Dragages-Nishimatsu Joint Venture

Contract No. DC/2007/10
Design and Construction of Hong Kong West Drainage Tunnel

Quarterly EM&A Report

(version 1.0)

October to December 2009

Certified By

(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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EXECUTIVE SUMMARY

Introduction

1. This is the 7th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Drainage Improvement in Northern Hong Kong Island – Hong Kong West Drainage Tunnel" (the Project). This summary report presents EM&A works performed in the period between October to December 2009.

2. The construction activities undertaken in the reporting quarter were:

- TBM excavation, installation of temporary facilities, excavation for River Channel, preparation works for adit excavation and permanent slope works at Eastern Portal;
- TBM excavation and installation of temporary facilities at Western Portal;
- Excavation of intake structure/dropshaft at Intakes W0 and SM1;
- Cofferdam construction at Intakes SM1, MB16, HKU1, E7 and PFLR1;
- Site preparation works at Intake PFLR1, E7, W10, RR1, MBD2, THR2, TP789, E5A, W5 and TP4;
- Pipelaying works along Mount Butler Road for Intake MB16;
- Slopeworks at Intake TP4 and E7;
- Detailed Design Approval (DDA) submissions for Adit/Main Tunnel Intersection, Adits, Stilling Chambers and Turning Bays;
- Approved in Principle (AIP) & Detailed Design Approval (DDA) submissions for temporary works for Intake Structures;
- DDA submissions for slope works and permanent works for Intake Structures;
- AIP & DDA submissions for temporary and permanent works for Dropshafts;
- Environmental impact monitoring; and
- Casting of tunnel segments.

Environmental Monitoring Works

3. Environmental monitoring for the Project was performed regularly as stipulated in the Updated EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

4. Summary of the non-compliance of the reporting month is tabulated in Table I.

Table I Summary Table for Non-compliance Recorded in the Reporting Quarter

Parameter	Number of Exceedances due to the Project		Action Taken	Results of Action Taken
	Action Level	Limit Level		
Eastern Portal				
October 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	2	0	N.A.	N.A.
November 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	0	0	N.A.	N.A.
December 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	0	0	N.A.	N.A.
Western Portal				
October 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	0	0	N.A.	N.A.
Water Quality	0	0	N.A.	N.A.
Ground Borne Noise	0		N.A.	N.A.
November 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	2	0	N.A.	N.A.
Ground Borne Noise	0		N.A.	N.A.
December 2009				
1-hr TSP	0	0	N.A.	N.A.
24-hr TSP	0	0	N.A.	N.A.
Noise	0	0	N.A.	N.A.
Intake E7				
October 2009				
Noise	0	0	N.A.	N.A.
November 2009				
Noise	0	0	N.A.	N.A.
December 2009				
Noise	0	0	N.A.	N.A.

Intake PFLR1				
October 2009				
Noise	0	0	N.A.	N.A.
November 2009				
Noise	0	0	N.A.	N.A.
December 2009				
Noise	2	0	N.A.	N.A.
Intake W0				
October 2009				
Noise	0	0	N.A.	N.A.
November 2009				
Noise	0	0	N.A.	N.A.
December 2009				
Noise	0	0	N.A.	N.A.

Air Quality

1-hour TSP Monitoring

5. 1-hour TSP monitoring at 2 monitoring stations, AQ1 and AQ2, was conducted as scheduled in the reporting period. No Action/Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting quarter.

24-hour TSP Monitoring

6. 24-hr TSP monitoring at 2 monitoring station, AQ1 and AQ3, was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting quarter.

Construction Airborne Noise

7. Noise monitoring at 7 monitoring stations, NC1/NC1a, NC2, NC3, NC8, NC9, NC11 and NC15 was conducted as schedule in the reporting period.

Eastern Portal

8. Two Action Level exceedances were recorded due to the complaint raised by a resident of The Legend and Ronsdale Garden on 6th and 7th October 2009 respectively.

Western Portal

9. Two Action Level exceedances were recorded due to the complaints raised by a resident of Aegean Terrace on 23rd and 29th November 2009 respectively.

Intake PFLR1

10. Two Action Level exceedances were recorded due to the complaints raised by a resident of Pok Fu Lam Height on 23rd and 28th December 2009 respectively.

Construction Ground Borne Noise

11. Construction ground borne noise monitoring at GNC5 was conducted as scheduled in the reporting period. No exceedance was recorded.

12. Construction ground borne noise monitoring at GNC5 was completed in November 2009.

Water Quality

13. Water quality monitoring was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded.

14. Marine water quality monitoring was temporary suspended starting from 31 October 2009.

Environmental Licensing and Permitting

15. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, An Environmental Permit No. EP-272/2007 was issued on 26 April 2007 and Environmental Permit No. EP-272/2007/A was issue on 26 October 2007. Later, the further Environmental Permit (FEP-01/272/2007/A) and (FEP-01/272/2007/B) was issued on 28 January 2008 and 25 June 2009 to Dragages-Nishimatsu Joint Venture.

16. Registration of Chemical Waste Producer (License: 5213-148-D2393-02 for Eastern Portal and No. 5213-172-D2393-01 for Western Portal), Water Discharge License (License No.: EP860/W10/XY0175 for Area of Mount Butler Office, EP860/W10/XY0177 for Eastern Portal, EP820/W9/XT086 for Western Portal, EP680/W10/XY0183 for Intake W0, WT00003372-2009 for Intake SM1, WT00003737-2009 for Intake MB16, WT00004126-2009 for Intake HKU1, WT00003738-2009 for THR2, WT00004270-2009 for PFLR1, WT00004806-2009 for Intake E7, WT00004808-2009 for MBD2, WT00004885-2009 for Intake RR1, WT00005135-2009 for Intake W10, WT00005357-2009 for Intake W5, WT00005374-2009 for Intake P5, WT00005376-2009 for Intake TP4, WT00005588-2009 for Intake TP5 and WT00005643-2009 for Intake E5A) and Construction Noise Permit (License No.: GW-RS0705-09 and GW-RS0962-09 for Eastern Portal, GW-RS0741-09 for Western Portal, GW-RS0408-09 and GW-RS0877-09 for Intake W0, GW-RS0571-09 for Intake MB16, GW-RS-0640-09 for Intake SM1 and GW-RS0915-09 for Intake W5).

Key Information in the Reporting Quarter

17. Summary of key information in the reporting quarter is tabulated in Table II.

Table II Summary Table for Key Information in the Reporting Quarter

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received (October 09)	2	Construction Noise at Eastern Portal	Complaint of Construction Noise at EP (Investigation report was submitted)	Investigation Report submitted to DNJV for further submission	---
Complaint received (November 09)	3	Construction Noise at Western Portal	Complaint of Construction Noise at WP (Investigation report was submitted)	Investigation Report submitted to DNJV for further submission	---
		Air Quality at Intake MB16	Complaint of dust nuisance by the works at Intake MB16 (Investigation report was submitted)	Investigation Report submitted to DNJV for further submission	---
Complaint received (December 09)	2	Construction Noise at Intake PFLR1	Complaint of Construction Noise at Intake PFLR1 (Investigation report was submitted)	Investigation Report submitted to DNJV for further submission	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N.A.	N.A.	---
Notifications of any summons & prosecutions received	0	---	N.A.	N.A.	---

Complaints and Prosecutions

18. Seven environmental complaints were received and investigated during the reporting quarter.

19. No warning, summon and notification of successful prosecution was received in the reporting period.

Future Key Issues

20. Key environmental issues at Eastern and Western Portals, Intake E7, Intake PFLR1 and Intake W0 in the coming month include:

Both Eastern and Western Portals
Intake E7, PFLR1 and W0

- Noise from operation of the equipment, especially for rock-breaking activities and machinery on-site;
- Dust generation from stockpiles of dusty materials, excavation works and rock breaking activities;
- Runoff from exposed slope;
- Wastewater and runoff discharge from site;
- Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
- Review and implementation of temporary drainage system for the surface runoff;
- Proper storage of construction materials on site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Watering for rock breaking activity, soil nailing and on haul road;
- Accumulation of general and construction waste on site.

1. INTRODUCTION

1.1 The Project "Drainage Improvement in Northern Hong Kong Island – Hong Kong West Drainage Tunnel" involves the construction of a drainage tunnel deep into the ground in Mid-levels of the Northern Hong Kong Island from Tai Hang to Pokfulam to intercept and convey the stormwater from the upper catchment directly to the sea near Cyberport. The Drainage tunnel alignment starts from the Eastern Portal near Haw Par Mansion in Tai Hang and ends at the Western Portal located to the north of Cyberport running underneath the Pok Fu Lam, Tai Tam, Aberdeen and Lung Fu Shan Country Parks. The underground main drainage tunnel is 6.25m-7.25m in diameter and about 11km long. Two portals and a series of connecting adits and drop shafts are also been constructed. The layout plan of the Project is shown in **Figure 1**.

1.2 The Environmental Impact Assessment (EIA) Report for the Project was approved on 7 April 2006 under the Environmental Impact Assessment Ordinance (EIAO). An Environmental Permit (EP-272/2007) for the works was also granted on 26 April 2007. A varied Environmental Permit (EP) (EP-272/2007/A) was issued in 26 October 2007. Later, the further Environmental Permit (FEP-01/272/2007/A) and (FEP-01/272/2007/B) was issued on 28 January 2008 and 25 June 2009 to Dragages-Nishimatsu Joint Venture. Environmental Monitoring and Audit (EM&A) Manual for the Project was also included as part of the EIA reports in the register. An updated EM&A Manual has been issued on 7 May 2008.

1.3 Drainage Services Department awarded the construction of the Project to Dragages-Nishimatsu Joint Venture (hereinafter called "the Contractor"). The construction works commenced on 30 November 2007 and are scheduled to be completed by 2012.

1.4 Cinotech Consultants Limited (Cinotech) was commissioned by the Contractor to undertake the Environmental Team (ET) Services for the Project. All environmental and audit works were conducted by Cinotech and the laboratory testing works were conducted by a HOKLAS laboratory, Wellab Limited. This is the 7th quarterly EM&A report summarizing the EM&A works for the Project in the period between October and December 2009.

2. PROJECT CHARACTERISTICS

Project Organization and Contacts of Key Management

2.1 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Drainage Services Department (DSD).
- The Supervising Officer or Supervising Officer's Representative (SO or SOR) – Ove Arup & Partners (ARUP).
- Environmental Team (ET) – Cinotech Consultants Limited (CCL).
- Independent Environmental Checker (IEC) – Allied Environmental Consultants Limited (AEC).
- Contractor - Dragages-Nishimatsu Joint Venture (DNJV).

2.2 The responsibilities of respective parties are detailed in Sections 1.14 to 1.28 of the Updated EM&A Manual of the Project. The project organization chart is presented in **Figure 2**.

2.3 The key contacts of the Project are shown in Table 2.1.

Table 2.1 Key Project Contacts

Party	Role	Name	Position	Phone No.	Fax No.
DNJV	Permit Holder	Mr. ALTIER Daniel	Project Manager	2671 7333	2671 9300
		Mr. UETAKE H.	Deputy Project Manager		
ARUP	Supervising Officer	Mr. Ted Tang	CRE	6117 6639	2436 1012
		Mr. Jackson Wong	SRE	6117 6636	
		Mr. Alan Ng	RE	9668 8350	
		Mr. Bernard Cheng	RE	98614939	
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
AEC	Independent Environmental Checker	Ms. Claudine Lee	Independent Environmental Checker	2815 7028	2815 5399
DNJV	Contractor	Mr. Mr Sing Chu	Environmental Officer	2671 7333	2671 9300

Construction Programme and Synopsis of Work

2.4 The construction programme is presented in **Appendix A**.

3. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

3.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise and water quality due to the Project. When alternative monitoring locations are proposed, the criteria listed in Section 2.4.3 of the updated EM&A Manual shall be followed and the updated monitoring locations shall be approved by ER and agreed with IEC. The Project area and monitoring locations are depicted in **Figures 3a-f, 4a-b and 5**. **Appendix B** gives details of monitoring requirements.

Monitoring Methodology and Calibration Details

3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix C**.

Environmental Mitigation Measures

3.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. A list of mitigation measures is given in **Appendix G**.

4. MONITORING RESULTS

Weather Conditions

4.1 The weather during monitoring sessions was mainly sunny and cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets.

Air Quality

1-hour TSP Monitoring

4.2 1-hour TSP monitoring at 2 monitoring stations, AQ1 and AQ2, was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting quarter.

24-hour TSP Monitoring

4.3 24-hr TSP monitoring at 2 monitoring station, AQ1 and AQ3 was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting quarter.

4.4 The graphical presentations of the air quality monitoring results are shown in **Appendix D**.

Construction Airborne Noise

4.5 Noise monitoring at 7 monitoring stations, NC1/NC1a, NC2, NC3, NC8, NC9, NC11 and NC15 was conducted as schedule in the reporting period.

Eastern Portal

4.6 Two Action Level exceedances were recorded due to the complaint raised by a resident of The Legend and Ronsdale Garden on 6th and 7th October 2009 respectively.

Western Portal

4.7 Two Action Level exceedances were recorded due to the complaints raised by a resident of Aegean Terrace on 23rd and 29th November 2009 respectively.

Intake PFLR1

4.8 Two Action Level exceedances were recorded due to the complaints raised by a resident of Pok Fu Lam Height on 23rd and 28th December 2009 respectively.

Construction Ground Borne Noise

4.9 Construction ground borne noise monitoring at GNC5 was conducted as scheduled in the reporting period. No exceedance was recorded.

4.10 Construction ground borne noise monitoring at GNC5 was completed in November 2009.

4.11 The graphical presentations of the noise monitoring results are shown in **Appendix E**.

Water Quality

4.12 Water quality monitoring was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded.

4.13 Marine water quality monitoring was temporary suspended starting from 31 October 2009.

4.14 The summary of exceedances for each water quality parameters are provided in Table 4.1.

Table 4.1 Summary of Water Quality Exceedances in the Reporting Quarter

Water Quality	No. of Exceedances		Action Taken	Results of Action Taken	Remarks
	Action Level	Limit Level			
October 2009					
DO (Surface and Middle)	0	0	N/A	N/A	N/A
DO(Bottom)	0	0			
Turbidity	0	0			
SS	0	0			

4.15 The graphical presentations of the water quality monitoring results are shown in **Appendix F**.

Underground water level

4.16 Ground water levels were measured once per month during the construction phase in order to ensure the water levels at those intakes near to the natural stream courses and thus on the surrounding habitats will not be significantly affected.

4.17 Locations of designated ground water level (borehole with piezometer) monitoring station UC1 at Eastern Portal has been changed to ADH48 which was verified by IEC on 5th June 2008. Monitoring data are shown in Table 4.2.

Table 4.2 Ground Water Level Monitoring Data at Location ADH48 in Reporting Quarter

Date	Water Level (from ground)/m
8 October 2009	8.16
15 October 2009	8.32
20 October 2009	8.42
27 October 2009	8.52
2 November 2009	8.57
10 November 2009	8.62
17 November 2009	8.14
26 November 2009	8.60
7 December 2009	8.82
21 December 2009	8.87
30 December 2009	8.66

5. ENVIRONMENTAL AUDIT

Implementation Status of Environmental Mitigation Measures

5.1 The implementation status of environmental mitigation measures (EMIS) is given in **Appendix G**.

Site Audit Summary

5.2 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix H**.

5.3 The major deficiencies identified by ET in the reporting quarter are summarized as follow:

Water Quality

- Sand and sediment was observed at the U-Channel at Intake PFLR1.
- Slight silty water was observed discharging out at Intake HKU1.
- Seawater for the purpose of cooling was observed discharging directly to the sea at Western Portal.
- Oil stains were observed at the platform at Intake HKU1.
- Silty water was observed at the compartment of wetsep at Intake W0.
- Wastewater from the grouting was pumped to the sedimentation tank at Intake SM1.
- Slight milky water was observed at the compartment of sedimentation at Western Portal.

Air Quality

- Sand and silt were carried by the site vehicle to the public road at Intake MB16.
- Dust generation was observed during rock breaking works at Eastern Portal.

Waste/ Chemical Management

- General refuse was observed at underneath the access road at near the entrance of tunnel at Western Portal.
- Empty chemical containers were observed not stored properly at near Wetsep at Eastern Portal.
- Concrete debris was observed at inside the underground drainage channel at Intake W10.

Ecology

- Silty water was observed discharging out at Intake TP789.

5.4 The major deficiencies identified by IEC in the reporting quarter are summarized as follow:

29th October 2009

Reminder

- The Contractor was reminded to enhance housekeeping and increase water spraying to avoid dust generation.

26th November 2009

Observations

- Sands & debris were observed deposited in drainages at Western Portal. The Contract was requested to clear the deposits.
- Some cement mixing works were observed at Eastern Portal for slope formation works without proper enclosure. The Contractor was requested to provide proper enclosure to prevent dust generation.

Reminders

- Some annoyance smell was noticed from backhole at Eastern Portal. The Contractor was requested to clear the filter of backhole regularly to maintain the equipments of good condition.
- Some unused cement bags at Intake MB16 and broken tarpaulin sheets were observed at Eastern Tunnel. The Contractor was reminded to enhance housekeeping and site tidiness work.

31st December 2009

Observations

Intake MB16

- Exposed slope and unpaved surface were observed without tarpaulin sheet cover. The Contractor was requested to provide tarpaulin sheet cover to avoid dust generation.
- Oil stains deposited on public roads near site entrance/exit were observed. The Contractor was requested to clear oil stains.

Eastern Portal

- Stagnant water was observed in folded tarpaulin sheet near container office. The Contractor was requested to remove stagnant water after raining.
- No provision of drip tray for oil drum was observed.

Effectiveness of Mitigation Measures

5.5 The mitigation measures recommended in the EIA report and required by the EP are considered effective in minimizing environmental impacts. The Contractor has

implemented the recommended mitigation measures except those mitigation measures not applicable at this stage, it is however considered that the Contractor could put greater efforts into proper implementation of these measures, especially for the construction of noise enclosure and use of quiet PME, to ensure their intended effects are fully achieved.

Status of Environmental Licensing and Permitting

5.6 Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, An Environmental Permit No. EP-272/2007 was issued on 26 April 2007 and Environmental Permit No. EP-272/2007/A was issue on 26 October 2007. Later, the further Environmental Permit (FEP-01/272/2007/A) and (FEP-01/272/2007/B) was issued on 28 January 2008 and 25 June 2009 to Dragages-Nishimatsu Joint Venture.

5.7 Registration of Chemical Waste Producer (License: 5213-148-D2393-02 for Eastern Portal and No. 5213-172-D2393-01 for Western Portal), Water Discharge License (License No.: EP860/W10/XY0175 for Area of Mount Butler Office, EP860/W10/XY0177 for Eastern Portal, EP820/W9/XT086 for Western Portal, EP680/W10/XY0183 for Intake W0, WT00003372-2009 for Intake SM1, WT00003737-2009 for Intake MB16, WT00004126-2009 for Intake HKU1, WT00003738-2009 for THR2, WT00004270-2009 for PFLR1, WT00004806-2009 for Intake E7, WT00004808-2009 for MBD2, WT00004885-2009 for Intake RR1, WT00005135-2009 for Intake W10, WT00005357-2009 for Intake W5, WT00005374-2009 for Intake P5, WT00005376-2009 for Intake TP4, WT00005588-2009 for Intake TP5 and WT00005643-2009 for Intake E5A) and Construction Noise Permit (License No.: GW-RS0705-09 and GW-RS0962-09 for Eastern Portal, GW-RS0741-09 for Western Portal, GW-RS0408-09 and GW-RS0877-09 for Intake W0, GW-RS0571-09 for Intake MB16, GW-RS-0640-09 for Intake SM1 and GW-RS0915-09 for Intake W5).

5.8 The status of these licenses and permits obtained for the Project is summarized in **Appendix I**.

Status of Waste Management

5.9 The waste management of the Project has to follow the requirements and procedures stated in the Waste Management Plan which was prepared by the Contractor.

5.10 During this reporting quarter, a total 76 nos. of dump trucks of waste were delivered to SENT, 661 nos. of C&D waste was delivered to Public Fill Reception Facilities. Both the trip ticket system and chit accounting system for disposal of waste were operating smoothly to date. No overloading case was recorded during this reporting period. No disposal of inert C&D material to public sorting facilities and no dump truck without cover were reported from CEDD. In respect of the dump truck cover, DNJV keeps on take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

5.11 Two alternative disposal sites for receiving the rock materials from the Eastern Portal, a Gammon site at HK University, Leighton site at Ocean Park, Central Reclamation III

and Zhuhai.

5.12 The monthly summary of waste flow table for October – December 2009 are provided in **Appendix J**.

6. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

6.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix K**. The details of each exceedance were attached in the Monthly Reports.

Air Quality

6.2 No Action/ Limit Level exceedance was recorded in the reporting quarter.

Construction Airborne Noise

Eastern Portal

6.3 Two Action Level exceedances were recorded due to the complaint raised by a resident of The Legend and Ronsdale Garden on 6th and 7th October 2009 respectively.

Western Portal

6.4 Two Action Level exceedances were recorded due to the complaints raised by a resident of Aegean Terrace on 23rd and 29th November 2009 respectively.

Intake PFLR1

6.5 Two Action Level exceedances were recorded due to the complaints raised by a resident of Pok Fu Lam Height on 23rd and 28th December 2009 respectively.

Construction Ground Borne Noise

6.6 No exceedance was recorded in the reporting quarter.

Water Quality

6.7 No Action/ Limit Level exceedance was recorded in the reporting quarter.

Construction Impacts on Suspended Solids

6.8 The measured mean levels of suspended solid for impact monitoring stations during baseline monitoring and impact monitoring (this quarter) are summarized in Table 6.1a-b. Measured mean levels of SS at all Impact Stations of are well within 130% of mean value of Baseline data

Table 6.1a Summary of Measured levels of Suspended Solids at Mid-Ebb

Station No.	Measured Mean Level of Suspended Solids (mg/l)				Within 130% of mean value of Baseline data (Yes/No)	
	Baseline Impact Station	Baseline Control Station	Control Station (CE)	Impact Station	Control Station (CE)	Impact Station
			(October 09)	(October 09)	(October 09)	(October 09)
I1	11.7	12.3	11.2	10.7	Yes	Yes
I2	11.5			10.7		Yes
Intake A	10.2			11.3		Yes
Intake B	11.1			11.0		Yes

Table 6.1b Summary of Measured levels of Suspended Solids at Mid-Flood

Station No.	Measured Mean Level of Suspended Solids (mg/l)				Within 130% of mean value of Baseline data (Yes/No)	
	Baseline Impact Station	Baseline Control Station	Control Station (CF)	Impact Station	Control Station (CF)	Impact Station
			(October 09)	(October 09)	(October 09)	(October 09)
I1	11.6	11.7	11.3	10.4	Yes	Yes
I2	10.9			11.3		Yes
Intake A	11.0			10.0		Yes
Intake B	11.4			10.1		Yes

Review of the Reasons for and the Implications of Non-compliance

6.9 There was no non-compliance from the site audits in the reporting quarter. The observations and recommendations made in each individual site audit session were attached in the Monthly Reports.

7. ENVIRONMENTAL COMPLAINTS AND PROSECUTIONS

7.1 Seven environmental complaints were received and investigated during the reporting quarter. The updated Complaint Log is attached in **Appendix L**.

7.2 No warning, summon and notification of successful prosecution was received in the reporting period.

7.3 There were a total of 34 project related environmental complaints (with investigation report), no warnings, summons and successful prosecutions received since the commencement of the Project.

8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

8.1 The major construction activities in the coming month include:

- TBM excavation, adit excavation and structural works for River Channel at Eastern Portal;
- TBM excavation and adit excavation at Western Portal;
- Excavation of intake structure/dropshaft at Intakes W0, SM1 and MB16;
- Cofferdam construction at Intakes HKU1, E7, PFLR1 and W10;
- Site preparation works for Intakes THR2, RR1, TP4, MBD2, TP789, E5A, W5, P5, E5B and TP5;
- Pipelaying works along Mount Butler Road for Intake MB16;
- Slopeworks at TP4;
- Casting of tunnel segments in China; and
- Site Handover of Site Portions P5, E5B and TP5.

8.2 According to the environmental audit performed in the reporting period, the following recommendations were made:

Air Quality Impact

- To prohibit any open burning on site.
- To regularly maintain the machinery and vehicles on site.
- To implement dust suppression measures on all haul roads, stockpiles, dry surfaces and excavation works.
- To provide hoarding

Noise Impact

- To inspect the noise sources inside the site.
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.

Water Impact

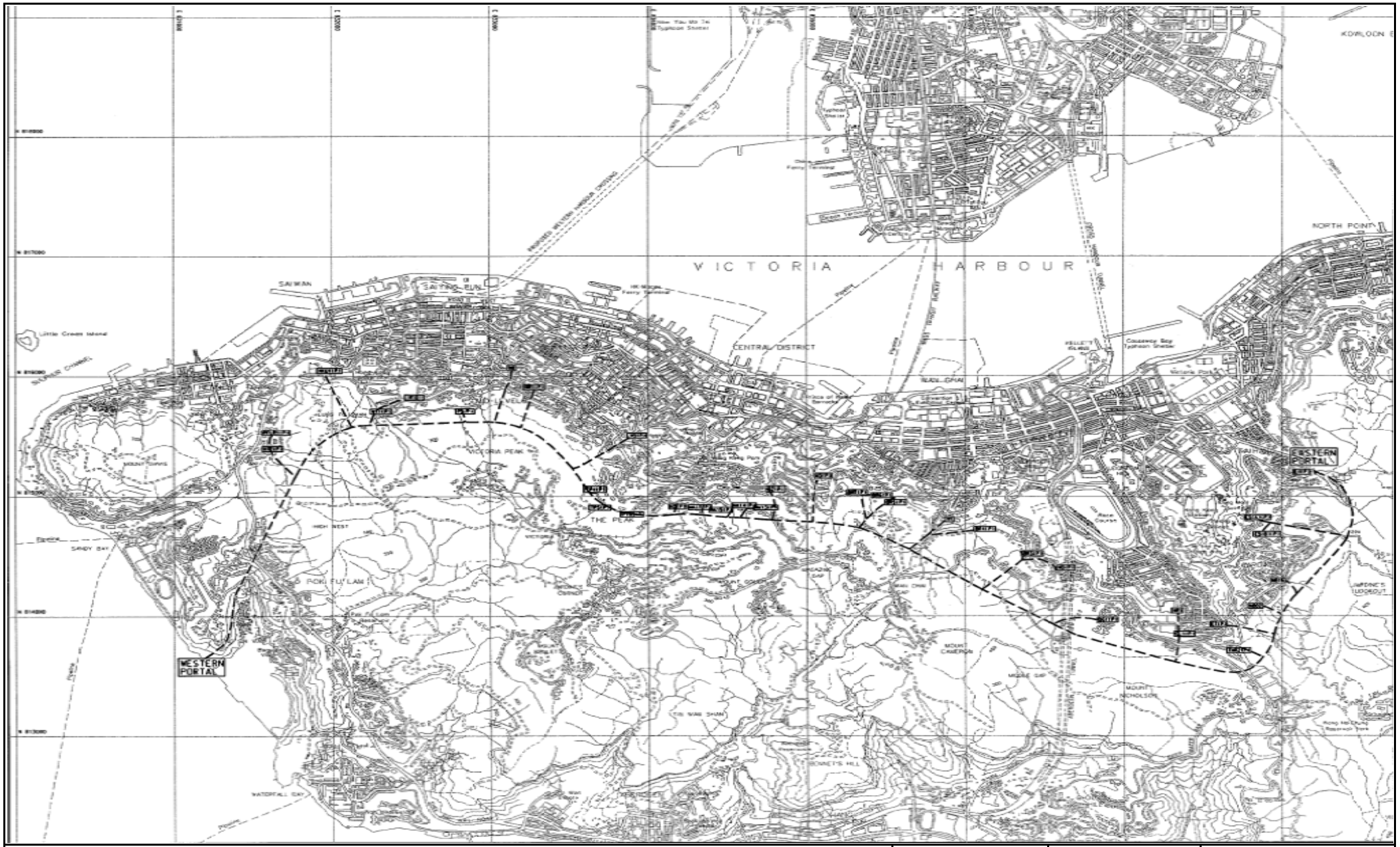
- To prevent any surface runoff discharge into any stream course.
- To review and implement temporary drainage system.
- To identify any wastewater discharges from site.
- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks.

- To review the capacity of de-silting facilities for discharge.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To avoid accumulation of stagnant and ponding water on site.

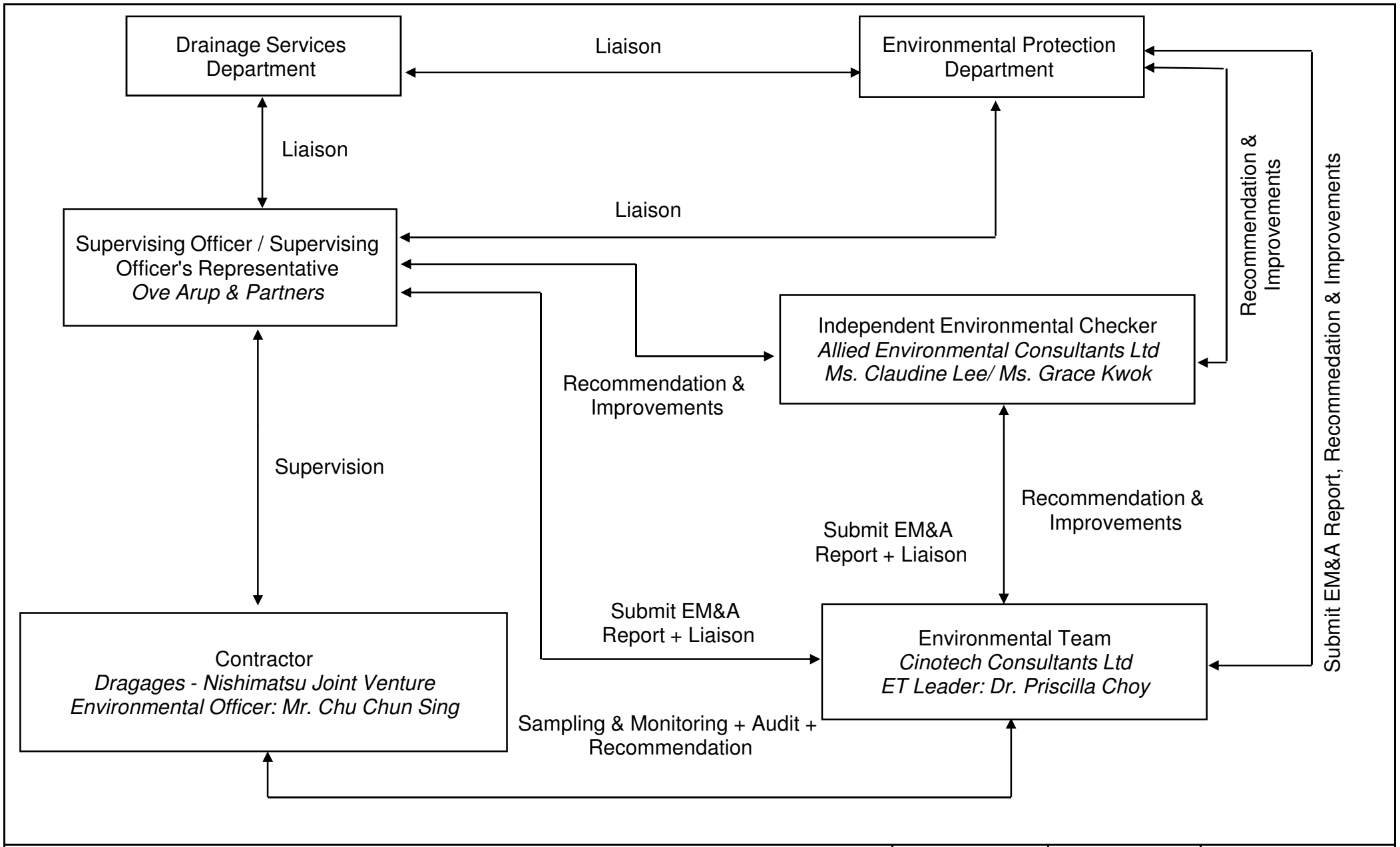
Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To ensure the performance of sorting of C&D materials at source (during generation);
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.

FIGURES

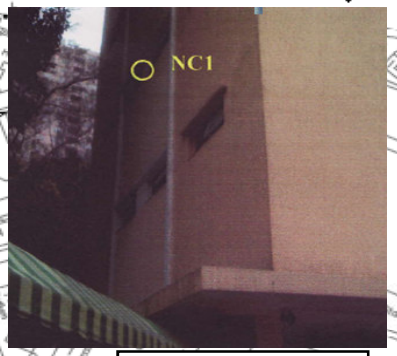


Title Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Site Layout Plan	Scale N.T.S	Project No. MA8001	CINOTECH
	Date Jun-08	Figure 1	



Title: Project Organization Chart	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel	Scale: N.T.S Date: Dec-09	Project No.: MA8001 Figure: 2

CINOTECH



AQ1- True Light Middle School of Hong Kong (Canopy)

NC1- True Light Middle School of Hong Kong (2/F floor)

NC1a - Outside True Light Middle School of Hong Kong

NC2- The Legend (16/F Podium)

EASTERN PORTAL

(Uncontoured)

(Uncontoured)

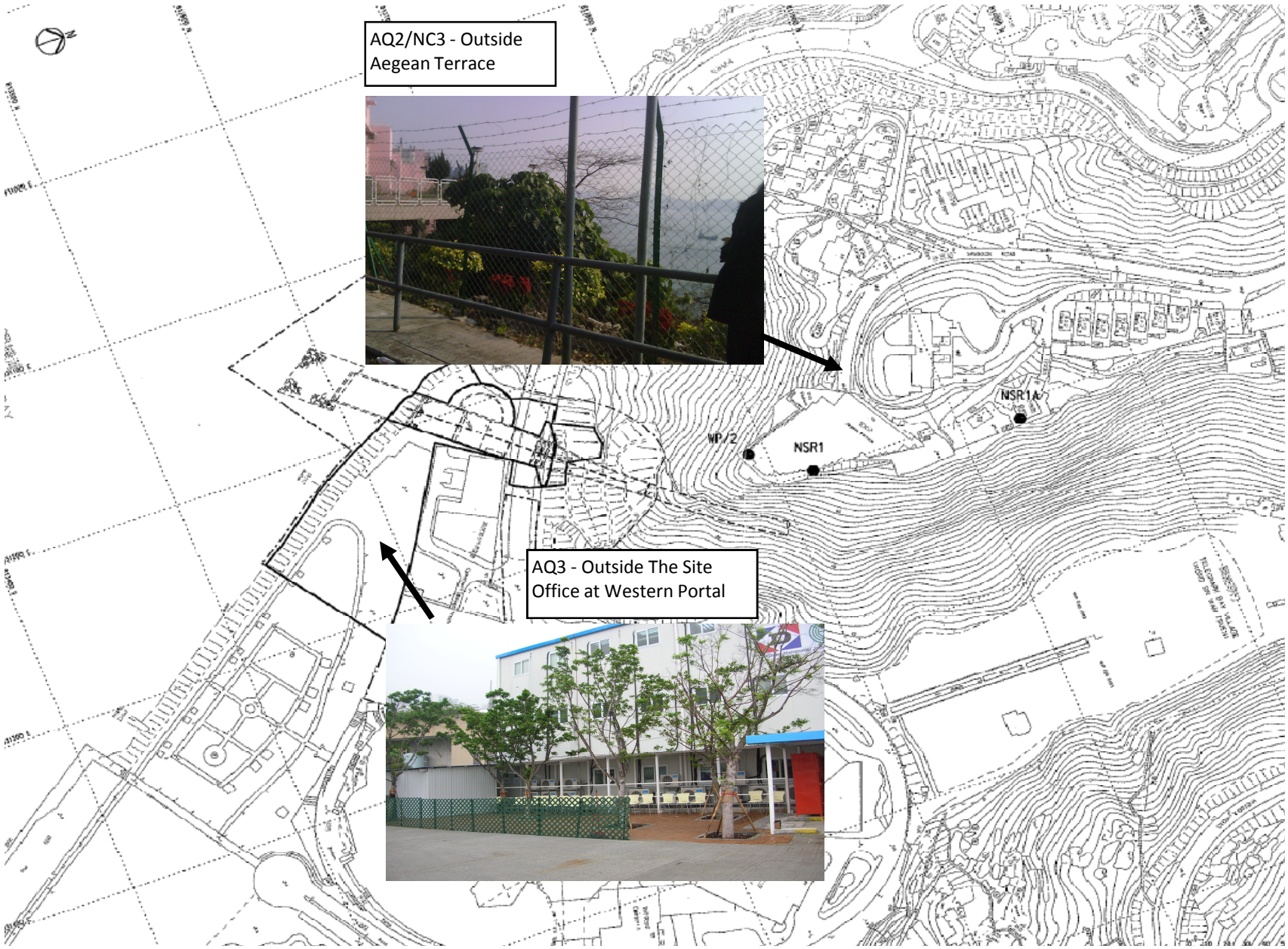
(Uncontoured)

TAI HANG ROAD

TAI HANG DRIVE

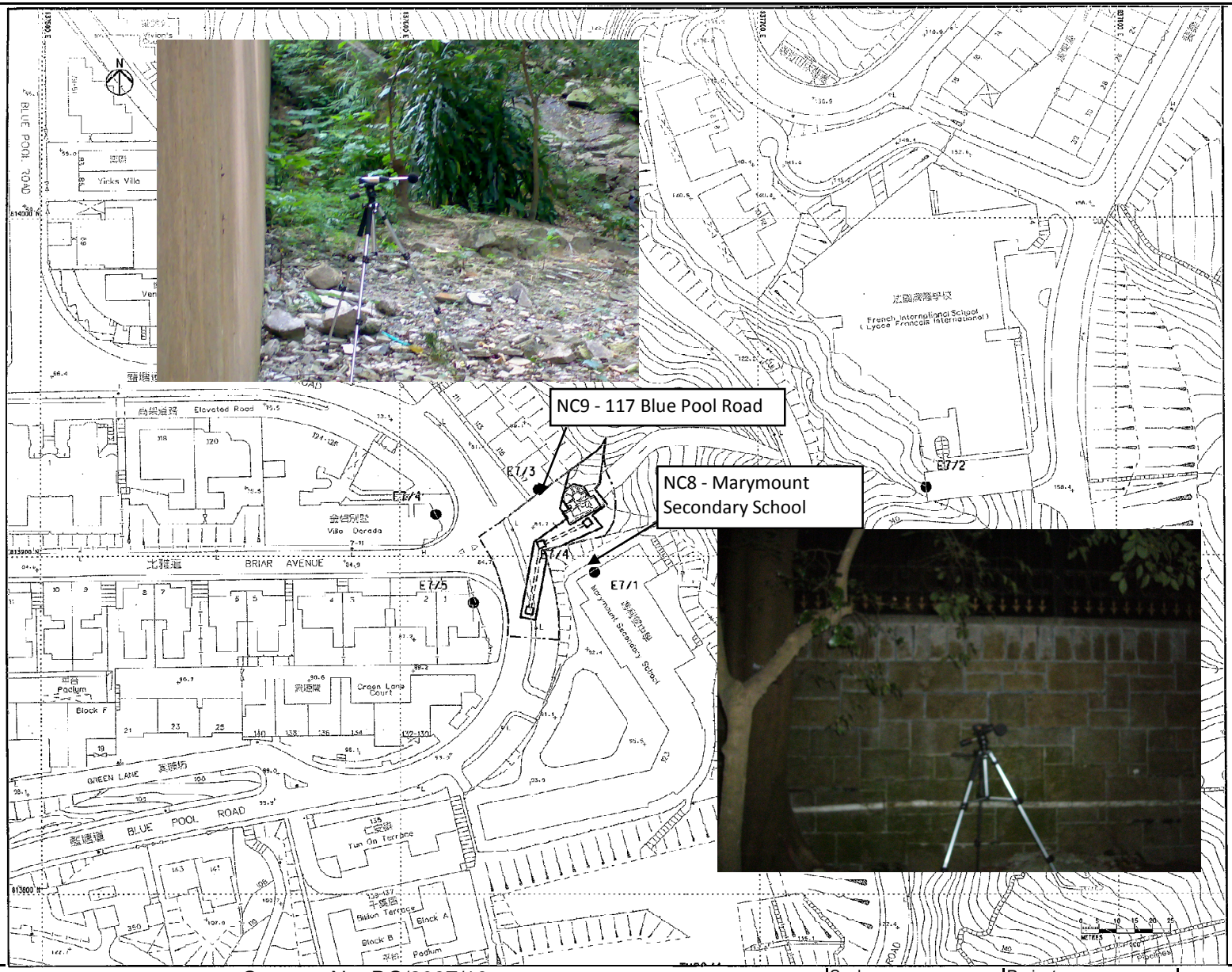
Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Eastern Portal) Locations of Air Quality and Noise Monitoring Station	Scale N.T.S Date Oct-09	Project No. MA 8001 Figure 3a

CINOTECH



Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Western Portal) Locations of Air Quality and Noise Monitoring Station	Scale: N.T.S Date: Oct-09	Project No.: MA 8001 Figure: 3b

CINOTECH

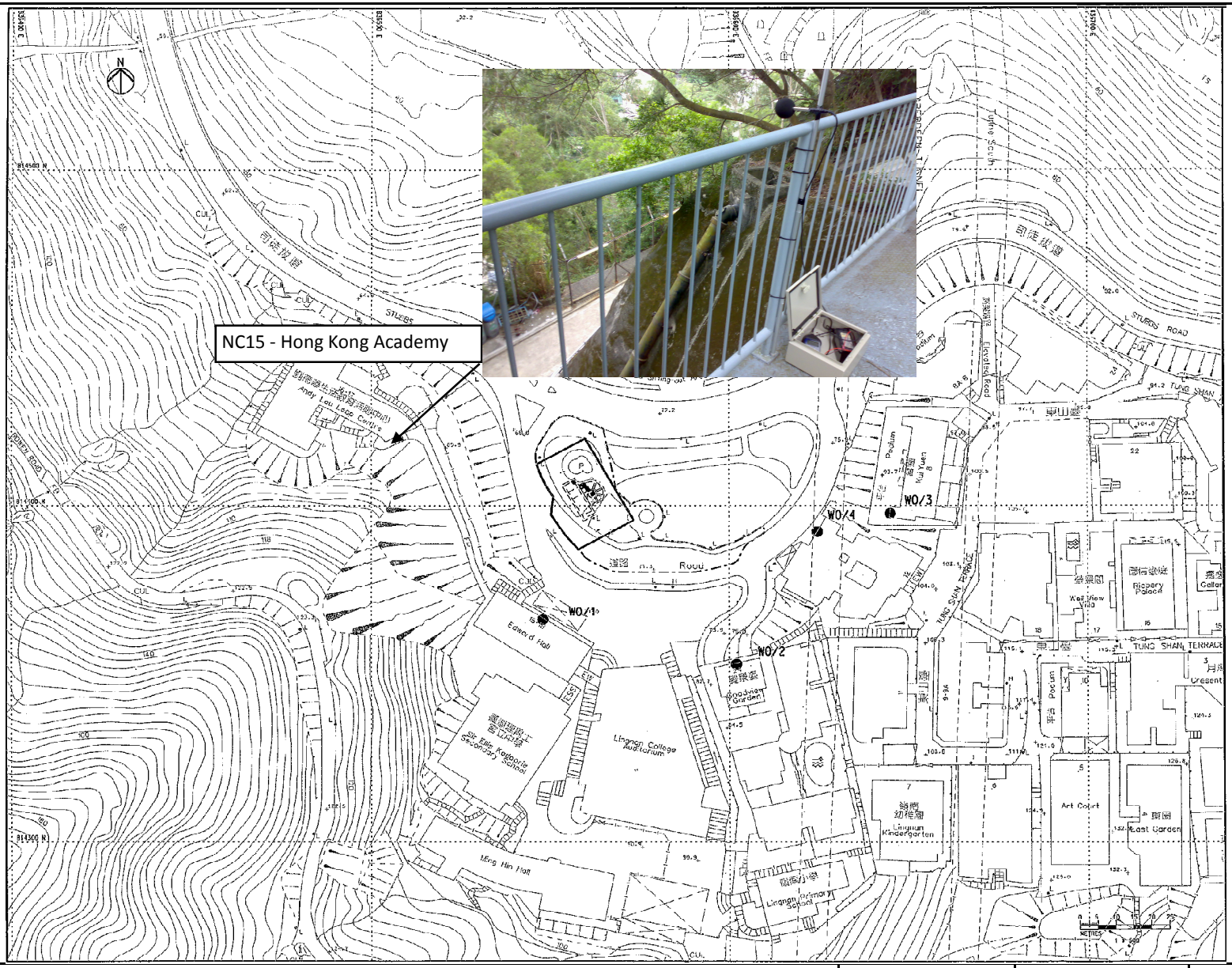


Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Intake E7) Locations of Noise Monitoring Stations	Scale: N.T.S Date: Oct-09	Project No.: MA8001 Figure: 3c

CINOTECH

Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Intake PFLR1) Locations of Noise Monitoring Stations	Scale: N.T.S Date: Oct-09	Project No.: MA8001 Figure: 3d

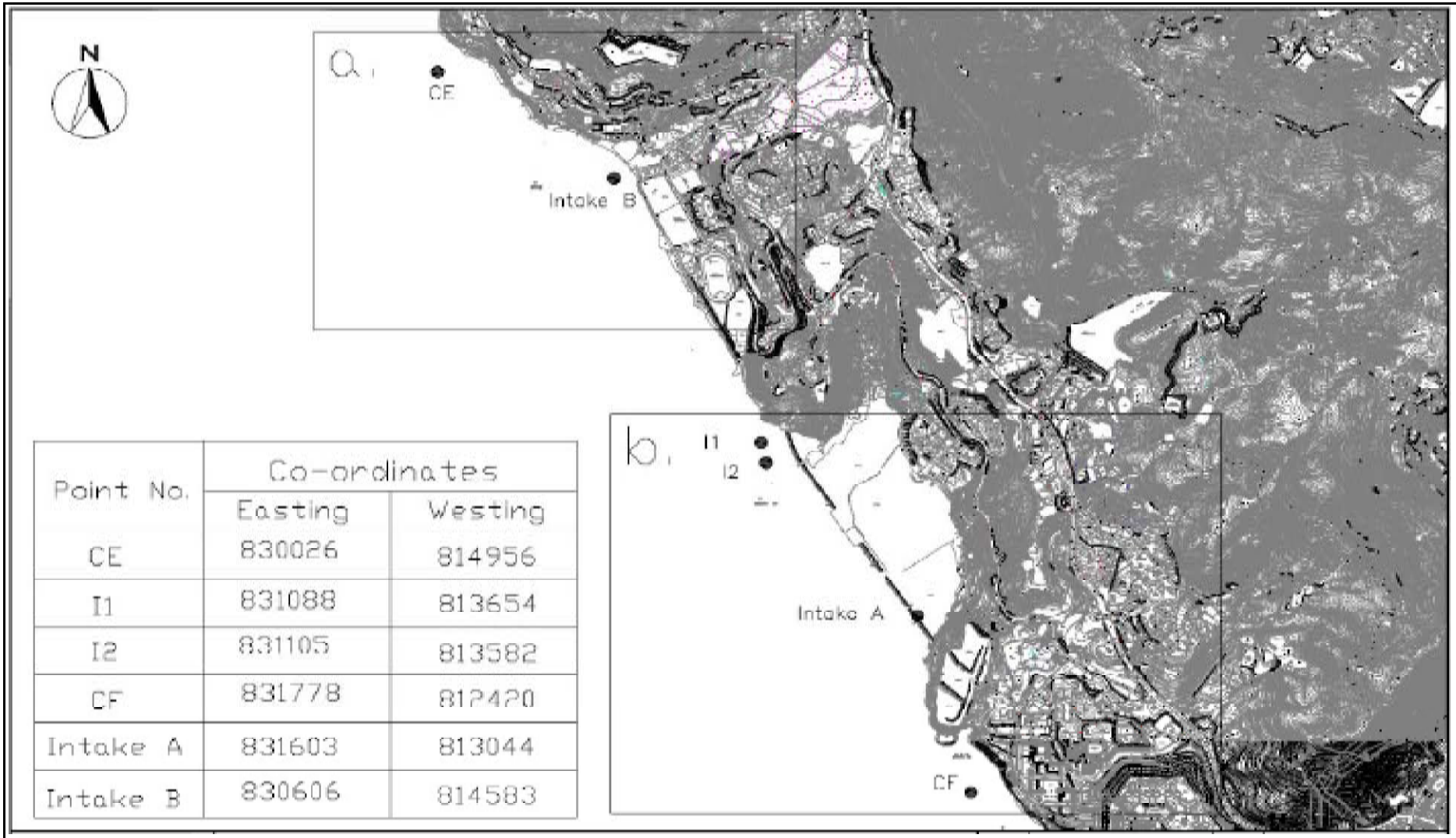
CINOTECH



Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Intake W0) Locations of Noise Monitoring Stations	Scale: N.T.S Date: Oct-09	Project No.: MA8001 Figure: 3e

CINOTECH

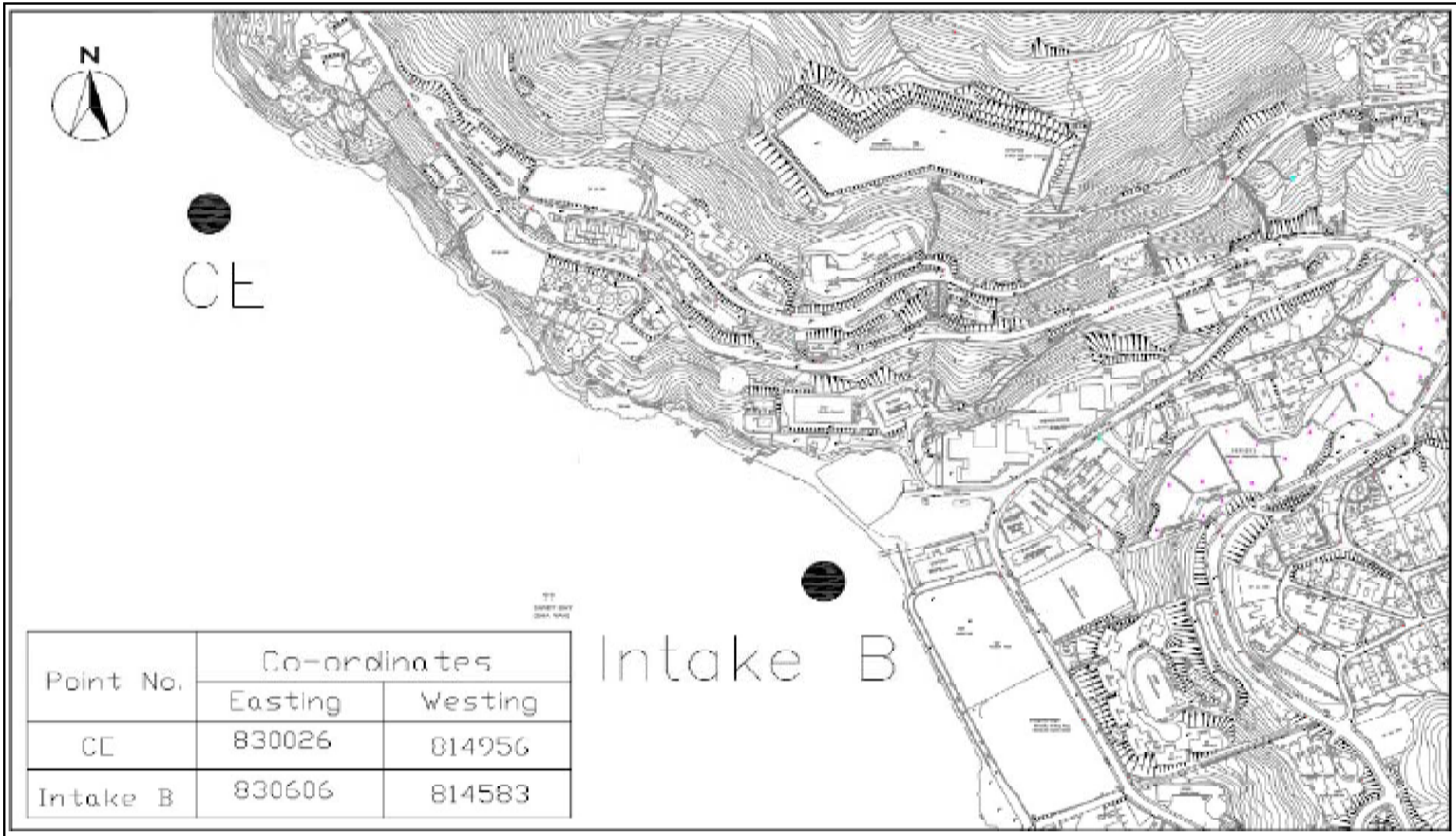
Title		Scale	Project
Contract No. DC/2007/10		N.T.S	No. MA8001
Design and Construction of Hong Kong West Drainage Tunnel		Date	Figure
(Near Western Portal)		Oct-09	3f
Locations of Groundborne Noise Monitoring Station			CINOTECH



Point No.	Co-ordinates	
	Easting	Westing
CE	830026	814956
I1	831088	813654
I2	831105	813582
CF	831778	812420
Intake A	831603	813044
Intake B	830606	814583

Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Locations of Water Quality Monitoring Stations	Scale: N.T.S Date: Jul-08	project No.: MA8001 Figure: 4

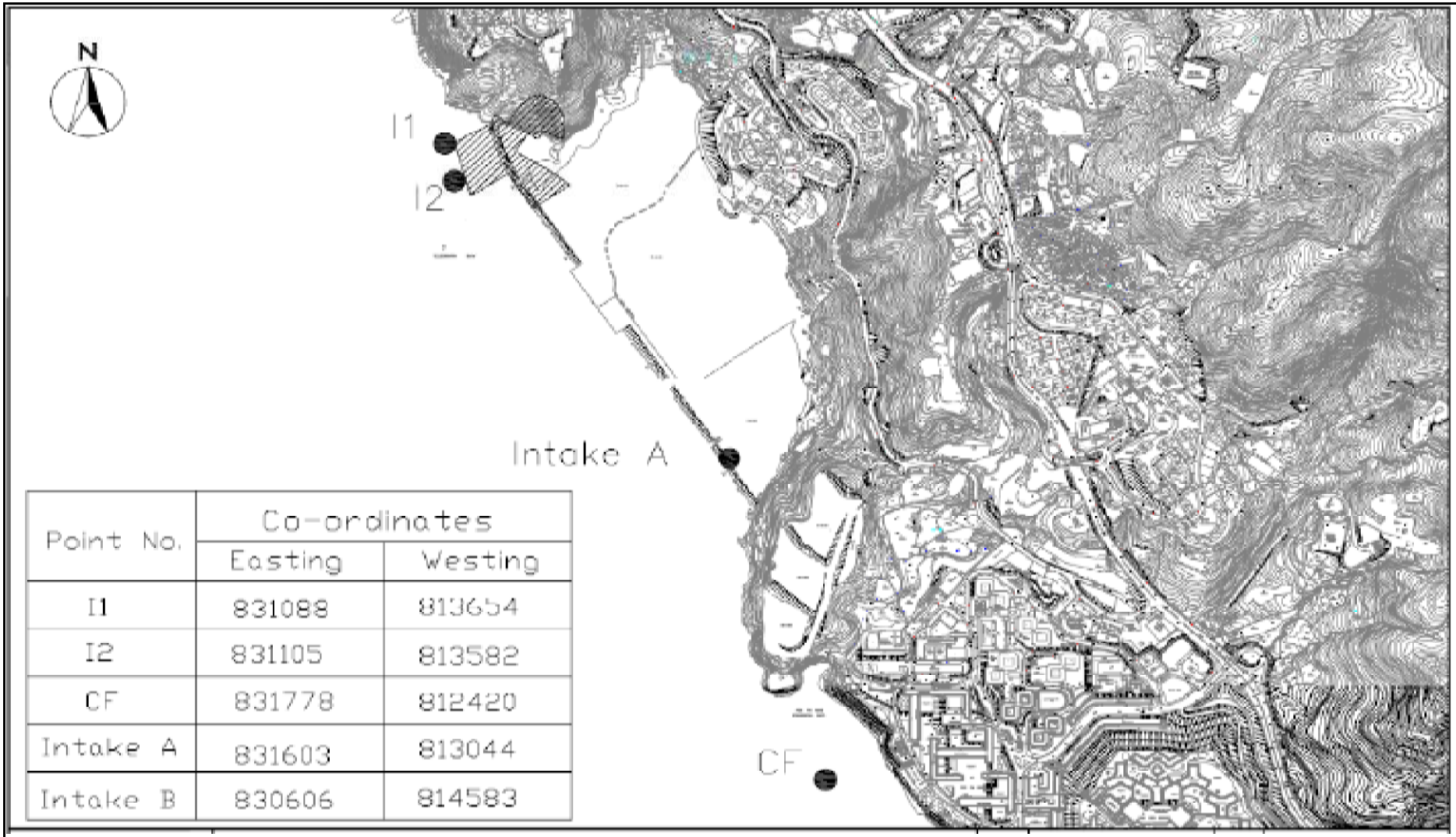
CINOTECH



Point No.	Co-ordinates	
	Easting	Westing
CE	830026	814956
Intake B	830606	814583

Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Locations of Water Quality Monitoring Stations	Scale: N.T.S Date: Jul-08	project No. MA8001 Figure: 4a

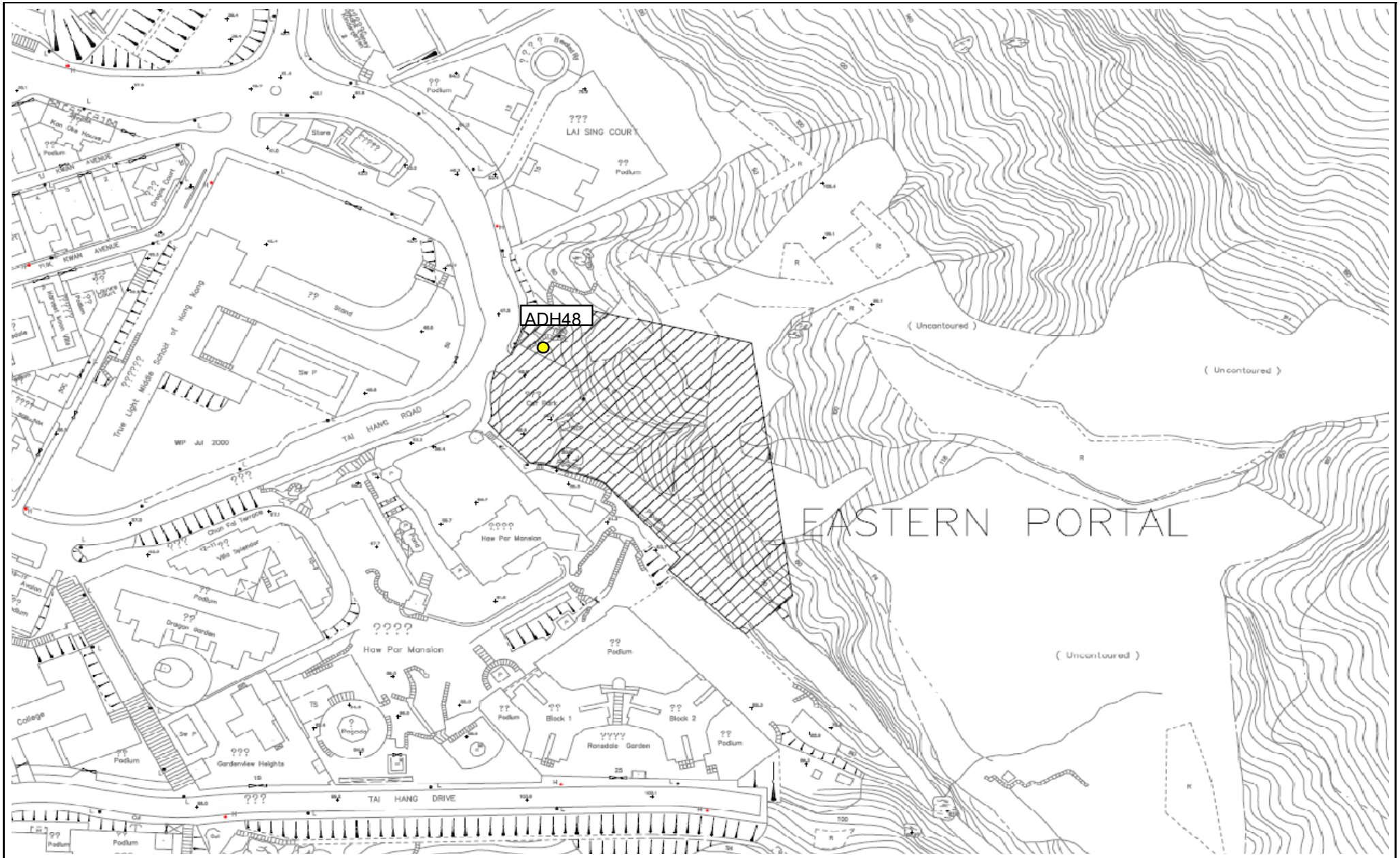
CINOTECH



Point No.	Co-ordinates	
	Easting	Westing
I1	831088	813654
I2	831105	813582
CF	831778	812420
Intake A	831603	813044
Intake B	830606	814583

Title		Scale	project
Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel		N.T.S	No. MA8001
Locations of Water Quality Monitoring Stations		Date: Jul-08	Figure: 4b

CINOTECH

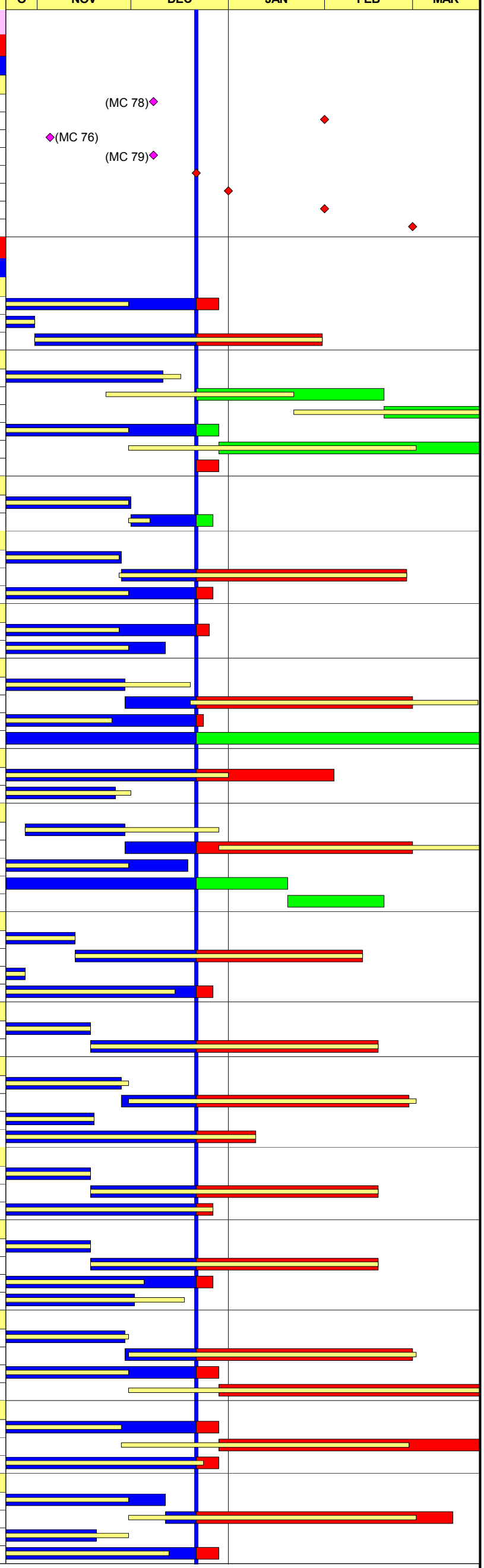


Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel (Eastern Portal) Location of ground water level Monitoring Station	Scale: N.T.S Date: Jul-08	Porject No.: MA8001 Figure: 5

CINOTECH

APPENDIX A
CONSTRUCTION PROGRAMME

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
THR2 off & re-shuffle RBM								
CC01 - PRELIMINARIES & GENERAL REQUIREMENTS								
Milestone								
General								
M1-1160	1.16-Complete of All Obligat's From 661to720d	0	0		07DEC09A		-7	-7
M1-1170	1.17-Complete of All Obligat's From 721to780d	0	0		31JAN10*	0	0	0
M1-1510	1.51-Acceptance of Monthly Report on TDMS(22M)	0	0		04NOV09A		0	-16
M1-1520	1.52-Acceptance of Monthly Report on TDMS(23M)	0	0		07DEC09A		-15	-37
M1-1530	1.53-Acceptance of Monthly Report on TDMS(24M)	0	0		21DEC09*	-21	-21	-21
M1-1540	1.54-Acceptance of Monthly Report on TDMS(25M)	0	0		31DEC09*	0	0	0
M1-1550	1.55-Acceptance of Monthly Report on TDMS(26M)	0	0		31JAN10*	0	0	0
M1-1560	1.56-Acceptance of Monthly Report on TDMS(27M)	0	0		28FEB10*	0	0	0
CC02 - DESIGN & DESIGN CHECKING OF THE WORKS								
Design Stage								
Secton 1 (Eastern Portal)								
D00275	APP Cofferdam for Intake Shaft DDA	42	7	21MAY08A	28DEC09	-633	-29	-63
D00278	P&S Reinst Perm Slope at Coff Intake Shaft DDA	63	0	23JUN09A	30OCT09A		0	0
D00279	APP Reinst Perm Slope at Coff Intake Shaft DDA	92	40	31OCT09A	30JAN10	-57	0	0
Section 1 Dropshaft								
D00633	APP Dropshaft Temp Rock Supt (Excl. W0) AIP	91	0	17SEP09A	10DEC09A		6	6
D00636	P&S Dropshaft Temp Rock Supt (Excl. W0) DDA	60	60	22DEC09*	19FEB10	45	-29	-63
D00639	APP Dropshaft Temp Rock Supt (Excl. W0) DDA	92	92	20FEB10	22MAY10	45	-29	-63
D00648	P&S Dropshaft Permanent Lining(Excl W0) DDA	62	7	19JUN09A	28DEC09	409	-29	-63
D00651	APP Dropshaft Permanent Lining(Excl W0) DDA	92	92	29DEC09	30MAR10	409	-29	-63
D00671	APP Dropshaft&SC at W0 Temp Rock Supt DDA VO10	7	7	22DEC09	28DEC09	-162	0	-63
Section 1 (Portion W0)								
D01164	P&S W0-Permanent Works Intake DDA VO10	35	0	23AUG08A	30NOV09A		-1	-35
D01166	APP W0-Permanent Works Intake DDA VO10	7	5	01DEC09A	26DEC09	565	-20	-54
Section 7 (Portion THR2)								
D00950	P&S THR2-Permanent Works Intake DDA	62	0	20FEB09A	27NOV09A		-1	-46
D00955	APP THR2-Permanent Works Intake DDA	92	67	28NOV09A	26FEB10	-117	0	-45
D00959	APP THR2-Temp Works & Drainage Diversion DDA	92	5	05AUG09A	26DEC09	-142	-27	-52
Section 4 (Portion MB16)								
D00795	APP MB16-Permanent Works Intake DDA	92	4	24JUL09A	25DEC09	-71	-29	-63
D00799	APP MB16-Temp Works & Drainage Diversion - DDA	92	0	21JUL09A	11DEC09A		-12	-46
Section 31 (Portion PFLR1)								
D02260	P&S PFLR1-Permanent Works Intake DDA	62	0	19OCT09A	28NOV09A		21	21
D02265	APP PFLR1-Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	-92	21	21
D02269	APP PFLR1-Temp Works & Drainage Diversion DDA	92	2	22JUL09A	23DEC09	-71	-29	-63
D02272	V0 # SOI 16 Due to Design placed on-hold-(PFLR1)	213	94	25AUG09A	25MAR10	203	0	0
Section30 (Portion HKU1)								
D02215	APP HKU1-Permanent Works Intake DDA	92	44	01OCT09A	03FEB10	-33	-34	-34
D02219	APP HKU1-Temp Works & Drainage Diversion DDA	122	0	29JUL09A	25NOV09A		5	2
Section 6 (Portion E7)								
D00890	P&S E7 - Permanent Works Intake DDA	62	0	28OCT09A	28NOV09A		30	22
D00895	APP E7 - Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	-57	30	22
D00899	APP E7 - Temp Works & Drainage Diversion - DDA	92	0	19MAR09A	18DEC09A		-19	-53
D00937	VO # 15 Design stoppage - (E7)	182	29	22JUL09A	19JAN10	119	0	3
D00939	VO # 15 Design Revision & IDC Check - (E7)	31	31	20JAN10	19FEB10	119	0	3
Section 29 (Portion W10)								
D02160	P&S W10-Permanent Works Intake DDA	62	0	15MAY09A	12NOV09A		0	-17
D02165	APP W10-Permanent Works Intake DDA	92	53	13NOV09A	12FEB10	-72	0	-17
D02167	APP W10-Temp Works & Drainage Diversion AIP	122	0	19NOV08A	27OCT09A		0	-1
D02169	APP W10-Temp Works & Drainage Diversion DDA	122	5	12SEP09A	26DEC09	-72	-12	-12
Section 32 (Portion SM1)								
D02310	P&S SM1-Permanent Works Intake DDA	63	0	05NOV08A	17NOV09A		0	-22
D02315	APP SM1-Permanent Works Intake DDA	92	58	18NOV09A	17FEB10	-47	0	-22
Section 26 (Portion RR1)								
D02010	P&S RR1-Permanent Works Intake DDA	62	0	08MAY09A	27NOV09A		2	-32
D02015	APP RR1-Permanent Works Intake DDA	92	68	28NOV09A	27FEB10	-87	2	-32
D02017	APP RR1-Temp Works & Drainage Diversion AIP	122	0	13JAN09A	18NOV09A		0	-23
D02019	APP RR1-Temp Works & Drainage Diversion DDA	122	19	10SEP09A	09JAN10	-79	0	0
Section 5 (Portion MBD2)								
D00840	P&S MBD2-Permanent Works Intake DDA	62	0	07SEP09A	17NOV09A		0	-10
D00845	APP MBD2-Permanent Works Intake DDA	92	58	18NOV09A	17FEB10	-47	0	-10
D00865	APP MBD2-Temp Works & Drainage Diversion DDA	92	5	26SEP09A	26DEC09	-42	0	0
Section 23 (Portion TP4)								
D01850	P&S TP4-Permanent Works Intake DDA	62	0	12AUG09A	17NOV09A		0	-22
D01855	APP TP4-Permanent Works Intake DDA	92	58	18NOV09A	17FEB10	-47	0	-22
D01859	APP TP4-Temp Works & Drainage Diversion DDA	92	5	04SEP09A	26DEC09	-85	-22	-22
D01895	APP TP4-Permanent Slopeworks DDA	122	0	18AUG09A	01DEC09A		16	16
Section 28 (Portion P5)								
D02110	P&S P5-Permanent Works Intake DDA	63	0	29SEP09A	28NOV09A		1	2
D02115	APP P5-Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	-27	1	2
D02118	P&S P5-Temp Works & Drainage Diversion DDA	62	7	12AUG09A	28DEC09	-125	-29	-63
D02119	APP P5-Temp Works & Drainage Diversion DDA	122	122	29DEC09	29APR10	-125	-29	-63
Section 22 (Portion TP5)								
D01800	P&S TP5-Permanent Works Intake DDA	62	7	24SEP09A	28DEC09	-88	-31	-34
D01805	APP TP5-Permanent Works Intake DDA	92	92	29DEC09	30MAR10	-88	-31	-34
D01809	APP TP5-Temp Works & Drainage Diversion DDA	92	7	23SEP09A	28DEC09	-34	-5	-5
Section 21 (Portion TP789)								
D01740	P&S TP789-Permanent Works Intake DDA	62	0	18MAY09A	11DEC09A		-12	-46
D01745	APP TP789-Permanent Works Intake DDA	92	82	12DEC09A	13MAR10	-132	-12	-46
D01747	APP TP789-Temp Works & Drainage Diversion AIP	92	0	03DEC08A	19NOV09A		10	-24
D01749	APP TP789-Temp Works & Drainage Diversion DDA	92	7	05SEP09A	28DEC09	-73	-16	-16



Start Date 30NOV07
Finish Date 17MAY12
Data Date 22DEC09
Run Date 28DEC09 11:21

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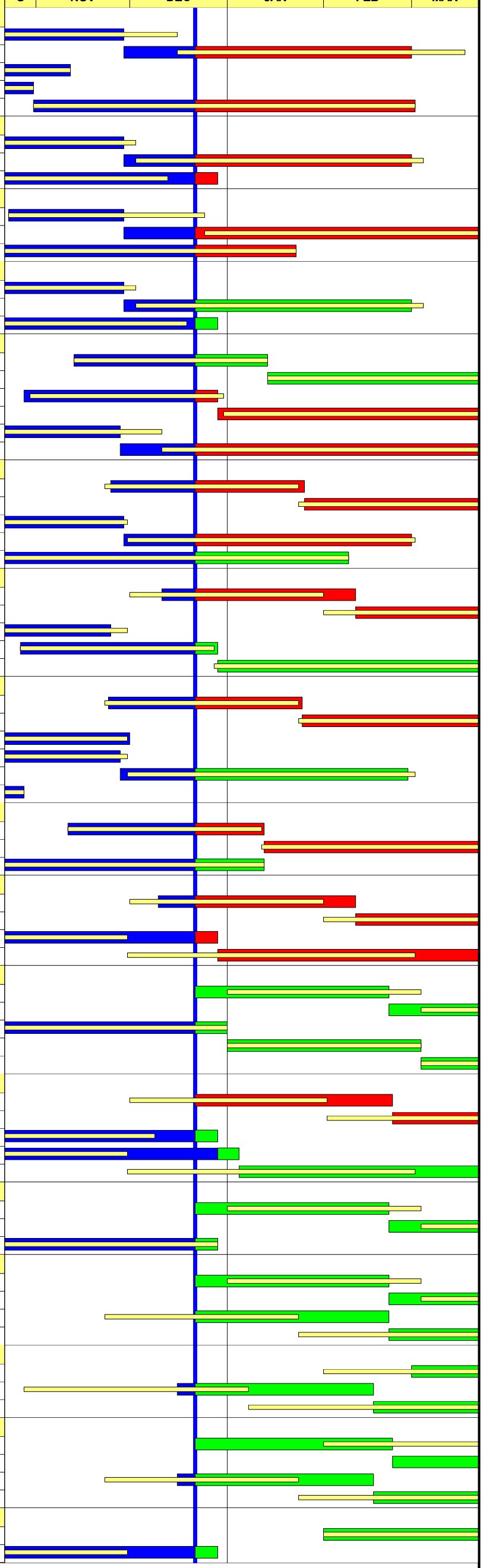
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 1 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Section 24 (Portion W5)								
D01906	P&S W5-Permanent Works Intake DDA	63	0	14OCT09A	28NOV09A		17	23
D01907	APP W5-Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	-27	17	23
D01911	APP W5-Temp Works & Drainage Diversion AIP	122	0	05MAR09A	11NOV09A		0	-11
D01912	P&S W5-Temp Works & Drainage Diversion DDA	62	0	04AUG09A	30OCT09A		0	2
D01913	APP W5-Temp Works & Drainage Diversion DDA	122	70	31OCT09A	01MAR10	-75	0	2
Section 2 (Portion E5A)								
D00684	P&S E5A-Permanent Works Intake DDA	62	0	02OCT09A	28NOV09A		4	4
D00686	APP E5A-Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	-27	4	4
D00695	APP E5A-Temp Works & Drainage Diversion DDA	92	7	12SEP09A	28DEC09	-30	-16	-16
Section 27 (Portion W8)								
D02060	P&S W8-Permanent Works Intake DDA	63	0	23OCT09A	28NOV09A		26	23
D02065	APP W8-Permanent Works Intake DDA	122	99	29NOV09A	30MAR10	-27	26	23
D02069	APP W8-Temp Works & Drainage Diversion DDA	122	32	23SEP09A	22JAN10	-50	0	0
Section 3 (Portion E5B)								
D00740	P&S E5B-Permanent Works Intake DDA	62	0	02OCT09A	28NOV09A		4	4
D00745	APP E5B-Permanent Works Intake DDA	92	69	29NOV09A	28FEB10	3	4	4
D00749	APP E5B-Temp Works & Drainage Diversion DDA	92	7	23SEP09A	28DEC09	3	-10	-10
Section 20 (Portion M3)								
D01680	P&S M3-Permanent Works Intake DDA	62	23	13NOV09A	13JAN10	167	0	-24
D01685	APP M3-Permanent Works Intake DDA	92	92	14JAN10	15APR10	167	0	-24
D01688	P&S M3-Temp Works & Drainage Diversion DDA	62	7	28OCT09A	28DEC09	-74	2	-8
D01689	APP M3-Temp Works & Drainage Diversion DDA	92	92	29DEC09	30MAR10	-74	2	-8
D01720	P&S M3-Permanent Slopeworks DDA	62	0	10OCT09A	27NOV09A		13	23
D01725	APP M3-Permanent Slopeworks DDA	122	98	28NOV09A	29MAR10	-103	13	23
Section 19 (Portion MA17)								
D01620	P&S MA17-Permanent Works Intake DDA	62	35	25NOV09A	25JAN10	-24	-2	-36
D01625	APP MA17-Permanent Works Intake DDA	92	92	26JAN10	27APR10	-24	-2	-36
D01628	P&S MA17-Temp Works & Drainage Diversion DDA	62	0	05AUG09A	28NOV09A		1	-33
D01629	APP MA17-Temp Works & Drainage Diversion DDA	92	69	29NOV09A	28FEB10	-11	1	-33
D01665	APP MA17-Permanent Slopeworks DDA	122	49	10OCT09A	08FEB10	9	0	0
Section 15 (Portion W3)								
D01410	P&S W3-Permanent Works Intake DDA	62	51	11DEC09A	10FEB10	-27	-10	-52
D01415	APP W3-Permanent Works Intake DDA	92	92	11FEB10	13MAY10	-27	-10	-52
D01417	APP W3-Temp Works & Drainage Diversion AIP	92	0	28FEB09A	24NOV09A		5	-29
D01418	P&S W3-Temp Works & Drainage Diversion DDA	62	7	27OCT09A	28DEC09	17	-1	-8
D01419	APP W3-Temp Works & Drainage Diversion DDA	92	92	29DEC09	30MAR10	17	-1	-8
Section 17 (Portion MA14)								
D01510	P&S MA14-Permanent Works Intake DDA	62	34	24NOV09A	24JAN10	-34	-1	-35
D01515	APP MA14-Permanent Works Intake DDA	92	92	25JAN10	26APR10	-34	-1	-35
D01517	APP MA14-Temp Works & Drainage Diversion AIP	92	0	04MAR09A	30NOV09A		-1	-35
D01518	P&S MA14-Temp Works & Drainage Diversion DDA	62	0	04SEP09A	27NOV09A		2	-23
D01519	APP MA14-Temp Works & Drainage Diversion DDA	92	68	28NOV09A	27FEB10	24	2	-23
D01555	APP MA14-Permanent Slopeworks DDA	122	0	29SEP09A	27OCT09A		0	93
Section 18 (Portion MA15)								
D01570	P&S MA15-Permanent Works Intake DDA	62	22	11NOV09A	12JAN10	-18	-1	-23
D01575	APP MA15-Permanent Works Intake DDA	92	92	13JAN10	14APR10	-18	-1	-23
D01595	APP MA15-Temp Works & Drainage Diversion DDA	92	22	13OCT09A	12JAN10	74	0	46
Section 10 (Portion DG1)								
D01100	P&S DG1-Permanent Works Intake DDA	62	51	10DEC09A	10FEB10	-45	-10	-52
D01105	APP DG1-Permanent Works Intake DDA	92	92	11FEB10	13MAY10	-45	-10	-52
D01108	P&S DG1-Temp Works & Drainage Diversion DDA	63	7	04SEP09A	28DEC09	-1	-29	-53
D01109	APP DG1-Temp Works & Drainage Diversion DDA	92	92	29DEC09	30MAR10	-1	-29	-53
Section 9 (Portion HR1)								
D01050	P&S HR1-Permanent Works Intake DDA	62	62	22DEC09*	21FEB10	11	10	-51
D01055	APP HR1-Permanent Works Intake DDA	92	92	22FEB10	24MAY10	11	10	-51
D01057	APP HR1-Temp Works & Drainage Diversion AIP	92	10	01OCT09A	31DEC09	1	0	0
D01058	P&S HR1-Temp Works & Drainage Diversion DDA	62	62	01JAN10*	03MAR10	1	0	0
D01059	APP HR1-Temp Works & Drainage Diversion DDA	92	92	04MAR10	03JUN10	1	0	0
Section 14 (Portion BR6)								
D01360	P&S BR6-Permanent Works Intake DDA	63	63	22DEC09*	22FEB10	-10	-21	-21
D01365	APP BR6-Permanent Works Intake DDA	92	92	23FEB10	25MAY10	-10	-21	-21
D01375	APP BR6-Temp Works & Drainage Diversion AIP	92	7	08SEP09A	28DEC09	39	-20	-20
D01380	P&S BR6-Temp Works & Drainage Diversion DDA	63	7	17SEP09A	04JAN10	39	-36	3
D01385	APP BR6-Temp Works & Drainage Diversion DDA	92	92	05JAN10	06APR10	39	-36	3
Section 12 (Portion W1)								
D01260	P&S W1-Permanent Works Intake DDA	62	62	22DEC09*	21FEB10	24	10	-54
D01265	APP W1-Permanent Works Intake DDA	92	92	22FEB10	24MAY10	24	10	-54
D01269	APP W1-Temp Works & Drainage Diversion DDA	92	7	30SEP09A	28DEC09	171	0	0
Section 8 (Portion GL1)								
D01000	P&S GL1-Permanent Works Intake DDA	62	62	22DEC09*	21FEB10	24	10	-51
D01005	APP GL1-Permanent Works Intake DDA	92	92	22FEB10	24MAY10	24	10	-51
D01008	P&S GL1--Temp Works & Drainage Diversion DDA	62	62	22DEC09*	21FEB10	24	-29	-63
D01009	APP GL1--Temp Works & Drainage Diversion DDA	92	92	22FEB10	24MAY10	24	-29	-63
Section 25 (Portion CR1)								
D01960	P&S CR1-Permanent Works Intake DDA	62	62	01MAR10*	01MAY10	60	-28	0
D01968	P&S CR1-Temp Works & Drainage Diversion DDA	62	57	16DEC09A	16FEB10	104	-40	-58
D01969	APP CR1-Temp Works & Drainage Diversion DDA	122	122	17FEB10	18JUN10	104	-40	-58
Section 13 (Portion BR5)								
D01310	P&S BR5-Permanent Works Intake DDA	63	63	22DEC09*	22FEB10	36	41	-21
D01315	APP BR5-Permanent Works Intake DDA	92	92	23FEB10	25MAY10	36	41	-21
D01318	P&S BR5-Temp Works & Drainage Diversion DDA	62	57	16DEC09A	16FEB10	42	-24	-58
D01319	APP BR5-Temp Works & Drainage Diversion DDA	92	92	17FEB10	19MAY10	42	-24	-58
Section 11 (Portion BR4)								
D01200	P&S BR4-Permanent Works Intake DDA	62	62	01FEB10*	03APR10	58	0	0
D01209	APP BR4-Temp Works & Drainage Diversion DDA	92	7	25AUG09A	28DEC09	6	-29	-37



Start Date 30NOV07
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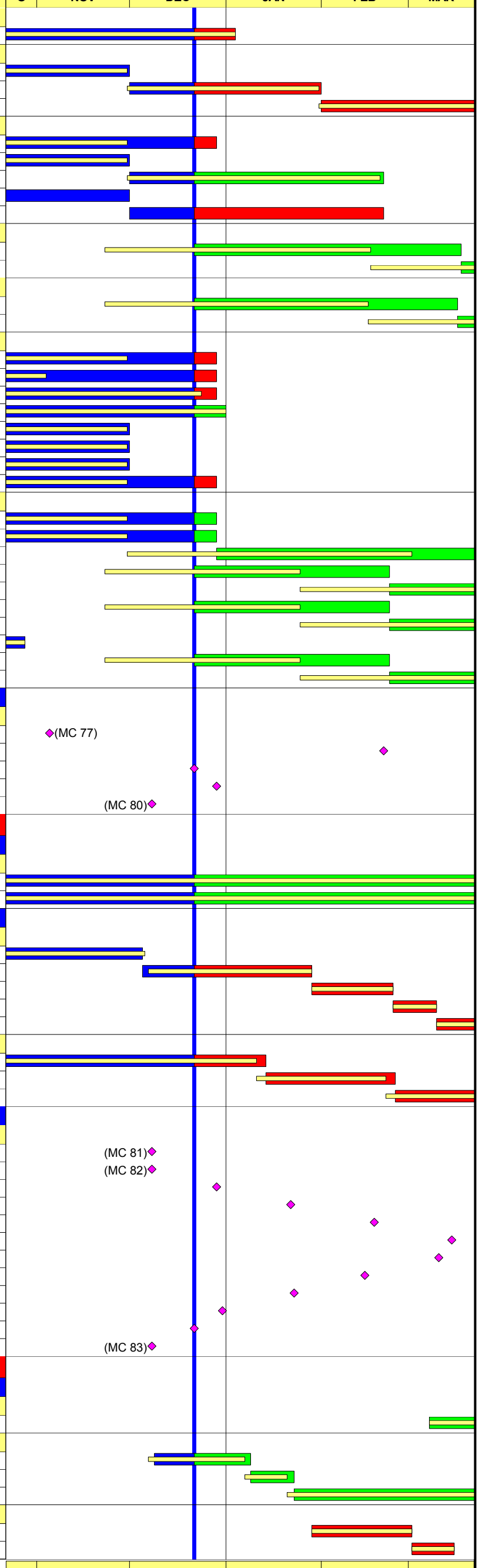
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 2 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Section 11 (Portion BR4)								
D01245	APP BR4-Permanent Slopeworks DDA	122	13	04SEP09A	03JAN10	0	0	0
Section 16 (Portion B2)								
D01467	APP B2-Temp Works & Drainage Diversion AIP	92	0	04MAR09A	30NOV09A		-1	-35
D01468	P&S B2-Temp Works & Drainage Diversion DDA	62	41	01DEC09A	31JAN10	0	-1	-35
D01469	APP B2-Temp Works & Drainage Diversion DDA	92	92	01FEB10	03MAY10	0	-1	-35
Adits & Stilling Chambers								
D00535	APP Adits & Stilling Chamber Temp Support DDA	122	7	04JUN09A	28DEC09	-86	-29	-63
D00550	P&S Adits & SC Permanent Lining DDA	63	0	26JUN09A	30NOV09A		-1	-35
D00555	APP Adits & SC Permanent Lining DDA	82	61	01DEC09A	20FEB10	18	-1	-35
D00570	P&S SC Permanent Lining DDA	63	0	26JUN09A	30NOV09A		0	-35
D00575	APP SC Permanent Lining DDA	92	61	01DEC09A	20FEB10	-89	0	-25
E&M								
D02350	P&S E&M AIP	86	86	22DEC09*	17MAR10	239	-29	-63
D02355	APP E&M AIP	42	42	18MAR10	28APR10	239	-29	-63
Landscaping								
D02370	P&S Landscaping AIP	85	85	22DEC09*	16MAR10	90	-29	-63
D02375	APP Landscaping AIP	42	42	17MAR10	27APR10	90	-29	-63
Project Wide								
D00145	APP Detailed Const Risk Assess(Portals) DDA	42	7	02AUG08A	28DEC09	-426	-29	-63
D00148	APP Det Const Risk Assess(excl Portals) DDA	40	7	30JAN09A	28DEC09	-413	-55	-63
D00152	APP DCRA V3-W10,P5,W8,RR1,CR1,W5,TP4,TP5,etc	92	7	23SEP09A	28DEC09	-122	-5	-5
D00154	APP DCRA V4-M3,MA17,MA15,MA14,B3,W3,BR6,etc	92	10	01OCT09A	31DEC09	34	0	0
D00157	APP Impact ARW V 2B DDA	1	0	08JUL09A	30NOV09A		-1	-28
D00163	APP Impact ARW V 2-PFLR1,SM1,HKU1,THR2,etc DDA	92	0	26JUN09A	30NOV09A		-1	-35
D00165	APP Impact ARW V 3-W10,P5,W8,RR1,CR1,W5,etc DDA	92	0	16JUL09A	30NOV09A		-1	-35
D00191	APP BA - Vol 3A(E5A,MB16,MBD2,E7,THR2,HR1,GL1)	122	7	01APR09A	28DEC09	-62	-29	-63
Main Tunnel								
D00455	APP Adit/main tun intrct Temp Sup(excl W0) DDA	92	7	16JUL09A	28DEC09	29	-29	-46
D00470	P&S Adit/main tun intrct Perm Ling(exc W0) DDA	63	7	23JUL09A	28DEC09	146	-29	-63
D00475	APP Adit/main tun intrct Perm Ling(exc W0) DDA	92	92	29DEC09	30MAR10	146	-29	-63
D00480	P&S Adit/main tun intrct Perm Ling at W0 AIP	63	63	22DEC09*	22FEB10	244	-29	-63
D00485	APP Adit/main tun intrct Perm Ling at W0 AIP	92	92	23FEB10	25MAY10	244	-29	-63
D00490	P&S Adit/main tunl intrsct Perm Ling at W0 DDA	63	63	22DEC09*	22FEB10	265	-29	-63
D00495	APP Adit/main tunl intrsct Perm Ling at W0 DDA	92	92	23FEB10	25MAY10	265	-29	-63
D00505	APP TBM Dismantle Chamber Temp Supt at W0 AIP	92	0	30SEP09A	27OCT09A		0	64
D00510	P&S TBM Dismantle Chamber Temp Supt at W0 DDA	63	63	22DEC09*	22FEB10	232	-29	-63
D00515	APP TBM Dismantle Chamber Temp Supt at W0 DDA	92	92	23FEB10	25MAY10	232	-29	-63
Milestone								
Design Submission								
M2-1090	2.09-DDA-Adits&Stilling Chambers Submission	0	0		04NOV09A		0	-9
M2-1100	2.10-DDA-Adits&Stilling Chambers Consent	0	0		20FEB10	817	-1	-35
M2-1120	2.12-AIP-Dropshaft Consent	0	0		21DEC09	878	-29	-63
M2-1130	2.13-DDA-Dropshaft Submission	0	0		28DEC09	871	-29	-63
M2-1210	2.21-DDA Slope Protective(other thanE&W Portals)	0	0		07DEC09A		3	13
CC03-PART OF SECTION 1 OF THE WORKS(MAIN TUNNEL)								
Preliminary and General Requirements								
Prefabrication Precast Segment for Main Tunnel								
B2240	Precast Segment Fabrication (E.Tunnel)	592	238	16DEC08A	16AUG10	166	-7	0
B2280	Precast Segment Fabrication (W.Tunnel)	745	409	17DEC08A	03FEB11	20	-34	0
Construction								
TBM Excavation (Eastern Tunnel)								
E1500	TBM Excav (CH640 to CH844-E5A,E5B)+200m =404m	39	0	20OCT09A	04DEC09A		1	-6
E1510	TBM Excav (to CH1377-MB16)+200m =533m	43	30	05DEC09A	28JAN10	-33	0	-7
E1520	TBM Excav (to CH1610-MBD2)+200m =233m	19	19	29JAN10	23FEB10	-33	0	-7
E1530	TBM Excav (to CH1758-E7)+200m =148m	12	12	24FEB10	09MAR10	-33	0	-7
E1540	TBM Excav (to CH2042-THR2)+200m =284m	24	24	10MAR10	09APR10	-33	0	-7
TBM Excavation (Western Tunnel)								
W1148	TBM Excav (CH9610toCH8799-SM1,PFLR1)+200m	94	23	29AUG09A	13JAN10	-59	-3	-20
W1150	TBM Excav (to CH8345-HKU1,W10,P5)+200m =454m	42	42	14JAN10	24FEB10	-59	-3	-20
W1160	TBM Excav'n (to CH7447-W8,RR1)+200m =898m	84	84	25FEB10	19MAY10	-59	-3	-20
Milestone								
Section 1 (Main Tunnel)								
M3-1130	3.13-Excavation, Support & Lining CH500 to 750	0	0		07DEC09A		-15	-38
M3-1140	3.14-Excavation, Support & Lining CH750 to 1000	0	0		07DEC09A		-6	-14
M3-1150	3.15-Excavation, Support & Lining CH1000 to 1250	0	0		28DEC09	871	0	-11
M3-1160	3.16-Excavation, Support & Lining CH1250 to 1500	0	0		21JAN10	847	0	-8
M3-1170	3.17-Excavation, Support & Lining CH1500 to 1750	0	0		17FEB10	820	0	-12
M3-1180	3.18-Excavation, Support & Lining CH1750 to 2000	0	0		14MAR10	795	0	-9
M3-1430	3.43-Excavation, Support & Lining CH8000 to 8250	0	0		10MAR10	799	-3	-20
M3-1440	3.44-Excavation, Support & Lining CH8250 to 8500	0	0		14FEB10	823	-3	-20
M3-1450	3.45-Excavation, Support & Lining CH8500 to 8750	0	0		22JAN10	846	-3	-20
M3-1460	3.46-Excavation, Support & Lining CH8750 to 9000	0	0		30DEC09	869	-3	-20
M3-1470	3.47-Excavation, Support & Lining CH9000 to 9250	0	0		21DEC09	878	-17	-34
M3-1480	3.48-Excavation, Support & Lining CH9250 to 9500	0	0		07DEC09A		-15	-44
CC04 - PART OF SECTION 1 OF THE WORKS (ADITS)								
Construction								
Adit Tunnel Excavation & Tunnel Lining - W0								
S010280	Back Shunt Tunnels (W0)	43	43	08MAR10	03MAY10	3	0	0
Adit Tunnel Excavation & Tunnel Lining - E5A								
S020195	Adit Excavation by Mech Excav -Ch0 - Ch9(E5A)	24	13	09DEC09A	08JAN10	122	-2	-9
S020197	Adit Excav-Trial DB & Protection Ch9-Ch11(E5A)	12	12	09JAN10	22JAN10	122	-2	-9
S020200	Adit Excavation by Drill & Blast Ch11-193(E5A)	68	68	23JAN10	20APR10	122	-4	-9
Adit Tunnel Excavation & Tunnel Lining - MB16								
S040245	Adit Excavation by Mech Excav -Ch0 - Ch9(MB16)	24	24	29JAN10	01MAR10	-2	0	-7
S040247	Adit Excav Trial DB&Blast Prot -Ch9 -Ch11(MB16)	12	12	02MAR10	15MAR10	-2	0	-7



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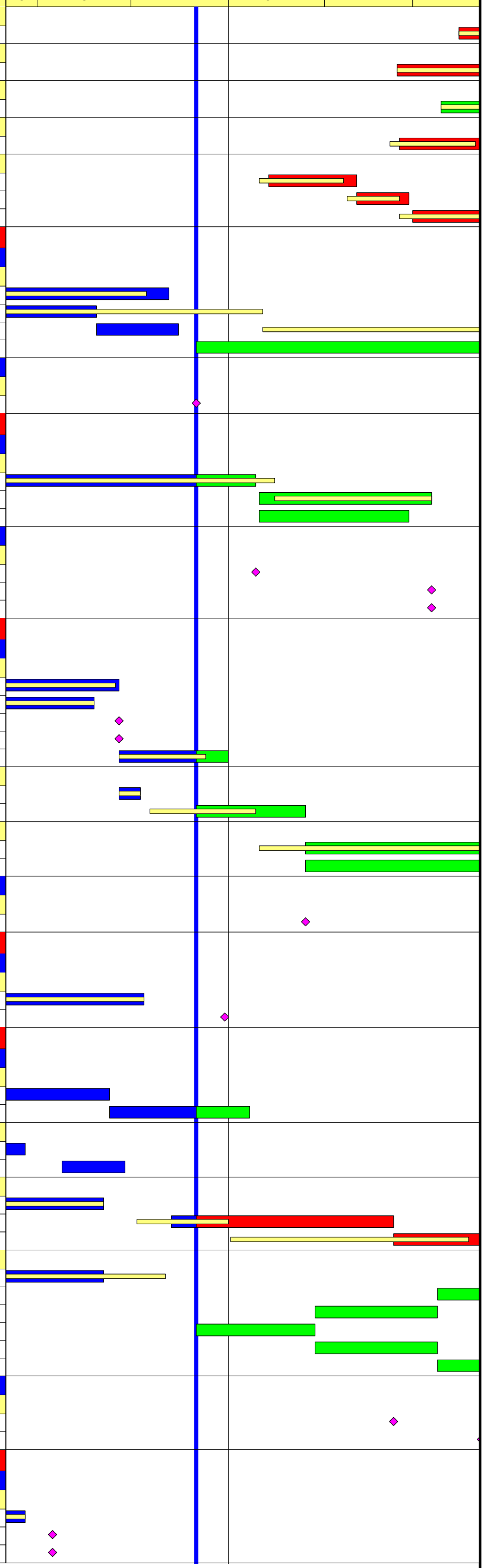
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 3 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Adit Tunnel Excavation & Tunnel Lining - MB16								
S040250	Adit Excavation by Drill & Blast Ch11-117(MB16)	39	39	16MAR10	06MAY10	-2	0	-7
Adit Tunnel Excavation & Tunnel Lining - MBD2								
S05-5065	Adit Excavation by Mech Excav -Ch0 - Ch9(MBD2)	24	24	24FEB10	23MAR10	-7	0	-7
Adit Tunnel Excavation & Tunnel Lining - E7								
S060265	Adit Excavation by Mech Excav -Ch0 - Ch9(E7)	24	24	10MAR10	09APR10	297	0	-7
Adit Tunnel Excavation & Tunnel Lining - P5								
S280115	Adit Excavation by Mech Excav -Ch0 - Ch9(P5)	24	24	25FEB10	24MAR10	-46	-3	-14
Adit Tunnel Excavation & Tunnel Lining - SM1								
S321636	Adit Excavation by Mech Excav -Ch0 - Ch9(SM1)	24	24	14JAN10	10FEB10	0	-3	-14
S321637	Adit Excav Trial DB&Blast Prot -Ch9 - Ch11(SM1)	12	12	11FEB10	27FEB10	0	-3	-14
S321640	Adit Excavation by Drill & Blast Ch11-185(SM1)	73	73	01MAR10	03JUN10	0	-13	-14
CC5-PART OF SECTION 1 OF THE WORKS (EAST PORTAL)								
Construction								
East Portal River Channel Works								
EPC0311	Rock Excav&Slope Stabilization North Side Row B	80	0	09JUL09A	12DEC09A		-6	-43
EPC0322	Middle Excav&Install struts at river bed	48	0	22OCT09A	19NOV09A		42	47
EPC0324	Deep Excav&Install struts at river bed	60	0	20NOV09A	15DEC09A		80	85
EPC0330	Lower River Channel Structure Constr	83	83	22DEC09	07APR10	238	75	80
Milestone								
Secton 1 (Eastern Portal)								
M5-1010	5.01-Excavation(River Channel Structure)	0	0		21DEC09	878	94	100
CC7 -PART OF SECTION 1 OF THE WORKS (PORTION W0)								
Construction								
Intakes - External Structures (Stage1)								
S010268	Excavation to +46.9mPD	32	14	17OCT09A	09JAN10	3	5	-39
S010270	Excavation to +40.40mPD	45	45	11JAN10	06MAR10	3	0	-39
S010272	VO/Claim # 10 Part EOT for W0 Intake - W0	39	39	11JAN10	27FEB10	9	0	6
Milestone								
Section 1 (Portion W0)								
M7-1010	7.01-Pre-drilling&Grouting Works(Dropshaft)	0	0		09JAN10	859	-48	-82
M7-1020	7.02-Excavation(Dropshaft)	0	0		06MAR10	803	0	-49
M7-1040	7.04-Excavation(Access Shaft)	0	0		06MAR10	803	0	-49
CC8 - SECTION 2 OF THE WORKS (PORTION E5A)								
Construction								
Preliminary Works								
S020040	Notify,Coord&Obtain Permit-Utility Prov - E5A	149	0	19JAN09A	26NOV09A		-1	0
S020110	25 wks prior to Portion Possess Date-(E5A)	175	0	20MAY09A	18NOV09A		0	0
S020135	Complete All Utility Diversion by Others-E5A	0	0		26NOV09A		-1	0
S020140	Site Possession - E5A	0	0	27NOV09A			0	111
S020150	Site Setting up/Mobilization-(E5A)	24	7	27NOV09A	31DEC09	119	-4	107
Preparation Works								
S020170	Install Geotech Monitoring Instruments-(E5A)	6	0	27NOV09A	03DEC09A		0	111
S020180	Pre-drilling & Grouting Works-(E5A)	27	27	22DEC09	25JAN10	110	-13	98
Intakes - External Structures (Stage1)								
S020210	Cofferdam Wall Driving-(E5A)	69	69	26JAN10	23APR10	110	-13	98
S020212	VO # 25 Additional Cofferdam Works	138	138	26JAN10	26JUL10	116	0	98
Milestone								
Section 2 (Portion E5A)								
M81010	8.01-Pre-drilling&Grouting Works(Dropshaft)	0	0		25JAN10	628	-16	128
CC9 - SECTION 3 OF THE WORKS (PORTION E5B)								
Construction								
Preliminary Works								
S030110	25 wks prior to Portion Possess Date-(E5B)	175	0	12JUN09A	04DEC09A		0	0
S030125	Complete Utility Diversion by Others - E5B	0	0		30DEC09*	103	0	0
CC10-SECTION 4 OF THE WORKS (PORTION MB16)								
Construction								
Preliminary Works								
S041140	Cut Slope at the Western for Working Platform	48	0	17AUG09A	23NOV09A		0	11
S041142	VO # 21 - Add'l Slopeworks-(MB16)	38	12	24NOV09A	07JAN10	28	0	-27
Preparation Works								
S040150	Install Geotech Monitoring Instruments-(MB16)	6	0	20OCT09A	27OCT09A		0	0
S040170	Pre-drilling & Grouting Works-(MB16)	34	0	09NOV09A	28NOV09A		0	0
Intakes - External Structures (Stage1)								
S040180	Cofferdam Wall Driving-(MB16)	72	0	18SEP09A	21NOV09A		0	18
S040230	Cofferdam Excavation-(MB16)	18	48	14DEC09A	22FEB10	-8	-41	-37
S040260	Main Structure Construciton-(MB16)	62	62	23FEB10	13MAY10	-8	-41	-37
Pipe Laying								
S040190	Manhole SMH2 to SMH3	30	0	03OCT09A	21NOV09A		17	-11
S040280	Manhole SMH6 to SMH7	30	30	09MAR10	16APR10	181	22	-6
S040330	Manhole SMH7 to SMH8	30	30	29JAN10	08MAR10	181	82	54
S040360	Manhole SMH8 to SMH9	30	30	22DEC09	28JAN10	181	142	114
S040390	Manhole SMH9 to Intake MB16	30	30	29JAN10	08MAR10	215	142	114
S040430	Existing Manhole to SMH1	12	12	09MAR10	22MAR10	215	142	114
Milestone								
Section 4 (Portion MB16)								
M101040	10.04-Excavation (Intake)	0	0		22FEB10	325	-53	-47
M101070	10.07-100% of PipeLength of Drain.Works&Reins't	0	0		22MAR10	297	190	154
CC11-SECTION 5 OF THE WORKS (PORTION MBD2)								
Construction								
Preliminary Works								
S050110	25 wks prior to Portion Possess Date-(MBD2)	175	0	05MAY09A	27OCT09A		0	0
S050132	Complete All Utility Diversion by Others- (MBD2)	0	0		05NOV09A		0	0
S050140	Site Possession - MBD2	0	0	06NOV09A			0	0



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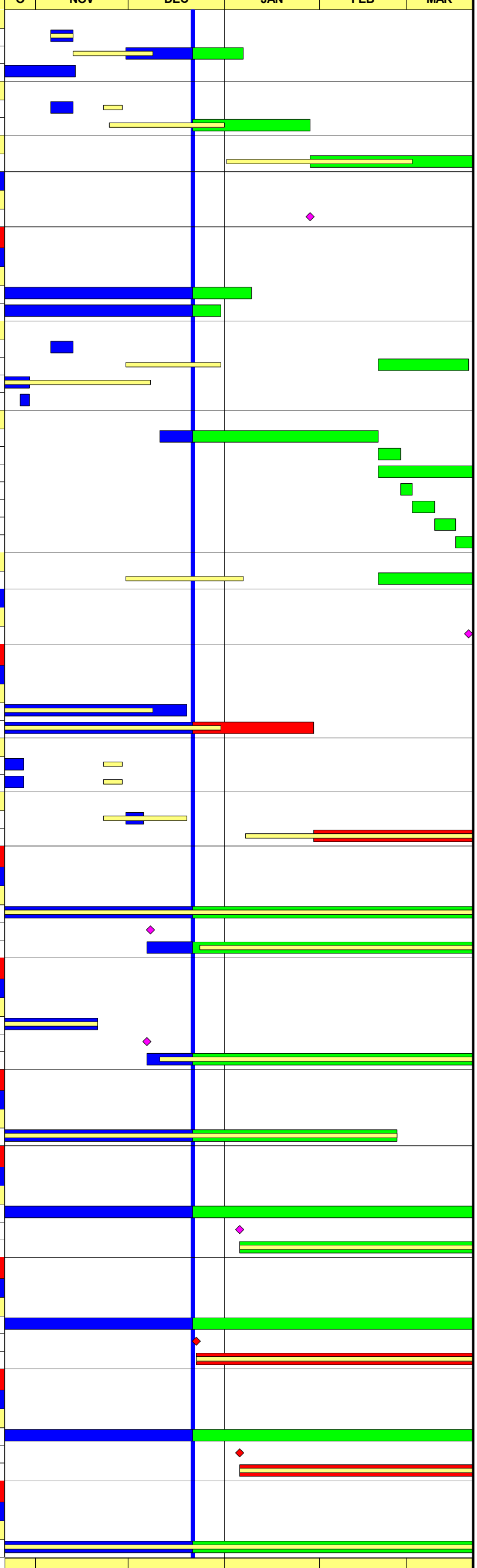
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Preliminary Works								
S050170	Temporary Traffic Diversion for Intake	6	0	06NOV09A	12NOV09A		0	0
S050180	Site Setting up/Mobilization-(MBD2)	24	11	30NOV09A	06JAN10	8	-22	-20
S050182	VO # 26 Re-application Excavation Permit-(MBD2)	71	0	07AUG09A	13NOV09A		0	-7
Preparation Works								
S050160	Install Geotech Monitoring Instruments-(MBD2)	6	0	06NOV09A	12NOV09A		14	0
S050200	Pre-drilling & Grouting Works-(MBD2)	30	30	22DEC09	28JAN10	7	-23	-21
Intakes - External Structures (Stage1)								
S050210	Cofferdam Wall Driving-(MBD2)	48	48	29JAN10	29MAR10	7	-23	-21
Milestone								
Section 5 (Portion MBD2)								
M11-1010	11.01-Pre-drilling & Grouting Works(Dropshaft)	0	0		28JAN10	553	-28	-24
CC12-SECTION 6 OF THE WORKS (PORTION E7)								
Construction								
Preliminary Works								
S060122	VO # S0I 16 Tree Felling Application - (E7)	138	14	20OCT09A	09JAN10	141	0	71
S060142	VO # 15 Resubmission XP permit-(E7)	69	6	20OCT09A	30DEC09	149	0	10
Preparation Works								
S060150	Install Geotech Monitoring Instruments-(E7)	6	0	06NOV09A	12NOV09A		0	-14
S060160	Grouting Works-(E7)	25	25	20FEB10	20MAR10	192	-65	-93
S060180	Permanent Slope Protective Works (Soil Nails)	48	0	28SEP09A	29OCT09A		33	0
S060190	Install Geotech Monitoring Instruments-(E7)	3	0	27OCT09A	29OCT09A		0	0
Intakes - External Structures (Stage1)								
S060260	Cofferdam Wall Driving-(E7)	155	46	11DEC09A	19FEB10	85	0	85
S060291	Expose Existing Box Culvert by Excav-(E7)	6	6	20FEB10	26FEB10	85	0	85
S060300	Dropshaft Temporary Lining	30	30	20FEB10	26MAR10	85	110	85
S060312	Saw-cut Box-culvert&place Steel Pipes-(E7)	3	3	27FEB10	02MAR10	88	0	85
S060320	Secure Pipes Hang&SealantConnect-(E7)	6	6	03MAR10	09MAR10	88	0	85
S060330	Removal Lower Sector Box-culvert-(E7)	6	6	10MAR10	16MAR10	88	0	85
S060360	Excavation & Lodging-(E7)	6	6	17MAR10	23MAR10	88	0	85
Pipe Laying								
S060170	Pipeline SMH16 to SMH15	30	30	20FEB10	26MAR10	192	-65	-93
Milestone								
Section 6 (Portion E7)								
M121010	12.01-Pre-drilling & Grouting Works(Dropshaft)	0	0		20MAR10	659	-80	-115
CC13-SECTION 7 OF THE WORKS (PORTION THR2)								
Construction								
Preliminary Works								
S070160	Site Setting up/Mobilization-(THR2)	24	0	13JUN09A	19DEC09A		-10	0
S070180	Rail System & Overhead Gantry Installation	58	31	13JUN09A	29JAN10	-141	-25	-53
Preparation Works								
S070190	Install Geotech Monitoring Instruments-(THR2)	6	0	20OCT09A	27OCT09A		28	0
S070191	Existing Bldg & Structure(EBS) Survey - (THR2)	6	0	20OCT09A	27OCT09A		28	0
Intakes - External Structures (Stage1)								
S070170	Temp Diversion Natural Stream(Drain)-(THR2)	24	0	30NOV09A	05DEC09A		12	-16
S070230	Cofferdam Wall Driving-(THR2)	65	65	30JAN10	23APR10	-141	-19	-9
CC14-SECTION 8 OF THE WORKS (PORTION GL1)								
Construction								
Preliminary Works								
S080030	Notify,Coord&Obtain Permit-Utility Prov - GL1	364	93	19JAN09A	20APR10	83	-6	0
S080100	Notify SO for Portion Possession - (GL1)	0	0		07DEC09A		13	13
S080110	25 wks prior to Portion Possess Date-(GL1)	175	160	07DEC09A	30MAY10	17	17	17
CC15-SECTION9 OF THE WORKS(PORTION HR1)								
Construction								
Preliminary Works								
S090030	Notify,Coord&Obtain Permit-Utility Prov - HR1	315	0	24OCT08A	20NOV09A		0	0
S090100	Notify SO for Portion Possession - (HR1)	0	0	07DEC09A			4	-40
S090110	25 wks prior to Portion Possess Date-(HR1)	175	160	07DEC09A	30MAY10	4	4	-48
CC16-SECTION 10 OF THE WORKS (PORTION DG1)								
Construction								
Preliminary Works								
S100110	25 wks prior to Portion Possess Date-(DG1)	175	66	04SEP09A	25FEB10	30	0	0
CC17-SECTION 11 OF THE WORKS (PORTION BR4)								
Construction								
Preliminary Works								
S110020	Notify,Coord&Obtain Permit-Utility Prov - BR4	149	95	20OCT09A	22APR10	104	0	1
S110100	Notify SO for Portion Possession - (BR4)	0	0		05JAN10*	59	0	0
S110110	25 wks prior to Portion Possess Date-(BR4)	175	175	06JAN10	29JUN10	72	0	0
CC18-SECTION 12 OF THE WORKS (PORTION W1)								
Construction								
Preliminary Works								
S120020	Notify,Coord&Obtain Permit-Utility Prov - W1	149	95	20OCT09A	22APR10	109	0	1
S120100	Notify SO for Portion Possession - (W1)	0	0		22DEC09*	0	0	0
S120110	25 wks prior to Portion Possess Date-(W1)	175	175	23DEC09	15JUN10	0	0	0
CC19-SECTION 13 OF WORKS (PORTION BR5)								
Construction								
Preliminary Works								
S130020	Notify,Coord&Obtain Permit-Utility Prov - BR5	149	95	20OCT09A	22APR10	97	0	1
S130100	Notify SO for Portion Possession - (BR5)	0	0		05JAN10*	0	0	0
S130110	25 wks prior to Portion Possess Date-(BR5)	175	175	06JAN10	29JUN10	0	0	0
CC20-SECTION 14 OF THE WORKS (PORTION BR6)								
Construction								
Preliminary Works								
S140030	Notify,Coord&Obtain Permit-Utility Prov - BR6	386	93	24NOV08A	20APR10	71	-5	1



Start Date	30NOV07
Finish Date	17MAY12
Data Date	22DEC09
Run Date	28DEC09 11:21

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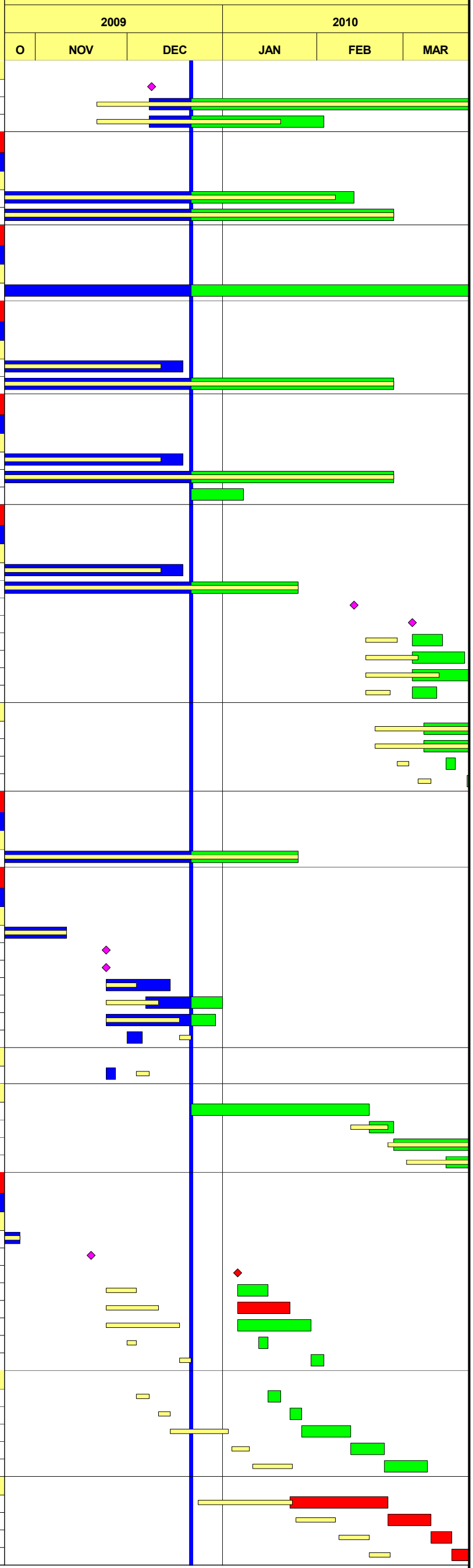
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 5 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Preliminary Works								
S140100	Notify SO for Portion Possession - (BR6)	0	0		08DEC09A		-15	-15
S140110	25 wks prior to Portion Possess Date-(BR6)	175	161	08DEC09A	31MAY10	55	-18	-17
S140125	TMLG submission, coordination & Approval - BR6	48	34	08DEC09A	02FEB10	130	-12	-12
CC21-SECTION 15 OF THE WORKS (PORTION W3)								
Construction								
Preliminary Works								
S150030	Notify,Coord&Obtain Permit-Utility Prov - W3	359	43	24NOV08A	12FEB10	50	-5	1
S150110	25 wks prior to Portion Possess Date-(W3)	175	66	04SEP09A	25FEB10	49	0	0
CC22-SECTION 16 OF THE WORKS (PORTION B2)								
Construction								
Preliminary Works								
S160020	Notify,Coord&Obtain Permit-Utility Prov - B2	149	95	20OCT09A	22APR10	264	0	1
CC23-SECTION 17 OF THE WORKS (PORTION MA14)								
Construction								
Preliminary Works								
S170020	Notify,Coord&Obtain Permit-Utility Prov - MA14	149	0	25JUN09A	18DEC09A		-6	0
S170110	25 wks prior to Portion Possess Date-(MA14)	175	66	04SEP09A	25FEB10	25	0	0
CC24-SECTION 18 OF THE WORKS (PORTION MA15)								
Construction								
Preliminary Works								
S180020	Notify,Coord&Obtain Permit-Utility Prov - MA15	149	0	21JUL09A	18DEC09A		-6	0
S180110	25 wks prior to Portion Possess Date-(MA15)	175	66	04SEP09A	25FEB10	29	0	0
S180116	P & S Environmental Base Monitoring Report(MA15)	12	12	22DEC09	07JAN10	170	0	-53
CC25-SECTION 19 OF THE WORKS (PORTION MA17)								
Construction								
Preliminary Works								
S190030	Notify,Coord&Obtain Permit-Utility Prov - MA17	339	0	24NOV08A	18DEC09A		-6	0
S190110	25 wks prior to Portion Possess Date-(MA17)	175	35	04AUG09A	25JAN10	18	0	0
S190127	Complete All Temp Diversion Works - (MA17)	0	0		12FEB10*	17	0	0
S190130	Site Possession - MA17	0	0	04MAR10*		4	-13	0
S190150	Hoarding/Fencing-(MA17)	9	9	04MAR10	13MAR10	4	-13	0
S190160	Cut/Fill/Place Concrete Block&Platform-(M17)	15	15	04MAR10	20MAR10	5	-13	0
S190170	Power & Water Points-(MA17)	21	21	04MAR10	27MAR10	31	-13	0
S190180	Implement Traffic Divn Scheme-(MA17)	7	7	04MAR10	11MAR10	10	-13	0
Preparation Works								
S190200	Skin Wall-(MA17)	48	48	08MAR10	08MAY10	4	-13	0
S190210	Soil Nails-(MA17)	26	26	08MAR10	09APR10	5	-13	0
S190220	Install Geotech Instruments-(MA17)	3	3	15MAR10	17MAR10	8	-13	0
S190260	Mobilization&Setup(Pre-drill & Grouting)-(MA17)	3	3	22MAR10	24MAR10	5	-13	0
CC26-SECTION 20 OF THE WORKS (PORTION M3)								
Construction								
Preliminary Works								
S200110	25 wks prior to Portion Possess Date-(M3)	175	35	04AUG09A	25JAN10	8	0	0
CC27-SECTION 21 OF THE WORKS (PORTION TP789)								
Construction								
Preliminary Works								
S210110	25 wks prior to Portion Possess Date-(TP789)	175	0	20MAY09A	10NOV09A		0	0
S210125	Complete All Utility Diversions by Others -TP789	0	0		23NOV09A		0	0
S210130	Site Possession - TP789	0	0	24NOV09A			0	0
S210150	Hoarding/Fencing-(TP789)	9	0	24NOV09A	14DEC09A		-9	-9
S210160	Cut/Fill/Place Concrete Block&Platform-(TP789)	15	7	07DEC09A	31DEC09	111	-16	-16
S210170	Power & Water Points-(TP789)	21	5	24NOV09A	29DEC09	686	-8	-8
S210230	Site Office-(TP789)	3	0	01DEC09A	05DEC09A		13	13
Preparation Works								
S210180	Install Geotech Monitoring Instruments-(TP789)	3	0	24NOV09A	26NOV09A		9	9
Intakes - External Structures (Stage1)								
S210268	VO # 09&29 Additional Utilities Works - TP789	44	44	22DEC09	17FEB10	3	0	42
S210290	Excavation (Soft) Soil-(TP789)	7	7	18FEB10	25FEB10	3	-2	42
S210300	Excavation (Hard) Rock-(TP789)	97	97	26FEB10	05JUL10	3	-41	3
S210270	Open Cut Excavation	24	24	15MAR10	15APR10	53	-11	21
CC28-SECTION 22 OF THE WORKS (PORTION TP5)								
Construction								
Preliminary Works								
S220110	25 wks prior to Portion Possess Date-(TP5)	175	0	05MAY09A	26OCT09A		0	0
S220125	Complete All Utility Diversions by Others -(TP5)	0	0		18NOV09A		4	0
S220130	Site Possession - TP5	0	0	06JAN10*		0	-34	0
S220150	Hoarding/Fencing-(TP5)	9	9	06JAN10	15JAN10	10	-34	0
S220160	Cut/Fill/Place Concrete Block&Platform-(TP5)	15	15	06JAN10	22JAN10	0	-34	0
S220170	Power & Water Points-(TP5)	21	21	06JAN10	29JAN10	15	-34	0
S220180	Implement Traffic Divn Scheme (Pedn)-(TP5	3	3	13JAN10	15JAN10	27	-34	0
S221025	Site Office-(TP5)	3	3	30JAN10	02FEB10	15	-34	0
Preparation Works								
S220210	Install Geotech Monitoring Instruments-(TP5)	3	3	16JAN10	19JAN10	10	-34	0
S220230	Mobilization&Setup(Pre-drill & Grouting)-(TP5)	3	3	23JAN10	26JAN10	7	-34	0
S220260	Pre-drilling-(TP5)	14	14	27JAN10	11FEB10	7	-34	0
S220280	Analysis of the SI-(TP5)	6	6	12FEB10	22FEB10	7	-34	0
S220300	Grouting Works-(TP5)	12	12	23FEB10	08MAR10	7	-34	0
Intakes - External Structures (Stage1)								
S220250	Cast Conc Dam&Excav Trench&Catchpit-(TP5)	24	24	23JAN10	23FEB10	0	-23	0
S220310	Installation of Steel Pipe-(TP5)	12	12	24FEB10	09MAR10	0	-23	0
S220350	Concrete Pad & Diversion and etc.	6	6	10MAR10	16MAR10	0	-23	0
S220370	Mobilization&Setup(Cofferdam Constn)-(TP5)	6	6	17MAR10	23MAR10	0	-23	0



Start Date	30NOV07
Finish Date	17MAY12
Data Date	22DEC09
Run Date	28DEC09 11:21

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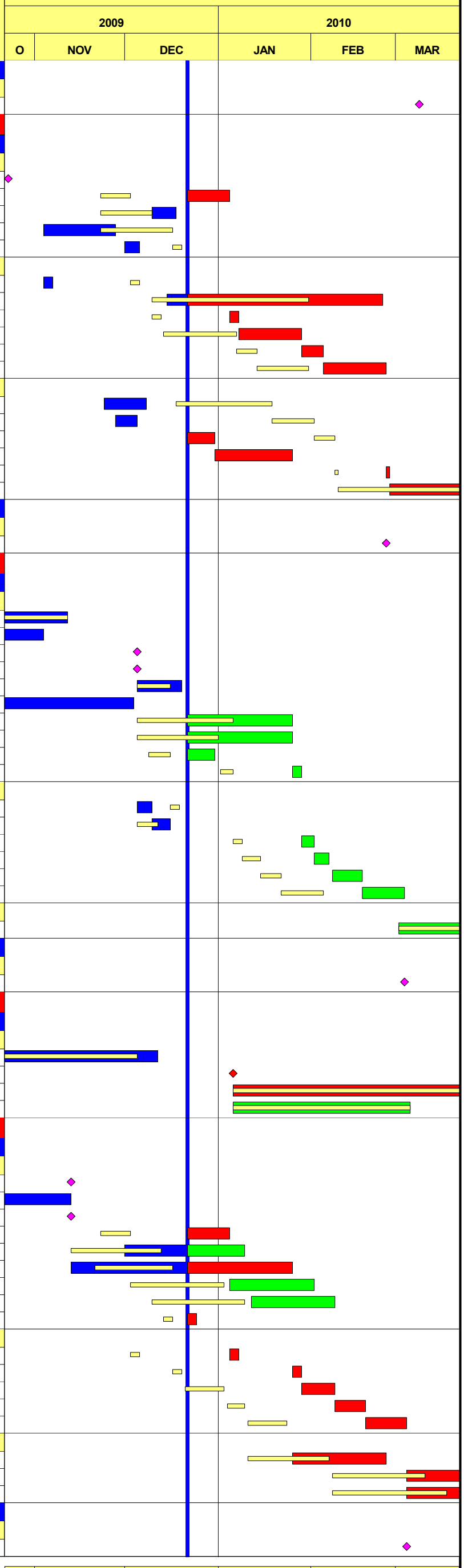
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
Milestone								
Section 22 (Portion TP5)								
M28-1010	28.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		08MAR10	485	-44	0
CC29-SECTION 23 OF THE WORKS (PORTION TP4)								
Construction								
Preliminary Works								
S230130	Site Possession - TP4	0	0	23OCT09A			0	0
S230150	Hoarding/Fencing-(TP4)	9	9	22DEC09	04JAN10	-28	-25	-50
S230160	Cut/Fill/Place Concrete Block&Platform-(TP4)	15	0	10DEC09A	17DEC09A		-7	-32
S230170	Power & Water Points-(TP4)	21	0	04NOV09A	27NOV09A		16	-9
S230270	Site Office-(TP4)	3	0	01DEC09A	05DEC09A		12	-13
Preparation Works								
S230200	Install Geotech Monitoring Instruments-(TP4)	3	0	04NOV09A	06NOV09A		25	0
S230210	Permanent Slope Protection Work	42	50	15DEC09A	24FEB10	-27	-18	-43
S230230	Mobilization&Setup(Pre-drill & Grouting)-(TP4)	3	3	05JAN10	07JAN10	-28	-19	-44
S230260	Pre-drilling-(TP4)	18	18	08JAN10	28JAN10	-28	-19	-44
S230290	Analysis of the SI-(TP4)	6	6	29JAN10	04FEB10	-28	-19	-44
S230310	Grouting Works-(TP4)	15	15	05FEB10	25FEB10	-28	-19	-44
Intakes - External Structures (Stage1)								
S230250	Concrete Dam, Catch Pits & Open-cut Channel	24	0	24NOV09A	07DEC09A		33	1
S230300	Installation of Steel Pipe-(TP4)	12	0	28NOV09A	04DEC09A		47	15
S230320	Concrete Pad & Diversion	6	6	22DEC09	30DEC09	-4	33	1
S230322	VO # 32 Addt'l Work Drainage Diversion - (TP4)	21	21	31DEC09	25JAN10	-4	0	1
S230340	Excavation (Soft) Soil-(TP4)	1	1	26FEB10	26FEB10	-28	-12	-23
S230350	Excavation (Hard) Rock-(TP4)	72	72	27FEB10	01JUN10	-28	-12	-23
Milestone								
Section 23 (Portion TP4)								
M291010	29.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		25FEB10	449	-26	-56
CC30-SECTION 24 OF THE WORKS (PORTION W5)								
Construction								
Preliminary Works								
S240110	25 wks prior to Portion Possess Date-(W5)	175	0	20MAY09A	11NOV09A		0	0
S240116	P & S Environmental Base Monitoring Report(W5)	12	0	20OCT09A	03NOV09A		0	0
S240127	Complete All Utility Diversion Works by - (W5)	0	0		04DEC09A		0	0
S240130	Site Possession - (W5)	0	0	05DEC09A			0	50
S240150	Hoarding/Fencing-(W5)	9	0	05DEC09A	19DEC09A		-4	46
S240152	VO # 19 Excavation Permit - (W5)	51	0	03OCT09A	03DEC09A		0	0
S240160	Cut/Fill/Place Concrete Block&Platform-(W5)	27	27	22DEC09	25JAN10	35	-17	33
S240170	Power & Water Points-(W5)	27	27	22DEC09	25JAN10	32	-20	30
S240180	Implement Traffic Divn Scheme-(W5)	6	6	22DEC09	30DEC09	56	-11	39
S240200	Site Office-(W5)	3	3	26JAN10	28JAN10	32	-20	30
Preparation Works								
S240190	Install Geotech Monitoring Instruments-(W5)	3	0	05DEC09A	09DEC09A		8	58
S240191	Existing Bldg & Structure(EBS) Survey - (W5)	6	0	10DEC09A	15DEC09A		-3	47
S240220	Mobilization&Setup(Pre-drill & Grouting)-(W5)	3	3	29JAN10	01FEB10	32	-20	30
S240230	Pre-drilling-(W5)	5	5	02FEB10	06FEB10	32	-20	30
S240240	Analysis of the SI-(W5)	6	6	08FEB10	17FEB10	32	-20	30
S240250	Grouting Works-(W5)	12	12	18FEB10	03MAR10	32	-20	30
Intakes - External Structures (Stage1)								
S240260	Cofferdam Wall Driving-(W5)	46	46	02MAR10	29APR10	22	0	20
Milestone								
Section 24 (Portion W5)								
M301010	30.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		03MAR10	520	-27	38
CC31-SECTION 25 OF THE WORKS (PORTION CR1)								
Construction								
Preliminary Works								
S250030	Notify,Coord&Obtain Permit-Utility Prov - CR1	327	0	24OCT08A	11DEC09A		-6	0
S250100	Notify SO for Portion Possession - (CR1)	0	0		05JAN10*	0	0	0
S250110	25 wks prior to Portion Possess Date-(CR1)	175	175	06JAN10	29JUN10	0	0	0
S250125	TMLG submission, coordination & Approval - CR1	48	48	06JAN10	05MAR10	130	0	0
CC32-SECTION 26 OF THE WORKS (PORTION RR1)								
Construction								
Preliminary Works								
S260125	Complete All Diversion works by Others-(RR1)	0	0		12NOV09A		0	-18
S260127	VO # 43 Delayed possession due to HEC diversion	20	0	21OCT09A	12NOV09A		0	0
S260130	Site Possession - RR1	0	0	13NOV09A			0	0
S260150	Hoarding/Fencing-(RR1)	9	9	22DEC09	04JAN10	-10	-25	-33
S260160	Power & Water Points-(RR1)	21	14	01DEC09A	09JAN10	677	-21	-26
S260170	Utilities Diversion (Stage I)	15	27	13NOV09A	25JAN10	-28	-31	-36
S260180	DSD - Foul Sewer (no.1)	24	24	05JAN10	01FEB10	8	-25	-33
S260200	DSD - Foul Sewer (no.2)	24	24	12JAN10	08FEB10	8	-25	-33
S260210	Site Office-(RR1)	3	3	22DEC09	24DEC09	-4	-7	-12
Preparation Works								
S260190	Install Geotech Monitoring Instruments-(RR1)	3	3	05JAN10	07JAN10	-10	-25	-33
S260230	Mobilization&Setup(Pre-drill & Grouting)-(RR1)	3	3	26JAN10	28JAN10	-28	-31	-36
S260250	Pre-drilling-(RR1)	9	9	29JAN10	08FEB10	-28	-31	-36
S260270	Analysis of the SI-(RR1)	6	6	09FEB10	18FEB10	-28	-31	-36
S260280	Grouting Works-(RR1)	12	12	19FEB10	04MAR10	-28	-31	-36
Intakes - External Structures (Stage1)								
S260240	Upgrading RetainingStructure ofBoxCulvert Outlet	24	24	26JAN10	25FEB10	-22	-13	-24
S260310	Pre-bored Pile,SandFile Drive SheetPile-(RR1)	24	24	05MAR10	01APR10	-10	-19	-30
S260320	Driving Pile for Drainage Diversion	30	30	05MAR10	12APR10	-28	-19	-30
Milestone								
Section 26 (Portion RR1)								
M32-1010	32.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		04MAR10	445	-40	-45



Start Date	30NOV07
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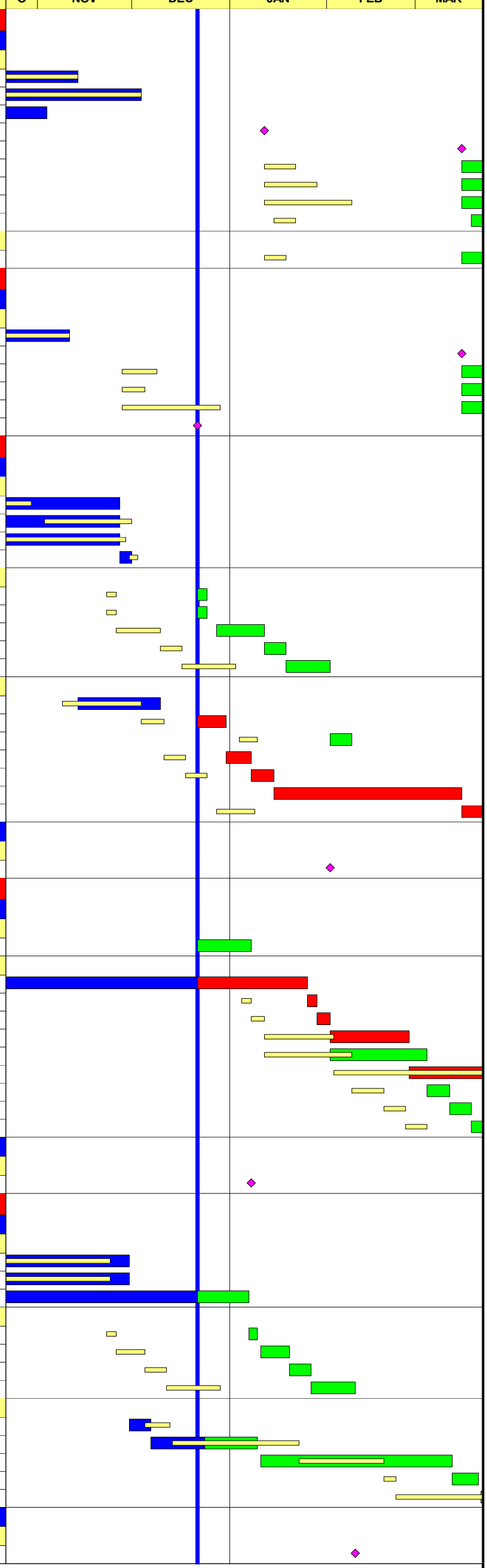
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 7 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
CC33-SECTION 27 OF THE WORKS (PORTION W8)								
Construction								
Preliminary Works								
S270030	Notify,Coord&Obtain Permit-Utility Prov - W8	278	0	03NOV08A	13NOV09A		0	0
S270110	25 wks prior to Portion Possess Date-(W8)	175	0	12JUN09A	03DEC09A		0	0
S270116	P & S Environmental Base Monitoring Report(W8)	12	0	20OCT09A	03NOV09A		0	0
S270125	Complete All Utility Diversions by Others(W8)	0	0		11JAN10*	57	0	0
S270130	Site Possession - W8	0	0	16MAR10*		6	-51	0
S270150	Hoarding/Fencing-(W8)	9	9	16MAR10	25MAR10	15	-51	0
S270160	Cut/Fill/Place Concrete Block&Platform-(W8)	15	15	16MAR10	01APR10	6	-51	0
S270170	Power & Water Points-(W8)	24	24	16MAR10	16APR10	11	-51	0
S270180	Pedestrian Diversion (TTM)	6	6	19MAR10	25MAR10	26	-51	0
Preparation Works								
S270211	Existing Bldg & Structure(EBS) Survey - (W8)	6	6	16MAR10	22MAR10	15	-51	0
CC34-SECTION 28 OF THE WORKS (PORTION P5)								
Construction								
Preliminary Works								
S280110	25 wks prior to Portion Possess Date-(P5)	175	0	20MAY09A	10NOV09A		0	0
S280140	Site Possession - (P5)	0	0	16MAR10*		32	-86	0
S280160	Hoarding/Fencing-(P5)	9	9	16MAR10	25MAR10	44	-86	0
S280170	Cut/Fill/Place Concrete Block&Platform-(P5)	6	6	16MAR10	22MAR10	47	-86	0
S280180	Power & Water Points-(P5)	24	24	16MAR10	16APR10	32	-86	0
S280240	Complete All Utility Diversions by Others-(P5)	0	0		21DEC09	98	-20	-20
CC35-SECTION 29 OF THE WORKS (PORTION W10)								
Construction								
Preliminary Works								
S290150	Hoarding/Fencing-(W10)	12	0	15OCT09A	26NOV09A		-24	-23
S290160	Cut/Fill/Place Concrete Block&Platform-(W10)	12	0	20OCT09A	26NOV09A		3	-20
S290170	Power & Water Points-(W10)	24	0	15OCT09A	26NOV09A		2	-12
S290290	Site Office-(W10)	3	0	27NOV09A	30NOV09A		2	-12
Preparation Works								
S290240	Mobilization&Setup(Pre-drill & Grouting)-(W10)	3	3	22DEC09	24DEC09	2	-25	-41
S290270	Install Geotech Monitoring Instruments-(W10)	3	3	22DEC09	24DEC09	38	-25	-44
S290280	Pre-drilling-(W10)	12	12	28DEC09	11JAN10	2	-25	-41
S290330	Analysis of the SI-(W10)	6	6	12JAN10	18JAN10	2	-25	-41
S290360	Grouting Works-(W10)	12	12	19JAN10	01FEB10	2	-25	-41
Intakes - External Structures (Stage1)								
S290210	Expose Existing Box Culvert by Excav-(W10	18	0	14NOV09A	09DEC09A		-5	22
S290300	Saw-cut Box-culvert&place Steel Pipes-(W10)	6	6	22DEC09	30DEC09	-35	-15	12
S290320	Mobilization&Setup(Cofferdam Constn)-(W10)	6	6	02FEB10	08FEB10	2	-25	-41
S290340	Secure Pipes Hang&SealantConnect-(W10)	6	6	31DEC09	07JAN10	-35	-15	12
S290370	Removal Lower Sector Box-culvert-(W10)	6	6	08JAN10	14JAN10	-35	-15	12
S290372	VO # 13 Add'l drainage diversion works (W10)	48	48	15JAN10	15MAR10	-35	0	12
S290380	Excavation & Lodging-(W10)	10	10	16MAR10	26MAR10	-35	-63	12
Milestone								
Section 29 (Portion W10)								
M351010	35.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		01FEB10	497	-30	-52
CC36-SECTION 30 OF THE WORKS (PORTION HKU1)								
Construction								
Preparation Works								
S300270	Grouting Works-(HKU1)	12	12	22DEC09	07JAN10	341	0	-29
Intakes - External Structures (Stage1)								
S300310	Cofferdam Wall Driving - (HKU1)	56	27	12OCT09A	25JAN10	-13	0	0
S300320	Grouting for Rock Socket-(HKU1)	3	3	26JAN10	28JAN10	-13	-18	0
S300330	Demobilization Piling-(HKU1)	3	3	29JAN10	01FEB10	-13	-18	0
S300350	Excavation (Soft) Soil-(HKU1)	19	19	02FEB10	26FEB10	-13	-18	0
S300370	Expose Existing Box Culvert by Excav-(HKU1)	24	24	02FEB10	04MAR10	3	-18	0
S300380	Excavation (Hard) Rock-(HKU1)	51	51	27FEB10	04MAY10	-13	-18	0
S300390	Saw-cut Box-culvert&place Steel Pipes-(HKU1)	6	6	05MAR10	11MAR10	3	-18	0
S300400	Secure Pipes Hang&SealantConnect-(HKU1)	6	6	12MAR10	18MAR10	3	-18	0
S300410	Removal Lower Sector Box-culvert-(HKU1)	6	6	19MAR10	25MAR10	3	-18	0
Milestone								
Section30 (Portion HKU1)								
M361010	36.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		07JAN10	432	-46	-37
CC37-SECTION 31 OF THE WORKS (PORTION PFLR1)								
Construction								
Preliminary Works								
S310970	Hoarding/Fencing-(PFLR1)	12	0	12AUG09A	29NOV09A		-5	-16
S310980	Implement TTM - (Occupy Pedestrain)	12	0	15JUL09A	29NOV09A		-5	-25
S311106	VO # 23 Add'l Drainage Diversion - (PFLR1)	23	11	02OCT09A	06JAN10	36	0	-53
Preparation Works								
S311120	Mobilization&Setup(Pre-drill & Grouting)-(PFLR1)	3	3	07JAN10	09JAN10	36	-36	-46
S311140	Pre-drilling-(PFLR1)	8	8	11JAN10	19JAN10	36	-36	-46
S311150	Analysis of the SI-(PFLR1)	6	6	20JAN10	26JAN10	36	-36	-46
S311160	Grouting Works-(PFLR1)	12	12	27JAN10	09FEB10	36	-36	-46
Intakes - External Structures (Stage1)								
S311180	Mobilization&Setup(Cofferdam Constn)-(PFLR1)	7	0	30NOV09A	06DEC09A		6	-4
S311190	Pre-boring,Backfilling with Sand-(PFLR1)	32	12	07DEC09A	09JAN10	5	11	1
S311200	Driving of Cofferdam Wall-(PFLR1)	50	50	11JAN10	12MAR10	5	-19	-29
S311210	Grouting for Rock Socket-(PFLR1)	7	7	13MAR10	20MAR10	5	-23	-33
S311230	Excavation (Soft) Soil-(PFLR1)	36	36	22MAR10	08MAY10	5	-23	-33
Milestone								
Section 31 (Portion PFLR1)								
M371010	37.01-Pre-drilling & Grouting Works (Dropshaft)	0	0		09FEB10	645	-43	-57



Start Date	30NOV07
Finish Date	17MAY12
Data Date	22DEC09
Run Date	28DEC09 11:21

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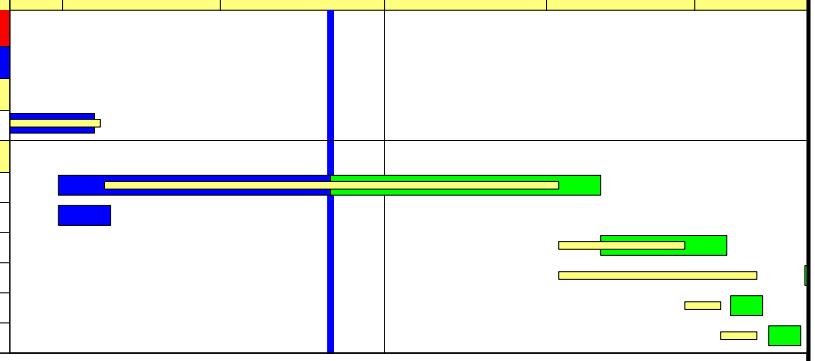
Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 8 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

Act ID	Activity Description	Orig Dur	Rem Dur	Anticipated Start	Anticipated Finish	Total Float	Previous Month 911A EF Variance	Approved Works Prog 9116 EF Variance
CC38-SECTION 32 OF THE WORKS (PORTION SM1)								
Construction								
Preparation Works								
S321080	Grouting Works-(SM1)	12	0	16OCT09A	06NOV09A		1	0
Intakes - External Structures (Stage1)								
S321170	Excavation & Strutting-(SM1)	70	41	31OCT09A	10FEB10	6	-7	11
S321180	Cofferdam Excavation (Soft) Soil	8	0	31OCT09A	09NOV09A		0	87
S321190	Construction Temporary Manholes-(SM1)	18	18	11FEB10	06MAR10	6	-7	11
S321200	Excavation (Hard) Rock-(SM1)	30	30	22MAR10	30APR10	6	-37	0
S321210	Laying of Pipes-(SM1)	6	6	08MAR10	13MAR10	6	-7	11
S321220	Divn & Backfilling/Temp. Decking & etc.-(SM1)	6	6	15MAR10	20MAR10	6	-7	11



O | NOV | DEC | JAN | FEB | MAR
2009 | 2010

Start Date	30NOV07
Finish Date	17MAY12
Data Date	22DEC09
Run Date	28DEC09 11:21

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Early Bar
Previous Month (911A)
Progress Bar
Critical Activity

912B Sheet 9 of 9

Design & Construction of HK. West Drainage Tunnel
Contract No. DC/2007/10
3 MONTH ROLLING PROGRAMME
DECEMBER/2009 MONTHLY REPORT

Date	Revision	Checked	Approved

APPENDIX B
MONITORING REQUIREMENTS

Appendix B - Environmental Impact Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1 hour TSP	Three times / 6 days	• AQ1 (True Light Middle School of Hong Kong) • AQ2 (Outside Aegean Terrace)	AQ1 – Canopy AQ2 – Roadside AQ3 – Roadside
	24 hour TSP	Once / 6 days	• AQ1 (True Light Middle School of Hong Kong) • AQ3 (Outside Site Office at Western Portal)	

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Airborne Noise	L_{eq}, L_{90} & L_{10} at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	• NC1 (True Light Middle School of Hong Kong) • NC1a (Outside True Light Middle School of Hong Kong (the nearest of staff accommodation) – for restricted hours (reference only) • NC2 (The Legend) • NC3 (Outside Aegean Terrace) • NC8 (Marymount Secondary School) • NC9 (117 Blue Pool Road) • NC11 (Honey Court) • NC15 (Hong Kong Academy)	• NC1 - Facade measurement • NC1a – Façade measurement • NC2 - Facade measurement • NC3 - Facade measurement • NC8 – Facade measurement • NC9 – Facade measurement • NC11 – Free field measurement • NC15 – Free field measurement
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (1900 to 2300)[(1)]	Once per week (include 3 consecutive 5-min measurements)		
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (2300 to 0700 of next day)[(1)]	Once per week (include 3 consecutive 5-min measurements)		
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (0700 to 2300 on holidays)[(1)]	Once per week (include 3 consecutive 5-min measurements)		

Remarks:

[(1)] – Conduct noise monitoring only when construction work is carried out.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Ground Borne Noise	L_{eq}, L_{90} & L_{10} at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	• GNC5 (Wu Cheng Chung Secondary School)	• Ground floor inside the nearest building during the TBM construction work
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (1900 to 2300)[(1)]	Once per week (include 3 consecutive 5-min measurements)		
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (2300 to 0700 of next day)[(1)]	Once per week (include 3 consecutive 5-min measurements)		
	L_{eq}, L_{90} & L_{10} at 5 minute intervals during (0700 to 2300 on holidays)[(1)]	Once per week (include 3 consecutive 5-min measurements)		

Remarks:

[(1)] – Conduct noise monitoring only when TBM construction work is carried out.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Water Quality	• Temperature (oC) • pH (pH unit) • Turbidity (NTU) • Water depth (m) • Salinity (mg/L) • Dissolved oxygen (DO) (mg/L and % of saturation) • Suspended solids (SS) (mg/L)	Three times per week	• CE (830026E, 814956N) • CF (831778E, 812420N) • I1 (831088E, 813654N) • I2 (831105E, 813582N) • Intake A (831603E, 813044N) • Intake B (830606E, 814583N)	• 3 water depths except CF, omit mid-depth sampling.

APPENDIX C
ACTION AND LIMIT LEVELS FOR AIR QUALITY, NOISE AND WAER QUALITY

Appendix C - Action and Limit Levels

Table C-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
AQ1	345	500
AQ2	321	

Table C-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
AQ1	201	260
AQ3	156	

Table C-3 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75* dB(A)
0700-2300 hrs on holidays; and 1900-2300 hrs on all other days		60/65/70** dB(A)
2300-0700 hrs of next day		45/50/55** dB(A)

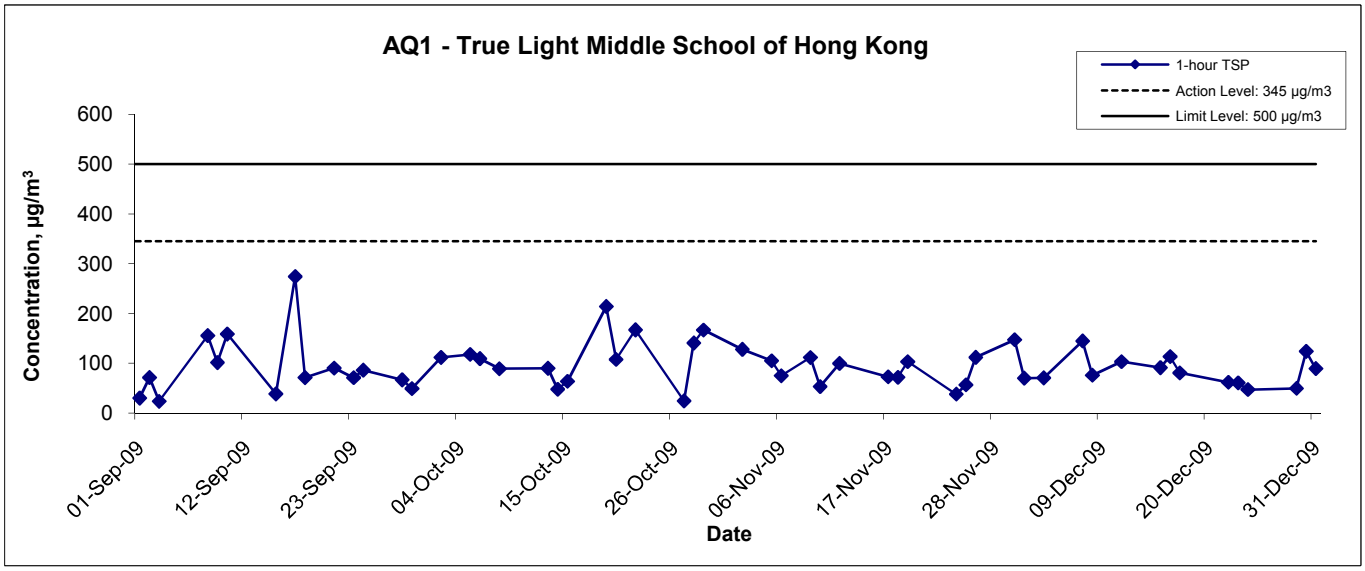
(*) reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.
(**) to be selected based on Area Sensitivity Rating.

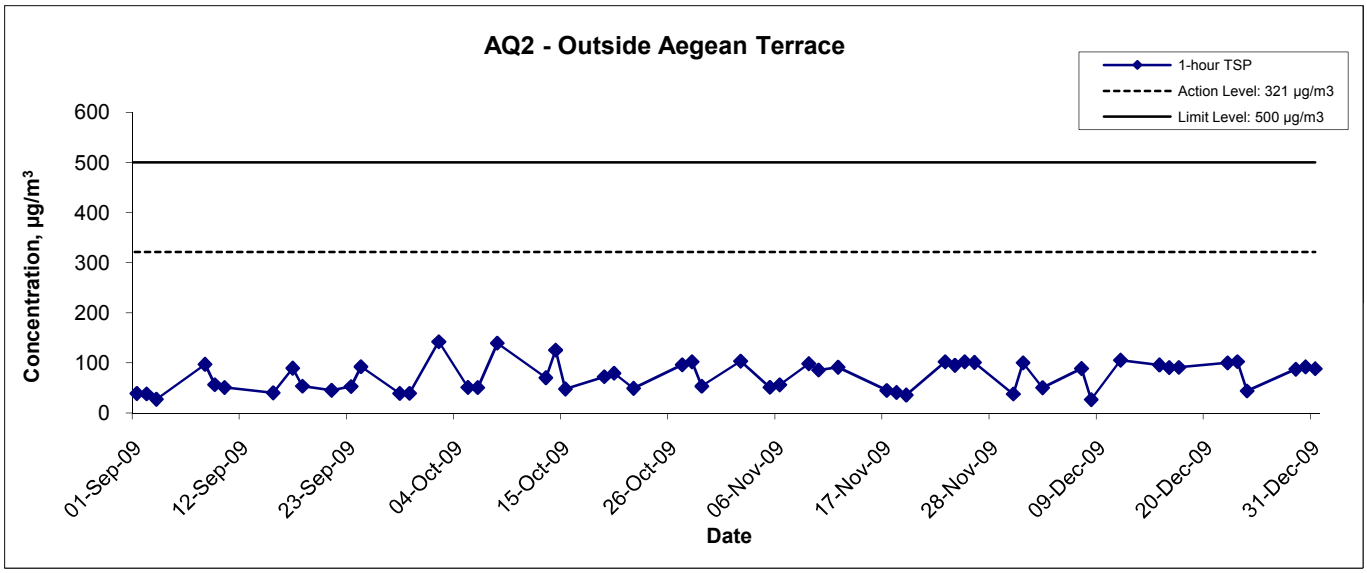
Table C-4 Action and Limit Levels for Water Quality

Parameter		Action	Limit
DO, mg/L	Surface and Middle	6.3	6.2
	Bottom	6.0	5.8
SS, mg/L		15.7 or 120% of upstream control station's SS at the same tide of the same day	16.4 or 130% of SS readings at the upstream control station at the same tide of same day and specific sensitive receiver water quality requirements
Turbidity, NTU		10.2 or 120% of upstream control station's turbidity at the same tide of the same day	11.1 or 130% of turbidity at the upstream control station at the same tide of same day

APPENDIX D
GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS

1-hr TSP Concentration Levels





Title: Graphical Presentation of 1-hour TSP Monitoring Results	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: D

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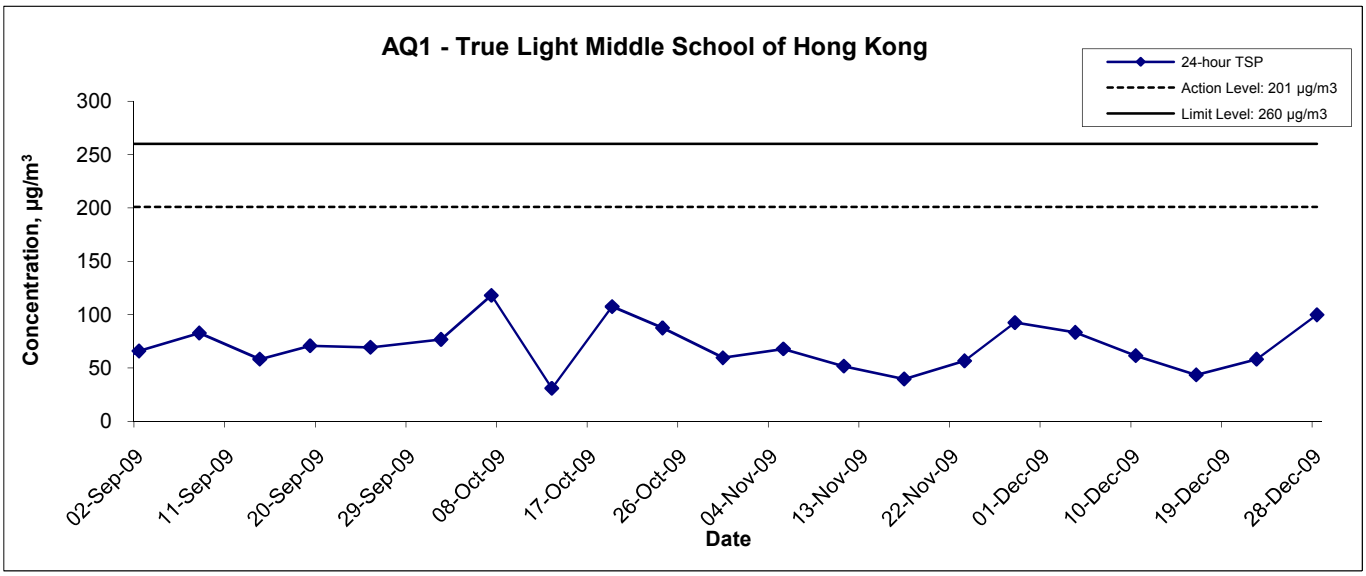
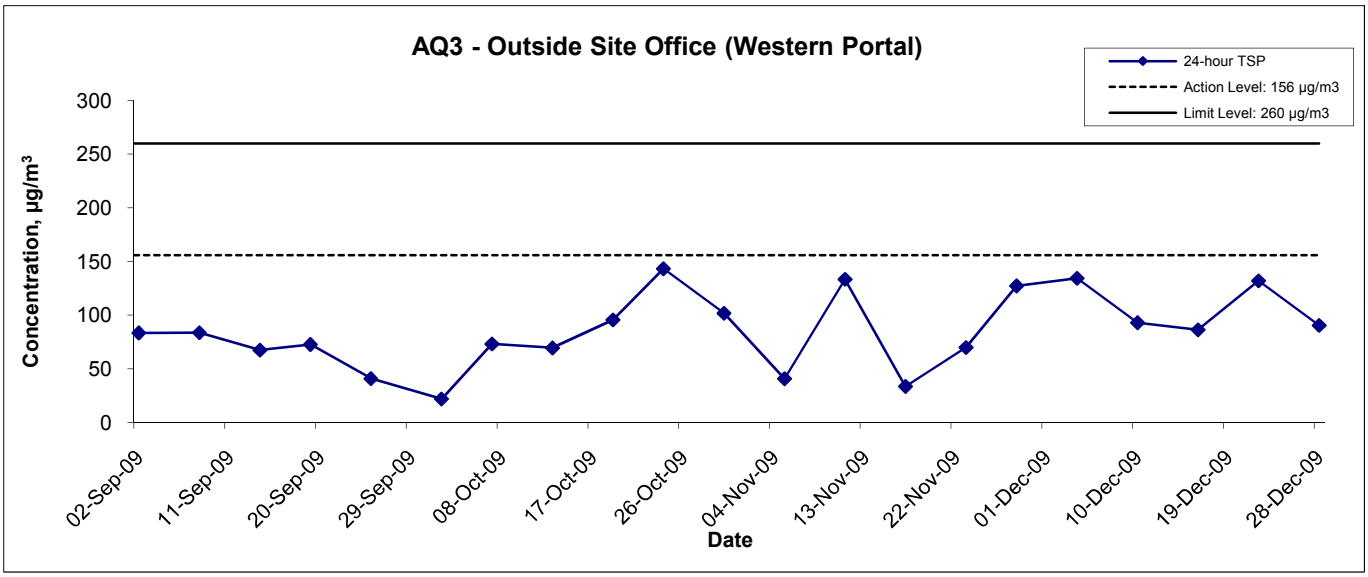
24-hr TSP Concentration Levels

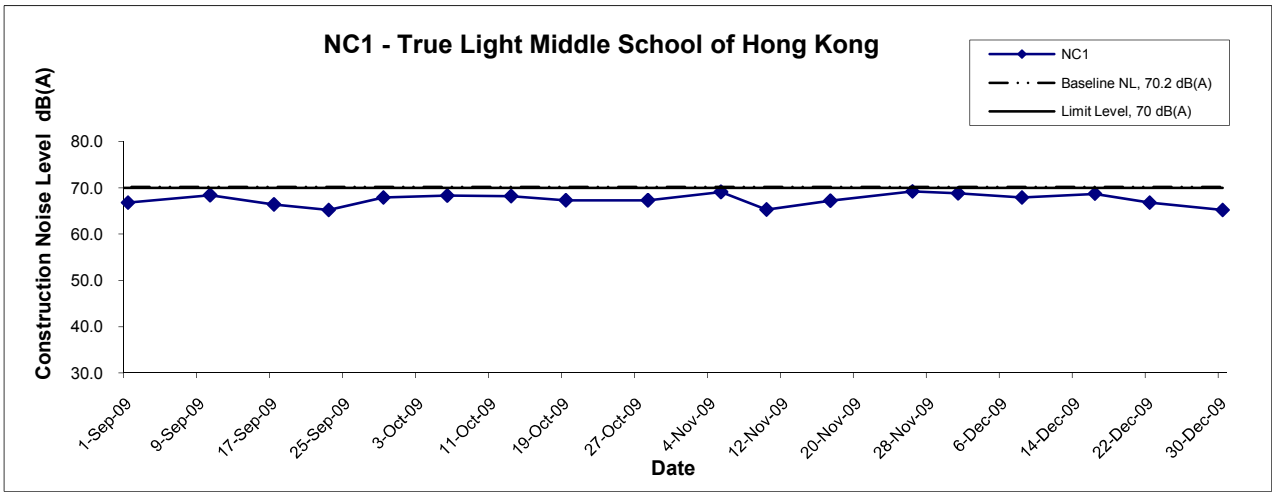


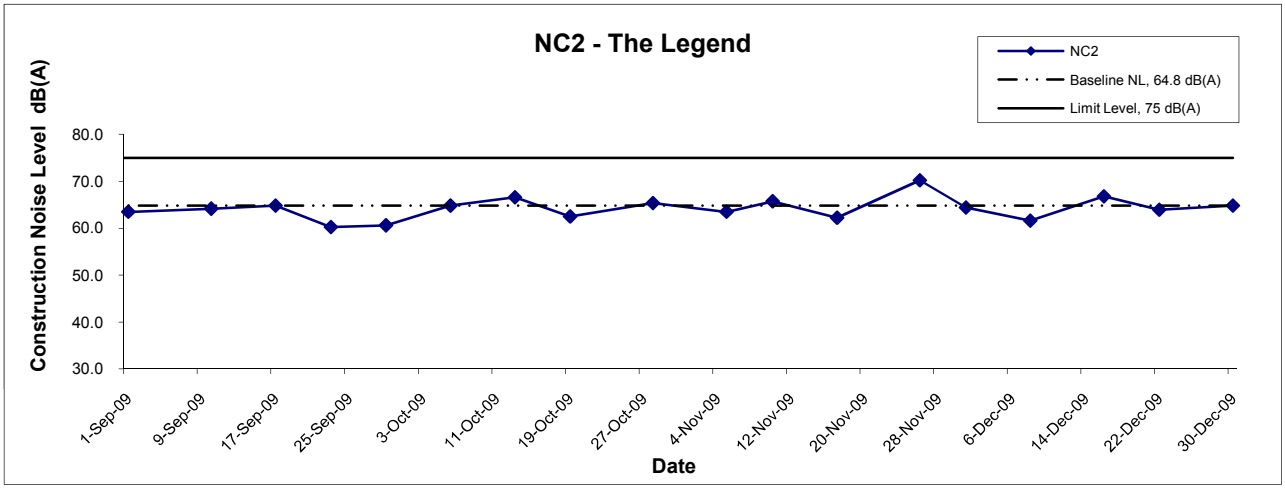


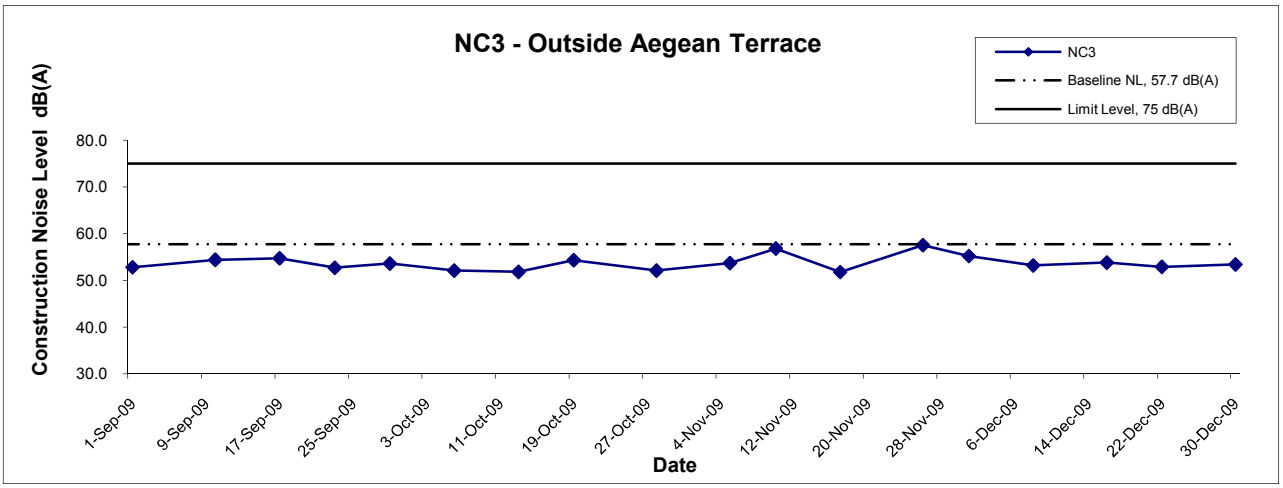
Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: D	CINOTECH

APPENDIX E
GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS

Noise Levels

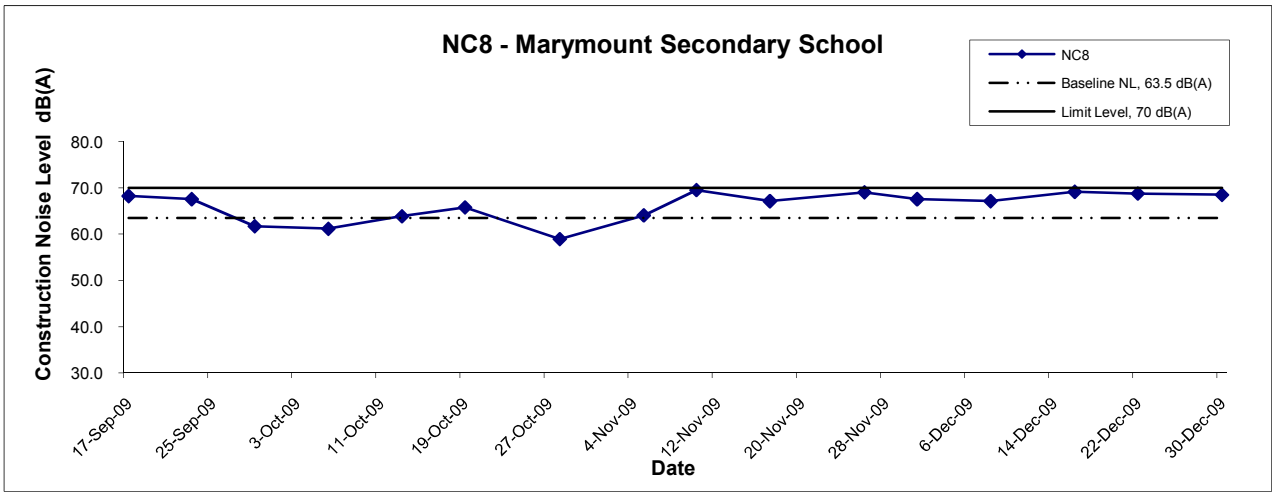


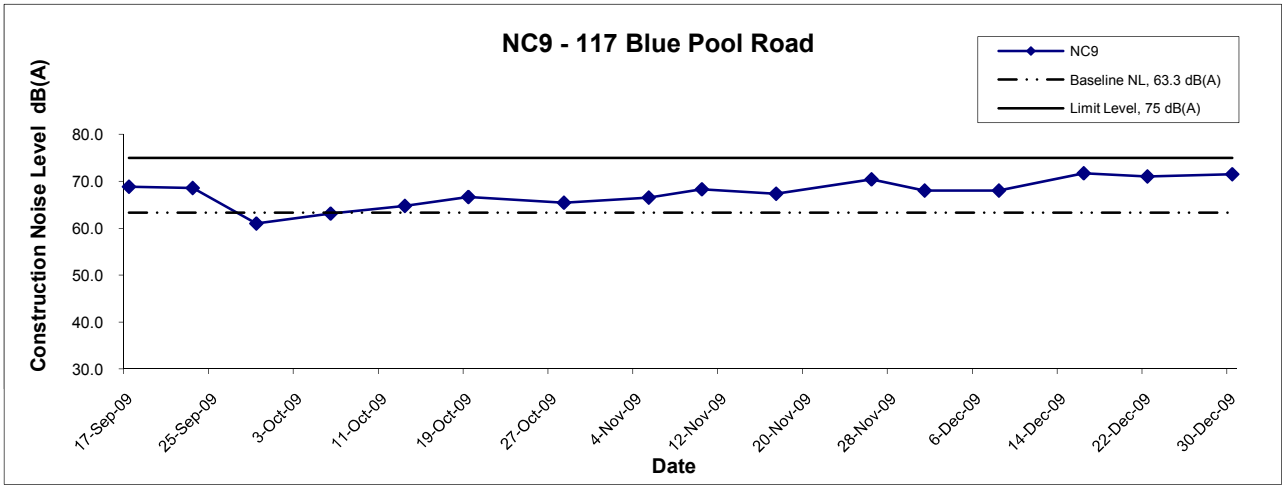


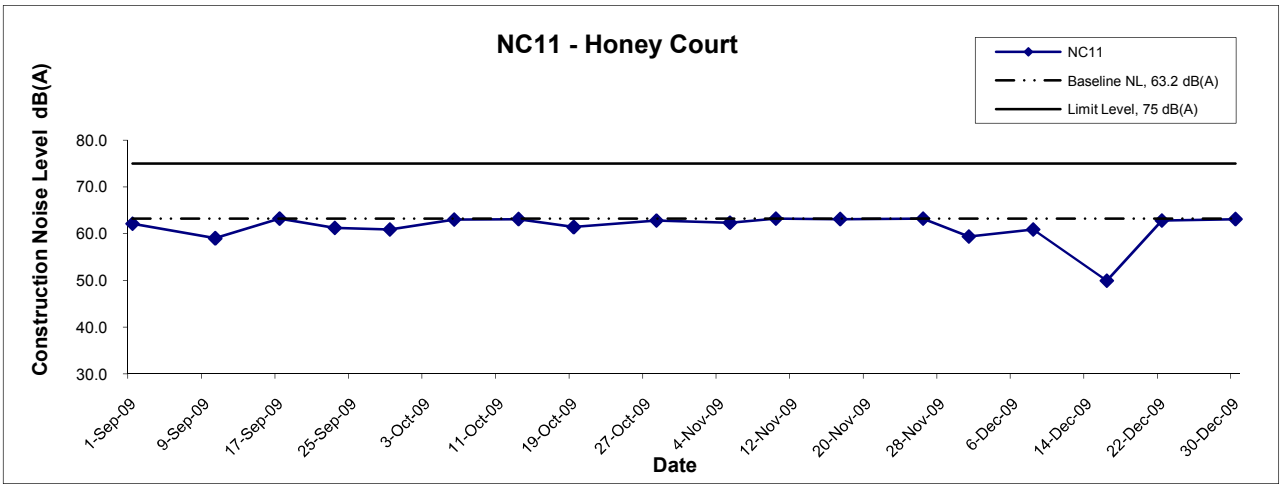


Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: E	CINOTECH

Noise Levels

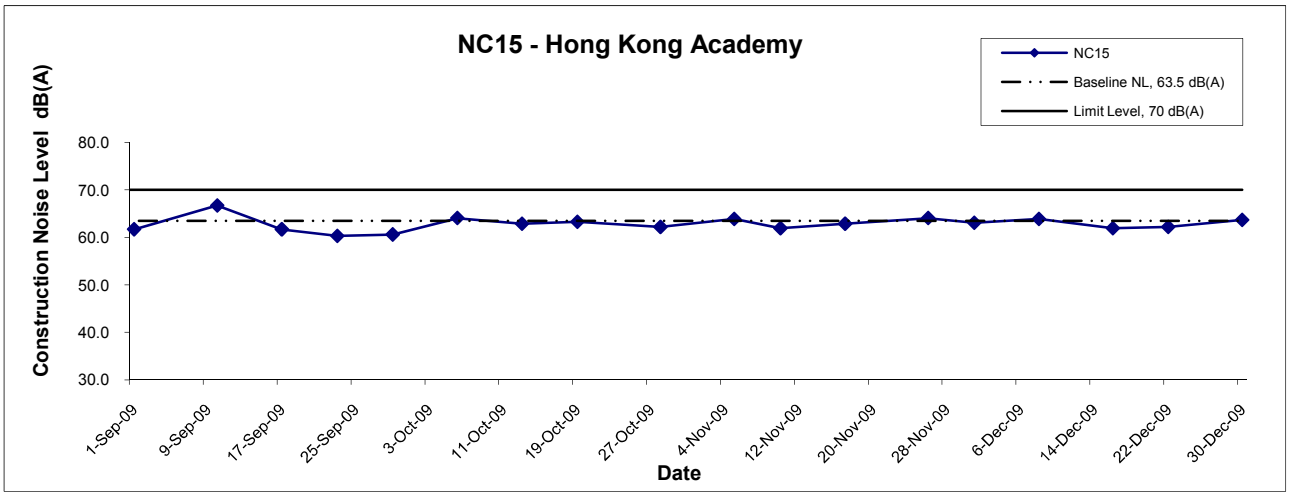


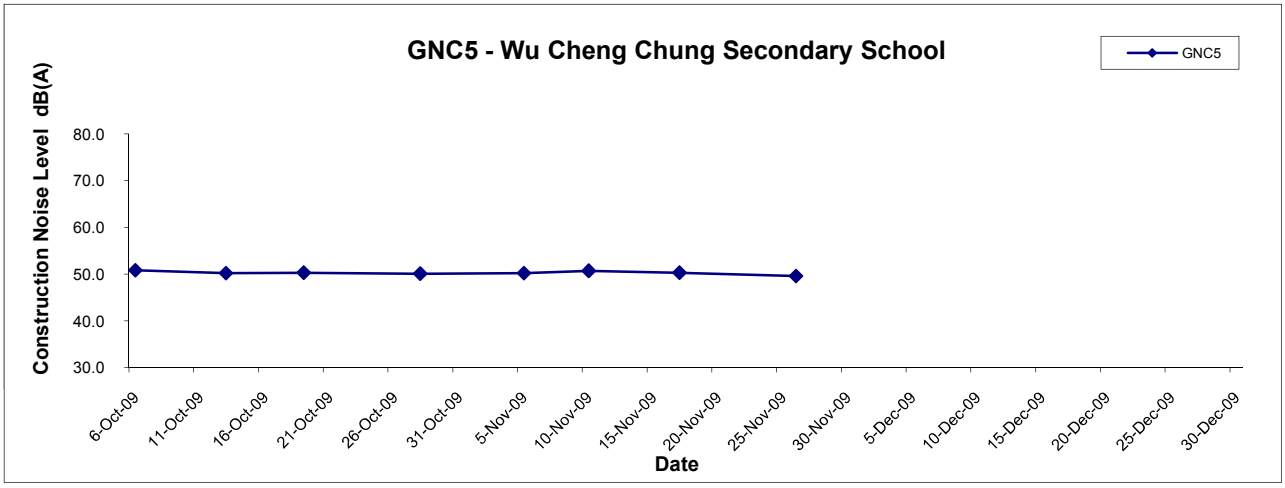




Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: E	CINOTECH

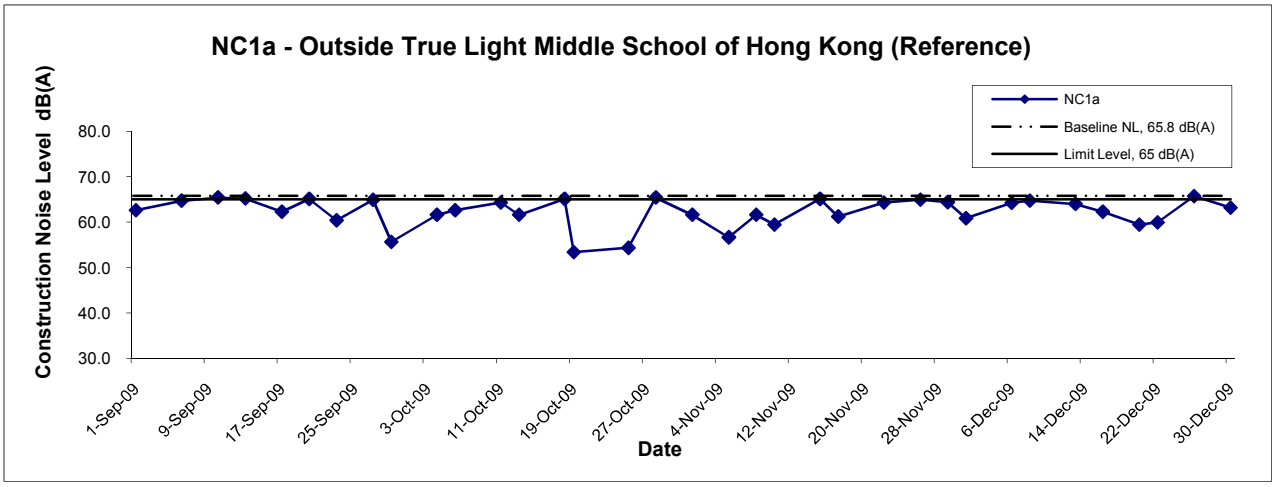
Noise Levels

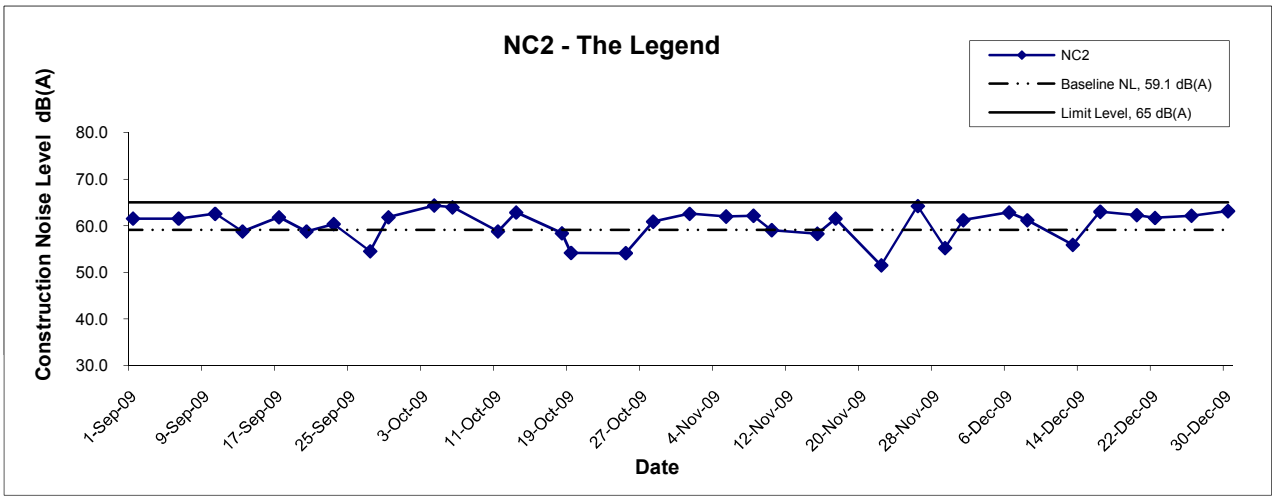


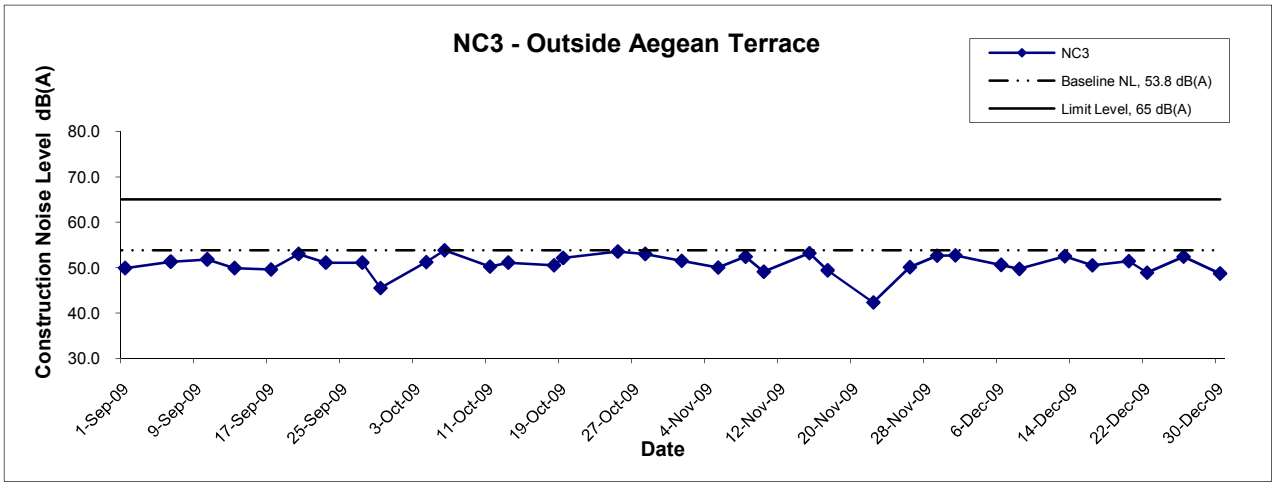


Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: E	CINOTECH

Noise Levels
(Restricted Hours - 07:00 - 23:00 holidays & 19:00 - 23:00 on all other days)

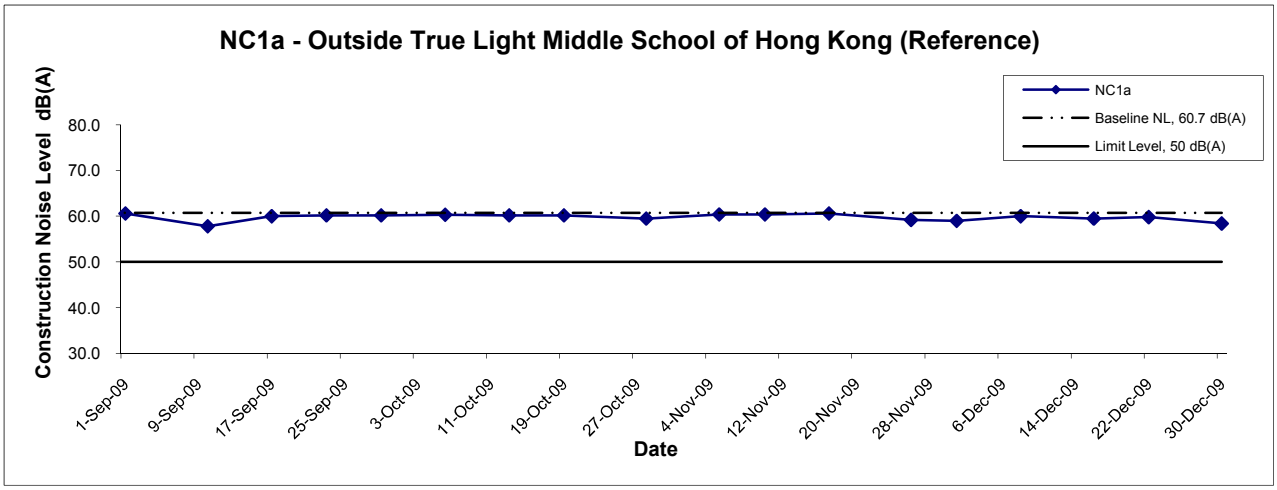


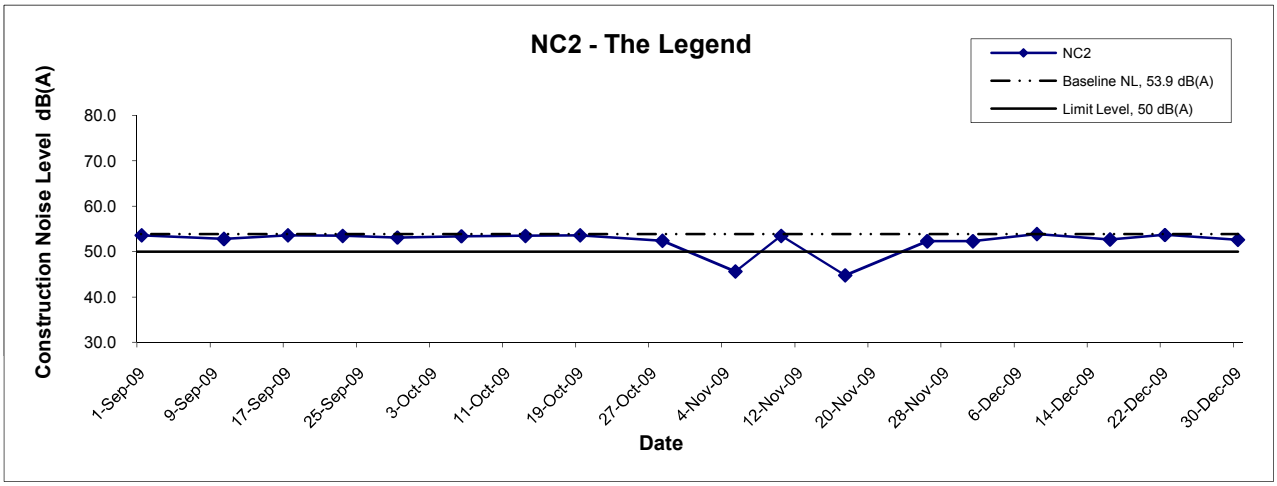


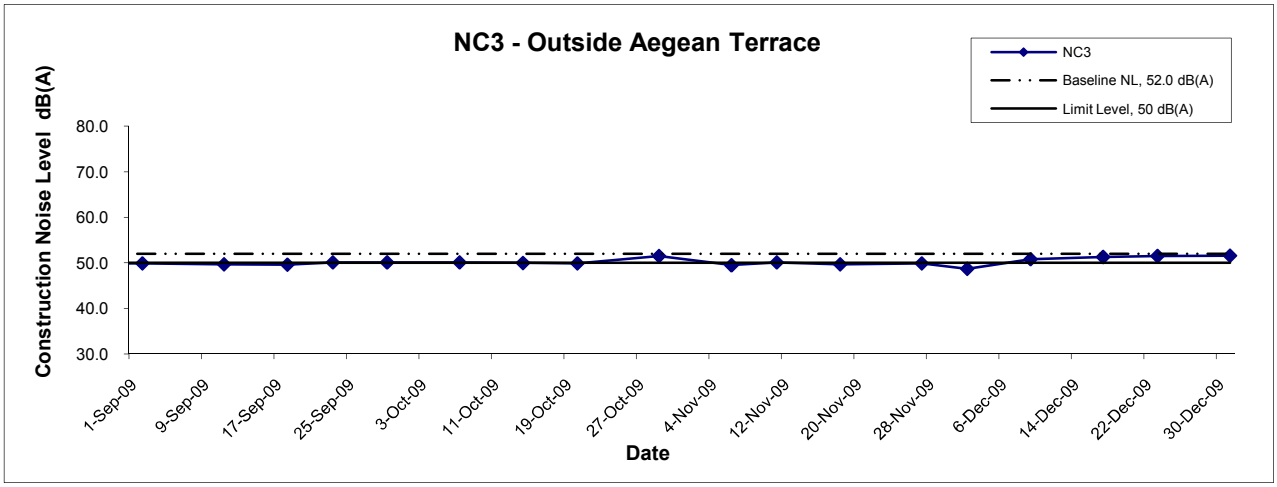


Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA8001	CINOTECH
		Date Dec 09	Appendix E	

Noise Levels
(Restricted Hours - 23:00 to 07:00 on all days)



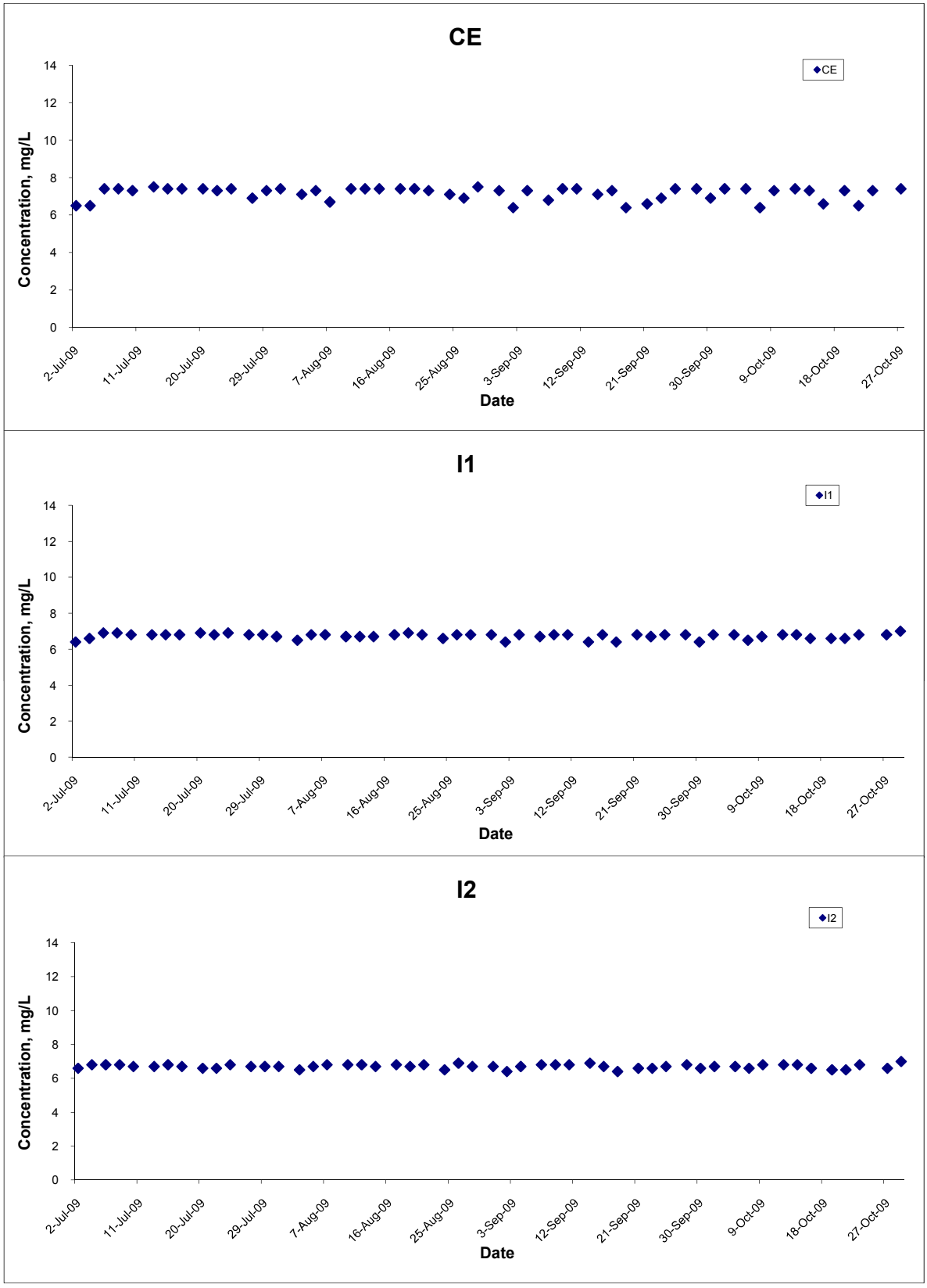




Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Dec 09	Project No.: MA8001 Appendix: E	CINOTECH

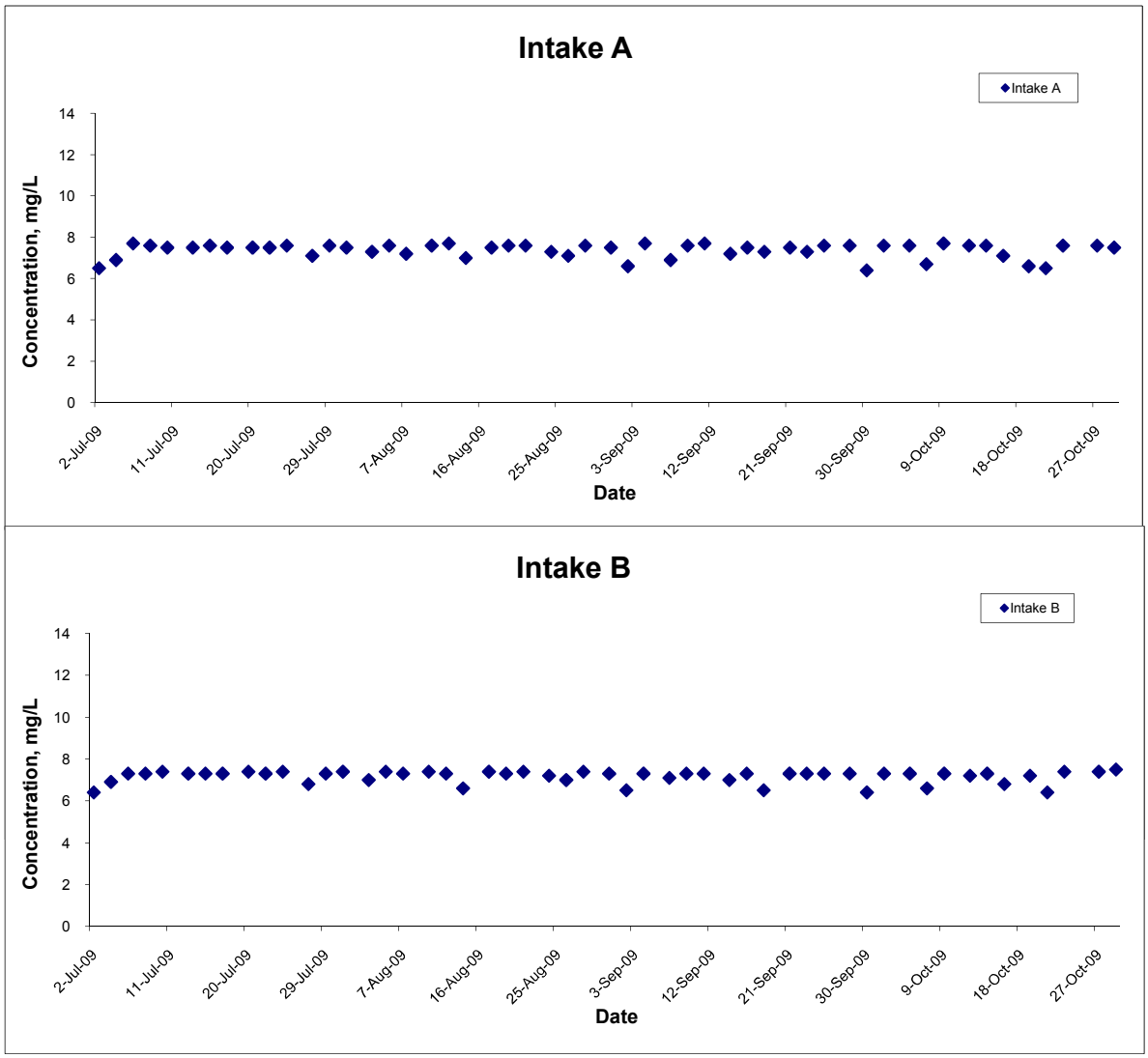
APPENDIX F
GRAPHICAL PRESENTATION OF WATER QUALITY MONITORING RESULTS

Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: MA8001	CINOTECH
	Date: Oct 09	Appendix: F	

Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



Title		Scale	Project No.
Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel		N.T.S	MA8001
Graphical Presentation of Water Quality Monitoring Results		Date: Oct 09	Appendix: F

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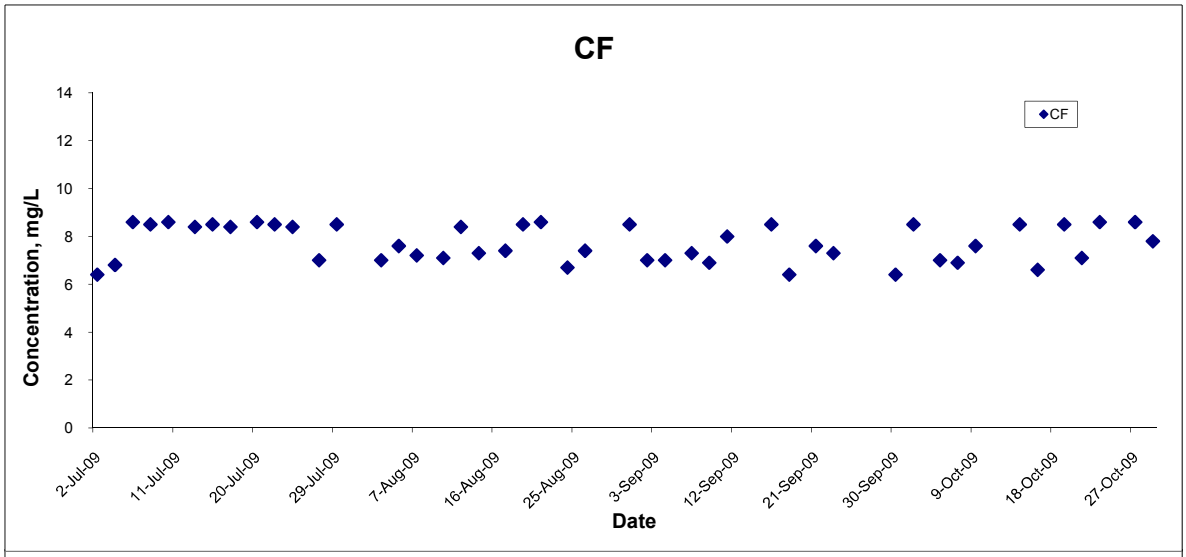
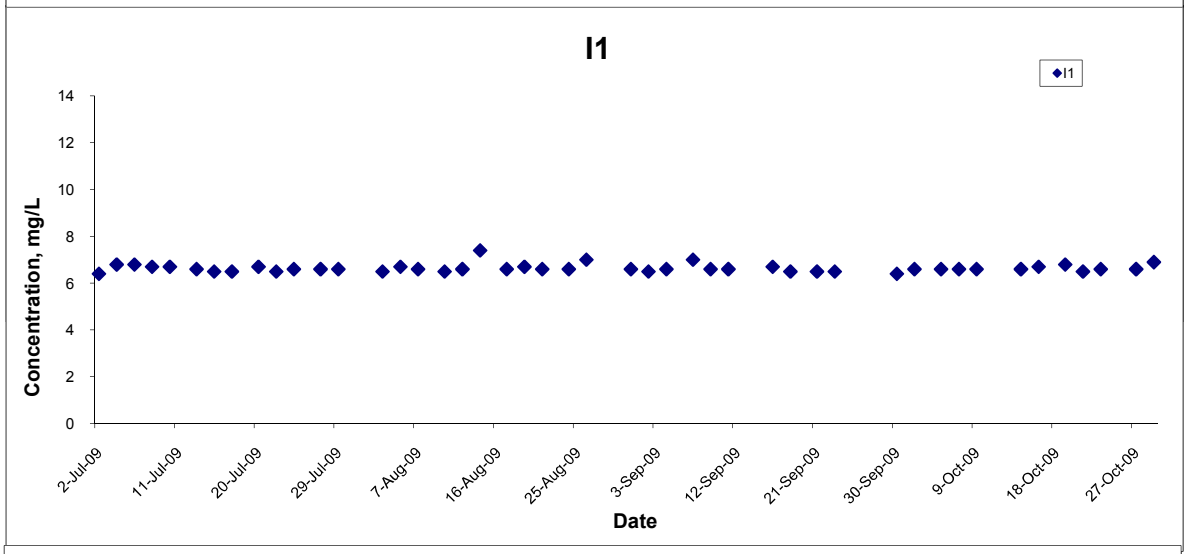
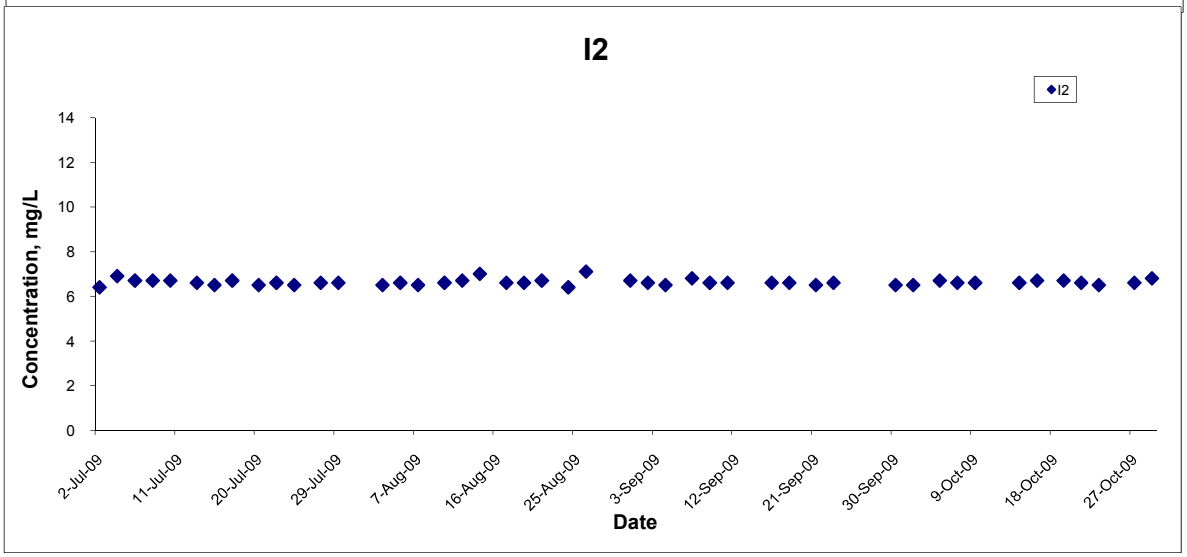
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide

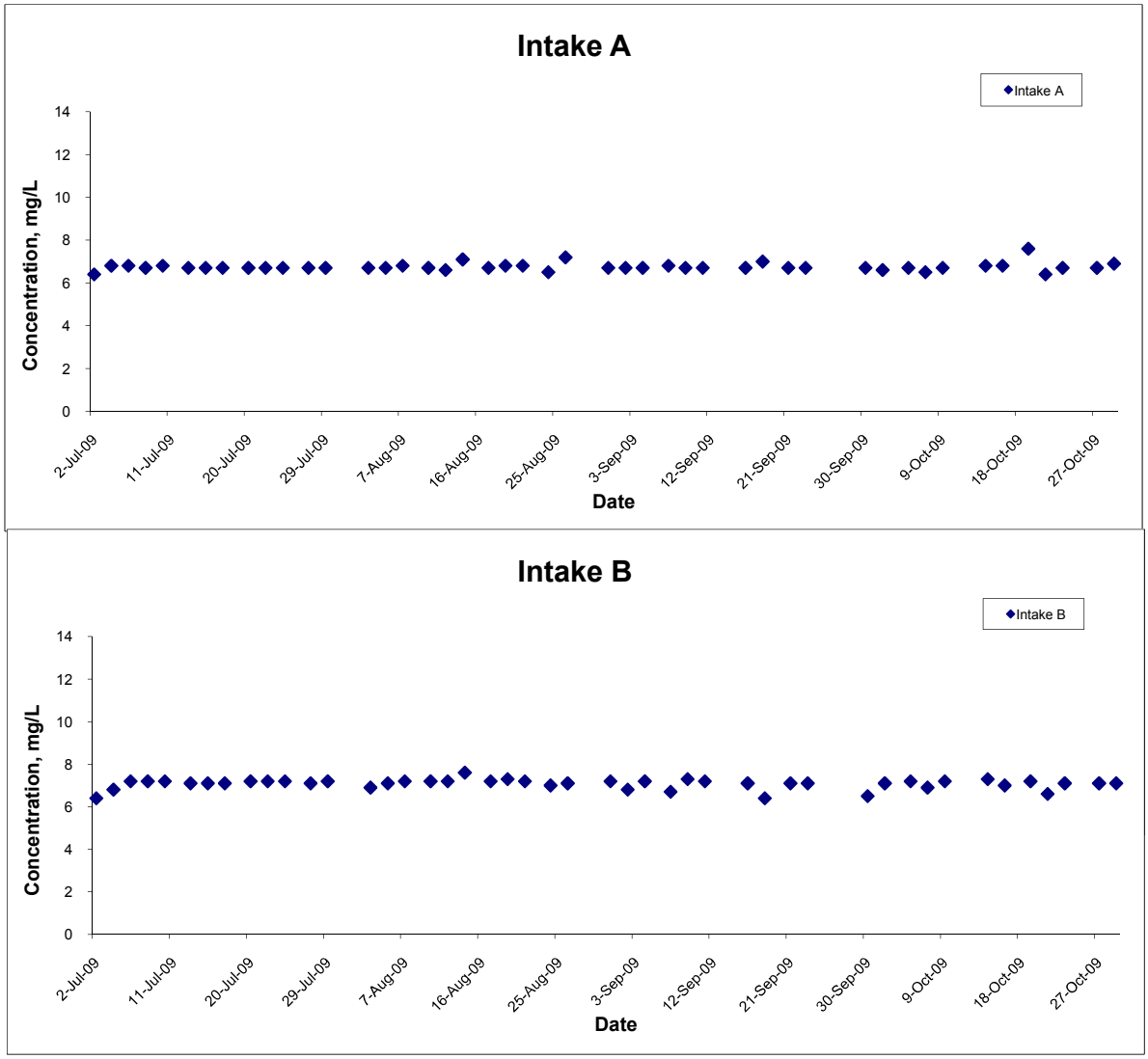






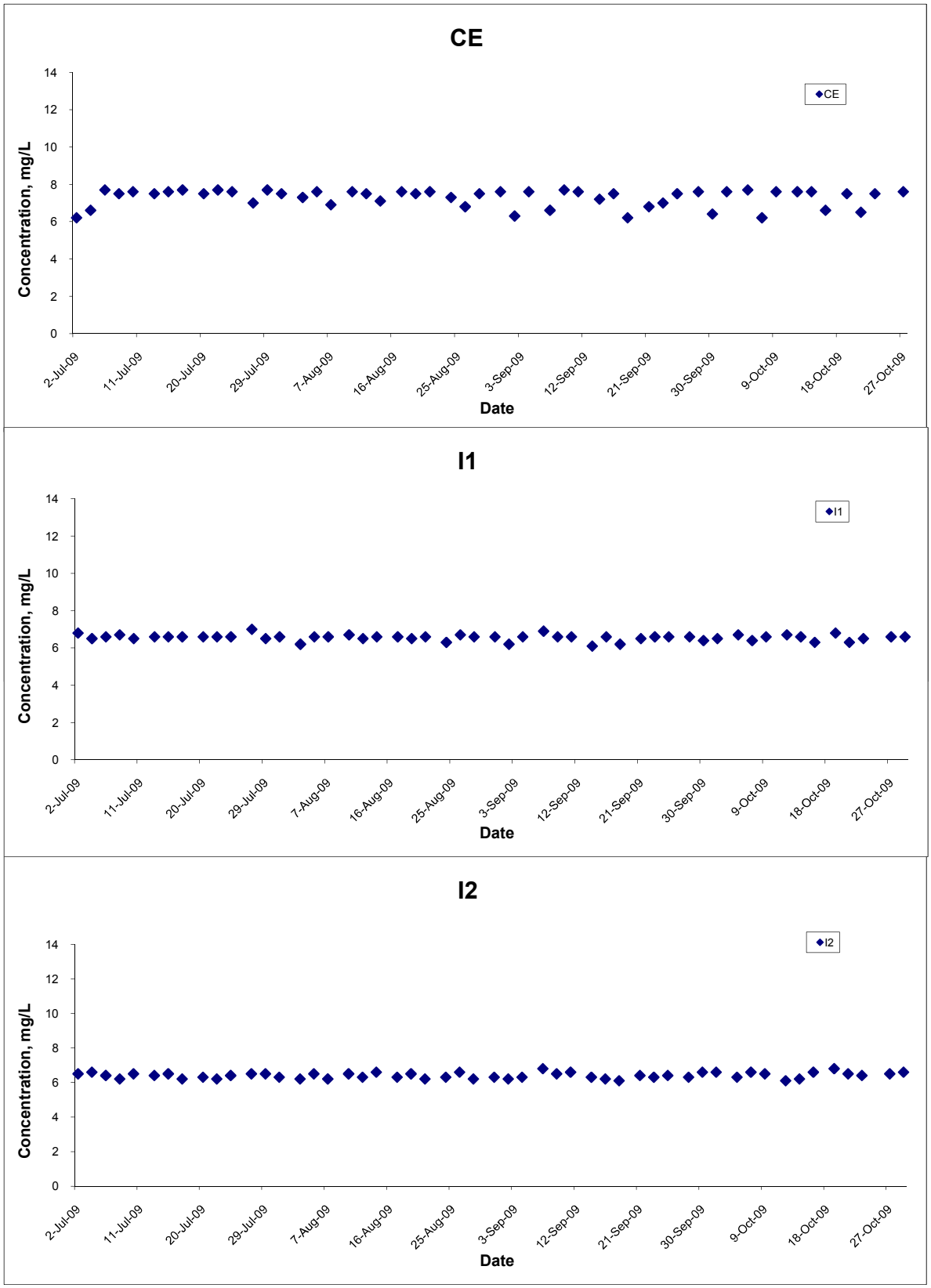
Title		Scale	Project No.	
Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel		N.T.S	MA8001	CINOTECH
Graphical Presentation of Water Quality Monitoring Results		Date: Oct 09	Appendix: F	

Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



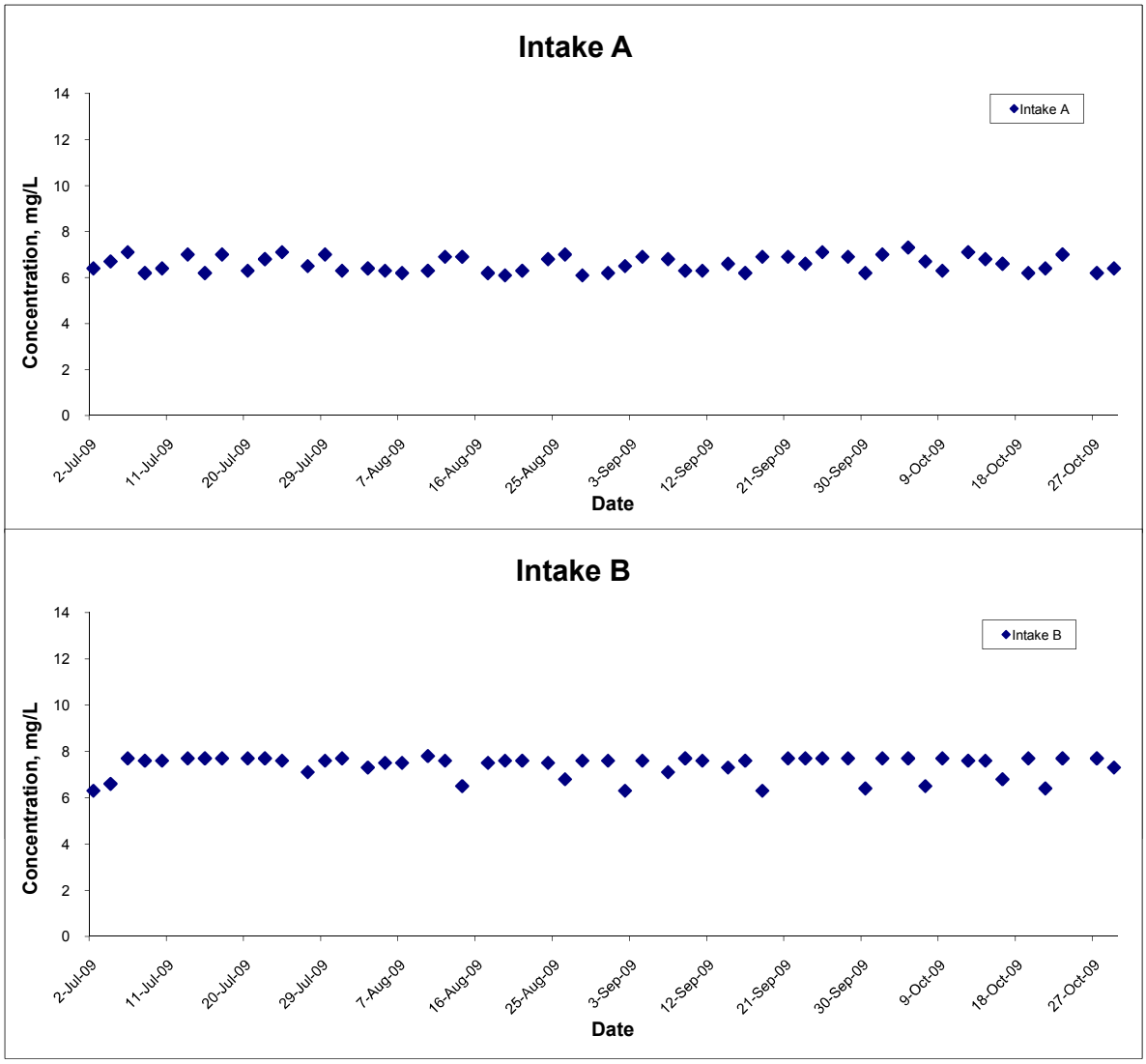
Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: MA8001	CINOTECH
		Date: Oct 09	Appendix: F	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



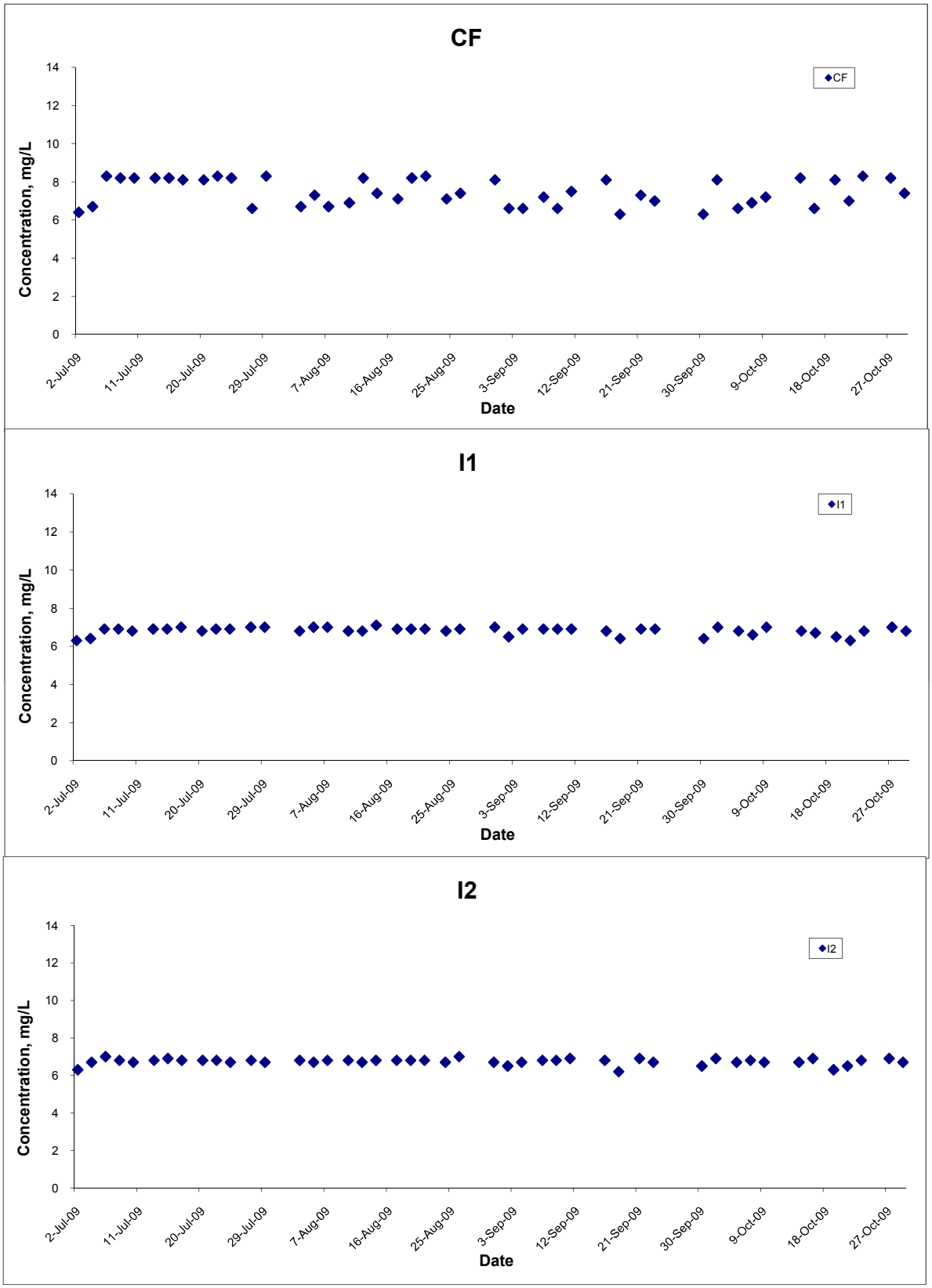
Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: MA8001	CINOTECH
	Date: Oct 09	Appendix: F	

Dissolved Oxygen (Bottom) at Mid-Ebb Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S Date: Oct 09	Project No.: MA8001 Appendix: F	CINOTECH

Dissolved Oxygen (Bottom) at Mid-Flood Tide



Title		Scale	Project No.
Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel		N.T.S	MA8001
Graphical Presentation of Water Quality Monitoring Results		Date: Oct 09	Appendix: F

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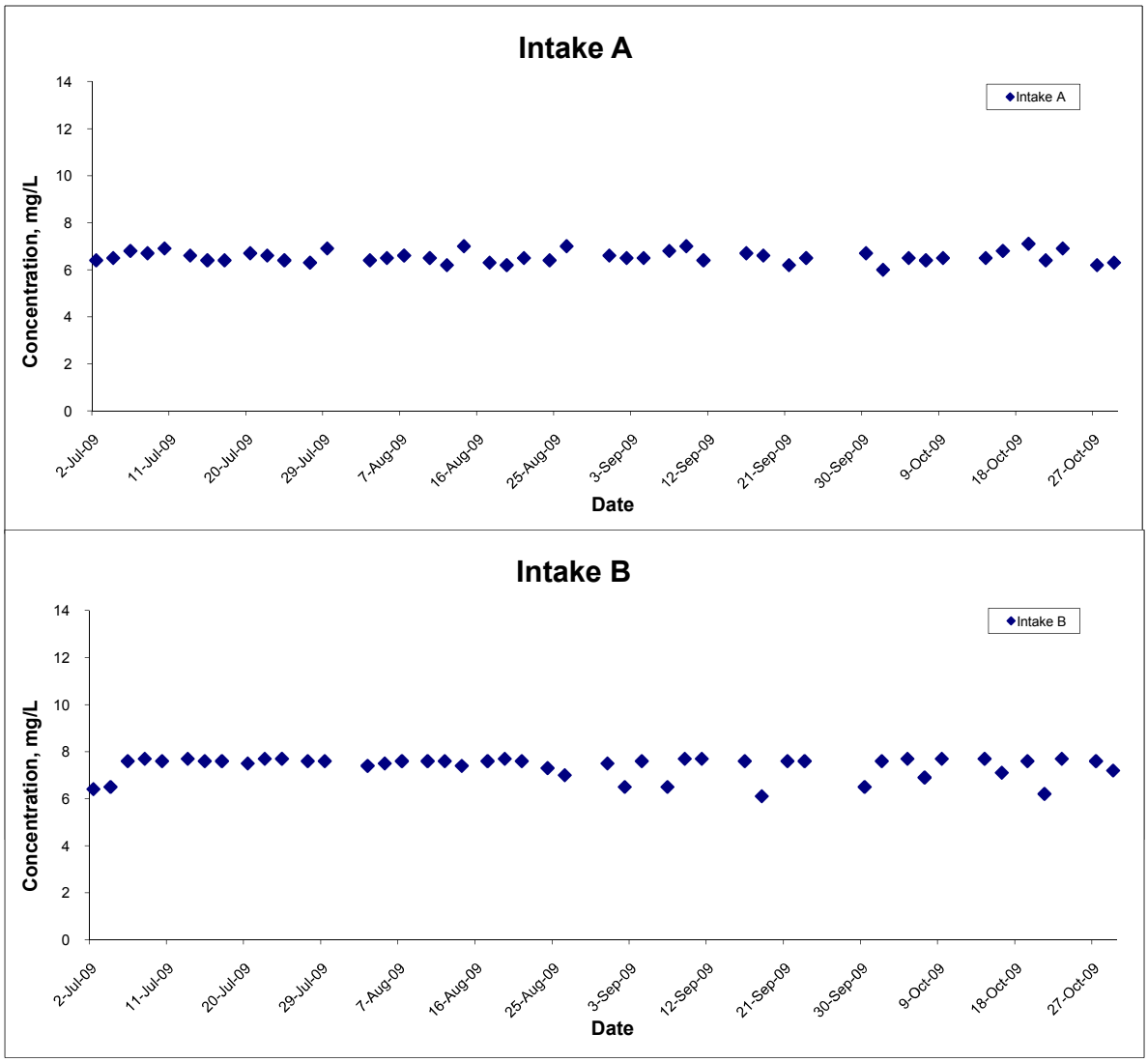
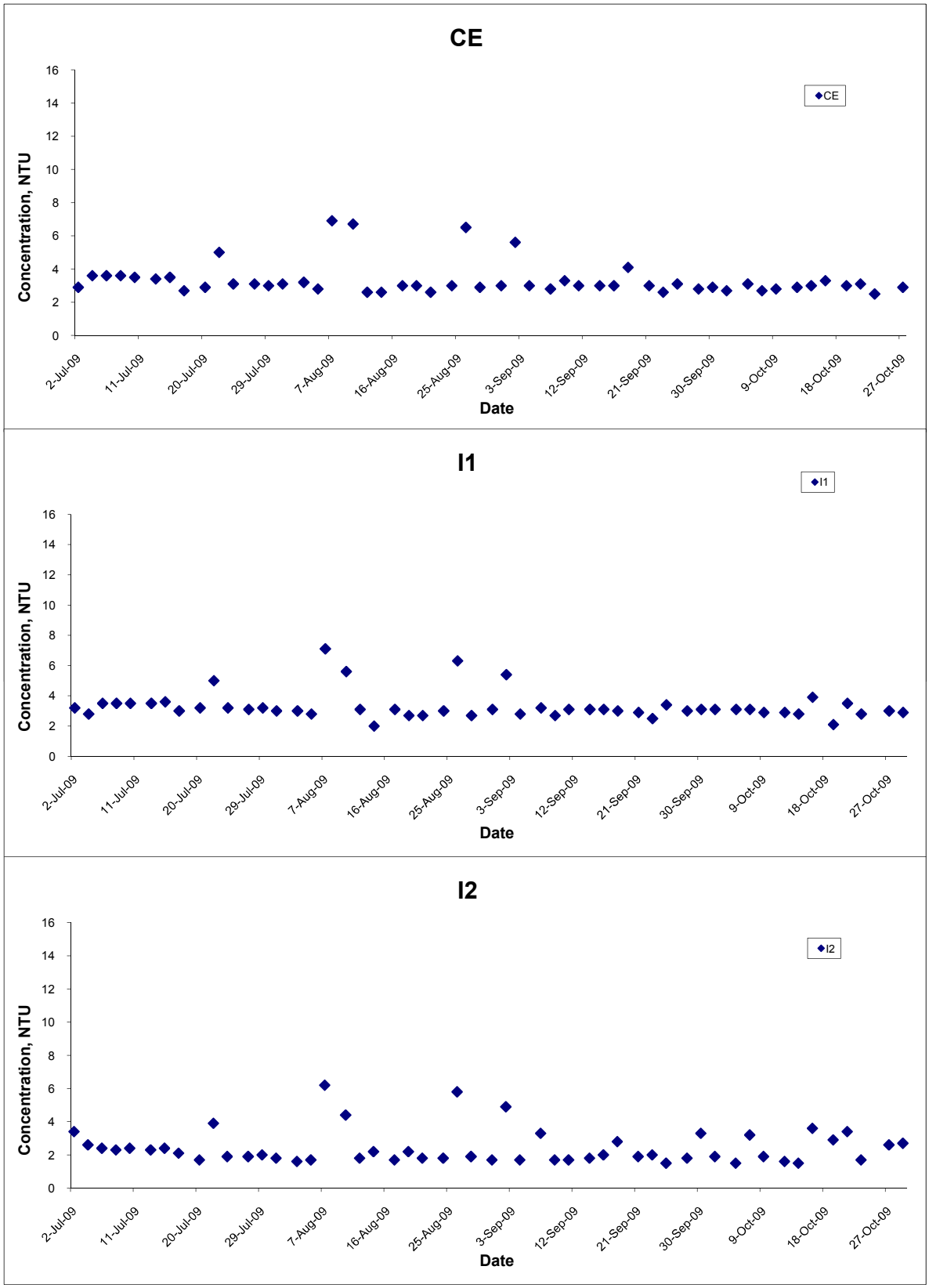
Dissolved Oxygen (Bottom) at Mid-Flood Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S Date: Oct 09	Project No.: MA8001 Appendix: F	CINOTECH

Turbidity (Depth-averaged) at Mid-Ebb Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: MA8001	CINOTECH
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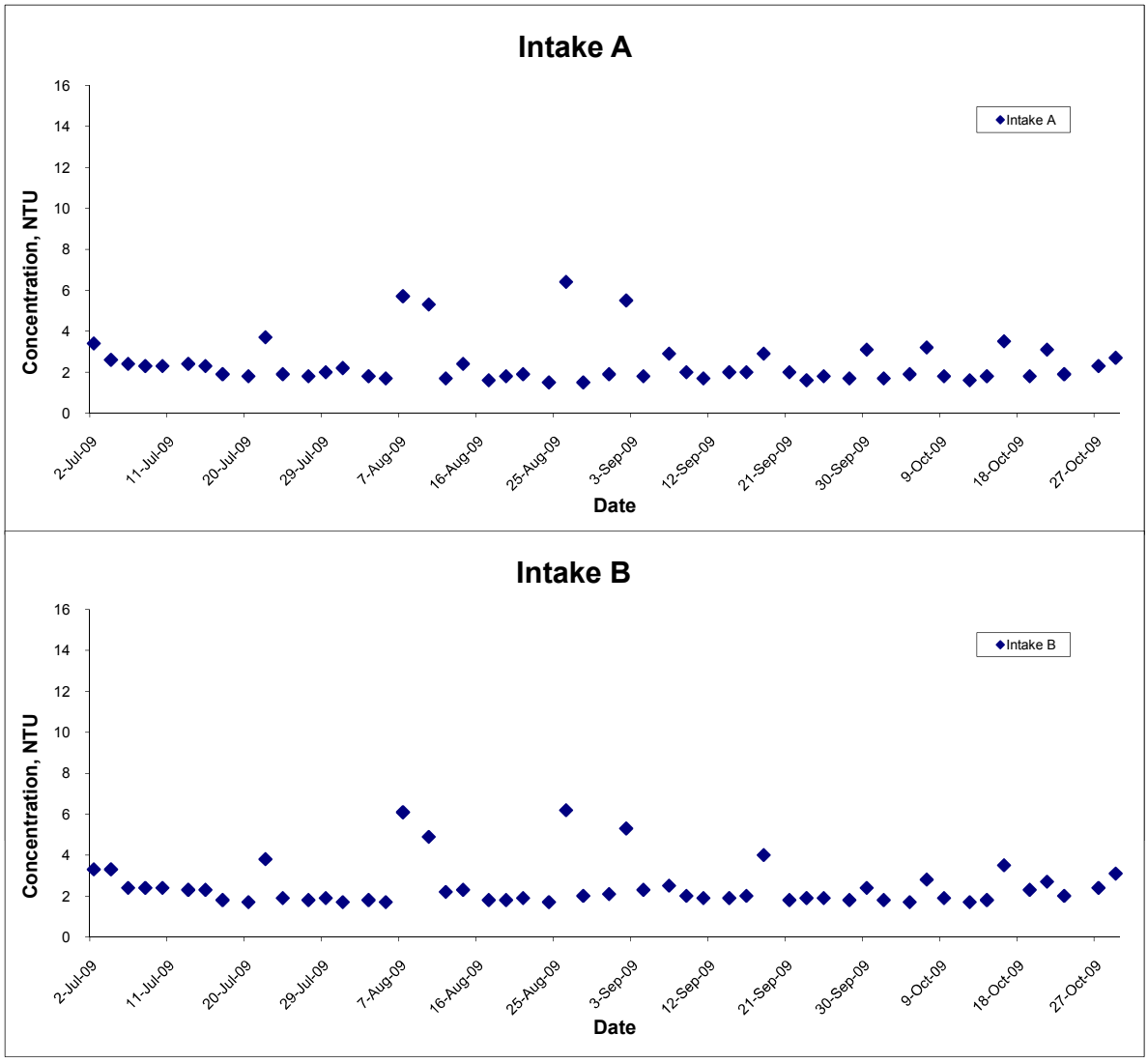
Turbidity (Depth-averaged) at Mid-Ebb Tide



Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA8001	CINOTECH
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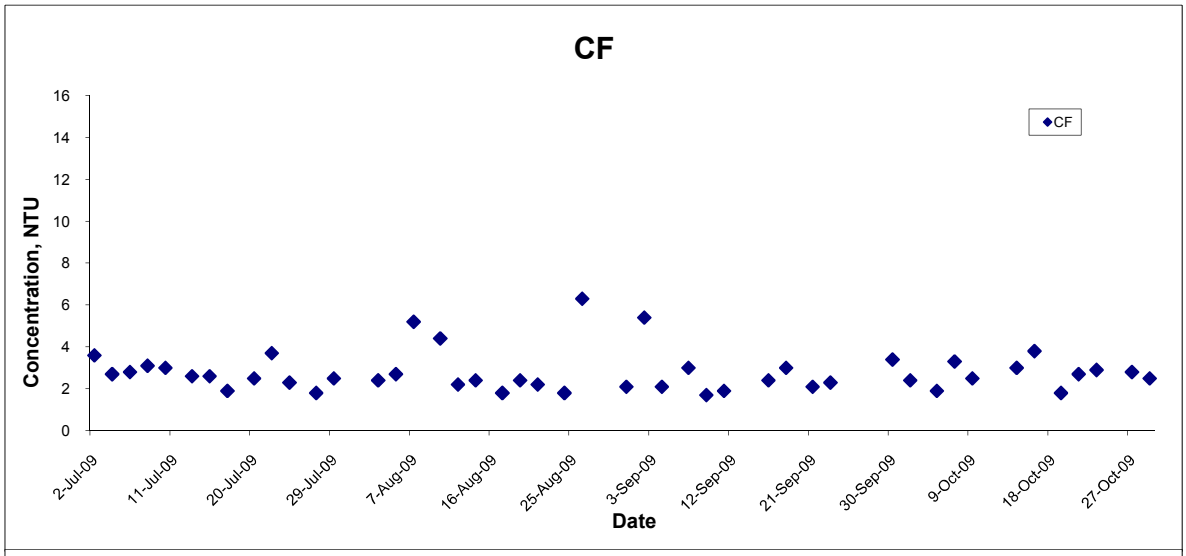
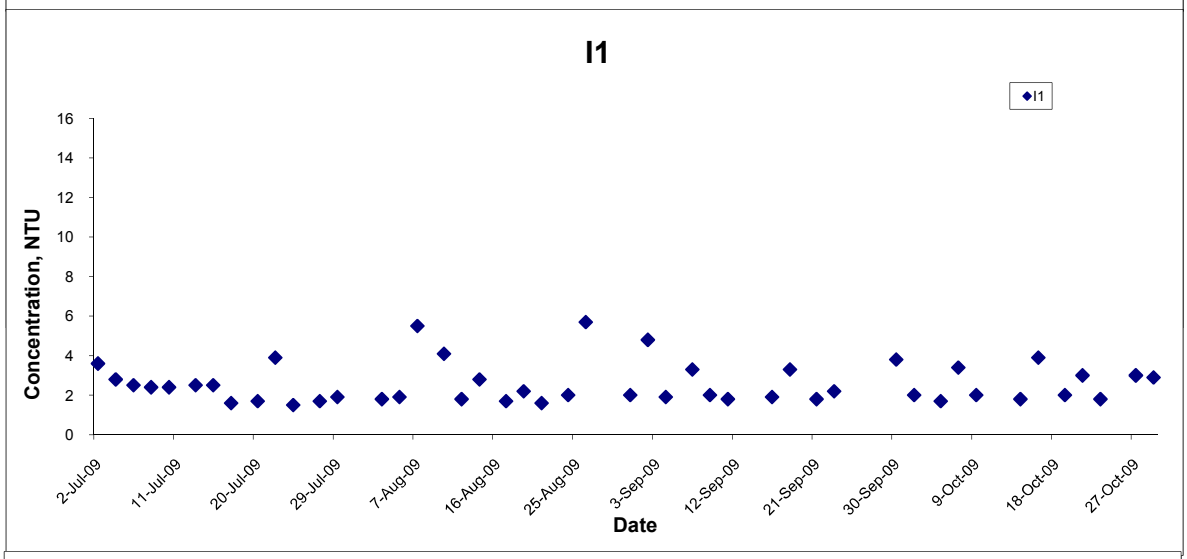
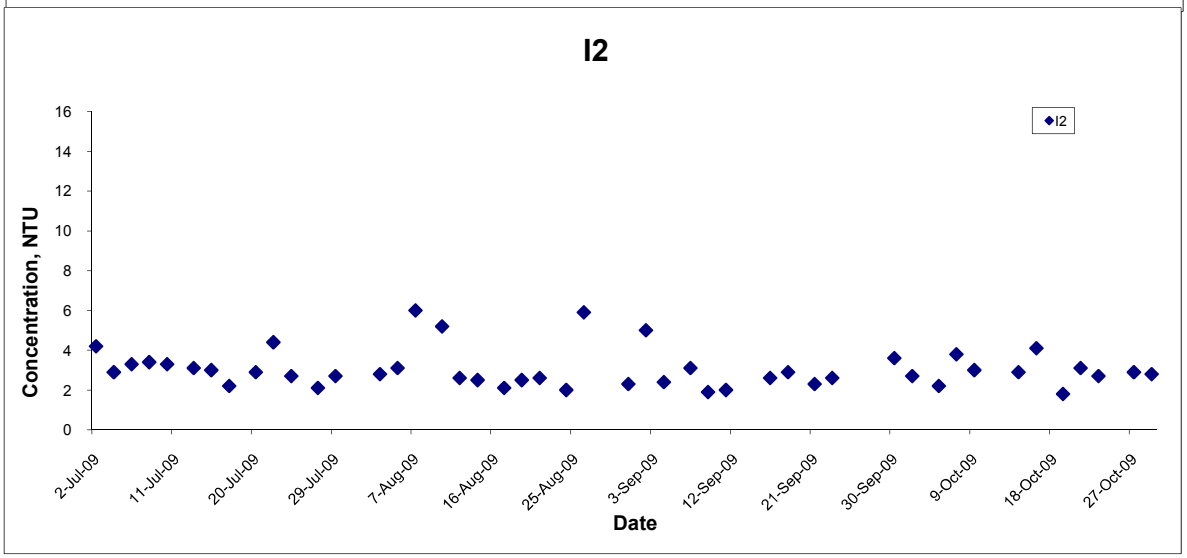
Turbidity (Depth-averaged) at Mid-Flood Tide







Title	Scale	Project No.
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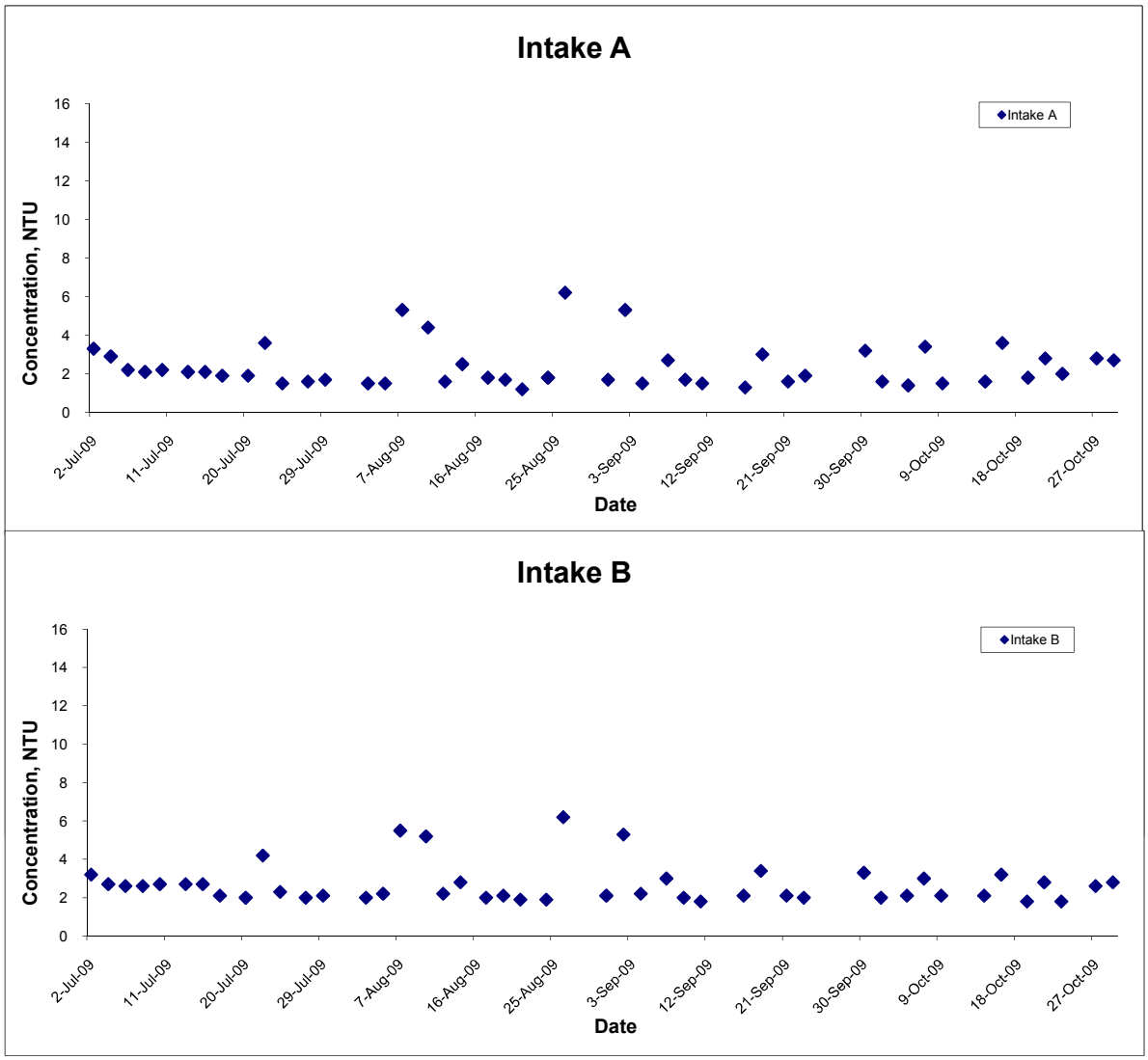
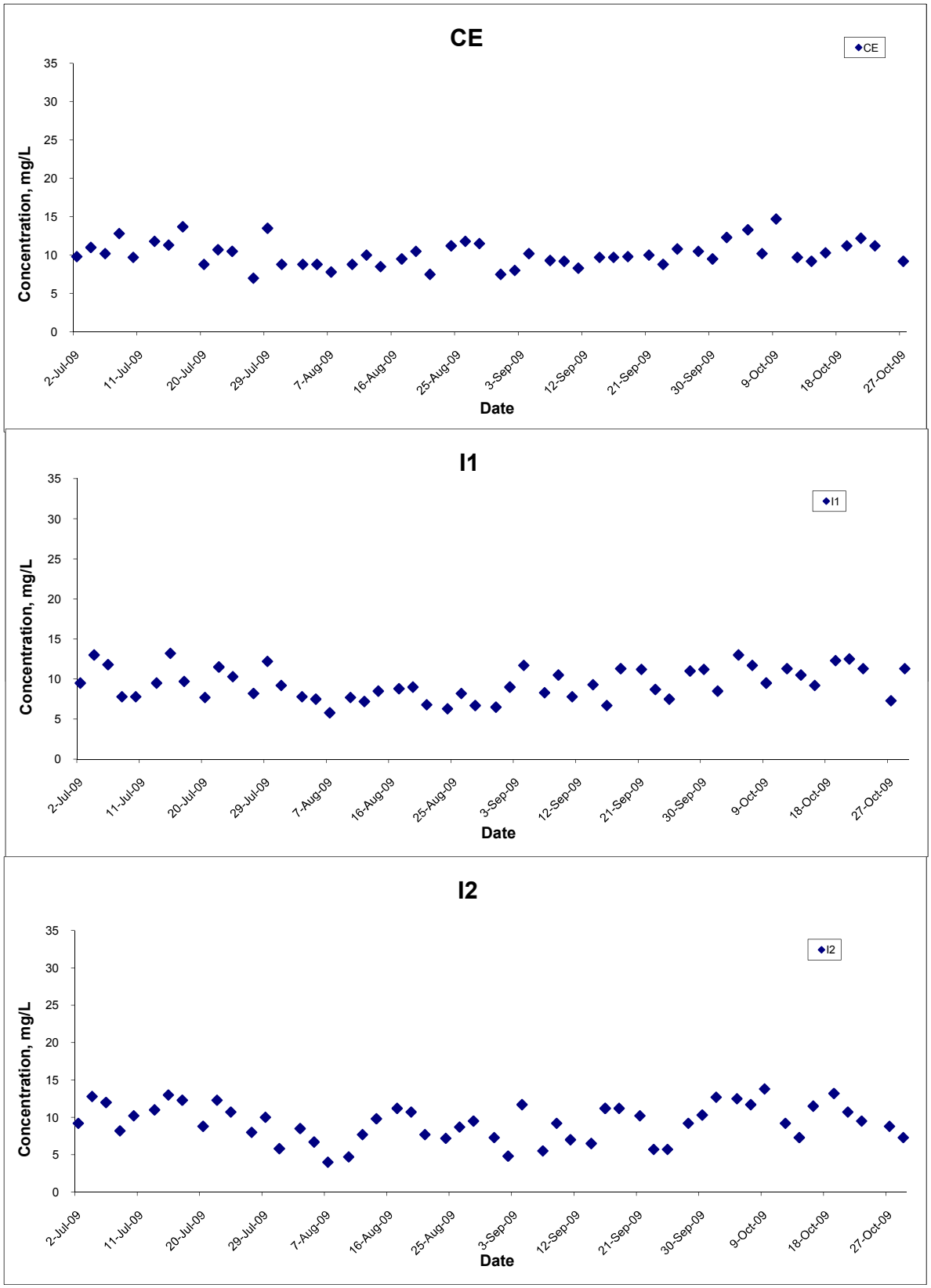
Turbidity (Depth-averaged) at Mid-Flood Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S Date: Oct 09	Project No.: MA8001 Appendix: F	CINOTECH

Suspended Solids (Depth-averaged) at Mid-Ebb Tide



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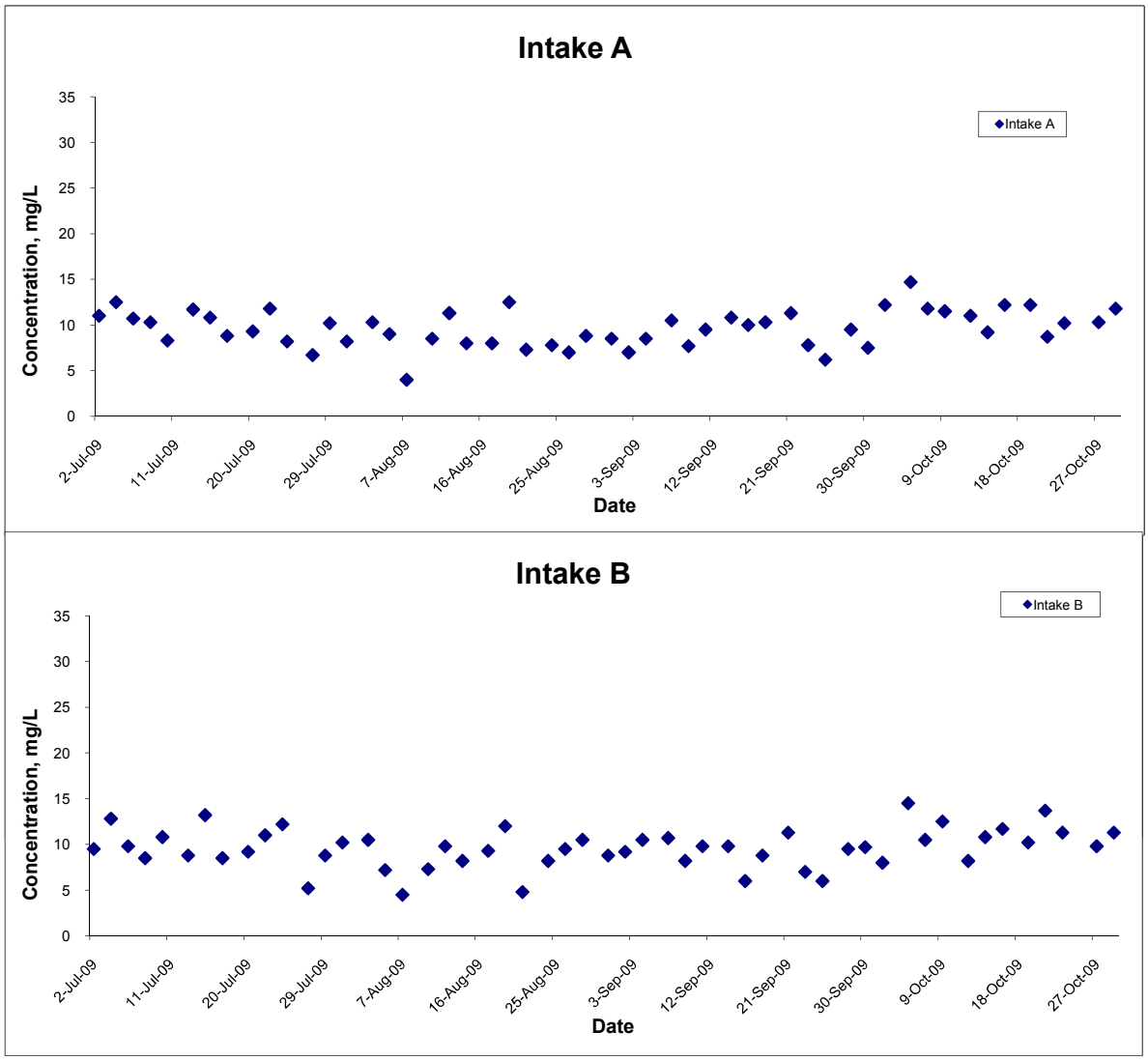
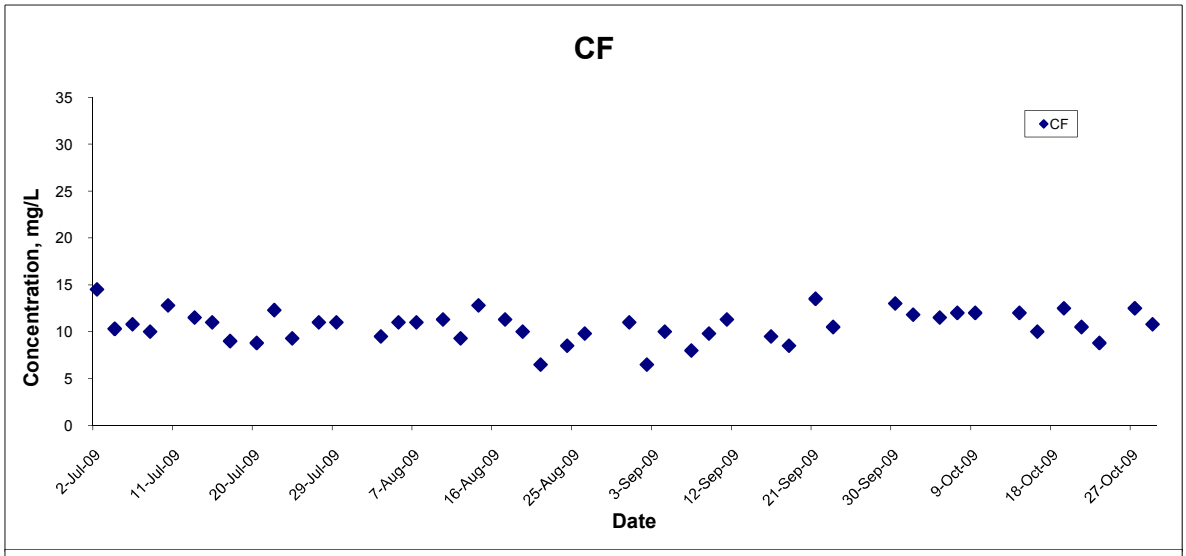
		Date: Oct 09	Appendix: F	

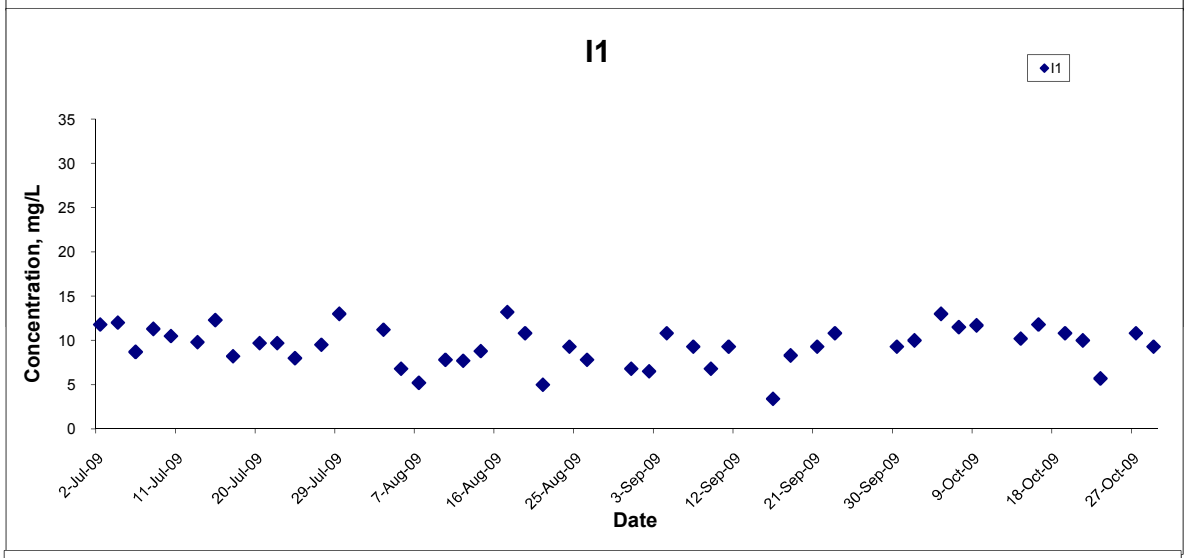
Suspended Solids (Depth-averaged) at Mid-Ebb Tide

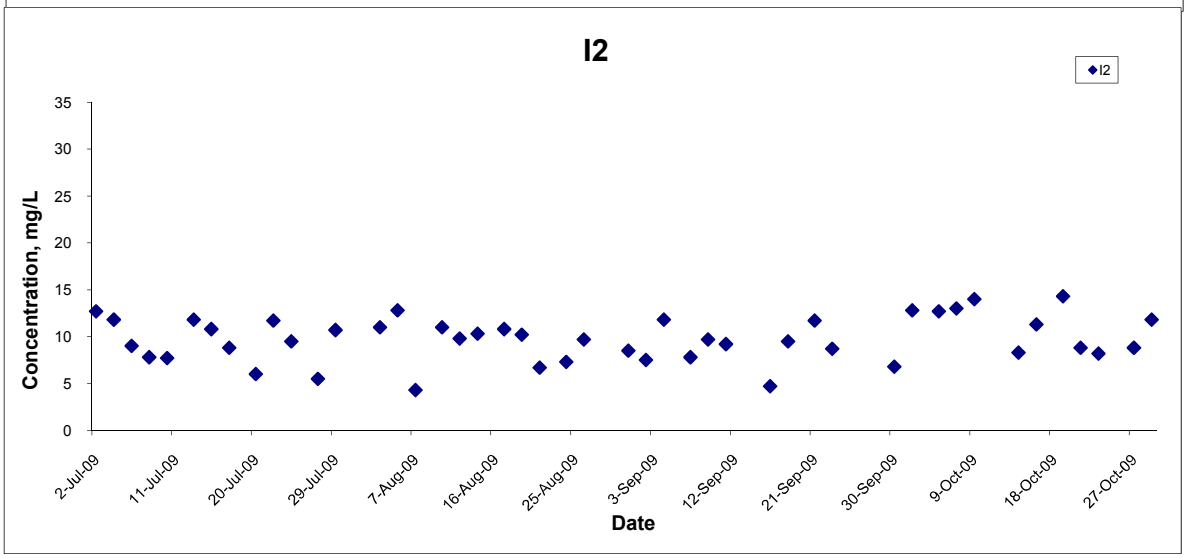


Title	Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Oct 09	Project No. MA8001 Appendix F	CINOTECH

Suspended Solids (Depth-averaged) at Mid-Flood Tide







Title		Scale	Project No.
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Graphical Presentation of Water Quality Monitoring Results		Date: Oct 09	Appendix: F

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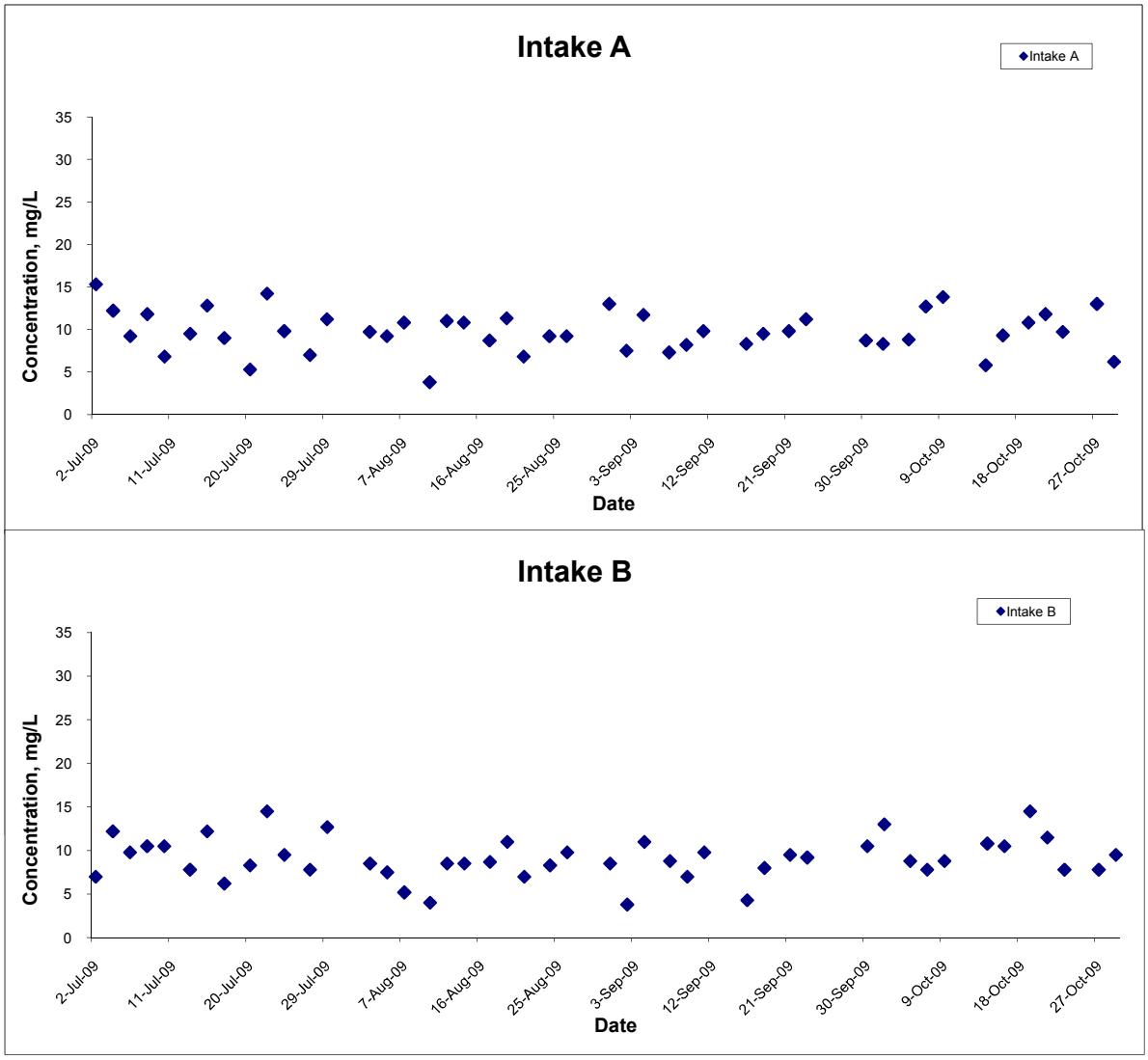
Suspended Solids (Depth-averaged) at Mid-Flood Tide



Title: Contract No. DC/2007/10 Design and Construction of Hong Kong West Drainage Tunnel Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S Date: Oct 09	Project No.: MA8001 Appendix: F	CINOTECH

APPENDIX G
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix G - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
Construction Dust	*Dust Mitigation Measures*	
	• The Contractor shall undertake at all times to prevent dust nuisance as a result of his activities. Effective dust suppression measures should be installed to minimize air quality impacts, at the boundary of the site and at any sensitive receivers.	*
	• No blasting shall be carried out when the strong wind signal or tropical cyclone warning signal No. 3 or higher is hoisted (unless prior permission of the Commissioner of Mines is obtained).	^
	• Effective water sprays shall be used during the delivery and handling of all raw sand, aggregate and other similar materials, when dust is likely to be created, to dampen all stored materials during dry and windy weather. Watering of exposed surfaces shall be conducted as often as possible depending on the circumstances.	*
	• A watering programme of once every 2 hours in normal weather conditions, and hourly in dry/windy conditions.	^
	• Any stockpile of dusty material cannot be immediately transported out of the Site shall be either: a) covered entirely by impervious sheeting; b) placed in an area sheltered on the top and the three sides; or c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	^
	• Should a conveyor system be used, the Contractor shall implement the following precautionary measures. Conveyor belts shall be fitted within windboards. Conveyor transfer points and hopper discharge areas shall be enclosed to minimize dust emission. All conveyors under control of the Contractor, and carrying materials which have the potential to create dust, shall be totally enclosed and fitted with belt cleaners.	^
	• Any dusty materials being discharged to vehicle from a conveying system at fixed transfer point, three-sided roofed enclosed with a flexible curtain across the entry shall be provided. Exhaust fans shall be provided for this enclosure and vented via a suitable fabric filter system.	^
	• The heights from excavated spoils are dropped should be minimise to reduce the fugitive dust arising from unloading/loading.	^
	• The Contractor shall confine haulage and delivery vehicles to designated roadways inside the site. If in the opinion of the Engineer, any motorising vehicle is causing dust nuisance, the Engineer may require that the vehicle be restricted to a maximum speed of 15km per hour while within the site area.	^
	• Areas within the site where there is a regular movement of vehicles shall have an approved hard surface, be kept clear of loose surface materials and / or be regularly watered.	^
	• Wheel cleaning facilities shall be installed for both portals and used by all vehicles leaving the site. No earth, mud, debris, dust and the like shall be deposited on public roads. Water in the wheel cleaning facility shall be changed at frequent intervals and sediments shall be removed regularly. The Contractor shall submit details of proposals for the wheel cleaning facilities to the Engineer prior to construction of the facility. Such wheel cleaning facilities shall be usable prior to any earthwork excavation activity on site. The Contractor shall provide a hard-surfaced road between any cleaning facility and the public road.	^
	• Chemical wetting agents shall only be used on completed cuts and fills to reduce wind erosion.	N/A

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;
N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;
* Recommendation was made during site audit but improved/rectified by the contractor;
# Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	• No vehicle exhausts shall be directed towards the ground or downwards to minimize dust nuisance. • Ventilation system, equipped with proprietary filters, should be provided to ensure the safe working environment inside the tunnel. Particular attention should be paid to the location and direction of the ventilation exhausts. The exhausts should not be allowed to face any sensitive receivers directly. Consideration should also be given to the location of windows, doors and direction of prevailing winds in relation to the nearby sensitive receivers. • In the event of any spoil or debris from construction works being deposited on adjacent land, or stream, or any silt being washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Engineers. In addition, based on the *Air Pollution Control (Construction Dust) Regulation*, any works involved regulatory and notifiable works, such as stockpiling, loading and unloading of dusty materials, shall take precautions to suppress dust nuisance. • The working area of any excavation or earthmoving operation shall spray with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet; • Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; and • Any stockpile of dusty materials (greater than $20m^3$) shall be either covered entirely by impervious sheeting or placed in an area sheltered on the top and three sides; and sprayed with water or a dust suppression chemical so as to maintain the entire surface wet. • Other suitable dust control measures as stipulated in Air Pollution Control (Construction Dust). Regulation, where appropriate, should be adopted.	* ^ ^ ^ ^ * ^

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Types of Impacts	Mitigation Measures	Status
Construction Noise	*Air borne noise* In general, potential construction noise impact can be minimized or avoided by imposing a combination of the following mitigation measures: • Noisy equipment and activities should be sited by the Contractor as far from close-proximity sensitive receivers as practical. Prolonged operation of noisy equipment close to dwellings should be avoided. • The Contractor should minimise construction noise exposure to the schools (especially during examination periods). The Contractor should liaise with the school and the Examination Authority to ascertain the exact dates and times of all examination periods during the course of the works contract and to avoid noisy activities during these periods. • Noisy plant or processes should be replaced by quieter alternatives. Silenced diesel and gasoline generators and power units, as well as silenced and super-silenced air compressor, can be readily obtained. • Noisy activities should be scheduled to minimise exposure of nearby sensitive receivers to high levels of construction noise. For example, noisy activities can be scheduled for midday, or at times coinciding with periods of high background noise (such as during peak traffic hours). • Idle equipment should be turned off of throttled down. Noisy equipment should be properly maintained and used no more often than is necessary. • The power units of non-electric stationary plant and earth-moving plant should be quietened by vibration isolation and partial or full acoustic enclosures for individual noise-generating components. • Construction activities should be planned so that parallel operation of several sets of equipment close to a given receiver is avoided, thus reducing the cumulative impacts between operations. The numbers of operating items of powered mechanical equipment should be minimised. Noise can be reduced by increasing the distance between the operating equipment and the NSRs or by reducing the number of items of equipment and/or construction activity in the area at any one time. • The use of quiet plant working methods can further reduce noise level. Quiet plant is defined as Powered Mechanical Equipment (PME) whose actual sound power level is less than the value specified in the TMs for the same piece of equipment. To allow the Contractor some flexibility to select equipment to suit his needs, it is considered too restrictive to specify which specific items of silenced equipment to be used for the construction operations. It should be noted that various types of silenced equipment can be found in Hong Kong and are readily available on the market. BS 5228 also provides examples of quiet construction plant and their SWL. • Construction plant should be properly maintained (well-greased, damage and worn parts promptly replaced) and operated. Construction equipment often has silencing measures built in or added on, e.g. bulldozer silencers, compressor panels, and mufflers. Silencing measures should be properly maintained and utilised. Rubber or damping materials should be introduced between metal panels to avoid rattle and reverberation of noise. • Equipment known to emit sound strongly in one direction should be oriented so that the noise is directed away from nearby NSRs. • Materials stockpile and other structures (such as site offices) should be effectively utilised to shield construction noise. Noise	^ ^ ^ ^ ^ ^ ^ ^ ^

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Types of Impacts	Mitigation Measures	Status
	can also be reduced by construction of temporary noise barriers which screen the lower floors from viewing the sites. Temporary noise barriers should be installed at active parts of construction areas where construction equipment is being operated in close proximity to NSRs. • It is noted that under the WBTC No. 19/2001, all construction sites are required to use metallic site hoarding can be slightly modified (with the addition of steel backings) into temporary noise barriers. These barriers should be gap free and have a surface mass density of at least 7kg/m^2. • All hand-held percussive breakers and air compressors should comply the Noise Control (Hand-held Percussive Breakers) Regulations respectively under the NCO (Ordinance No. 75/88, NCO Amendment 1992 No.6). The Contractor shall devise, arrange methods of working and carry out the works in such manner as to minimise noise impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these measures are implemented properly. <u>Level 2 Use of Barriers</u> Level 2 mitigation measures include providing movable barriers for sites which have sufficient space for installation, full enclosures during the drilling activities at Eastern Portal and at muck pit areas for Eastern portals and cantilever-typed high rise noise barrier for intake W5 (P) and W8. Before construction of the full enclosure at muck pit area, the use of full enclosure noise barrier (Stage A) for the drilling activities at the Eastern Portal area is required. A full enclosure for the muck pit area will then be constructed at this later stage (Stage B). The full enclosure shall be gap free apart from necessary entrance/exits, which shall face towards the entrance of eastern portal to minimize the amount of noise generated from affecting the nearest RNSRs especially school (True Light Middle School of Hong Kong). 5m high cantilever-typed hoarding barrier to be built at W5 (P) and W8. These enclosures/barriers should have no gaps and have a superficial surface density of at least 10kg/m^2. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period. To schedule the noise barrier erection and dismantling to the non sensitive periods of school to avoid adverse impact to W8/3. Movable barriers of 3 to 5m height with a small cantilevered upper portion and skid footing to be located within about 5 m or more for mobile equipment such that the line of sight is blocked. To provide purposes-built noise barriers or screens constructed of appropriate materials (minimum superficial density of 10kg/m^2) located close to the operating PME. Pre-drilling following by chemical splitting instead of using large excavator mounted breaker should be used as mitigation measure for rock breaking and rock drilling.	^ ^ ^ ^ * * * ^

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;
N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;
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Types of Impacts	Mitigation Measures	Status
	No construction activity is recommended during the examination period. <u>*Ground borne noise*</u> The noise level should be measured on the ground floor inside the nearest building during the TBM construction work in the daytime. If the daytime monitored ground borne noise exceeds the relevant evening/night ground borne noise criteria, evening/night construction work would not be carried out for the concerned tunnel section. Evening/night time construction work is subject to CNP application under the control of NCO. Public relationship strategy with 24-hour hotline system.	^ ^

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Types of Impacts	Mitigation Measures	Status
Water Quality	<u>Precautionary measures for construction work near natural streams</u> The government provides guidelines (ETWB TCW NO. 5/2005 and DSD TC 2/2004) are providing guidelines to minimize impacts when there is construction work carried out at near natural streams course. Relevant mitigation measures for the intakes are summarised as follows: • Temporary site access to the work sites should be carefully planned and located to minimize disturbance caused to the substrates of streams/rivers and riparian vegetation by construction plant. • Locations well away from the rivers/streams for temporary storage of materials (e.g equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil should be identified before commencement of works. • Proposed works site areas inside, or in the proximity of, natural rivers and streams should be temporarily isolated to prevent adverse impacts on the stream water qualities. • Stockpiling of construction materials, if necessary, should be completely properly covered and located away from any natural stream/river. • Construction debris and spoil should be covered up and/or properly disposed of as soon as possible to avoid being washed into nearby rivers/streams by rain and local runoff. <u>Construction of temporary berthing point at the Western Portal</u> A refuse collection vessel shall be provided to collect refuse or materials lost into the sea. The respective areas of the marine works will be completely enclosed by the silt curtain. The curtain shall be extended from water surface down to the seabed where it is anchored using sinker blocks. The Contractor shall inspect the silt curtain on regular basis to ensure its integrity and it is serviceable for all times.	^ ^ ^ ^ ^ ^ N/A

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;
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Types of Impacts	Mitigation Measures	Status
	Transfer of armour rock onto the seabed from barge at the temporary pier location should be conducted by careful grabbing and unloading to the seabed (to minimize sediment migration).	^
	The conveyor belt should be completely covered and muddy effluent from the temporary barge should be contained, treated and disposed. Where there is transfer of excavated wastes, the Contractor should provide appropriate measures to ensure that the waste is free from floatables, putrescibes, organic wastes and toxic materials and when required a refuse collection vessel be provided to collect float refuse.	^
	<u>Construction of stilling basin at Western Portal outfall</u>	
	All construction for the basin should be carried out inside the temporary cofferdam which is a temporary watertight enclosure built in the water and pumped dry to expose the bottom so that construction of stilling basin can be undertaken.	^
	During the dewatering process, appropriate desilting/sedimentation devices should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge.	^
	The cofferdam will remain on site until after the construction of stilling basin has been completed. The coffer dam shall be regularly inspected and maintained to ensure no spillage of waste or wastewater into the sea. Conveyance of dredged materials from the coffer dam shall be carried out cautiously to avoid spillage into the sea.	^
	The filled material for the stilling basin should be contained inside the temporary cofferdam. The top level of the cofferdam shall be constructed higher than the final backfilled level.	^
	The Contractor shall be responsible for the design, installation and maintenance of the silt curtains to minimize the impacts on the water quality and the protection of water quality. The design and specification of the silt curtains shall be submitted by the Contractor to the Engineer for approval.	N/A
	Silt curtains shall be formed from tough, abrasion resistant, permeable membranes, suitable for the purpose, supported on floating booms in such a way as to ensure that the sediment plume shall be restricted to within the limit of the works area. The silt curtain shall be formed and installed in such a way that tidal rise and fall are accommodated, with the silt curtains always extending from the surface to the bottom of the water column and held with anchor blocks. The removal and reinstallation of such curtains during typhoon conditions shall be as agreed with the Director of Marine Department. The contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic. Any damage to the silt curtain shall be repaired by the Contractor promptly and the works shall be stopped until the repair is fixed to the satisfaction of the Engineer.	N/A

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Types of Impacts	Mitigation Measures	Status
	Transfer of rock fill material (armour rock) from the barge onto the site location should be conducted by grabbing and placement on the seabed to minimize sediment migration. No free dropping of the material will be allowed.	^
	Prior to the construction of armor rock based panel, a silt curtain shall also be installed prior to carry out any marine works as a preventive mitigation measure.	^
	<u>Construction of TBM tunnel at both portals and intakes</u>	
	Recycled water will be used at the cutter face for cooling purposes. Used water will be collected and discharged to a settling tank for settlement. Excess water from the settling tank will be transferred to the water treatment plant on site where the addition of flocculants will assist in settlement of solids. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge.	^
	During the drilling process, all flushing water will be recycled for use. Discharge of the treated water to nearby drainage system shall be allowed provided that it has been treated to a level meeting with statutory requirements.	^
	Water flow at streams should be maintained by a temporary diversion system during the construction phase of intakes and manhole drop shafts.	^
	<u>General Construction Activities and Workforce</u>	
	A. Surface runoff	
	Effluent produced from construction activities are subjected to WPCO control. Effluent produced from sites should be diverted away from stream courses. Construction works near stream course should be scheduled in the dry season as far as practical to avoid excessive site runoff discharge.	*
	Under the *Water Pollution Control Ordinance* (WPCO), turbid water from construction sites must be treated to minimize the solids content before being discharged into storm drains. The suspended solids load can be reduced by directing the runoff into temporary sand traps or other silt-removal facilities, and other good and appropriate site management practices. Advice on the handling and disposal of construction site discharge is provided in the ProPECC Paper (PN 1/94) on Construction Site Drainage.	*
	A drainage system layout should be prepared by the Contractor for each of the works areas (portals and intakes), detailing the facilities and measures to manage pollution arising from surface runoff from those works areas. The drainage layout and an associated drainage management plan to reduce surface runoff sediments and pollutants entering watercourses, should be submitted to the Engineer for approval and to EPD for agreement.	*

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Types of Impacts	Mitigation Measures	Status
	The system should be capable of handling stormwater from the site and directing it to sediment removal facilities before discharge. If oil and grease is used on the site or brought to the site, the stormwater should pass through oil interceptors before discharge. The interceptors should have a bypass to prevent washout in heavy storms.	^
	A temporary channel system or earth bunds or sand barriers should be provided in works areas on site to direct stormwater to silt-removal facilities. Stockpiled materials, if susceptible to erosion of rain or wind, should be covered with tarpaulins (or/similar fabric0 or hydroseedings as far as practicable especially during the wet season.	*
	Silt removal facilities should be checked and the deposited silt and grit should be removed regularly to ensure these facilities are in good working condition and to prevent blockages.	^
	Vehicle washing areas should be drained into a settlement into a settlement basin to settle out the suspended solid before discharge to storm water drains. The water should be recycled on site whenever possible. It is suggested that the wash water from the wheel wash basin is either reused for road watering or pumped to the on-site settling tanks for treatment. Water used for dust depression purposes should be minimized and an alternative soil holding agent should be considered.	^
	B. Spillage, Oil and Solvents Any contractor generating waste oil or other chemicals as a result of his activities should register as a chemical waste producer and provide a safe storage area for chemicals on site. Oil interceptors need to be regularly inspected and cleaned to avoid wash-out of oil during storm conditions. A bypass should be provided to avoid overload of the interceptor's capacity.	^
	Any spillage should be cleaned up immediately and the resulting contaminated absorbent material should be properly managed according to Waste Disposal Regulations. Spills should be contained to avoid spreading and contaminating the water resources.	*
	Oil and fuels should be used and stored properly in designated area. All fuel tanks and storage areas should be provided with locks and be sited on within sealed areas within surrounded by bunds of with a capacity equal to 110% of the storage capacity of the largest tank.	*
	Good housekeeping practices are required to minimize careless spillage and keep the work space in a tidy and clean condition. Appropriate training, including safety codes and relevant manuals, should be given to the personnel who regularly handle the chemicals on site.	*

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Types of Impacts	Mitigation Measures	Status
	C. On-Site Effluent Generation	
	Sewage arising from the additional population of workers on site should be collected in a suitable storage facility (chemical mobile toilets). Most of the work site locations are close to the public sewerage system, and therefore the use of septic tanks isare, therefore, not encouraged. Portable toilets should be used coupled with tickering away services provided by a licensed collector. They should be positioned at appropriate locations across the site to ensure no direct discharge of foul water off-site.	^
	D. Protection of Existing Flora and Fauna	
	The Contractor should provide details of the plant and operation plans at each site for approval by the Engineer before commencing construction. The plans should include how the existing flora and fauna will be protected. Locations required for groundwater levels monitoring are Eastern Portal, PFLR1(P), THR2(P), TP5, TP789 and W12.	^
	The construction and demolition of the temporary pier may create short term impacts on the local marine water quality. The situation will be restored once the work is finished by proper phasing of the works programme and implementation of the adequate mitigation measures (e.g. silt curtain) the impacts will be minimized.	^
	<u>Maintaining Baseflow in Downstream Watercourses</u>	
	The final design will be developed during the detailed design stage. The exact base flow rates to be maintained at each of the intakes will be subject to detailed site investigation at design stage.	
	• Purpose of the by-pass device is to maintain the base-flow of the affected stream course.	N/A
	• The by-pass system comprises an approach link and a trapezoidal channel.	N/A
	• The approach link is section with inclined profiled surface at a gradient of 1 in 100. It is used to direct the base flow to the bypass trapezoidal channel at its down stream end during the normal days.	N/A
	• The trapezoidal channel is sized such that it could handle the base flow in the affected stream course which is estimated to be no more than 20 l/s.	N/A
	• Whenever the flow in the stream course exceeding the base flow rate, the excessive flow will overflow into the intake structure via the bottom rack structure. The bottom rack structure has bar screen on the top and inclined channel at the bottom. The top level of the bar screen is level with the by-pass channel with an aim to receive the overflow from the by-pass channel.	N/A
	• The by-pass channel is designed requiring minimum maintenance. However, it is recommended that the maintenance authority carry out regular maintenance inspection prior to onset of seasons and after significant rainstorm event to prevent blockage of the by-pass and bottom rack structure.	N/A

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N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;
* Recommendation was made during site audit but improved/rectified by the contractor;
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Types of Impacts	Mitigation Measures	Status
Waste/Chemical	<u>General</u> A proper waste management plan should be implemented to promote waste minimisation at source. Where waste generation is unavoidable then the potential for recycling or reuse should be explored and opportunities taken. If wastes cannot be recycled then the recommended disposal routes should be followed. All waste materials shall be segregated into categories covering: • Excavated material or construction waste suitable for reuse on-site • Excavated material or construction waste suitable for public filling areas • Remaining C&D waste for landfill • Chemical waste, and • General refuse Proper segregation and disposal of construction waste should be implemented. Separate containers for inert and non-inert wastes should be provided. The inert waste should be taken to public filling area and the non-inert waste should be transported to strategic landfills. A trip-ticket system on the solid waste transfer/disposal operations should be included as one of the contractual requirements (ETWB TCW No. 31/2004). The Independent Environmental Checker (IEC) should responsible for auditing this system. IEC should also responsible for auditing the well-documented record system which includes: (i) quantity of waste generation, (ii) quantity of recycled material, (iii) quantity of disposed material, (iv) disposal methods and (v) sites should be implemented during construction phase. Regular cleaning and maintenance of the waste storage area should be conducted throughout the construction stage. <u>Excavated spoil</u> Control measures for soil temporarily stockpiled on-site should be taken in order to minimize the noise, generation of dust, pollution of water and visual impact. Key impacts include:	* ^ ^ ^ ^ ^ ^ ^ ^ ^

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Types of Impacts	Mitigation Measures	Status
	• Surface of stockpiled soil should be wetted with water when necessary especially during dry season	^
	• Disturbance of stockpiled soil should be minimized	^
	• Stockpiled soil should be properly covered with tarpaulins especially heavy rain storms	^
	• Stockpiling areas should be enclosed if possible	^
	• Stockpiling location should be away from the shoreline	^
	• An independent surface water drainage system equipped with silt traps should be installed at the stockpiling area	^
	<u>Chemical wastes</u>	
	For those processes that generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.	^
	Construction processes produce chemical waste, the contractor must register with EPD as a Chemical Waste Producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation (CWR). It should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Waste published by the EPD. A producer of chemical wastes should be registered as chemical waste producer and registered with EPD.	^
	The chemical waste generated shall be properly labelled, stored and disposed of according to the CWR. Proper storage area shall be allocated on site for storage of chemical waste. The chemical waste should only be collected by a licensed collector. An updated list of licensed chemical waste collector can be obtained from EPD.	^
	In case of spillage, spill absorbent material and emulsifiers should be available on site. This material should be replaced on a regular basis and the contaminated material stored in a designated, secure place.	^
	<u>General refuse</u> A reputable waste collector should be employed by the contractor to remove general refuse from the site, separate from C&DM and chemical wastes, and on regular basis in order to minimize odour, pest and litter impacts. The burning of refuse at site is not permitted under the Air Pollution Control Ordinance (Cap 311).	^
	Office waste can be reduced through recycling of paper if volumes are large enough to warrant collection.	^
	Good management practices should be implemented to ensure that refuse is properly stored and is transported for disposal of at licensed landfills.	^

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Types of Impacts	Mitigation Measures	Status
Terrestrial Ecology	During the detailed design stage, the following issues should also be considered as possible to further minimise the impacts: • Adjustment of site boundary to minimise temporary loss of natural stream habitat during construction. • Adjustment of site boundary to minimise use of mixed woodland as temporary works area. In particular, the woodland habitat in temporary works area of the Eastern Portal will be avoided, thereby greatly reducing the area of temporary loss of woodland habitat. • Minimizing felling of large trees. • About 20% of trees within the works area will be transplanted. The individual of Artocarpus hypargyreus recorded within the temporary works area of HKU1, if to be encroached, would also be transplanted. Standard site practices including the following, should be enforced to minimise the disturbance to the surroundings: • Treat any damage that may occur to large individual trees in the adjacent area using materials and methods appropriate for tree surgery. • Reinstate work sites/disturbed areas immediately after completion of the construction works, in particular, through on-site tree/shrub planting along the woodland and shrubland section within the temporary works area. Tree/shrub species used should make reference from those in the surrounding area. • Regularly check the work site boundaries to ensure that they are not exceeded and that no damage occurs to surrounding areas. A total of 1.02 ha would be replanted with woodland species, reaching almost a 1.5:1 ratio for compensatory planting. Tree/shrub species used should be based on those in the surrounding areas, including those which are commonly recorded during the baseline surveys. A low-flow channel would be provided within the channelised section to maintain a deeper water depth in the expanded channel, in particular during dry season as well as a basin at the end of the channelised section to provide living space for aquatic life. Step chute in the form of a series of descending water pools would be constructed between the low flow channel and the undisturbed stream course. There would also be openings for aquatic fauna between each chute step (pool). These could work like a "ladder" to help avoid isolating the aquatic fauna in the channelised section from natural habitats. Measures are also needed to maintain the flow of all affected streams/nullahs during the construction stages. Temporary bypass should be provided if the stream/nullah flows will be cut off by the construction works. After the construction works are finished, sections of temporary loss should be reinstated. Construction materials, wastes, and equipment should be cleared from the sites.	^ ^ ^ ^ ^ ^ ^ ^ ^

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Types of Impacts	Mitigation Measures	Status
	Surveys of amphibians at E4(P), PFLR1(P), W12(P), MB16, E5(B)(P), TP789(P) and P5(P) prior to commencement of construction is recommended. Frogs, including Hong Kong Cascade Frog and Lesser Spiny Frog, and tadpoles found at work areas of these proposed intake points will be collected and translocated to nearby streams that will not be affected by the project. These procedures should be performed by experienced herpetologists. A detailed translocation proposal will be submitted during the detailed design stage. Measures should also be taken to avoid runoff to streams and marine habitats. Stream/channel which could potentially be affected during construction should be prevented from sedimentation by erection of sediment barriers. Site runoff should be desilted by siltation traps in streams/channels or diverted, to reduce the potential for suspended sediments, organics and other contaminants to enter the local stream environment.	^ ^
Marine Ecology	Silt curtains will be deployed during the construction and demolition of the temporary berthing point. Deployment of silt curtains around the berthing point area would effectively avoid adverse water quality impacts due to barge filling. No significant ecological impact is anticipated. The invert of the stilling basin would be at -5.4 mPD. A cofferdam in the form of pipe-pile wall is to be constructed outside the stilling basin prior to the construction of basin. The cofferdam will be dewatered to provide a working area for construction of the stilling basin. The boulders from the seawall will then be removed by landbased grabs. Although the speed of the working vessels to be used in the Project (mainly barges) would not be high, a speed limit for marine traffic is proposed as a precautionary measure. A speed limit of 10 knots should be strictly enforced in the works area, in particular in the waters between the outfall location and the navigation channel in East Lamma Channel.	N/A ^ ^

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Types of Impacts	Mitigation Measures	Status
Landscape and Visual	The proposed landscape and visual mitigation measures during the construction phase include: CM1 - Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. CM2 - Existing trees to be retained on site should be carefully protected during construction. The detailed proposal for any trees felling and transplantation is subject to Lands Department's approval on tree felling application at the detailed design stage. CM3 - Trees unavoidably affected by the works should be transplanted where practical. CM4 - Compensatory tree planting should be provided to compensate for felled trees. CM5 - The extent of disturbance on the existing stream course should be minimized. Any temporary works areas within the stream course shall be reinstated after construction. CM7 – Control of night-time lighting CM8 – Erection of decorative screen hoarding	 ^ ^ ^ ^ ^ ^ ^

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Types of Impacts	Mitigation Measures	Status
Cultural Heritage	The Cultural Heritage Impact Assessment has identified the following resources which will require mitigation measures during the construction stage; <u>Haw Par Mansion (including boundary wall and gate)</u> A condition survey must be undertaken by a qualified professional prior to the commencement of construction works for the tunnel portal in order to assess the structural integrity of the mansion, wall and gate (with special attention paid to any fragile architectural features). A report containing description of the types of construction, identification of fragile elements, an appraisal of the condition and a photographic record must be prepared. The report must also provide an assessment indicating whether further precautionary measures will be necessary during the construction phase, and if so provide details for sufficient protective measures, including monitoring for vibration control to ensure that no damage to the structure and fabric of the house, wall and gate results from the construction works. The report must be submitted to AMO for approval before construction activities commence. Upon approval the appropriate monitoring and precautionary measures shall be put into place. A buffer zone with a minimum width of 3 metres and an obstruction free access point must be maintained between the boundary wall/gate and the temporary works area (during construction works associated for both the tunnel portal and the permanent vehicle access ramp). This is to enable access for routine maintenance works on the wall and to ensure that the wall is not damaged by machinery operation or related construction activities. The temporary works area will be enclosed by standard DSD site hoarding. <u>Former Explosive Magazine of Victoria Barracks</u> A condition survey must be undertaken by a qualified professional prior to the commencement of construction works in order to assess the structural integrity of the retaining wall and the extent of damage from cracks and vegetation growth. A report containing a description of the wall's construction materials, identification of fragile and/or endangered elements, an appraisal of the condition and a photographic record of the retaining wall must be prepared. The report must also provide an assessment indicating whether further precautionary measures will be necessary during the construction phase, and if so provide details for sufficient protective measures, such as monitoring for vibration control, to ensure that no damage to the retaining wall results from the construction works. The report must be submitted to AMO for approval before construction activities commence. Upon approval the appropriate monitoring and precautionary measures shall be put into place. A buffer zone with a minimum width of 3 metres and an obstruction free access point must be maintained between the retaining wall and the temporary works area (for the duration of the construction phase). The works area will be enclosed by standard DSD site hoarding.	^ ^ ^ ^

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Types of Impacts	Mitigation Measures	Status
Fisheries	Silt curtain will be deployed during the construction and demolition of the temporary berthing point. With the deployment of silt curtains around the berthing point area, adverse water quality impact associated with the filling would not be anticipated. No significant fisheries impact is anticipated. The invert of stilling basin will be found at -5.4 mPD. A cofferdam in the form of pipe-pipe wall is to be constructed outside the stilling basin prior to the construction of basin. The cofferdam will be dewatered to provide a working space for the construction of stilling basin. The boulders from the seawall will then be removed by landbased grabs.	N/A ^
Hazard to Life	There will be no overnight storage of explosives for this project. Transportation of explosives to site for the construction of adit will be undertaken on a daily basis. The contractor is required to destroy any unused explosives before nightfall. If contractor wishes to set up magazines for overnight storage of explosives, it is necessary to carry out risk assessment and seek the relevant approval following the EIAO process.	^

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;
N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;
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\# Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

APPENDIX H
SITE AUDIT SUMMARY

Appendix H Summary of Observation and Recommendation Made during Site Inspection

Summary of Observation and Recommendation Made during Site Inspection in October 2009

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	08/10/2009	Sand and sediment was observed at the U-Channel at Intake PFLR1. The Contractor was reminded to clean them up.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	Slight silty water was observed discharging out at Intake HKU1. This item was rectified immediately. As informed, the sedimentation facilities will be improved by installation of Wetsep. The Contractor was reminded to closely monitor the discharge that complies with the requirement of the discharge license.	Follow-up action was needed for the item.
	15/10/2009	Seawater for the purpose of cooling was observed discharging directly to the sea at Western Portal. The Contractor was reminded to ensure all discharge from the construction site should be met the requirements under the WPCO.	Follow-up action was needed for the item.
	22/10/2009	Oil stains were observed at the platform at Intake HKU1. The Contractor was reminded to clear them and properly maintains the plant equipment to avoid oil leakage.	This item was not observed during the follow-up audit session.
Waste / Chemical Management	08/10/2009	General refuse was observed at underneath the access road at near the entrance of tunnel at Western Portal. The Contractor was reminded to clear them.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	Empty chemical containers were observed not stored properly at near Wetsep at Eastern Portal. The Contractor was reminded to provide chemical waste storage area for storing them.	Rectification/improvement was observed during the follow-up audit session.
Reminders	08/10/2009	The Contractor was reminded of the followings: - Erect sand bag bund for the drainage channel at Intake SM1 in order to reduce the workload of the sedimentation tank.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	The Contractor was reminded of the followings: - To replace sand bag bund at the entrance of Intake MB16.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	The Contractor was reminded of the followings: - Ensure the wastewater from the spoil basin at Eastern Portal should be treated before discharging out.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	The Contractor was reminded of the followings: - To provide sand bag temporarily at Intake PFLR1 for separating the public drain from the construction site.	Rectification/improvement was observed during the follow-up audit session.
	15/10/2009	The Contractor was reminded of the followings: - Properly clear the floating wastes at the Wetsep and nullah at Western Portal.	Rectification/improvement was not observed during the follow-up audit session.

Parameters	Date	Observations and Recommendations	Follow-up
	22/10/2009	The Contractor was reminded of the followings: - Clear the stagnant water at the drip tray and unpaved area at Area B.	This item was not observed during the follow-up audit session.
	22/10/2009	The Contractor was reminded of the followings: - Properly maintain the wastewater treatment facilities at Western Portal and Intake SM1.	Rectification/improvement was not observed during the follow-up audit session.
	22/10/2009	The Contractor was reminded of the followings: - Clear the floating wastes at the nullah at Western Portal.	Rectification/improvement was not observed during the follow-up audit session.
	22/10/2009	The Contractor was reminded of the followings: - Ensure the enough capacity of the wastewater treatment facilities for treating the silty water before discharging out at Intake HKU1.	This item was not observed during the follow-up audit session.
	22/10/2009	The Contractor was reminded of the followings: - Ensure all discharge from the Western Portal Site complies with the requirements under WPCO.	Follow-up action was needed for the item.
	29/10/2009	The Contractor was reminded of the followings: - Provide water-spray for the dry unpaved area at Intake PFLR1.	Rectification/improvement was observed during the follow-up audit session.
	29/10/2009	The Contractor was reminded of the followings: - Clear the floating wastes at the nullah at Western Portal.	Rectification/improvement was observed during the follow-up audit session.
	29/10/2009	The Contractor was reminded of the followings: - Ensure all discharge from Western Portal Site complies with the requirements under WPCO.	Follow-up action was needed for the item.

Summary of Observation and Recommendation Made during Site Inspection in November 2009

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	05/11/2009	Silty water was observed at the compartment of wetsep at Intake W0. The Contractor was reminded to remove the deposited silt regularly.	Rectification/improvement was observed during the follow-up audit session.
	05/11/2009	Wastewater from the grouting was pumped to the sedimentation tank at Intake SM1. The Contractor was reminded to ensure the facility is functioning properly.	Rectification/improvement was observed during the follow-up audit session.
	05/11/2009	Slight milky water was observed at the compartment of sedimentation at Western Portal. This item was rectified immediately. The Contractor was reminded to closely monitor the silt removal facilities are functioning properly at all times.	Rectification/improvement was observed during the follow-up audit session.
Air Quality	19/11/2009	Sand and silt were carried by the site vehicle to the public road at Intake MB16. The Contractor was reminded to clear the road and ensure no further sand and silt from carrying to the public area.	Follow-up action was needed for the item.
Waste / Chemical Management	19/11/2009	Concrete debris was observed at inside the underground drainage channel at Intake W10. The Contractor was reminded to clear them and provide mitigation measures to avoid further debris from getting to the channel.	This item was not observed during the follow-up audit session.
Reminders	05/11/2009	The Contractor was reminded of the followings: - Clear the stagnant water at the River Channel at Eastern Portal.	Follow-up action was needed for the item.
	05/11/2009	The Contractor was reminded of the followings: - Clear the general refuse and discarded leaves at the drainage channel at Intake W10.	This item was not observed during the follow-up audit session.
	05/11/2009	The Contractor was reminded of the followings: - Clear the oil stains at the platform at Intake HKU1.	Rectification/improvement was observed during the follow-up audit session.
	05/11/2009	The Contractor was reminded of the followings: - To remove the chemical waste drum at Western Portal.	Follow-up action was needed for the item.
	12/11/2009	The Contractor was reminded of the followings: - Clear the stagnant water at the River Channel at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	12/11/2009	The Contractor was reminded of the followings: - Properly cover the exposed area / stockpile at Intake E7 and PFLR1.	This item was not observed during the follow-up audit session.
	12/11/2009	The Contractor was reminded of the followings: - Clear the discarded leaves and stagnant water at the wheel washing area at IntakeW0.	Rectification/improvement was observed during the follow-up audit session.
	12/11/2009	The Contractor was reminded of the	This item was not observed

Parameters	Date	Observations and Recommendations	Follow-up
		followings: - Clear the silt and sand at the drainage channel at Intake SM1.	during the follow-up audit session.
	12/11/2009	The Contractor was reminded of the followings: - To store the chemical waste drum / containers properly at Intake HKU1 and Western Portal.	Rectification/improvement was observed during the follow-up audit session.
	12/11/2009	The Contractor was reminded of the followings: - To remove the construction materials at near the seawall at Western Portal.	Follow-up action was needed for the item.
	19/11/2009	The Contractor was reminded of the followings: - Properly cover the exposed slope at Intake E7.	This item was not observed during the follow-up audit session.
	19/11/2009	The Contractor was reminded of the followings: - Ensure the capacity of the wastewater treatment facilities are enough for treating all discharge from site.	Rectification/improvement was observed during the follow-up audit session.
	19/11/2009	The Contractor was reminded of the followings: - To remove the construction materials at near the seawall at Western Portal.	Follow-up action was needed for the item.
	26/11/2009	The Contractor was reminded of the followings: - Properly cover the cement bags and provide enclosure/shelter during cement de-bagging works at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	26/11/2009	The Contractor was reminded of the followings: - To replace the old tarpaulin at the top of cargo container at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	26/11/2009	The Contractor was reminded of the followings: - Properly clear the mud trail at the entrance area of Intake MB16.	Rectification/improvement was observed during the follow-up audit session.
	26/11/2009	The Contractor was reminded of the followings: - To remove the construction materials at near the seawall at Western Portal.	Follow-up action was needed for the item.
	26/11/2009	The Contractor was reminded of the followings: - Clear the sediment deposited at the drainage channel inside the site of Western Portal.	Rectification/improvement was observed during the follow-up audit session.

Summary of Observation and Recommendation Made during Site Inspection in December 2009

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	03/12/2009	Dust generation was observed during rock breaking works at Eastern Portal. The Contractor was reminded to provide sufficient dust suppression measures.	Rectification/improvement was observed during the follow-up audit session.
Ecology	10/12/2009	Silty water was observed discharging out at Intake TP789. The Contractor was reminded to provide mitigation measures to avoid any wastewater from discharging out.	Rectification/improvement was observed during the follow-up audit session.
Reminders	03/12/2009	The Contractor was reminded of the followings: - Provide three-sides enclosures with top shelter during cement mixing works at Intake MB16.	This item was not observed during the follow-up audit session.
	03/12/2009	The Contractor was reminded of the followings: - Well-maintain the plant equipments (Air Compressor and Excavator) at Eastern Portal to avoid dark smoke emission.	Follow-up action was needed for the item.
	03/12/2009	The Contractor was reminded of the followings: - Provide tarpaulin sheet for the exposed slope and stockpile at Intake E7.	This item was not observed during the follow-up audit session.
	10/12/2009	The Contractor was reminded of the followings: - Properly maintain the air compressor at Eastern Portal to avoid dark smoke emission.	Rectification/improvement was observed during the follow-up audit session.
	10/12/2009	The Contractor was reminded of the followings: - Clear the C&D wastes at the existing stream at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	10/12/2009	The Contractor was reminded of the followings: - Properly clear the stagnant water and vegetation waste at the drip tray at Intake HKU1.	This item was not observed during the follow-up audit session.
	10/12/2009	The Contractor was reminded of the followings: - Re-arrange the sedimentation process at Intake PFLR1 to ensure all water discharge from site comply with WPCO license.	This item was not observed during the follow-up audit session.
	10/12/2009	The Contractor was reminded of the followings: - Clear the drainage channel at near the wastewater treatment plant at Western Portal.	This item was not observed during the follow-up audit session.
	17/12/2009	The Contractor was reminded of the followings: - Clear waste materials disposed not properly at Intake E5A.	Rectification/improvement was observed during the follow-up audit session.
	17/12/2009	The Contractor was reminded of the followings: - Clear oil leakage from the air compressor at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	17/12/2009	The Contractor was reminded of the followings: - Break the large stones at Intake MBD2 into	Rectification/improvement was observed during the follow-up audit session.

Parameters	Date	Observations and Recommendations	Follow-up
		smaller pieces before transferring them on truck.	
	17/12/2009	The Contractor was reminded of the followings: - Clear the stagnant water at the drip tray at Intake E5A.	Follow-up action was needed for the item.
	17/12/2009	The Contractor was reminded of the followings: - Measures have to be taken to control surface runoff at Intake TP4.	Rectification/improvement was observed during the follow-up audit session.
	23/12/2009	The Contractor was reminded of the followings: - Provide tarpaulin sheets for the exposed slope at Intake MB16 and TP4 when not in works.	Follow-up action was needed for the item.
	23/12/2009	The Contractor was reminded of the followings: - Clear the oil stains at Intake MB16.	Follow-up action was needed for the item.
	23/12/2009	The Contractor was reminded of the followings: - Properly clear the general refuse at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	23/12/2009	The Contractor was reminded of the followings: - Clear the stagnant water at the drip tray at Intake E5A and W0.	This item was not observed during the follow-up audit session.
	23/12/2009	The Contractor was reminded of the followings: - Properly cover the cement bags (>20bags) inside the tunnel at Western Portal.	This item was not observed during the follow-up audit session.
	23/12/2009	The Contractor was reminded of the followings: - Provide temporary noise barrier for noise source from the engine of the piling rig.	This item was not observed during the follow-up audit session.
	31/12/2009	The Contractor was reminded of the followings: - Properly clear the C&D wastes and general refuse at Eastern Portal Site.	Rectification/improvement was observed during the follow-up audit session.
	31/12/2009	The Contractor was reminded of the followings: - Clear the stagnant water at top of tarpaulin and container at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	31/12/2009	The Contractor was reminded of the followings: - Provide appropriate label for the oil drum at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	31/12/2009	The Contractor was reminded of the followings: - Clear the oily water at the drip tray for the air compressor at Eastern Portal.	Rectification/improvement was observed during the follow-up audit session.
	31/12/2009	The Contractor was reminded of the followings: - Clear the oil stains at Intake MB16.	Follow-up action was needed for the item.
	31/12/2009	The Contractor was reminded of the followings: - Provide tarpaulin sheets for covering the exposed area at Intake MB16 when not in works.	Rectification/improvement was observed during the follow-up audit session.

APPENDIX I
SUMMARY STATUS OF ENVIRONMENTAL LICENCES AND PERMITS

Appendix I - Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Details	Status
	From	To		
Environmental Permit (EP)				
FEP-01/272/2007/B	25/6/08	N/A	Construction of a 6.25m-7.25m in diameter and about 11 km long underground main drainage tunnel, 2 portals and a series of connecting adits and drop shafts.	Valid
Effluent Discharge License				
EP860/W10/XY0175	23/06/08	30/06/13	Industrial discharge (Area of Mount Butler Office)	Valid
EP860/W10/XY0177	23/06/08	30/06/13	Industrial discharge (Eastern Portal Site)	Valid
EP820/W9/XT086	22/07/08	31/07/13	Industrial discharge (Western Portal Site)	Valid
EP680/W10/XY0183	19/11/08	30/11/13	Industrial discharge (Intake W0, Stubbs Road, Wan Chai, HK)	Valid
WT00003372-2009	-	30/4/14	Industrial discharge (Intake SM1)	Valid
WT00003737-2009	-	31/5/14	Industrial discharge (Intake MB16)	Valid
WT00003738-2009	-	31/5/14	Industrial discharge (Intake THR2)	Valid
WT00004270-2009	-	31/7/14	Industrial discharge (Intake PFLR1)	Valid
WT00004806-2009	-	30/09/14	Industrial discharge (Intake E7)	Valid
WT00004808-2009	-	30/09/14	Industrial discharge (Intake MBD2)	Valid
WT00004885-2009	-	30/09/14	Industrial discharge (Intake RR1)	Valid
WT00005135-2009	-	31/10/14	Industrial discharge (Intake W10)	Valid
WT00005374-2009	-	30/11/14	Industrial discharge (Intake P5)	Valid
WT00005376-2009	-	30/11/14	Industrial discharge (Intake TP4)	Valid
WT00005357-2009	-	30/11/14	Industrial discharge (Intake W5)	Valid
WT00005588-2009	-	31/12/14	Industrial discharge (Intake TP5)	Valid
WT00005643-2009	-	31/12/14	Industrial discharge (Intake E5A)	Valid
Registration of Chemical Waste Producer				
5213-148-D2393-02	---	N/A	Chemical waste types: Spent oil	Valid
5213-172-D2393-01	---	N/A	Chemical waste types: Spent oil	Valid
Construction Noise Permit (CNP)				
GW-RS0705-09	17/09/09	14/03/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at Hong Kong West Drainage Tunnel (Eastern Portal) (DSD Contract No. DC/2007/10), Tai Hang Road, Causeway Bay, Hong Kong.	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RS0962-09	23/12/09	22/06/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at Hong Kong West Drainage Tunnel (Eastern Portal) (DSD Contract No. DC/2007/10), Tai Hang Road, Causeway Bay, Hong Kong.	Valid
GW-RS0741-09	1/10/09	31/03/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work and performing prescribed construction work at Hong Kong West Drainage Tunnel (Western Portal), Cyberport Road, Cyberport, Hong Kong (DSD Contract No. Dc/2007/10).	Valid
GW-RS0408-09	29/05/09	24/11/09	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at a construction site of "Hong Kong West Drainage Tunnel" near Stubbs Road Garden, Wan Chai, Hong Kong	Valid
GW-RS0877-09	24/11/09	23/05/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at a construction site of "Hong Kong West Drainage Tunnel" near Stubbs Road Garden, Wan Chai, Hong Kong	Valid
GW-RS0571-09	30/07/09	29/01/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at a site near the junction of Mount Butler Road and Henderson Road, Hong Kong.	Valid
GW-RS0640-09	25/08/09	21/02/10	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at Smithfield Road outside Mei Wah Mansion, Kennedy Town, Hong Kong.	Valid
GW-RS0915-09	08/12/09	31/12/09	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work at Glenealy outside Raimondi College, Hong Kong.	Valid

APPENDIX J
WASTE GENERATED QUANTITY

Monthly Waste Flow Table

Quarter ending		Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see notes 2)	Chemical Waste	Others, e.g. general refuse
	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)	(in m^3)
Jan 2009	9659		129		9530		1.1	2		1.3	39
Feb 2009	5680		199		5481		0	3			45
Mar 2009	938		61		877		0.9	3		1.4	78
Apr 2009	5722		45	5133	544		0.4	3		0.4	73
May 2009	12219		0	12028	191		0.3	3		0.8	58
Jun 2009	14863		53	11680	3130		6.2	3		6.7	73
Sub-Total	49081		487	28841	19753		8.9	17		10.6	366
July 2009	14965		67	6933	7965		3.7	3		1	213
Aug 2009	20307		6	18434	1867		1.1	3		4.4	157
Sep 2009	15918		48	14233	1637		1.3	3		1.4	134
Oct 2009	20454		29	19460	965		2.8	3		0.6	151
Nov 2009	26949		24	25663	1262		1.1	2.5		7.2	146
Dec 2009	38073		240	36887	946		2.2	3		0.8	129
Total	185747		901	150451	34395		21.1	34.5		26	1296

Notes:
(1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(2) Plastics refer to plastic bottles/containers, plastic/foam from packaging material.
(3) Quantities in Dec 2009 are upto 31st December.
(4) Assuming the conversion factor from m^3 to ton for rock is 2.5.
(5) The materials reused in other Project shall not be treated as waste under the Waste Disposal Ordinance (Cap 354).
(6) The figures are included for the sake of completeness of record.

APPENDIX K
SUMMARY OF EXCEEDANCES

Contract No. DC/2007/10 – Design and Construction of Hong Kong West Drainage Tunnel

Exceedance Report

Eastern Portal

(A) Exceedance Report for Air Quality (1 hour TSP)
(NIL in the reporting quarter)

(B) Exceedance Report for Air Quality (24 hours TSP)
(NIL in the reporting quarter)

(C) Exceedance Report for Construction Noise
(Two Action Level exceedances were recorded due to the complaint raised by a resident of The Legend and Ronsdale Garden on 6th and 7th October 2009 respectively.)

Western Portal

(D) Exceedance Report for Air Quality (1 hour TSP)
(NIL in the reporting quarter)

(E) Exceedance Report for Air Quality (24 hours TSP)
(NIL in the reporting quarter)

(F) Exceedance Report for Construction Noise
(Two Action Level exceedances were recorded due to the complaints raised by a resident of Aegean Terrace on 23rd and 29th November 2009 respectively.)

(G) Exceedance Report for Water Quality
(NIL in the reporting quarter)

Near Western Portal

(H) Exceedance Report for Construction Ground Borne Noise
(NIL in the reporting quarter)

Intake E7

(I) Exceedance Report for Construction Noise
(NIL in the reporting quarter)

Intake PFLR1

(J) Exceedance Report for Construction Noise
(Two Action Level exceedances were recorded due to the complaints raised by a resident of Pok Fu Lam Height on 23rd and 28th December 2009 respectively.)

Intake W0

(K) Exceedance Report for Construction Noise
(NIL in the reporting quarter)

APPENDIX L
COMPLAINT LOGS

APPENDIX L – COMPLAINT LOG

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
Com-2008-05-003	Construction site at Eastern Portal	22 May 2008	The complaint was lodged by Ms. Ng on 22 May 2008 regarding noise nuisance generated from the construction activities at the construction site of Eastern Portal	According to the Contractor, only one excavator and one generator were operated for the excavation works around 8 am on 22 May 2008 at the Eastern portal. No other construction activities were conducted. In response to the complaint, The Contractor agreed to reschedule their current works activities, with immediate effect from 23 May 2008, that only site preparation works without noise nuisance to the nearby residents will be carried out from 7:00 am to 8:00 am at the Eastern Portal area. Base on the information collected and the monitoring results, the complaint was considered not justifiable since (1) no exceedance of the noise monitoring results was recorded in May and (2) no non-compliance or observation on noise was recorded.	Closed
Com-2008-05-004	Construction site at Western Portal (Marine Works)	31 May 2008	The complaint was lodged by one of the local resident on 31 May 2008 regarding the noise nuisance generated from the marine works at Western Portal.	According to the Contractor, only two derrick barges and one tug boat were operated for the seabed formation works around 18:00 hrs on 31 May 2008 at the Western Portal. No other construction activities were conducted.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Base on the information collected and the monitoring results, the complaint was considered not justifiable since (1) no exceedance of the noise monitoring results was recorded in May and (2) no non-compliance or observation on noise was recorded.	
Com-2008-07-007	Construction site at Eastern Portal	2 July 2008	The complaint was lodged by a resident of The Legend on 2 July 2008 regarding noise nuisance generated from the construction activities at the construction site of Eastern Portal	According to the Contractor, only one generator and one drilling rig (Jumbo) were operated for the preparation works around 7:30a.m on 2 July 2008 at the Eastern portal. Construction noise was found from other construction site (Gammon Construction Limitied) adjacent to Eastern Portal area. In response to the complaint, The Contractor review his forthcoming operations within the Eastern Portal site as previous they agreed, reschedule their current works activities, with immediate effect from 23 May 2008, that only site preparation works without noise nuisance to the nearby residents will be carried out from 7:00 am to 8:00 am at the Eastern Portal area. Additional noise monitoring was conducted on 16 and 17 July 2008 during the drilling rig (Jumbo), excavator and wheel loader were operated for drilling works.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Base on the information collected and the monitoring results, the complaint was considered not justifiable since (1) no exceedance of the noise monitoring results was recorded in June and July 2008 and additional noise monitoring (2) no non-compliance or observation on noise was recorded.	
COM-2008-10-011	Construction site at Western Portal	11 October 2008	The complaint was lodged by one of the resident of Victoria Road, Ms Cheung on 11 October regarding about the noise nuisance generated from the construction works at Western Portal	According to the Contractor, excavation works and marine works including sheet piling works were also conducted at the time of complaint at Western Portal Additional noise monitoring was conducted on 15 October 2008, drilling works, excavation works and marine works including sheet piling works were also conducted. The construction noise levels measured during the construction works were well below the construction noise limit of 75 dB(A) The Contractor agreed to reschedule the starting time of the construction works to 8:15am on every Saturday that without noise nuisance from the construction works to the nearby residents will be carried out from 7:00 am to 8:15 am at the Western Portal area.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Base on the information collected, the noise level measured at outside Aegean Terrace during the construction works at Western Portal site were well below the construction noise limit of 75 dB(A). Also, the Contractor has implemented the remedial measure that reschedule the starting time of the construction works to 8:15am on every Saturday immediately after receiving the complaint to minimize the noise nuisance to the nearby residents.	
COM-2008-10-012	Construction site at Intake TP5	15 October 2008	The complaint was lodged by Mr Choi on 15 October 2008 regarding about the noise generated from the GI works, which starts from 8:30 hrs to 17:30 hrs next to Aigburth at May Road.	According to the information provided by the Contractor, only rotary type drill rigs and water pumps were operated for the GI works at the time of complaint at Intake TP5. Additional site inspection and noise monitoring at the podium of the Valverde at May Road were conducted on 3 Nov 2008 and 24 Oct, 5 Nov, 7 Nov 2008 respectively. The Contractor agreed to reschedule the starting time of the construction works to 9:30am on every Saturday and 8:00 on normal weekdays that without noise nuisance to the nearby residents will be carried out from 7:00 am to 8:00 am at Intake TP5. Acoustic insulating materials	Closed
COM-2008-10-013	Construction site at Intake TP5	31 October 2008	The complaint was lodged by Mr Lai on 31 October 2008 regarding the black smoke is emitted and noise is generated from the machine at the site (Intake TP5), he needed to close the windows to prevent the black smoke from entering his flat and to attenuate the noise.		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM-2008-11-015	Construction site at Intake TP5	4 November 2008	The complaint was lodged by Ms Lee on 4 November regarding the noise nuisance generated from the construction works at Intake TP5.	have been applied for enclosing water pump and rotary type drill rigs to minimize the noise nuisance to the nearest residents. Base on the information collected, the noise level measured at the podium of the Valverde at May Road were well below the construction noise limit of 75 dB(A) after the Contractor has implemented the remedial measure.	
COM-2008-11-016	Construction site at Western Portal	17 November 2008	The complaint was lodged by Mr Cheng on 17 November 2008 regarding dust nuisance arising from the soil nailing works at the roadside slope of Cyberport Road.	According to the information provided by the Contractor, soil nailing works were conducted and some plant equipments i.e air compressor and generator were operated at the time of complaint at Western Portal. Base on the regular air quality monitoring in November 2008 at Outside Aegean Terrace (AQ2) and Outside The Site Office at Western Portal (AQ3), the dust levels measured at AQ2 for 1 hour TSP and at AQ3 for 24 hour TSP were well below the Action Level (321µg/m3 for 1 hour TSP and 156µg/m3 for 24 hour TSP). Also, the Contractor has implemented the dust suppression measures to prevent dust nuisance from the construction activities including soil nailing works.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM-2008-11-019	Construction site at Western Portal	29 November 2008	The complaint was lodged by Ms Cheung on 1 December 2008 regarding noise nuisance at Western Portal at 08:30 hrs approx on 29 November 2008 and 00:30 on 1 December 2008.	According to the information provided by The Contractor, no construction works was carried out at the temporary jetty at the time of complaint (00:30 on 1 December 2008) at Western Portal. However, base on the regular noise monitoring at Outside Aegean Terrace (NC3), the noise level measured during the construction works at Western Portal site were well below the construction noise limit of 75 dB(A).	Closed
COM-2008-12-020	Construction site at Western Portal	28 December 2008	The complaint was lodged by Ms Cheung on 28 December 2008 regarding the excavator was found working within Western Portal works area on Sunday.	The complaint was considered not justifiable as Construction Noise Permit (CNP) – CNP No. GW-RS0827-08 has been granted from EPD for carrying out the construction works at Hong Kong West Drainage Tunnel (Western Portal), Cyberport Road, Cyberport, Hong Kong (DSD Contract No. DC/2007/10) between 1 December 2008 at 1900 hours and 28 February 2009 at 2400 hours. The powered mechanical equipment can be operated during the hours as below: a) Any day not being a general holiday between 1900 – 2300 hours b) General holiday (**including Sundays**) between 0700 – 1900 hours	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM-2009-01-021	Muddy Water Discharged into Sea at Western Portal	21 January 2009	Muddy water was observed from discharging into the sea at Western Portal Site	Base on the information collected, the muddy water discharged into the sea is considered due to the operations of excavation of stilling basin and poor condition of the silt curtain. The Contractor agreed to review their current provisions to prevent any muddy water from discharging into the sea again and close check the condition of the silt curtain.	Closed
COM-2009-01-022(A)	Construction site at Western Portal	12 January 2009	The complaint was lodged by Mr Chan, the assistant of Mr CHAN Ngok pang (Southern District Councillor) about the resident in Baguio Villa near Victoria Road, Mr Ronald Chan concerns on the noisy activities carried out at Western Portal site.	Base on the information collected, the noise level measured at outside Aegean Terrace during the construction works at Western Portal site were well below the construction noise limit of 75 dB(A). Aegean Terrace is at location close to the major site activities compared with Baguio Vila. Also, The Contractor agreed to reschedule their current works activities, no noisy work will be carried out at Western Portal Site before 8:00a.m.	Closed
COM-2009-01-022(B)		21 January 2009	The complaint was lodged by resident of Aegean Terrace at Sassoon Road about the noise nuisance generated from Western Portal Site.		
COM-2009-01-022(C)		21 January 2009	The complaint was lodged by the resident in Baguio Villa near Victoria Road about noisy works at Western Portal Site.		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM-2009-02-023	Construction site at Eastern Portal	7 February 2009	Complaint of Construction Noise at Early Morning (07:45hrs) at Eastern Portal Site	Based on the information collected, the construction noise at about 07:45hrs on 7 February 2009 was due to the checking of the backhole by the sub-contractor. The Contractor was reminded to strengthen their site supervision and provide sufficient site-specific environmental training for sub-contractor to ensure that such situation would not be recurred.	Closed
COM-2009-03-025	Construction site at Western Portal	2 March 2009 4 March 2009	Complaint of noise generated by midnight works and night-time lighting at Western Portal Site	Base on the information collected, the regular noise monitoring was conducted during the construction works at the restricted hours. The noise measurement results were well below the construction noise limit of 65dB(A) for the period of 0700-2300 hrs on holiday; and 1900-2300 hrs on all other days and baseline level during the night time. The Contractor was reminded to strengthen their site supervision and implement necessary noise mitigation measures to minimize and avoid the construction noise impact to the residents nearby especially during the restricted hours. Regarding the complaint of spotlight hanging on the plant at the site portion WP, The Contractor was reminded to implement the mitigation measures for Visual during the construction by controlling the night-	Closed
COM-2009-03-026		7 March 2009	Complaint of pipe hitting noise at midnight at Western Portal Site.		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				time lighting so that the residual visual impacts can be accepted.	
COM-2009-04-028	Construction site at Western Portal	7 April 2009	Complaint of noise generated from the construction works conducted till 11:00pm at Western Portal of the Hong Kong West Drainage Tunnel.	According to the information provided by The Contractor, TBM, conveyor belt, ventilation fan, tower crane and cherry picker were operated for the construction works on 7 April 2009 before 11:00pm and only TBM works with conveyor belt and ventilation fan were operated on 10 April 09 (Sunday). No operation of derrick barge on 10 April 09. According to the photos taken on 8 April 2009, misplacement of plant was observed at Western Portal Site. Upon advice, The Contractor immediately moved the fan properly. Based on the information collected, the construction noise levels measured were well below the construction noise limit of 75 dB(A) for the period of 0700-1900 hrs on normal weekdays, 65 dB(A) for the period of 0700-2300 hrs on holiday; and 1900-2300 hrs on all other days and baseline level for the period of 2300-0700 hrs of next day. The ground borne noise levels measured were also well below the construction ground borne noise standards (i.e. 65	Closed
COM-2009-04-029		10 April 2009	Complaint of noise generated by TBM works at Western Portal.		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				dB(A) – Daytime (except General Holiday and Sundays) and 55 dB(A) – Daytime during general holidays and Sunday and all days during Evening (1900 to 2300 hrs). No exceedances of noise level have been recorded in March and April 2009. The Contractor was advised to strictly follow the conditions of the permit to avoid any misplacement of plants in the future. Also, The Contractor should take sufficient noise mitigation measures to minimize the environmental impact on the nearby community as recommended in the approved EIA report. In addition, DNJV already arranged tailors made training for the Production Team including the senior management and foreman to explain the conditions and requirements listed on the CNP and delegated one Engineer to ensure all construction activities and PMEs to be used are fully complying with CNP and legislation requirements before the commencement of the construction activities during the restricted hour.	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Base on the information collected, regular noise Monitoring was conducted during the night time to check the noise levels are complying with the construction noise criteria. The noise levels measured at NC3 during the construction works at night time were well below the construction noise limit. The Contractor was reminded to strengthen their site supervision by delegated Engineer to ensure all construction activities and PMEs to be used are fully complying with CNP and legislation requirements and implement necessary noise mitigation measures as recommended in the Approved EIA report to minimize and avoid the construction noise impact to the residents nearby especially during the restricted hours.	
COM-2009-04-030	Construction site at Western Portal	30 April 2009	Complaint of Construction Noise Generated at Night at Western Portal.	According to the site activities diaries, TBM chainage, TBM excavation, installation of segment ring, pea gravel & mortar injection and installation cables & pipes at gantries were the activities conducted in the night of 30 April 2009. In accordance with the night time visit on 15 May 2009, the noise levels at Aegean Terrace was not high but with occasionally	Closed
COM-2009-05-031		4 May 2009	Complaint of low frequency noise emitted from the construction site at Western Portal.		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
		11 May 2009	Complaint of Construction Noise nuisance generated from the Western Portal Site from day to night.	sound of locomotive and tower crane operations. No exceedance of noise level was recorded since the commencement of the project works at Western Portal Site. The noise levels measured at NC3 during the construction works were well below the construction noise limit. The Contractor will continue implementing their mitigation measures (e.g. Instruct workers not to shout during work in the evening; no horn signal of locomotive after 6:55 pm).	
COM-2009-05-032	Construction site at Eastern Portal	13 May 2009	The complaint was lodged by a resident regarding the Construction Noise Nuisance from the construction works that were carried out from early morning till night time at Eastern Portal Site Area.	Based on the information collected, the noise levels measured at NC1/NC1a and NC2 during the construction works were well below the construction noise limit or baseline level. The Contractor is also committed to implement sufficient noise mitigation measures as recommended in the approved EIA report to minimize the nuisance caused to the nearby residents especially during the restricted hours.	Closed
COM-2009-06-035	Hong Kong West Drainage Tunnel Construction Site at Cyberport	3 June 2009	EPD received a public complaint raised by Mr. Lee regarding the transportation and disposal of construction wastes from Hong Kong West	Base on the information collected, alternative disposal ground is proposed by The Contractor and they have been submitted the relevant information and sought the approval from Supervising	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			Drainage Tunnel Construction Site at Cyberport on 3 June 2009.	Officer. The Contractor also maintains the daily record with details of each disposal trip from the Site and the disposal ground.	
COM-2009-06-037	Construction site at Eastern Portal	23 June 2009	The few noise complaints were lodged by a resident of The Legend and Ronsdale Garden regarding the Construction Noise Nuisance from the construction works at Eastern Portal Site Area since 7:00a.m and in the afternoon.	Based on the information collected, the noise levels measured at NC1 and NC2 during the construction works were well below the construction noise limit or baseline level. In response to the complaints, the head of hydraulic breaker has been wrapped with sound proof materials and movable noise barriers were provided for rock excavation to reduce noise. The Contractor is also committed to implement sufficient noise mitigation measures as recommended in the approved EIA report to minimize the nuisance caused to the nearby residents.	Closed
COM-2009-06-038			The complaint was raised by Ms Wong of Goodwell Property Management, she wrote on behalf of the Estate Owner Committe of Legend at Tai Hang about noise nuisance arising from the excacvation works at Eastern Portal site portion. The Committe requested the Contractor to provide mitigation measures to mininise the impact.		
COM-2009-09-042	Construction site at Eastern Portal	21 September 2009	The complaint was raised by a resident of The Legend regarding poor housekeeping and construction noise nuisance from the Eastern Portal Site Area.	Based on the information gathered in the Investigation, the Contractor had taken action immediately to rectify the complaint of poor housekeeping. The white site office was painted green in harmony with the surrounding environment and the site was	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				maintained in a clean and tidy condition. All materials required for temporary works were stored in an orderly manner. Regarding the complaint of construction noise impact, the noise levels measured at The Legend (NC2) during the construction works in the normal working hours were well below the construction noise limit level. Nevertheless, the Contractor is also committed to implementing sufficient noise mitigation measures as recommended in the approved EIA report to minimize the nuisance caused to the nearby residents and provide training for the workers to increase awareness of their environmental responsibilities.	
COM-2009-10-044 COM-2009-10-045	Construction site at Eastern Portal	6 and 7 October 2009	The complaint was raised by a resident of The Legend and Ronsdale Garden regarding the construction noise nuisance from the Eastern Portal Site Area.	Based on the information gathered in the Investigation, the noise levels measured (additional noise monitoring) at The Legend (NC2) and Ronsdale Garden during the construction works including rock breaking works and soil nailing works were ranged from 68.4dB(A) to 75.3 dB(A) in the normal working hours. The Contractor is committed to implementing sufficient noise mitigation measures as recommended in the approved	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				EIA report to minimize the nuisance caused to the nearby residents and provide training for the workers to increase awareness of their environmental responsibilities. It is recommended to increase the construction noise monitoring frequency for Eastern Portal Site to check the mitigation effectiveness.	
COM-2009-11-054	Construction site at Western Portal	23 and 29 November 2009	The complaint was raised by a resident of Aegean Terrace regarding the construction noise nuisance from the Western Portal Site Area.	Base on the information collected, the noise levels measured at NC3 during the construction works were well below the construction noise limit. Nevertheless, the Contractor is also committed to implement sufficient noise mitigation measures as recommended in the approved EIA report, Clause 5.4.15 to minimize/avoid the nuisance caused to the nearby residents.	Closed
COM-2009-12-059	Construction site at Intake MB16	27 November 2009	The complaint was received on 2 November 2009 regarding the dust nuisance caused by the works at the Construction Site at Mount Butler Road near Clementi Road (Intake MB16). EPD subsequently issued a notice of complaint.	Based on the information collected, the Contractor has implemented the dust suppression measures to prevent dust nuisance from the construction activities. During the site inspection in November 2009, slope improvement works including soil nailing works were observed from other construction site adjacent to DNJV's construction works at Mount Butler Road.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM-2009-12-061	Construction site at Intake PFLR1	23 and 28 December 2009	Two public complaints were received from the resident of Pok Fu Lam Road on 23rd and 28th December 2009 respectively about the construction noise nuisance from the construction site at Intake PFLR 1.	Based on the information gathered in the Investigation, the noise levels measured at Honey Court (NC11) during the construction works were well below the construction noise limit. The location of the designated noise monitoring station (NC11 – Honey Court) is at location close to the construction site compared with Pok Fu Lam Height. In addition, a large scale innovation works being undertaken at a resident building adjacent to the Pok Fu Lam Height was observed during the routine site inspection. The innovation works included hammering and drilling on the outer walls of the building and contributed significantly to the noisy environment.	Closed