

JOB NO.: TCS/00520/10

VERSION NO. : 1

**HONG KONG DRAINAGE SERVICES DEPARTMENT
(DSD) SEWERAGE PROJECTS DIVISION**



**CONTRACT NO. DC/2009/26 PROVISION OF COVERS
TO PRIMARY SEDIMENTATION TANKS AT SHA TIN
SEWERAGE TREATMENT WORKS**

**FINAL ENVIRONMENTAL MONITORING AND AUDIT
REVIEW REPORT (SEPTEMBER 2010 TO JULY 2011)**

PREPARED FOR

HING & CHEONG COMPANY LTD

Quality Index

Date	Reference No.	Prepared By	Reviewed By
20 August 2011	TCS00520/10/600/R0071v1	Ben Tam	T W Tam
			
		Environmental Consultant	Environmental Team Leader

Rev. No.	Date	Remarks
1	20 August 2011	First Submission

This report has been prepared by Action-United Environmental Services & Consulting with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.



EXECUTIVE SUMMARY

- ES01. This is the **Final** Environmental Monitoring and Audit (EM&A) Review Report for the DSD Contract No.: DC/2009/26.
- ES02. **Hing & Cheong Company Ltd** (hereafter referred to “HCC”) has been awarded the Contract No. DC/2009/26 Provision of Covers to Primary Sedimentation Tank at Sha Tin Sewerage Treatment Works on 13 July 2010. The construction activities under the contract actual are commenced in early **September 2010**. The key plan of work is shown in *Appendix A*.
- ES03. This Final EM&A Review Report present the site inspection findings collected by the ET for the Contract from **September 2010 to July 2011**.
- ES04. According to the contract requirement, no environmental monitoring on air quality, noise and water quality is required during the construction phase. Regular site inspection was carried out by the ET on a weekly basis.
- ES05. The regular environmental site inspection program had been conducted in weekly basis since 13 September 2010. Throughout the construction period, **46** ET site inspections were undertaken for the Contract with representatives of HCC. **10** IEC monthly joint site audits were conducted throughout the construction phase. During the construction period, **no** non-compliance and **20** observations were noted.
- ES06. No environmental complaint, summons or prosecution was received throughout the construction period.
- ES07. Regular site inspections had been carried out to ensure that air quality, noise mitigation and waste management were properly implemented. Any used materials and debris were required to be removed or put into the collection bins for proper disposal.
- ES08. There are no changes to be notified throughout the construction period.
- ES09. The Contract includes provision of cover to twelve (12) primary sedimentation tanks, two (2) concrete plinths for Deodorization Unit No. DO11 and No. DO12 and all ancillary works.
- ES10. As notified by the RE and agreed by IEC, since no potential environmental impact will be arisen for the remaining works, the EM&A programme would be ceased in end of July 2011.

TABLE OF CONTENTS

1.0	INTRODUCTON.....	1
2.0	BASIC PROJECT INFORMATION.....	2
3.0	CONSTRUCTION ACTIVITIES	2
4.0	ENVIRONMENTAL STATUS IN THE REPORTING QUARTER.....	2
5.0	WASTE MANAGEMENT	4
6.0	CONCLUSION.....	4

LIST OF TABLES

TABLE 4-1	STATUS OF ENVIRONMENTAL PERMITS/LICENSE
TABLE 4-2	SUMMARIES OF ENVIRONMENTAL COMPLAINTS
TABLE 4-3	SUMMARIES OF NOTIFICATION OF SUMMONS
TABLE 4-4	SUMMARIES OF ENVIRONMENTAL PROSECUTIONS
TABLE 5-1	SUMMARIES OF C&D WASTES

LIST OF APPENDICES

APPENDIX A	LOCATION OF PROJECT WORKS AREA
APPENDIX B	PROJECT ORGANIZATION CHART
APPENDIX C	RESPONSE TO COMMENTS

1.0 INTRODUCTION

- 1.01 The STSTW is located at Shui Chong Street of Sha Tin and is designed to provide secondary treatment facilities for Sha Tin and Ma On Shan districts. Odour emission has been a growing concern for the STSTW with increasing developments in its vicinity. Drainage Services Department (DSD) has commissioned a consultant under Agreement No. CE 34/2000 to conduct an odour study to review the effectiveness of the existing odour mitigation measures at the STSTW.
- 1.02 As recommended in the Interim Odour Investigation and Mitigation Report under Agreement No. CE 34/2000, upgrade and modification works for the existing E&M equipment of the Aeration Tanks and Final Sedimentation Tanks and provision of odour control systems for various facilities of the sewage treatment works.
- 1.03 **Hing & Cheong Company Ltd** (hereafter referred to "HCC") has been awarded the Contract No. DC/2009/26 Provision of Cover to Primary Sedimentation Tank at Shatin Sewerage Treatment Works (hereinafter called "the STSTW") on 13 July 2010. The construction activities under the contract actual are commenced in early **September 2010**. The key plan of work is shown in *Appendix A*.
- 1.04 The works execute under the Contract of include provision of cover to twelve (12) primary sedimentation tanks, two (2) concrete plinths for Deodorization Unit No. DO11 and No. DO12 and all ancillary works.
- 1.05 The Client/Engineer of the Contract is DSD and the Independent Environmental Checker (IEC) is AECOM Asia Co. Ltd.
- 1.06 Action-United Environmental Services and Consulting (AUES) has been commissioned by HCC as the Environmental Team (ET) to implement the environmental monitoring and auditing (EM&A) program required in the contract.
- 1.07 This **Final** Environmental Monitoring and Audit (EM&A) Review Report present the site inspection findings collected by the ET during construction period from **September 2010 to July 2011**. As notified by the RE and agreed by IEC, since no potential environmental impact will be arisen for the remaining works, the EM&A programme would be ceased in end of July 2011.

2.0 BASIC PROJECT INFORMATION

2.01 The works for DC/2009/26 are included provision of cover to twelve (12) primary sedimentation tanks, two (2) concrete plinths for Deodorization Unit No. DO11 and No. DO12 and all ancillary works. The project organization chart and key contacts of environmental personnel are shown in **Appendix B**.

3.0 CONSTRUCTION ACTIVITIES

3.01 The construction activities undertaken in this project are summarized in follow.

- Cover to twelve (12) primary sedimentation tanks
- Construct two (2) concrete plinths for Deodorization Unit No. DO11 and No. DO12.

2.02 As notified by the RE and agreed by IEC, since no potential environmental impact will be arisen for the remaining works, the EM&A programme would be ceased in end of July 2011.

4.0 ENVIRONMENTAL STATUS

4.01 According to the recommendations stated in the EM&A Manual, all works carried out within this Contract should fulfill the requirements as stated in “*Annex B – Implementation Schedule of Mitigation Measures and Key EM&A Requirements – Construction Phase*” of the EM&A Manual. HCC should follow all relevant ordinances & guidelines applicable to the Contract. The status of relevant environmental permits/licenses is summarized in the **Table 4-1**.

Table 4-1 Status of Environmental Permits/License

Description	Permit/license No.	Valid Period	
		From	To
Environmental Permit	VEP-021/2000/B/EP-046	28 February 2001	End of the Contract

4.02 The regular environmental site inspection program had been conducted in weekly basis since 13 September 2010. Throughout the construction period, **46** ET site inspections were undertaken for the Contract with representatives of HCC. **10** IEC monthly joint site audits were conducted throughout the construction phase. During the construction period, **no** non-compliance and **20** observations were noted.

Most of the observations were minor issue (e.g. poor housekeeping, waste cumulate on site). Most of the observation the contractor had rectified within one week.

4.03 The Environmental Mitigation Implementation Schedule (EMIS) from the EM&A Manual has been used as reference to develop a contract specify site inspection checklist. The Contractor had implemented the relevant environmental mitigation measures in according to the observation as stipulated in the checklists.

4.04 No environmental complaint, notification of summons and prosecutions were received in the construction period. Summaries of environmental complaints, notification of summons and prosecution are present in the **Tables 4-2, 4-3 and 4-4**.

Table 4-2 Summaries of Environmental Complaints

Reporting Month	Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
Sep – Dec 2010	0	0	NA
Jan - Jul 2011	0	0	NA

Table 4-3 Summaries of Notification of Summons

Reporting Month	Summons Statistics		
	Frequency	Cumulative	Summons Nature
Sep – Dec 2010	0	0	NA
Jan - Jul 2011	0	0	NA

Table 4-4 Summaries of Environmental Prosecutions

Reporting Month	Environmental Prosecution Statistics		
	Frequency	Cumulative	Prosecution Nature
Sep – Dec 2010	0	0	NA
Jan - Jul 2011	0	0	NA

5.0 WASTE MANAGEMENT

- 5.01 The weekly site inspection and monthly site audit attended by IEC, HCC and ET also covered general waste issues on site.
- 5.02 According to information as provided by HCC, the waste quantities for disposal in this contract are summarized in **Table 5-1**.

Table 5-1 Summaries of C&D Wastes

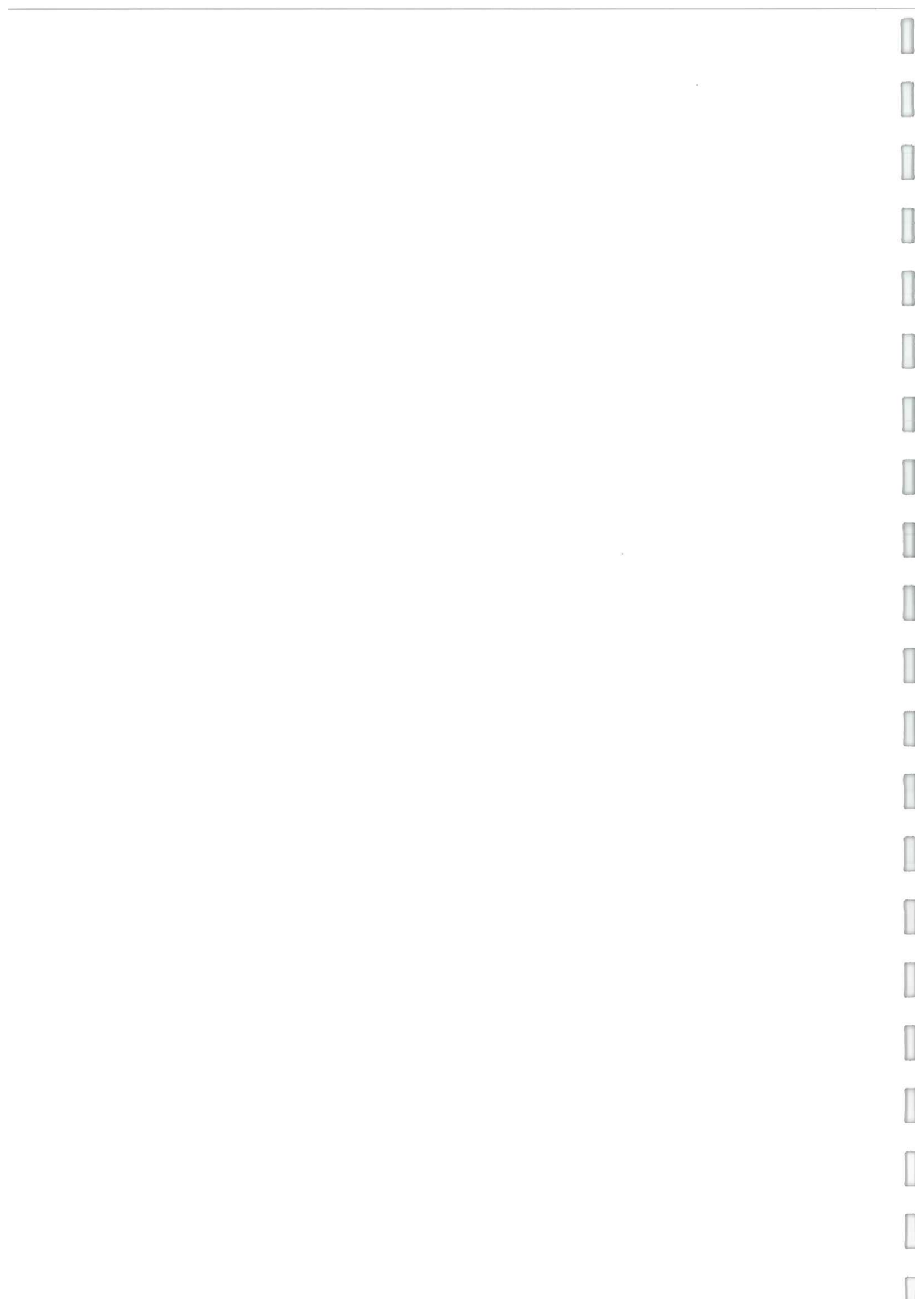
Type of Waste	Quantity	Disposal Location
Construction & Demolition Material (Inert) (m ³)	969.5	TM38
Construction & Demolition Material (Non-Inert)(m ³)	0	NA
Chemical Waste (litre)	0	NA
General Refuse (m ³)	150	NENT

6.0 CONCLUSION

- 6.01 The regular environmental site inspections/audits were conducted as per the requirements of the EP and EM&A Manual. No non-compliances were recorded through the construction period.
- 6.02 No environmental complaint, summons and prosecution was recorded through the construction period.
- 6.03 The EMIS as stipulated in the EM&A Manual was properly implemented to prevent any significant environmental impact. HCC has maintained the relevant works area in clean and tidy condition throughout the construction period.
- 6.04 As notified by the RE and agreed by IEC, since no potential environmental impact will be arisen for the remaining works, the EM&A programme would be ceased in end of July 2011.
- 6.05 During the construction period, the Contractor's environmental performance was satisfactory and complied with the Environmental Permit (VEP-021/2000/B/EP-046) and EM&A Manual requirements.

APPENDIX A

LOCATION OF PROJECT WORKS AREA



NOTES :
1. ALL COORDINATES REFER TO HONG KONG 1980 GRID SYSTEM.

LEGEND :

- SITE BOUNDARY
- EXISTING STRUCTURES TO BE COVERED
- PROPOSED CONCRETE PLINH
- COVERS OF EXISTING PIT TO BE REPLACED BY TRIP AIRPORT COVER
- PROPOSED ROADMARK

FOR TENDER PURPOSES ONLY

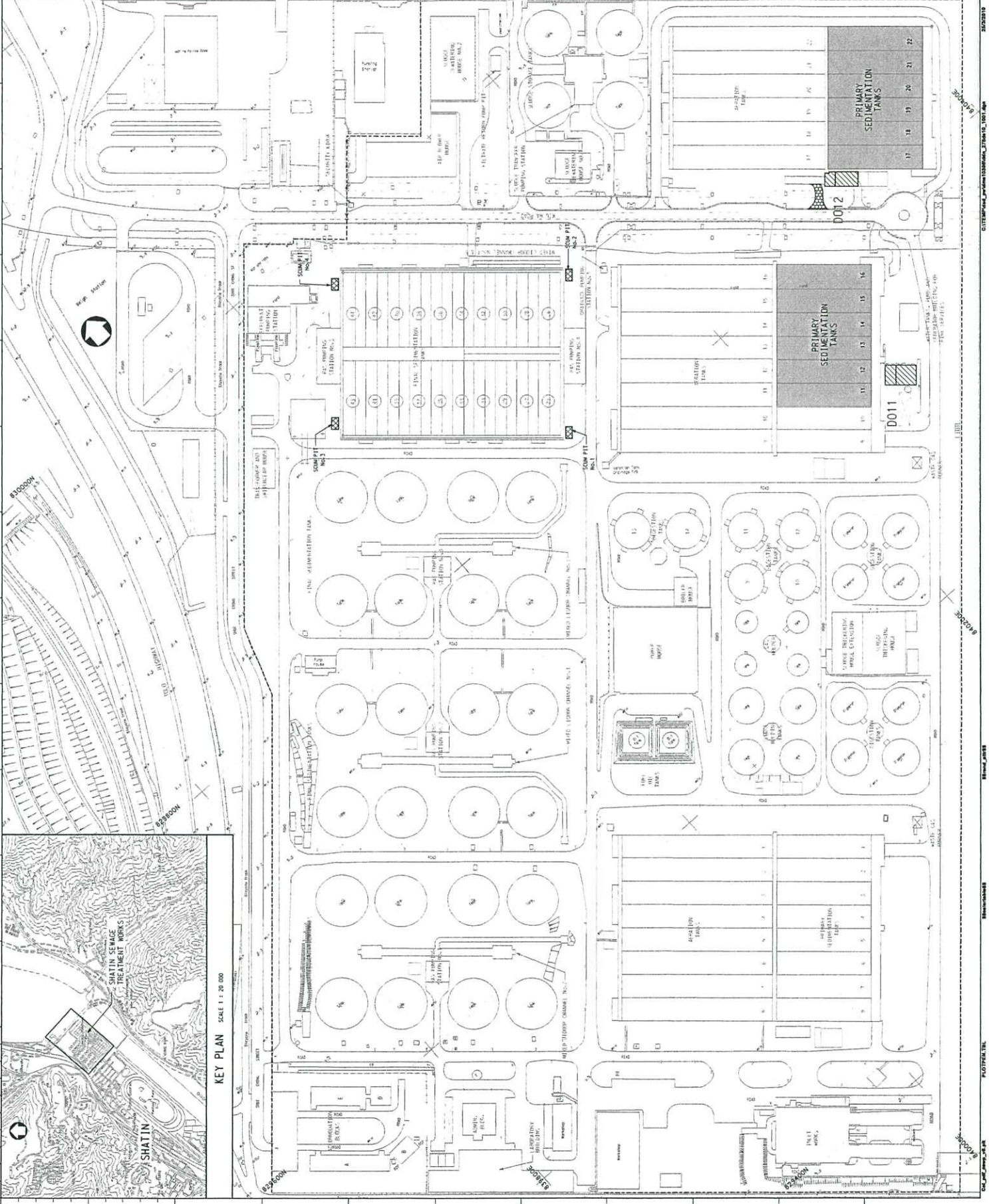
REV. NO.	DESCRIPTION	DATE
REVISION		
DESIGNED	S. C. CHAN	24/02/2010
DRAWN	S. T. WONG	24/02/2010
CHECKED	IF T. M. YIP	24/02/2010
VERIFIED	IF W. H. NG	24/02/2010
APPROVED		

ENGINEER: SIGNED: IF C. H. LAI, Chief Engineer, 24/02/2010
 CONTRACT NO: DC/2009/26
 FILE NO: SP 8/427605/S3
 PROJECT NO: 427605S41000X(SZ709A0)
 CONTRACT:

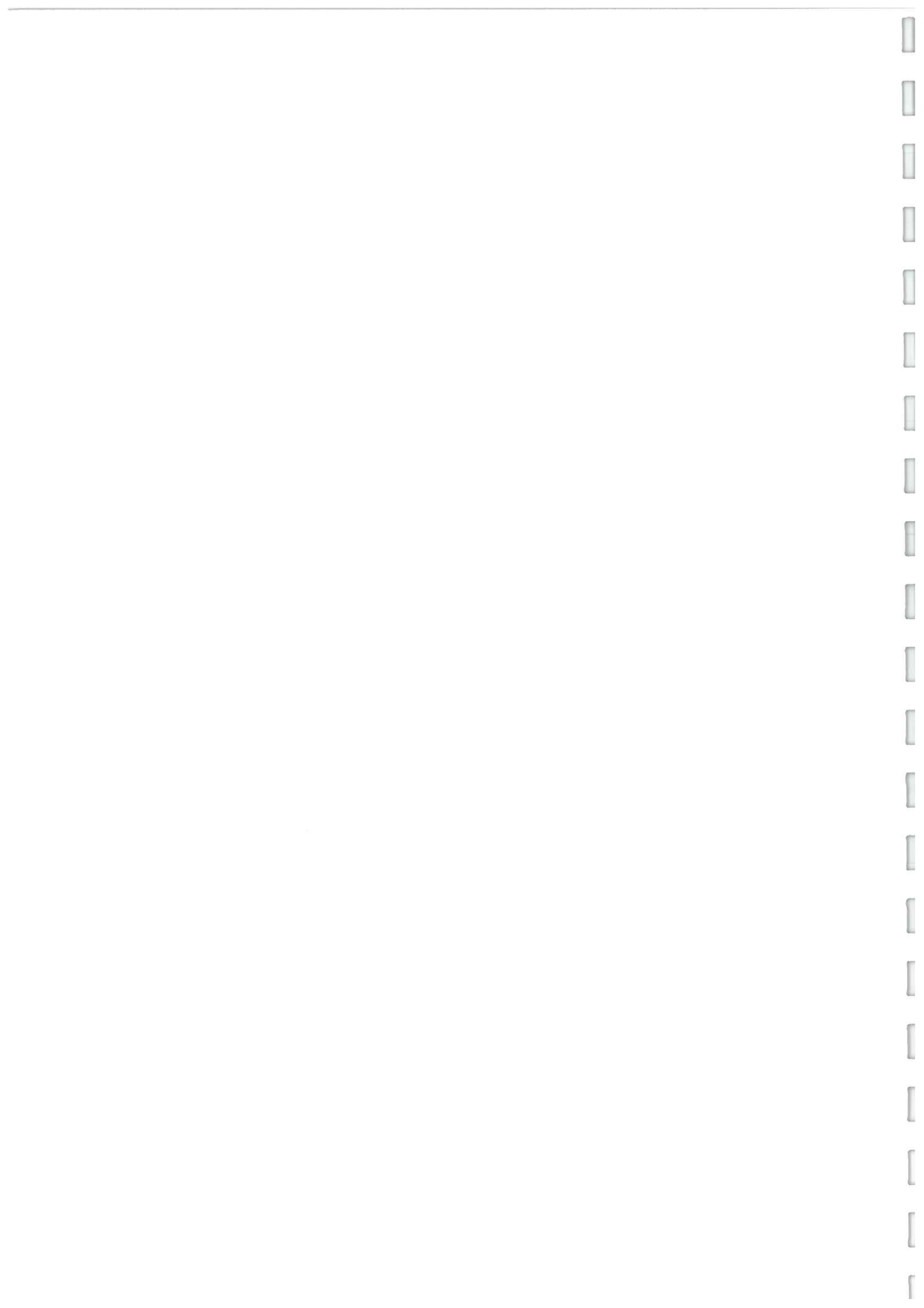
PROVISION OF COVERS TO PRIMARY SEDIMENTATION TANKS AT SHA TIN SEWAGE TREATMENT WORKS

DRAWING TITLE: GENERAL LAYOUT
 DRAWING NO: DDN/2760510/1001
 SCALE: 1:1,000 AS SHOWN
 COPYRIGHT: RESERVED

OFFICE: SEWERAGE PROJECTS DIVISION
 DRAINAGE SERVICES DEPARTMENT
 GOVERNMENT OF THE HONG KONG
 SPECIAL ADMINISTRATIVE REGION



KEY PLAN SCALE 1 : 20 000



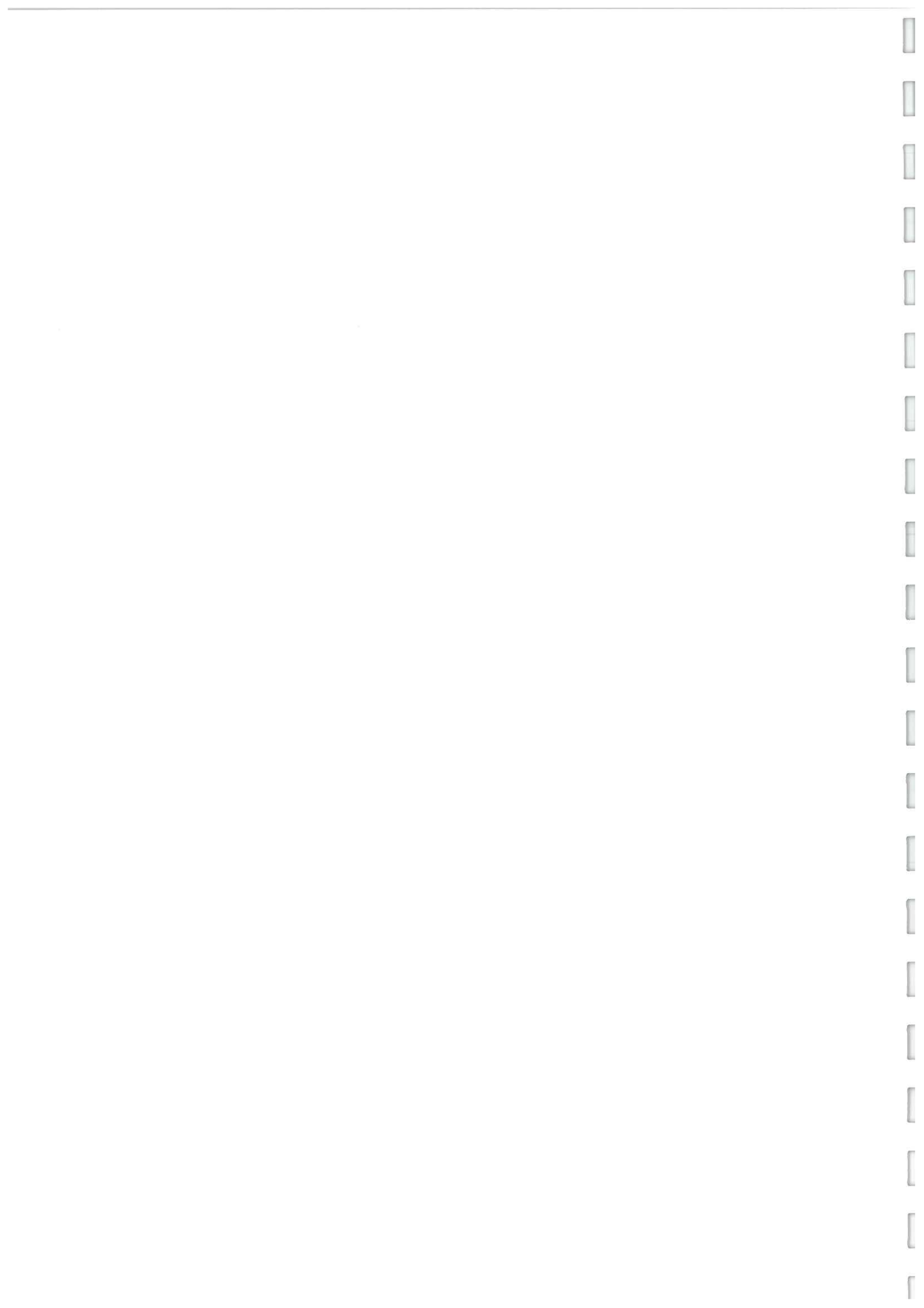
APPENDIX B

PROJECT ORGANIZATION CHART

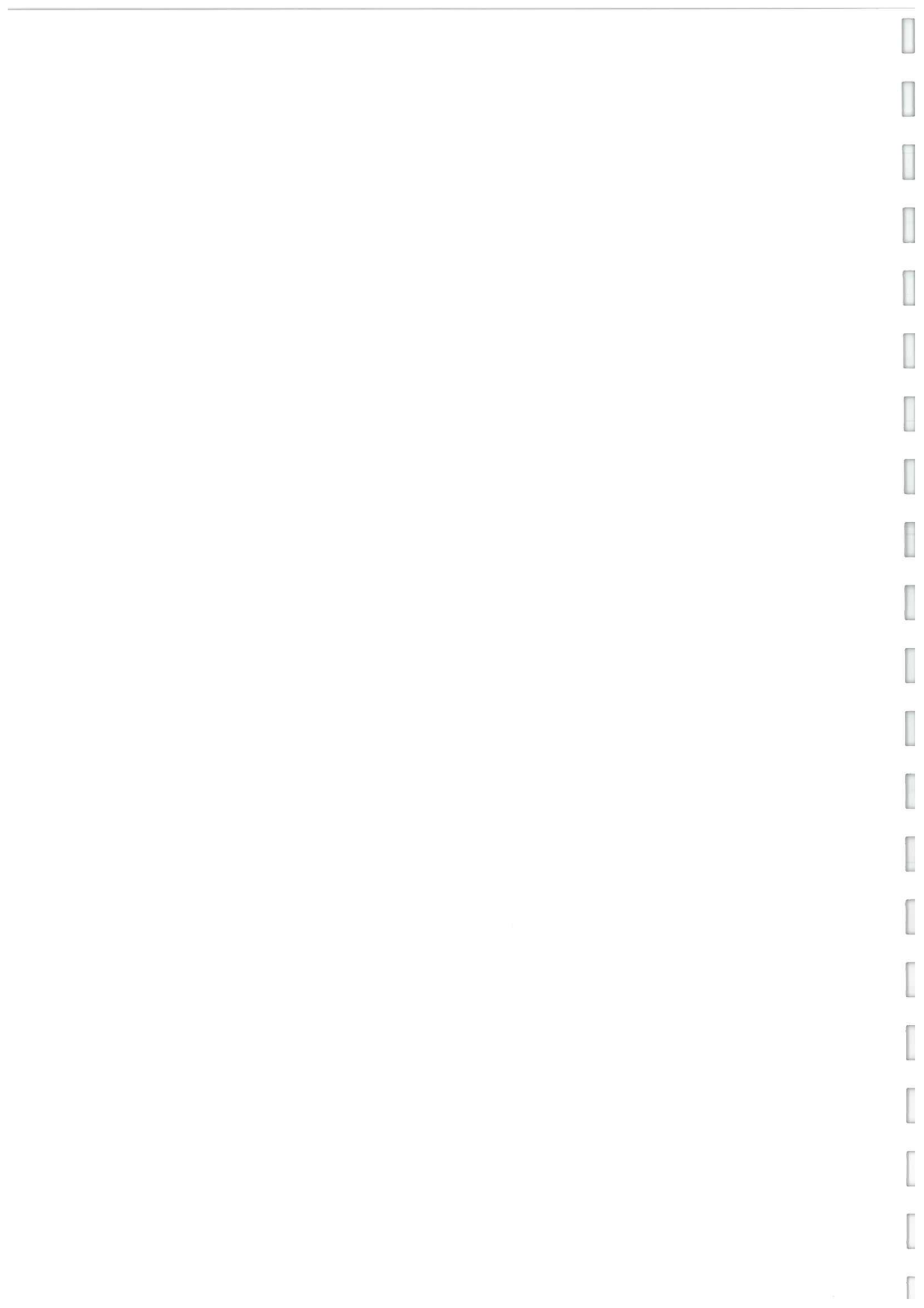


CONTACT DETAILS OF RELEVANT PARTIES

Name	Position	Telephone	Fax
Mr. Tony Chang (DSD)	Engineer's Representative	2594 7366	2681 1856
Mr. K.K. Lee (DSD)	Senior Inspector of Works	2694 6509	2681 1856
Mr. Y.T. Tang (AECOM)	Independent Environmental Checker	3922 9393	2317 7609
Ms. Joanne Tsoi (AECOM)	IEC's representative	3922 9423	2317 7609
Edward Wong (HCC)	Project Manager	9261 1965	2392 2262
Mr. Chin F. S. (HCC)	Site Agent	9780 0367	2392 2262
Mr. Ting Wong (HCC)	Environmental Officer	9321 0941	2392 2262
Mr Poon (HCC)	Site Safety Officer	9861 3110	2392 2262
T.W. Tam (AUES)	Environmental Team Leader	2959 6059	2959 6079



APPENDIX C
RESPONSE TO COMMENTS



Contract No. DC/2009/26 Provision of Covers to Primary Sedimentation Tank at Sha Tin Sewerage Treatment Work
 Final EM&A Review Report (September 2010 to July 2011)



Contract No. DC/2009/26
 Provision of Covers to Primary Sedimentation Tank at Sha Tin Sewerage Treatment Work

Response to IEC's comments on Final EM&A Review Report (September 2011 to July 2011 (R0071 Revision 1)

No.	Section / Paragraph	Comments	Response to Comments
			Amended
			Amended

