies liaison, hydroseeding and planting tree. 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 may arise from the construction works.

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	12	Events
٠	24-hour TSP Monitoring	4	Events
٠	Noise Monitoring	4	Events
٠	Stream Water Quality	16	Events
٠	Ecology	1	Event
٠	Site Inspection Audit	4	Times

AIR QUALITY

ES11. No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level were 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. No stream water quality monitoring result that triggered the Action or Limit Level was recorded in this reporting period.

ECOLOGY

ES14. Three (3) individuals from one (1) wetland bird species with abundance from the baseline were observed during the survey on 20 October 2009 and a total of fifty-six (56) individuals of birds from eighteen (18) species were recorded. The species number of wetland dependent bird triggered the Limit Level. However, no intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found on 20 October 2009 during the site audit. Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork, steel fixing, tree planting and concreting. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under 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 are presented in the following table:-

Issues	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air	1-hour TSP	0	Not Required for 0% Project Related
Quality	24-hour TSP	0	Not Required for 0% Project Related
Noise	Leq (30min) Daytime	0	Not Required for 0% Project Related
Stream	Dissolve Oxygen (DO)	0	Not Required for 0% Project Related
Water	Turbidity (NTU)	0	Not Required for 0% Project Related
	pH	0	Not Required for 0% Project Related
	Suspended Solids (SS)	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

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.



TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS	2
3.0	SUMMARY OF IMPACT MONITORING REQUIREMENTS	3
4.0	IMPACT MONITORING METHDOLOGY	5
5.0	IMPACT MONITORING RESULTS	11
6.0	WASTE MANAGEMENT	15
7.0	SITE INSPECTION	16
8.0	ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE	17
9.0	IMPLEMENTATION STATUS OF MITIGATION MEASURES	18
10.0	IMPACT FORECAST	19
11.0	CONCLUSION	20



LIST OF TABLES

- TABLE 2-1
 STATUS OF ENVIRONMENTAL LICENSE AND PERMITS
- TABLE 3-1SUMMARY OF EM&A REQUIREMENTS
- TABLE 3-2
 ACTION AND LIMIT LEVELS FOR AIR QUALITY MONITORING
- TABLE 3-3
 ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE MONITORING
- TABLE 3-4
 ACTION AND LIMIT LEVELS FOR STREAM WATER QUALITY MONITORING
- TABLE 3-5
 ACTION AND LIMIT LEVELS FOR CONSTRUCTION ECOLOGY MONITORING
- TABLE 4-1LOCATIONS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER
QUALITY MONITORING STATION/LOCATIONS
- TABLE 4-2
 MONITORING EQUIPMENT USED IN EM&A PROGRAM
- TABLE 4-3
 ANALYTICAL METHOD APPLIED TO WATER QUALITY SAMPLES
- TABLE 5-1
 Summary of 1-hour TSP Monitoring Results at A10
- TABLE 5-2SUMMARY OF 24-HOUR TSP MONITORING RESULTS AT A10
- TABLE 5-3SUMMARY OF NOISE MONITORING RESULTS AT N10A
- TABLE 5-4SUMMARY OF STREAM WATER QUALITY RESULTS AT W9A & W9B
- TABLE 5-5
 SUMMARY OF KT15 ECOLOGY IMPACT MONITORING SURVEYS BIRD SURVEY
- TABLE 6-1
 SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
- TABLE 6-2SUMMARY OF QUANTITIES OF C&D WASTES
- TABLE 6-3
 SUMMARY OF EXCAVATED SOIL FOR MARINE DISPOSAL
- TABLE 7-1
 Summary of findings of site inspection and environmental audit
- TABLE 8-1
 STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
- TABLE 8-2
 STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
- TABLE 8-3
 STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
- TABLE 11-1
 SUMMARY OF THE EXCEEDANCES FOR IMPACT MONITORING

LIST OF APPENDICES

- APPENDIX A PROJECT SITE LAYOUT
- APPENDIX B THREE-MONTH CONSTRUCTION PROGRAM
- APPENDIX C ENVIRONMENTAL ORGANISATION STRUCTURE
- APPENDIX D LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA
- APPENDIX E EVENT/ACTION PLAN FOR AIR QUALITY, CONSTRUCTION NOISE, STREAM WATER QUALITY AND ECOLOGY
- APPENDIX F EQUIPMENT CALIBRATION CERTIFICATES
- APPENDIX G IMPACT MONITORING SCHEDULE
- APPENDIX H GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS
- APPENDIX I METEOROLOGICAL DATA IN THE REPORTING PERIOD
- APPENDIX J ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS
- APPENDIX K RESPONSE TO COMMENTS



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 October 2009 during the period from 26 September to 25 October 2009 (the Reporting Period).

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;
 - Road construction;
 - Carrying out joined survey;
 - Tree protection and tree transplanting works;
 - Utilities companies liaison;
 - Gabion installation
 - Hydroseeding
 - Planting tree

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.

Items	Item Description	License/Permit Status
1	Environmental Permit (EP-231/2005/A)	-
2	Air Pollution Control (Construction Dust)	Notified EPD on 9 July 2007
3	Chemical Waste Producer Registration WPN:5296-519-C3430-01 (Portion 8, Ma Fung Ling Road, Tong Yan San Tsuen, Yuen Long)	
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	Updated on 20 June 2009
7	Billing Account for Disposal of Construction Waste (Account Number: 7005311)	Valid on 7 May 2007

 Table 2-1
 Status of Environmental Licenses and Permits

3.0 SUMMARY OF IMPACT MONITORING REQUIREMENTS

- 3.01 The 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 this 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 stations of the air quality, construction noise, stream water quality and ecology monitoring are shown in Appendix D.

Environmental Issues	Monitoring Parameters		Monitoring Stations
Air Quality	1-hour and 24-hour TSP		A10
Construction	Leq _(30min) during normal working hours		N10a*
Noise	Supplementary data of	L_{10} and L_{90} for reference	INTUa.
		 Dissolved Oxygen Concentration (mg/L); 	
		• Dissolved Oxygen Saturation (% Sat);	
	In Situ Measurement	• Turbidity (NTU);	
Stream Water		• pH;	W9A &
Quality		• Salinity (%); Water Depth (m) and	W9B
		• Temperature (°C);	
		• Suspended Solids (mg/L);	
	Laboratory Analysis	• Ammonia Nitrogen (mg/L); and	
		• Zinc (μg/L).	
	Monthly monitoring of construction activities adjacent to the wetland areas to identify any intrusions of construction activities into the wetland areas;		
Ecology	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,		
		lies, and throughout the year for birds.	

Table 5-1 Summary of Ewick Requirements	Table 3-1	Summary of EM&	&A Requirements
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Note: * *The ambient noise condition within the victim area without significant change. Due to accessibility problems, noise monitoring will be undertaken at N10a. Once access is available, the impact noise monitoring will be undertaken 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 hours with supplementary L_{10} and L_{90} data collected for reference.
- 3.05 Stream water quality monitoring is conducted at two locations (W9A and W9B) twice per week. Dissolved Oxygen (DO), pH and turbidity (NTU) are measured in-situ; water depth, temperature and salinity are collected for relevant data. Suspended solids (SS), ammonia nitrogen and zinc are determined in a HOKLAS accredited laboratory.
- 3.06 Ecological monitoring is conducted in the seasonal wetland area as shown in the Project Profile of KT15 (Figure ATT 4-7.2). 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. Photographic records of



vegetation within the monitoring area 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. Bird survey should be conducted monthly throughout the year and other faunal groups (reptiles, amphibians, dragonflies and butterflies) are conducted monthly in wet season (April to July inclusive) only.

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
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Monitoring Station	Action Lev	vel (µg/m ³)	Limit Level (µg/m ³)	
Wollitor ing Station	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
A10	> 307	> 165	> 500	> 260

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

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hours on	When one or more documented	>75* dB(A)
normal weekdays	complaints are received	$> 73^{\circ} \text{ dB}(\text{A})$

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
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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**
рН		
Action Level	NA	> 7.0*
Limit Level	NA	> 7.1**
Suspended Solids (mg/L)		
Action Level	NA	> 148*
Limit Level	NA	> 159**
Ammonia Nitrogen (mg/L)		
Action Level	NA	> 30.91*
Limit Level	NA	> 32.20**
Zinc (µg/L)		
Action Level	NA	> 242*
Limit Level	NA	> 252**

Notes: # Act as Control Station for 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 3-5Action and Limit Levels for Ecology Monitoring

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

3.08 The Event/Action Plan of air quality, construction noise, stream water quality and ecological monitoring has been implemented for this project. Details of the Event/Action Plan are presented in **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 ecological 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; and locations 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 Loo	cation
N10 *	Village House in Tin Sam San Tsuen
N10a	Village House in Tin Sam San Tsuen
Water Quality Location	15
W9A #	Tin Sam San Tsuen
W9B	Tin Sam San Tsuen

Notes: * 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.

MONITORING FREQUENCY AND PERIOD

<u>1-HOUR TSP MONITORING</u>

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. A total of 12 monitoring events were carried out in this Reporting Period.

<u>24-HOUR TSP MONITORING</u>

4.04 The 24-hour TSP monitoring was conducted at station A10 once every six days. A total of 4 monitoring events were carried out in this Reporting Period.

NOISE MONITORING

4.05 Impact noise monitoring was undertaken at location N10a once per week. A total of 4 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. A total of **16** 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 records of vegetation within the monitoring area should be made at six monthly intervals. One event of monthly monitoring by means of walk through survey, along the boundary and within the wetland areas in KT15 was undertaken on 20 October 2009 this month.

MONITORING EQUIPMENT

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

Parameters	Equipment	Monitoring Equipment
1-hour TSP	Portable dust meter	Sibata LD-3 Laser Dust Meter or TSI DuskTrak Model 8520
24-hour TSP	High Volume Sampler	Grasby Anderson GMWS 2310 HVS
	Calibration Kit	TISCH Model TE-5025A
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
pН	pH Meter	Hanna HI 98128 or 98107 or Extech Instruments, ExStik TM 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

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

24-HOUR TSP MONITORING

- 4.09 The 24-hour TSP monitoring was carried out by a High Volume Sampler (HVS) in compliance with the USEPA Standards Title 40, Code of Federal Regulations Chapter 1 (Part 50) specifications. The HVS employed complied with the PS specifications including.
 - Power supply of 220v/50 hz for 24-hour continuous operation;
 - 0.6-1.7 m³/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 in²;
 - Flow control accuracy of $\pm 2.5\%$ deviation over 24-hour operation;
 - An anodized aluminum shelter to protect the filter and sampler;
 - A motor speed-voltage control to control mass flow rate with accuracy of $\pm 2.5\%$ 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.

<u>1-HOUR TSP MONITORING</u>

4.11 Measurement of 1-hour TSP monitoring was taken by TSI DuskTrak Model 8520. 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.

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 550A 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.

<u>pH</u>

4.22 A portable Extech / 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.

<u>Salinity</u>

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

<u>Study Area</u>

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.

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

Table 4-3Analytical Method applied to Water Quality Samples

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 presented 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.

Monitoring Date	Start Time	1 st Result (µg/m ³)	2 nd Result (µg/m ³)	3 rd Result (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)
2-Oct-09	09:21	84	92	87	> 307	> 500
9-Oct-09	09:28	178	195	183	> 307	> 500
15-Oct-09	09:26	224	247	241	> 307	> 500
21-Oct-09	09:22	262	279	275	> 307	> 500

Table 5-1	Summary	of 1-hour TS	P Monitoring R	Results at A10
I UDIC C I	Dummer y	or i nour in	I INTOMICOLINE I	

Bold and italic means exceeded the Action Level. Notes:

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

Monitoring Date	Monitoring Results (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)
30-Sep-09	26	> 165	> 260
8-Oct-09	82	> 165	> 260
15-Oct-09 #	71	> 165	> 260
20-Oct-09	47	> 165	> 260

Bold and italic means exceeded the Action Level. Notes: Bold and underline means exceeded the Limit Level.

Table 5-3

Power failure was occurred on 14 Oct 2009, re-sampling to make up the lost sample was conducted on 15 Oct 2009.

- 5.03 No 1-hour and 24-hour TSP monitoring results that triggered 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

Г

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**.

			•			0		
ate	Start Time	1st Leq5	2nd Leq5	3 rd Leq5	4th Leq5	5th Leq5	6 th Leq5	Leq
	00.00	47 /	15.0	<u>4Γ</u> (<u>4Γ</u> (4.4 F	4 5

Summary of Noise Monitoring Results at N10a

Date	Time	Leq5	2nd Leq5	3 Leq5	4th Leq5	Sth Leq5	o Leq5	Leq30
2-Oct-09	09:35	47.6	45.2	45.6	45.0	45.6	44.5	45.7
9-Oct-09	09:37	44.5	44.7	44.4	44.1	43.9	43.5	44.2
15-Oct-09	09:38	47.1	45.9	45.2	50.2	51.0	46.4	48.2
21-Oct-09	09:33	50.9	51.1	51.6	50.5	50.8	51.4	51.1
Limit Le	evel		-				>75 dB(A)	

5.06 No construction noise complaint (Action Level) was received and all measured noise levels were below the Limit Level in this Reporting Period.

T

Bold and underline means exceeded the Limit Level.

STREAM WATER QUALITY

- 5.07 No stream water quality monitoring result trigger the Action or Limit Level was recorded in this reporting period. 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.

				summing s		e	v					
Monitoring	DO in	n mg/L	Turbid	ity (NTU)	ŀ	эН	SS in	n mg/L		a nitrogen g/L)	Zinc	(µg/L)
Date	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B	W9A#	W9B
28-Sep-09	5.6	4.1	8.4	10.2	8.0	6.4	26.0	5	0.5	0.02	89.0	11
30-Sep-09	5.1	4.5	7.6	12.2	7.5	6.8	6.0	5	0.3	0.30	39.0	39
5-Oct-09	5.6	5.2	6.3	8.8	7.9	6.7	8.0	9	0.1	0.17	24.0	26
7-Oct-09	3.6	5.5	5.5	4.9	7.6	6.7	10.0	7	0.1	0.18	27.0	22
12-Oct-09	3.9	3.3	6.7	4.6	7.7	6.8	13.0	13	0.2	0.22	28.0	32
14-Oct-09	3.4	3.8	5.5	7.6	7.3	6.7	8.0	3	0.3	0.22	28.0	31
20-Oct-09	4.1	3.6	7.3	7.9	7.5##	6.8##	9.0	7	0.3	0.30	44.0	43
22-Oct-09	3.4	3.7	7.9	7.4	7.3	6.6	9.0	12	2.2	2.18	13.0	21
Action Level	-	< 0.3*	-	> 73.5*	-	> 7.0*	-	> 148*	-	> 30.91*	-	> 242*
Limit Level	-	< 0.2**	-	> 78.2**	-	> 7.1**	-	> 159**	_	> 32.20**	-	> 252**

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

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

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.

Data used for reference only as the equipment was pending for calibration.



ECOLOGY

- 5.09 Fifty-six (56) individuals of birds from eighteen (18) species were recorded during the survey on 20 October 2009. Among the birds recorded, three individuals from one wetland bird species with abundance from the baseline (i.e. Chinese Pond Heron) were recorded. Compared with the average abundance of 1.2 individuals from 2 species of wetland dependent birds recorded during the baseline study, 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 No intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found during the site audit on 20 October 2009. Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork, steel fixing, tree planting and concreting. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under the project.
- 5.11 Photographic records of vegetation within the monitoring area are scheduled in six-month intervals, the last photographic records were taken in June 2009, and therefore it is not required in the present reporting month.
- 5.12 Ecology Impact Monitoring Results are presented in Tables 5-5.

Scientific Name	Common Name	Abundance reported in the project profile	Abundance recorded in the present survey (20 October 09)
Birds			
Bubulcus ibis	Cattle Egret	0.4	
Ardeola bacchus	Chinese Pond Heron	0.8	3
Amaurornis phoenicurus	White-breasted Waterhen	Recorded only	2
Streptopelia chinensis	Spotted Dove	Recorded only	5
Hirundo rustica	Barn Swallow	Recorded only	
Motacilla alba	White Wagtail	Recorded only	5
Pycnonotus jocosus	Red-whiskered Bulbul	Recorded only	6
Pycnonotus sinesis	Chinese Bulbul	Recorded only	4
Lanius schach	Long-tailed Shrike	Recorded only	
Copsychus saularis	Oriental Magpie Robin	Recorded only	2
Orthotomus sutorius	Common Tailorbird	Recorded only	
Lonchura striata	White-rumped Munia	Recorded only	
Passer montanus	Eurasian Tree Sparrow	Recorded only	6
Sturnus nigricollis	Black-collared Starling	Recorded only	3
Acridotheres cristatellus	Crested Myna	Recorded only	3
Prinia flaviventris	Yellow-bellied Prinia	١	1
Garrulax perspicillatus	Masked Laughingthrush	١	3
Zosterops japonica	Japanese White Eye	١	4
Lonchura punctulata	Scaly-breasted Munia		
Egretta garzetta	Little Egret	١	1
Anthus hodgsoni	Olive-backed Pipit	\	2
Parus major	Great Tit	\	1
Tringa glareola	Wood Sandpiper	\	2
Motacilla citreola	Grey Wagtail		3
Species Number		15 spp. recorded, (only 2 species of wetland birds with abundance)	wetland birds with abundance in the baseline)
Individual Number		1.2 (from the 2 species of wetland birds with abundance)	56 (3 from the wetland birds with abundance in the baseline)

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

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



6.0 WASTE MANAGEMENT

6.01 The waste management was implemented by an 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 6-2Summary 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)	49	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
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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 Section 9.1.2 of the EM&A Manual, the environmental weekly site inspection should be formulated by the ET Leader. The ET had carried out the environmental weekly site inspection on **28 September**, **7**, **14 and 23 October 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 **23 October 2009** by IEC's representative with the Engineer's, the Contractor's and ET's representatives. No non-compliance but **one** observation was noted.
- 7.02 Findings of the site inspection and environmental audit are summarized below –

Date	Findings / Deficiencies	Follow-Up Status
28 Sept 2009	• No adverse environmental impact was observed during site inspection.	No follow-up was necessary.
7 Oct 2009	• The Contractor is reminded to place the sand bag or bund to isolate the construction area (bay 1) from the existing stream in order to minimize the water quality impact.	During the site inspection on 14 Oct 2009, the construction works at bay 1 has been completed.
14 Oct 2009	No adverse environmental impact was observed during site inspection.	No follow-up was necessary.
23 Oct 2009	No adverse environmental impact was observed during site inspection.	No follow-up was necessary.

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

- 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 took place 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.

Reporting Period	Environmental Complaint Statistics				
Reporting Feriod	Frequency	Cumulative	Complaint Nature		
July – December 2007	0	0	NA		
January – December 2008	0	0	NA		
January –September 2009	0	0	NA		
October 2009	0	0	NA		

Table 8-1 Statistical Summary of Environmental Complaints

 Table 8-2
 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics				
Keporting I eriou	Frequency	Cumulative	Nature		
July – December 2007	0	0	NA		
January – December 2008	0	0	NA		
January –September 2009	0	0	NA		
October 2009	0	0	NA		

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics				
Keporting r er lou	Frequency	Cumulative	Nature		
July – December 2007	0	0	NA		
January – December 2008	0	0	NA		
January –September 2009	0	0	NA		
October 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 clear of mud and debris before leaving the site;
- Site vehicles were limited to 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;
- 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 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 activity at nearby wetland 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 October 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.

Issues	Parameters	Work-Related Exceedance %	Investigation & Corrective Actions
Air	1-hour TSP	0	Not required as not due to project
Quality	24-hour TSP	0	Not required as not due to project
Noise	Leq (30min) Daytime	0	Not required as not due to project
	Dissolve Oxygen (DO)	0	Not required as not due to project
	Turbidity (NTU)	0	Not required as not due to project
Stream	pH	0	Not required as not due to project
Water	Suspended Solids (SS)	0	Not required as not due to project
	Ammonia Nitrogen	0	Not required as not due to project
	Zinc	0	Not required as not due to project
Ecology	Decrease in the total number of species or individuals of wetland dependent bird from baseline	0	Not required as not due to project

Table 11-1 Summary of the Exceedances for Impact Monit
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Note: According to the EM&A Manual S7.5.1(b), fauna monitoring is only undertaken during wet seasons (April to July)

- 11.02 No 1-hour and 24-hour TSP monitoring results that triggered the Action or Limit Level were recorded in this Reporting Period.
- 11.03 No construction noise complaint (an Action Level exceedance) was received and no monitoring noise level above the Limit Level was recorded in this Reporting Period.
- 11.04 No water quality monitoring results exceedances were recorded in this Reporting Period.
- 11.05 Three (3) individuals from one (1) wetland bird species with abundance from the baseline were observed during the survey on 20 October 2009 and a total of fifty-six (56) individuals of birds from eighteen (18) species were recorded. The species number of wetland dependent bird triggered the Limit Level. However, no intrusion of construction activities into the wetland areas and no discharge to the adjacent wetlands were found on 20 October 2009 during the site audit. Investigation report revealed that the major construction works being carried out during the exceedance day were only erection of formwork, steel fixing, tree planting and concreting. Those activities would not cause excessive disturbance to the adjacent wetlands. Therefore, it is concluded that the exceedance was not caused by work under the project.
- 11.06 No environmental complaint, summons or prosecution was received in this Reporting Period.
- 11.07 The ET environmental weekly site inspections were conducted on 28 September, 7, 14 and 23 October 2009. Although no non-compliance was found, totally one observations were recorded. The Contractor has been reminded to improve the observed deficiency. Details of the observations were as follows:-

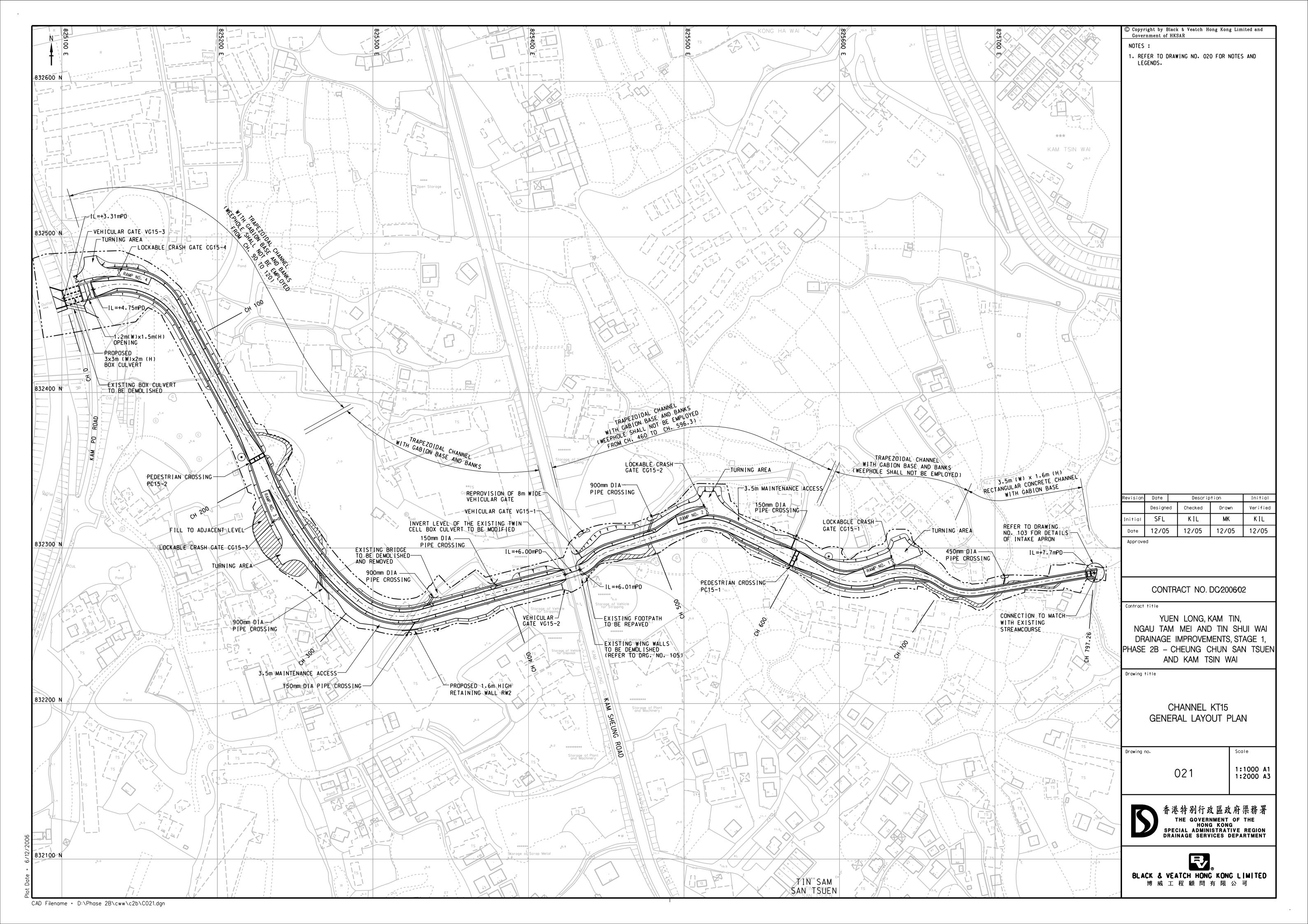


- The Contractor is reminded to place the sand bag or bund to isolate the construction area (bay 1) from the existing stream in order to minimize the water quality impact.
- 11.08 No site visit or inspection carried out by Environmental Protection Department took place in this Reporting Period.
- 11.09 The ET will continue to implement the EM&A program and audit the implementation of the environmental mitigation measures.



APPENDIX A

PROJECT SITE LAYOUT





APPENDIX B

THREE-MONTH CONSTRUCTION PROGRAM

PROGRAMME OF WORKS - RP29

	-												
	Task Name	Duration	Start		Finish Predecessors	Successors	Qtr 4, 2009					Qtr 1, 2010	
				Total Slack			Oc	t I	-	Nov	Dec		Jan
	Letter of Acceptance	1 day	Wed 21/3/07	1185 days	Wed 21/3/07								
	Date for commencement of Works	1 day	Fri 30/3/07	1176 days	Fri 30/3/07								
	Execution of Article of Agreement	1 day	Tue 3/4/07	0 days	Tue 3/4/07								
	Master Program of Works	1177 days	Fri 30/3/07	0 days	Fri 18/6/10								
	Completion Dates	905 days	Fri 30/3/07	0 days	Sat 19/9/09								
	Section I - portions 1, 2 and 3	905 days	Fri 30/3/07	0 days	Sat 19/9/09								
	Section II - portions 4, 5 and 5C	905 days	Fri 30/3/07	0 days									
=	Section III - portions 5A1, 5A2 and 5B	746 days	Thu 28/6/07	0 days	Sun 12/7/09 20FS-1 day								
	Section IV - temp vehicular access at portion 5A1	90 days	Thu 28/6/07	641 days	Tue 25/9/07 20FS-1 day	22							
	Section V - preservation and protection of existing trees	905 days	Fri 30/3/07	0 days	Sat 19/9/09								
	Possession of Site	200 days	Fri 30/3/07	0 days	Mon 15/10/07								
	Portion 1 - channel KT2	1 day	Fri 30/3/07	0 days	Fri 30/3/07								
	Portion 2 - channel KT2	61 days	Fri 30/3/07	780 days	Tue 29/5/07								
	Portion 3 - channel KT2	91 days	Fri 30/3/07	750 days	Thu 28/6/07								
	Portion 4 - channel KT15	1 day	Fri 30/3/07	0 days	Fri 30/3/07								
	Portion 5 - channel KT15	91 days	Fri 30/3/07	750 days	Thu 28/6/07								
	Portion 5A1 - channel KT15	91 days	Fri 30/3/07	0 days	Thu 28/6/07	FS-1 day,11FS-1 day							
	Portion 5A2 - channel KT15	91 days	Fri 30/3/07	750 days	Thu 28/6/07								
	Portion 5B - channel KT15	20 days	Wed 26/9/07	641 days	Mon 15/10/07 11								
	Portion 5C - channel KT15	91 days	Fri 30/3/07	0 days	Thu 28/6/07								
	Portion 6 - Temp Storage Area at Chi Ho Road	1 day	Fri 30/3/07	0 days	Fri 30/3/07								
	Portion 7 - Berthing Area	1 day	Fri 30/3/07	0 days	Fri 30/3/07								
	Portion 8 - Site Accommodation	1 day	Fri 30/3/07	0 days	Fri 30/3/07								
	Section I of Works	973 days	Fri 30/3/07	204 days	Thu 26/11/09								
	Drainage Works, Waterworks and Roadworks in vincinity of	963 days	Fri 30/3/07	214 days	Mon 16/11/09								
	Cheung Chun San Tsuen access Backfill above Box Culvert Bay 4-6 up to formation	88 days	Mon 2/2/09	69 days	Thu 30/4/09	50				·			
	Openning of Bay 1 to Kam Tin River	0 days	Mon 23/3/09	22 days	Mon 23/3/09	36							
	Divert Traffic to Bay 32b	0 days	Mon 2/2/09	180 days	Mon 2/2/09	34							
H.	Stage 1	854 days	Fri 30/3/07	109 days	Thu 30/7/09								
	Construct the Channel Bay 28-29	68 days	Mon 2/2/09	180 days	Fri 10/4/09 32	43							
=	Divert Tarffic to Temporary Access at North bank from	0 days	Tue 14/4/09	0 days		36							
	Bay 14 to Bay 32		Tue 44/4/00			0-							
	Removal of existing crossing(yellow bridge)	5 days	Tue 14/4/09	0 days	Sat 18/4/09 31,35	37							
	Fill the existing stream bed to road formation near	45 days	Sun 19/4/09	0 days	Tue 2/6/09 36	45,46,48,51,165,166							
	Crossing VC2-3 (Bay 33-Bay 36) Drainage Works	854 days	Fri 30/3/07	109 days	Thu 30/7/09								
	Construct Dia370 Drainage Pipe CP2-1A to CP2-1	5 days	Mon 2/2/09	264 days		40							
	and the catchpits												
	Construct Half long U-channel CP2-1A.1	5 days	Sat 7/2/09	264 days		103							
	Construct Dia375 Drainage Pipe CP2-1B to CP2-3	3 days	Fri 30/3/07	823 days	Sun 1/4/07	42,54							
	Construct U-channel CP2-1B.1 & CP2-1B.2	14 days	Mon 2/4/07	946 days	Sun 15/4/07 41	113	1			- I			
	Construct Dia375 Drainage Pipe from Bay 27	4 days	Sat 11/4/09	180 days	Tue 14/4/09 34	44							
	Construct gullies G2-1 & G2-2 and dia150 pipes towards CP2-4	4 days	Mon 27/7/09	77 days	Thu 30/7/09 43,64	80							
	Construct Part of Dia150 Drainage Pipe towards	10 days	Wed 3/6/09	0 days	Fri 12/6/09 37	51,56							
	Outlet 2-1 Construct Part of Dia600 Drainage Pipe towards	10 days	Wed 3/6/09			51,56							
	Catchpit CP2-4A			0 days									
	Construct Gullies G2-3 & G2-4 and Dia150mm Pipes towards CP2-4A	4 days	Sun 28/6/09	0 days	Wed 1/7/09 51	56							
	Construct part of U-channel CP2-4A.2(near permanent access's end)	2 days	Wed 3/6/09	52 days	Thu 4/6/09 37	64							
	Waterworks	58 days	Fri 1/5/09	38 days	Sat 27/6/09								
	Construct Watermain from Ch0 to Ch92	27 days	Fri 1/5/09	69 days		57							
	Construct Watermain from Ch340 to Ch380	15 days	Sat 13/6/09	0 days		47							
	Construct the Permanent Road Pavement	118 days	Tue 31/3/09	0 days									
	Ch40-Ch80 (Panel Nos. RA4 & RA5)	5 days	Mon 13/4/09	100 days		64							
						<u> </u>			<u> </u>				
			Progress		Summary		External Tasks	De	adline 🕂				
hree-m n 2/11/0	nonth Rolled Program (Oct 2009 - Feb 2010) 09 Split		Milestone		Project Summary	• •	External Milestone	Crit					

0	ask Name	Duration	Start		Finish Predecessors	Successors Qtr 4	, 2009	_		
_	Ch140-Ch280 (Panel Nos. RA10 - RA16)	21 days	Tue 31/3/09	Total Slack 94 days	Mon 20/4/09 41	55,64		Oct	I	Nov
	Ch280-ch300 (Panel No. RA 17a)	3 days	Tue 21/4/09	94 days	Thu 23/4/09 54	64				
	Ch300 - Ch380 and Pavement on VC2-3(excpet	25 days	Thu 2/7/09	0 days	Sun 26/7/09 45,46,47	64				
_	Panel No. RA19b) Construct Temporary Access from Ch0 to Ch92	5 days	Thu 28/5/09	69 days	Mon 1/6/09 50	59				
_	Stage 2	8 days	Mon 1/6/09	69 days	Tue 9/6/09					
+	Divert Traffic toward Cheung Chun San Tsuen to	0 days	Mon 1/6/09	69 days	Mon 1/6/09 57	65,61				
	Temporary Access from Ch0-92 Construct the Permanent Road Pavement				Tue 9/6/09					
_	Ch92-Ch140 (Panel Nos. Bay RA7a, RA8a & RA9)	8 days 8 days	Tue 2/6/09	69 days 69 days	Tue 9/6/09 59	63				
	Stage 3	146 days	Tue 9/6/09	0 days	Mon 2/11/09	113				
	Divert Traffic toward Cheung Chun San Tsuen to Permanet Access Ch92 to Ch140	0 days	Tue 9/6/09	69 days	Tue 9/6/09 61	78,113				
	Divert all Traffic to Permanent Access Ch140 to Ch380 & VC2-3	0 days	Sun 26/7/09	0 days	Sun 26/7/09 48,53,54,55,56	67,77,65,44,66				
	Removal of Temporary Acces at North Bank of Bay 4-Bay	14 days	Mon 27/7/09	61 days	Sun 9/8/09 59,64	227FS+14 days,369				
	14 Remove existing pavement Ch160 - Ch320	5 days	Mon 27/7/09	78 days	Fri 31/7/09 64	70,71,72				
	Removal of Temporary Access from Ch330 to Ch380(South Bank)	7 days	Mon 27/7/09	56 days	Sun 2/8/09 64	73,75,234				
	Construct Temporary Area for AFCD Car Park	4 days	Wed 17/6/09	69 days	Sat 20/6/09 78	87				
+	Drainage Works	75 days	Sat 1/8/09	13 days	Wed 14/10/09	233,234				
+	Construct Catchpit CP2-3 and U-channel	3 days	Sat 1/8/09	85 days	Mon 3/8/09 66					
	Construct remaining pipes towards CP2-4A and the	3 days	Sat 1/8/09	85 days	Mon 3/8/09 66					
+	catchpit Construct catchpit CP2-4 and U-channel CP2-4.1	10 days	Sat 5/9/09	43 days	Mon 14/9/09 66,77					
				-		71.01				
	Construct Outlet 2-1	14 days	Mon 28/9/09	0 days	Sun 11/10/09 67,90	74,81				
	Construct U-channel CP2-4A.1 Construct Remaining U-channel CP2-4A.2	3 days 2 days	Mon 12/10/09 Mon 28/9/09	13 days 28 days	Wed 14/10/09 73 Tue 29/9/09 67,90		13 days			
	Waterworks	2 days	Wed 10/6/09	28 days	Fri 4/9/09	88				
	Construct Watermain from Ch180 to Ch340	40 days	Mon 27/7/09	0 days	Fri 4/9/09 64	72,110				
	Construct Watermain Ch92- Ch140	7 days	Wed 10/6/09	69 days	Tue 16/6/09 63	68				
	Construct the Permanent Road Pavement	95 days	Fri 31/7/09	0 days	Mon 2/11/09					
	Ch310 - Ch330 (Panel No. RA19b)	4 days	Fri 31/7/09	77 days	Mon 3/8/09 44	82				
	Construct drawpit and cable duct Ch180-Ch355	8 days	Mon 12/10/09	0 days	Mon 19/10/09 73	82	0 days			
	Construct Pedestrian, Ch180-355	14 days	Tue 20/10/09	0 days	Mon 2/11/09 81,80	113,99				
	Stage 4	99 days	Sun 21/6/09	69 days	Sun 27/9/09	113,99		days		
	Drainage Works	5 days	Sun 21/0/09 Sun 13/9/09	-	Fri 18/9/09					
	Construct remaining U-channel CP2-3.1	5 days	Sun 13/9/09	274 days	Fri 18/9/09 90SF					
	Waterworks	99 days	Sun 21/6/09	69 days	Sun 27/9/09					
	Construct Watermain Ch140 - Ch180	7 days	Sun 21/6/09	69 days	Sat 27/6/09 68	88,92,99				
	Testing to Completed Watermain	13 days	Sat 5/9/09	0 days	Thu 17/9/09 76,87	90				
	Request WSD to Connect Dia200 Watermain at four	30 days	Wed 19/8/09	274 days	Fri 18/9/09 90SF					
	ends Connection of Watermain by WSD near San Tam	10 days	Fri 18/9/09	0 days	Sun 27/9/09 88	89SF,97,95,98,73,75				
	Road, Cheung Chun San Tsuen and AFCD (four points)		2, 2, 30							
	Construct the Permanent Road Pavement	7 days	Sun 28/6/09	105 days	Sat 4/7/09					
	AFCD Entrance (Panel Nos. RA10b and 10c)	7 days	Sun 28/6/09	105 days	Sat 4/7/09 87	107,112				_
	Stage 5	43 days	Mon 28/9/09	7 days	Mon 9/11/09	113				⊎──
	Drainage Works	5 days	Mon 28/9/09	45 days	Fri 2/10/09					Ĭ I
	Construct remaining U-channel CP2-1A.1	5 days	Mon 28/9/09	45 days	Fri 2/10/09 90					
	Construct the Permanent Road Pavement	7 days	Mon 28/9/09	22 days	Sun 4/10/09					
	Ch0 - Ch40 (Panel No. RA1, RA2, RA3)	7 days	Mon 28/9/09	22 days	Sun 4/10/09 90	103,105,111,106,101				
	Ch80-Ch92 (Panel Nos. RA6, RA7b, RA8b)	3 days	Mon 28/9/09	26 days	Wed 30/9/09 90	103,105,111,106				
	Construction the Pedestrian Ch160-Ch180	7 days	Tue 3/11/09	0 days	Mon 9/11/09 87,82	113,107			0 days	
	Stage 6	43 days	Mon 5/10/09	0 days	Mon 16/11/09	113				
	Removal of Temporary access from Ch0 to Ch92	3 days	Mon 5/10/09	37 days	Wed 7/10/09 97	105 ays				
	Drainage Works	14 days	Mon 5/10/09	29 days	Sun 18/10/09					
	Construct remaining U-channel CP2-1.1 & CP2-1.2	14 days	Mon 5/10/09	29 days	Sun 18/10/09 97,98,40	³⁶⁹ ays		- -		
	Construct the Permanent Road Pavement	3 days	Thu 8/10/09	37 days	Sat 10/10/09					
					· · · ·	I				
	th Dallad Draggory (Oct 2000, Eab 2040) Task		Progress		Summary	Fxte	ernal Tasks		Deadline	Ŷ
nor 09	th Rolled Program (Oct 2009 - Feb 2010)					▼ ▼ ² AC			1	\sim

	Task Name	Duration	Start		Finish Predecessors	Successors C	Qtr 4, 2009	-					Qtr 1	I, 2010
	Construct By-Pass at Ch0-Ch20 (Panel Nos. RA2b	3 days	Thu 8/10/09	Total Slack 37 days	Sat 10/10/09 97,98,101	365,113	37 d <mark>a</mark> ys 🚺	Oct		Į	Nov	Dec		
	and RA3b) Construct the drawpit and cable duct Ch40-Ch140	8 days	Mon 5/10/09	22 days	Mon 12/10/09 97,98	111,107	avs							
	Construct Pedestrian, Ch0-Ch140	7 days	Tue 10/11/09	0 days	Mon 16/11/09 92,106,99	113	uy5	+		0 days				
	LCEL erect light poles and laying cable	51 days	Sat 5/9/09	22 days	Sun 25/10/09	113								
	Request LCEL to erect poles and lay cable	30 days	Fri 18/9/09	30 days	Sat 17/10/09 110				•					
	Ch160 - Ch380	13 days	Sat 5/9/09	30 days	Thu 17/9/09 77	109								
_	Ch0-Ch140	13 days	Tue 13/10/09	22 days	Sun 25/10/09 97,98,106		22 da	ys 🚺						
	Construction of Slope adjacent to AFCD's Pond	30 days	Tue 1/9/09	47 days	Wed 30/9/09 92 Mon 16/11/09 62,63,93,100,10	113,365					16/11			
	Completion of Portion 1 and Portion 2	0 days	Mon 16/11/09	0 days	WOIT 10/11/09 02,03,93,100,10						16/11			
	Construction of Road and Channel in Vicinity of Crossing	278 days	Mon 2/2/09	50 days	Fri 6/11/09									
	VC2-1 Completion of Channel Bay 71 to Bay 73	1 day	Mon 2/2/09	50 days	Mon 2/2/09	119,120								
-	Stage 1	141 days	Tue 3/2/09	50 days	Tue 23/6/09									
	Backfill up to Road Formation	40 days	Tue 3/2/09	50 days	Sat 14/3/09 117	121SS+7								
	Demolishing part of existing road pavement at South Bank	3 days	Tue 3/2/09	87 days	Thu 5/2/09 117	days,122,130 122,130								
				-	Tue 24/2/09 119SS+7 days									
_	Construct Drainage Pipe and catchpit at west side of road	15 days	Tue 10/2/09	68 days		133,122								
	Construct Watermain	30 days	Mon 4/5/09	0 days	Tue 2/6/09 119,120,121	123,136,133,126								
	Testing to Watermain	11 days	Wed 3/6/09	7 days	Sat 13/6/09 122	125								
	Request WSD to connect watermain	30 days	Fri 15/5/09	370 days	Sun 14/6/09 125SF									
	Connect new watermain to existing watermain by WSD	10 days	Sun 14/6/09	7 days	Tue 23/6/09 123	124SF,142								
	Construct new cable duct and pit for public lighting	10 days	Wed 3/6/09	0 days	Fri 12/6/09 122,130	128,133								
	Request LCEL to relocate pole and laying new cable	30 days	Thu 14/5/09	371 days	Sat 13/6/09 128SF									
	relocate light pole VA5367 and laying new cable by LCEL	10 days	Sat 13/6/09	95 days	Mon 22/6/09 126	127SF,135								
	Request PCCW to construct new cable and pit	30 days	Sun 8/3/09	438 days	Tue 7/4/09 130SF									
	Construct PCCW cable and pit(by PCCW)	10 days	Tue 7/4/09	45 days	Thu 16/4/09 119,120	129SF,131,126								
	Laying New Cable and Removal of PCCW's temporary	30 days	Fri 17/4/09	45 days	Sat 16/5/09 130	142								
	overhead cable and poles													
	Stage 2 Construct the permanent road pavement Panel No. RB29,	28 days 15 days	Wed 3/6/09 Sat 13/6/09	10 days 0 days	Tue 30/6/09 Sat 27/6/09 121,122,126	134								
	RB28, RB27, RB26a RB26b			-										
	Curing of Permanent road	3 days	Sun 28/6/09	0 days	Tue 30/6/09 133	138								
	Demolishing part of existing road pavement at North Bank	6 days	Tue 23/6/09	95 days	Sun 28/6/09 128	140								
	Construct two new temporary accesses	5 days	Wed 3/6/09	23 days	Sun 7/6/09 122	138								
	Stage 3	128 days	Tue 30/6/09	0 days	Thu 5/11/09									
	Divert Traffic to cosntructed permanent road pavement	0 days	Tue 30/6/09	0 days	Tue 30/6/09 134,136	139,142								
	and new temporary access Removal of remaining part of pavement near "Pet World"	3 days	Wed 1/7/09	90 days	Fri 3/7/09 138	140								
	Construct the remaining drainage pipe and catchpit near	7 days	Sat 4/7/09	90 days	Fri 10/7/09 135,139	141								
	"Pet World"	-												
	Construct the remaining part of permanent road pavement near "Pet World" (Panel Nos. RB30, RB31a&b, RB32a b, RB32a d, RB34a&b, RB35a&b,	20 days	Sat 11/7/09	90 days	Thu 30/7/09 140	148								
	RB32a&b, RB33a-d, RB34a&b, RB35a&b)) Removel of temporary access at Channel Bay74	5 days	Wed 1/7/09	0 days	Sun 5/7/09 125,138,131	143								
	Construct the Channel Bay 74 and Bay 75	63 days	Mon 6/7/09	0 days	Sun 6/9/09 142	144,145								
						,. 70								
	Construct on gabion inside Bay 74 and 75	30 days	Mon 7/9/09	255 days	Tue 6/10/09 143									
	Backfilling to Final Ground Level	40 days	Mon 7/9/09	0 days	Fri 16/10/09 143	146								
	Construct the U-channel and handrailing near bay 74 and 75	20 days	Sat 17/10/09	0 days	Thu 5/11/09 145	239		0 days		i IIII				
	Stage 4	9 days	Thu 30/7/09	90 days	Sat 8/8/09									
	Divert traffic to all completed new road pavement	0 days	Thu 30/7/09	90 days	Thu 30/7/09 141	149								
	Removal of the new temporay access	5 days	Fri 31/7/09	90 days	Tue 4/8/09 148	150								
									<u> </u>					
-	nth Rolled Program (Oct 2009 - Feb 2010) Task		Progress		Summary		External Task	s	Dea	Idline				

_ Task Name		Duration	Start	1	Finish Predecessors	Successors Qtr 4, 200	9						Qtr 1, 2010
0				Total Slack			Oct					Dec	Jan
	Construct 375 U-channel under new temporary access	4 days	Wed 5/8/09	90 days	Sat 8/8/09 149	151				1			
Comp	letion of Portion 3	0 days	Fri 6/11/09	0 days	Fri 6/11/09 150,239					6/11			
Area exce access	pt the Chenng Chun San Tsuen access and VC2-1	236 days	Sun 5/4/09	8 days	Thu 26/11/09								
U-cha	nnel	234 days	Tue 7/4/09	154 days	Thu 26/11/09								
	CP2-16.1(600U, 35m)	10 days	Tue 7/4/09	154 days	Thu 16/4/09	156							
	CP2-8A.1(375U, 55m)	10 days	Wed 13/5/09	128 days	Fri 22/5/09 155,210	193SF,157							
	CP2-7.2(375U, 44m)	6 days	Sat 6/6/09	114 days	Thu 11/6/09 156,212	194SF,158							
	CP2-7.1(375U, 16m)	2 days	Fri 12/6/09	114 days	Sat 13/6/09 157,212	194SF,159,228							
	CP2-7A.2(375U, 26m)	4 days	Thu 18/6/09	110 days	Sun 21/6/09 158,213	196SF,160							
	CP2-7A.1(375U, 51m)	8 days	Tue 30/6/09	102 days	Tue 7/7/09 159,214	196SF,161							
	CP2-5A.1(375U, 18m)	3 days	Wed 8/7/09	102 days	Fri 10/7/09 160,214	198SF,162							
	CP2-9.1(600U, 58m) CP2-6.2(375U, 59m)	8 days 8 days	Mon 28/9/09 Wed 28/10/09	23 days 6 days	Mon 5/10/09 161,222 Wed 4/11/09 162,223	163,235 195SF,164							
	CP2-6.1(750U, 29m)	6 days	Thu 5/11/09	6 days	Tue 10/11/09 163,223	195SF,164		6 da	iys6 days -				
	CP2-5.2(600U, 47m)	9 days	Wed 11/11/09	6 days	Thu 19/11/09 164,37	197SF,166			o days	6 days			
	CP2-5.1(375U, 34m)	7 days	Fri 20/11/09	204 days	Thu 26/11/09 165,37					20	ays		
	CP2-11A.1(375U, 36m)	6 days	Fri 1/5/09	181 days	Wed 6/5/09	168					· -		
	CP2-11A.2(375U, 30m)	6 days	Thu 7/5/09	181 days	Tue 12/5/09 167	169,229							
	CP2-14B.1(375U, 4m)	2 days	Wed 13/5/09	186 days	Thu 14/5/09 168	192SF,170							
(CP2-14B.2(600U, 18m)	3 days	Fri 15/5/09	186 days	Sun 17/5/09 169	192SF,171							
(CP2-14C.1(375U, 20m)	4 days	Mon 18/5/09	387 days	Thu 21/5/09 170	172							
(CP2-12.1(375U, 34m)	6 days	Fri 22/5/09	387 days	Wed 27/5/09 171								
	CP2-19C.2(450U,30m)	4 days	Sun 17/5/09	180 days	Wed 20/5/09 205	191SF,174							
	CP2-19C.1(450U,20m)	4 days	Thu 21/5/09	180 days	Sun 24/5/09 173	191SF,175							
	nlet 2-3.1(450U, 11m)	2 days	Mon 25/5/09	388 days	Tue 26/5/09 174								
	CP2-19B.1(600U, 38m)	8 days	Sat 6/6/09	121 days	Sat 13/6/09 216	190SF,177							
	CP2-19A.2(450U, 26m)	4 days	Sun 14/6/09	121 days	Wed 17/6/09 176	189SF,199,178							
	CP2-19A.1,(450U, 22m)	4 days	Thu 18/6/09	148 days	Sun 21/6/09 177	189SF,179							
	CP2-18.1(450U, 41m) CP2-19.1(600U, 26m)	8 days	Mon 22/6/09 Thu 16/7/09	148 days 110 days	Mon 29/6/09 178 Tue 21/7/09 217	187SF,184 188SF,181							
	CP2-19.2(375U, 10m)	6 days 2 days	Wed 22/7/09	110 days	Thu 23/7/09 180	188SF,182							
	CP2-18A.1(375U,35m)	6 days	Fri 24/7/09	110 days	Wed 29/7/09 181	186SF,183							
	CP2-18A.2(450U,26m)	4 days	Thu 30/7/09	110 days	Sun 2/8/09 182	186SF							
	CP2-0.1(375U, 51m)	8 days	Tue 30/6/09	346 days	Tue 7/7/09 179								
Catch	pit	186 days	Sat 9/5/09	6 days	Wed 11/11/09	224							
(CP2-18A	4 days	Sun 26/7/09	110 days	Thu 30/7/09 182SF,183SF								
(CP2-18	4 days	Thu 18/6/09	148 days	Mon 22/6/09 179SF								
	CP2-19	4 days	Sat 18/7/09	118 days	Wed 22/7/09 180SF,181SF								
	CP2-19A	4 days	Sun 14/6/09	152 days	Thu 18/6/09 177SF,178SF								
	CP2-19B	4 days	Tue 2/6/09	164 days	Sat 6/6/09 176SF								
	CP2-19C	4 days	Sun 17/5/09	180 days	Thu 21/5/09 173SF,174SF								
	CP2-14B	4 days	Mon 11/5/09	186 days	Fri 15/5/09 169SF,170SF								
	CP2-8A CP2-7	4 days	Sat 9/5/09	188 days	Wed 13/5/09 156SF Fri 12/6/09 157SF,158SF								
	.P2-7 .P2-6	4 days 4 days	Mon 8/6/09 Sun 1/11/09	158 days 12 days	Thu 5/11/09 163SF,164SF				12 days				
	лг2-6 СР2-7А	4 days 4 days	Fri 26/6/09	12 days	Tue 30/6/09 159SF,160SF				12 days	-			
	CP2-5	4 days 4 days	Sat 7/11/09	6 days	Wed 11/11/09 165SF				6 days				
	CP2-5A	4 days	Sat 4/7/09	-	Wed 8/7/09 161SF				e udys	\$€			
	etaining wall near abondoned home	20 days	Thu 18/6/09	121 days	Tue 7/7/09 177	224,240							
	Retaining wall near Ramp No.1	30 days	Fri 1/5/09	72 days	Sat 30/5/09	201							
Layin	g Sub-base to Road B (Ch800 to Ch1145 only, Total	30 days	Sun 14/6/09	58 days	Mon 13/7/09 200,207SS+10	231							
Panel	number =34)		Tue 11/8/09		days Sat 19/9/09 231	224							
numb	eting Road B (Ch800 to Ch1145 only, Total Panel er =34)	40 days		58 days		224							
	g platform	206 days	Sun 5/4/09	6 days	Tue 27/10/09								
	lorth Bank	118 days	Tue 7/4/09	6 days	Sun 2/8/09								
	Bay 84c-Bay 80	40 days	Tue 7/4/09	110 days	Sat 16/5/09	173,216							
	I								_				
Three-month Rolled Program	Oct 2009 - Feb 2010) Task		Progress		Summary	External	Tasks		Deadline				
/lon 2/11/09	Split		Milestone		Project Summary	External			Critical				

•	Task Name	Duration	Start		Finish Predecessors	Successors	Qtr 4, 2009						Qtr 1, 2010	
0	Bay 79-Bay 76	20 days	Sat 6/6/09	Total Slack 110 days	Thu 25/6/09 216	217		Oct			Nov	Dec		Jan
	Bay 56a1-Bay 71	60 days	Thu 4/6/09	58 days	Sun 2/8/09 218,289	201SS+10 days								
	Bay 54-Bay 52	12 days	Tue 7/4/09	6 days	Sat 18/4/09	209								
ə	Bay 51-Bay 49	12 days	Sun 19/4/09	6 days	Thu 30/4/09 208	210								
0	Bay 48-Bay 46	12 days	Fri 1/5/09	6 days	Tue 12/5/09 209	156,211								
1	Bay 45-Bay 43	12 days	Wed 13/5/09	6 days	Sun 24/5/09 210	212								
2	Bay 42-Bay 40	12 days	Mon 25/5/09	6 days	Fri 5/6/09 211	157,158,213								
3	Bay 39-Bay 37	12 days	Sat 6/6/09	6 days	Wed 17/6/09 212	159,214								
4	Bay 36-Bay 33	12 days	Thu 18/6/09	6 days	Mon 29/6/09 213	160,161,219								
5	South Bank	206 days	Sun 5/4/09	6 days	Tue 27/10/09									
16	Bay 84c- Bay 80	20 days	Sun 17/5/09	110 days	Fri 5/6/09 205	176,206								
17	Bay 80-Bay 76	20 days	Fri 26/6/09	110 days	Wed 15/7/09 206	180								
18 🛅	Bay 56a1-Bay 71	51 days	Sun 5/4/09	67 days	Mon 25/5/09	207,238								
19	Bay 48-Bay 46	15 days	Tue 30/6/09	6 days	Tue 14/7/09 214	220								
20	Bay 45-Bay 43	15 days	Wed 15/7/09	6 days	Wed 29/7/09 219	221								
21	Bay 42-Bay 40	30 days	Thu 30/7/09	6 days	Fri 28/8/09 220	222								
22	Bay 39-Bay 37	30 days	Sat 29/8/09	6 days	Sun 27/9/09 221	223,162								
23	Bay 36-Bay 33	30 days	Mon 28/9/09	6 days	Tue 27/10/09 222	163,164								
24	Completion of Portion 3	0 days	Wed 11/11/09	6 days	Wed 11/11/09 185,199,228,22						11/11 J.			
25														
26	Planting Trees	178 days	Wed 13/5/09	10 days	Fri 6/11/09									
27	Bay 2-Bay 9, North Bank, 48 trees	24 days	Mon 24/8/09	61 days	Wed 16/9/09 65FS+14 days	230SF,113,369								
28	Bay 41-Bay 42, North Bank, 7 trees	3 days	Sun 14/6/09	153 days	Tue 16/6/09 158	224					+			
29	Bay 54& Bay 55d, North Bank, 13 trees	7 days	Wed 13/5/09	181 days	Tue 19/5/09 168	224					+			
30	Bay 56c1, North Bank, 8 trees	4 days	Thu 20/8/09	85 days	Mon 24/8/09 227SF	224					+-			
31	Bay 64-Bay 72b, North Bank, 56 trees	28 days	Tue 14/7/09	58 days	Mon 10/8/09 201	224,367,202					+-			
32 33	Day 7 Day 97 Castle Daals 40 trace	20 daya	Thu 15/10/09	13 days	Tue 3/11/09 69	112								
34	Bay 7-Bay 27, South Bank, 40 trees Bay 30-Bay 33, South Bank, 17 trees	20 days	Thu 15/10/09 Thu 15/10/09		Fri 23/10/09 67,69	113 113	13	days days						
35	Bay 40-Bay 53, South Bank, 17 trees Bay 40-Bay 53, South Bank, 38 trees	9 days 19 days	Tue 6/10/09	24 days 23 days	Sat 24/10/09 162		days	days						
36	Bay 56a2, South Bank, 42 trees	21 days	Mon 15/6/09	108 days	Sun 5/7/09	224	days							
37	Bay 57-Bay 66a, South Bank, 52 trees	21 days 26 days	Mon 6/7/09	108 days	Fri 31/7/09 236	224,237								
38	Bay 68c-Bay 72a, South Bank, 26 trees	13 days	Tue 26/5/09	162 days	Sun 7/6/09 218	224								
39	Bay 74-Bay 78, South Bank, 13 trees	1 day	Fri 6/11/09	0 days	Fri 6/11/09 146	224,151) days	1			
40	Bay 79-Bay 83c, South Bank, 22 trees	11 days	Wed 8/7/09	121 days	Sat 18/7/09 199	224								
41														
42														
43	Section II of the Works	1177 days	Fri 30/3/07	0 days	Fri 18/6/10									
44	Kam Sheung Road Upstream	1177 days	Fri 30/3/07	0 days	Fri 18/6/10									
45 🖬	Construction of Gabion at Bay 56 -Bay 62	26 days	Sat 28/3/09	159 days	Wed 22/4/09	247								
46	Pump Stream from Bay 49 to Bay 46	0 days	Thu 23/4/09	39 days	Thu 23/4/09	254,273,274,247								
47	Construction of Gabion at Bay 49	5 days	Thu 23/4/09	159 days	Mon 27/4/09 245,246	248								
48	Inspecion of New channel Bay 49- Bay 63 by DSD	14 days	Tue 28/4/09	159 days	Mon 11/5/09 247	249								
49	Divert Stream to New Channel	0 days	Mon 11/5/09	159 days	Mon 11/5/09 248	276								
50	Drainage Works	850 days	Fri 30/3/07	81 days	Sun 26/7/09									
51	CP Inlet 15-4	8 days	Fri 30/3/07	748 days	Fri 6/4/07	252								
52	MH15 F	25 days	Tue 24/3/09	31 days	Fri 17/4/09 251	253								
53	MH15 E	13 days	Sat 18/4/09	31 days	Thu 30/4/09 252,272	254								
54	CP15-8A	12 days	Fri 1/5/09	31 days	Tue 12/5/09 246,253	255,263,262								
55	Outlet 15-3	12 days	Wed 13/5/09	31 days	Sun 24/5/09 254	256								
56	CP15-5	15 days	Mon 25/5/09	31 days	Mon 8/6/09 255	257,264,265								
57	Inlet 15-3	15 days	Tue 9/6/09	31 days	Tue 23/6/09 256	258								
58	MH15 C	15 days	Wed 24/6/09	31 days	Wed 8/7/09 257	6,278,282FS+7 days								
59	CP15-7	9 days	Thu 9/7/09	81 days	Fri 17/7/09 258	260,266								
50	CP15-6	9 days	Sat 18/7/09	81 days		9,268,286FS+7 days								
51	U-channel	97 days	Wed 13/5/09	305 days	Mon 17/8/09									
62	CP15-8A.2	15 days	Wed 13/5/09	387 days	Wed 27/5/09 254,272									
63	CP15-8A.1	8 days	Wed 13/5/09	394 days	Wed 20/5/09 254,273									
	Task		Progress		Summary		External Task		Do	adline				
ot Throp n	nonth Rolled Program (Oct 2009 - Feb 2010)		Filless		Summary		LAIGHIAI TASK		De	aunne				

64 65 66 67	CP15-5.2		1	Total Ol	Finish	Predecessors Successors	Qtr 4, 2009		KL	1	P	Qtr 1, 2010
6 7	GF 13-5.2	5 days	Tue 9/6/09	Total Slack 370 days	Sat 13/6/09	256,273	Oct	1	Nov		Dec	
7	CP15-5.1	3 days	Tue 9/6/09	372 days	Thu 11/6/09	256,273						
	CP15-7.2	4 days	Sun 19/7/09	316 days	Wed 22/7/09		67					
	CP15-7.1	15 days	Thu 23/7/09	316 days	Thu 6/8/09							
3	CP15-6.2	15 days	Wed 29/7/09	305 days	Wed 12/8/09	· ·	69					
69	CP15-6.1	5 days	Thu 13/8/09	305 days	Mon 17/8/09							
'0 '1	Backfilling North Bank	852 days	Fri 30/3/07	101 days	Tue 28/7/09 Mon 1/6/09							
2	Bay 49-Bay 56	795 days 14 days	Fri 30/3/07 Fri 30/3/07	68 days 767 days	Thu 12/4/07		73					
2 '3	Bay 44-48	18 days	Thu 23/4/09	68 days	Sun 10/5/09							
'4	Bay 37-Bay 43	22 days	Mon 11/5/09	68 days	Mon 1/6/09		78					
'5	South Bank	20 days	Thu 9/7/09	101 days	Tue 28/7/09		—					
6	Bay 55- Bay 58	10 days	Thu 9/7/09	101 days	Sat 18/7/09	249,258 26	77					
7	Bay 47a - Bay 54	10 days	Sun 19/7/09	101 days	Tue 28/7/09	276 26	43					
'8	Road Construction(Panel Nos. RD2 - RD15C)	90 days	Thu 9/7/09	31 days	Tue 6/10/09	258,273,274	43					
'9		0 days	Fri 30/4/10	-224 days	Fri 30/4/10		80					
80	Road Construction on Kam Sheung Road	50 days	Fri 30/4/10	-224 days	Fri 18/6/10		43					
81	Planting of Trees	78 days	Mon 1/6/09	81 days	Mon 17/8/09							
32	Bay 38 - Bay 43, North Bank, 28 trees	14 days	Thu 16/7/09	87 days		258FS+7 days	83					
33 34	Bay 47b - Bay 55, North Bank, 26 trees	13 days	Thu 30/7/09	87 days	Tue 11/8/09 Mon 17/8/09		43					
_	Bay 55 - Bay 58, North Bank, 20 trees Bay 37 - Bay 42b, South Bank, 19 trees	10 days 10 days	Sat 8/8/09 Mon 1/6/09	81 days 149 days	Wed 10/6/09		43					
86	Bay 37 - Bay 42b, South Bank, 19 trees Bay 50 - Bay 55, South Bank, 10 trees	5 days	Mon 3/8/09	81 days		260FS+7 days	84					
37												
8	Kam Sheung Road Dowstream	953 days	Fri 30/3/07	224 days	Fri 6/11/09							
	Completion of Kam Po Road	15 days	Wed 20/5/09	34 days	Wed 3/6/09	293 312FF,29	07					
)	Removal of Temporary Access	10 days	Thu 4/6/09	34 days	Sat 13/6/09	289 32	12					
91	Construction of Bay 6	15 days	Sun 19/7/09	51 days	Sun 2/8/09	332,326,321 33	14					
2	Construction of Gabion at Bay 6, 7 & 8	25 days	Sun 23/8/09	51 days	Wed 16/9/09	333	43					
3	Completion of Bay 1	0 days	Tue 31/3/09	84 days	Tue 31/3/09	28	01					
-	North Bank	206 days	Tue 31/3/09	15 days	Thu 22/10/09							
5	Drainage Works	105 days	Tue 31/3/09	34 days	Mon 13/7/09							
96 97	CP15-2 CP15-2A	10 days	Fri 12/6/09	0 days	Sun 21/6/09							
		10 days 8 days	Mon 22/6/09 Fri 15/5/09	0 days 0 days	Wed 1/7/09 Fri 22/5/09		51					
8	CP15-1	7 days	Sat 4/7/09	37 days	Fri 10/7/09		07					
0	CP15-01 & CP15-0	10 days	Sat 4/7/09	34 days	Mon 13/7/09							
)1	MH15-H	16 days	Tue 31/3/09	93 days	Wed 15/4/09							
)2	U-channel and forming slope	101 days	Tue 14/7/09	0 days	Thu 22/10/09							
3	CP15-2.1	15 days	Fri 17/7/09	0 days	Fri 31/7/09		04					
4	CP15-2.2	20 days	Sat 1/8/09	0 days	Thu 20/8/09	303 31	05					
5	CP15-2A.1	8 days	Thu 10/9/09	10 days		297,304,310	06					
)6	CP15-2A.2	25 days	Mon 28/9/09	0 days	Thu 22/10/09		39					
7	CP15-1.1	20 days	Tue 14/7/09	34 days	Sun 2/8/09		13					
)8)9	Backfilling	106 days	Sun 14/6/09	0 days	Sun 27/9/09		20					
9	Bay 7-Bay 11 Bay 12 - Bay18	15 days 20 days	Thu 2/7/09 Fri 21/8/09	0 days 0 days	Thu 16/7/09 Wed 9/9/09							
, 1	Bay 12 - Bay 10 Bay 19- Bay 27	18 days	Thu 10/9/09	0 days	Sun 27/9/09		06					
2	Bay 1- Bay 6	20 days	Sun 14/6/09	34 days		289FF,290,301 299,30						
3	Road Construction (Panel RE1 to RE4)	32 days	Mon 3/8/09	34 days	Thu 3/9/09							
1	Construction of Gabion (Bay 6-Bay 8)	22 days	Mon 3/8/09	74 days	Mon 24/8/09		43					
	South Bank	885 days	Fri 30/3/07	292 days	Sun 30/8/09		\neg					
3	Drainage Works	885 days	Fri 30/3/07	292 days	Sun 30/8/09							
7	Inlet 15-1	15 days	Thu 26/3/09	435 days	Thu 9/4/09	346						
8	CP15-3B	15 days	Sun 16/8/09	53 days	Sun 30/8/09		42					
9	CP15-3	15 days	Fri 30/3/07	864 days	Fri 13/4/07		26					
20	Inlet 15-B	20 days	Sun 14/6/09	51 days	Fri 3/7/09							
1	Outlet 15-A	15 days	Sat 4/7/09	51 days	Sat 18/7/09	320	91					

0	1.61								
2	sk Name	Duration	Start	Total Slack	Finish Predecessors	Successors Qtr 4, 2009	Oct	Qtr 1, 2010	Jan
	U-channel and Forming Slope	92 days	Fri 10/4/09	137 days	Fri 10/7/09				
3	CP15-3B.1	35 days	Fri 10/4/09	400 days	Thu 14/5/09 328				
24	CP15-3.2(1st section)	14 days	Sat 13/6/09	343 days	Fri 26/6/09 326	325			
25	CP15-3.2(Remaing section	14 days	Sat 27/6/09	343 days	Fri 10/7/09 324				
26	CP15-3.1	14 days	Sat 30/5/09	87 days	Fri 12/6/09 319,331,335	291,341,324			
27	Backfilling	155 days	Sat 21/3/09	0 days	Sat 22/8/09				
28	Bay 16b - Bay 23	20 days	Sat 21/3/09	0 days	Thu 9/4/09	323,329,335			
29	Bay 24 - Bay 31	20 days	Fri 10/4/09	0 days	Wed 29/4/09 328	335			
330	Bay 32 - Bay 35	10 days	Sat 21/3/09	30 days	Mon 30/3/09	352,335			
31	Bay 7 - Bay 16a	25 days	Sat 21/3/09	132 days	Tue 14/4/09	326			
32	Bay 3 - Bay 5	14 days	Sat 4/7/09	52 days	Fri 17/7/09 320	291,340			
333	Bay 6	20 days	Mon 3/8/09	51 days	Sat 22/8/09 291	292			
334	Laid Outhana Matarial farm Day 00 to Day 05	00 daus	Thu: 00/4/00	0.1	E-: 00/5/00 000 000 000	055.000			
335	Laid Su-base Material from Bay 20 to Bay 35	30 days	Thu 30/4/09	0 days	Fri 29/5/09 328,329,330	355,326			
36	Constructing Road Pavement Bay 20- Bay 26	30 days	Fri 17/7/09	53 days	Sat 15/8/09 356	318			
37	Planting Trees	113 days	Fri 17/7/09	0 days	Fri 6/11/09				
38	Bay 2 - Bay 9, North Bank, 29 trees Bay 13 - Bay 18, North Bank, 16 trees and 25 bamboo	30 days	Fri 4/9/09 Fri 23/10/09	34 days 0 days	Sat 3/10/09 313,309,300 Fri 6/11/09 306	343			
340	Bay 13 - Bay 18, North Bank, 16 trees and 25 bamboo Bay 2 - Bay 6, South Bank, 35 trees	15 days 18 days	Sat 18/7/09	94 days	Tue 4/8/09 332	343	0 day	ays	
340	Bay 2 - Bay 6, South Bank, 35 trees Bay 10 - Bay 11, South Bank, 8 trees and 18 bamboo		Fri 17/7/09	109 days	Mon 20/7/09 326,356	343			
341	Bay 10 - Bay 11, South Bank, 8 trees and 18 bamboo Bay 18 - Bay 26, South Bank, 29 trees	4 days 15 days	Mon 31/8/09	53 days	Mon 20/7/09 326,356 Mon 14/9/09 318	343			
343 1 	Completion of Portion 5	0 days	Fri 18/6/10	-224 days	Fri 18/6/10 277,278,313,31:	J+J		Π	
343 ••• ••		0 uays	111 10/0/10	-224 udys	211,210,013,31.			-	
345	Section III of the Works - Portions 5A1, 5A2 a	116 days	Mon 23/3/09	61 days	Thu 16/7/09				
46	Laying cable duct by PCCW's & HGC's Work at Kam Sheung Road	3 days	Mon 23/3/09	85 days	Wed 25/3/09	317,347			
47	Diversion of HGC's cables(by HGC) at Kam Sheung Road	0 days	Sat 30/5/09	20 days	Sat 30/5/09 346	348			
48	Concrete Surround to PCCW's cable ducts (By PCCW) at Kam Sheu		Fri 19/6/09	0 days	Thu 25/6/09 347,355	356			
49	Drainage Works	73 days	Tue 31/3/09	53 days	Thu 11/6/09				
350	Outlet 15-2	10 days	Tue 2/6/09	0 days	Thu 11/6/09 351	296			
351	Inlet 15-2	10 days	Sat 23/5/09	0 days	Mon 1/6/09 298	354,350			
352	CP15-4A.1	10 days	Tue 31/3/09	435 days	Thu 9/4/09 330				
353									
854	Backfilling at Bay 28-Bay 35	18 days	Tue 2/6/09	0 days	Fri 19/6/09 351	358			
355	Constructing Road Pavement Bay 27- Bay 34	20 days	Sat 30/5/09	0 days	Thu 18/6/09 335	359,361,348			
356	Constructing Road Pavement Bay 35	21 days	Fri 26/6/09	0 days	Thu 16/7/09 348	336,361,341			
.00		27 days	Sat 20/6/09	0 days	Thu 16/7/09				
357	Planting Trees			0 days	Tue 7/7/09 354	359			
357	Planting Trees Bay 23 - Bay 35, North Bank, 36 trees	18 days	Sat 20/6/09			361			
357 358 359	-	18 days 9 days	Sat 20/6/09 Wed 8/7/09	0 days	Thu 16/7/09 355,358	301			
357 358 359	Bay 23 - Bay 35, North Bank, 36 trees			-	Thu 16/7/09 355,358	301			
357 358 359 360 361	Bay 23 - Bay 35, North Bank, 36 trees			-	Thu 16/7/09 355,358 Thu 16/7/09 356,355,359				
357 358 359 360 361 362	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35 , South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B	9 days 0 days	Wed 8/7/09 Thu 16/7/09	0 days 0 days	Thu 16/7/09 356,355,359				
357 358 359 360 361	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35 , South Bank, 17 trees	9 days	Wed 8/7/09	0 days					
357 358 359 360 361 362	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35 , South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B	9 days 0 days	Wed 8/7/09 Thu 16/7/09	0 days 0 days	Thu 16/7/09 356,355,359				
57 58 59 60 61 62 63	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35 , South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B	9 days 0 days	Wed 8/7/09 Thu 16/7/09	0 days 0 days	Thu 16/7/09 356,355,359	366 211 days			
57 58 59 60 61 62 63 64 65 65	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35, South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B Section V of the Works - Preservation and protection to existing trees Construction of Hard Paved Area above box cuvlert at South Bank	9 days 0 days 963 days 20 days	Wed 8/7/09 Thu 16/7/09 Fri 30/3/07 Sun 11/10/09	0 days 0 days 214 days 211 days	Thu 16/7/09 356,355,359 Mon 16/11/09 Fri 30/10/09 105,112			211 days	
57	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35, South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B Section V of the Works - Preservation and protection to existing trees Construction of Hard Paved Area above box cuvlert at South Bank Erection of Fencing near Hard Paved Area	9 days 0 days 963 days 20 days 20 days	Wed 8/7/09 Thu 16/7/09 Fri 30/3/07 Sun 11/10/09 Sat 31/10/09	0 days 0 days 214 days 211 days 211 days	Thu 16/7/09 356,355,359 Mon 16/11/09 Fri 30/10/09 105,112 Thu 19/11/09 365			211 days	
57 58 59 60 61 62 63 64 65 65	Bay 23 - Bay 35, North Bank, 36 trees Bay 27 - Bay 35, South Bank, 17 trees Completion of Portion 5A1, 5A2 & 5B Section V of the Works - Preservation and protection to existing trees Construction of Hard Paved Area above box cuvlert at South Bank	9 days 0 days 963 days 20 days	Wed 8/7/09 Thu 16/7/09 Fri 30/3/07 Sun 11/10/09	0 days 0 days 214 days 211 days	Thu 16/7/09 356,355,359 Mon 16/11/09 Fri 30/10/09 105,112			211 days	

Project: Three-month Rolled Program (Oct 2009 - Feb 2010) Date: Mon 2/11/09	Task Split	Progress Milestone	 Summary Project Summary		External Tasks External Milestone	Deadline Critical	
				Page 7/7			

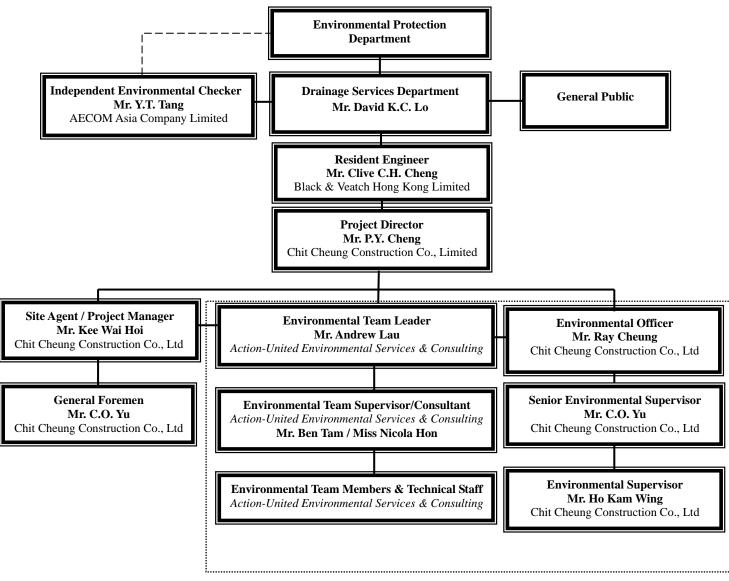


APPENDIX C

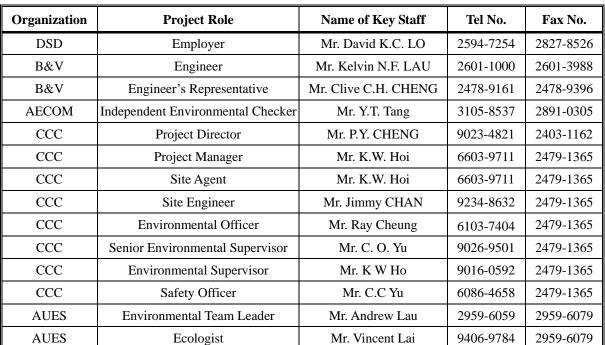
ENVIRONMENTAL ORGANIZATION STRUCTURE



Environmental Organization Structure



Contractor's Environmental Team (CET)



Contact Details of Key Personnel

AUES

Legend:

AUES (ET)

DSD (Employer) B&V

Black & Veatch Hong Kong Limited

Chit Cheung Construction Company Limited.

AECOM (IEC)

- AECOM Asia Company Limited.

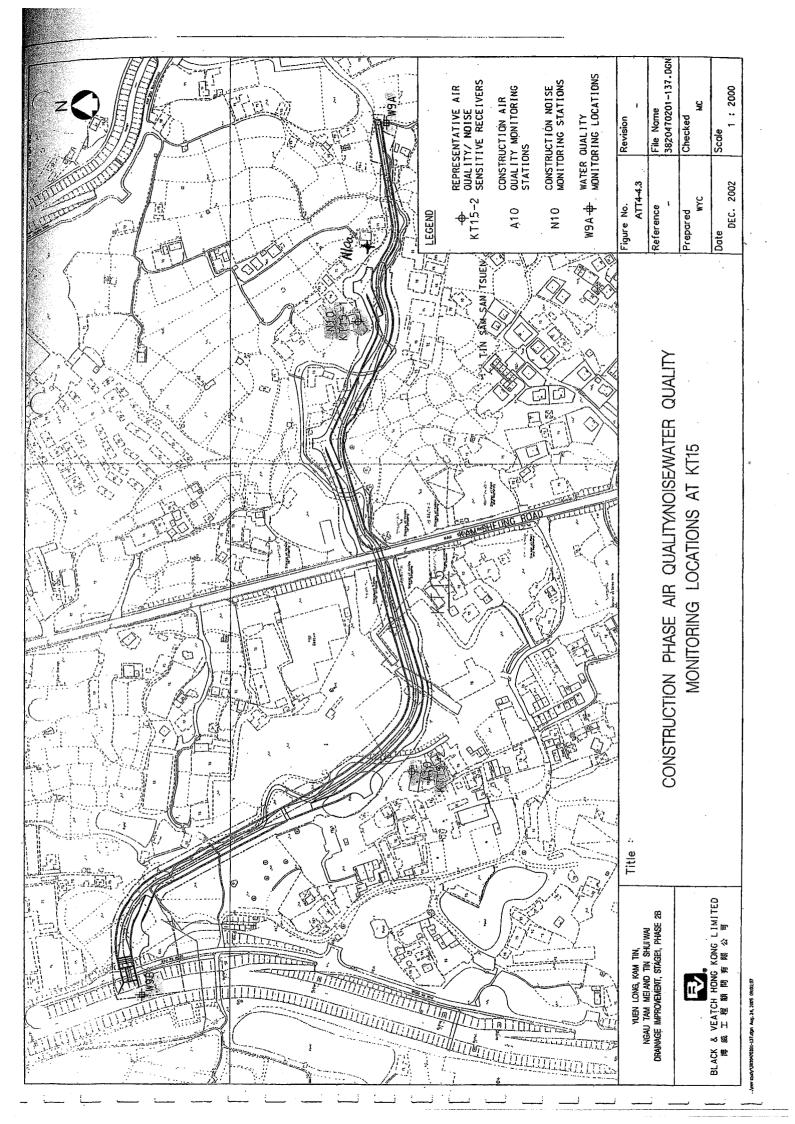
Action-United Environmental Services & Consulting

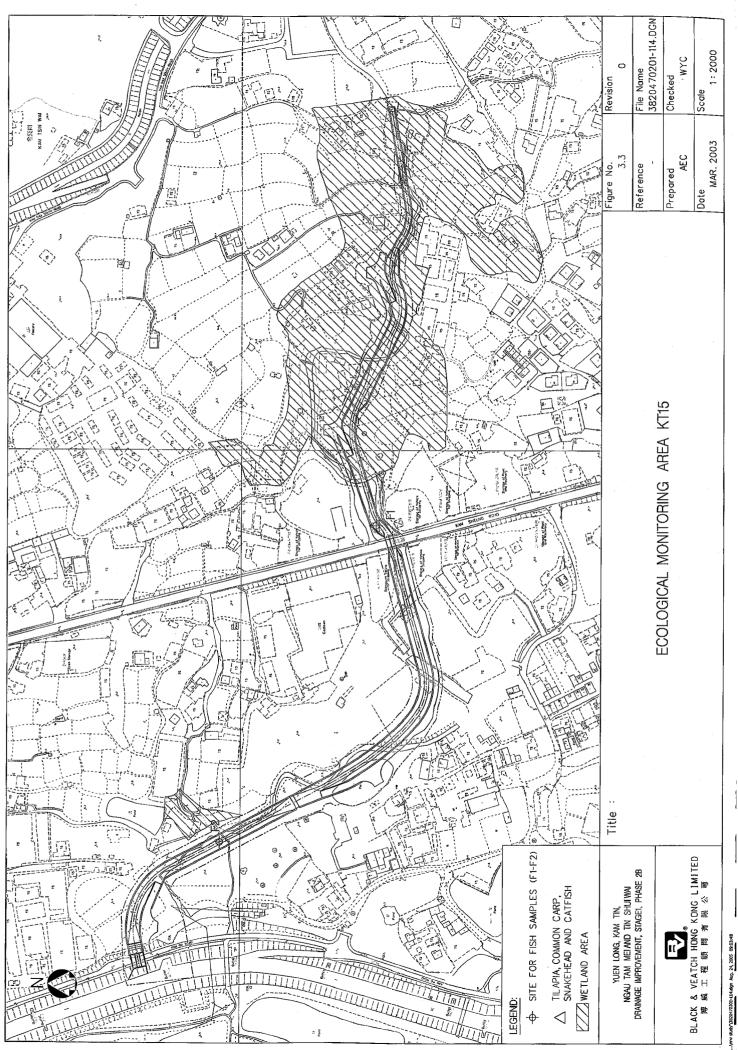
Drainage Services Department (Engineer) -CCC (Contractor) -



APPENDIX D

LOCATIONS OF DESIGNATED MONITORING STATION/LOCATIONS/AREA







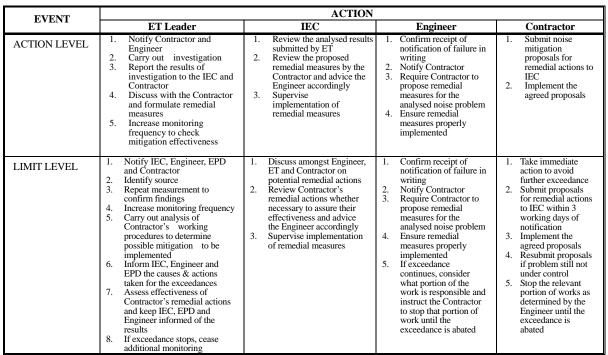
APPENDIX E

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



Event/Action Plan for Air Quality

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



Event/Action Plan for Construction Noise



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

Event and Action Plan for Stream Water Quality



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

Event/Action Plan for Ecology



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		Greasby Anderson GMWS2310 High Volume Sampler	8 Sep 09	8 Nov 09
2	Air	Calibration Kit TISCH Model TE-5025A – Orifcs ID 1612 and Rootsmeter S/N 9833620	2 June 2009	2 June 2010
3	7 111	TSI DuskTrak Model 8520 (21060)	18 Jun 09	18 Jun 10
4		TSI DuskTrak Model 8520 (23080)	18 Jun 09	18 Jun 10
5	Noise	Cesva CB-5 Acoustical Calibrator (Serial No. 030934)	28 Apr 09	28 Apr 10
6	Noise	Cesva SC-20c Sound Level Meter (Serial No. T212509)	28 Apr 09	28 Apr 10
7*		YSI 550A (Serial No. 05F2063AZ)	17 July 09 17 Oct 09	17 Oct 09 17 Jan 10
8*	Water	Extech pH EC500 (Serial No.133298) Hanna HI98107 (Serial No. S411364)	17 July 09 21 Oct 09	17 Oct 09 21 Jan 10
9	water	Turbidimeter HACH 2100p (Serial No. 95090008735)	3 Aug 09	3 Nov 09
10*		Hand refractometer ATAGO (Serial No. 289468)	21 Jul 09 21 Oct 09	21 Oct 09 21 Jan 10

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



ALS

Batch: Date of Issue: Client: Client Reference:

HK0922071 21/10/2009 ACTION UNITED ENVIRO SERVICES

Calibration of Salinity System

ltem :	HAND REFRACTOMETER
Model No. :	ATAGO
Serial No. :	289468
Equipment No. :	EQ114
Calibration Method :	This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B
Date of Calibration :	21 October, 2009
Testing Results :	

Recording Reading	10 g/L 18 g/L 27 g/L 37 g/L	±10%
Expected Reading	10 g/L 20 g/L 30 g/L 40 g/L	Allowing Deviation

Laboratory Manager - Hong Kong Mr Chan Kwok Fali, Godhey

ALS Technichem (HK) Pty Ltd



CERTIFICATE OF ANALYSIS

Client: Client Reference:

Batch: Date of Issue:

HK0921796 17/10/2009 ACTION UNITED ENVIRO SERVICES

Calibration of Thermometer

YSI Multimeter	YSI 550A	05F2063AZ	1	In-house Method	17 October, 2009	
Item :	Model No. :	Serial No. :	Equipment No.:	Calibration Method :	Date of Calibration :	

Testing Results :

Recorded Temperature (^o C)	21.5 °C 34.2 °C	±2.0°C
Reference Temperature (^o C)	22.0 °C 34.5 °C	Allowing Deviation

Page 2 of 3 -aboratory Manager - Hong Kong Mr Ohan Kwok Fai, Godfrey Bna



ALS

latch:	ate of Issue:	client:	lient Reference:
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HK0921796 17/10/2009 ACTION UNITED ENVIRO SERVICES

Calibration of DO System

Item :	YSI Multimeter
Model No. :	YSI 550A
Serial No. :	05F2063AZ
Equipment No. :	
Calibration Method :	This meter was calibrated in accordance with standard method APHA (18th Ed.) 4500-0C & G
Date of Calibration :	17 October, 2009

Testing Results :

Recording Reading	5.37 mg/L 6.86 mg/L 7 86 mg/l	+0.2 mg/l
Expected Reading	5.21 mg/L 6.71 mg/L 7.74 mg/L	Allowing Deviation

aboratory Manager - Hong Kong Chankwok Fai, Godfrey

ALS Technichem (HK) Pty Ltd



Batch:	HK0922(
Date of Issue:	21/10/20
Client:	ACTION
Client Reference:	

922072 3/2009 ION UNITED ENVIRO SERVICES

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ς	2		

ltem :	pH Meter
Model No. :	Hanna HI98107
Serial No. :	S411364
Equipment No. :	
Calibration Method :	This meter was calibrated in accordance with standard method $APHA$ (19th Ed.) 4500-H ⁺ B
Date of Calibration :	21 October, 2009

Testing Results :

Expected Reading	Recording Reading
4.00	3.91
7.00	7.01
 10.0	10.0
Allowing Deviation	<u>±</u> 0.2

Laboratoly/Manager - Hong Kong Chan Kwok Fai, Godfrey





APPENDIX G

IMPACT MONITORING SCHEDULES



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

Impact Monitoring Schedules in this Reporting Period

Monitoring Day
Sunday or Public Holiday



	Date	Air Q	puality	Noise Leq 30min	Water Quality	Ecology Surveys
		1-hour TSP	24-hour TSP	John		
Mon	26-Oct-09					
Tue	27-Oct-09					
Wed	28-Oct-09					
Thu	29-Oct-09					
Fri	30-Oct-09					
Sat	31-Oct-09					
Sun	1-Nov-09					
Mon	2-Nov-09					
Tue	3-Nov-09					
Wed	4-Nov-09					
Thu	5-Nov-09					
Fri	6-Nov-09					
Sat	7-Nov-09					
Sun	8-Nov-09					
Mon	9-Nov-09					
Tue	10-Nov-09					
Wed	11-Nov-09					
Thu	12-Nov-09					
Fri	13-Nov-09					
Sat	14-Nov-09					
Sun	15-Nov-09					
Mon	16-Nov-09					
Tue	17-Nov-09					
Wed	18-Nov-09					
Thu	19-Nov-09					
Fri	20-Nov-09					
Sat	21-Nov-09					
Sun	22-Nov-09					
Mon	23-Nov-09					
	24-Nov-09					
Wed	25-Nov-09					

Impact Monitoring Schedules in the Next Reporting Period

Monitoring Day
Sunday or Public Holiday



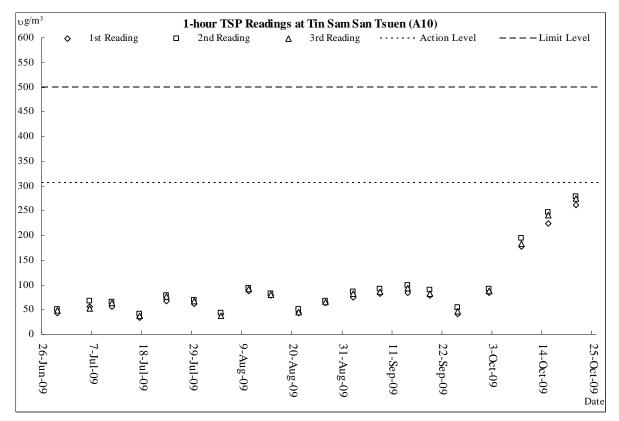
APPENDIX H

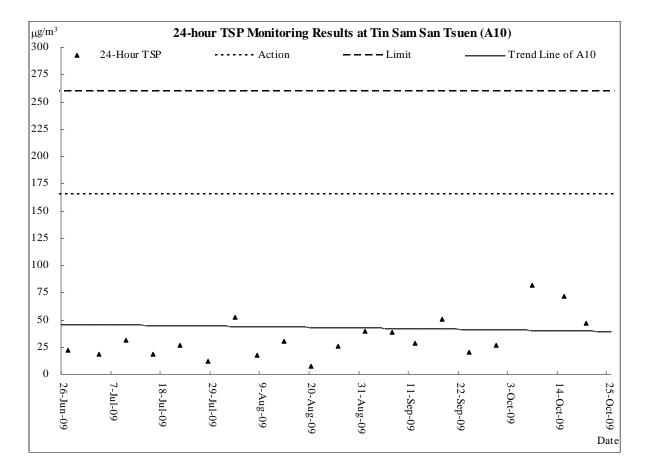
GRAPHICAL PLOTS OF AIR QUALITY, CONSTRUCTION NOISE AND STREAM WATER QUALITY MONITORING RESULTS

DSD Contract No. DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui Wai Drainage Improvements, Stage 1, Phase 2B – Cheung Chun San Tsuen and Kam Tsin Wai KT15 – Monthly EM&A Report for October 2009 (No. 28)



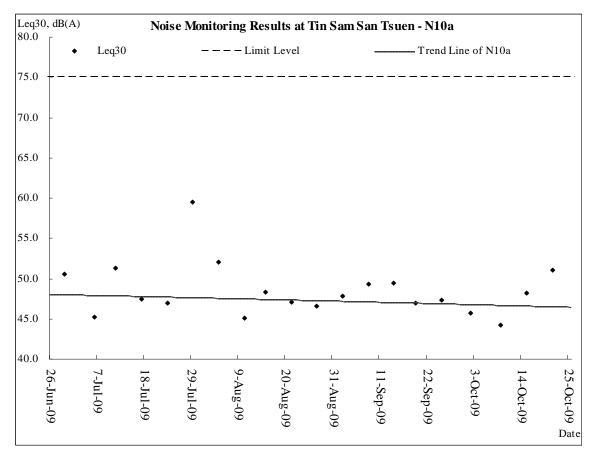
AIR QUALITY





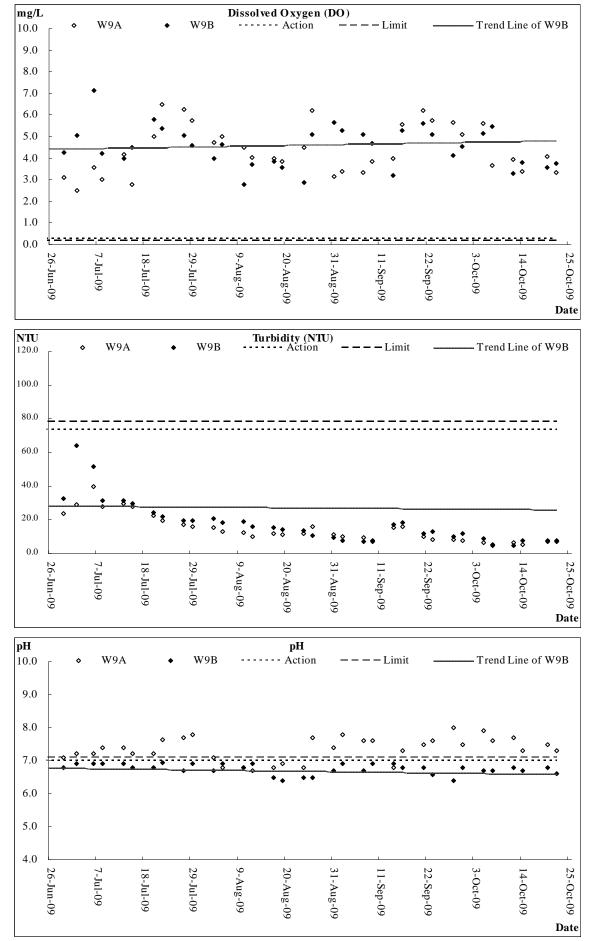


CONSTRUCTION NOISE



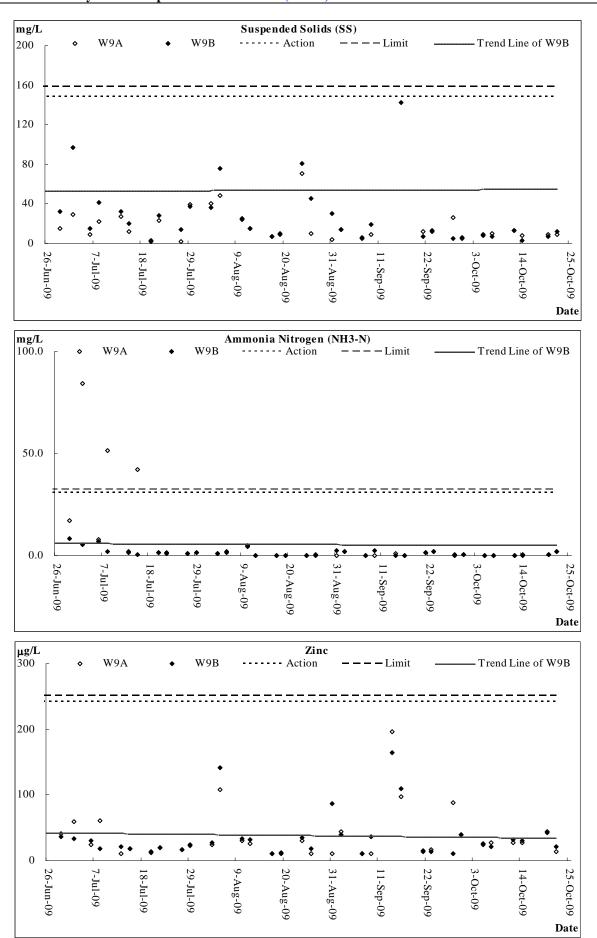


STREAM WATER QUALITY



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Date	2	28-Sep-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	DS (%)	Turbidi	ity (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	15.40	0.10	27.6	27.6	5.67	5 6 4	72.4	72.0	8.6	0.4	0	0.0	8.00	8.00	26.0	0.5	89.0
w9A	15:40	0.10	27.6	27.6	5.61	5.64	71.6	72.0	8.2	8.4	0	0.0	8.00	8.00	26.0	0.5	89.0
WOD	15.55	0.10	27.3	07.0	4.12	4 1 1	50.2	40.0	10.2	10.0	0	0.0	6.40	(10	5.0	0.0	11.0
W9B	15:55	0.10	27.3	27.3	4.09	4.11	49.5	49.9	10.2	10.2	0	0.0	6.40	6.40	5.0	0.0	11.0

Date	3	30-Sep-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DO	DS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	12.20	0.20	27.6	27.6	5.12	5.07	67.6	67.3	7.6	76	0	0.0	7.50	7.50	6.0	0.2	39.0
W 9A	12:30	0.20	27.6	27.6	5.02	5.07	66.9	07.5	7.5	7.6	0	0.0	7.50	7.50	6.0	0.3	39.0
WOD	10,40	0.10	26.9	26.0	4.55	4.50	56.6	56.0	12.3	10.0	0	0.0	6.80	6.90	5.0	0.2	20.0
W9B	12:40	0.10	26.9	26.9	4.49	4.52	56.0	56.3	12.0	12.2	0	0.0	6.80	6.80	5.0	0.3	39.0

Date		5-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	DS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W/O A	15.20	0.00	31.2	21.0	5.67	5 50	72.6	71.0	6.4	()	0	0.0	7.90	7.00	2.0	0.1	24.0
W9A	15:30	0.20	31.2	31.2	5.5	5.59	70.9	71.8	6.1	6.3	0	0.0	7.90	7.90	8.0	0.1	24.0
HIOD	15.45	0.10	30.4	20.4	5.19	5.15	62.4	(2.2	8.9	0.0	0	0.0	6.70	6.50			26.0
W9B	15:45	0.10	30.4	30.4	5.11	5.15	61.9	62.2	8.7	8.8	0	0.0	6.70	6.70	9.0	0.2	26.0

Date		7-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	DS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	15.50	0.10	29.3	20.2	3.67	2.64	47.6	17.2	5.6	5 5	0	0.0	7.60	7.60	10.0	0.1	27.0
w9A	15:50	0.10	29.3	29.3	3.6	3.64	46.9	47.3	5.3	5.5	0	0.0	7.60	7.60	10.0	0.1	27.0
WOD	15.25	0.00	28.7	00.7	5.53	5 40	69.3	(0,(5.0	4.0	0	0.0	6.70	(70	7.0	0.0	22.0
W9B	15:35	0.20	28.7	28.7	5.42	5.48	67.8	68.6	4.9	4.9	0	0.0	6.70	6.70	7.0	0.2	22.0

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Date		12-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	DS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W9A	15.40	0.10	25.2	25.2	3.99	2.02	50.6	50.2	6.7	67	0	0.0	7.70	7 70	12.0	0.2	28.0
W9A	15:40	0.10	25.2	25.2	3.87	3.93	49.7	50.2	6.6	6.7	0	0.0	7.70	7.70	13.0	0.2	26.0
WOD	15.55	0.00	24.8	24.0	3.32	2.20	42.5	12.1	4.5		0	0.0	6.80	6.00	10.0	0.0	22.0
W9B	15:55	0.20	24.8	24.8	3.26	3.29	41.6	42.1	4.6	4.6	0	0.0	6.80	6.80	13.0	0.2	32.0

Date		14-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	(mg/L)	DC	DS (%)	Turbidi	ty (NTU)	5	Salinity		pН	SS	NH3-N	Zinc
W/O A	16425	0.10	25.8	25.9	3.42	2.40	45.2	44.9	5.6	E E	0	0.0	7.30	7.20	20	0.2	28.0
W9A	16"35	0.10	25.8	25.8	3.37	3.40	44.3	44.8	5.4	5.5	0	0.0	7.30	7.30	8.0	0.3	28.0
WOD	16445	0.00	25.5	25.5	3.82	2.70	51.2	50.5	7.6		0	0.0	6.70	6.70	2.0	0.0	01.0
W9B	16"45	0.20	25.5	25.5	3.75	3.79	49.7	50.5	7.5	7.6	0	0.0	6.70	6.70	3.0	0.2	31.0

Date	-	20-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pН	SS	NH3-N	Zinc
WOA	14.00	0.10	24.6	24.6	4.11	4.07	52.9	52.2	7.3	7.2	0	0.0	7.50	7.50 #	0.0	0.2	44.0
W9A	14:00	0.10	24.6	24.6	4.02	4.07	51.5	52.2	7.2	1.3	0	0.0	7.50	7.50 #	9.0	0.3	44.0
WOD	14.25	0.00	24.4	24.4	3.62	0.55	47.2	16.5	7.9		0	0.0	6.80	(00 ll		0.0	12.0
W9B	14:25	0.20	24.4	24.4	3.48	3.55	45.7	46.5	7.9	7.9	0	0.0	6.80	6.80 #	7.0	0.3	43.0

Date	,	22-Oct-09															
Location	Time	Depth (m)	Ten	np (oC)	DO	DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity		pН	SS	NH3-N	Zinc
W/O A	12.50	0.10	24.7	24.7	3.43	2.26	43.6	40.9	7.9	7.0	0	0.0	7.30	7.20	0.0	2.2	12.0
W9A	13:50	0.10	24.7	24.7	3.28	3.36	41.9	42.8	7.8	7.9	0	0.0	7.30	7.30	9.0	2.2	13.0
			24.2	24.2	3.76	2.54	48.8	10.5	7.3		0		6.60			2.2	
W9B	14:05	0.20	24.2	24.2	3.72	3.74	48.1	48.5	7.4	7.4	0	0.0	6.60	6.60	12.0	2.2	21.0

Data used for reference only as the equipment was pending for calibration.



APPENDIX I

METEOROLOGICAL DATA IN THE REPORTING PERIOD



Meteorological Data Extracted from Hong Kong Observatory in the Reporting Period

				Lau Fau Shan Weather Station							
	Date	Weather	Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction				
Sat	26-Sep-09	fine/dry/very hot/moderate	0.0	29.5	9.3	70	80				
Sun	27-Sep-09	fine/hot/moderate/fresh	0.0	29.1	16.0	67	40				
Mon	28-Sep-09	cloudy/rain/squally thunderstorms/fresh/strong	27.0	25.9	16.5	84	60				
Tue	29-Sep-09	overcast/rain/fresh/strong	32.5	24.5	14.2	94	70				
Wed	30-Sep-09	cloudy/rain/moderate/fresh	50.0	25.8	13.5	89	70				
Thu	1-Oct-09	Holiday	0.0	27	11.1	77	80				
Fri	2-Oct-09	fine/dry/cloudy/moderate	0.0	27.8	9.8	70	80				
Sat	3-Oct-09	Holiday	0.0	27.4	9.6	69	150				
Sun	4-Oct-09	fine/dry/moderate	0.0	27.1	12.4	60	360				
Mon	5-Oct-09	fine/dry/moderate/fresh	0.0	27.1	14.5#	48	010#				
Tue	6-Oct-09	fine/dry/moderate/fresh	0.0	27.6	11.8	58	10				
Wed	7-Oct-09	fin/dry/moderate	0.0	27.3	10.2	60	150				
Thu	8-Oct-09	fine/dry/moderate	0.0	25.6	10.1	68	90				
Fri	9-Oct-09	fine/dry/moderate	0.0	25.8	10.1	61	10				
Sat	10-Oct-09	fine/dry/moderate	0.0	26.4	11.3	57	80				
Sun	11-Oct-09	cloudy/rain/fresh/strong	2.5	25.7	14.0	79	80				
Mon	12-Oct-09	cloudy/rain/fresh/strong	0.0	25.9	18.0	77	90				
Tue	13-Oct-09	sunny	0.0	27.2	16.0	72	90				
Wed	14-Oct-09	cloudy/rain/moderate/fresh	0.0	26.4	12.0	75	90				
Thu	15-Oct-09	sunny intervals/rain	0.0	25	10.5	73	50				
Fri	16-Oct-09	fine/haze/moderate	0.0	25.8	9.0	78	80				
Sat	17-Oct-09	fine/dry/hazy/moderate	0.0	26.4	11.3	68	80				
Sun	18-Oct-09	cloudy/moderate/fresh	0.0	26.4	16.0	63	90				
Mon	19-Oct-09	cloudy/rain/moderate/fresh	0.0	26.3	15.9	76	80				
Tue	20-Oct-09	cloudy/rain/fresh/strong	0.5	23.9	18.8	82	80				
Wed	21-Oct-09	cloudy/moderate	0.0	24.7	9.2	76	80				
Thu	22-Oct-09	fine/haze/moderate	0.0	25.5	7.8	71	100				
Fri	23-Oct-09	fine/dry/fazy/light winds	0.0	25.7	10.5	67	90				
Sat	24-Oct-09	Fine and dry with some haze.	0.0	25.7	9.8	66	80				
Sun	25-Oct-09	Fine and dry with some haze.	0.0	24.9	10.3	77	150				

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected



APPENDIX J

ENVIRONMENTAL TEAM SITE INSPECTION CHECKLISTS

-

Project	::	Contract No.: DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui					Inspected by								
		Yuen Long, Kam Wai Drainage Im													
		Cheung Chun Sa					R	E/RE's rep	resentati	ive:	K. P. Ch	eung			
Inspect	tion						IE	C/IEC's re	presenta	tive:					
Date:		28 September 20	09				E٦	L/ ET's re	epresenta	tive:	Nicola H	on			
Time:		10:00					Co	ontractor'	s represe	ntative:	Ray Che	ung			
							Cł	necklist N	0.		KT15-28	0909			
PART A	۹:	GENERAL INF	ORMA	TION	En	vironmenta	al Pe	rmit No. N	IA						
Weathe	er:	Sunny		Fine		Cloudy	√	Rainy							
Temper	rature:	26.4		°C				_							
Humidit	ty:	High	\checkmark	Moderate		Low									
Wind:		Strong		Breeze	\checkmark	Light		Calm							
PART E	3:	SITE AUDIT													
							Г								
								Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks		
Section	n 1: Wa	ater Quality					L				-				
1.01	ls an e	effluent discharge lic	ense o	btained for th	e Proje	ct?			\checkmark						
1.02	Is the	effluent discharged	in acco	rdance with th	ne disch	narge licence	ə?		\checkmark						
1.03	Is the	discharge of turbid	water a	voided?					\checkmark						
		ere proper desiltir SS levels in efflue		ities in the c	drainag	e systems	to		\checkmark						
		ere channels, sand entation tanks?	bags or	bunds to dir	ect surf	face run-off	to		\checkmark						
		ere any perimeter ept storm runoff fron			at site	boundaries	to		\checkmark						
1.07	Is drai	nage system well m	aintaine	ed?					\checkmark						
		cavation proceeds, ed stone or gravel?	are tem	porary acces	s roads	s protected b	by		\checkmark						
1.09	Are ter	mporary exposed sl	opes pr	operly covere	∋d?				\checkmark						
1.10	Are ea	arthworks final surfa	ces wel	l compacted	or prote	ected?						\checkmark			
1.11	Are ma	anholes adequately	covere	d or tempora	rily seal	led?			\checkmark						
1.12	Are the	ere any procedures	and eq	uipment for ra	ainstorr	n protection'	?		\checkmark						
1.13	Are wł	neel washing facilitie	es well i	maintained?											
1.14	ls runc	off from wheel wash	ing faci	lities avoided	?										
1.15	Are the	ere toilets provided	on site?	?											
		ilets properly mainta			ad and	located with	in		$\mathbf{\nabla}$						
1.17	roofed	e vehicle and plant areas?				iocated with									
1.18	Is the	oil leakage or spilla	ge avoi	ded?					\checkmark						
1.19	draina	ere any measures ge system?				-			\checkmark						
1.20	wasnings during concreting works?											\checkmark			
	Are there any oil interceptors/grease traps in the drainage sy for vehicle and plant servicing areas, canteen kitchen, etc?											\checkmark			
1.22	Are the	e oil interceptors/gre	erly?						\checkmark						

Environmental Site Inspection Checklist for KT15

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				

Environmental Site Inspection Checklist for KT15

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	on 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

Environmental Site Inspection Checklist for KT15

			up	N/A	Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?	\checkmark			
4.15	Are construction wastes sorted (inert and non-inert) on site?	\checkmark			
4.16	Are construction wastes reused?	\checkmark			
4.17	Are construction wastes disposed of properly?	\checkmark			
	Are site hoardings and signboards made of durable materials instead of timber?	\checkmark			
	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	\checkmark			
4.20	Are appropriate procedures followed if contaminated material exists?			\checkmark	
	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	\checkmark			
	Site cleanliness and appropriate waste management training had provided for the site workers.	\checkmark			
	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.	\checkmark			
Sectio	n 5: Landscape & Visual				
5.01	Are retained and transplanted trees in health condition?	\checkmark			
5.02	Are retained and transplanted trees properly protected?	\checkmark			
5.03	Are surgery works carried out for the damaged trees?			\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?	\checkmark			
	Is the night-time lighting controlled to minimize glare to sensitive receivers?	\checkmark			
Sectio	n 6: Ecology				
	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?	\checkmark			
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800	\checkmark			
	(KT2). Works in the marsh and other disturbances to this area is avoided?	\checkmark			
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?	\checkmark			
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?	\checkmark			
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.	\checkmark			
Sectio	n7: Others				
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?			\checkmark	

Remarks

Follow-Up of Last Site Inspection (23 September 2009):

- 1. The exposed surface at Bay 1 has been applied with hydroseeding.
- 2. Housekeeping on site has been improved.

Finding of Site Inspection on 28 September 2009:

No adverse environmental impact was observed during site inspection.

RE's representative		IEC's representative		ET's representative	Contractor's representative
(to chenny)	(· · · · · · · · · · · · · · · · · · ·	Nicala Hon)	Trang?

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Project	t:	Contract No.: DC/2006/02 Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shui					_ Inspected by								
		Wai Drainage Imp	proven	nents, Stage	1, Pha	se 2B –									
Inspec	tion	Cheung Chun Sa	n isue	en and Kam		ai		E/RE's rep C/IEC's re			K. P. Ch	eung			
Date:		7 October 2009						L/ET's r	-		Nicola H	on			
Time:		10:00					Co	ontractor	s represe	entative:	Ray Che	ung			
							Ch	necklist N	0.		KT15-07	1009			
PART	A:	GENERAL INF	ORMA	TION	En	vironmenta	l Pe	rmit No. N	A						
Weathe	er:	Sunny	✓	Fine		Cloudy		Rainy							
Tempe		27.6		°C		ι.									
Humidi Wind:	ty:	High Strong	✓	Moderate Breeze		Low Light		Calm							
	в.			Dieeze	•	Light		Califi							
PARTI	D:	SITE AUDIT					-								
								Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks		
Sectio	n 1: Wa	ater Quality													
1.01	ls an e	ffluent discharge lice	ense ol	btained for th	e Proje	ct?									
1.02	Is the e	effluent discharged i	n accoi	rdance with th	ne disch	narge licence	?		\checkmark						
1.03	Is the o	discharge of turbid w	vater av	voided?					\checkmark						
1.04	reduce	ere proper desilting SS levels in effluer	nt?		, i				\checkmark						
1.05		ere channels, sandb entation tanks?	ags or	bunds to dir	ect sur	face run-off	to			\checkmark			Remark 1		
1.06		ere any perimeter of pt storm runoff from			at site	boundaries t	to		\checkmark						
1.07	Is draiı	nage system well ma	aintaine	ed?					\checkmark						
1.08		avation proceeds, a d stone or gravel?	are tem	porary acces	s roads	s protected b	у		\checkmark						
1.09	Are ter	mporary exposed slo	opes pr	operly covere	ed?				\checkmark						
1.10	Are ea	rthworks final surfac	es wel	I compacted	or prote	ected?						\checkmark			
1.11	Are ma	anholes adequately	covere	d or tempora	rily seal	led?			\checkmark						
1.12	Are the	ere any procedures	and eq	uipment for ra	ainstorr	n protection?	?		\checkmark						
1.13	Are wh	neel washing facilitie	s well ı	maintained?					\checkmark						
1.14	ls runc	off from wheel washi	ng faci	lities avoided	?				\checkmark						
1.15	Are the	ere toilets provided o	on site?	?					\checkmark						
1.16		lets properly mainta							\checkmark						
1.17		e vehicle and plant areas?	servicir	ng areas pave	ed and	located with	in					\checkmark			
1.18	Is the o	oil leakage or spillag	e avoid	ded?					\checkmark						
		ere any measures ge system?	to prev	vent leaked o	oil from	n entering th	ie		\checkmark						
1.20	washings during concreting works?						te					\checkmark			
1.21	Are there any oil interceptors/grease traps in the drainage sy for vehicle and plant servicing areas, canteen kitchen, etc?						IS					\checkmark			
1.22	Are the	Are the oil interceptors/grease traps maintained properly?										\checkmark			

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	on 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800		\checkmark				
6.03	(KT2). Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	

Remarks

Follow-Up of Last Site Inspection (28 September 2009):

No adverse environmental impact was observed during site inspection.

Finding of Site Inspection on 7 October 2009:



Remark 1: The Contractor is reminded to place the sand bag or bund to isolate the construction area (bay 1) from the existing stream in order to minimize the water quality impact.

ET's representative Contractor's **(EC's representative RE's representative** representative (EPGHEuro 19) (Ray Chenney) Nicola Hon)): ţ

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Project	t:	Contract No.: DC					Inspected by									
		Yuen Long, Kam Wai Drainage Imp														
		Cheung Chun Sa					RE	E/RE's rep	resentati	ive:	K. P. Ch	eung				
Inspect	tion						IE	C/IEC's re	presenta	tive:						
Date:		14 October 2009					ET	L/ ET's re	epresenta	tive:	Ben Tam					
Time:		10:00					Contractor's representative:			ntative:	Ray Che	ung				
							Ch	necklist N	0.		KT15-14	1009				
PART	A:	GENERAL INF	ORMA	ΓΙΟΝ	Er	vironmenta	al Pe	rmit No. N	A							
Weathe	er:	Sunny	\checkmark	Fine		Cloudy		Rainy								
Tempe	rature:	27		°C												
Humidit	ty:	High	\checkmark	Moderate		Low										
Wind:		Strong		Breeze	\checkmark	Light		Calm								
PART	B:	SITE AUDIT														
							Г	Net			Fallow		Dhata/			
								Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks			
Section	n 1: Wa	ater Quality					-									
1.01	ls an e	effluent discharge lice	ense ol	otained for th	e Proje	ct?			\checkmark							
1.02	Is the	effluent discharged i	n accor	dance with th	ne discł	narge licence	э?		\checkmark							
1.03	Is the	discharge of turbid w	vater av	voided?					\checkmark							
1.04	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?						to		\checkmark							
	Are there channels, sandbags or bunds to direct surface run-off sedimentation tanks?					to										
	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?						to		\checkmark							
1.07	Is drai	nage system well ma	aintaine	ed?					\checkmark							
		cavation proceeds, a ed stone or gravel?	are tem	porary acces	s roads	s protected b	зу		\checkmark							
1.09	Are ter	mporary exposed slo	opes pr	operly covere	ed?				\checkmark							
1.10	Are ea	arthworks final surfac	es wel	l compacted	or prote	ected?						\checkmark				
1.11	Are ma	anholes adequately	covered	d or tempora	rily sea	led?			\checkmark							
1.12	Are the	ere any procedures a	and eq	uipment for ra	ainstorr	n protection'	?		\checkmark							
1.13	Are wh	neel washing facilitie	s well r	maintained?												
1.14	ls runc	off from wheel washi	ng facil	ities avoided	?											
1.15	Are the	ere toilets provided o	on site?)												
		ilets properly maintai				le este d with			\checkmark							
1.17		e vehicle and plant s areas?	Servicin	ig aleas pave	eu anu		In									
1.18	Is the	oil leakage or spillag	le avoid	led?					\checkmark							
		ere any measures ge system?	to prev	vent leaked	oil from	n entering th	ıe		\checkmark							
1.20	washir	nere any measures ngs during concreting	g works	s?								\checkmark				
		ere any oil interceptonicle and plant service					ns					\checkmark				
1.22	Are the	e oil interceptors/gre	ase tra	ps maintaine	d prope	erly?						\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	on 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800		\checkmark				
6.03	(KT2). Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	

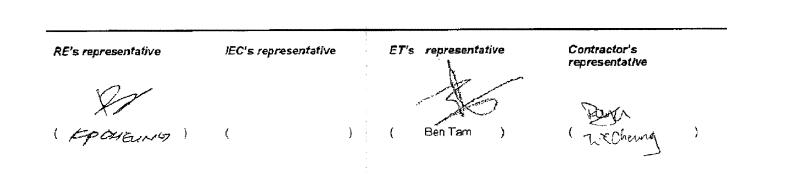
Remarks

Follow-Up of Last Site Inspection (7 October 2009):

The construction works at bay 1 has been completed.

Finding of Site Inspection on 14 October 2009:

No adverse environmental impact was observed during site inspection.



Projec	t: _	Contract No.: DC/2006/02						Inspected by									
		Yuen Long, Kam Wai Drainage Im															
	_	Cheung Chun Sa					RE	E/RE's rej	presentati	ve:	K. P. Ch	eung					
Inspec	tion						IE	C/IEC's re	epresenta	tive:	Cyrus La	au					
Date:	_	23 October 2009					ET	L/ ET's r	epresenta	tive:	Ben Tam						
Time:	_	10:00					Contractor's representative: Ray Cheung										
							Cł	necklist N	lo.		KT15-231009						
PART	A :	GENERAL INF	ORMA	TION	Er	nvironmenta	al Pe	rmit No. I	NA								
Weathe	er:	✓ Sunny		Fine		Cloudy		Rainy									
Tempe	rature:	25] °C		7											
Humidi	ty:	High		Moderate	 ✓ 	Low		-									
Wind:		Strong		Breeze	\checkmark	Light		Calm									
PART	B:	SITE AUDIT															
								Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks				
Sectio	n 1: Wa	ter Quality															
1.01	ls an ef	fluent discharge lid	cense o	obtained for t	ne Proje	ect?			\checkmark								
1.02	Is the e	ffluent discharged	in acco	ordance with t	he discl	harge licence	e?		\checkmark								
1.03	Is the d	ischarge of turbid	water a	avoided?					\checkmark								
1.04	Are there proper desilting facilities in the drainage systems reduce SS levels in effluent?								\checkmark								
1.05	Are there channels, sandbags or bunds to direct surface run-or sedimentation tanks?						to		\checkmark								
1.06	Are there any perimeter channels provided at site boundaries intercept storm runoff from crossing the site?						to		\checkmark								
1.07	Is drain	age system well m	naintain	ned?					\checkmark								
1.08		avation proceeds, d stone or gravel?	are ten	nporary acce	ss road	s protected I	by		\checkmark								
1.09	Are terr	nporary exposed sl	opes p	properly cover	ed?				\checkmark								
1.10	Are ear	thworks final surfa	ces we	ell compacted	or prote	ected?						\checkmark					
1.11	Are ma	nholes adequately	covere	ed or tempora	arily sea	led?			\checkmark								
1.12	Are the	re any procedures	and eo	quipment for	rainstorr	m protection	?		\checkmark								
1.13	Are whe	eel washing faciliti	es well	maintained?					\checkmark								
1.14	Is runof	ff from wheel wash	ing fac	ilities avoide	1?				\checkmark								
1.15	Are the	re toilets provided	on site	?					\checkmark								
1.16	Are toile	ets properly mainta	ained?						\checkmark								
1.17	Are the roofed a	vehicle and plant areas?	servici	ing areas pav	ed and	located with	nin					\checkmark					
1.18	Is the o	il leakage or spilla	ge avoi	ided?					\checkmark								
1.19		ere any measures le system?	to pre	event leaked	oil fron	n entering th	he		\checkmark								
1.20		ere any measure gs during concretir			ement	and concre	ete					\checkmark					
1.21		re any oil intercep cle and plant servi					ns					\checkmark					
1.22	Are the	oil interceptors/gro	ease tra	aps maintain	ed prope	erly?						\checkmark					

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
1.23	Is used bentonite recycled where appropriate?					\checkmark	
1.24	Concreting wastes water should be neutralized below the pH Action Levels before discharge.					\checkmark	
1.25	Any mitigation is implemented during de-watering of the stream within the proposed channel to avoid pollutants entering Kam Tin River?					\checkmark	
1.26	Sediments at the dewatering of the streams should be dry before excavation.					\checkmark	
1.27	Dam or barrier should be provided at the interaction of old and new channels to prevent concrete washing from the construction works flow into the exist channel.					\checkmark	
1.28	License collector should be employed for handling the sewage of mobile toilet.		\checkmark				
1.29	Prevent any stagnant water accumulated within the excavation trench or site working area.		\checkmark				
Sectio	n 2: Air Quality						
2.01	Are there wheel washing facilities with high pressure jets provided at every vehicle exit point?		\checkmark				
2.02	Are vehicles washed to remove any dusty materials from their bodies and wheels before leaving construction sites?		\checkmark				
2.03	Are the excavated materials sprayed with water during handling?		\checkmark				
2.04	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?		\checkmark				
2.05	Is the exposed earth properly treated within six months after the last construction activities?					\checkmark	
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?		\checkmark				
2.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?					\checkmark	
2.08	Is the load on vehicles covered entirely by clean impervious sheeting?		\checkmark				
2.09	Is the loading of materials to a level higher than the side and tail boards during transportation by vehicles avoided?					\checkmark	
2.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\checkmark				
2.11	Is dark smoke emission from plant/equipment avoided?		\checkmark				
2.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?					\checkmark	
2.13	Are site vehicles travelling within the speed limit not more than 20km/hour?		\checkmark				
2.14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?		\checkmark				
2.15	Is open burning avoided?		\checkmark				
2.16	Excavated odourous materials shall be transported away from site immediately if possible?					\checkmark	
2.17	If on-site stockpiling cannot be avoided, it should covered properly at all time and shortest duration storage on-site as possible?		\checkmark				
2.18	All vehicle exhaust are directed vertically upwards or directed away from the ground?					\checkmark	
2.19	Any materials dropped on sealed roads are clean up immediately to prevent dust emission?					\checkmark	
Sectio	n 3: Noise						
3.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.02	Is silenced equipment adopted?		\checkmark				
3.03	Is idle equipment turned off or throttled down (Level 3 mitigation measures)?		\checkmark				
3.04	Are all plant and equipment well maintained and in good condition (Level 3 mitigation measures)?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
3.05	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers (Level 3 mitigation measures)?					\checkmark	
3.06	Are hand held breakers fitted with valid noise emission labels during operation?					\checkmark	
3.07	Are air compressors fitted with valid noise emission labels during operation?					\checkmark	
3.08	Are flaps and panels of mechanical equipment closed during operation?					\checkmark	
3.09	Are Construction Noise Permit(s) applied for percussive piling works?					\checkmark	
3.10	Are Construction Noise Permit(s) applied for general construction works during restricted hours?					\checkmark	
3.11	Are valid Construction Noise Permit(s) posted at site entrances?					\checkmark	
3.12	Use of quiet plant had been used on site to minimise the construction noise impact to the surrounding residences/dwellings (Level 1 mitigation measures).					\checkmark	
3.13	Temporary/Moveable noise barrier or site hoarding are provide or erect at the site boundary to minimise the noise impact of the closest NSRs or stationary equipments shield by the noise barrier which cannot visible from NSRs (Level 2 mitigation measure)					\checkmark	
3.14	Temporary/Moveable noise barrier equal to or more than 3m height with 10kg/m2 are provide for noise mitigation measures (Level 2 mitigation measures).					\checkmark	
3.15	Noisy equipment and activities should be placed as far from close-proximity sensitive receivers (Level 3 mitigation measures)?		\checkmark				
3.16	Prolonged operation of noisy equipment close to dwelling is avoided (Level 3 mitigation measures)?		\checkmark				
3.17	Noisy plant or processes is replaced by quieter alternatives as possible (Level 3 mitigation measures)?					\checkmark	
3.18	Noisy activities had been scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise (Level 3 mitigation measures)?					\checkmark	
3.19	Equipments emit sound strongly in one direction should oriented away to the nearby NSRs as possible (Level 3 mitigation measures)?					\checkmark	
3.20	Stationary equipment should be located within the channels as far as practicable (Level 3 mitigation measures)?					\checkmark	
Sectio	on 4: Waste/Chemical Management						
4.01	Waste Management Plan had been submit to Engineer for approval.		\checkmark				
4.02	Are receptacles available for general refuse collection?		\checkmark				
4.03	Is general refuse sorting or recycling implemented?		\checkmark				
4.04	Is general refuse disposed of properly and regularly?		\checkmark				
4.05	Is the Contractor registered as a chemical waste producer?		\checkmark				
4.06	Are the chemical waste containers properly labelled?		\checkmark				
4.07	Are the chemical wastes stored in proper storage areas?		\checkmark				
4.08	Is the chemical waste storage area properly labelled?		\checkmark				
4.09	Is the chemical waste storage area used for storage of chemical waste only?		\checkmark				
4.10	Are incompatible chemical wastes stored in different areas?		\checkmark				
4.11	Are the chemical wastes disposed of by licensed collectors?		\checkmark				
4.12	Are trip tickets for chemical wastes disposal available for inspection?		\checkmark				
4.13	Are chemical/fuel storage areas bunded?		\checkmark				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
4.14	Are designated areas identified for storage and sorting of construction wastes?		\checkmark				
4.15	Are construction wastes sorted (inert and non-inert) on site?		\checkmark				
4.16	Are construction wastes reused?		\checkmark				
4.17	Are construction wastes disposed of properly?		\checkmark				
4.18	Are site hoardings and signboards made of durable materials instead of timber?		\checkmark				
4.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?		\checkmark				
4.20	Are appropriate procedures followed if contaminated material exists?					\checkmark	
4.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?		\checkmark				
4.22	Site cleanliness and appropriate waste management training had provided for the site workers.		\checkmark				
4.23	Contaminated sediments will managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002.		\checkmark				
Sectio	n 5: Landscape & Visual						
5.01	Are retained and transplanted trees in health condition?		\checkmark				
5.02	Are retained and transplanted trees properly protected?		\checkmark				
5.03	Are surgery works carried out for the damaged trees?					\checkmark	
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\checkmark				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?		\checkmark				
Sectio	n 6: Ecology						
6.01	CH300-1100 the channelisation should be conducted with gabion banks and gabion bottom lining, to allow for the reestablishment of riparian and stream ecosystems?		\checkmark				
6.02	Vehicle access is restricted to the section west and east of the channel, and only footpath access is permitted at chainage 500-800		\checkmark				
6.03	(KT2). Works in the marsh and other disturbances to this area is avoided?		\checkmark				
6.04	Prevent site effluent/runoff discharge to the marsh at KT15?		\checkmark				
6.05	Stockpiling or disposal of materials, and any dredging or construction activities at the marsh at KT15 are prohibited?		\checkmark				
6.06	Mimimise the need to remove vegetation including trees. If tree felling is necessary, tree felling permit should be apply before any felling activities.		\checkmark				
Sectio	n7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?					\checkmark	

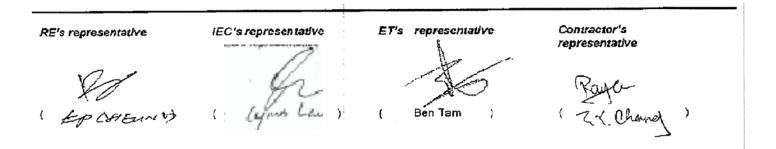
Remarks

Follow-Up of Last Site Inspection (14 October 2009):

No adverse environmental impact was observed during site inspection.

Finding of Site Inspection on 23 October 2009:

No adverse environmental impact was observed during site inspection.



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Yuen Long, Kam Tin, Ngau Tam Mei and Tin Shuj Wai Drainage Improvements, Stage 1, Phase 2B –		Inspected RE's repre	-	×	<u>k.</u> P.		i
Inspection Date:			esentativ		- 1	us law	
Time:	<u>22-10-2209</u> 10:00 our.	ET's repre Contractor			<u>B</u> e		
		Checklist I		entanve.	Ra	y change	······································
PART A:	GENERAL INFORMATION Environmental	Permit No.	EP-231/2	005/A			
Weather:	Sumny Fine Cloudy	Rainy					
Temperatu Humidity:	re: <u> </u>						
Wind:	Strong Breeze Light	Calm					
PART B:	SITE AUDIT						
		Not Obs.	Yes	No	Follow		Photo/ Remarks
	Water Quality	·			••••••	<u></u> .	
	n offluent discharge license obtained for the Project?						
liçêi	the effluent discharged in accordance with the discharge nce?		\square				
	ne discharge of turbid water avoided?						
1.04 Are redu	there proper desilting facilities in the drainage systems to uce SS levels in effluent?						
1.05 Are sedi	there channels, sandbags or bunds to direct surface run-off to imentation tanks?		\square				
1.06 Are inter	there any perimeter channels provided at site boundaries to reept storm runoff from crossing the site?						
1.07 ls di	rainage system well maintained?		\square				
1.06 Ase crus	excavation proceeds, are temporary access roads protected by thed stone or gravel?		\square				
.09 Are	temporary exposed slopes properly covered?		\square				
.10 Are	earthworks final surfaces well compacted or protected?		\square				
.11 Are i	manholes adequately covered or temporarily sealed?						
.12 Are 1	there any procedures and equipment for rainstorm protection?						• • •
.13 Are \	wheel washing facilities well maintained?		\square				
.14 ls rui	noff from wheel washing facilities avoided?		\square				
.15 Aret	here toilets provided on site?						
	oilets properly maintained?		\square				
.17 Are ti roofe	he vehicle and plant servicing areas paved and located within d areas?						
.18 is the	e oil leakage or spillage avoided?						
19 Are t draina	here any measures to prevent leaked oil from entering the age system?						
20 Are 1 wash	there any measures to collect spilt cement and concrete ings during concreting works?						
21 Are the for ve	here any oil interceptors/grease traps in the drainage systems hicle and plant servicing areas, canteen kitchen, etc?						, <u></u>
	ne oil interceptors/grease traps maintained properly?						
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Environmental	Site	Inspection	Checklist	for	KT15

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En	vironmental Site Inspection Checklist for KT15						AECOM
		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 wate provided and located at the streambed with 1-2m deep, 12m ion and around 50m ³ capacities for sedimentation?	9 🗌					
1.25	Is excavation prohibited in the settlement area?		\square				
1.26	Is concreting wastes water neutralized below the pH Action Level before discharge?	s 🛛					
1.27	Are mobile toilets provided on site and located away from the KT1 stream course?	5					
1.25	Is License collector employed for handling the sewage of mobil toilet?	• 🗖					
Secti	on 2; Air Quality					-	
2.01	Are there wheel washing facilities with high pressure jets provide at every vehicle exit point?						
2.02	Are vehicles washed to remove any dusty materials from the bodies and wheels before leaving construction sites?	r 🗋					
2.03	Are the excavated materials sprayed with water during handling?						
2.04	Are stockpiles of dusty materials sprayed with water, covered o placed in sheltered areas?						
05	Is the exposed earth properly treated within six months after the last construction activities?		\square				
2.06	Are the access roads sprayed with water to maintain the entire road surface wet or paved?	, П				Γ.	
.07	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	' Z					
98	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 tai boards during transportation by vehicles avoided?						
.10	Is the road leading to the construction site within 30m of the vehicle entrance kept clear of dusty materials?		\square				
.11	Is dark smoke emission from plant/equipment avoided?						
.12	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?						
13	Are site vehicles travelling within the speed limit not more than 15km/hour?		\square				<u></u>
14	Are hoardings of not less than 2.4m high provided along the site boundary, which adjoins areas accessible to the public?						
15	Is open burning avoided?						
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?	\square					
ectio	n 3: Noise					-	
01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?						
02	Is silenced equipment adopted?	\square					
03	Is idle equipment turned off or throttled down?						• • • • • • • • • • • • • • • • • • •
	Are all plant and equipment well maintained and in good condition?					-	Research where the second s
)5	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?						
10	Are hand held breakers fitted with valid noise emission labels during operation?						
7	Are air compressors fitted with valid noise emission labels during operation?						
8	Are flaps and panels of mechanical equipment closed during operation?						and the second se
9	Are Construction Noise Permit(s) applied for percussive piling works?						
60023	871\Audil\Checklists\chkist,template KT15.doc	Page 2 of 5	_				

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	vironmental Site Inspection Checklist for KT15						AECO
	Are Construction Noise frametical and the second	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?						
3.1	and contrabutor Noise Fermit(s) posted at site entrances?						
3.12	measures)?	\square					
3,13	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/m ² provided for noise mitigation measures (Level 2 mitigation measures)?						
Sec	tion 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 property and regularity?						
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?						<u></u>
4.13	Are chemical/fuel storage areas bunded?		\square				
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?		\square				
4.16	Are construction wastes reused?						
4.17	Are construction wastes disposed of property?						
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?						
1.20	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?						
1.22	Is site cleanliness and appropriate waste management training provided for the site workers?		Ø				
1.23	Are contaminated sediments managed according to WBTC No.12/2000 and EWTB TC(W) No. 34/2002?						
Sectio	n 5: Landscape & Visual						
.01	Are retained and transplanted trees in health condition?						I

2	3. OCT. 2009 16:04 MEMCL +852 28910305		N (Υ. ΙΟ			
Env	ironmental Site Inspection Checklist for KT15						AECOM
		Not Obs.	Yes	[/] No	Follow up	N/A	Photo/ Remarks
5.02	Are retained and transplanted trees properly protected?		Ø				
5.03	Are surgery works carried out for the damaged trees?			\Box			
5.04	Is damage to trees outside site boundary due to construction activities avoided?		\square				
5.05	Is the night-time lighting controlled to minimize glare to sensitive receivers?						
Secti	on 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 wellands at KT15 prevented?						
6.03	Are stockpilling or disposal of materials, and any dredging or construction activities at the seasonal wetlands at KT15 prohibited?						
Sectio	on 7: Others						
7.01	Are relevant Environmental Permits posted at all vehicle site entrances/exits?						

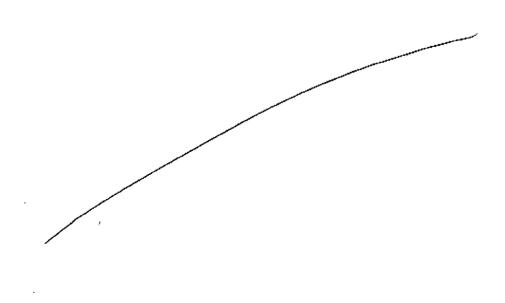
L'Follo up observation 5 >:

_

- O General house keeping on site in had been improved. C & P mastes & tree debris On site had been removed off site. The Contractor shall regularly inspect the site condition to maintain the house loseping property. (closed). (3) Stagnant nater accumulated inside the tank at Bay & had been ... cleared.
- The tank had been removed off site. (closed)

(New observations):

NY .



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P. 11

AECOM

Environmental Site Inspection Checklist for KT15

Remarks



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 October 2009 (R1527 Version 2)

Response to IEC's comments [Received from e-mail on 12 November 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	Section 3.06	Please cross out the "Photographic records" in the 5th line.	Done.
2	Table 5-4	Please rewrite the remarks below the table in order to complete the meaning.	Done.
3	Section 11.05	Please update the date of site inspection conducted for ecology monitoring, it should be "20 October 2009".	Done.
4	Appendix F	Please provide the updated calibration certificates for YSI 550A (Serial No. 05F2063AZ). Please update the table as the type and serial number of the pH meter is not consistent with the attached calibration certificate.	Done.
		Please also update the text in Section 4.22, which mentioned about the pH measurement.	
5	Appendix J	For site inspection checklist on 28-Sept-09, Please clarify the meaning of follow-up item no. 1. It should be "housekeeping on site has been improved.". Please check and revise it.	Done.

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 October 2009 (R1527 Version 1)

Response to IEC's comments [Received from e-mail on 11 November 2009]

Items	Section / Paragraph	Comments	Response to Comments
1	ES14. / Section 11.05	Please update the date of site inspection conducted for ecology monitoring.	Done.
2	Section 3.06 /4.07	Please update the text to include the requirements stated in the EM&A Manual Clause 7.5.1 (a) in order to keep consistency with the text in Section 4.30 and 4.31.	Done.
3	Table 5-2 / Appendix G	Please update the table as 24-Hour TSP monitoring shall be conducted on 14-October- 2009. Moreover, as refer to your fax you have submitted to us on 15 October 2009 (Ref: TCS00371/07/300/F1494), please state in text about the event of power disconnection of High Volume Sampler at A10 on 14 October 2009.	Re-sampling was conducted 15 Oct 2009 to make up the lost sample on 14 Oct 2009. A remark has added under Table 5-2 and relevant schedule has revised.
4	Section 5.09 3rd line	Please delete out "Cattle Egret" as it is not recorded in the ecology survey.	Done.
5	Section 5.11	Please add the word "of vegetation within the monitoring area" behind "Photographic records" in order to complete the meaning of the text.	Done.
6	Table 7-1	There is typo found in the table: For 7 October 2009 finding/deficiencies section, it should be "isolate the construction area (bay 1) from the existing stream".Please check and update the table accordingly.	Done.
7	Section 11.07	For item no.1, it should be "isolate the construction area (bay 1) from the existing stream.".Please check and update the table accordingly.	Done.
8	Appendix C	The company name of IEC should be updated and kept consistent.	Amended.
9	Appendix F	Please provide the updated calibration certificates for YSI 550A (Serial No. 05F2063AZ), Extech pH EC500 (Serial No. 133298) and Hand refractometer ATAGO (Serial No. 289468).	It has been attached n Appendix F.
10	Appendix G	Please update the "impact monitoring schedule in this reporting period" as the monitoring date is not consistent with the one stated in previous sections. Please ensure that 6-day interval monitoring schedule was followed for 1-Hr TSP	Done.
		monitoring to be conducted	Noted.



Items	Section / Paragraph	Comments	Response to Comments
11	Appendix J	For site inspection checklist on 28-Sept-09, please update the checklist as the attached checklist is not for this project.	Done.
		In site inspection checklist on 7-Oct-09,	
		- In the finding item no. 1, it should be "isolate the construction area (bay 1) from the existing stream.".	
		In site inspection checklist on 23-Oct-09,Please include the signature of IEC's representative.	
		Please check and revise the items accordingly.	