JOB NO.: TCS00670/13

AGREEMENT NO. CE 45/2008 (CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

1st QUARTERLY ENVIRONMENTAL MONITORING & AUDIT SUMMARY REPORT – (August to October 2013)

PREPARED FOR

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Quality Index

Date	Reference No.	Prepared By	Certified By
6 December 2013	TCS00670/13/600/R0088v2		
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Version	Date	Description
1	29 November 2013	First Submission
2	6 December 2013	Amended against IEC's comments on 5 December 2013

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6 December 2013

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By Email & Post

Attention: Mr Kelvin LEE

Dear Sirs

Agreement No. CE 42/2012 (EP)
Liantang/Heung Yuen Wai Boundary Control Point and Associated Works
Independent Environmental Checker – Investigation
Quarterly EM&A Summary Report (No. 1) – August to October 2013

With reference to the Quarterly EM&A Report No. 1 for August to October 2013 (Version 2) certified by the ET Leader we received on 6 December 2013, please be noted that we have no adverse comments on the captioned submission. We herewith verify the captioned submission in accordance with Section 13.4 of the EM&A Manual.

Thank you for your attention and please do not hesitate to contact the undersigned on tel. 3995 8120 or by email to antony.wong@smec.com; or our Ms Winnie MA on tel. 3995 8138 or by email to winnie.ma@smec.com.

Yours faithfully
For and on behalf of
SMEC Asia Limited

Antony WONG
Independent Environmental Checker

cc	CEDD/BCP	-	Mr Pui Sang LI / Mr Eric CHAN	by fax: 2714 0103
	AECOM	-	Mr Pat LAM / Mr Perry Yam	by email
	SRJV	-	Mr Edwin AU	by email
	AUES	-	Mr TW TAM	by email

EXECUTIVE SUMMARY

ES.01. This is the **1st** Quarterly EM&A Summary Report for the "*Liantang/Heung Yuen Wai Boundary Control Point and Associated Works*" under Environmental Permit No. EP-404/2011/A (hereinafter ''the EP''), covering the period from **16 August to 31 October 2013** (hereinafter "Reporting Period").

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.02. Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Monitoring Locations to undertake	Total Occasions
Air Quality	1-hour TSP	**3**	**144**
	24-hour TSP	**3**	**42**
Construction Noise	$L_{eq(30min)}$ Daytime	**2**	**28**
Water Quality	Water sampling	**2**	**33**
Joint Site Inspection / Audit	IEC, ET, the Contractor and RE joint site Environmental Inspection and Auditing	**Contract 5**	**11**

BREACHES OF ACTION/LIMIT LEVELS

ES.03. In this Reporting Period, monitoring results demonstrated that no exceedance of environmental quality criteria recorded in both air quality, construction noise and water quality. The summary of breach of environmental performance is shown below.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	0	0
	24-hour TSP	0	0	0	0	0
Construction Noise	$L_{eq(30min)}$ Daytime	0	0	0	0	0
Water Quality	DO	0	0	0	0	0
	Turbidity	0	0	0	0	0
	SS	0	0	0	0	0

ENVIRONMENTAL COMPLAINT

ES.04. No environmental complaints were received under the EM&A Programme in the Reporting Period.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.05. No environmental summons or successful prosecutions were recorded in the Reporting Period.

REPORTING CHANGES

ES.06. No reporting changes were made in the Reporting Period.

FUTURE KEY ISSUES

ES.07. Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

ES.08. During dry season, special attention should be paid on the potential construction dust impact since most of the construction sites are adjacent to villages. The Contractor should fully implement the construction dust mitigation measures properly.

ES.09. In addition, the potential water quality impact at the nearby rivers should be highly alerted. The Contractor should prevent muddy water and other water pollutants via site surface water runoff get into the Kong Yiu Channel, water quality mitigation measures should be properly implemented.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ANNEXES

1. INTRODUCTION

1.1. PROJECT BACKGROUND

1.1.1. Civil Engineering and Development Department is the Project Proponent and the Permit Holder of *Agreement No. CE 45/2008 (CE) Liantang / Heung Yuen Wai Boundary Control Point and Associated Works*, which is a Designated Project to be implemented under Environmental Permit number EP-404/2011/A issued on 28 October 2013.

1.1.2. The Project consists of two main components: Construction of a Boundary Control Point (hereinafter referred as "BCP"); and Construction of a connecting road alignment. Layout plan of the Project is shown in ***Appendix A***.

1.1.3. The proposed BCP is located at the boundary with Shenzhen near the existing Chuk Yuen Village, comprising a main passenger building with passenger and cargo processing facilities and the associated customs, transport and ancillary facilities. The connecting road alignment consists of six main sections:

1) Lin Ma Hang to Frontier Closed Area (FCA) Boundary – this section comprises at-grade and viaducts and includes the improvement works at Lin Ma Hang Road;
2) Ping Yeung to Wo Keng Shan – this section stretches from the Frontier Closed Area Boundary to the tunnel portal at Cheung Shan and comprises at-grade and viaducts including an interchange at Ping Yeung;
3) North Tunnel – this section comprises the tunnel segment at Cheung Shan and includes a ventilation building at the portals on either end of the tunnel;
4) Sha Tau Kok Road – this section stretches from the tunnel portal at Wo Keng Shan to the tunnel portal south of Loi Tung and comprises at-grade and viaducts including an interchange at Sha Tau Kok and an administration building;
5) South Tunnel – this section comprises a tunnel segment that stretches from Loi Tung to Fanling and includes a ventilation building at the portals on either end of the tunnel as well as a ventilation building in the middle of the tunnel near Lau Shui Heung;
6) Fanling – this section comprises the at-grade, viaducts and interchange connection to the existing Fanling Highway.

1.1.4. Action-United Environmental Services & Consulting has been commissioned as an Independent ET to implement the relevant EM&A program in accordance with the approved EM&A Manual, as well as the associated duties.

1.1.5. This is the **1st** Quarterly EM&A Summary Report for the "*Liantang/Heung Yuen Wai Boundary Control Point and Associated Works*" under Environmental Permit No. EP-404/2011/A, covering the period from **16 August to 31 October 2013**.

1.2 REPORT STRUCTURE

1.2.1 The Monthly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-

Section 1	Introduction
Section 2	Project Organization and Construction progress
Section 3	Summary of Impact monitoring Requirements
Section 4	Air Quality Monitoring
Section 5	Construction Noise Monitoring
Section 6	Water Quality Monitoring
Section 7	Waste Management
Section 8	Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions
Section 9	Implementation Status of Mitigation Measures
Section 10	Conclusions and Recommendations

2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 CONSTRUCTION CONTRACT PACKAGING

2.1.1 To facilitate the project management and implementation, the Project would be divided by the following contracts:

- Contract 2 (CV/2012/08)
- Contract 3 (CV/2012/09)
- Contract 4 (TCSS)
- Contract 5 (CV/2013/03)
- Contract 6 (CV/2013/08)

2.1.2 The details of each contracts is summarized below and the delineation of each contracts is shown in ***Appendix A***.

Contract 2 (CV/2012/08)

2.1.3 The Contract 2 has not yet awarded till end of the Reporting Period. Major Scope of Work of the Contract 2 is listed below:

- construction of an approximately 5.2km long dual two-lane connecting road (with about 0.4km of at-grade road and 4.8km of tunnel) connecting the Fanling Interchange with the proposed Sha Tau Kok Interchange;
- construction of a ventilation adit tunnel and the mid-ventilation building;
- construction of the north and south portal buildings of the Lung Shan Tunnel and their associated slope works;
- provision and installation of ventilation system, E&M works and building services works for Lung Shan tunnel and Cheung Shan tunnel and their portal buildings;
- construction of Tunnel Administration Building adjacent to Wo Keng Shan Road and the associated E&M and building services works; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 3 (CV/2012/09)

2.1.4 Contract 3 was awarded in July 2013. Commencement of construction has scheduled in November 2013. Major Scope of Work of the Contract 3 is listed below:

- construction of four link roads connecting the existing Fanling Highway and the south portal of the Lung Shan Tunnel;
- realignment of the existing Tai Wo Service Road West and Tai Wo Service Road East;
- widening of the existing Fanling Highway (HyD's entrustment works);
- demolishing existing Kiu Tau vehicular bridge and Kiu Tau footbridge and reconstruction of the existing Kiu Tau Footbridge (HyD's entrustment works); and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 4 (Contract number to be assigned)

2.1.5 Contract 4 has not yet awarded. The work of the Contract 4 includes provision and installation of Traffic Control and Surveillance System and the associated electrical and mechanical works for the Project.

Contract 5 (CV/2013/03)

2.1.6 Contract 5 has awarded in April 2013 and construction work was commenced in August 2013. Major Scope of Work of the Contract 5 is listed below:

- site formation of about 23 hectares of land for the development of the BCP;

- construction of an approximately 1.6 km long perimeter road at the BCP including a 175m long depressed road;
- associated diversion/modification works at existing local roads and junctions including Lin Ma Hang Road;
- construction of pedestrian subway linking the BCP to Lin Ma Hang Road;
- provision of resite area with supporting infrastructure for reprovisioning of the affected village houses; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

Contract 6 (CV/2013/08)

2.1.7 Contract 6 has not yet awarded. Major Scope of Work of the Contract 6 will be included below:

- construction of an approximately 4.6km long dual two-lane connecting road (with about 0.6km of at-grade road, 3.3km of viaduct and 0.7km of tunnel) connecting the BCP with the proposed Sha Tau Kok Road Interchange and the associated ventilation buildings;
- associated diversion/modification works at access roads to the resite of Chuk Yuen Village;
- provision of sewage collection, treatment and disposal facilities for the BCP and the resite of Chuk Yuen Village;
- construction of a pedestrian subway linking the BCP to Lin Ma Hang Road;
- provisioning of the affected facilities including Wo Keng Shan Road garden; and
- construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works.

2.2 PROJECT ORGANIZATION

2.2.1 The project organization is shown in ***Appendix B***. The responsibilities of respective parties are:

Civil Engineering and Development Department (CEDD)

2.2.2 CEDD is the Project Proponent and the Permit Holder of the EP of the development of the Project and will assume overall responsibility for the project. An Independent Environmental Checker (IEC) shall be employed by CEDD to audit the results of the EM&A works carried out by the ET.

Environmental Protection Department (EPD)

2.2.3 EPD is the statutory enforcement body for environmental protection matters in Hong Kong.

Engineer or Engineers Representative (ER)

2.2.4 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A are:

- Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
- Monitor Contractors's, ET's and IEC's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
- Facilitate ET's implementation of the EM&A programme
- Participate in joint site inspection by the ET and IEC
- Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
- Adhere to the procedures for carrying out complaint investigation
- Liaison with DSD, Engineer/Engineer's Representative, ET, IEC and the Contractor of the

"Construction of the DSD's Regulaiton of Shenzhen River Stage 4 (RSR 4)" Project discussing regarding the cumulative impact issues.

The Contractor(s)

2.2.5 There will be one contractor for each individual works contract. The Contractor(s) should report to the ER. The duties and responsibilities of the Contractor are:

- Comply with the relevant contract conditions and specifications on environmental protection
- Employ an Environmental Team (ET) to undertake monitoring, laboratory analysis and reporting of EM &A Facilitate ET's monitoring and site inspection activities
- Participate in the site inspections by the ET and IEC, and undertake any corrective actions
- Provide information / advice to the ET regarding works programme and activities which may contribute to the generation of adverse environmental impacts
- Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event / Action Plans
- Implement measures to reduce impact where Action and Limit levels are exceeded
- Adhere to the procedures for carrying out complaint investigation

Environmental Team (ET)

2.2.6 One ET will be employed for this Project. The ET shall not be in any way an associated body of the Contractor(s), and shall be employed by the Project Proponent/Contractor to conduct the EM&A programme. The ET should be managed by the ET Leader. The ET Leader shall be a person who has at least 7 years' experience in EM&A and has relevant professional qualifications. Suitably qualified staff should be included in the ET, and resources for the implementation of the EM&A programme should be allocated in time under the Contract(s), to enable fulfillment of the Project's EM&A requirements as specified in the EM&A Manual during construction of the Project. The ET shall report to the Project Proponent and the duties shall include:

- Monitor and audit various environmental parameters as required in this EM&A Manual
- Analyse the environmental monitoring and audit data, review the success of EM&A programme and the adequacy of mitigation measures implemented, confirm the validity of the EIA predictions and identify any adverse environmental impacts arising
- Carry out regular site inspection to investigate and audit the Contractors' site practice, equipment/plant and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems
- Monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications
- Audit environmental conditions on site
- Report on the environmental monitoring and audit results to EPD, the ER, the lEC and Contractor(s) or their delegated representatives
- Recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans
- Liaise with the IEC on all environmental performance matters and timely submit all relevant EM&A proforma for approval by IEC
- Advise the Contractor(s) on environmental improvement, awareness, enhancement measures etc., on site
- Adhere to the procedures for carrying out complaint investigation
- Liaison with the client departments, Engineer/Engineer's Representative, ET, lEC and the Contractor(s) of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.

Independent Environmental Checker (IEC)

2.2.7 One IEC will be employed for this Project. The Independent Environmental Checker (IEC) should not be in any way an associated body of the Contractor(s) or the ET for the Project. The IEC should be employed by the Permit Holder (i.e., CEDD) prior to the commencement of the construction of the Project. The IEC should have at least 10 years' experience in EM&A and have relevant professional qualifications. The duty of IEC should be:

- Provide proactive advice to the ER and the Project Proponent on EM&A matters related to the project, independent from the management of construction works, but empowered to audit the environmental performance of construction
- Review and audit all aspects of the EM&A programme implemented by the ET
- Review and verify the monitoring data and all submissions in connection with the EP and EM&A Manual submitted by the ET
- Arrange and conduct regular, at least monthly site inspections of the works during construction phase, and ad hoc inspections if significant environmental problems are identified
- Check compliance with the agreed Event / Action Plan in the event of any exceedance
- Check compliance with the procedures for carrying out complaint investigation
- Check the effectiveness of corrective measures
- Feedback audit results to ET by signing off relevant EM&A proforma
- Check that the mitigation measures are effectively implemented
- Report the works conducted, the findings, recommendation and improvement of the site inspections, after reviewing ET's and Contractor's works, and advices to the ER and Project Proponent on a monthly basis
- Liaison with the client departments, Engineer/Engineer's Representative, ET, lEC and the Contractor(s) of the concurrent projects as listed under Section 2.3 below regarding the cumulative impact issues.

2.3 CONCURRENT PROJECTS

2.3.1 The concurrent construction works that may be carried out include, but not limited to, the following:

(a) Regulation of Shenzhen River Stage IV (Environmental Permit EP-430/2011);
(b) Building works and road works by contractors of ArchSD (Environmental Permit EP-404/2011);
(c) Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange – Contract No. HY/2012/06;
(d) Construction of cross-boundary vehicular and pedestrian bridges (total 5 numbers) across the Shenzhen River; and
(e) Construction of BCP facilities in Shenzhen.

2.4 CONSTRUCTION PROGRESS

2.4.1 In the Reporting Period, the major construction activity conducted under the Project is located in Contract 5 and they are summarized in below. Moreover, the master construction program of the Contract 5 is enclosed in ***Appendix C***.

Contract 2 (CV/2012/08)

- The contract has not yet awarded.

Contract 3 (CV/2012/09)

- Contract awarded in July 2013. Commencement of construction has scheduled in November 2013.

Contract 4 (Contract number to be assigned)

- The contract has not yet awarded.

Contract 5 (CV/2013/03)

Contract commenced in April 2013, the following activities were conducted in the Reporting

Period.

August 2013

- Site formation works at RS1 & RS3
- Environmental impact monitoring
- Construction of wheel washing bay
- Geotechnical investigation and monitoring works
- Tree felling
- Setting out the site boundary
- Condition survey of existing structures
- Demolition of structures at additional area at Loi Tung
- Temporary widening at LMH road
- Underground utilities detection
- Liaise with various utility undertakers and villagers/Village Representatives

September 2013

- Site formation works at RS1 & RS3
- Construction of Retaining Wall No.1
- Construction of temporary bridge B
- Construction of Village Houses at RS4
- Construction of 2nd wheel washing bay
- Preparation works for lift shaft's piling works
- Erection of project sign board
- Environmental impact monitoring
- Geotechnical investigation and monitoring works
- Pruning/ felling of existing tree
- Preparation works for tree transplant
- Setting out the site boundary
- Demolition of structures at additional area at Loi Tung
- Temporary widening of LMH Road
- Formation works at BCP Area
- Underground utilities detection
- Liaise with various utility undertaker and villages/ Village representatives

October 2013

- Construction of Retaining Wall No.1
- Construction of 2nd wheel washing bay
- Piling works at lift shaft, Bridge J & footbridge
- Filling work for ArchSD permanent office
- Construction of jacking pipe/ receiving & jacking pits
- Erection of project sign board
- Setting out the site boundary and structures
- Environmental impact monitoring
- Archaeological survey
- Underground utilities detection
- Temporary widening of LMH Road
- Construction of Road and drainage work at RS1 and RS3
- Construction of footbridge and staircase at RS4
- Geotechnical investigation and monitoring works
- Formation works at BCP Area
- Construction of Depressed Road at BCP3

Contract 6 (CV/2013/08)

- The contract is still yet awarded

2.5 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.5.1 In according to the EP, the required documents have submitted to EPD for retention which

listed in below:

- Project Layout Plans of Contracts 3 and 5
- Landscape Plan
- Topsoil Management Plan
- Environmental Monitoring and Audit Programme
- Baseline Monitoring Report (*TCS00690/13/600/R0030v3*) for the Project
- Waste Management Plan of Contract 5

2.5.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of each contracts are presented in ***Table 2-1***.

Table 2-1 Status of Environmental Licenses and Permits of the Contracts

Item	Description	License/Permit Status	
		Contract 5	**Contract 2, 3, 4 & 6**
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 359338 Notified EPD on 13 May 2013	--
2	Chemical Waste Producer Registration - Waste Producers Number	No.: 5213-642-S3735-01 Valid form 8 Jun 2013 till the end of Contract	--
3	Water Pollution Control Ordinance - Discharge License	No.: W5/1G44/1 Valid from 8 Jun 13 to 30 Jun 2018	--
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7017351 Valid form 29 Apr 13 till the end of Contract	--

3 SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

3.1.1 The Environmental Monitoring and Audit requirements are set out in the Approved EM&A manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project.

3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

3.2 MONITORING LOCATIONS

3.2.1 The EM&A program of construction phase monitoring shall cover the following environmental issues:

- Air quality;
- Construction noise; and
- Water quality

3.2.2 A summary of the monitoring parameters is presented in ***Table 3-1.***

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler.
Noise	• $L_{eq(30min)}$ in normal working days (Monday to Saturday) 07:00-19:00 except public holiday; and • 3 sets of consecutive $L_{eq(5min)}$ on restricted hours i.e. 19:00 to 07:00 next day, and whole day of public holiday or Sunday • Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.
Water Quality	**In-situ Measurements** • Dissolved Oxygen Concentration (mg/L); • Dissolved Oxygen Saturation (%); • Turbidity (NTU); • pH unit; • Water depth (m); and • Temperature (℃).
	Laboratory Analysis • Suspended Solids (mg/L)

3.3 MONITORING LOCATIONS

3.3.1 The designated monitoring locations as recommended in the *EM&A Manual* are shown in ***Appendix D***. As the access to some of the designated monitoring locations was questionable due to safety reason or denied by the landlords, alternative locations therefore have had proposed. The proposed alternative monitoring locations has updated in the revised EM&A Programme which verified by IEC and certified by ET Leader prior submitted to EPD on 10 July 2013. ***Table 3-2***, ***Table 3-3*** and ***Table 3-4*** are respectively listed the air quality, construction noise and water quality monitoring locations for the Project and a map showing these monitoring stations is presented in ***Appendix E***.

Table 3-2 Impact Monitoring Stations - Air Quality

Station ID	Description	Works Area	Related to the Work Contract
AM1	Tsung Yuen Ha Village House No. 63	BCP	Contract 5
AM2	Village House near Lin Ma Hang Road	LMH to Frontier Closed Area	Contract 5, Contract 6
AM3	Ta Kwu Ling Fire Service Station of Ta Kwu Ling Village.	LMH to Frontier Closed Area	Contract 5, Contract 6
AM4a	A village house located at about 160m east side of the original point AM4	LMH to Frontier Closed Area	Contract 6

Station ID	Description	Works Area	Related to the Work Contract
AM5	Ping Yeung Village House	Ping Yeung to Wo Keng Shan	Contract 6
AM6	Wo Keng Shan Village House	Ping Yeung to Wo Keng Shan	Contract 6
AM7a	Another village (nameless) aligns to Sha Tau Kok Road – Wo Hang Section proximity to Tai Tong Wu Village. The location is about 140m away from the original point AM7	Sha Tau Kok Road	Contract 2
AM8	Po Kat Tsai Village No. 4	Po Kat Tsai	Contract 2
AM9a	Nam Wa Po Village House No. 71	Fanling	Contract 3

Table 3-3 Impact Monitoring Stations - Construction Noise

Station ID	Description	Works Area	Related to the Work Contract
NM1	Tsung Yuen Ha Village House No. 63	BCP	Contract 5
NM2	Village House near Lin Ma Hang Road	Lin Ma Hang to Frontier Closed Area	Contract 5, Contract 6
NM3	Ping Yeung Village House (facade facing northeast)	Ping Yeung to Wo Keng Shan	Contract 6
NM4	Wo Keng Shan Village House	Ping Yeung to Wo Keng Shan	Contract 6
NM5	Village House, Loi Tung	Sha Tau Kok Road	Contract 2, Contract 6
NM6	Tai Tong Wu Village House 2	Sha Tau Kok Rpad	Contract 2, Contract 6
NM7	Po Kat Tsai Village	Po Kat Tsai	Contract 2
NM8	Village House, Tong Hang	Fanling	Contract 2 Contract 3
NM9	Village House, Kiu Tau Village	Fanling	Contract 3
NM10	Nam Wa Po Village House No. 78	Fanling	Contract 3

Table 3-4 Impact Monitoring Stations - Water Quality

Station ID	Description	Designated / Alternative Location Coordinates		Nature of the location	Related to the Work Contract
		Easting	Northing		
WM1	Downstream of Kong Yiu Channel	833679	845421	Alternative location located at upstream 51m of the designated location	Contract 5
WM1-Control	Upstream of Kong Yiu Channel	834185	845917	NA	Contract 5
WM2A	Downstream of River Ganges	834204	844471	Alternative location located at downstream 81m of the designated location	Contract 6
WM2A-Control	Upstream of River Ganges	835270	844243	Alternative location located at upstream 78m of the designated location	Contract 6
WM2B	Downstream of River Ganges	835433	843397	NA	Contract 6
WM2B-Control	Upstream of River Ganges	835835	843351	Alternative location located at downstream 31m of the designated location	Contract 6
WM3	Downstream of River Indus	836324	842407	NA	Contract 6

Station ID	Description	Designated / Alternative Location Coordinates		Nature of the location	Related to the Work Contract
		Easting	Northing		
WM3-Control	Upstream of River Indus	836763	842400	Alternative location located at downstream 26m of the designated location	Contract 6
WM4	Downstream of Ma Wat Channel	833850	838338	Alternative location located at upstream 11m of the designated location	Contract 3
WM4–Control A	Kau Lung Hang Stream	834028	837695	Alternative location located at downstream 28m of the designated location	Contract 3
WM4–Control B	Upstream of Ma Wat Channel	833760	837395	Alternative location located at upstream 15m of the designated location	Contract 3

3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 The requirements of impact monitoring are stipulated in *Sections 2.1.6, 3.1.5* and *4.1.6* of the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

3.4.2 Frequency of impact air quality monitoring is as follows:

- 1-hour TSP 3 times every six days during course of works
- 24-hour TSP Once every 6 days during course of works.

Noise Monitoring

3.4.3 One set of $L_{eq(30min)}$ as 6 consecutive $L_{eq(5min)}$ between 0700-1900 hours on normal weekdays and once every week during course of works. If construction work necessary to carry out at other time periods, i.e. restricted time period (19:00 to 07:00 the next morning and whole day on public holidays) (hereinafter referred as "the restricted hours"), 3 consecutive $L_{eq(5min)}$ measurement will depended CNP requirements to undertake. Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

Water Quality Monitoring

3.4.4 The water quality monitoring frequency shall be 3 days per week during course of works. The interval between two sets of monitoring shall not be less than 36 hours.

3.5 MONITORING EQUIPMENT

Air Quality Monitoring

3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 *(Part 50), Appendix B.* If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to approve.

3.5.2 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

3.5.3 All equipment to be used for air quality monitoring is listed in ***Table 3-5***.

Table 3-5 Air Quality Monitoring Equipment

Equipment	Model
24-Hr TSP	
High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170

Equipment	Model
Calibration Kit	TISCH Model TE-5025A
1-Hour TSP	
Portable Dust Meter	Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter

Wind Data Monitoring Equipment

3.5.4 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:

1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
3) The wind data monitoring equipment should be re-calibrated at least once every six months.
4) Wind direction should be divided into 16 sectors of 22.5 degrees each.

3.5.5 ET has liaised with the landlords of the successful granted HVS installation premises. However, the owners rejected to provide premises for wind data monitoring equipment installation.

3.5.6 Under this situation, the ET proposed alternative methods to obtain representative wind data. Meteorological information as extracted from "the Hong Kong Observatory Ta Kwu Ling Station" is alternative method to obtain representative wind data. For Ta Kwu Ling Station, it is located nearby the Project site. Moreover, this station is located at 15m above mean sea level while its anemometer is located at 13m above the existing ground which in compliance with the general setting up requirement. Furthermore, this station also can be to provide the humidity, rainfall, and air pressure and temperature etc. meteorological information. In Hong Kong of a lot development projects, weather information extracted from Hong Kong Observatory is common alternative method if weather station installation not allowed.

Noise Monitoring

3.5.7 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m s^{-1}.

3.5.8 Noise monitoring equipment to be used for monitoring is listed in ***Table 3-6***.

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238 or Rion NL-14 or Rion NL-31
Calibrator	B&K Type 4231
Portable Wind Speed Indicator	Testo Anemometer

3.5.9 Sound level meters listed above comply with the *International Electrotechnical Commission Publications 651: 1979 (Type 1)* and *804: 1985 (Type 1)* specifications, as recommended in TM issued under the NCO. The acoustic calibrator and sound level meter to be used in the impact monitoring will be calibrated yearly.

Water Quality Monitoring

3.5.10 DO and water temperature should be measured in-situ by a DO/temperature meter. The instrument should be portable and weatherproof using a DC power source. It should have a

membrane electrode with automatic temperature compensation complete with a cable. The equipment should be capable of measuring:

- a DO level in the range of 0-20 mg/l and 0-200% saturation; and
- a temperature of between 0 and 45 degree Celsius.

3.5.11 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.

3.5.12 The instrument should be portable and weatherproof using a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.

3.5.13 A portable, battery-operated echo sounder or tape measure will be used for the determination of water depth at each designated monitoring station as appropriate.

3.5.14 A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m. For sampling from very shallow water depths e.g. <0.5 m, water sample collection will be directly from water surface below 100mm use sampling plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.

3.5.15 Water samples for laboratory measurement of SS will be collected in high density polythene bottles, packed in ice (cooled to 4 ºC without being frozen), and delivered to the laboratory in the same day as the samples were collected.

3.5.16 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods 2540D* with Limit of Reporting of 2 mg/L.

3.5.17 Water quality monitoring equipment used in the impact monitoring is listed in ***Table 3-7***. Suspended solids (SS) analysis is carried out by a local HOKLAS-accredited laboratory, namely *ALS Technichem (HK) Pty Ltd*.

Table 3-7 Water Quality Monitoring Equipment

Equipment	Model
Water Depth Detector	Eagle Sonar or tape measures
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or teflon/stainless steel bailer or self-made sampling bucket
Thermometer & DO meter	YSI PRO20 Handheld Dissolved Oxygen Instrument
pH meter	The EcoSense® pH10A pen-style instrument
Turbidimeter	Hach 2100Q
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-liter plastic cool box with Ice pad

3.6 MONITORING METHODOLOGY

1-hour TSP Monitoring

3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:

(a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;

(b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and

(c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

3.6.2 The 1-hour TSP meter is used within the valid period as follow manufacturer's Operation and Service Manual.

24-hour TSP Monitoring

3.6.3 The equipment used for 24-hour TSP measurement is Thermo Andersen Model GS2310 TSP high volume air sampling system, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:

(a.) An anodized aluminum shelter;

(b.) A 8"x10" stainless steel filter holder;

(c.) A blower motor assembly;

(d.) A continuous flow/pressure recorder;

(e.) A motor speed-voltage control/elapsed time indicator;

(f.) A 7-day mechanical timer, and

(g.) A power supply of 220v/50 Hz

3.6.4 The HVS is operated and calibrated on a regular basis in accordance with the manufacturer's instruction using Tisch Calibration Kit Model TE-5025A. Calibration would carry out in two month interval.

3.6.5 24-hour TSP is collected by the ET on filters of HVS and quantified by a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), upon receipt of the samples. The ET keep all the sampled 24-hour TSP filters in normal air conditioned room conditions, i.e. 70% RH (Relative Humidity) and 25^{o}C, for six months prior to disposal.

Noise Monitoring

3.6.6 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (L_{eq}) measured in decibels (dB). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.

3.6.7 During the monitoring, all noise measurements would be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (L_{eq}). $Leq_{(30min)}$ in six consecutive $Leq_{(5min)}$ measurements will use as the monitoring parameter for the time period between 0700-1900 hours on weekdays; and also $Leq_{(15min)}$ in three consecutive $Leq_{(5min)}$ measurements would be used as monitoring parameter for other time periods (e.g. during restricted hours), if necessary.

3.6.8 Prior of noise measurement, the accuracy of the sound level meter is checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The checking is performed before and after the noise measurement.

Water Quality

3.6.9 Water quality monitoring is conducted at the designated locations. The sampling produce with the in-situ monitoring are presented as below:

Sampling Procedure

3.6.10 A Digital Global Positioning System (GPS) is used to identify the designated monitoring stations prior to water sampling. A portable, battery-operated echo sounder is used for the determination of water depth at each station. At each station, water sample would be collected

from 0.1m below water surface or the water surface to prevent the river bed sediment for stirring.

3.6.11 The sample container will be rinsed with a portion of the water sample. The water sample then will be transferred to the high-density polythene bottles as provided by the laboratory, labeled with a unique sample number and sealed with a screw cap.

3.6.12 Before sampling, general information such as the date and time of sampling, weather condition as well as the personnel responsible for the monitoring would be recorded on the field data sheet.

3.6.13 A 'Willow' 33-liter plastic cool box packed with ice will be used to preserve the water samples prior to arrival at the laboratory for chemical determination. The water temperature of the cool box is maintained at a temperature as close to 4^0C as possible without being frozen. Samples collected are delivered to the laboratory upon collection.

In-situ Measurement

3.6.14 YSI PRO20 Handheld Dissolved Oxygen Instrument is used for water in-situ measures, which automates the measurements and data logging of temperature, dissolved oxygen and dissolved oxygen saturation. Before each round of monitoring, the dissolved oxygen probe would be calibrated by the wet bulb method.

3.6.15 A portable EcoSense® pH10A pen-style instrument is used for in-situ pH measurement. The pH meter is capable of measuring pH in the range of 0 – 14 and readable to 0.1. Standard buffer solutions of pH 7 and pH 10 are used for calibration of the instrument before and after measurement.

3.6.16 A portable Hach 2100Q Turbidimeter is used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 – 1000 NTU. StablCal® Standards 10NTU and 100NTU are used for calibration of the instrument before and after measurement.

3.6.17 All in-situ measurement equipment are calibrated by HOKLAS accredited laboratory of three month interval.

Laboratory Analysis

3.6.18 All water samples analyzed Suspended Solids (SS) will be carried out by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). SS determination using *APHA Standard Methods 2540D* as specified in the *EM&A Manual* will start within 48 hours of water sample receipt.

3.7 EQUIPMENT CALIBRATION

3.7.1 Calibration of the HVS is performed upon installation and thereafter at bimonthly intervals in accordance with the manufacturer's instruction using the certified standard calibrator (TISCH Model TE-5025A). Moreover, the Calibration Kit would be calibrated annually. The calibration data are properly documented and the records are maintained by ET for future reference.

3.7.2 The 1-hour TSP meter was calibrated by the supplier prior to purchase. Zero response of the equipment would be checked before and after each monitoring event. Annually calibration with the High Volume Sampler (HVS) in same condition would be undertaken by the Laboratory.

3.7.3 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.

3.7.4 All water quality monitoring equipment would be calibrated by HOKLAS accredited laboratory of three month intervals.

3.7.5 The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period and the HOKLAS accredited certificate of laboratory are presented in the relevant monthly EM&A reports.

3.8 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

3.8.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to the approved Environmental Monitoring and Audit Manual, the air quality, construction noise and water quality criteria were set up, namely Action and Limit levels are listed in ***Tables 3-8, 3-9*** and ***3-10***.

Table 3-8 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AM1	265	143	500	260
AM2	268	149		
AM3	269	145		
AM4a	267	148		
AM5	268	143		
AM6	269	148		
AM7a	275	156		
AM8	269	144		
AM9a	271	151		

Table 3-9 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NM1, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10	When one or more documented complaints are received	75 dB(A)[Note 1 & Note 2]

Note 1: Acceptable Noise Levels for school should be reduced to 70 dB(A) and65 dB(A) during examination period
Note 2: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.

Table 3-10 Action and Limit Levels for Water Quality

Parameter	Performance criteria	Monitoring Location				
		WM1	WM2A	WM2B	WM3	WM4
DO (mg/L)	Action Level	(*)4.23	(**)4.00	(*)4.74	(**)4.00	(*)4.14
	Limit Level	(#)4.19	(**)4.00	(#)4.60	(**)4.00	(#)4.08
Turbidity (NTU)	Action Level	51.3	24.9	11.4	13.4	35.2
		AND 120% of upstream control station of the same day				
	Limit Level	67.6	33.8	12.3	14.0	38.4
		AND 130% of upstream control station of the same day				
SS (mg/L)	Action Level	54.5	14.6	11.8	12.6	39.4
		AND 120% of upstream control station of the same day				
	Limit Level	64.9	17.3	12.4	12.9	45.5
		AND 130% of upstream control station of the same day				

Remarks:
(*) *The Proposed **Action Level** of Dissolved Oxygen is adopted to be used 5%-ile of baseline data*
(**) *The Proposed **Action & Limit Level** of Dissolved Oxygen is used 4mg/L*
(#) *The Proposed **Limit Level** of Dissolved Oxygen is adopted to be used 1%-ile of baseline data*

3.8.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in ***Appendix F*****.**

3.9 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.9.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database properly maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.

3.9.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

4 AIR QUALITY MONITORING

4.1 GENERAL

4.1.1 In the Reporting Period, the construction works under the project is only commenced in Contract 5. Therefore, air quality monitoring was only performed at 3 relevant designated locations as below:

- AM1 - Tsung Yuen Ha Village House No. 63;
- AM2 - Village House near Lin Ma Hang Road; and
- AM3 - Ta Kwu Ling Fire Service Station of Ta Kwu Ling Village

4.2 SUMMARY OF MONITORING RESULTS

4.2.1 Summary of air quality monitoring results during the Reporting Period are tabulated in ***Table 4-1.*** The relevant graphical plots throughout the Reporting Period are presented in ***Appendix G***.

Table 4-1 Summary of Air Quality Monitoring Results

Monitoring Location	1-hour TSP (μg/m^3)			24-hour TSP (μg/m^3)		
	Max	Min	Mean	Max	Min	Mean
AM1	237	42	121	108	22	53
Record Date	2-Oct-13	3-Sep-13	48 events	23-Oct-13	16-Aug-13	14 events
AM2	253	38	130	147	30	78
Record Date	2-Oct-13	16-Aug-13	48 events	17-Oct-13	16-Aug-13	14 events
AM3	265	67	144	111	26	55
Record Date	2-Oct-13	3-Sep-13	48 events	5-Oct-13	21-Aug-13	14 events

4.2.2 Breaches of air quality A/L levels and statistical analysis of compliance for the air quality monitoring results are summarized in ***Table 4-2***.

Table 4-2 Summaries of Breaches of Air Quality A/L Levels

Location	Exceedance	1-hour TSP	24- hour TSP	Total
AM1	Action Level	0	0	0
	Limit Level	0	0	0
AM2	Action Level	0	0	0
	Limit Level	0	0	0
AM3	Action Level	0	0	0
	Limit Level	0	0	0

4.2.3 In this Reporting Period, all 1-hour TSP and 24-hour TSP monitoring results were fluctuated below the Action Level. No Notification of Exceedances (NOE) of air quality criteria or corrective action was therefore required.

4.2.4 The summary of weather conditions during the Reporting Period is presented in ***Appendix H.***

5 CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.1.1 In the Reporting Period, the construction works under the project is only commenced in Contract 5. Therefore, noise monitoring was only performed at 2 relevant designated locations as below:

- NM1 - Tsung Yuen Ha Village House No. 63; and
- NM2 - Village House near Lin Ma Hang Road

5.2 SUMMARY OF MONITORING RESULTS

5.2.1 Summary of noise monitoring results during the Reporting Period are tabulated in ***Table 5-1.*** The relevant graphical plots throughout the Reporting Period are presented in ***Appendix G***.

Table 5-1 Summary of Construction Noise Monitoring Results

Monitoring Location	Leq, 30min (dB((A))	
	Max	Min
NM1	67	46
Record Date	2-Oct-13	16-Aug-13
NM2	67	58
Record Date	16-Aug-13	19-Sep-13 & 2-Oct-13

5.2.2 Breaches of construction noise A/L levels and statistical analysis of compliance for the construction noise monitoring results are summarized in ***Table 5-2***.

Table 5-2 Summaries of Breaches of Construction Noise A/L Levels

Station	Limit Level	Action Level	Received Date
NM1	0	Noise complaint	NA
NM2	0		

5.2.3 In this Reporting Period, neither Limit Level exceedance nor noise complaint (which is an Action Level exceedance) was recorded and received. No Notification of Exceedances (NOE) of construction noise criteria or corrective action was therefore required.

5.2.4 The summary of weather conditions during the Reporting Period is presented in ***Appendix H.***

6 WATER QUALITY MONITORING

6.1 GENERAL

6.1.1 In the Reporting Period, the construction works under the project is only commenced in Contract 5. Therefore, water quality monitoring was only performed at 2 relevant designated locations as below:

- WM1 – Contract 5 working site downstream at Kong Yiu Channel; and
- WM1-Control – Contract 5 working site upstream at Kong Yiu Channel

6.2 SUMMARY OF MONITORING RESULTS

6.2.1 Summary of monitoring results during the Reporting Period are tabulated in ***Tables 6-1.*** The relevant graphical plots throughout the Reporting Period are presented in ***Appendix G***.

Table 6-1 Summary of the Water Quality Monitoring Results

Statistics	DO (mg/L)		Turbidity (NTU)		SS (mg/L)	
	WM1	WM1-Control	WM1	WM1-Control	WM1	WM1-Control
Min	4.3	4.4	5.9	5.4	4.0	2.0
Max	11.4	10.7	98.1	98.1	114.0	114.5
Average	7.4	7.5	26.2	20.5	22.8	16.2

6.2.2 Breaches of water quality A/L levels and statistical analysis of compliance for the water quality monitoring results are summarized in ***Table 6-2***.

Table 6-2 Summaries of Breaches of the Existing Water Quality A/L Levels

Reporting Period	No. of sample analysis in each Parameter	Exceedance	DO	Turbidity	SS
August 2013	7	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
September 2013	13	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
October 2013	13	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
Total	33	**Action Level**	0	0	0
		Limit Level	0	0	0

6.2.3 In Reporting Period, no exceedance of water quality monitoring was recorded. No NOE was therefore issued and no corrective measures are recommended.

6.2.4 The summary of weather conditions during the Reporting Period is presented in ***Appendix H.***

7 WASTE MANAGEMENT

7.1 GENERAL WASTE MANAGEMENT

7.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

7.2 RECORDS OF WASTE QUANTITIES

7.2.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and

7.2.2 Whenever possible, materials were reused on-site as far as practicable. The quantities of waste for disposal in the Reporting Period are summarized in ***Tables 7-1*** and ***7-2*** and the Waste Flow Table is presented in ***Appendix I***.

Table 7-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity			Disposal Location
	Aug 13	Sep 13	Oct 13	
C&D Materials (Inert) (in '000ton)	0	0	0	-
Reused in this Project (Inert) (in '000ton)	0	0	0	-
Reused in other Projects (Inert) (in '000ton)	0	0	0	-
Disposal as Public Fill (Inert) (in '000ton)	0	0	0	-

Table 7-2 Summary of Quantities of C&D Wastes

Type of Waste	Quantity			Disposal Location
	Aug 13	Sep 13	Oct 13	
Recycled Metal (in '000ton)	0	0	0	-
Recycled Paper / Cardboard Packing (in '000ton)	0	0	0	-
Recycled Plastic (in '000ton)	0	0	0	-
Chemical Wastes (in '000ton)	0	0	0	-
General Refuses (in '000ton)	0	0.048	0.996	NENT Landfill

7.2.3 To control the site performance on waste management, the Contractor shall ensure that all solid and liquid waste management works are fully in compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the Environmental Monitoring and Audit Manual.

8 SITE INSPECTIONS

8.1 REQUIREMENTS

8.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

Contract 5

8.1.2 During the Reporting Period, ***11*** events of the joint site inspections were undertaken at Contract 5 to evaluate the site environmental performance. The summaries of the findings during site inspection are presented in ***Table 8-1*** and the details of site inspection can be found in relevant EM&A monthly report.

Table 8-1 Summary of Reminders/Observations of Site Inspection

Reporting Period	Date of site inspection	Nos. of findings / reminders	Follow-Up Status
August 2013	22 and 29 August 2013	3	Completed
September 2013	5, 12, 19 and 26 September 2013	13	Completed
October 2013	3, 10, 17, 24 and 31 October 2013	19	Completed

8.1.3 In the Reporting Period, no non-compliance was recorded, however, ***35*** observations/ reminders were recorded during the site inspections. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

Other Contracts

8.1.4 Since the construction works at the Contract 2, Contract 3, Contract 4 and Contract 6 are not yet commenced, no site inspection is performed for these Contracts.

9 NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

9.1 NON-COMPLIANCE (EXCEEDANCES)

9.1.1 No environmental non-compliance was recorded in the Reporting Period.

9.2 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

9.2.1 For Contract 5, no environmental complaint, summons and prosecution was received in the Reporting Period. The statistical summary table of environmental complaint is presented in ***Tables 9-1, 9-2*** and ***9-3***.

Table 9-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2013	0	0	NA
September 2013	0	0	NA
October 2013	0	0	NA

Table 9-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2013	0	0	NA
September 2013	0	0	NA
October 2013	0	0	NA

Table 9-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2013	0	0	NA
September 2013	0	0	NA
October 2013	0	0	NA

9.2.2 Since the construction works at the Contract 2, Contract 3, Contract 4 and Contract 6 are not yet commenced, no environmental complaint, summons and prosecution are received in the Reporting Period accordingly.

10 IMPLEMENTATION STATUS OF MITIGATION MEASURES

10.1 GENERAL REQUIREMENTS

10.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in ***Appendix J.***

10.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented by Contract 5 in this Reporting Period are summarized in ***Table 10-1***.

Table 10-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	• Wastewater to be treated by filtration system; such as, silt curtain or sedimentation tank before discharge. • Replace silt curtain materials if necessary
Air Quality	• Maintain damp / wet surface on access road • Keep slow speed in the sites • All vehicles must use wheel washing facility before off site • Sprayed water during breaking works
Noise	• Restrain operation time of plants from 07:00 to 19:00 on any working day except for Public Holiday and Sunday. • Keep good maintenance of plants • Place noisy plants away from residence or school • Provide noise barriers or hoarding to enclose the noisy plants or works • Shut down the plants when not in used.
Waste and Chemical Management	• On-site sorting prior to disposal • Follow requirements and procedures of the “Trip-ticket System” • Predict required quantity of concrete accurately • Collect the unused fresh concrete at designated locations in the sites for subsequent disposal
General	• The site was generally kept tidy and clean.

11 CONCLUSIONS AND RECOMMENDATIONS

11.1 CONCLUSIONS

11.1.1 This is **1st** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **16 August to 31 October 2013**.

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

11.1.3 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement results exceeded the Limit Level were recorded in this Reporting Period.

11.1.4 For water quality monitoring, no Action/ Limit exceedances were triggered according to the set out water quality criteria. No NOEs or the associated corrective actions were therefore issued.

11.1.5 During the Reporting Period, ***11*** events of the joint site inspections were undertaken at Contract 5 to evaluate the site environmental performance. No adverse environmental impacts were observed during the weekly site inspection and environmental audit of the Reporting Period, indicating the implemented mitigation measures for air quality, construction noise and water quality were effective. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

11.1.6 No documented complaint, notifications of summons and successful prosecutions were received during the Reporting Period.

11.2 RECOMMENDATIONS

11.2.1 During dry season, special attention should be paid on the potential construction dust impact since most of the construction sites are adjacent to villages. The Contractor should fully implement the construction dust mitigation measures properly.

11.2.2 Moreover, muddy water and other water quality pollutants via site surface water runoff get into Kong Yiu Channel or to public areas should be avoided. Mitigation measures for water quality should be properly implemented.

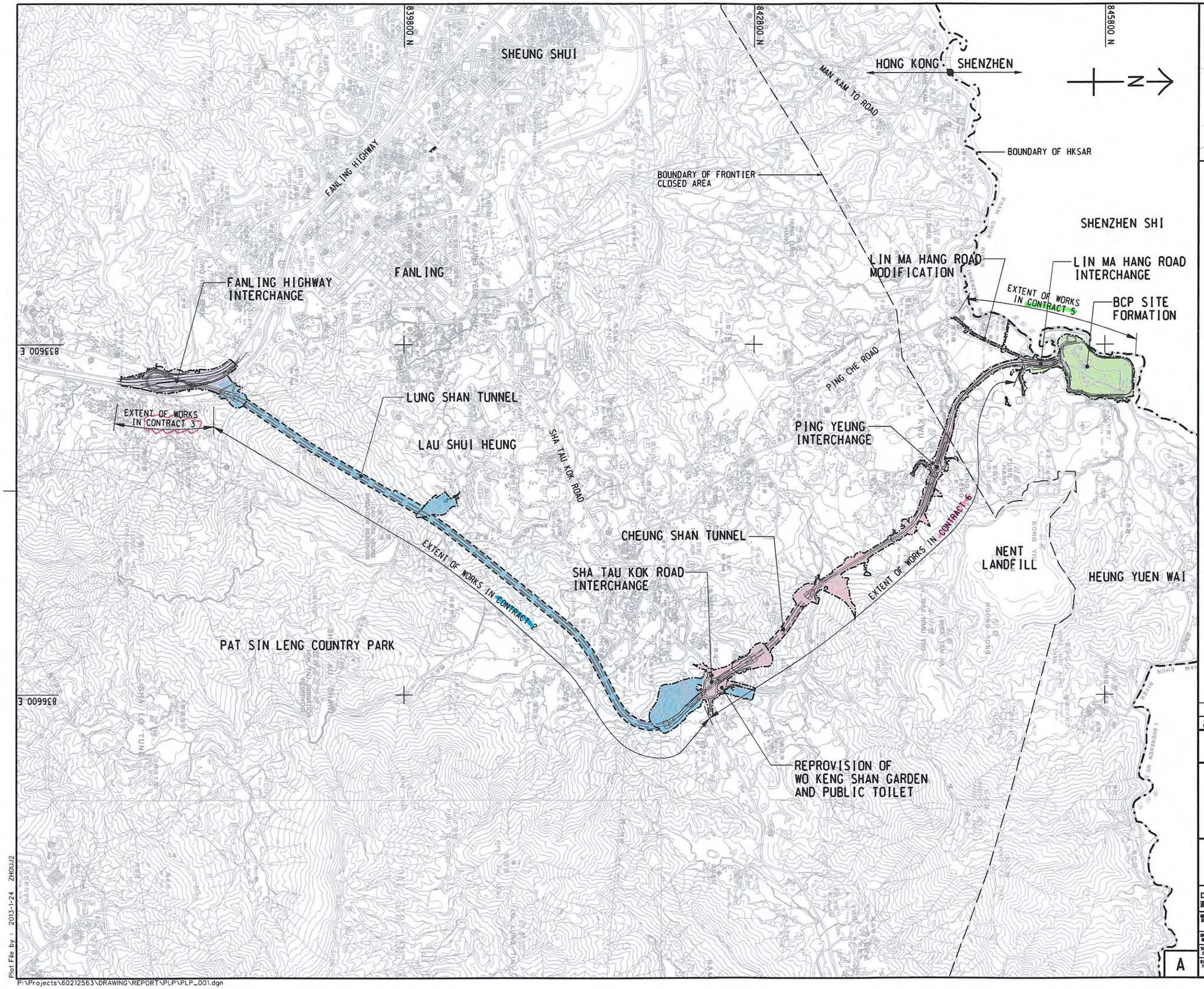
11.2.3 Construction noise should be a key environmental impact during the works. The noise mitigation measures such as use of quiet plants or temporary noise barrier installation at the construction noise predominate area should be implemented as accordance with the EM&A requirement.

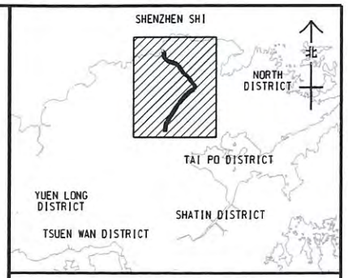
11.2.4 Mosquito control measures should be continued to prevent mosquito breeding on site.

11.2.5 To control the site performance on waste management, the Contractor shall ensure that all solid and liquid waste management works are fully in compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the Environmental Monitoring and Audit Manual.

Appendix A

Layout plan of the Project





LOCATION PLAN
SCALE 1 : 30000

LEGEND:

- SITE BOUNDARY
- UNDERGROUND WORKS SITE BOUNDARY

REV. 修訂	DESCRIPTION 內容摘要	BY 由	CHECKED 審核	DATE 日期

CEDD 土木工程拓展署 Civil Engineering and Development Department

LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS (SITE FORMATION AND INFRASTRUCTURES) - DESIGN AND CONSTRUCTION

PROJECT LAYOUT PLAN

AECOM

DRG.NO. 圖紙編號 60212563/PLP/001

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 負責人
-	-	-
DRAWN BY 繪圖 ZJ	STATUS 階段	
SCALE 比例 A1 1 : 15000		
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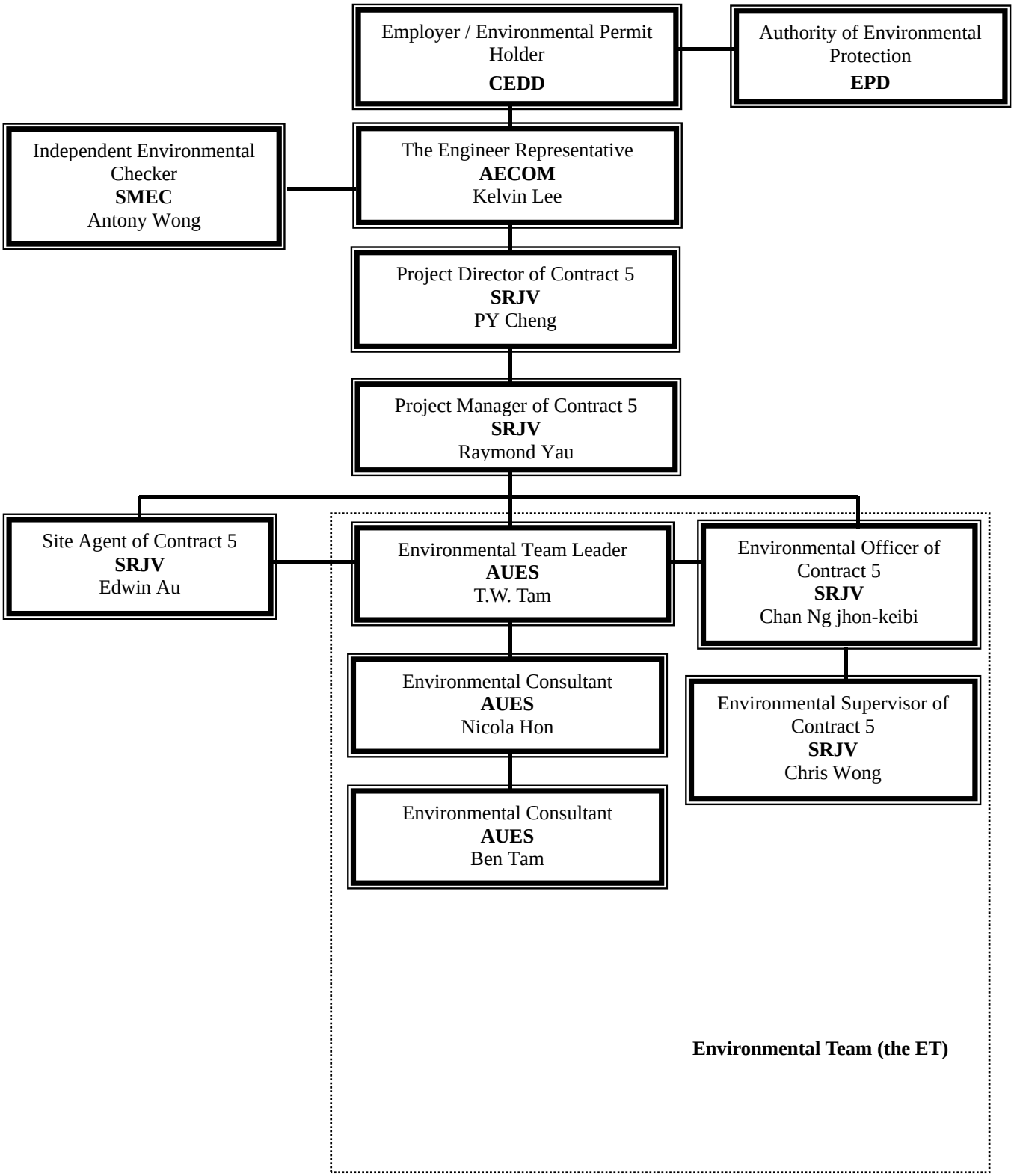
Appendix B

Environmental Management Organization Chart



Environmental Management Organization – CV/2013/03

Contact Details of Key Personnel for Contract 5 - CV/2013/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
AECOM	Engineer's Representative	Kelvin Lee	2674 2273	3992 9797
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
SRJV	Project Director	PY Cheng	9023 4821	2403 1162
SRJV	Contract Manager	Raymond Yu	9041 1620	2403 1162
SRJV	Project Manager	Aaron Mak	9464 7095	2403 1162
SRJV	Site Agent	Edwin Au	9208 7329	2403 1162
SRJV	Environmental Officer	Chan Ng jhon-keibi	6090 0183	2403 1162
SRJV	Environmental Supervisor	Chris Wong	6387 4683	2403 1162
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

SRJV (Main Contractor) – Sang Hing Civil – Richwell Machinery JV

SMEC (IEC) – SMEC Asia Limited

AUES (ET) – Action-United Environmental Services & Consulting

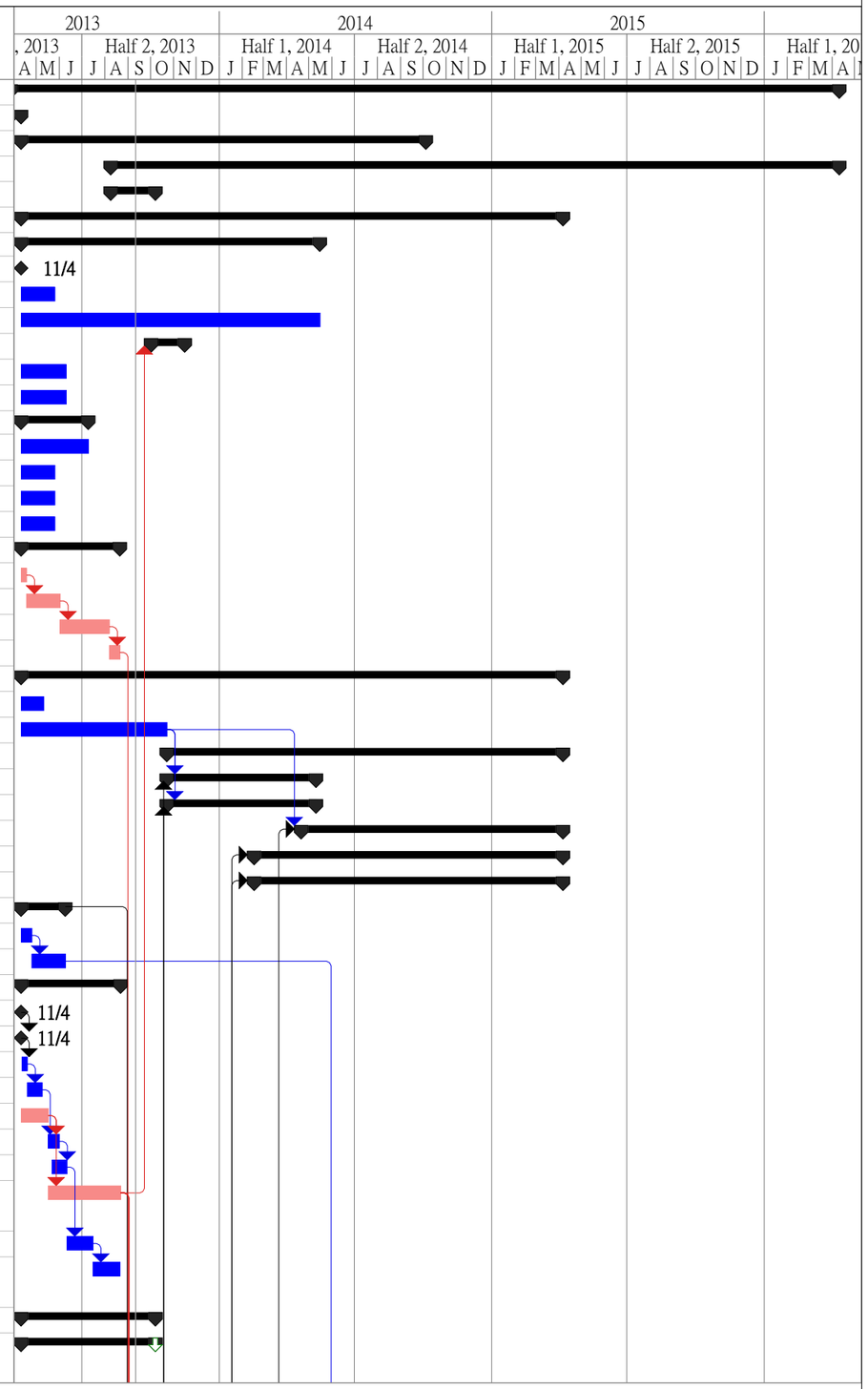
Appendix C

Master Construction Programme for Contract 5

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

Works Programme (Rev.1)

ID	WBS	Task Name	Duration	Start	Finish	Critical
1	1	**Key Dates**	1110 days	Thu 28/3/13	Sun 10/4/16	Yes
2	1.1	**Contract Award & Commencement**	14 days	Thu 28/3/13	Thu 11/4/13	Yes
5	1.2	**Site Possession Date**	542 days	Thu 11/4/13	Sat 4/10/14	No
28	1.3	**Section Completion Date**	976 days	Thu 8/8/13	Sun 10/4/16	Yes
44	1.4	**Stage Completion Date**	60 days	Thu 8/8/13	Mon 7/10/13	No
47	2	**Preliminaries and Statuary / Contractual Submissions**	726 days	Thu 11/4/13	Mon 6/4/15	Yes
48	2.1	**Site Establishment**	400 days	Thu 11/4/13	Thu 15/5/14	No
49	2.1.1	Take over of the Engineer Accommodation	0 days	Thu 11/4/13	Thu 11/4/13	No
50	2.1.2	Temporary Accommodation for the Contractor	45 days	Thu 11/4/13	Sat 25/5/13	No
51	2.1.3	Initial Survey	400 days	Thu 11/4/13	Thu 15/5/14	No
52	2.1.4	Project Signboard	45 days	Wed 2/10/13	Fri 15/11/13	No
57	2.1.5	Setup and Management of TMLG	60 days	Thu 11/4/13	Sun 9/6/13	No
58	2.1.6	Setup and Management of ULG	60 days	Thu 11/4/13	Sun 9/6/13	No
59	2.2	**Applications to Government Department**	90 days	Thu 11/4/13	Tue 9/7/13	No
60	2.2.1	Application of excavation permit	90 days	Thu 11/4/13	Tue 9/7/13	No
61	2.2.2	Application of Waste water discharge license	45 days	Thu 11/4/13	Sat 25/5/13	No
62	2.2.3	Application of chemical waste producer permit	45 days	Thu 11/4/13	Sat 25/5/13	No
63	2.2.4	Application of trip ticket system	45 days	Thu 11/4/13	Sat 25/5/13	No
64	2.3	**Temporary Traffic Arrangement (TTA) Scheme for temp. LMH Rd**	132 days	Thu 11/4/13	Tue 20/8/13	Yes
65	2.3.1	Submission / approval of traffic consultant	7 days	Thu 11/4/13	Wed 17/4/13	Yes
66	2.3.2	Preparation of TTA scheme	45 days	Thu 18/4/13	Sat 1/6/13	Yes
67	2.3.3	Comment & approval of TTA scheme by TD & RMO	66 days	Sun 2/6/13	Tue 6/8/13	Yes
68	2.3.4	Obtain roadwork advice from RMO	14 days	Wed 7/8/13	Tue 20/8/13	Yes
69	2.4	**Utility Diversion**	726 days	Thu 11/4/13	Mon 6/4/15	No
70	2.4.1	Obtain most update utility drawings from various utility undertakers	30 days	Thu 11/4/13	Fri 10/5/13	No
71	2.4.2	Liaise with various utility undertakers	195 days	Thu 11/4/13	Tue 22/10/13	No
72	2.4.3	Diversion of existing utilities by various UU (if necessary)	531 days	Wed 23/10/13	Mon 6/4/15	No
73	2.4.3.1	LV cables	200 days	Wed 23/10/13	Sat 10/5/14	No
77	2.4.3.2	11kV cables	200 days	Wed 23/10/13	Sat 10/5/14	No
81	2.4.3.3	132kV cables	351 days	Mon 21/4/14	Mon 6/4/15	No
86	2.4.3.4	PCCW	414 days	Mon 17/2/14	Mon 6/4/15	No
92	2.4.3.5	WSD water mains	414 days	Mon 17/2/14	Mon 6/4/15	No
98	2.5	**Tree Works**	59 days	Thu 11/4/13	Sat 8/6/13	No
99	2.5.1	Submission / approval of landscape specialist	14 days	Thu 11/4/13	Wed 24/4/13	No
100	2.5.2	Submission of tree survey report	45 days	Thu 25/4/13	Sat 8/6/13	No
101	2.6	**Environmental Baseline & Impact Monitoring**	133 days	Thu 11/4/13	Wed 21/8/13	Yes
102	2.6.1	Obtain Environmental Permit (EP) -- EP-404/2011	0 days	Thu 11/4/13	Thu 11/4/13	No
103	2.6.2	Appointment of ET	0 days	Thu 11/4/13	Thu 11/4/13	No
104	2.6.3	Approval of ET from EPD	7 days	Fri 12/4/13	Thu 18/4/13	No
105	2.6.4	Preparation of method statement for baseline monitoring by ET	20 days	Fri 19/4/13	Wed 8/5/13	No
106	*2.6.5*	*Submission of relevant management plans & reports by Others*	*36 days*	*Thu 11/4/13*	*Thu 16/5/13*	*Yes*
107	2.6.6	Certify the method statement, management plans & reports by ET	15 days	Fri 17/5/13	Fri 31/5/13	No
108	2.6.7	Verify the EM&A manual, management plans & reports by IEC	20 days	Wed 22/5/13	Mon 10/6/13	No
109	*2.6.8*	*Management plans & reports submitted to EPD three month before commencement of Construction works*	*97 days*	*Fri 17/5/13*	*Wed 21/8/13*	*Yes*
110	2.6.9	Cary out the baseline monitoring and preparation of report	35 days	Tue 11/6/13	Mon 15/7/13	No
111	2.6.10	Baseline monitoring report submitted to EPD one month before commencement of Construction works	36 days	Tue 16/7/13	Tue 20/8/13	No
112	3	**Stage of the Works**	180 days	Thu 11/4/13	Mon 7/10/13	Yes
113	*3.1*	***Stage I of the Works - Temporary vehicular bridge B and temporary Lin Ma Hang Road***	*180 days*	*Thu 11/4/13*	*Mon 7/10/13*	*Yes*



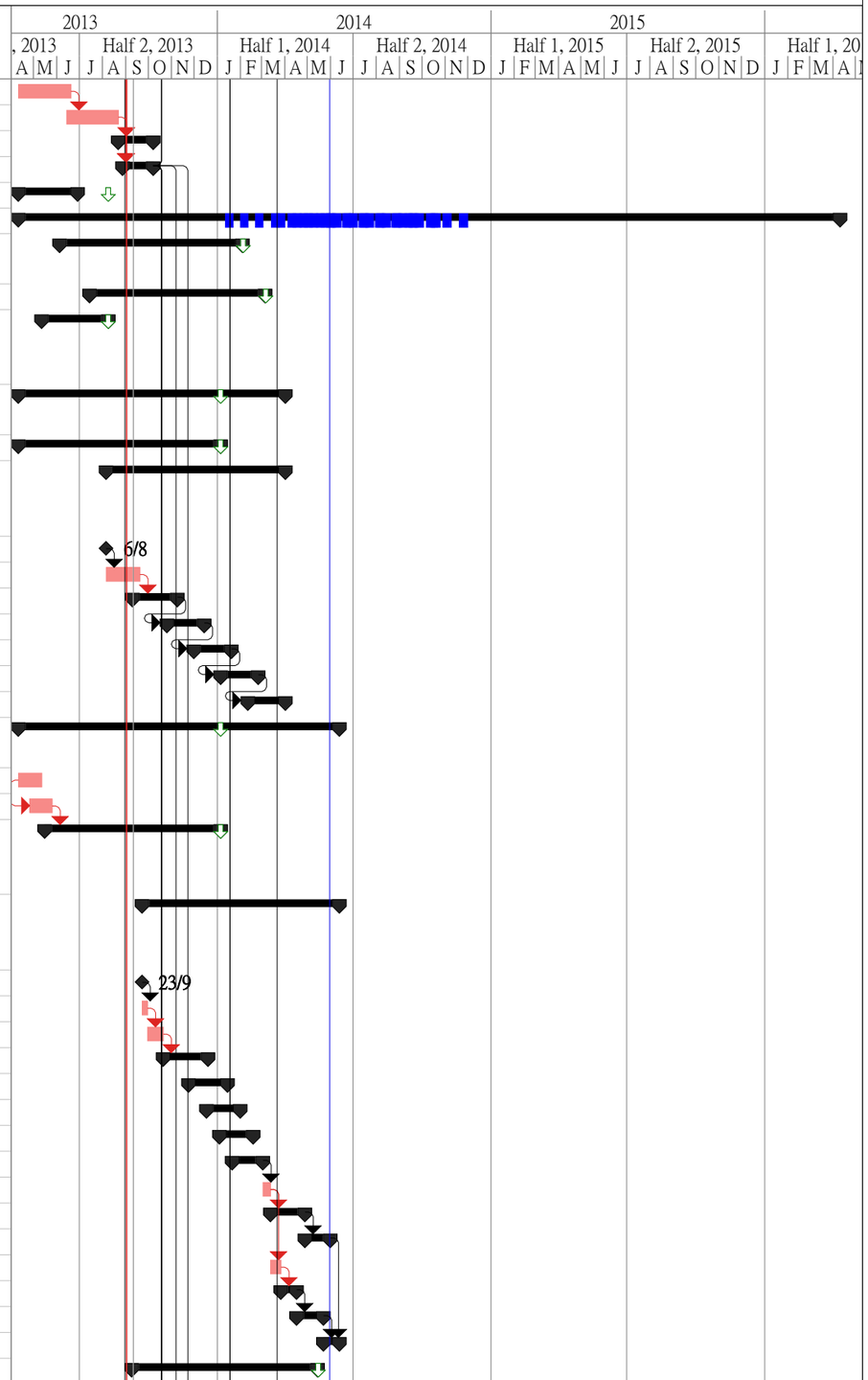
Revision: 1

Task | Split | Milestone | Summary | Project Summary | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Critical | Critical Split | Progress | Deadline

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

Works Programme (Rev.1)

ID	WBS	Task Name	Duration	Start	Finish	Critical
114	*3.1.1*	*Submissions*	*70 days*	*Thu 11/4/13*	*Wed 19/6/13*	*Yes*
115	*3.1.2*	*Approval of Submissions*	*69 days*	*Fri 14/6/13*	*Wed 21/8/13*	*Yes*
116	*3.1.3*	***Construction of temporary vehicular bridge "B"***	*47 days*	*Thu 22/8/13*	*Mon 7/10/13*	*Yes*
136	*3.1.4*	***Construction of temporary Lin Ma Hang Road***	*41 days*	*Wed 28/8/13*	*Mon 7/10/13*	*Yes*
145	**3.2**	**Stage II of the Works - Temporary ArchSD Depot (LMH2)**	**79 days**	**Thu 11/4/13**	**Fri 28/6/13**	**No**
149	**4**	**Section of the Works**	**1096 days**	**Thu 11/4/13**	**Sun 10/4/16**	**Yes**
150	**4.1**	**Section I of the Works - Ground Investigation field works (Drg. 7101A-7111A)**	**244 days**	**Wed 5/6/13**	**Mon 3/2/14**	**No**
196	**4.2**	**Section II of the Works - All laboratory tests for Section I**	**234 days**	**Mon 15/7/13**	**Wed 5/3/14**	**No**
205	***4.3***	***Section III of the Works - Site formation works for Portions RS1, RS2 & RS3 (seek for certificate of completion in letter ref. SRJV/W47/SO/J5/1308/00416 dated 23/8/2013)***	***89 days***	***Sun 12/5/13***	***Thu 8/8/13***	***Yes***
243	***4.4***	***Section IV of the Works - Village house within portion RS4 - 8.25m(L) x 7.88m(W) x 10.3m (H)***	***356 days***	***Thu 11/4/13***	***Tue 1/4/14***	***Yes***
244	4.4.1	***Original Planning for Section IV of the Works***	270 days	Thu 11/4/13	Sun 5/1/14	Yes
252	*4.4.2*	***Revised Planning for Section IV of the Works due to late instruction (letter ref. PWKL:rswl:60212563/C5/M15/400-2409 dated 6/8/2013)***	*239 days*	*Tue 6/8/13*	*Tue 1/4/14*	*Yes*
253	*4.4.2.1*	*Site Instruction from the Engineer*	*0 days*	*Tue 6/8/13*	*Tue 6/8/13*	*Yes*
254	*4.4.2.2*	*Submissions / Approval of material*	*45 days*	*Tue 6/8/13*	*Thu 19/9/13*	*Yes*
255	*4.4.2.3*	*Foundation*	*60 days*	*Tue 10/9/13*	*Fri 8/11/13*	*Yes*
261	*4.4.2.4*	*G/F - Ground beam, slab & BS works*	*50 days*	*Sat 26/10/13*	*Sat 14/12/13*	*Yes*
266	*4.4.2.5*	*1/F - Beam, wall, slab & BS works*	*50 days*	*Sun 1/12/13*	*Sun 19/1/14*	*Yes*
271	*4.4.2.6*	*2/F - Beam, wall, slab & BS works*	*50 days*	*Mon 6/1/14*	*Mon 24/2/14*	*Yes*
276	*4.4.2.7*	*R/F - Beam, wall, slab & BS works*	*50 days*	*Tue 11/2/14*	*Tue 1/4/14*	*Yes*
281	***4.5***	***Section V of the Works - All works within portion RS4 exclude Section IV***	***428 days***	***Thu 11/4/13***	***Thu 12/6/14***	***Yes***
282	*4.5.1*	*Submissions and method statement*	*31 days*	*Thu 11/4/13*	*Sat 11/5/13*	*Yes*
283	*4.5.2*	*Approvals from ER*	*30 days*	*Fri 26/4/13*	*Sat 25/5/13*	*Yes*
284	***4.5.3***	***Original Plan for Construction of footbridge and staircase with mini-piles 8 nos. x Ø 273 and staircase (Drg. 2201A to 2207B, 6001B)***	***235 days***	***Thu 16/5/13***	***Sun 5/1/14***	***Yes***
373	*4.5.4*	***Revised Plan upon instructions from Engineer for Construction of footbridge and staircase with mini-piles 8 nos. x Ø 273 and staircase (Drg. 2201A to 2207B, 6001B)***	*263 days*	*Mon 23/9/13*	*Thu 12/6/14*	*Yes*
374	*4.5.4.1*	*assume receive Instruction from the Engineer*	*0 days*	*Mon 23/9/13*	*Mon 23/9/13*	*Yes*
375	*4.5.4.2*	*Submissions and method statement*	*7 days*	*Mon 23/9/13*	*Sun 29/9/13*	*Yes*
376	*4.5.4.3*	*Approvals from ER*	*21 days*	*Mon 30/9/13*	*Sun 20/10/13*	*Yes*
377	*4.5.4.4*	*Mini-piles*	*60 days*	*Mon 21/10/13*	*Thu 19/12/13*	*Yes*
387	*4.5.4.5*	*Pile Caps*	*52 days*	*Sun 24/11/13*	*Tue 14/1/14*	*Yes*
404	*4.5.4.6*	*Abutments*	*45 days*	*Wed 18/12/13*	*Fri 31/1/14*	*Yes*
415	*4.5.4.7*	*Wing walls*	*45 days*	*Sat 4/1/14*	*Mon 17/2/14*	*Yes*
426	*4.5.4.8*	*Mass concrete*	*41 days*	*Tue 21/1/14*	*Sun 2/3/14*	*Yes*
435	*4.5.4.9*	*Remove sheetpiles from abutments*	*10 days*	*Mon 3/3/14*	*Wed 12/3/14*	*Yes*
436	*4.5.4.10*	*Beams*	*46 days*	*Thu 13/3/14*	*Sun 27/4/14*	*Yes*
448	*4.5.4.11*	*Deck*	*34 days*	*Mon 28/4/14*	*Sat 31/5/14*	*Yes*
455	*4.5.4.12*	*Compact fill behind abutments*	*14 days*	*Thu 13/3/14*	*Wed 26/3/14*	*Yes*
456	*4.5.4.13*	*New footpath*	*21 days*	*Thu 27/3/14*	*Wed 16/4/14*	*Yes*
459	*4.5.4.14*	*New staircase*	*36 days*	*Thu 17/4/14*	*Thu 22/5/14*	*Yes*
466	*4.5.4.15*	*Miscellaneous (pedestrian parapet, granite tile etc.)*	*21 days*	*Fri 23/5/14*	*Thu 12/6/14*	*Yes*
469	**4.6**	**Section VII of the Works - All works within Area CRD**	**248 days**	**Mon 9/9/13**	**Wed 14/5/14**	**No**



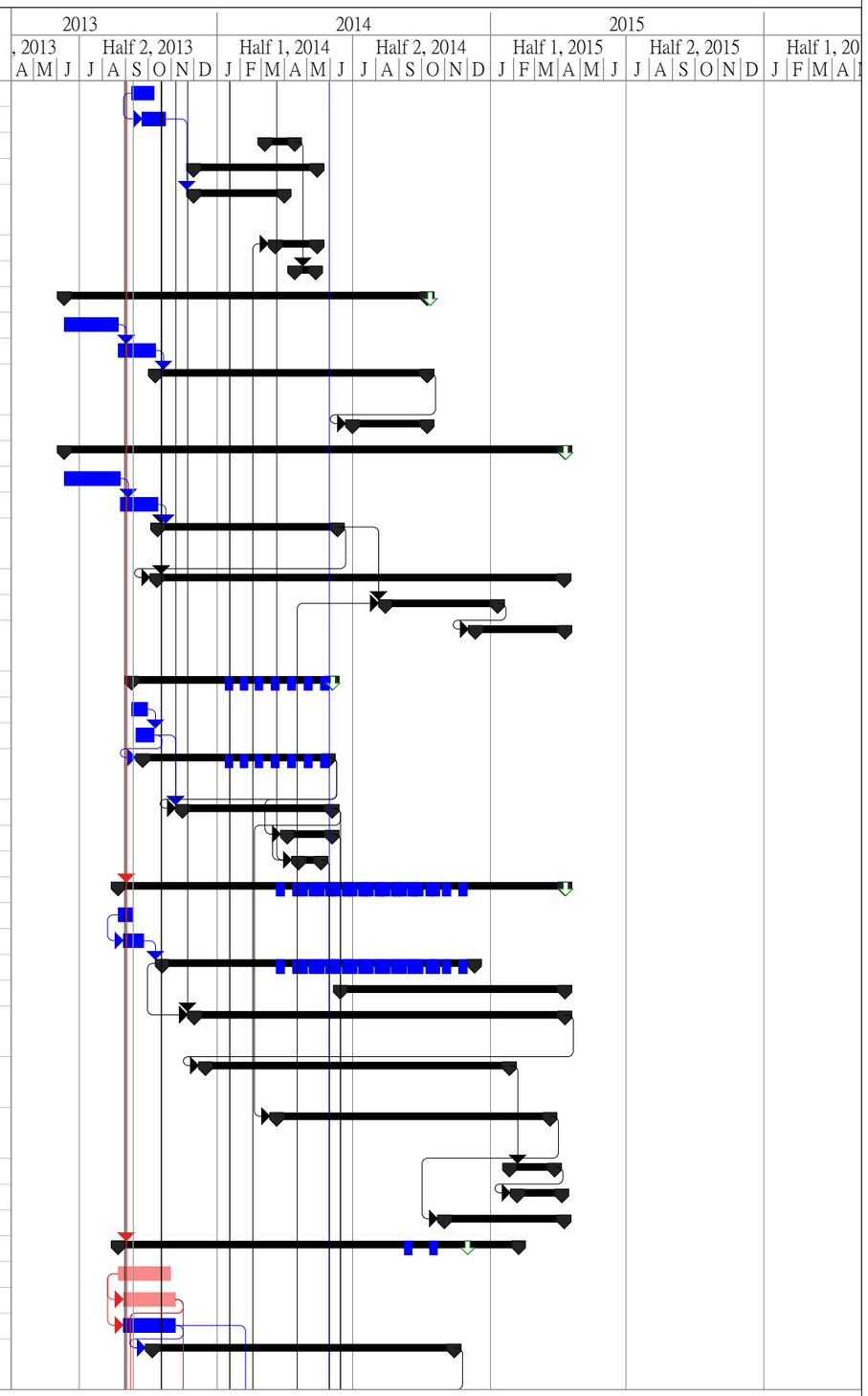
Revision: 1

Task | Split | Milestone | Summary | Project Summary | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Critical | Critical Split | Progress | Deadline

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

Works Programme (Rev.1)

ID	WBS	Task Name	Duration	Start	Finish	Critical
470	4.6.1	Submissions	30 days	Mon 9/9/13	Tue 8/10/13	No
471	4.6.2	Approval of submissions	31 days	Mon 23/9/13	Wed 23/10/13	No
472	4.6.3	Further Archaeological survey (Section T3)(Drg.6403A)	40 days	Thu 6/3/14	Mon 14/4/14	No
476	4.6.4	Remaining works at other portions within CRD	165 days	Sun 1/12/13	Wed 14/5/14	No
477	4.6.4.1	temporary fill slopes & Chain link fence (150m) & Modified CEDD hoarding Type III (130m)(Drg. 1032B)	121 days	Sun 1/12/13	Mon 31/3/14	No
490	4.6.4.2	waterworks within CRD (Drg.1913B)	56 days	Thu 20/3/14	Wed 14/5/14	No
495	4.6.4.3	roadwork for end of LMH Rd within CRD	28 days	Tue 15/4/14	Mon 12/5/14	No
498	**4.7**	**Section VIII of the Works - All works within Area BCPA**	**485 days**	**Tue 11/6/13**	**Wed 8/10/14**	No
499	4.7.1	Submissions	72 days	Tue 11/6/13	Wed 21/8/13	No
500	4.7.2	Approval of submissions	50 days	Thu 22/8/13	Thu 10/10/13	No
501	4.7.3	**Site formation of land (import fill 103000m3) including slope drainage works**	363 days	Fri 11/10/13	Wed 8/10/14	No
534	4.7.4	**Chain link fence (1150m)(Drg/ 1033B)**	100 days	Tue 1/7/14	Wed 8/10/14	No
545	**4.8**	**Section IX of the Works - All works within Area BCPB**	**669 days**	**Tue 11/6/13**	**Fri 10/4/15**	**No**
546	4.8.1	Submissions	75 days	Tue 11/6/13	Sat 24/8/13	No
547	4.8.2	Approval of submissions	50 days	Sun 25/8/13	Sun 13/10/13	No
548	4.8.3	**Demolition of existing building structures UPON instruction (Drg. 6152A, 6153A)**	240 days	Mon 14/10/13	Tue 10/6/14	No
570	4.8.4	Site formation works (import fill 90000m3)	544 days	Sun 13/10/13	Thu 9/4/15	No
619	4.8.5	Utilities diversions (Drg.1405A, 1406A, 1407A)	150 days	Thu 14/8/14	Sat 10/1/15	No
634	4.8.6	Temp. boundary fence (230m), chain link fence (790m)(Drg.1002C, 1032B, 1033B)	120 days	Fri 12/12/14	Fri 10/4/15	No
647	4.9	**Section X of the Works - All works within Area BCPC**	**268 days**	**Mon 9/9/13**	**Tue 3/6/14**	**No**
648	4.9.1	Submissions	21 days	Mon 9/9/13	Sun 29/9/13	No
649	4.9.2	Approval of Submissions	24 days	Sun 15/9/13	Tue 8/10/13	No
650	4.9.3	**Construction of retaining wall RW2-CH840-1025 (length approx. 185m)**	248 days	Tue 24/9/13	Thu 29/5/14	No
746	4.9.4	Site Formation works (import fill 33000m3)	200 days	Sat 16/11/13	Tue 3/6/14	No
766	4.9.5	Drainage Works & Irrigation System (Drg.1305C, 1975B)	60 days	Sat 5/4/14	Tue 3/6/14	No
772	4.9.6	Utilities Works (Drg. 1405A)	30 days	Sun 20/4/14	Mon 19/5/14	No
776	**4.10**	**Section XI of the Works - All works within Area BCPD**	**597 days**	**Thu 22/8/13**	**Fri 10/4/15**	**No**
777	4.10.1	Submissions	20 days	Thu 22/8/13	Tue 10/9/13	No
778	4.10.2	Approval of Submissions	27 days	Thu 29/8/13	Tue 24/9/13	No
779	4.10.3	**Construction of retaining wall RW2 - CH0 to 840 (length 840m)**	417 days	Sun 20/10/13	Wed 10/12/14	No
1147	4.10.4	Boundary fence (length 1635m)(Drg.1002C, 1003A)	300 days	Sun 15/6/14	Fri 10/4/15	No
1175	4.10.5	Site Formation works (import fill 36000m3) including slope drainage works (Drg. 7155B-7159B)	495 days	Mon 2/12/13	Fri 10/4/15	No
1221	4.10.6	**Construction of depressed road & underpass - 9.3m wide x 168m long**	406 days	Tue 17/12/13	Mon 26/1/15	No
1306	4.10.7	Sewerage, Drainage & Water Works (Drg. 1323B,1305C,1308A,1309A,1915B)	365 days	Sat 22/3/14	Sat 21/3/15	No
1339	4.10.8	Irrigation System near Chuk Yuen (Drg. 1975B)	60 days	Tue 27/1/15	Fri 27/3/15	No
1345	4.10.9	Utilities Works (Drg. 1405)	60 days	Fri 6/2/15	Mon 6/4/15	No
1351	4.10.10	Road works and Road lighting works (Drg.1505C)	160 days	Sat 1/11/14	Thu 9/4/15	No
1366	***4.11***	***Section XII of the Works - All works within Area LMH***	***535 days***	***Thu 22/8/13***	***Sat 7/2/15***	***Yes***
1367	4.11.1	Submissions	70 days	Thu 22/8/13	Wed 30/10/13	Yes
1368	4.11.2	Approval of Submissions	69 days	Thu 29/8/13	Tue 5/11/13	Yes
1369	4.11.3	Construct temporary haul roads	69 days	Thu 29/8/13	Tue 5/11/13	No
1370	4.11.4	**Construction of retaining wall RW1 - CH0 to 561.053m (length approx. 561m)**	403 days	Mon 7/10/13	Thu 13/11/14	No



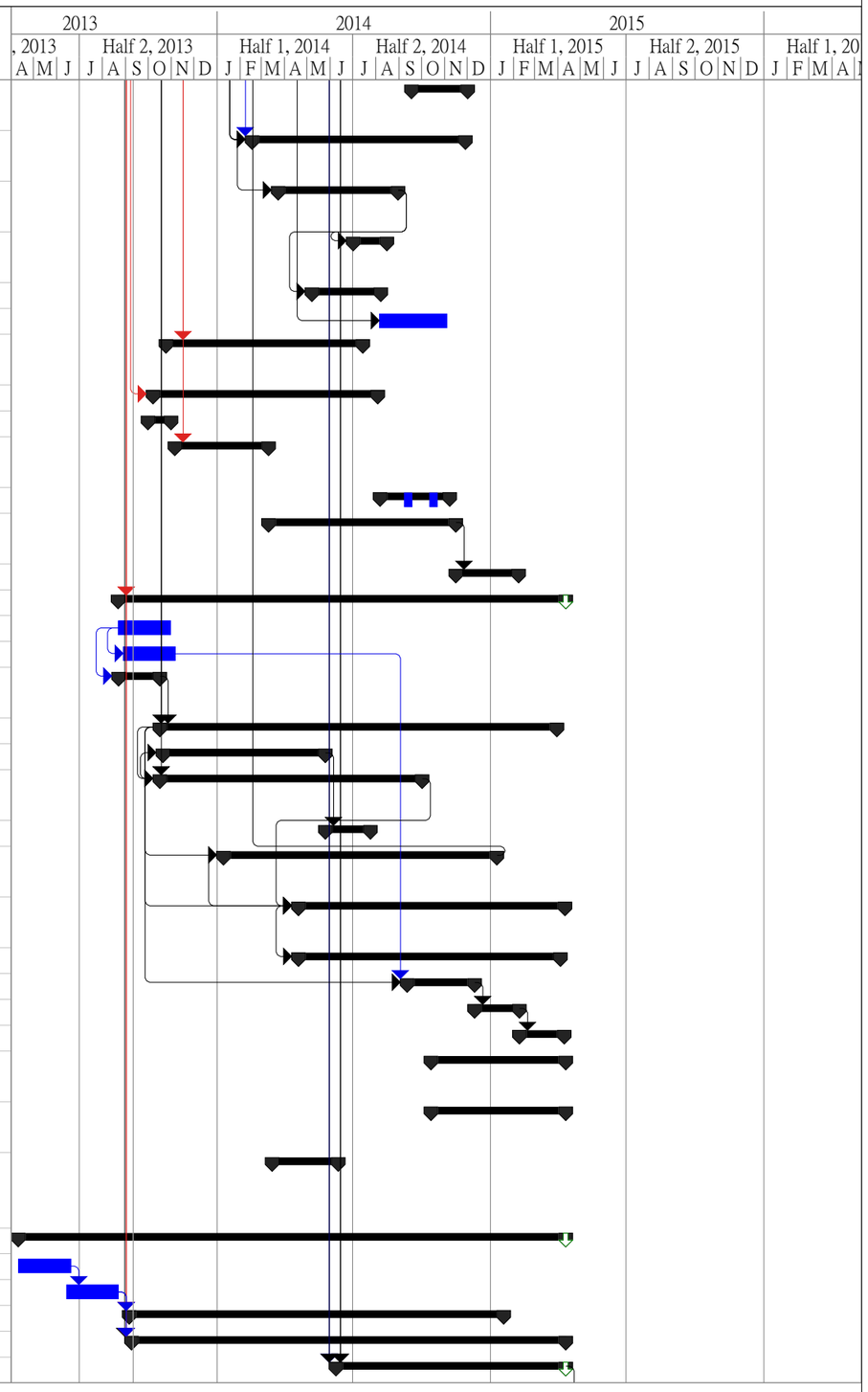
Revision: 1

Task | Split | Milestone | Summary | Project Summary | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Critical | Critical Split | Progress | Deadline

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

Works Programme (Rev.1)

ID	WBS	Task Name	Duration	Start	Finish	Critical
1635	*4.11.5*	***Construction of retaining wall RW1A-CH561.053 to 612.457m (length approx.. 51.4m)***	*75 days*	*Thu 18/9/14*	*Mon 1/12/14*	*Yes*
1660	4.11.6	Site formation works (import fill 15300m3) including slope drainage works (Drg. 7154B, 7159B)	285 days	Mon 17/2/14	Fri 28/11/14	No
1686	4.11.7	Drainage works and road lighting works at Lin Ma Hang Road (Drg. 1304B, 1306A, 1307A, 1309A)	160 days	Mon 24/3/14	Sat 30/8/14	No
1701	4.11.8	Water works & Irrigation System at Lin Ma Hang Road (Drg/1914B-1917B, 1974B, 1976A, 1977A)	45 days	Wed 2/7/14	Fri 15/8/14	**No**
1706	4.11.9	Roadwork of carriageway (new Lin Ma Hang Road)	92 days	Thu 8/5/14	Thu 7/8/14	No
1718	4.11.10	Construction of footpath	90 days	Wed 6/8/14	Mon 3/11/14	No
1719	4.11.11	**Construction of pedestrian subway & pump room (5m x 4.3m x 31m long)**	263 days	Fri 25/10/13	Mon 14/7/14	No
1767	*4.11.12*	***Construction of staircase with lift shaft with 4 nos. of mini pile***	*300 days*	*Tue 8/10/13*	*Sun 3/8/14*	*Yes*
1804	4.11.13	Ground investigation	31 days	Tue 1/10/13	Thu 31/10/13	No
1808	4.11.14	**1 no. DN1650 pipe jacking LV009 works (120m in BQ, 50m in Drg.) including jacking & receiving pits**	125 days	Wed 6/11/13	Mon 10/3/14	Yes
1824	4.11.15	**Construction of retaining wall RW9 - CH0 to 75m (length 75m)**	93 days	Thu 7/8/14	Fri 7/11/14	No
1851	4.11.16	**Construction of Bridge J with 6 x Ø 1500 bored pile - 7.9m wide x 30m long**	250 days	Tue 11/3/14	Sat 15/11/14	Yes
1880	4.11.17	**Construction of retaining wall RW5 - CH0 to 60m (length 60m)**	84 days	Sun 16/11/14	Sat 7/2/15	Yes
1886	***4.12***	***Section XIII of the Works - Works not covered in any other Sections***	***598 days***	***Thu 22/8/13***	***Sat 11/4/15***	***Yes***
1887	4.12.1	Submissions	70 days	Thu 22/8/13	Wed 30/10/13	No
1888	4.12.2	Approval of Submissions	69 days	Thu 29/8/13	Tue 5/11/13	No
1889	4.12.3	**Temporary Traffic Arrangement (TTA) Scheme for Works at existing LMH Rd**	55 days	Fri 23/8/13	Wed 16/10/13	No
1893	4.12.4	Diversions of existing traffic flow	530 days	Thu 17/10/13	Mon 30/3/15	No
1948	4.12.5	Archaeological survey (Sections T1 & T2)(Drg. 6403A)	217 days	Mon 21/10/13	Sun 25/5/14	No
1969	4.12.6	Drainage & slope drainage works at Lin Ma Hang Road (Drg.1301A-1303C, 7151B)	350 days	Thu 17/10/13	Wed 1/10/14	No
2001	4.12.7	Sewerage works at Lin Ma Hang Road (Drg. 1321A)	60 days	Mon 26/5/14	Thu 24/7/14	No
2007	4.12.8	Water works & utilities works at Lin Ma Hang Road (Drg. 1911A-1913B, 1401A-1403A)	365 days	Fri 10/1/14	Fri 9/1/15	No
2040	4.12.9	Roadwork for existing Lin Ma Hang Road (Drg.1201A-1203B, 1221C-1223A, 1501A-1503A, 1603B)	356 days	Sun 20/4/14	Fri 10/4/15	No
2072	4.12.10	Irrigation system (Drg. 1971A-1973B) & footpath construction	350 days	Sun 20/4/14	Sat 4/4/15	No
2104	4.12.11	Construction of retaining wall RW8 - CH0 to 22 (3 bays)	90 days	Fri 12/9/14	Wed 10/12/14	No
2127	4.12.12	Site Formation works for ArchSD Depot (Drg. 1001B)	60 days	Thu 11/12/14	Sun 8/2/15	No
2133	4.12.13	Slope drainage works (Drg. 7151B, 7159B)	60 days	Mon 9/2/15	Thu 9/4/15	No
2139	*4.12.14*	*Existing road to be improved & run-in to the site to be constructed at RS1 (Drg.1203A, 1001B)(latest)*	*180 days*	*Tue 14/10/14*	*Sat 11/4/15*	*Yes*
2156	*4.12.15*	*Access road to be re-constructed / upgraded at RS3 (Drg/1203B)(latest)*	*180 days*	*Tue 14/10/14*	*Sat 11/4/15*	*Yes*
2173	4.12.16	Outstanding Ground Investigation field works for Section I of the Works (due to late handed over for Area BCP4 and installation after construction)	88 days	Sun 16/3/14	Wed 11/6/14	No
2181	***4.13***	***Section XIV of the Works - Trees preservation and protection***	***731 days***	***Thu 11/4/13***	***Sat 11/4/15***	***Yes***
2182	4.13.1	Submissions	70 days	Thu 11/4/13	Wed 19/6/13	No
2183	4.13.2	Approval of Submissions	69 days	Fri 14/6/13	Wed 21/8/13	No
2184	4.13.3	Tree felling/removal works and tree transplanting works	500 days	Fri 6/9/13	Sun 18/1/15	**No**
2230	4.13.4	Preservation and Protection of Existing Trees in all Portion of the Site	580 days	Mon 9/9/13	Sat 11/4/15	**Yes**
2283	***4.14***	***Section XV of the Works - Landscape soft works***	***307 days***	***Mon 9/6/14***	***Sat 11/4/15***	***Yes***



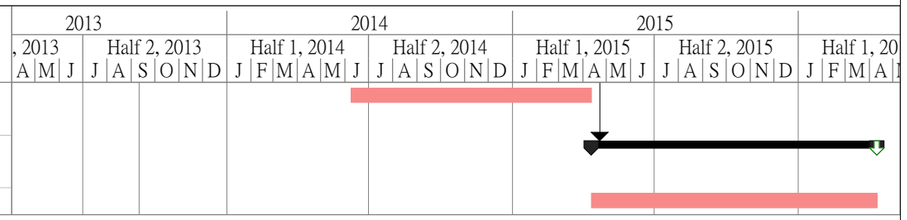
Revision: 1

Task | Split | Milestone | Summary | Project Summary | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Critical | Critical Split | Progress | Deadline

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

Works Programme (Rev.1)

ID	WBS	Task Name	Duration	Start	Finish	Critical
2284	*4.14.1*	*Landscape Soft works in all Portions of the Site (including transplant trees to permanent locations)*	*307 days*	*Mon 9/6/14*	*Sat 11/4/15*	*Yes*
2285	***4.15***	***Section XVI of the Works - Establishment works for landscape soft works***	***365 days***	***Sun 12/4/15***	***Sun 10/4/16***	***Yes***
2286	*4.15.1*	*Establishment works for all Portions of the Site*	*365 days*	*Sun 12/4/15*	*Sun 10/4/16*	*Yes*



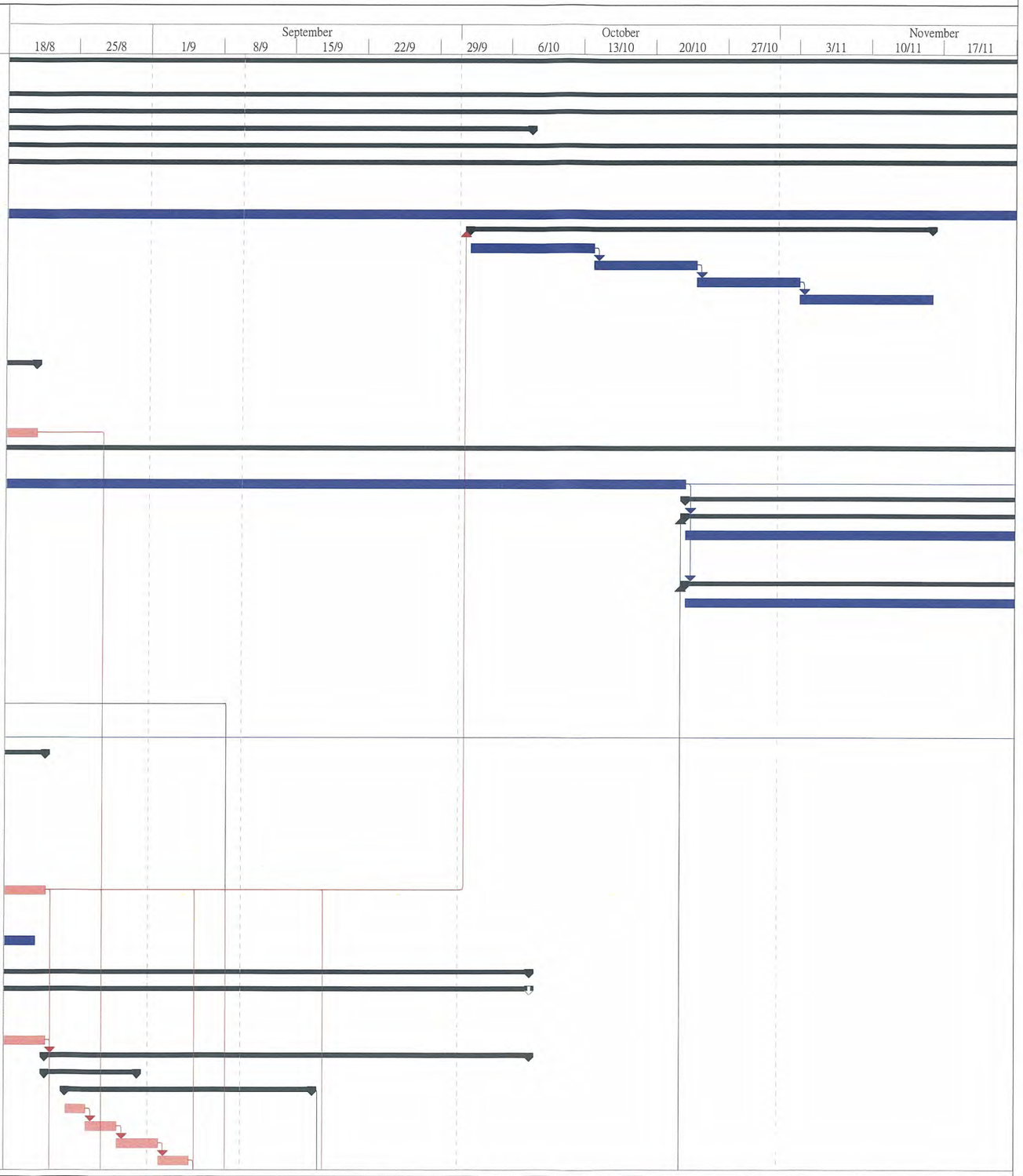
Revision: 1

Task	Project Summary	Duration-only	Finish-only	Critical Split
Split	Inactive Milestone	Manual Summary Rollup	External Tasks	Progress
Milestone	Inactive Summary	Manual Summary	External Milestone	Deadline
Summary	Manual Task	Start-only	Critical	

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
1	1	**Key Dates**	**1110 days**	**Thu 28/3/13**	**Sun 10/4/16**
2	1.1	**Contract Award & Commencement**	**14 days**	**Thu 28/3/13**	**Thu 11/4/13**
5	1.2	**Site Possession Date**	**542 days**	**Thu 11/4/13**	**Sat 4/10/14**
28	1.3	**Section Completion Date**	**976 days**	**Thu 8/8/13**	**Sun 10/4/16**
44	1.4	**Stage Completion Date**	**60 days**	**Thu 8/8/13**	**Mon 7/10/13**
47	2	**Preliminaries and Statuary / Contractual Submissions**	**726 days**	**Thu 11/4/13**	**Mon 6/4/15**
48	2.1	**Site Establishment**	400 days	Thu 11/4/13	Thu 15/5/14
49	2.1.1	Take over of the Engineer Accommodation	0 days	Thu 11/4/13	Thu 11/4/13
50	2.1.2	Temporary Accommodation for the Contractor	45 days	Thu 11/4/13	Sat 25/5/13
51	2.1.3	Initial Survey	400 days	Thu 11/4/13	Thu 15/5/14
52	2.1.4	Project Signboard	45 days	Wed 2/10/13	Fri 15/11/13
53	2.1.4	excavation	12 days	Wed 2/10/13	Sun 13/10/13
54	2.1.4	footing	10 days	Mon 14/10/13	Wed 23/10/13
55	2.1.4	steelwork	10 days	Thu 24/10/13	Sat 2/11/13
56	2.1.4	steelwork & sign plate	13 days	Sun 3/11/13	Fri 15/11/13
57	2.1.5	Setup and Management of TMLG	60 days	Thu 11/4/13	Sun 9/6/13
58	2.1.6	Setup and Management of ULG	60 days	Thu 11/4/13	Sun 9/6/13
59	2.2	**Applications to Government Department**	90 days	Thu 11/4/13	Tue 9/7/13
64	2.3	**Temporary Traffic Arrangement (TTA) Scheme for temp. LMH Rd**	132 days	Thu 11/4/13	Tue 20/8/13
65	2.3.1	Submission / approval of traffic consultant	7 days	Thu 11/4/13	Wed 17/4/13
66	2.3.2	Preparation of TTA scheme	45 days	Thu 18/4/13	Sat 1/6/13
67	2.3.3	Comment & approval of TTA scheme by TD & RMO	66 days	Sun 2/6/13	Tue 6/8/13
68	2.3.4	Obtain roadwork advice from RMO	14 days	Wed 7/8/13	Tue 20/8/13
69	2.4	**Utility Diversion**	726 days	Thu 11/4/13	Mon 6/4/15
70	2.4.1	Obtain most update utility drawings from various utility undertakers	30 days	Thu 11/4/13	Fri 10/5/13
71	2.4.2	Liaise with various utility undertakers	195 days	Thu 11/4/13	Tue 22/10/13
72	2.4.3	Diversion of existing utilities by various UU (if necessary)	531 days	Wed 23/10/13	Mon 6/4/15
73	2.4.3.1	LV cables	200 days	Wed 23/10/13	Sat 10/5/14
74	2.4.3.1.1	LV cables (1st quarter)	90 days	Wed 23/10/13	Mon 20/1/14
75	2.4.3.1.2	LV cables (2nd quarter)	90 days	Tue 21/1/14	Sun 20/4/14
76	2.4.3.1.3	LV cables (3rd quarter)	20 days	Mon 21/4/14	Sat 10/5/14
77	2.4.3.2	11kV cables	200 days	Wed 23/10/13	Sat 10/5/14
78	2.4.3.2.1	11kV cables (1st quarter)	90 days	Wed 23/10/13	Mon 20/1/14
79	2.4.3.2.2	11kV cables (2nd quarter)	90 days	Tue 21/1/14	Sun 20/4/14
80	2.4.3.2.3	11kV cables (3rd quarter)	20 days	Mon 21/4/14	Sat 10/5/14
81	2.4.3.3	132kV cables	351 days	Mon 21/4/14	Mon 6/4/15
86	2.4.3.4	PCCW	414 days	Mon 17/2/14	Mon 6/4/15
92	2.4.3.5	WSD water mains	414 days	Mon 17/2/14	Mon 6/4/15
98	2.5	**Tree Works**	59 days	Thu 11/4/13	Sat 8/6/13
99	2.5.1	Submission / approval of landscape specialist	14 days	Thu 11/4/13	Wed 24/4/13
100	2.5.2	Submission of tree survey report	45 days	Thu 25/4/13	Sat 8/6/13
101	2.6	**Environmental Baseline & Impact Monitoring**	133 days	Thu 11/4/13	Wed 21/8/13
102	2.6.1	Obtain Environmental Permit (EP) -- EP-404/2011	0 days	Thu 11/4/13	Thu 11/4/13
103	2.6.2	Appointment of ET	0 days	Thu 11/4/13	Thu 11/4/13
104	2.6.3	Approval of ET from EPD	7 days	Fri 12/4/13	Thu 18/4/13
105	2.6.4	Preparation of method statement for baseline monitoring by ET	20 days	Fri 19/4/13	Wed 8/5/13
106	*2.6.5*	*Submission of relevant management plans & reports by Others*	*36 days*	*Thu 11/4/13*	*Thu 16/5/13*
107	2.6.6	Certify the method statement, management plans & reports by ET	15 days	Fri 17/5/13	Fri 31/5/13
108	2.6.7	Verify the EM&A manual, management plans & reports by IEC	20 days	Wed 22/5/13	Mon 10/6/13
109	*2.6.8*	*Management plans & reports submitted to EPD three month before commencement of Construction works*	*97 days*	*Fri 17/5/13*	*Wed 21/8/13*
110	2.6.9	Cary out the baseline monitoring and preparation of report	35 days	Tue 11/6/13	Mon 15/7/13
111	2.6.10	Baseline monitoring report submitted to EPD one month before commencement of Construction works	36 days	Tue 16/7/13	Tue 20/8/13
112	3	**Stage of the Works**	**180 days**	**Thu 11/4/13**	**Mon 7/10/13**
113	*3.1*	***Stage I of the Works - Temporary vehicular bridge B and temporary Lin Ma Hang Road***	***180 days***	***Thu 11/4/13***	***Mon 7/10/13***
114	*3.1.1*	*Submissions*	*70 days*	*Thu 11/4/13*	*Wed 19/6/13*
115	*3.1.2*	*Approval of Submissions*	*69 days*	*Fri 14/6/13*	*Wed 21/8/13*
116	*3.1.3*	***Construction of temporary vehicular bridge "B"***	*47 days*	*Thu 22/8/13*	*Mon 7/10/13*
117	*3.1.3.1*	*Preparation of UBs*	*9 days*	*Thu 22/8/13*	*Fri 30/8/13*
121	*3.1.3.2*	*Construct concrete footings*	*24 days*	*Sat 24/8/13*	*Mon 16/9/13*
122	*3.1.3.2.1*	*set out alignment of footings type A & B*	2 days	Sat 24/8/13	Sun 25/8/13
123	*3.1.3.2.2*	*underground utilities detection*	3 days	Mon 26/8/13	Wed 28/8/13
124	*3.1.3.2.3*	*excavate to designed levels*	4 days	Thu 29/8/13	Sun 1/9/13
125	*3.1.3.2.4*	*erect formwork for footings*	3 days	Mon 2/9/13	Wed 4/9/13



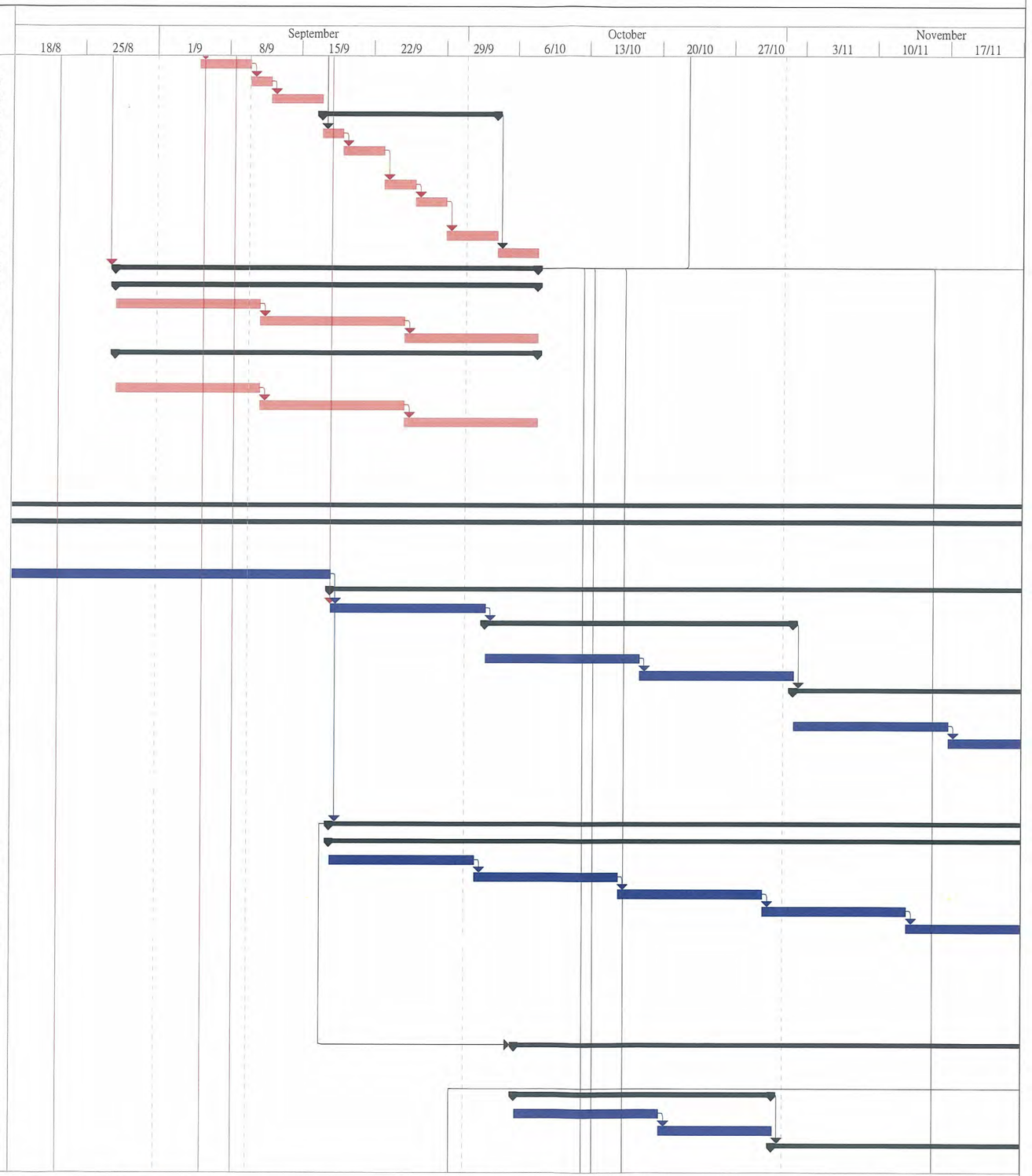
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
126	3.1.3.2.5	fix reinforcement and holding down bolts	5 days	Thu 5/9/13	Mon 9/9/13
127	3.1.3.2.6	concrete footing by mobile crane	2 days	Tue 10/9/13	Wed 11/9/13
128	3.1.3.2.7	curing and dismantle formworks	5 days	Thu 12/9/13	Mon 16/9/13
129	3.1.3.3	construct main beam for bridge	17 days	Tue 17/9/13	Thu 3/10/13
130	3.1.3.3.1	install U beams on footings	2 days	Tue 17/9/13	Wed 18/9/13
131	3.1.3.3.2	install sheet piles progressively, fix anchor points & weld to nearest sheet piles	4 days	Thu 19/9/13	Sun 22/9/13
132	3.1.3.3.3	fix bollard / barriers on sheet pile decking	3 days	Mon 23/9/13	Wed 25/9/13
133	3.1.3.3.4	fill the space between sheet piles & concrete slab by foam plastics & form shear keys	3 days	Thu 26/9/13	Sat 28/9/13
134	3.1.3.3.5	fix steel wire mesh to steel decking & concrete the deck	5 days	Sun 29/9/13	Thu 3/10/13
135	3.1.3.4	backfill with general fill adjacent to pile caps to form access roads	4 days	Fri 4/10/13	Mon 7/10/13
136	3.1.4	***Construction of temporary Lin Ma Hang Road***	41 days	Wed 28/8/13	Mon 7/10/13
137	3.1.4.1	Section 1 : chainage 100 - 730	41 days	Wed 28/8/13	Mon 7/10/13
138	3.1.4.1.1	chainage 100 - 310	14 days	Wed 28/8/13	Tue 10/9/13
139	3.1.4.1.2	chainage 310 - 520	14 days	Wed 11/9/13	Tue 24/9/13
140	3.1.4.1.3	chainage 530 - 730	13 days	Wed 25/9/13	Mon 7/10/13
141	3.1.4.2	Section 2 : Chuk Yuen Tsuen (South) Sewage Pumping Station to Existing Lin Ma Hang Road Bridge	41 days	Wed 28/8/13	Mon 7/10/13
142	3.1.4.2.1	phase I	14 days	Wed 28/8/13	Tue 10/9/13
143	3.1.4.2.2	phase II	14 days	Wed 11/9/13	Tue 24/9/13
144	3.1.4.2.3	phase III	13 days	Wed 25/9/13	Mon 7/10/13
145	3.2	**Stage II of the Works - Temporary ArchSD Depot (LMH2)**	**120 days**	**Thu 11/4/13**	**Thu 8/8/13**
146	3.2.1	Liaison with ArchSD	50 days	Thu 11/4/13	Thu 30/5/13
147	3.2.2	Construction of Temporary ArchSD Depot	70 days	Fri 31/5/13	Thu 8/8/13
148	3.2.3	Handover of Temporary ArchSD Depot	1 day	Thu 8/8/13	Thu 8/8/13
149	4	**Section of the Works**	**1096 days**	**Thu 11/4/13**	**Sun 10/4/16**
150	4.1	**Section I of the Works - Ground Investigation field works (Drg. 7101A-7111A)**	**244 days**	**Wed 5/6/13**	**Mon 3/2/14**
151	4.1.1	Submit method statement and specialist	46 days	Wed 5/6/13	Sat 20/7/13
152	4.1.2	Approve method statement and specialist from ER	59 days	Sun 21/7/13	Tue 17/9/13
153	4.1.3	**Inspection pits & Boreholes**	**139 days**	**Wed 18/9/13**	**Mon 3/2/14**
154	4.1.3.1	EX-15, LS-DH1, A-BCP7, BCP-A10, re-drill LS-DH1-3 (2 times)	15 days	Wed 18/9/13	Wed 2/10/13
155	4.1.3.2	LS-DH2 & 3, EX-05, A-BCP3, 5 & 9, FB-DH1 to 8, BCP-A11 to A13, BCP-B12, B21-B23, BCP-C04, VDH16, BDH42, BJ-P1 & P4	30 days	Thu 3/10/13	Fri 1/11/13
156	4.1.3.2.1	13 nrs.	15 days	Thu 3/10/13	Thu 17/10/13
157	4.1.3.2.2	13 nrs.	15 days	Fri 18/10/13	Fri 1/11/13
158	4.1.3.3	A-BCP8, BCP-INC02, A05, A16, A18, A19, B01, B04 & B05, BDH41 & 43, BJ-P2, P3, P5 & P6, EX-06, 08 & 13, VDH14	31 days	Sat 2/11/13	Mon 2/12/13
159	4.1.3.3.1	10 nrs.	15 days	Sat 2/11/13	Sat 16/11/13
160	4.1.3.3.2	10 nrs.	16 days	Sun 17/11/13	Mon 2/12/13
161	4.1.3.4	A-BCP1, P2, P4 & P6, BCP-A06, A14, A17 & A20, BCP-B07, BCP-D01, BDH13, EX-01, 02, 09, 10, 12 & 14	31 days	Tue 3/12/13	Thu 2/1/14
164	4.1.3.5	BCP-A07, A08, A09 & A15, BCP-B24, BCP-C01, EX-04 & 16, AADH7, VDH15, BDH37-40	32 days	Fri 3/1/14	Mon 3/2/14
167	4.1.4	Establishment of rigs at various locations	135 days	Wed 18/9/13	Thu 30/1/14
168	4.1.4.1	Establishment of rigs at various locations (1st quarter)	84 days	Wed 18/9/13	Tue 10/12/13
169	4.1.4.1.1	Establishment of rigs at various locations (1st fortnight)	14 days	Wed 18/9/13	Tue 1/10/13
170	4.1.4.1.2	Establishment of rigs at various locations (2nd fortnight)	14 days	Wed 2/10/13	Tue 15/10/13
171	4.1.4.1.3	Establishment of rigs at various locations (3rd fortnight)	14 days	Wed 16/10/13	Tue 29/10/13
172	4.1.4.1.4	Establishment of rigs at various locations (4th fortnight)	14 days	Wed 30/10/13	Tue 12/11/13
173	4.1.4.1.5	Establishment of rigs at various locations (5th fortnight)	14 days	Wed 13/11/13	Tue 26/11/13
174	4.1.4.1.6	Establishment of rigs at various locations (6th fortnight)	14 days	Wed 27/11/13	Tue 10/12/13
175	4.1.4.2	Establishment of rigs at various locations (2nd quarter)	51 days	Wed 11/12/13	Thu 30/1/14
176	4.1.4.2.1	Establishment of rigs at various locations (1st fortnight)	14 days	Wed 11/12/13	Tue 24/12/13
177	4.1.4.2.2	Establishment of rigs at various locations (2nd fortnight)	14 days	Wed 25/12/13	Tue 7/1/14
178	4.1.4.2.3	Establishment of rigs at various locations (3rd fortnight)	14 days	Wed 8/1/14	Tue 21/1/14
179	4.1.4.2.4	Establishment of rigs at various locations (4th fortnight)	9 days	Wed 22/1/14	Thu 30/1/14
180	4.1.5	**G.I works at various locations including installation of Settlement Plate (SP), Extensometer (EX), Ground Settlement Marker (GSM) & Standpipe (A-ADH7*)**	117 days	Sun 6/10/13	Thu 30/1/14
181	4.1.5.1	EX-10, 14 & 15, SP-28-33	25 days	Sun 6/10/13	Wed 30/10/13
182	4.1.5.1.1	4 nrs.	14 days	Sun 6/10/13	Sat 19/10/13
183	4.1.5.1.2	5 nrs.	11 days	Sun 20/10/13	Wed 30/10/13
184	4.1.5.2	GSM12, EX-06, 08 & 13, SP-04, 05, 08, 09, 13, 14, 23-25, 36, 47, 58, 64-66, 68, 72-78, 84	31 days	Thu 31/10/13	Sat 30/11/13



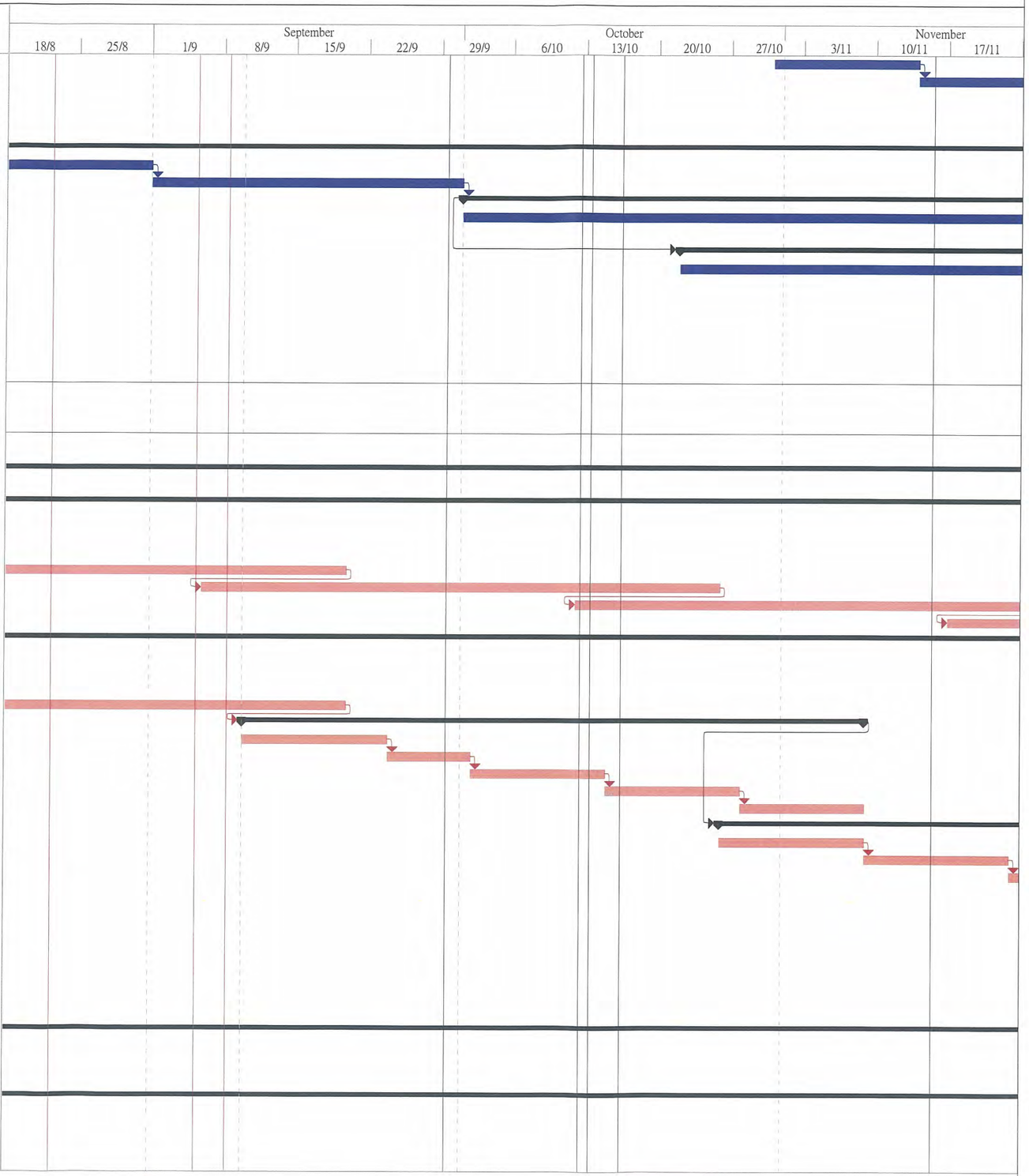
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
185	4.1.5.2.1	12 nrs.	14 days	Thu 31/10/13	Wed 13/11/13
186	4.1.5.2.2	12 nrs.	14 days	Thu 14/11/13	Wed 27/11/13
187	4.1.5.2.3	3 nrs.	3 days	Thu 28/11/13	Sat 30/11/13
188	4.1.5.3	EX-01, 02, 05, 09, 12, SP-01-03, 07, 12, 18, 19-22, 40-44, 52-55, 70, 71	30 days	Sun 1/12/13	Mon 30/12/13
192	4.1.5.4	EX-04 & 16, SP-34, 35, 45, 46, 56-57, 63, 67-69, 79-83, A-ADH7*	31 days	Tue 31/12/13	Thu 30/1/14
196	**4.2**	**Section II of the Works - All laboratory tests for Section I**	**234 days**	**Mon 15/7/13**	**Wed 5/3/14**
197	4.2.1	Propose laboratory	48 days	Mon 15/7/13	Sat 31/8/13
198	4.2.2	Approve laboratory from ER	30 days	Sun 1/9/13	Mon 30/9/13
199	4.2.3	Laboratory preparation and Carry out laboratory tests	145 days	Tue 1/10/13	Sat 22/2/14
200	4.2.3.1	lab. preparation & carry out lab. tests (1st quarter)	91 days	Tue 1/10/13	Mon 30/12/13
201	4.2.3.2	lab. preparation & carry out lab. tests (2nd quarter)	54 days	Tue 31/12/13	Sat 22/2/14
202	4.2.4	Preparation of lab report	135 days	Tue 22/10/13	Wed 5/3/14
203	4.2.4.1	preparation of lab report (1st quarter)	91 days	Tue 22/10/13	Mon 20/1/14
204	4.2.4.2	preparation of lab report (2nd quarter)	44 days	Tue 21/1/14	Wed 5/3/14
205	***4.3***	***Section III of the Works - Site formation works for Portions RS1, RS2 & RS3 (seek for certificate of completion in letter ref. SRJV/W47/SO/J5/1308/00416 dated 23/8/2013)***	***89 days***	***Sun 12/5/13***	***Thu 8/8/13***
206	*4.3.1*	*General Site Clearance for RS1,RS2, and RS3*	*14 days*	*Sun 12/5/13*	*Sat 25/5/13*
207	*4.3.2*	*Submission & approval of method statement*	*28 days*	*Sun 12/5/13*	*Sat 8/6/13*
208	*4.3.3*	***RS1 - Site formation (1500m3) for re-site and dwarf wall construction (length approx. 84m)***	*75 days*	*Sun 26/5/13*	*Thu 8/8/13*
222	4.3.4	RS2 - Omitted under VO No.1	0 days	Sun 12/5/13	Sun 12/5/13
223	*4.3.5*	***RS3 - Site formation for re-site and dwarf wall construction (approx. 840m3, wall length app. 135m)***	*75 days*	*Sun 26/5/13*	*Thu 8/8/13*
243	***4.4***	***Section IV of the Works - Village house within portion RS4 - 8.25m(L) x 7.88m(W) x 10.3m (H)***	***356 days***	***Thu 11/4/13***	***Tue 1/4/14***
244	4.4.1	***Original Planning for Section IV of the Works***	270 days	Thu 11/4/13	Sun 5/1/14
245	*4.4.1.1*	*Site Instruction from the Engineer*	*31 days*	*Thu 11/4/13*	*Sat 11/5/13*
246	*4.4.1.2*	*Submissions / Approval of material*	*45 days*	*Sun 12/5/13*	*Tue 25/6/13*
247	*4.4.1.3*	*Foundation*	*60 days*	*Sun 16/6/13*	*Wed 14/8/13*
248	*4.4.1.4*	*G/F - Ground beam, slab & BS works*	*50 days*	*Thu 1/8/13*	*Thu 19/9/13*
249	*4.4.1.5*	*1/F - Beam, wall, slab & BS works*	*50 days*	*Fri 6/9/13*	*Fri 25/10/13*
250	*4.4.1.6*	*2/F - Beam, wall, slab & BS works*	*50 days*	*Sat 12/10/13*	*Sat 30/11/13*
251	*4.4.1.7*	*R/F - Beam, wall, slab & BS works*	*50 days*	*Sun 17/11/13*	*Sun 5/1/14*
252	*4.4.2*	***Revised Planning for Section IV of the Works due to late instruction (letter ref. PWKL:rswl:60212563/C5/M15/400-2409 dated 6/8/2013)***	*239 days*	*Tue 6/8/13*	*Tue 1/4/14*
253	*4.4.2.1*	*Site Instruction from the Engineer*	*0 days*	*Tue 6/8/13*	*Tue 6/8/13*
254	*4.4.2.2*	*Submissions / Approval of material*	*45 days*	*Tue 6/8/13*	*Thu 19/9/13*
255	*4.4.2.3*	*Foundation*	*60 days*	*Tue 10/9/13*	*Fri 8/11/13*
256	*4.4.2.3.1*	*excavate foundation*	*14 days*	*Tue 10/9/13*	*Mon 23/9/13*
257	*4.4.2.3.2*	*blinding layer*	*8 days*	*Tue 24/9/13*	*Tue 1/10/13*
258	*4.4.2.3.3*	*formwork for raft foundation*	*13 days*	*Wed 2/10/13*	*Mon 14/10/13*
259	*4.4.2.3.4*	*steelwork for raft foundation*	*13 days*	*Tue 15/10/13*	*Sun 27/10/13*
260	*4.4.2.3.5*	*concreting & curing for raft foundation*	*12 days*	*Mon 28/10/13*	*Fri 8/11/13*
261	*4.4.2.4*	*G/F - Ground beam, slab & BS works*	*50 days*	*Sat 26/10/13*	*Sat 14/12/13*
262	*4.4.2.4.1*	*G/F - Ground beam*	*14 days*	*Sat 26/10/13*	*Fri 8/11/13*
263	*4.4.2.4.2*	*G/F - slab*	*14 days*	*Sat 9/11/13*	*Fri 22/11/13*
264	*4.4.2.4.3*	*G/F -BS works*	*14 days*	*Sat 23/11/13*	*Fri 6/12/13*
265	*4.4.2.4.4*	*G/F -BS works*	*8 days*	*Sat 7/12/13*	*Sat 14/12/13*
266	*4.4.2.5*	*1/F - Beam, wall, slab & BS works*	*50 days*	*Sun 1/12/13*	*Sun 19/1/14*
267	*4.4.2.5.1*	*1/F - Beam*	*14 days*	*Sun 1/12/13*	*Sat 14/12/13*
268	*4.4.2.5.2*	*1/F - wall*	*14 days*	*Sun 15/12/13*	*Sat 28/12/13*
269	*4.4.2.5.3*	*1/F - slab*	*14 days*	*Sun 29/12/13*	*Sat 11/1/14*
270	*4.4.2.5.4*	*1/F - BS works*	*8 days*	*Sun 12/1/14*	*Sun 19/1/14*
271	*4.4.2.6*	*2/F - Beam, wall, slab & BS works*	*50 days*	*Mon 6/1/14*	*Mon 24/2/14*
276	*4.4.2.7*	*R/F - Beam, wall, slab & BS works*	*50 days*	*Tue 11/2/14*	*Tue 1/4/14*
281	***4.5***	***Section V of the Works - All works within portion RS4 exclude Section IV***	***428 days***	***Thu 11/4/13***	***Thu 12/6/14***
282	*4.5.1*	*Submissions and method statement*	*31 days*	*Thu 11/4/13*	*Sat 11/5/13*
283	*4.5.2*	*Approvals from ER*	*30 days*	*Fri 26/4/13*	*Sat 25/5/13*
284	***4.5.3***	***Original Plan for Construction of footbridge and staircase with mini-piles 8 nos. x Ø273 and staircase (Drg. 2201A to 2207B, 6001B)***	***235 days***	***Thu 16/5/13***	***Sun 5/1/14***
285	*4.5.3.1*	*Mini-piles*	*60 days*	*Thu 16/5/13*	*Sun 14/7/13*
295	*4.5.3.2*	*Pile Caps*	*52 days*	*Wed 19/6/13*	*Fri 9/8/13*



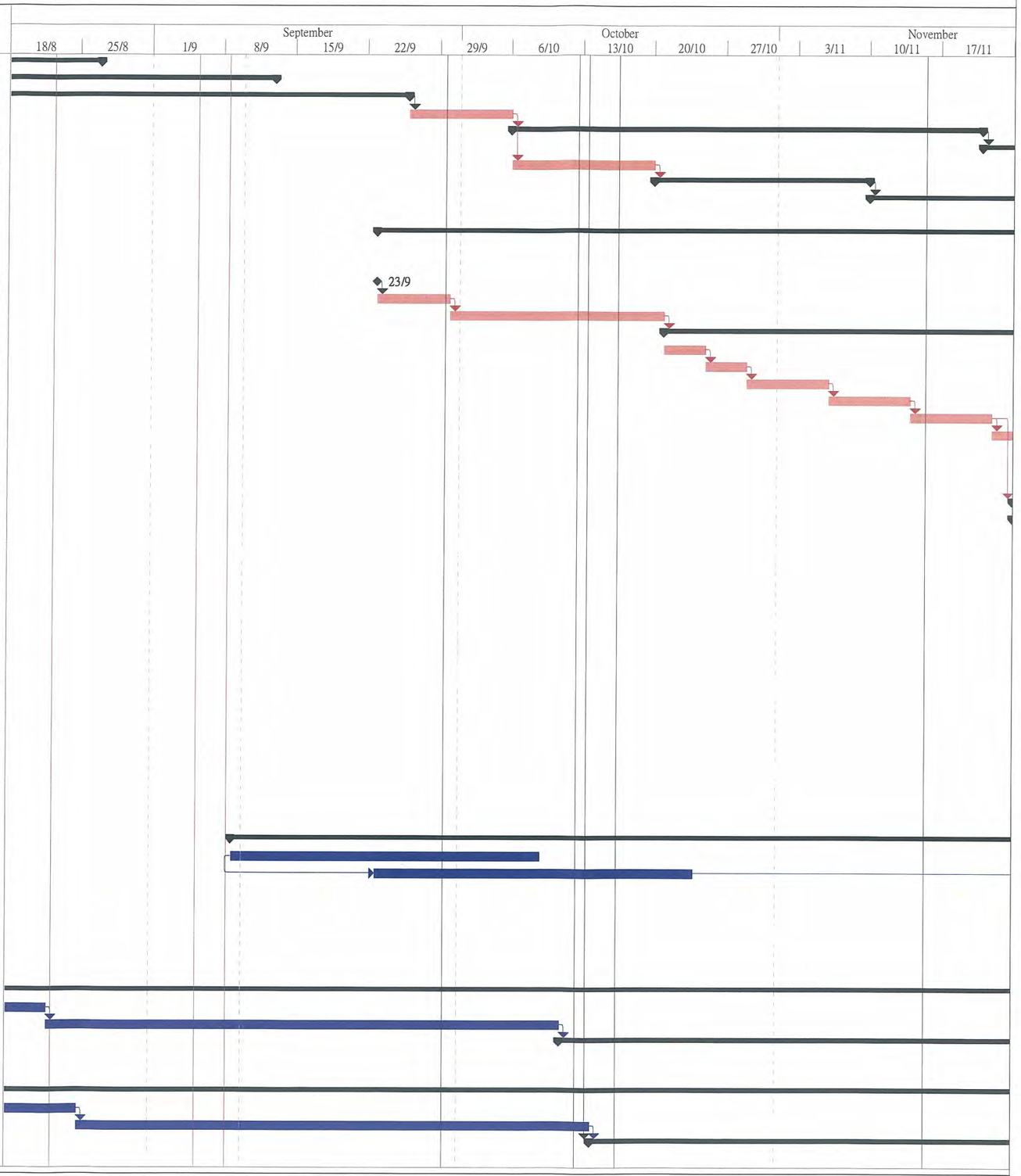
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
312	*4.5.3.3*	*Abutments*	*45 days*	*Sat 13/7/13*	*Mon 26/8/13*
323	*4.5.3.4*	*Wing walls*	*45 days*	*Tue 30/7/13*	*Thu 12/9/13*
334	*4.5.3.5*	*Mass concrete*	*41 days*	*Fri 16/8/13*	*Wed 25/9/13*
343	*4.5.3.6*	*Remove sheetpiles from abutments*	*10 days*	*Thu 26/9/13*	*Sat 5/10/13*
344	*4.5.3.7*	*Beams*	*46 days*	*Sun 6/10/13*	*Wed 20/11/13*
356	*4.5.3.8*	*Deck*	*34 days*	*Thu 21/11/13*	*Tue 24/12/13*
361	*4.5.3.9*	*Compact fill behind abutments*	*14 days*	*Sun 6/10/13*	*Sat 19/10/13*
362	*4.5.3.10*	*New footpath*	*21 days*	*Sun 20/10/13*	*Sat 9/11/13*
365	*4.5.3.11*	*New staircase*	*36 days*	*Sun 10/11/13*	*Sun 15/12/13*
372	*4.5.3.12*	*Miscellaneous (pedestrian parapet, granite tile etc.)*	*21 days*	*Mon 16/12/13*	*Sun 5/1/14*
373	*4.5.4*	***Revised Plan upon instructions from Engineer for Construction of footbridge and staircase with mini-piles 8 nos. x Ø273 and staircase (Drg. 2201A to 2207B, 6001B)***	*263 days*	*Mon 23/9/13*	*Thu 12/6/14*
374	*4.5.4.1*	*assume receive Instruction from the Engineer*	*0 days*	*Mon 23/9/13*	*Mon 23/9/13*
375	*4.5.4.2*	*Submissions and method statement*	*7 days*	*Mon 23/9/13*	*Sun 29/9/13*
376	*4.5.4.3*	*Approvals from ER*	*21 days*	*Mon 30/9/13*	*Sun 20/10/13*
377	*4.5.4.4*	*Mini-piles*	*60 days*	*Mon 21/10/13*	*Thu 19/12/13*
378	*4.5.4.4.1*	*prepare platform for mini-pile*	*4 days*	*Mon 21/10/13*	*Thu 24/10/13*
379	*4.5.4.4.2*	*establish mini-pile rig & confirm setting out*	*4 days*	*Fri 25/10/13*	*Mon 28/10/13*
380	*4.5.4.4.3*	*drill 1st-4th mini-piles*	*8 days*	*Tue 29/10/13*	*Tue 5/11/13*
381	*4.5.4.4.4*	*blow clean 1st-4th mini-piles and fix steel bars*	*8 days*	*Wed 6/11/13*	*Wed 13/11/13*
382	*4.5.4.4.5*	*grout 1st-4th mini-piles*	*8 days*	*Thu 14/11/13*	*Thu 21/11/13*
383	*4.5.4.4.6*	*establish mini-pile rig & confirm setting out*	*4 days*	*Fri 22/11/13*	*Mon 25/11/13*
384	*4.5.4.4.7*	*drill 5th-8th mini-piles*	*8 days*	*Tue 26/11/13*	*Tue 3/12/13*
385	*4.5.4.4.8*	*blow clean 5th-8th mini-piles and fix steel bars*	*8 days*	*Wed 4/12/13*	*Wed 11/12/13*
386	*4.5.4.4.9*	*grout 5st-8th mini-piles*	*8 days*	*Thu 12/12/13*	*Thu 19/12/13*
387	*4.5.4.5*	*Pile Caps*	*52 days*	*Sun 24/11/13*	*Tue 14/1/14*
388	*4.5.4.5.1*	*1st pile cap*	*24 days*	*Sun 24/11/13*	*Tue 17/12/13*
389	*4.5.4.5.1.1*	*temporary sheetpiles*	*4 days*	*Sun 24/11/13*	*Wed 27/11/13*
390	*4.5.4.5.1.2*	*excavation*	*3 days*	*Thu 28/11/13*	*Sat 30/11/13*
391	*4.5.4.5.1.3*	*prepare formation and lay blinding layer*	*2 days*	*Sun 1/12/13*	*Mon 2/12/13*
392	*4.5.4.5.1.4*	*formwork for pile cap*	*3 days*	*Tue 3/12/13*	*Thu 5/12/13*
393	*4.5.4.5.1.5*	*fix reinforcement*	*3 days*	*Fri 6/12/13*	*Sun 8/12/13*
394	*4.5.4.5.1.6*	*concrete the pile cap*	*2 days*	*Mon 9/12/13*	*Tue 10/12/13*
395	*4.5.4.5.1.7*	*curing and strip formwork*	*7 days*	*Wed 11/12/13*	*Tue 17/12/13*
396	*4.5.4.5.2*	*2nd pile cap*	*24 days*	*Sun 22/12/13*	*Tue 14/1/14*
404	*4.5.4.6*	*Abutments*	*45 days*	*Wed 18/12/13*	*Fri 31/1/14*
415	*4.5.4.7*	*Wing walls*	*45 days*	*Sat 4/1/14*	*Mon 17/2/14*
426	*4.5.4.8*	*Mass concrete*	*41 days*	*Tue 21/1/14*	*Sun 2/3/14*
435	*4.5.4.9*	*Remove sheetpiles from abutments*	*10 days*	*Mon 3/3/14*	*Wed 12/3/14*
436	*4.5.4.10*	*Beams*	*46 days*	*Thu 13/3/14*	*Sun 27/4/14*
448	*4.5.4.11*	*Deck*	*34 days*	*Mon 28/4/14*	*Sat 31/5/14*
455	*4.5.4.12*	*Compact fill behind abutments*	*14 days*	*Thu 13/3/14*	*Wed 26/3/14*
456	*4.5.4.13*	*New footpath*	*21 days*	*Thu 27/3/14*	*Wed 16/4/14*
459	*4.5.4.14*	*New staircase*	*36 days*	*Thu 17/4/14*	*Thu 22/5/14*
466	*4.5.4.15*	*Miscellaneous (pedestrian parapet, granite tile etc.)*	*21 days*	*Fri 23/5/14*	*Thu 12/6/14*
469	**4.6**	**Section VII of the Works - All works within Area CRD**	**248 days**	**Mon 9/9/13**	**Wed 14/5/14**
470	4.6.1	Submissions	30 days	Mon 9/9/13	Tue 8/10/13
471	4.6.2	Approval of submissions	31 days	Mon 23/9/13	Wed 23/10/13
472	4.6.3	Further Archaeological survey (Section T3)(Drg.6403A)	40 days	Thu 6/3/14	Mon 14/4/14
476	4.6.4	Remaining works at other portions within CRD	165 days	Sun 1/12/13	Wed 14/5/14
477	4.6.4.1	temporary fill slopes & Chain link fence (150m) & Modified CEDD hoarding Type III (130m)(Drg. 1032B)	121 days	Sun 1/12/13	Mon 31/3/14
490	4.6.4.2	waterworks within CRD (Drg.1913B)	56 days	Thu 20/3/14	Wed 14/5/14
495	4.6.4.3	roadwork for end of LMH Rd within CRD	28 days	Tue 15/4/14	Mon 12/5/14
498	**4.7**	**Section VIII of the Works - All works within Area BCPA**	**485 days**	**Tue 11/6/13**	**Wed 8/10/14**
499	4.7.1	Submissions	72 days	Tue 11/6/13	Wed 21/8/13
500	4.7.2	Approval of submissions	50 days	Thu 22/8/13	Thu 10/10/13
501	4.7.3	**Site formation of land (import fill 103000m3) including slope drainage works**	363 days	Fri 11/10/13	Wed 8/10/14
534	4.7.4	**Chain link fence (1150m)(Drg/ 1033B)**	100 days	Tue 1/7/14	Wed 8/10/14
545	**4.8**	**Section IX of the Works - All works within Area BCPB**	**669 days**	**Tue 11/6/13**	**Fri 10/4/15**
546	4.8.1	Submissions	75 days	Tue 11/6/13	Sat 24/8/13
547	4.8.2	Approval of submissions	50 days	Sun 25/8/13	Sun 13/10/13
548	4.8.3	**Demolition of existing building structures UPON instruction (Drg. 6152A, 6153A)**	240 days	Mon 14/10/13	Tue 10/6/14



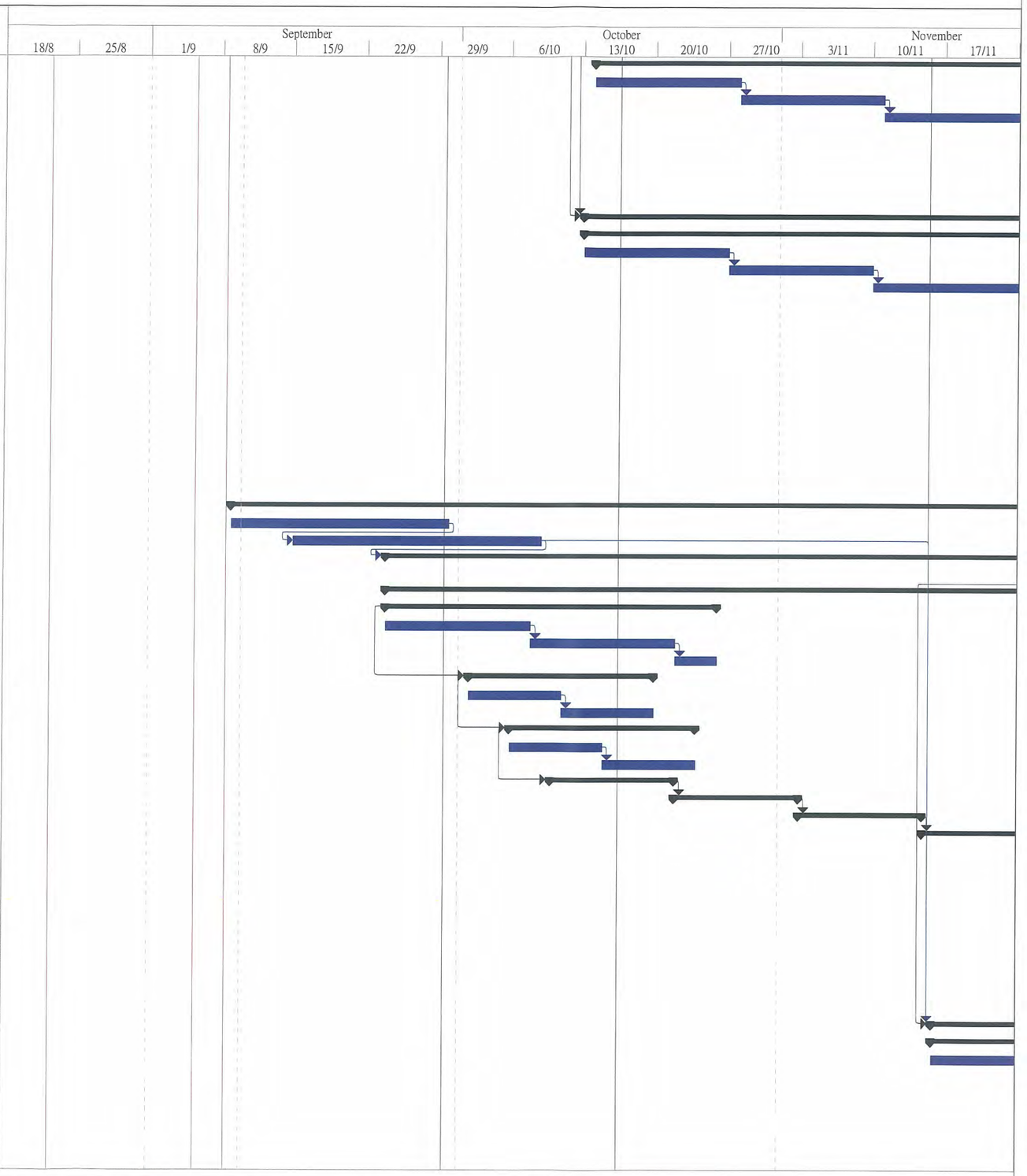
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
549	4.8.3.1	demolition of existing building structure (1st quarter)	84 days	Mon 14/10/13	Sun 5/1/14
550	4.8.3.1.1	demolition of existing building structure (1st fortnight)	14 days	Mon 14/10/13	Sun 27/10/13
551	4.8.3.1.2	demolition of existing building structure (2nd fortnight)	14 days	Mon 28/10/13	Sun 10/11/13
552	4.8.3.1.3	demolition of existing building structure (3rd fortnight)	14 days	Mon 11/11/13	Sun 24/11/13
553	4.8.3.1.4	demolition of existing building structure (4th fortnight)	14 days	Mon 25/11/13	Sun 8/12/13
554	4.8.3.1.5	demolition of existing building structure (5th fortnight)	14 days	Mon 9/12/13	Sun 22/12/13
555	4.8.3.1.6	demolition of existing building structure (6th fortnight)	14 days	Mon 23/12/13	Sun 5/1/14
556	4.8.3.2	demolition of existing building structure (2nd quarter)	84 days	Mon 6/1/14	Sun 30/3/14
563	4.8.3.3	demolition of existing building structure (3rd quarter)	72 days	Mon 31/3/14	Tue 10/6/14
570	4.8.4	Site formation works (import fill 90000m3)	544 days	Sun 13/10/13	Thu 9/4/15
571	4.8.4.1	site formation works (1st quarter)	91 days	Sun 13/10/13	Sat 11/1/14
572	4.8.4.1.1	site formation works (1st fortnight)	14 days	Sun 13/10/13	Sat 26/10/13
573	4.8.4.1.2	site formation works (2nd fortnight)	14 days	Sun 27/10/13	Sat 9/11/13
574	4.8.4.1.3	site formation works (3rd fortnight)	14 days	Sun 10/11/13	Sat 23/11/13
575	4.8.4.1.4	site formation works (4th fortnight)	14 days	Sun 24/11/13	Sat 7/12/13
576	4.8.4.1.5	site formation works (5th fortnight)	14 days	Sun 8/12/13	Sat 21/12/13
577	4.8.4.1.6	site formation works (6th fortnight)	14 days	Sun 22/12/13	Sat 4/1/14
578	4.8.4.1.7	site formation works (7th fortnight)	7 days	Sun 5/1/14	Sat 11/1/14
579	4.8.4.2	site formation works (2nd quarter)	91 days	Sun 12/1/14	Sat 12/4/14
587	4.8.4.3	site formation works (3rd quarter)	91 days	Sun 13/4/14	Sat 12/7/14
595	4.8.4.4	site formation works (4th quarter)	91 days	Sun 13/7/14	Sat 11/10/14
603	4.8.4.5	site formation works (5th quarter)	91 days	Sun 12/10/14	Sat 10/1/15
611	4.8.4.6	site formation works (6th quarter)	89 days	Sun 11/1/15	Thu 9/4/15
619	4.8.5	Utilities diversions (Drg.1405A, 1406A, 1407A)	150 days	Thu 14/8/14	Sat 10/1/15
634	4.8.6	Temp. boundary fence (230m), chain link fence (790m)(Drg.1002C, 1032B, 1033B)	120 days	Fri 12/12/14	Fri 10/4/15
647	4.9	**Section X of the Works - All works within Area BCPC**	**268 days**	**Mon 9/9/13**	**Tue 3/6/14**
648	4.9.1	Submissions	21 days	Mon 9/9/13	Sun 29/9/13
649	4.9.2	Approval of Submissions	24 days	Sun 15/9/13	Tue 8/10/13
650	4.9.3	**Construction of retaining wall RW2-CH840-1025 (length approx. 185m)**	248 days	Tue 24/9/13	Thu 29/5/14
651	4.9.3.1	Bay 2110-2137 (28 bays)	248 days	Tue 24/9/13	Thu 29/5/14
652	4.9.3.1.1	excavation / sheetpile	32 days	Tue 24/9/13	Fri 25/10/13
653	4.9.3.1.1.1	excavation / sheetpile first 13 bays	14 days	Tue 24/9/13	Mon 7/10/13
654	4.9.3.1.1.2	excavation / sheetpile second 13 bays	14 days	Tue 8/10/13	Mon 21/10/13
655	4.9.3.1.1.3	excavation / sheetpile third 2 bays	4 days	Tue 22/10/13	Fri 25/10/13
656	4.9.3.1.2	grade 200 rock fill	18 days	Wed 2/10/13	Sat 19/10/13
657	4.9.3.1.2.1	grade 200 rock fill (14 bays)	9 days	Wed 2/10/13	Thu 10/10/13
658	4.9.3.1.2.2	grade 200 rock fill (14 bays)	9 days	Fri 11/10/13	Sat 19/10/13
659	4.9.3.1.3	blinding layer	18 days	Sun 6/10/13	Wed 23/10/13
660	4.9.3.1.3.1	blinding layer (14 bays)	9 days	Sun 6/10/13	Mon 14/10/13
661	4.9.3.1.3.2	blinding layer (14 bays)	9 days	Tue 15/10/13	Wed 23/10/13
662	4.9.3.1.4	Bay 2110 to Bay 2113 (base)	12 days	Thu 10/10/13	Mon 21/10/13
668	4.9.3.1.5	Bay 2114 to Bay 2117 (base)	12 days	Tue 22/10/13	Sat 2/11/13
674	4.9.3.1.6	Bay 2118 to Bay 2121 (base)	12 days	Sun 3/11/13	Thu 14/11/13
680	4.9.3.1.7	Bay 2122 to Bay 2125 (base)	12 days	Fri 15/11/13	Tue 26/11/13
686	4.9.3.1.8	Bay 2126 to Bay 2129 (base)	12 days	Wed 27/11/13	Sun 8/12/13
692	4.9.3.1.9	Bay 2130 to Bay 2133 (base)	12 days	Mon 9/12/13	Fri 20/12/13
698	4.9.3.1.10	Bay 2134 to Bay 2137(base)	12 days	Sat 21/12/13	Wed 1/1/14
704	4.9.3.1.11	Bay 2110 to Bay 2113 (wall)	20 days	Thu 2/1/14	Tue 21/1/14
710	4.9.3.1.12	Bay 2114 to Bay 2117 (wall)	20 days	Wed 22/1/14	Mon 10/2/14
716	4.9.3.1.13	Bay 2118 to Bay 2121 (wall)	20 days	Tue 11/2/14	Sun 2/3/14
722	4.9.3.1.14	Bay 2122 to Bay 2125 (wall)	22 days	Mon 3/3/14	Mon 24/3/14
728	4.9.3.1.15	Bay 2126 to Bay 2129 (wall)	22 days	Tue 25/3/14	Tue 15/4/14
734	4.9.3.1.16	Bay 2130 to Bay 2133 (wall)	22 days	Wed 16/4/14	Wed 7/5/14
740	4.9.3.1.17	Bay 2134 to Bay 2137 (wall)	22 days	Thu 8/5/14	Thu 29/5/14
746	4.9.4	Site Formation works (import fill 33000m3)	200 days	Sat 16/11/13	Tue 3/6/14
747	4.9.4.1	site formation works (1st quarter)	91 days	Sat 16/11/13	Fri 14/2/14
748	4.9.4.1.1	site formation works (1st fortnight)	14 days	Sat 16/11/13	Fri 29/11/13
749	4.9.4.1.2	site formation works (2nd fortnight)	14 days	Sat 30/11/13	Fri 13/12/13
750	4.9.4.1.3	site formation works (3rd fortnight)	14 days	Sat 14/12/13	Fri 27/12/13
751	4.9.4.1.4	site formation works (4th fortnight)	14 days	Sat 28/12/13	Fri 10/1/14
752	4.9.4.1.5	site formation works (5th fortnight)	14 days	Sat 11/1/14	Fri 24/1/14
753	4.9.4.1.6	site formation works (6th fortnight)	14 days	Sat 25/1/14	Fri 7/2/14
754	4.9.4.1.7	site formation works (7th fortnight)	7 days	Sat 8/2/14	Fri 14/2/14



Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
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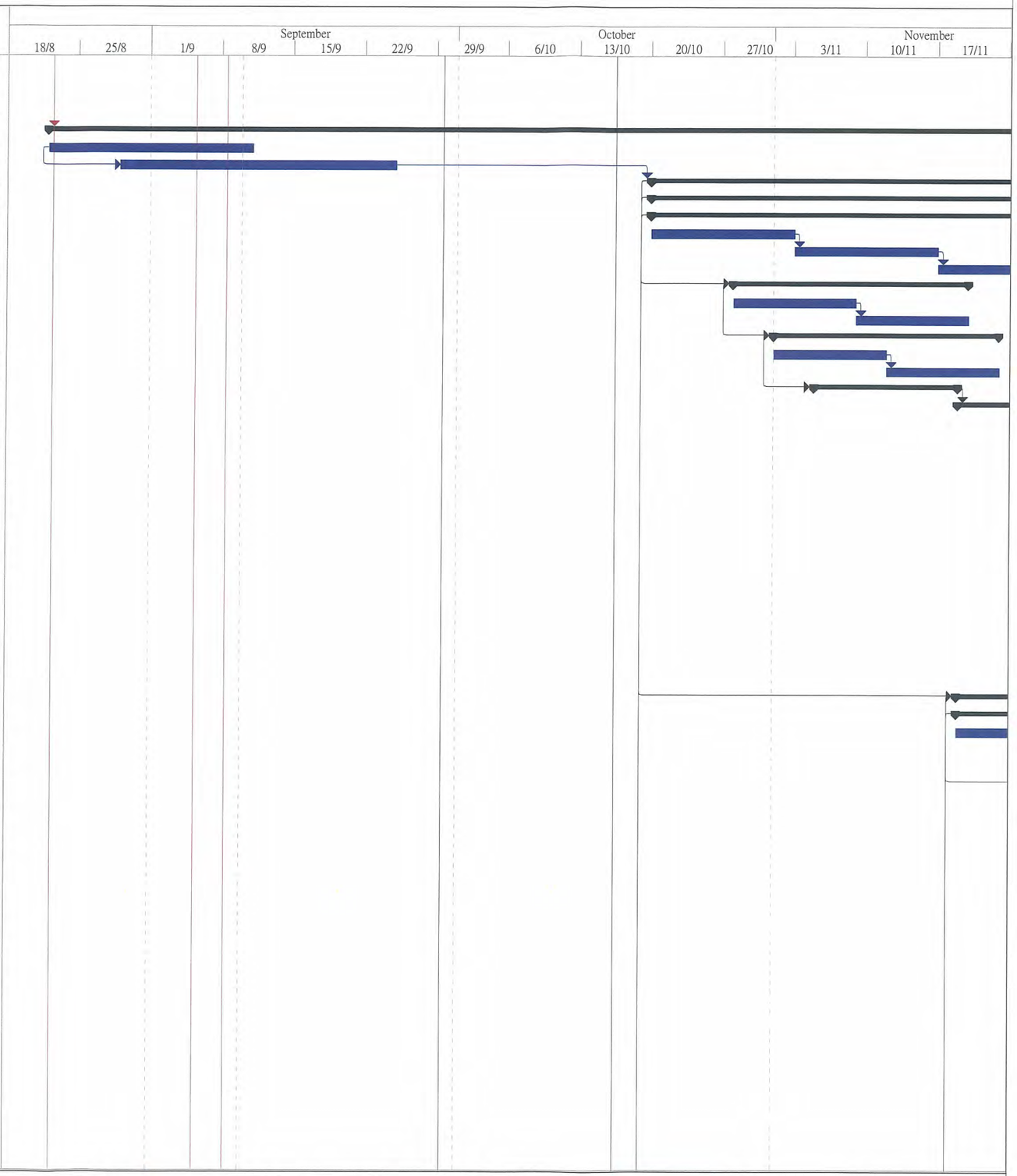
Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
755	4.9.4.2	site formation works (2nd quarter)	90 days	Sat 15/2/14	Thu 15/5/14
763	4.9.4.3	site formation works (3rd quarter)	19 days	Fri 16/5/14	Tue 3/6/14
766	4.9.5	Drainage Works & Irrigation System (Drg.1305C, 1975B)	60 days	Sat 5/4/14	Tue 3/6/14
772	4.9.6	Utilities Works (Drg. 1405A)	30 days	Sun 20/4/14	Mon 19/5/14
776	**4.10**	**Section XI of the Works - All works within Area BCPD**	**597 days**	**Thu 22/8/13**	**Fri 10/4/15**
777	4.10.1	Submissions	20 days	Thu 22/8/13	Tue 10/9/13
778	4.10.2	Approval of Submissions	27 days	Thu 29/8/13	Tue 24/9/13
779	4.10.3	**Construction of retaining wall RW2 - CH0 to 840 (length 840m)**	417 days	Sun 20/10/13	Wed 10/12/14
780	4.10.3.1	Bay 2109-2074 (36 bays)	339 days	Sun 20/10/13	Tue 23/9/14
781	4.10.3.1.1	excavation / sheetpile	40 days	Sun 20/10/13	Thu 28/11/13
782	4.10.3.1.1.1	excavation / sheetpile first 12 bays	14 days	Sun 20/10/13	Sat 2/11/13
783	4.10.3.1.1.2	excavation / sheetpile second 12 bays	14 days	Sun 3/11/13	Sat 16/11/13
784	4.10.3.1.1.3	excavation / sheetpile third 12 bays	12 days	Sun 17/11/13	Thu 28/11/13
785	4.10.3.1.2	grade 200 rock fill	23 days	Mon 28/10/13	Tue 19/11/13
786	4.10.3.1.2.1	grade 200 rock fill (18 bays)	12 days	Mon 28/10/13	Fri 8/11/13
787	4.10.3.1.2.2	grade 200 rock fill (18 bays)	11 days	Sat 9/11/13	Tue 19/11/13
788	4.10.3.1.3	blinding layer	22 days	Fri 1/11/13	Fri 22/11/13
789	4.10.3.1.3.1	blinding layer (18 bays)	11 days	Fri 1/11/13	Mon 11/11/13
790	4.10.3.1.3.2	blinding layer (18 bays)	11 days	Tue 12/11/13	Fri 22/11/13
791	4.10.3.1.4	Bay 2109 to Bay 2106 (base)	14 days	Tue 5/11/13	Mon 18/11/13
797	4.10.3.1.5	Bay 2105 to Bay 2102 (base)	14 days	Tue 19/11/13	Mon 2/12/13
803	4.10.3.1.6	Bay 2101 to Bay 2098 (base)	14 days	Tue 3/12/13	Mon 16/12/13
809	4.10.3.1.7	Bay 2097 to Bay 2094 (base)	14 days	Tue 17/12/13	Mon 30/12/13
815	4.10.3.1.8	Bay 2093 to Bay 2090 (base)	14 days	Tue 31/12/13	Mon 13/1/14
821	4.10.3.1.9	Bay 2089 to Bay 2086 (base)	14 days	Tue 14/1/14	Mon 27/1/14
827	4.10.3.1.10	Bay 2085 to Bay 2082(base)	14 days	Tue 28/1/14	Mon 10/2/14
833	4.10.3.1.11	Bay 2081 to Bay 2078(base)	14 days	Tue 11/2/14	Mon 24/2/14
839	4.10.3.1.12	Bay 2077 to Bay 2074(base)	14 days	Tue 25/2/14	Mon 10/3/14
845	4.10.3.1.13	Bay 2109 to Bay 2106 (wall)	21 days	Tue 11/3/14	Mon 31/3/14
851	4.10.3.1.14	Bay 2105 to Bay 2102 (wall)	22 days	Tue 1/4/14	Tue 22/4/14
857	4.10.3.1.15	Bay 2101 to Bay 2098 (wall)	22 days	Wed 23/4/14	Wed 14/5/14
863	4.10.3.1.16	Bay 2097 to Bay 2094 (wall)	22 days	Thu 15/5/14	Thu 5/6/14
869	4.10.3.1.17	Bay 2093 to Bay 2090 (wall)	22 days	Fri 6/6/14	Fri 27/6/14
875	4.10.3.1.18	Bay 2089 to Bay 2086 (wall)	22 days	Sat 28/6/14	Sat 19/7/14
881	4.10.3.1.19	Bay 2085 to Bay 2082 (wall)	22 days	Sun 20/7/14	Sun 10/8/14
887	4.10.3.1.20	Bay 2081 to Bay 2078 (wall)	22 days	Mon 11/8/14	Mon 1/9/14
893	4.10.3.1.21	Bay 2077 to Bay 2074 (wall)	22 days	Tue 2/9/14	Tue 23/9/14
899	4.10.3.2	Bay 2073-2038 (36 bays)	340 days	Tue 19/11/13	Fri 24/10/14
900	4.10.3.2.1	excavation / sheetpile	40 days	Tue 19/11/13	Sat 28/12/13
901	4.10.3.2.1.1	excavation / sheetpile first 12 bays	14 days	Tue 19/11/13	Mon 2/12/13
902	4.10.3.2.1.2	excavation / sheetpile second 12 bays	14 days	Tue 3/12/13	Mon 16/12/13
903	4.10.3.2.1.3	excavation / sheetpile third 12 bays	12 days	Tue 17/12/13	Sat 28/12/13
904	4.10.3.2.2	grade 200 rock fill	23 days	Wed 27/11/13	Thu 19/12/13
905	4.10.3.2.2.1	grade 200 rock fill (first phase)	14 days	Wed 27/11/13	Tue 10/12/13
906	4.10.3.2.2.2	grade 200 rock fill (second phase)	9 days	Wed 11/12/13	Thu 19/12/13
907	4.10.3.2.3	blinding layer	22 days	Sun 1/12/13	Sun 22/12/13
908	4.10.3.2.3.1	blinding layer (1st fortnight)	14 days	Sun 1/12/13	Sat 14/12/13
909	4.10.3.2.3.2	blinding layer (2nd fortnight)	8 days	Sun 15/12/13	Sun 22/12/13
910	4.10.3.2.4	Bay 2073 to Bay 2070 (base)	14 days	Thu 5/12/13	Wed 18/12/13
916	4.10.3.2.5	Bay 2069 to Bay 2066 (base)	14 days	Thu 19/12/13	Wed 1/1/14
922	4.10.3.2.6	Bay 2065 to Bay 2062 (base)	14 days	Thu 2/1/14	Wed 15/1/14
928	4.10.3.2.7	Bay 2061 to Bay 2058 (base)	14 days	Thu 16/1/14	Wed 29/1/14
934	4.10.3.2.8	Bay 2057 to Bay 2054 (base)	14 days	Thu 30/1/14	Wed 12/2/14
940	4.10.3.2.9	Bay 2053 to Bay 2050 (base)	14 days	Thu 13/2/14	Wed 26/2/14
946	4.10.3.2.10	Bay 2049 to Bay 2046(base)	14 days	Thu 27/2/14	Wed 12/3/14
952	4.10.3.2.11	Bay 2045 to Bay 2042(base)	14 days	Thu 13/3/14	Wed 26/3/14
958	4.10.3.2.12	Bay 2041 to Bay 2038(base)	14 days	Thu 27/3/14	Wed 9/4/14
964	4.10.3.2.13	Bay 2073 to Bay 2070 (wall)	22 days	Thu 10/4/14	Thu 1/5/14
970	4.10.3.2.14	Bay 2069 to Bay 2066 (wall)	22 days	Fri 2/5/14	Fri 23/5/14
976	4.10.3.2.15	Bay 2065 to Bay 2062 (wall)	22 days	Sat 24/5/14	Sat 14/6/14
982	4.10.3.2.16	Bay 2061 to Bay 2058 (wall)	22 days	Sun 15/6/14	Sun 6/7/14
988	4.10.3.2.17	Bay 2057 to Bay 2054 (wall)	22 days	Mon 7/7/14	Mon 28/7/14
994	4.10.3.2.18	Bay 2053 to Bay 2050 (wall)	22 days	Tue 29/7/14	Tue 19/8/14
1000	4.10.3.2.19	Bay 2049 to Bay 2046 (wall)	22 days	Wed 20/8/14	Wed 10/9/14
1006	4.10.3.2.20	Bay 2045 to Bay 2042 (wall)	22 days	Thu 11/9/14	Thu 2/10/14



Revision: 1

Task — Summary — Inactive Summary — Manual Summary Rollup — Finish-only — Critical — Deadline

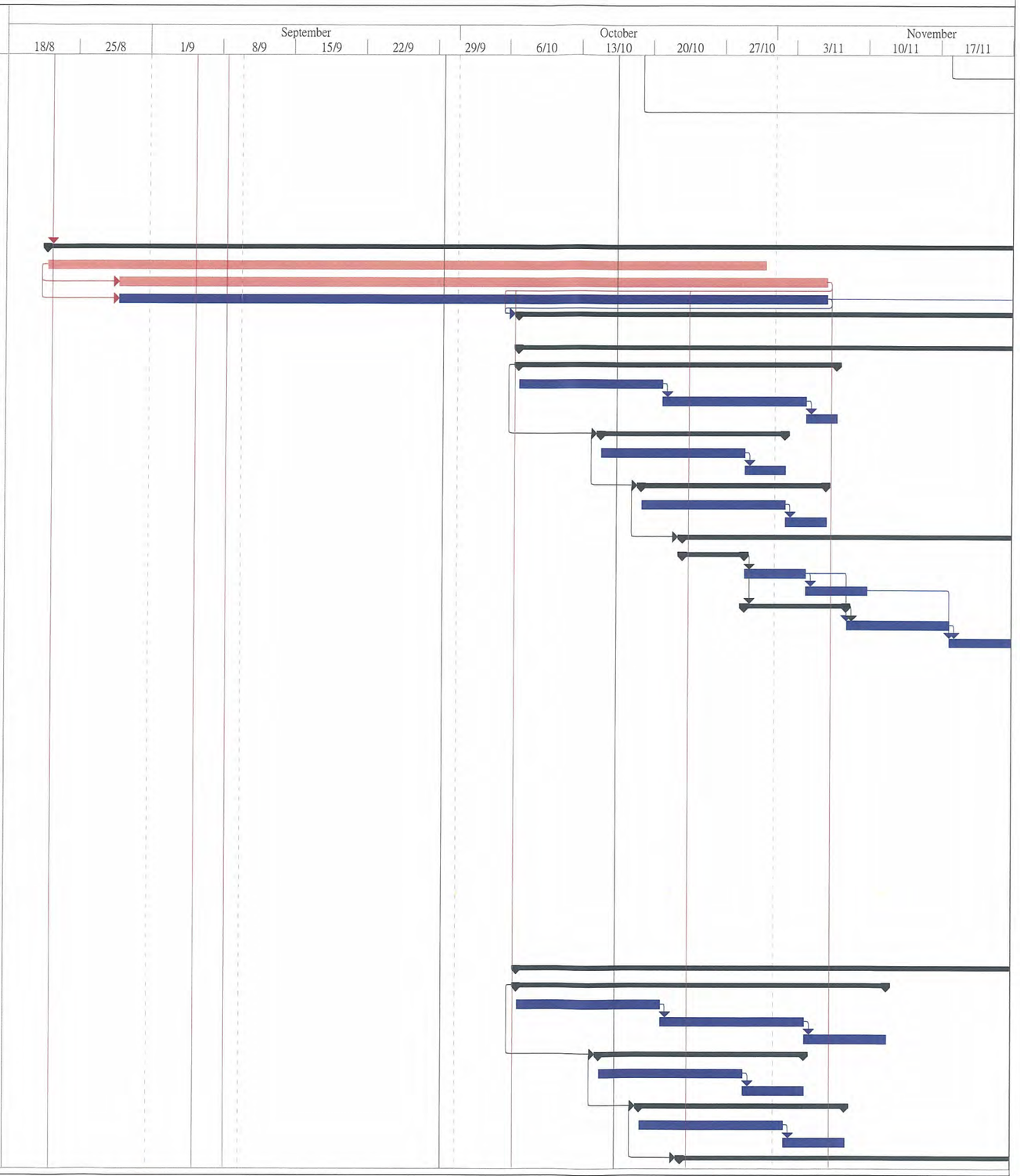
Split — Project Summary — Manual Task — Manual Summary — External Tasks — Critical Split

Milestone — Inactive Milestone — Duration-only — Start-only — External Milestone — Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
1012	4.10.3.2.21	Bay 2041 to Bay 2038 (wall)	22 days	Fri 3/10/14	Fri 24/10/14
1018	4.10.3.3	Bay 2037-2001 (37 bays)	357 days	Thu 19/12/13	Wed 10/12/14
1147	4.10.4	Boundary fence (length 1635m)(Drg.1002C, 1003A)	300 days	Sun 15/6/14	Fri 10/4/15
1175	4.10.5	Site Formation works (import fill 36000m3) including slope drainage works (Drg. 7155B-7159B)	495 days	Mon 2/12/13	Fri 10/4/15
1221	4.10.6	**Construction of depressed road & underpass - 9.3m wide x 168m long**	406 days	Tue 17/12/13	Mon 26/1/15
1306	4.10.7	Sewerage, Drainage & Water Works (Drg. 1323B,1305C,1308A,1309A,1915B)	365 days	Sat 22/3/14	Sat 21/3/15
1339	4.10.8	Irrigation System near Chuk Yuen (Drg. 1975B)	60 days	Tue 27/1/15	Fri 27/3/15
1345	4.10.9	Utilities Works (Drg. 1405)	60 days	Fri 6/2/15	Mon 6/4/15
1351	4.10.10	Road works and Road lighting works (Drg.1505C)	160 days	Sat 1/11/14	Thu 9/4/15
1366	***4.11***	***Section XII of the Works - All works within Area LMH***	***535 days***	***Thu 22/8/13***	***Sat 7/2/15***
1367	4.11.1	Submissions	70 days	Thu 22/8/13	Wed 30/10/13
1368	4.11.2	Approval of Submissions	69 days	Thu 29/8/13	Tue 5/11/13
1369	4.11.3	Construct temporary haul roads	69 days	Thu 29/8/13	Tue 5/11/13
1370	4.11.4	**Construction of retaining wall RW1 - CH0 to 561.053m (length approx. 561m)**	403 days	Mon 7/10/13	Thu 13/11/14
1371	4.11.4.1	Bay 1009-1011 & 1044-1067) (27 bays)	403 days	Mon 7/10/13	Thu 13/11/14
1372	4.11.4.1.1	excavation / sheetpile	31 days	Mon 7/10/13	Wed 6/11/13
1373	4.11.4.1.1.1	excavation / sheetpile first 12 bays	14 days	Mon 7/10/13	Sun 20/10/13
1374	4.11.4.1.1.2	excavation / sheetpile second 12 bays	14 days	Mon 21/10/13	Sun 3/11/13
1375	4.11.4.1.1.3	excavation / sheetpile third 3bays	3 days	Mon 4/11/13	Wed 6/11/13
1376	4.11.4.1.2	grade 200 rock fill	18 days	Tue 15/10/13	Fri 1/11/13
1377	4.11.4.1.2.1	grade 200 rock fill (21 bays)	14 days	Tue 15/10/13	Mon 28/10/13
1378	4.11.4.1.2.2	grade 200 rock fill (6 bays)	4 days	Tue 29/10/13	Fri 1/11/13
1379	4.11.4.1.3	blinding layer	18 days	Sat 19/10/13	Tue 5/11/13
1380	4.11.4.1.3.1	blinding layer (21 bays)	14 days	Sat 19/10/13	Fri 1/11/13
1381	4.11.4.1.3.2	blinding layer (6 bays)	4 days	Sat 2/11/13	Tue 5/11/13
1382	4.11.4.1.4	Bay 1011 to Bay 1009 (base)	36 days	Wed 23/10/13	Wed 27/11/13
1383	4.11.4.1.4.1	base slab 1	6 days	Wed 23/10/13	Mon 28/10/13
1387	4.11.4.1.4.2	base slab 2	6 days	Tue 29/10/13	Sun 3/11/13
1388	4.11.4.1.4.3	base slab 3	6 days	Mon 4/11/13	Sat 9/11/13
1389	4.11.4.1.4.4	wall 1	10 days	Tue 29/10/13	Thu 7/11/13
1393	4.11.4.1.4.5	wall 2	10 days	Fri 8/11/13	Sun 17/11/13
1394	4.11.4.1.4.6	wall 3	10 days	Mon 18/11/13	Wed 27/11/13
1395	4.11.4.1.5	Bay 1011 to Bay 1009 (wall)	32 days	Mon 13/10/14	Thu 13/11/14
1396	4.11.4.1.5.1	wall 1	11 days	Mon 13/10/14	Thu 23/10/14
1400	4.11.4.1.5.2	wall 2	11 days	Fri 24/10/14	Mon 3/11/14
1401	4.11.4.1.5.3	wall 3	10 days	Tue 4/11/14	Thu 13/11/14
1402	4.11.4.1.6	Bay 1067 to Bay 1060 (base)	48 days	Thu 28/11/13	Tue 14/1/14
1403	4.11.4.1.6.1	base slab 1	6 days	Thu 28/11/13	Tue 3/12/13
1407	4.11.4.1.6.2	base slab 2	6 days	Wed 4/12/13	Mon 9/12/13
1408	4.11.4.1.6.3	base slab 3	6 days	Tue 10/12/13	Sun 15/12/13
1409	4.11.4.1.6.4	base slab 4	6 days	Mon 16/12/13	Sat 21/12/13
1410	4.11.4.1.6.5	base slab 5	6 days	Sun 22/12/13	Fri 27/12/13
1411	4.11.4.1.6.6	base slab 6	6 days	Sat 28/12/13	Thu 2/1/14
1412	4.11.4.1.6.7	base slab 7	6 days	Fri 3/1/14	Wed 8/1/14
1413	4.11.4.1.6.8	base slab 8	6 days	Thu 9/1/14	Tue 14/1/14
1414	4.11.4.1.7	Bay 1059 to Bay 1052 (base)	48 days	Wed 15/1/14	Mon 3/3/14
1426	4.11.4.1.8	Bay 1051 to Bay 1044 (base)	52 days	Tue 4/3/14	Thu 24/4/14
1438	4.11.4.1.9	Bay 1044 to Bay 1051 (wall)	88 days	Fri 25/4/14	Mon 21/7/14
1450	4.11.4.1.10	Bay 1052 to Bay 1059 (wall)	88 days	Tue 22/7/14	Fri 17/10/14
1462	4.11.4.1.11	Bay 1060 to Bay 1067 (wall)	80 days	Wed 15/1/14	Fri 4/4/14
1474	4.11.4.2	Bay 1012 - 1043 (32 bays)	301 days	Mon 7/10/13	Sun 3/8/14
1475	4.11.4.2.1	excavation / sheetpile	36 days	Mon 7/10/13	Mon 11/11/13
1476	4.11.4.2.1.1	excavation / sheetpile (12 bays)	14 days	Mon 7/10/13	Sun 20/10/13
1477	4.11.4.2.1.2	excavation / sheetpile (12 bays)	14 days	Mon 21/10/13	Sun 3/11/13
1478	4.11.4.2.1.3	excavation / sheetpile (8 bays)	8 days	Mon 4/11/13	Mon 11/11/13
1479	4.11.4.2.2	grade 200 rock fill	20 days	Tue 15/10/13	Sun 3/11/13
1480	4.11.4.2.2.1	grade 200 rock fill (22 bays)	14 days	Tue 15/10/13	Mon 28/10/13
1481	4.11.4.2.2.2	grade 200 rock fill (10 bays)	6 days	Tue 29/10/13	Sun 3/11/13
1482	4.11.4.2.3	blinding layer	20 days	Sat 19/10/13	Thu 7/11/13
1483	4.11.4.2.3.1	blinding layer (22 bays)	14 days	Sat 19/10/13	Fri 1/11/13
1484	4.11.4.2.3.2	blinding layer (10 bays)	6 days	Sat 2/11/13	Thu 7/11/13
1485	4.11.4.2.4	Bay 1019 to Bay 1012 (base)	48 days	Wed 23/10/13	Mon 9/12/13



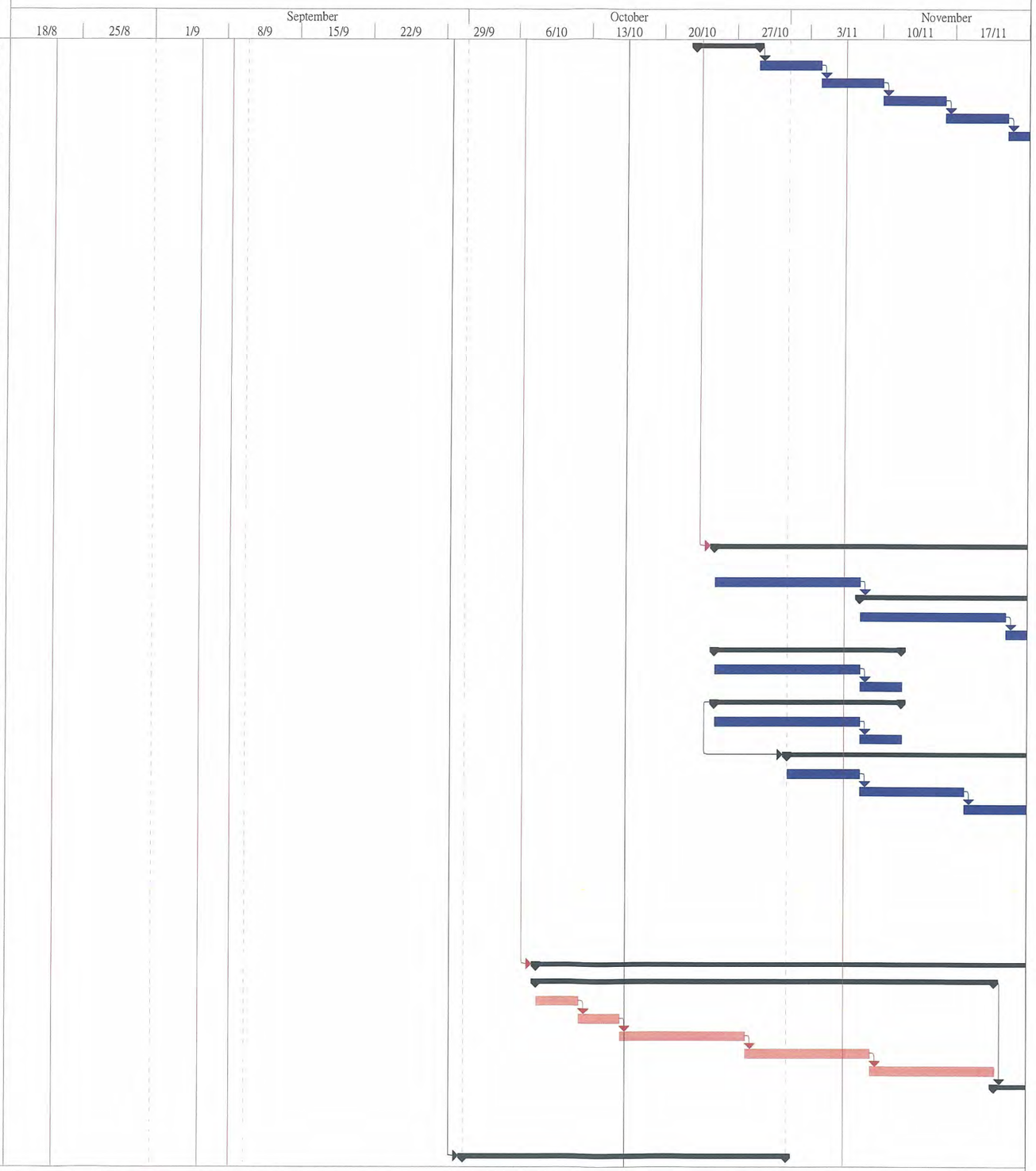
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
1486	4.11.4.2.4.1	base slab 1	6 days	Wed 23/10/13	Mon 28/10/13
1490	4.11.4.2.4.2	base slab 2	6 days	Tue 29/10/13	Sun 3/11/13
1491	4.11.4.2.4.3	base slab 3	6 days	Mon 4/11/13	Sat 9/11/13
1492	4.11.4.2.4.4	base slab 4	6 days	Sun 10/11/13	Fri 15/11/13
1493	4.11.4.2.4.5	base slab 5	6 days	Sat 16/11/13	Thu 21/11/13
1494	4.11.4.2.4.6	base slab 6	6 days	Fri 22/11/13	Wed 27/11/13
1495	4.11.4.2.4.7	base slab 7	6 days	Thu 28/11/13	Tue 3/12/13
1496	4.11.4.2.4.8	base slab 8	6 days	Wed 4/12/13	Mon 9/12/13
1497	4.11.4.2.5	Bay 1020 to Bay 1027 (base)	48 days	Tue 10/12/13	Sun 26/1/14
1509	4.11.4.2.6	Bay 1028 to Bay 1035 (base)	48 days	Mon 27/1/14	Sat 15/3/14
1521	4.11.4.2.7	Bay 1036 to Bay 1043 (base)	53 days	Sun 16/3/14	Wed 7/5/14
1533	4.11.4.2.8	Bay 1012 to Bay 1019 (wall)	115 days	Tue 10/12/13	Thu 3/4/14
1546	4.11.4.2.9	Bay 1020 to Bay 1027 (wall)	91 days	Mon 27/1/14	Sun 27/4/14
1559	4.11.4.2.10	Bay 1028 to Bay 1035 (wall)	88 days	Sun 16/3/14	Wed 11/6/14
1571	4.11.4.2.11	Bay 1036 to Bay 1043 (wall)	88 days	Thu 8/5/14	Sun 3/8/14
1583	4.11.4.3	Bay 1001 to Bay 1008 (8 bays)	101 days	Thu 24/7/14	Sat 1/11/14
1609	*4.11.4.4*	*Bay 1068 to Bay 1075 (8 bays)*	*109 days*	*Sun 1/6/14*	*Wed 17/9/14*
1635	*4.11.5*	***Construction of retaining wall RW1A-CH561.053 to 612.457m (length approx.. 51.4m)***	*75 days*	*Thu 18/9/14*	*Mon 1/12/14*
1660	4.11.6	Site formation works (import fill 15300m3) including slope drainage works (Drg. 7154B, 7159B)	285 days	Mon 17/2/14	Fri 28/11/14
1686	4.11.7	Drainage works and road lighting works at Lin Ma Hang Road (Drg. 1304B, 1306A, 1307A, 1309A)	160 days	Mon 24/3/14	Sat 30/8/14
1687	4.11.7.1	drainage & road lighting works at LMH Road (1st quarter)	92 days	Mon 24/3/14	Mon 23/6/14
1695	4.11.7.2	drainage & road lighting works at LMH Road (2nd quarter)	68 days	Tue 24/6/14	Sat 30/8/14
1701	4.11.8	Water works & Irrigation System at Lin Ma Hang Road (Drg/1914B-1917B, 1974B, 1976A, 1977A)	45 days	Wed 2/7/14	Fri 15/8/14
1706	4.11.9	Roadwork of carriageway (new Lin Ma Hang Road)	92 days	Thu 8/5/14	Thu 7/8/14
1718	4.11.10	Construction of footpath	90 days	Wed 6/8/14	Mon 3/11/14
1719	4.11.11	**Construction of pedestrian subway & pump room (5m x 4.3m x 31m long)**	263 days	Fri 25/10/13	Mon 14/7/14
1720	4.11.11.1	prepare formation of sheetpiling	14 days	Fri 25/10/13	Thu 7/11/13
1721	4.11.11.2	sheetpiling cofferdam	18 days	Fri 8/11/13	Mon 25/11/13
1722	4.11.11.2.1	sheetpiling cofferdam (1st fortnight)	14 days	Fri 8/11/13	Thu 21/11/13
1723	4.11.11.2.2	sheetpiling cofferdam (2nd fortnight)	4 days	Fri 22/11/13	Mon 25/11/13
1724	4.11.11.3	rubble mound	18 days	Fri 25/10/13	Mon 11/11/13
1725	4.11.11.3.1	rubble mound (1st fortnight)	14 days	Fri 25/10/13	Thu 7/11/13
1726	4.11.11.3.2	rubble mound (2nd fortnight)	4 days	Fri 8/11/13	Mon 11/11/13
1727	4.11.11.4	cast blinding layer	18 days	Fri 25/10/13	Mon 11/11/13
1728	4.11.11.4.1	cast blinding layer (1st fortnight)	14 days	Fri 25/10/13	Thu 7/11/13
1729	4.11.11.4.2	cast blinding layer (2nd fortnight)	4 days	Fri 8/11/13	Mon 11/11/13
1730	4.11.11.5	subway 1st bay	67 days	Fri 1/11/13	Mon 6/1/14
1731	4.11.10.5.1	base of subway - formwork	7 days	Fri 1/11/13	Thu 7/11/13
1732	4.11.10.5.2	base of subway - steelfixing	10 days	Fri 8/11/13	Sun 17/11/13
1733	4.11.10.5.3	base of subway - concreting & curing	7 days	Mon 18/11/13	Sun 24/11/13
1734	4.11.10.5.4	wall & top of subway - falsework	3 days	Mon 25/11/13	Wed 27/11/13
1735	4.11.10.5.5	wall & top of subway - formwork	12 days	Thu 28/11/13	Mon 9/12/13
1736	4.11.10.5.6	wall & top of subway - steelfixing	14 days	Tue 10/12/13	Mon 23/12/13
1737	4.11.10.5.7	wall & top of subway - concreting & curing	14 days	Tue 24/12/13	Mon 6/1/14
1738	4.11.11.6	subway 2nd bay	67 days	Tue 7/1/14	Fri 14/3/14
1746	4.11.11.7	subway 3rd bay	67 days	Sat 15/3/14	Tue 20/5/14
1754	4.11.11.8	pump house	67 days	Tue 7/1/14	Fri 14/3/14
1762	4.11.11.9	miscellaneous works	55 days	Wed 21/5/14	Mon 14/7/14
1767	*4.11.12*	***Construction of staircase with lift shaft with 4 nos. of mini pile***	*300 days*	*Tue 8/10/13*	*Sun 3/8/14*
1768	*4.11.12.1*	*Mini-piles*	*44 days*	*Tue 8/10/13*	*Wed 20/11/13*
1769	*4.11.12.1.1*	*prepare platform for mini-pile*	4 days	Tue 8/10/13	Fri 11/10/13
1770	*4.11.12.1.2*	*establish mini-pile rig & confirm setting out*	4 days	Sat 12/10/13	Tue 15/10/13
1771	*4.11.12.1.3*	*drill 1st-4th mini-piles*	12 days	Wed 16/10/13	Sun 27/10/13
1772	*4.11.12.1.4*	*blow clean 1st-4th mini-piles and fix steel bars*	12 days	Mon 28/10/13	Fri 8/11/13
1773	*4.11.12.1.5*	*grout 1st-4th mini-piles*	12 days	Sat 9/11/13	Wed 20/11/13
1774	*4.11.12.2*	*lift*	*76 days*	*Thu 21/11/13*	*Tue 4/2/14*
1782	*4.11.12.3*	*Bay 9*	*71 days*	*Wed 5/2/14*	*Wed 16/4/14*
1790	*4.11.12.4*	*Staircase*	*91 days*	*Thu 17/4/14*	*Wed 16/7/14*
1798	4.11.12.5	miscellaneous works	68 days	Wed 28/5/14	Sun 3/8/14
1804	4.11.13	Ground investigation	31 days	Tue 1/10/13	Thu 31/10/13



Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline

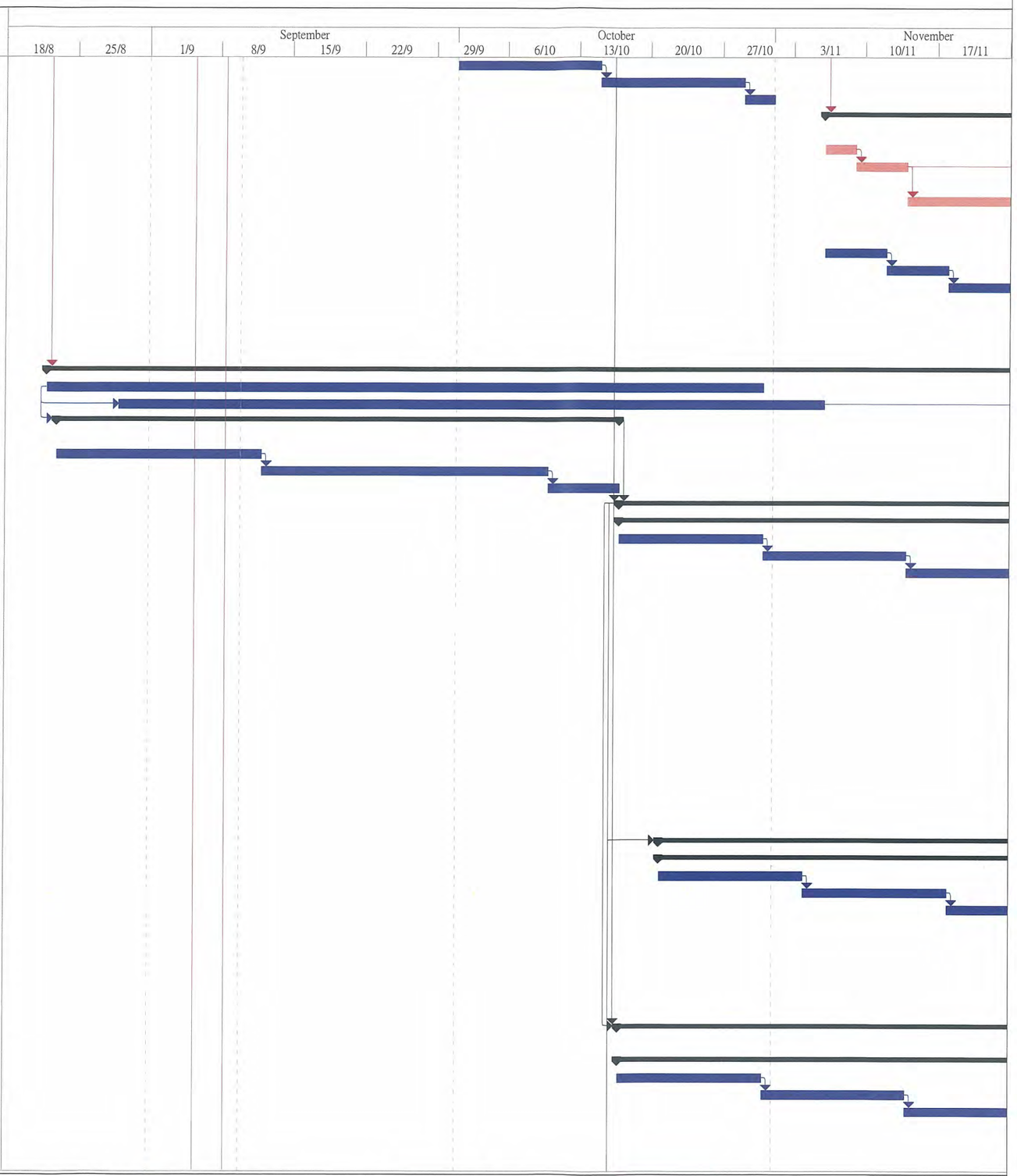
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split

Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
1805	4.11.13.1	Ground investigation (1st fortnight)	14 days	Tue 1/10/13	Mon 14/10/13
1806	4.11.13.2	Ground investigation (2nd fortnight)	14 days	Tue 15/10/13	Mon 28/10/13
1807	4.11.13.3	Ground investigation (3rd fortnight)	3 days	Tue 29/10/13	Thu 31/10/13
1808	4.11.14	**1 no. DN1650 pipe jacking LV009 works (120m in BQ, 50m in Drg.) including jacking & receiving pits**	125 days	Wed 6/11/13	Mon 10/3/14
1809	*4.11.14.1*	*utility detection of the area*	*3 days*	*Wed 6/11/13*	*Fri 8/11/13*
1810	*4.11.14.2*	*inspection pits for jacking pit and receiving pit*	*5 days*	*Sat 9/11/13*	*Wed 13/11/13*
1811	*4.11.14.3*	*temporary work & excavation for receiving pit*	*14 days*	*Thu 28/11/13*	*Wed 11/12/13*
1812	*4.11.14.4*	*temporary work & excavation for jacking pit*	*14 days*	*Thu 14/11/13*	*Wed 27/11/13*
1813	*4.11.14.5*	*establishment of jacking equipment*	*14 days*	*Thu 12/12/13*	*Wed 25/12/13*
1814	4.11.14.6	jack pipe and excavate	75 days	Thu 26/12/13	Mon 10/3/14
1821	*4.11.14.7*	*Lay HDPE pipes*	*6 days*	*Wed 6/11/13*	*Mon 11/11/13*
1822	*4.11.14.8*	*Grout HDPE pipes*	*6 days*	*Tue 12/11/13*	*Sun 17/11/13*
1823	*4.11.14.9*	*Remove temporary works and backfilling*	*14 days*	*Mon 18/11/13*	*Sun 1/12/13*
1824	4.11.15	**Construction of retaining wall RW9 - CH0 to 75m (length 75m)**	93 days	Thu 7/8/14	Fri 7/11/14
1851	4.11.16	**Construction of Bridge J with 6 x Ø1500 bored pile - 7.9m wide x 30m long**	250 days	Tue 11/3/14	Sat 15/11/14
1880	4.11.17	**Construction of retaining wall RW5 - CH0 to 60m (length 60m)**	84 days	Sun 16/11/14	Sat 7/2/15
1886	***4.12***	***Section XIII of the Works - Works not covered in any other Sections***	***598 days***	***Thu 22/8/13***	***Sat 11/4/15***
1887	4.12.1	Submissions	70 days	Thu 22/8/13	Wed 30/10/13
1888	4.12.2	Approval of Submissions	69 days	Thu 29/8/13	Tue 5/11/13
1889	4.12.3	**Temporary Traffic Arrangement (TTA) Scheme for Works at existing LMH Rd**	55 days	Fri 23/8/13	Wed 16/10/13
1890	4.12.3.1	Preparation of TTA scheme	20 days	Fri 23/8/13	Wed 11/9/13
1891	4.12.3.2	Comment & approval of TTA scheme by TD & RMO	28 days	Thu 12/9/13	Wed 9/10/13
1892	4.12.3.3	Obtain roadwork advice from RMO	7 days	Thu 10/10/13	Wed 16/10/13
1893	4.12.4	Diversions of existing traffic flow	530 days	Thu 17/10/13	Mon 30/3/15
1894	4.12.4.1	TTA at existing LMH Rd for ch 380 - 580 (1st quarter)	90 days	Thu 17/10/13	Tue 14/1/14
1895	4.12.4.1.1	TTA for ch 380-580 (1st fortnight)	14 days	Thu 17/10/13	Wed 30/10/13
1896	4.12.4.1.2	TTA for ch 380-580 (2nd fortnight)	14 days	Thu 31/10/13	Wed 13/11/13
1897	4.12.4.1.3	TTA for ch 380-580 (3rd fortnight)	14 days	Thu 14/11/13	Wed 27/11/13
1898	4.12.4.1.4	TTA for ch 380-580 (4th fortnight)	14 days	Thu 28/11/13	Wed 11/12/13
1899	4.12.4.1.5	TTA for ch 380-580 (5th fortnight)	14 days	Thu 12/12/13	Wed 25/12/13
1900	4.12.4.1.6	TTA for ch 380-580 (6th fortnight)	14 days	Thu 26/12/13	Wed 8/1/14
1901	4.12.4.1.7	TTA for ch 380-580 (7th fortnight)	6 days	Thu 9/1/14	Tue 14/1/14
1902	4.12.4.2	TTA at existing LMH Rd for ch 380 - 580 (2nd quarter)	42 days	Wed 15/1/14	Tue 25/2/14
1906	4.12.4.3	TTA at existing LMH Rd for ch 580 - 730 (1st quarter)	90 days	Wed 26/2/14	Mon 26/5/14
1914	4.12.4.4	TTA at existing LMH Rd for ch 580 - 730 (2nd quarter)	14 days	Tue 27/5/14	Mon 9/6/14
1916	4.12.4.5	TTA at existing LMH Rd for ch 730 - 780 (1st quarter)	70 days	Tue 10/6/14	Mon 18/8/14
1922	4.12.4.6	TTA at existing LMH Rd for ch 280 - 380 (1st quarter)	42 days	Tue 19/8/14	Mon 29/9/14
1926	4.12.4.7	TTA at existing LMH Rd for ch 80 - 180 (1st quarter)	42 days	Tue 30/9/14	Mon 10/11/14
1930	4.12.4.8	TTA at opposite side of LMH Rd for ch 80 - 180 (1st quarter)	42 days	Tue 11/11/14	Mon 22/12/14
1934	4.12.4.9	TTA at opposite side of LMH Rd for ch 280 - 380 (1st quarter)	42 days	Tue 23/12/14	Mon 2/2/15
1938	4.12.4.10	TTA at opposite side of LMH Rd for ch 380 - 580 (1st quarter)	42 days	Tue 3/2/15	Mon 16/3/15
1942	4.12.4.11	TTA at opposite side of LMH Rd for ch 580 - 730 (1st quarter)	42 days	Tue 3/2/15	Mon 16/3/15
1946	4.12.4.12	TTA at opposite side of LMH Rd for ch 730 - 780 (1st quarter)	14 days	Tue 17/3/15	Mon 30/3/15
1948	4.12.5	Archaeological survey (Sections T1 & T2)(Drg. 6403A)	217 days	Mon 21/10/13	Sun 25/5/14
1949	4.12.5.1	archaeological survey (1st quarter)	92 days	Mon 21/10/13	Mon 20/1/14
1950	4.12.5.1.1	archaeological survey (1st fortnight)	14 days	Mon 21/10/13	Sun 3/11/13
1951	4.12.5.1.2	archaeological survey (2nd fortnight)	14 days	Mon 4/11/13	Sun 17/11/13
1952	4.12.5.1.3	archaeological survey (3rd fortnight)	14 days	Mon 18/11/13	Sun 1/12/13
1953	4.12.5.1.4	archaeological survey (4th fortnight)	14 days	Mon 2/12/13	Sun 15/12/13
1954	4.12.5.1.5	archaeological survey (5th fortnight)	14 days	Mon 16/12/13	Sun 29/12/13
1955	4.12.5.1.6	archaeological survey (6th fortnight)	14 days	Mon 30/12/13	Sun 12/1/14
1956	4.12.5.1.7	archaeological survey (7th fortnight)	8 days	Mon 13/1/14	Mon 20/1/14
1957	4.12.5.2	archaeological survey (2nd quarter)	90 days	Tue 21/1/14	Sun 20/4/14
1965	4.12.5.3	archaeological survey (3rd quarter)	35 days	Mon 21/4/14	Sun 25/5/14
1969	4.12.6	Drainage & slope drainage works at Lin Ma Hang Road (Drg.1301A-1303C, 7151B)	350 days	Thu 17/10/13	Wed 1/10/14
1970	4.12.6.1	drainage & slope drainage works (1st quarter)	90 days	Thu 17/10/13	Tue 14/1/14
1971	4.12.6.1.1	drainage & slope drainage works (1st fortnight)	14 days	Thu 17/10/13	Wed 30/10/13
1972	4.12.6.1.2	drainage & slope drainage works (2nd fortnight)	14 days	Thu 31/10/13	Wed 13/11/13
1973	4.12.6.1.3	drainage & slope drainage works (3rd fortnight)	14 days	Thu 14/11/13	Wed 27/11/13
1974	4.12.6.1.4	drainage & slope drainage works (4th fortnight)	14 days	Thu 28/11/13	Wed 11/12/13
1975	4.12.6.1.5	drainage & slope drainage works (5th fortnight)	14 days	Thu 12/12/13	Wed 25/12/13
1976	4.12.6.1.6	drainage & slope drainage works (6th fortnight)	14 days	Thu 26/12/13	Wed 8/1/14



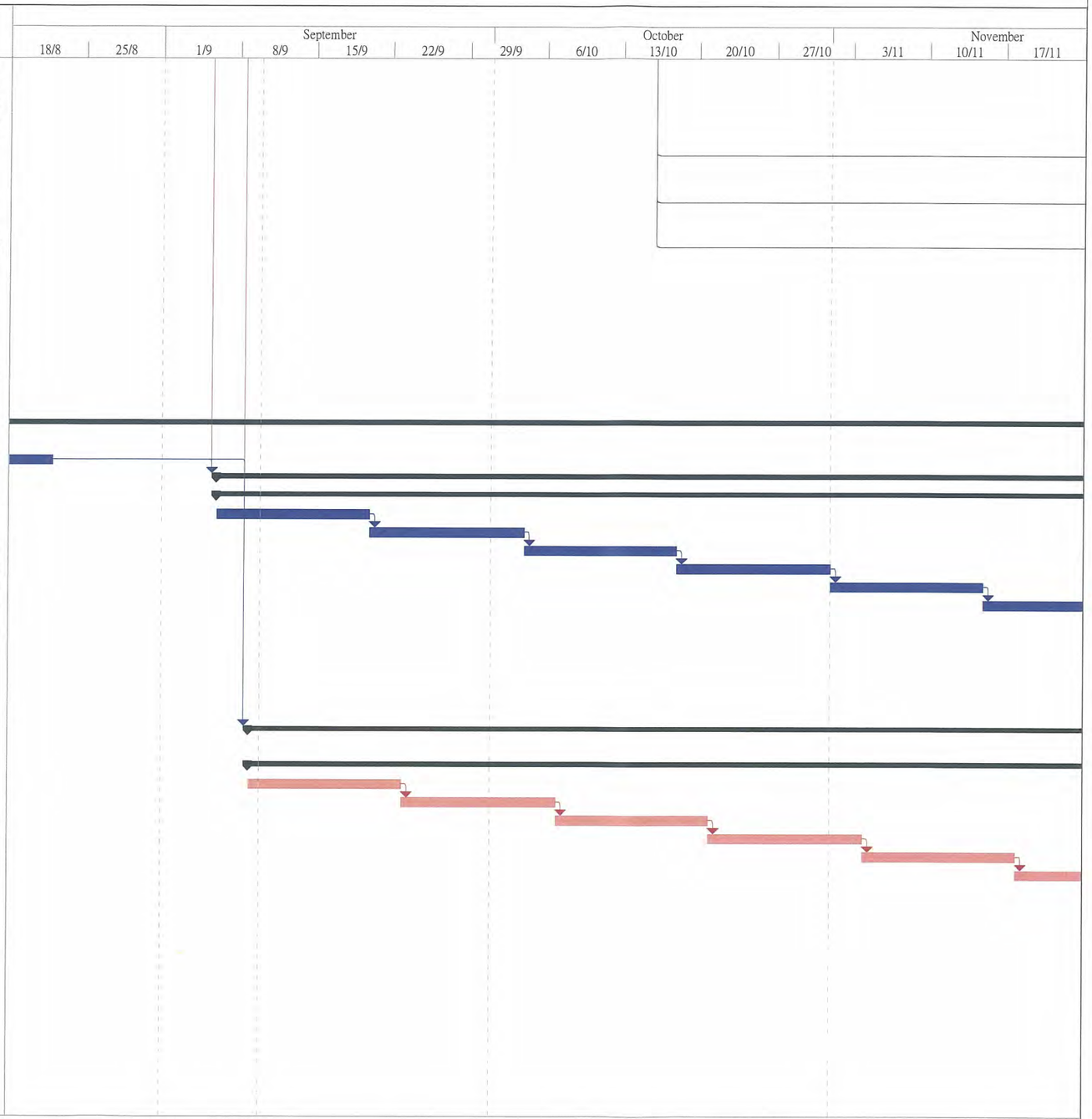
Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Contract No. CV/2013/03 - Liantang/ Heung Yuen Wai Boundary Control Point - Site Formation and Infrastructure Works - Contract 5

3 Month Rolling Programme (Rev. 1) for August 20, 2013 to November 2013

ID	WBS	Task Name	Duration	Start	Finish
1977	4.12.6.1.7	drainage & slope drainage works (7th fortnight)	6 days	Thu 9/1/14	Tue 14/1/14
1978	4.12.6.2	drainage & slope drainage works (2nd quarter)	90 days	Wed 15/1/14	Mon 14/4/14
1986	4.12.6.3	drainage & slope drainage works (3rd quarter)	90 days	Tue 15/4/14	Sun 13/7/14
1994	4.12.6.4	drainage & slope drainage works (4th quarter)	80 days	Mon 14/7/14	Wed 1/10/14
2001	4.12.7	Sewerage works at Lin Ma Hang Road (Drg. 1321A)	60 days	Mon 26/5/14	Thu 24/7/14
2007	4.12.8	Water works & utilities works at Lin Ma Hang Road (Drg. 1911A-1913B, 1401A-1403A)	365 days	Fri 10/1/14	Fri 9/1/15
2040	4.12.9	Roadwork for existing Lin Ma Hang Road (Drg.1201A-1203B, 1221C-1223A, 1501A-1503A, 1603B)	356 days	Sun 20/4/14	Fri 10/4/15
2072	4.12.10	Irrigation system (Drg. 1971A-1973B) & footpath construction	350 days	Sun 20/4/14	Sat 4/4/15
2104	4.12.11	Construction of retaining wall RW8 - CH0 to 22 (3 bays)	90 days	Fri 12/9/14	Wed 10/12/14
2127	4.12.12	Site Formation works for ArchSD Depot (Drg. 1001B)	60 days	Thu 11/12/14	Sun 8/2/15
2133	4.12.13	Slope drainage works (Drg. 7151B, 7159B)	60 days	Mon 9/2/15	Thu 9/4/15
2139	*4.12.14*	*Existing road to be improved & run-in to the site to be constructed at RS1 (Drg.1203A, 1001B)(latest)*	*180 days*	*Tue 14/10/14*	*Sat 11/4/15*
2156	*4.12.15*	*Access road to be re-constructed / upgraded at RS3 (Drg/1203B)(latest)*	*180 days*	*Tue 14/10/14*	*Sat 11/4/15*
2173	4.12.16	Outstanding Ground Investigation field works for Section I of the Works (due to late handed over for Area BCP4 and installation after construction)	88 days	Sun 16/3/14	Wed 11/6/14
2181	***4.13***	***Section XIV of the Works - Trees preservation and protection***	***731 days***	***Thu 11/4/13***	***Sat 11/4/15***
2182	4.13.1	Submissions	70 days	Thu 11/4/13	Wed 19/6/13
2183	4.13.2	Approval of Submissions	69 days	Fri 14/6/13	Wed 21/8/13
2184	4.13.3	Tree felling/removal works and tree transplanting works	500 days	Fri 6/9/13	Sun 18/1/15
2185	4.13.3.1	tree felling/removal & tree transplanting works (1st quarter)	91 days	Fri 6/9/13	Thu 5/12/13
2186	4.13.3.1.1	tree felling/removal & tree transplanting works (1st fortnight)	14 days	Fri 6/9/13	Thu 19/9/13
2187	4.13.3.1.2	tree felling/removal & tree transplanting works (2nd fortnight)	14 days	Fri 20/9/13	Thu 3/10/13
2188	4.13.3.1.3	tree felling/removal & tree transplanting works (3rd fortnight)	14 days	Fri 4/10/13	Thu 17/10/13
2189	4.13.3.1.4	tree felling/removal & tree transplanting works (4th fortnight)	14 days	Fri 18/10/13	Thu 31/10/13
2190	4.13.3.1.5	tree felling/removal & tree transplanting works (5th fortnight)	14 days	Fri 1/11/13	Thu 14/11/13
2191	4.13.3.1.6	tree felling/removal & tree transplanting works (6th fortnight)	14 days	Fri 15/11/13	Thu 28/11/13
2192	4.13.3.1.7	tree felling/removal & tree transplanting works (7th fortnight)	7 days	Fri 29/11/13	Thu 5/12/13
2193	4.13.3.2	tree felling/removal & tree transplanting works (2nd quarter)	90 days	Fri 6/12/13	Wed 5/3/14
2201	4.13.3.3	tree felling/removal & tree transplanting works (3rd quarter)	92 days	Thu 6/3/14	Thu 5/6/14
2209	4.13.3.4	tree felling/removal & tree transplanting works (4th quarter)	92 days	Fri 6/6/14	Fri 5/9/14
2217	4.13.3.5	tree felling/removal & tree transplanting works (5th quarter)	91 days	Sat 6/9/14	Fri 5/12/14
2225	4.13.3.6	tree felling/removal & tree transplanting works (6th quarter)	44 days	Sat 6/12/14	Sun 18/1/15
2230	4.13.4	Preservation and Protection of Existing Trees in all Portion of the Site	580 days	Mon 9/9/13	Sat 11/4/15
2231	4.13.4.1	preserve & protect existing trees (1st quarter)	91 days	Mon 9/9/13	Sun 8/12/13
2232	*4.13.4.1.1*	*preserve & protect existing trees (1st fortnight)*	*14 days*	*Mon 9/9/13*	*Sun 22/9/13*
2233	*4.13.4.1.2*	*preserve & protect existing trees (2nd fortnight)*	*14 days*	*Mon 23/9/13*	*Sun 6/10/13*
2234	*4.13.4.1.3*	*preserve & protect existing trees (3rd fortnight)*	*14 days*	*Mon 7/10/13*	*Sun 20/10/13*
2235	*4.13.4.1.4*	*preserve & protect existing trees (4th fortnight)*	*14 days*	*Mon 21/10/13*	*Sun 3/11/13*
2236	*4.13.4.1.5*	*preserve & protect existing trees (5th fortnight)*	*14 days*	*Mon 4/11/13*	*Sun 17/11/13*
2237	*4.13.4.1.6*	*preserve & protect existing trees (6th fortnight)*	*14 days*	*Mon 18/11/13*	*Sun 1/12/13*
2238	*4.13.4.1.7*	*preserve & protect existing trees (7th fortnight)*	*7 days*	*Mon 2/12/13*	*Sun 8/12/13*
2239	4.13.4.2	preserve & protect existing trees (2nd quarter)	91 days	Mon 9/12/13	Sun 9/3/14
2247	4.13.4.3	preserve & protect existing trees (3rd quarter)	91 days	Mon 10/3/14	Sun 8/6/14
2255	4.13.4.4	preserve & protect existing trees (4th quarter)	91 days	Mon 9/6/14	Sun 7/9/14
2263	4.13.4.5	preserve & protect existing trees (5th quarter)	91 days	Mon 8/9/14	Sun 7/12/14
2271	4.13.4.6	preserve & protect existing trees (6th quarter)	91 days	Mon 8/12/14	Sun 8/3/15
2279	4.13.4.7	preserve & protect existing trees (7th quarter)	34 days	Mon 9/3/15	Sat 11/4/15
2283	***4.14***	***Section XV of the Works - Landscape soft works***	***307 days***	***Mon 9/6/14***	***Sat 11/4/15***
2284	*4.14.1*	*Landscape Soft works in all Portions of the Site (including transplant trees to permanent locations)*	307 days	Mon 9/6/14	Sat 11/4/15
2285	***4.15***	***Section XVI of the Works - Establishment works for landscape soft works***	***365 days***	***Sun 12/4/15***	***Sun 10/4/16***
2286	*4.15.1*	*Establishment works for all Portions of the Site*	*365 days*	*Sun 12/4/15*	*Sun 10/4/16*

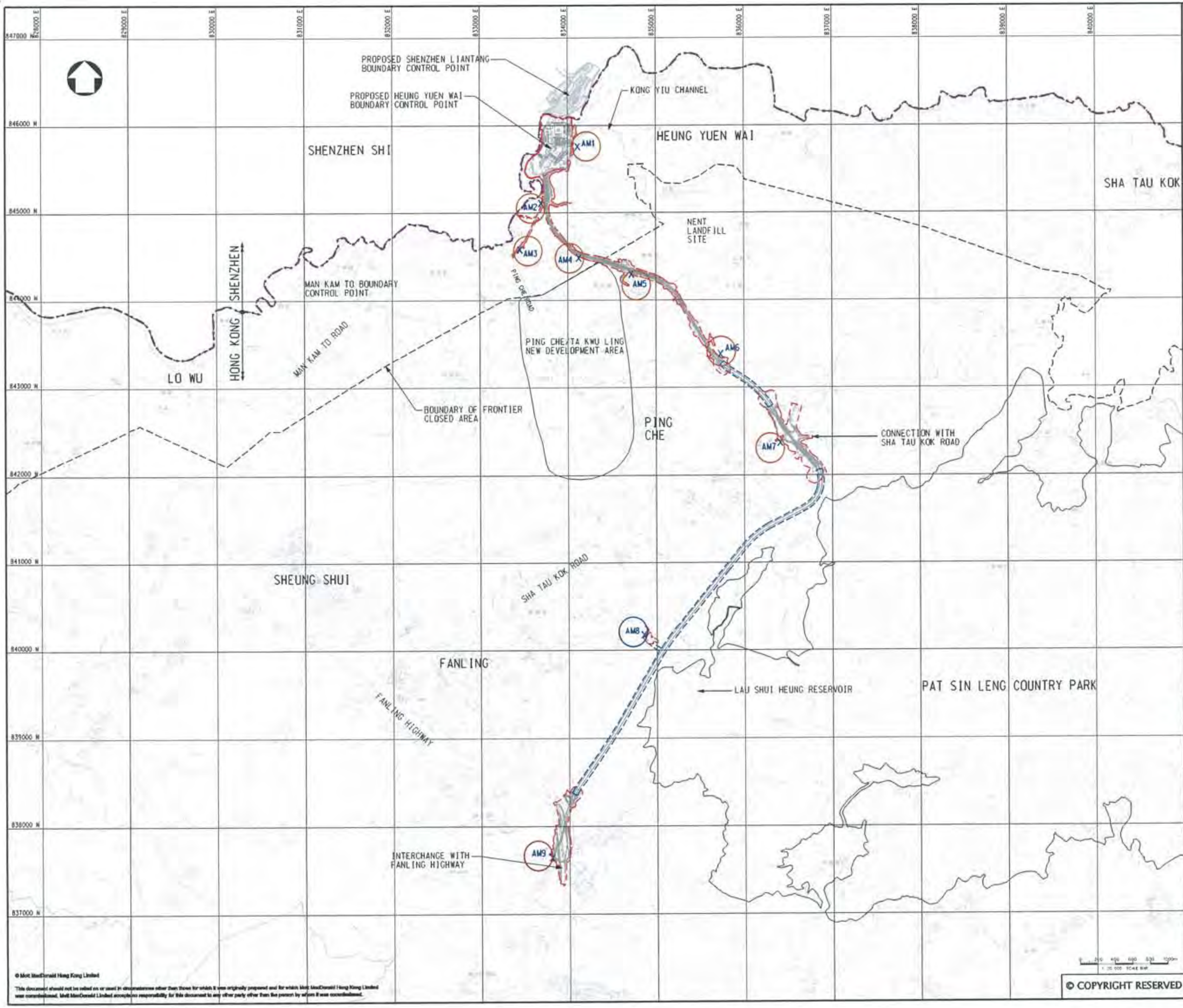


Revision: 1

Task | Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Critical | Deadline
Split | Project Summary | Manual Task | Manual Summary | External Tasks | Critical Split
Milestone | Inactive Milestone | Duration-only | Start-only | External Milestone | Progress

Appendix D

Designated Monitoring Locations as Recommended in the Approved EM&A Manual



LEGEND:
BOUNDARY OF HKSAR
WORKS AREA (ABOVE GROUND)
WORKS AREA (TUNNEL)
X AIR MONITORING STATIONS
PROPOSED SHENZHEN LIANTANG BOUNDARY CONTROL POINT
PROPOSED HEUNG YUEN WAI BOUNDARY CONTROL POINT
KONG YIU CHANNEL
HEUNG YUEN WAI
SHENZHEN SHI
SHA TAU KOK
NENT LANDFILL SITE
SHENZHEN
HONG KONG
MAN KAM TO BOUNDARY CONTROL POINT
PING CHE ROAD
MAN KAM TO ROAD
PING CHE/TA KWU LING NEW DEVELOPMENT AREA
LO WU
BOUNDARY OF FRONTIER CLOSED AREA
PING CHE
CONNECTION WITH SHA TAU KOK ROAD
SHEUNG SHUI
SHA TAU KOK ROAD
FANLING
LAU SHUI HEUNG RESERVOIR
PAT SIN LENG COUNTRY PARK
FANLING HIGHWAY
INTERCHANGE WITH FANLING HIGHWAY
AM1
AM2
AM3
AM4
AM5
AM6
AM7
AM8
AM9

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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Client

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

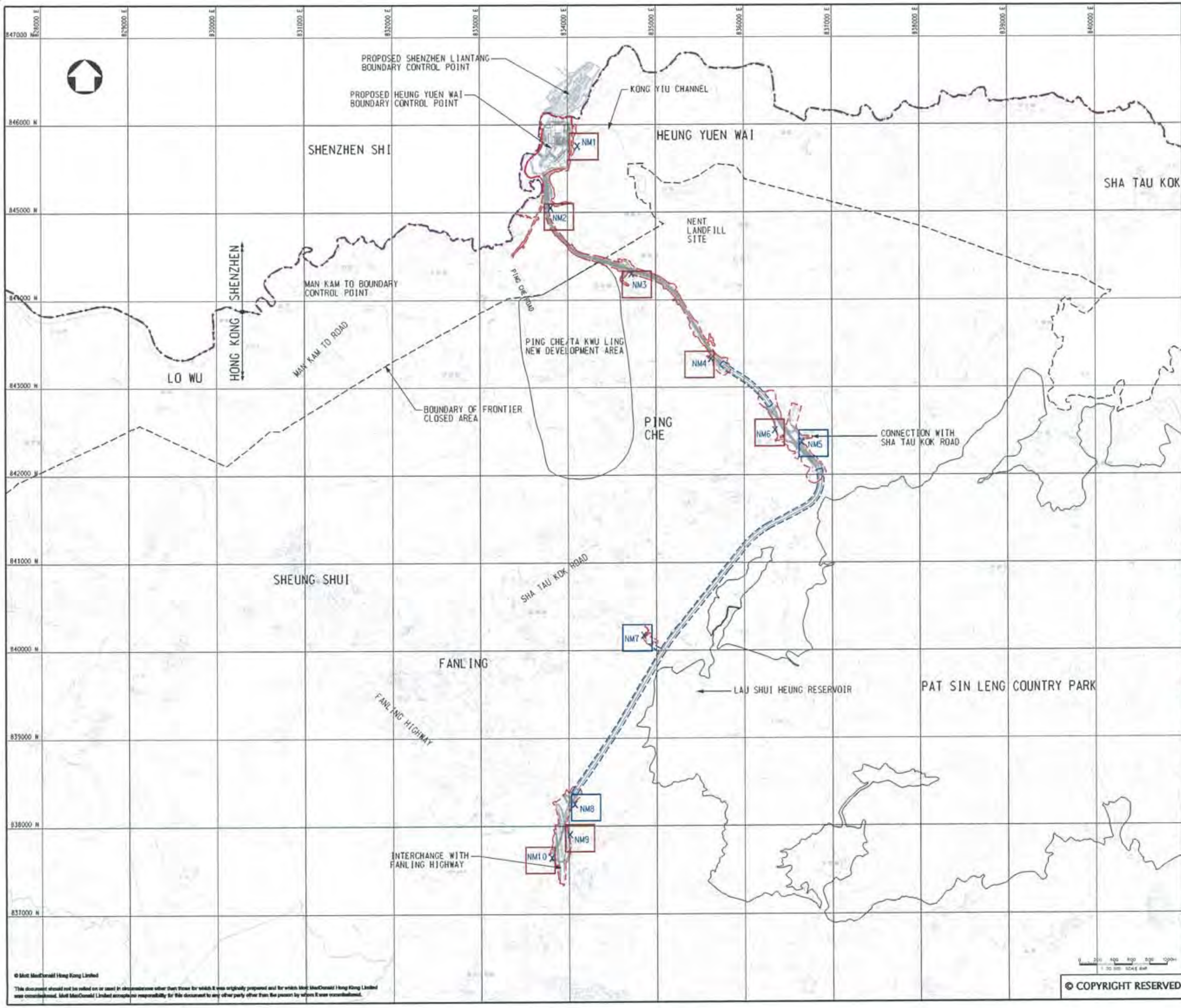
Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title

PROPOSED LOCATION OF CONSTRUCTION AIR QUALITY MONITORING STATIONS

Designed	DC	Eng.Chk.	EC	
Drawn	WING	Coordination	EC	
Dwg.Chk.	DC	Approved	HT	
Scale at A1 1:20000		Project 255228		Status PRE
Drawing No	FIGURE 2.1			Rev P1



PROPOSED SHENZHEN LIANTANG BOUNDARY CONTROL POINT
PROPOSED HEUNG YUEN WAI BOUNDARY CONTROL POINT
KONG YIU CHANNEL
HEUNG YUEN WAI
SHENZHEN SHI
SHA TAU KOK
NENT LANDFILL SITE
HONG KONG
SHENZHEN
MAN KAM TO BOUNDARY CONTROL POINT
PING CHE ROAD
MAN KAM TO ROAD
LO WU
PING CHE/TA KWU LING NEW DEVELOPMENT AREA
BOUNDARY OF FRONTIER CLOSED AREA
PING CHE
CONNECTION WITH SHA TAU KOK ROAD
SHEUNG SHUI
SHA TAU KOK ROAD
FANLING
FANLING HIGHWAY
LAU SHUI HEUNG RESERVOIR
PAT SIN LENG COUNTRY PARK
INTERCHANGE WITH FANLING HIGHWAY
NM1
NM2
NM3
NM4
NM5
NM6
NM7
NM8
NM9
NM10

LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X CONSTRUCTION NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

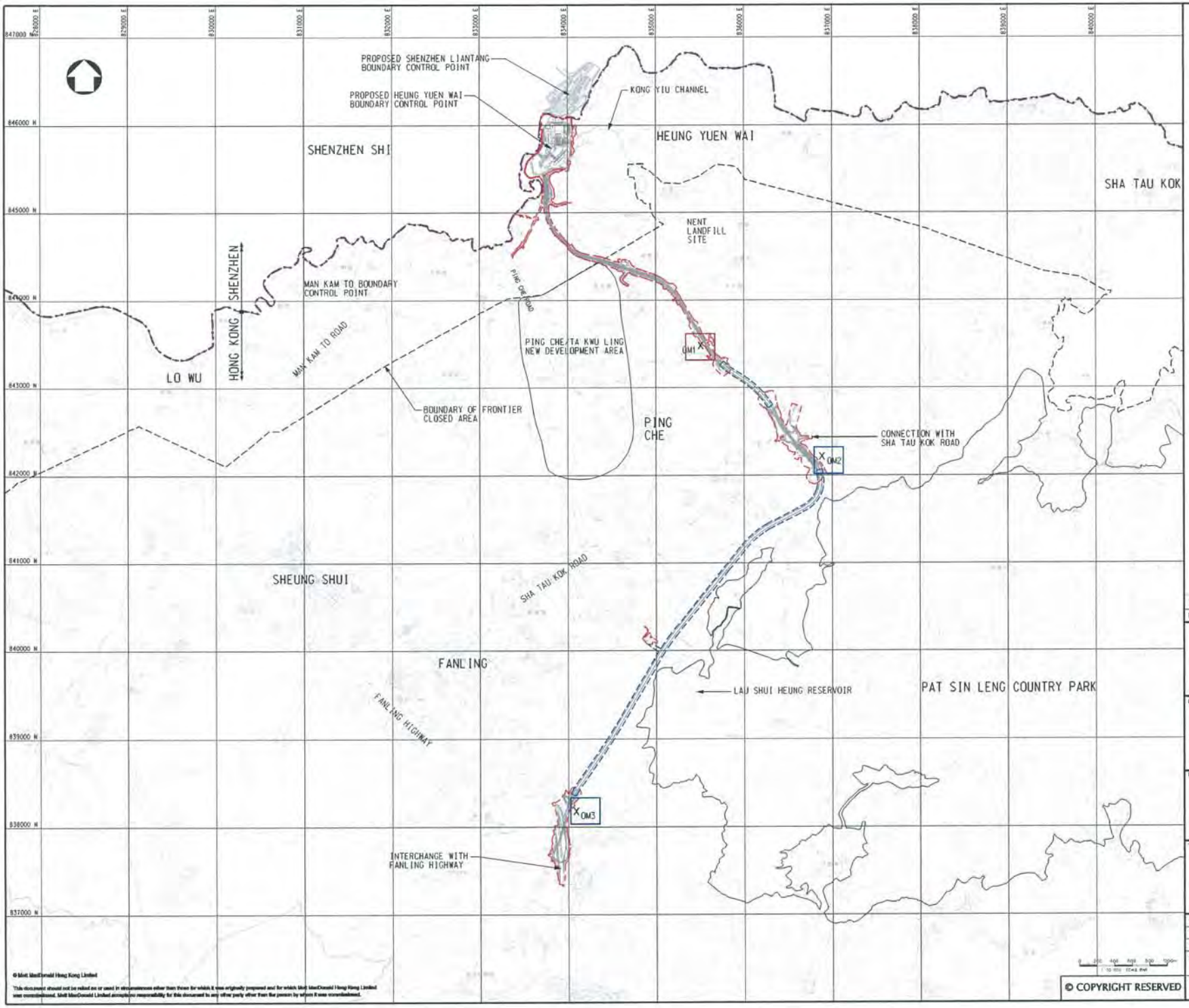
Title: PROPOSED LOCATION OF CONSTRUCTION NOISE MONITORING STATIONS

Designed	DC	Eng Chk.	EC
Drawn	WING	Coordination	EC
Dwg Chk.	DC	Approved	HT
Scale at A1	1:20000	Project	255228

Status: PRE

Drawing No: FIGURE 3.1

Rev: P1



LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X OPERATIONAL NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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Client

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title

PROPOSED LOCATION OF OPERATIONAL NOISE MONITORING STATIONS

Designed	DC		Eng.Chk.	EC	
Drawn	WING		Coordination	EC	
Dwg.Chk.	DC		Approved	HT	

Scale at A1: 1:20000

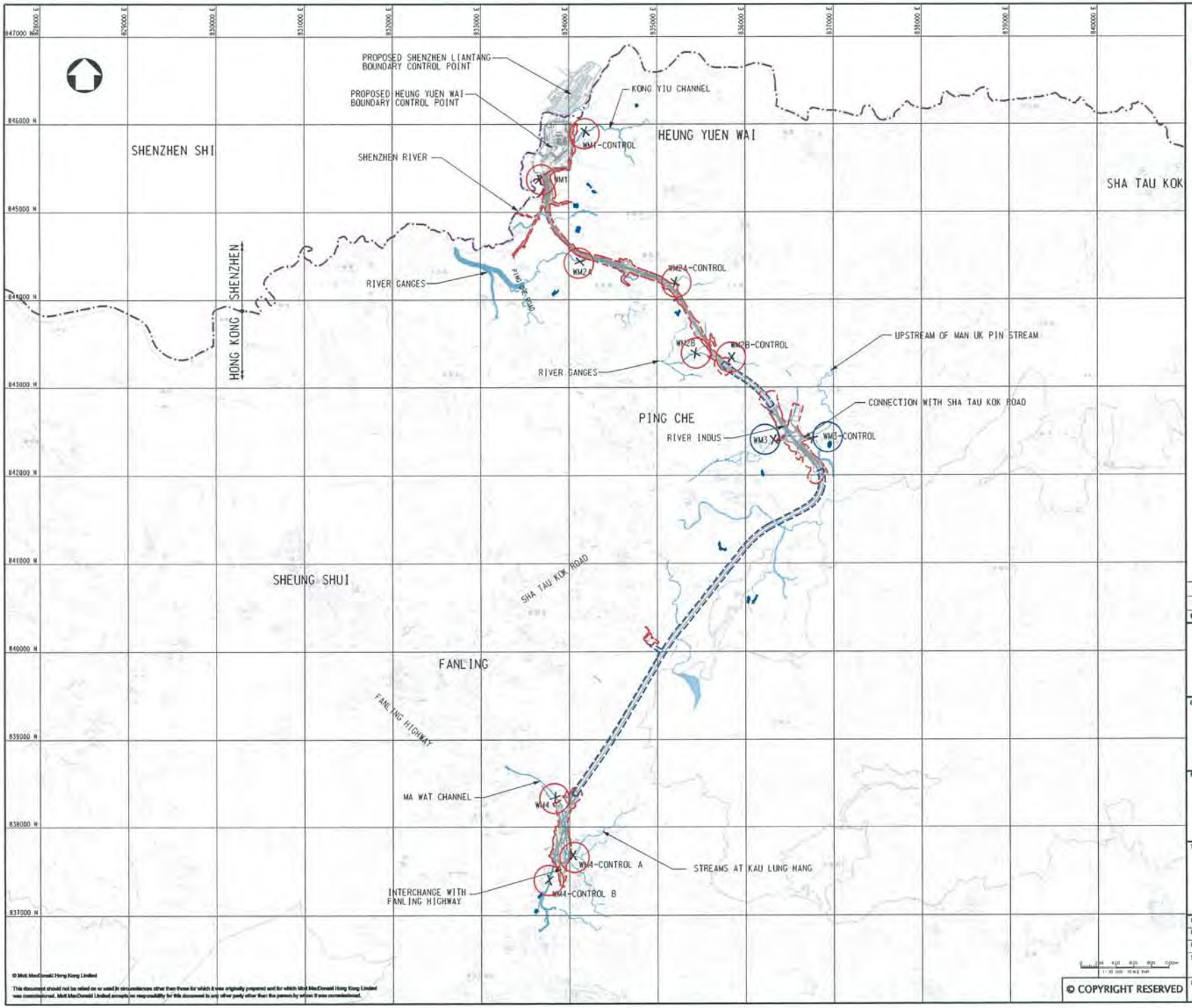
Project: 255228

CAD file: N:\255228\Report\ven\cad\s\00637VIS 3-2.dgn

Status: PRE

Drawing No: FIGURE 3.2

Rev: P1



LEGEND:

- BOUNDARY OF HKSAR
- LAND REQUIREMENT LIMIT (ABOVE GROUND)
- LAND REQUIREMENT LIMIT (TUNNEL)
- X PROPOSED WATER QUALITY MONITORING STATION

MONITORING STATION	CO-ORDINATES	
	EAST(NG(m)	NORTHING(m)
WM1	833668.635	845371.097
WM1-CONTROL	834185.480	845916.662
WM2A	834132.193	844432.910
WM2A-CONTROL	835205.329	844200.151
WM2B	835434.744	843394.606
WM2B-CONTROL	835845.878	843343.625
WM3	836323.622	842404.977
WM3-CONTROL	836763.419	842425.507
WM4	833840.783	838344.842
WM4-CONTROL A	834038.937	837688.995
WM4-CONTROL B	833769.123	837406.936

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	NOV 10	WING	GENERAL REVISION	HC	HT
P1	OCT 10	WING	FIRST ISSUE	HC	HT

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Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

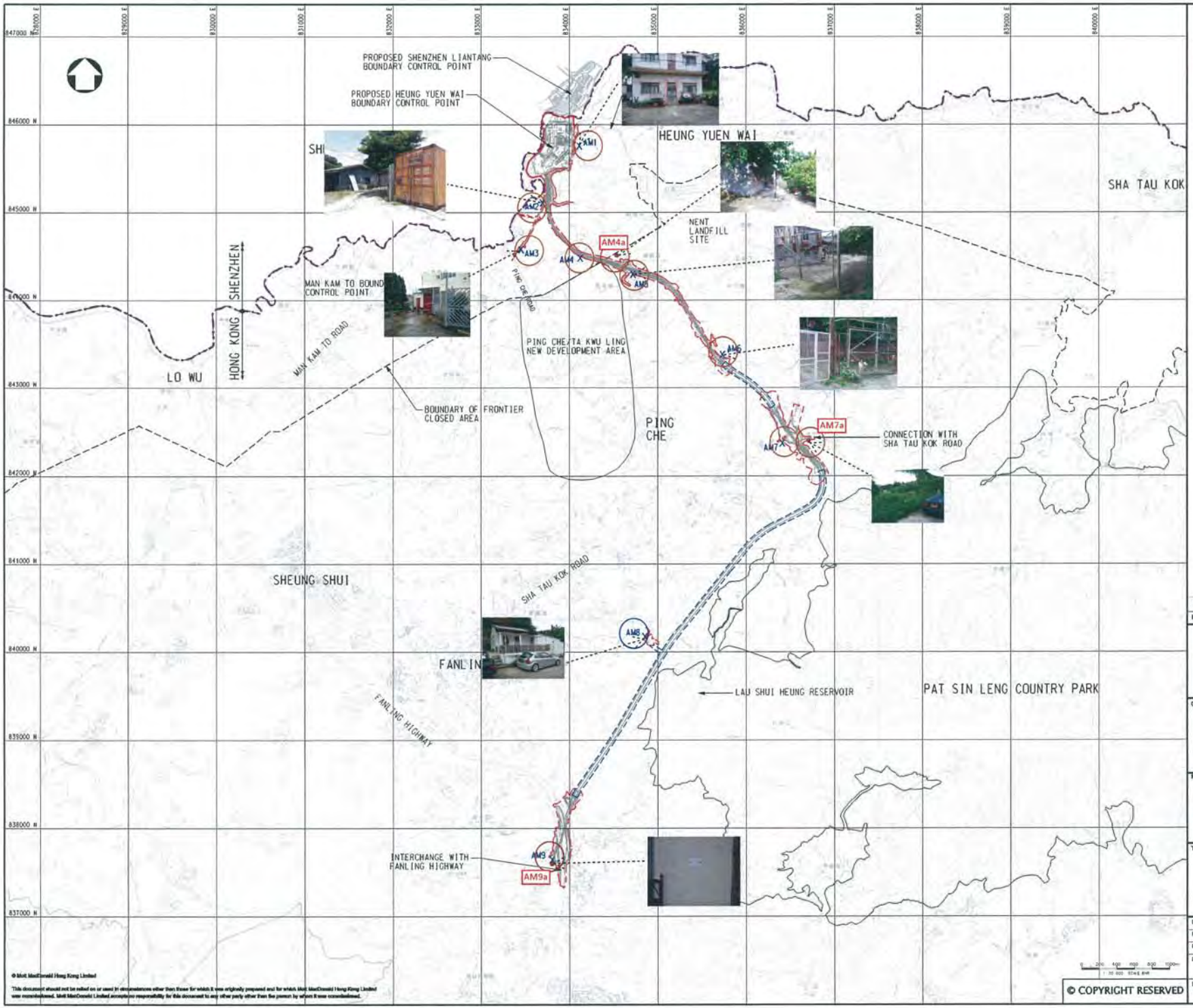
Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: LOCATIONS OF PROPOSED WATER QUALITY MONITORING STATIONS

Designed	HC		Eng.Chk.	EC	
Drawn	WING		Coordination	EC	
Eng.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228		Status PRE
Drawing No	FIGURE 4.1				Rev P2

Appendix E

Monitoring Locations for Impact Monitoring



LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X AIR MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	MENG	FIRST ISSUE	DC	HT

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Client

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

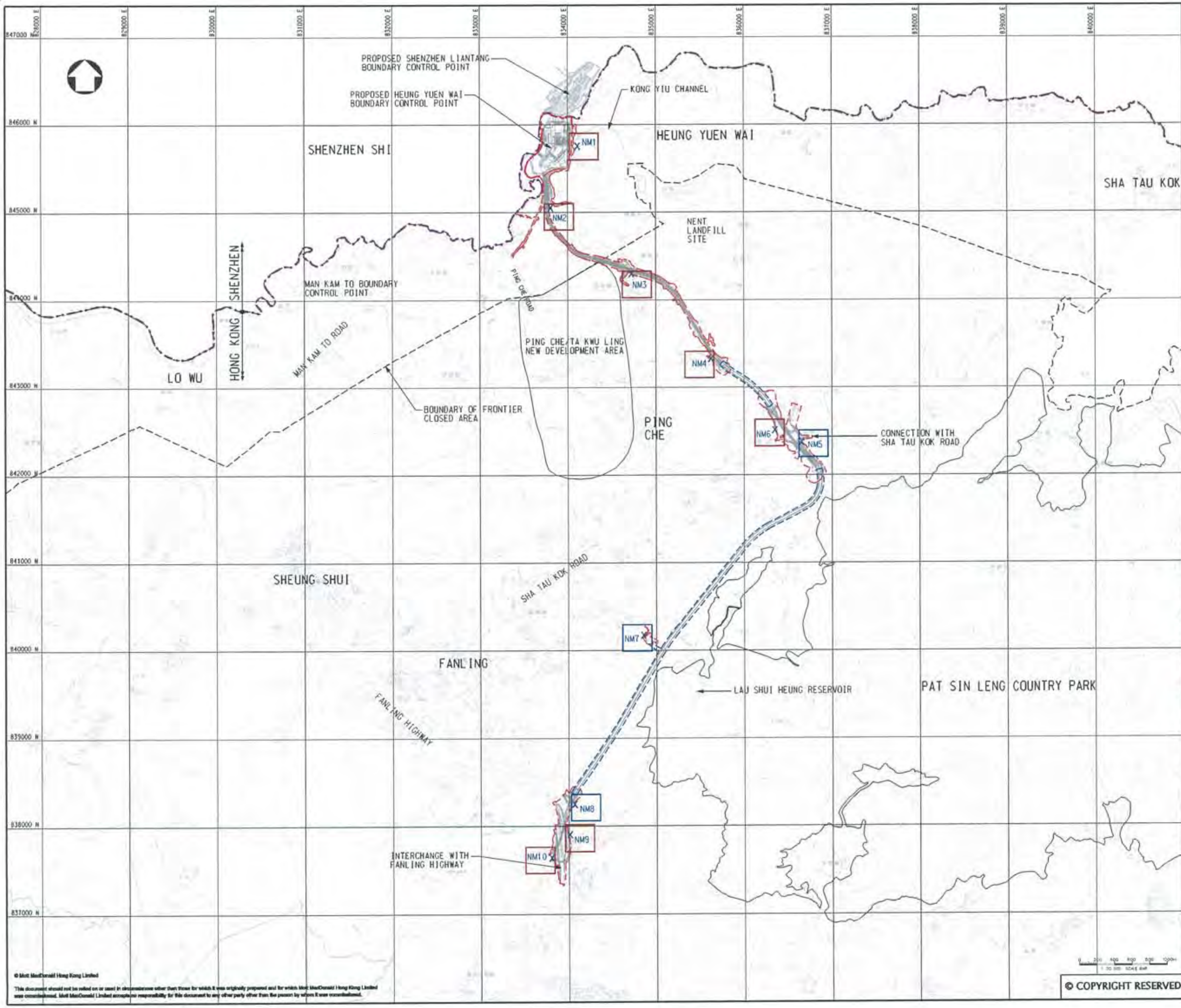
Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title

PROPOSED LOCATION OF CONSTRUCTION AIR QUALITY MONITORING STATIONS

Designed	DC		Eng.Chk.	EC	
Drawn	MENG		Coordination	EC	
Dwg.Chk.	DC		Approved	HT	
Scale at A1	1:20000	Project	255228	Status	PRE
Drawing No	FIGURE 2.1			Rev	P1



PROPOSED SHENZHEN LIANTANG BOUNDARY CONTROL POINT
PROPOSED HEUNG YUEN WAI BOUNDARY CONTROL POINT
KONG YIU CHANNEL
HEUNG YUEN WAI
SHENZHEN SHI
SHA TAU KOK
NENT LANDFILL SITE
HONG KONG
SHENZHEN
MAN KAM TO BOUNDARY CONTROL POINT
MAN KAM TO ROAD
PING CHE ROAD
PING CHE/TA KWU LING NEW DEVELOPMENT AREA
LO WU
BOUNDARY OF FRONTIER CLOSED AREA
PING CHE
CONNECTION WITH SHA TAU KOK ROAD
SHEUNG SHUI
SHA TAU KOK ROAD
FANLING
FANLING HIGHWAY
LAU SHUI HEUNG RESERVOIR
PAT SIN LENG COUNTRY PARK
INTERCHANGE WITH FANLING HIGHWAY
NM1
NM2
NM3
NM4
NM5
NM6
NM7
NM8
NM9
NM10
LEGEND:
BOUNDARY OF HKSAR
WORKS AREA (ABOVE GROUND)
WORKS AREA (TUNNEL)
X CONSTRUCTION NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

Mott MacDonald

Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

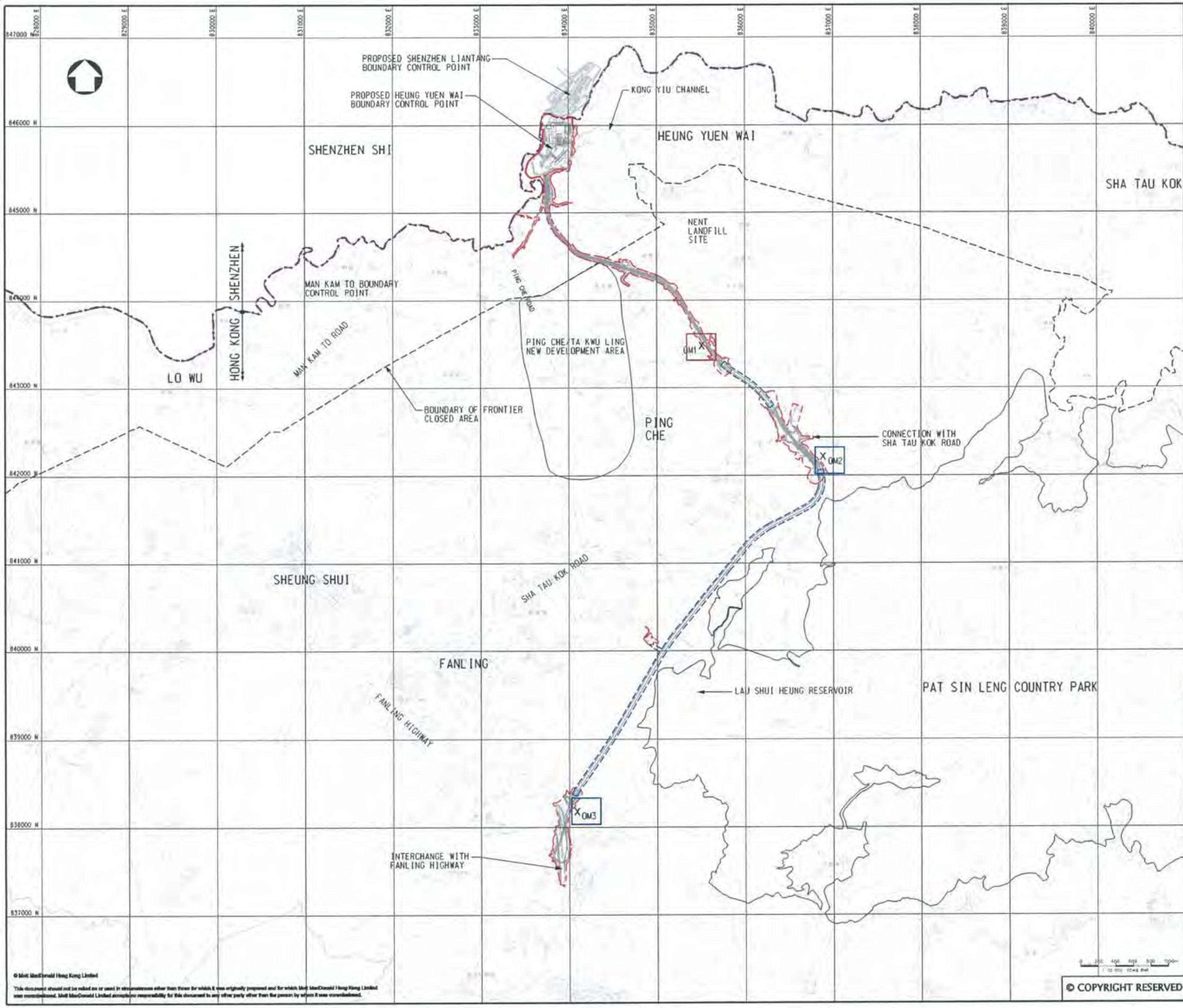
Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: PROPOSED LOCATION OF CONSTRUCTION NOISE MONITORING STATIONS

Designed	DC	Eng.Chk.	EC
Drawn	WING	Coordination	EC
Dwg.Chk.	DC	Approved	HT

Scale at A1: 1:20000 — Project: 255228 — Status: PRE

Drawing No: FIGURE 3.1 — Rev: P1



PROPOSED SHENZHEN LIANTANG BOUNDARY CONTROL POINT
PROPOSED HEUNG YUEN WAI BOUNDARY CONTROL POINT
KONG YIU CHANNEL
HEUNG YUEN WAI
SHENZHEN SHI
SHA TAU KOK
NENT LANDFILL SITE
HONG KONG
SHENZHEN
MAN KAM TO BOUNDARY CONTROL POINT
PING CHE ROAD
MAN KAM TO ROAD
PING CHE/TA KWU LING NEW DEVELOPMENT AREA
OM1
LO WU
BOUNDARY OF FRONTIER CLOSED AREA
PING CHE
CONNECTION WITH SHA TAU KOK ROAD
OM2
SHEUNG SHUI
SHA TAU KOK ROAD
FANLING
LAU SHUI HEUNG RESERVOIR
PAT SIN LENG COUNTRY PARK
FANLING HIGHWAY
OM3
INTERCHANGE WITH FANLING HIGHWAY

LEGEND:

- BOUNDARY OF HKSAR
- WORKS AREA (ABOVE GROUND)
- WORKS AREA (TUNNEL)
- X OPERATIONAL NOISE MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 10	WING	FIRST ISSUE	DC	HT

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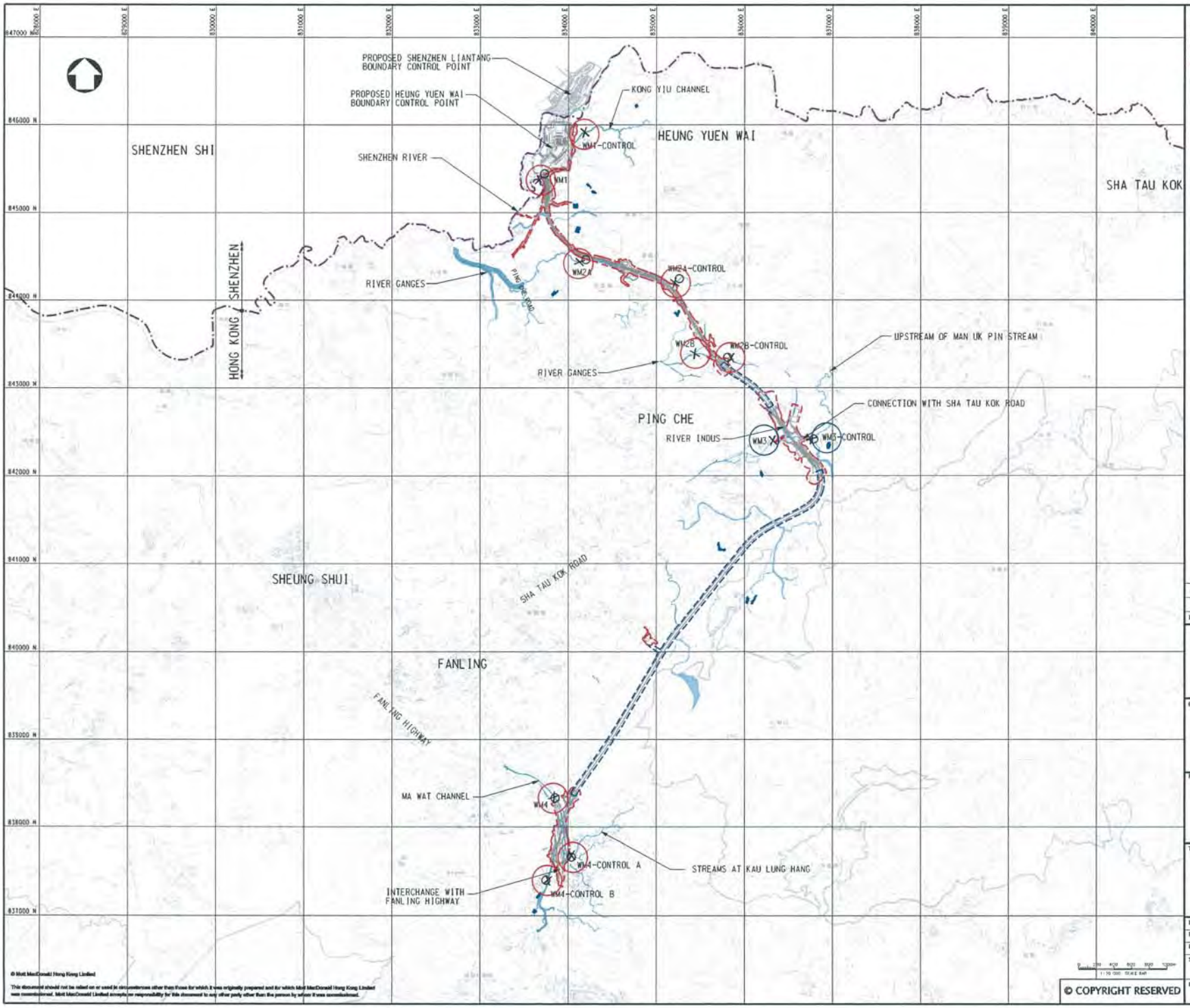
Client: CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: PROPOSED LOCATION OF OPERATIONAL NOISE MONITORING STATIONS

Designed	DC	Eng.Chk.	EC
Drawn	WING	Coordination	EC
Dwg.Chk.	DC	Approved	HT
Scale at A1	1:20000	Project	255228
Status	PRE		
Drawing No	FIGURE 3.2	Rev	P1



LEGEND:

- BOUNDARY OF HKSAR
- LAND REQUIREMENT LIMIT (ABOVE GROUND)
- LAND REQUIREMENT LIMIT (TUNNEL)
- X — Water Quality Monitoring Location Recommended in EM&A Manual
- O — Alternative Water Quality Monitoring Location for EM&A Programme

Station ID	Location recommended in EM&A Manual – Coordinates: Easting	Location recommended in EM&A Manual – Coordinates: Northing	Location found during site visit – Coordinates: Easting	Location found during site visit – Coordinates: Northing
WM1	833668.635	845371.097	833679	845423
WM1-Control	834185.480	845916.662	834185	845917
WM2A	834132.193	844432.910	834204	844471
WM2A-Control	835205.529	844200.151	835270	844243
WM2B	835434.744	843394.606	835433	843397
WM2B-Control	835845.878	843343.625	835835	843351
WM3	836523.622	842404.977	836524	842407
WM3-Control	836763.419	842425.507	836763	842400
WM4	833840.785	838344.842	833850	838358
WM4-Control A	834038.937	837668.995	834028	837695
WM4-Control B	833769.123	837406.936	833760	837395

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	NOV 10	MING	GENERAL REVISION	HC	HT
P1	OCT 10	MING	FIRST ISSUE	HC	HT

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CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

AGREEMENT NO. CE45/2008(CE)
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

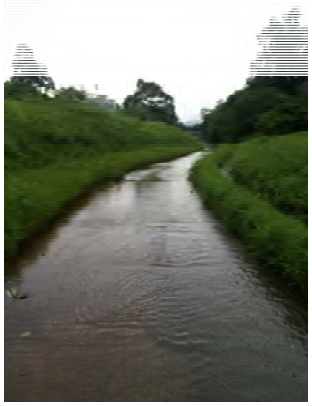
Title

LOCATIONS OF PROPOSED WATER QUALITY MONITORING STATIONS

Designed	HC		Eng.Chk.	EC	
Drawn	MING		Coordination	EC	
Dwg.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228	Status	PRE
Drawing No	FIGURE 4.1			Rev	P2

Photographic Records for Water Quality Monitoring Location

	
Alternative Location of WM1	**Co-ordinates of Alternative Location of WM1**
	
Alternative Location of WM1 - Control	**Co-ordinates of Alternative Location of WM1 - Control**
	
Alternative Location of WM2A	**Co-ordinates of Alternative Location of WM2A**
	
Alternative Location of WM2-Control A	**Co-ordinates of Alternative Location of WM2 – Control**

	
Location of WM2B-Control	**Co-ordinates of WM2B-Control**
	
Location of WM2B	**Co-ordinates of WM2B**
	
Location of WM3-Control	**Co-ordinates of WM3-Control**
	
Location of WM3	**Co-ordinates of WM3**

	
Location of WM4–Control A	**Co-ordinates of WM4-Control A**
	
Location of WM4–Control B	**Co-ordinates of WM4-Control B**
	
Location of WM4	**Co-ordinates of WM4**

Appendix E

Event and Action Plan

Event and Action Plan for Air Quality

Event	ET	IEC	ER	Action Contractor
Action Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Monitor theimplementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Monitor the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

Event	ET	IEC	ER	Action Contractor
Action Level	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Event and Action Plan for Water Quality

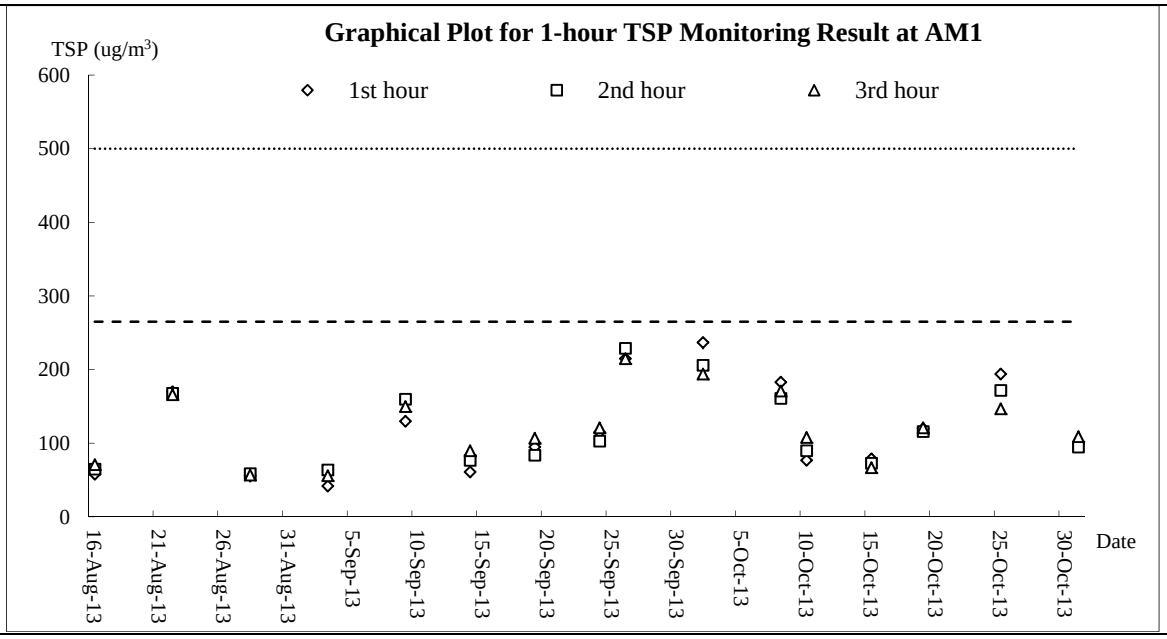
EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures.
Action Level being exceeded by more than two consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods;	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days;

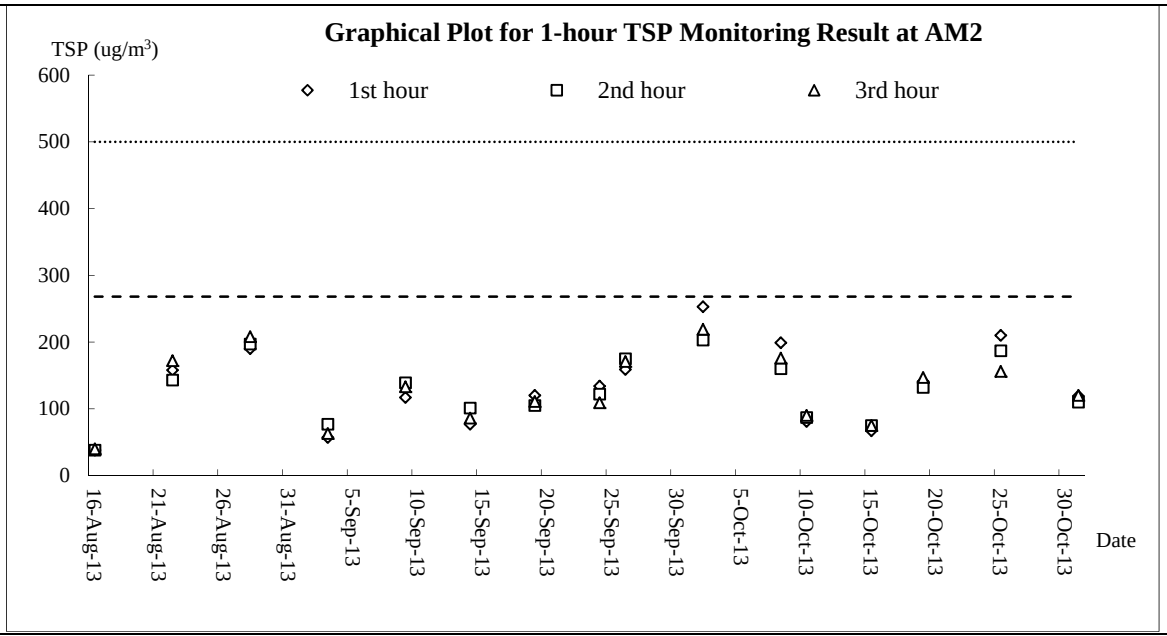
	5. Discuss mitigation measures with IEC and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; 8. Repeat measurement on next day of exceedance.			6. Implement the agreed mitigation measures.
Limit Level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit Level.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, to slow down or to stop all or part of the construction activities.

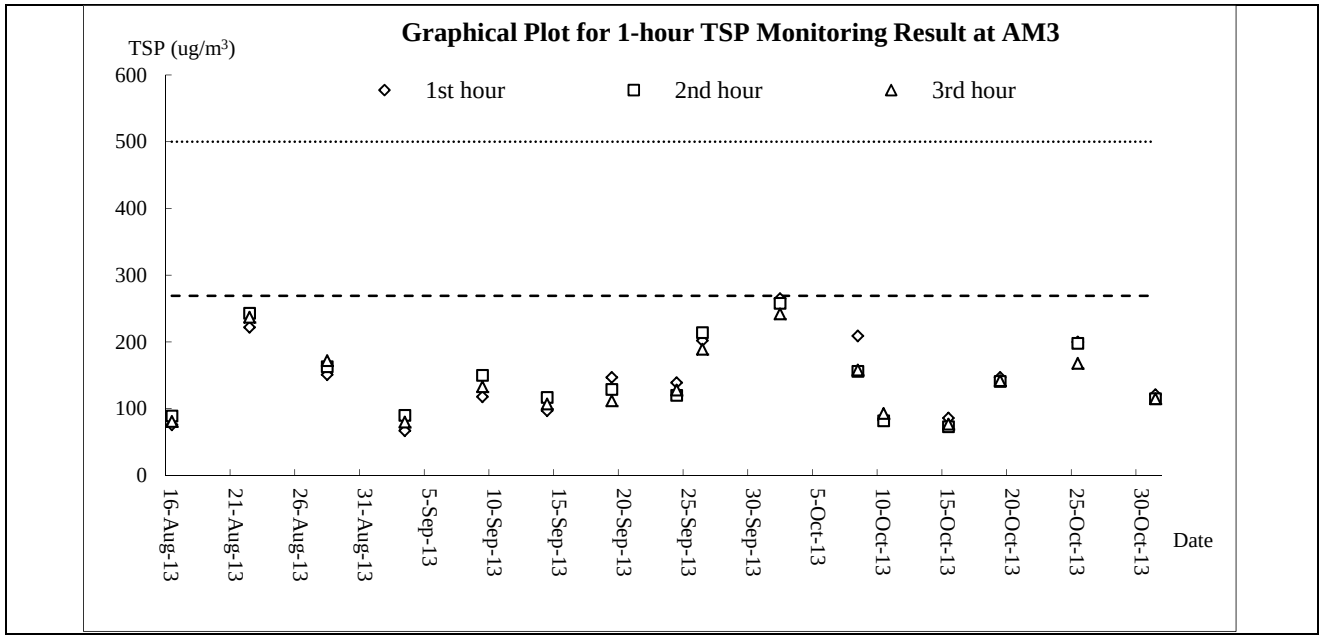
Appendix G

Graphical Plots for Monitoring Result

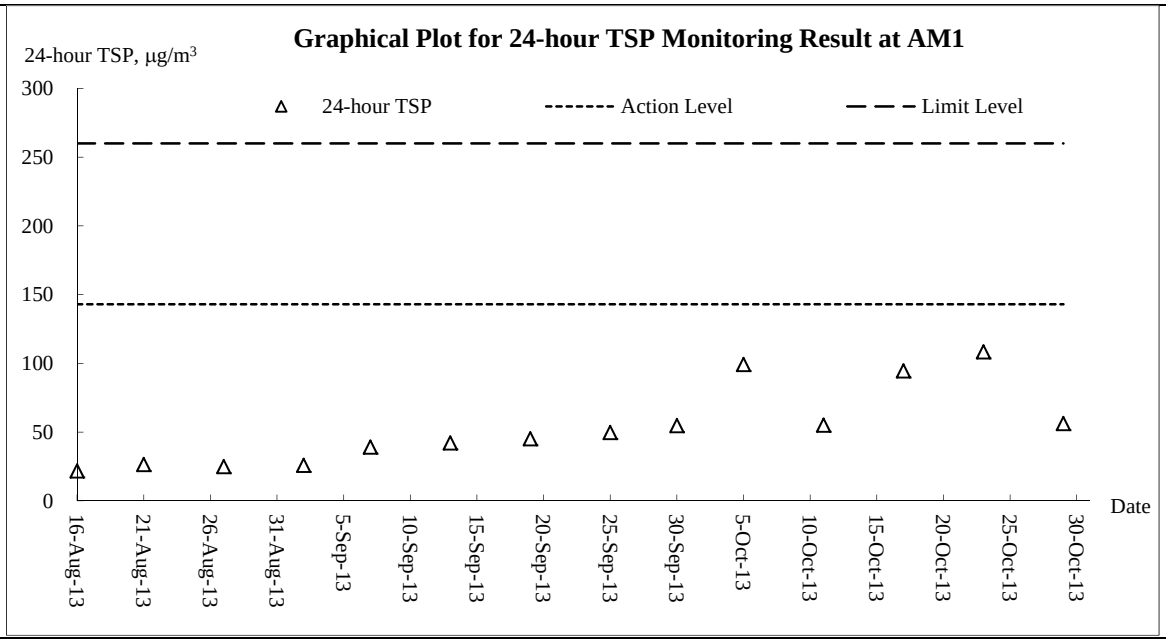
Air Quality – 1-hour TSP

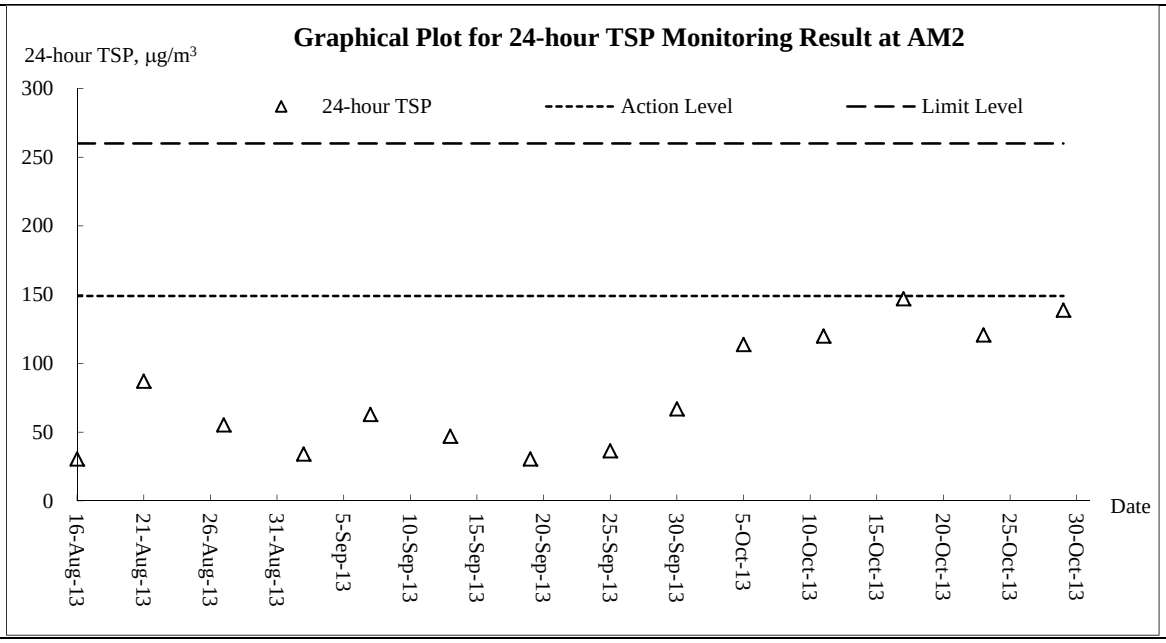


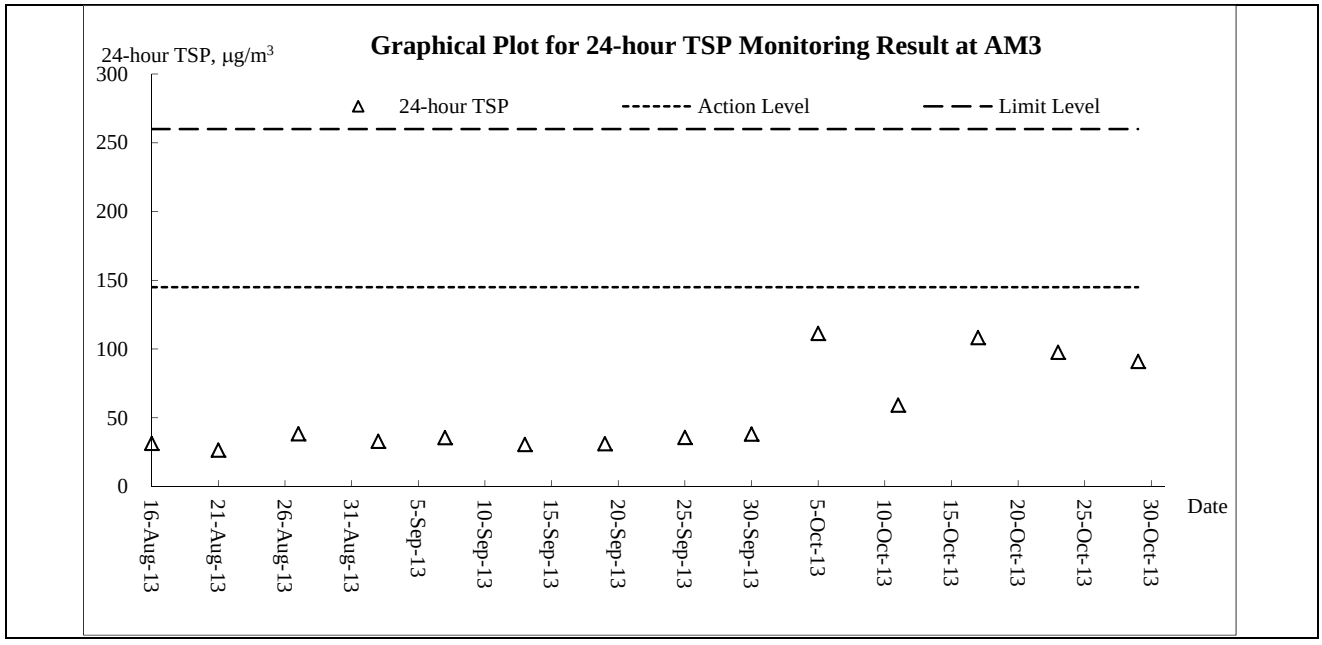



Graphical Plot for 1-hour TSP Monitoring Result at AM3
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13
Date

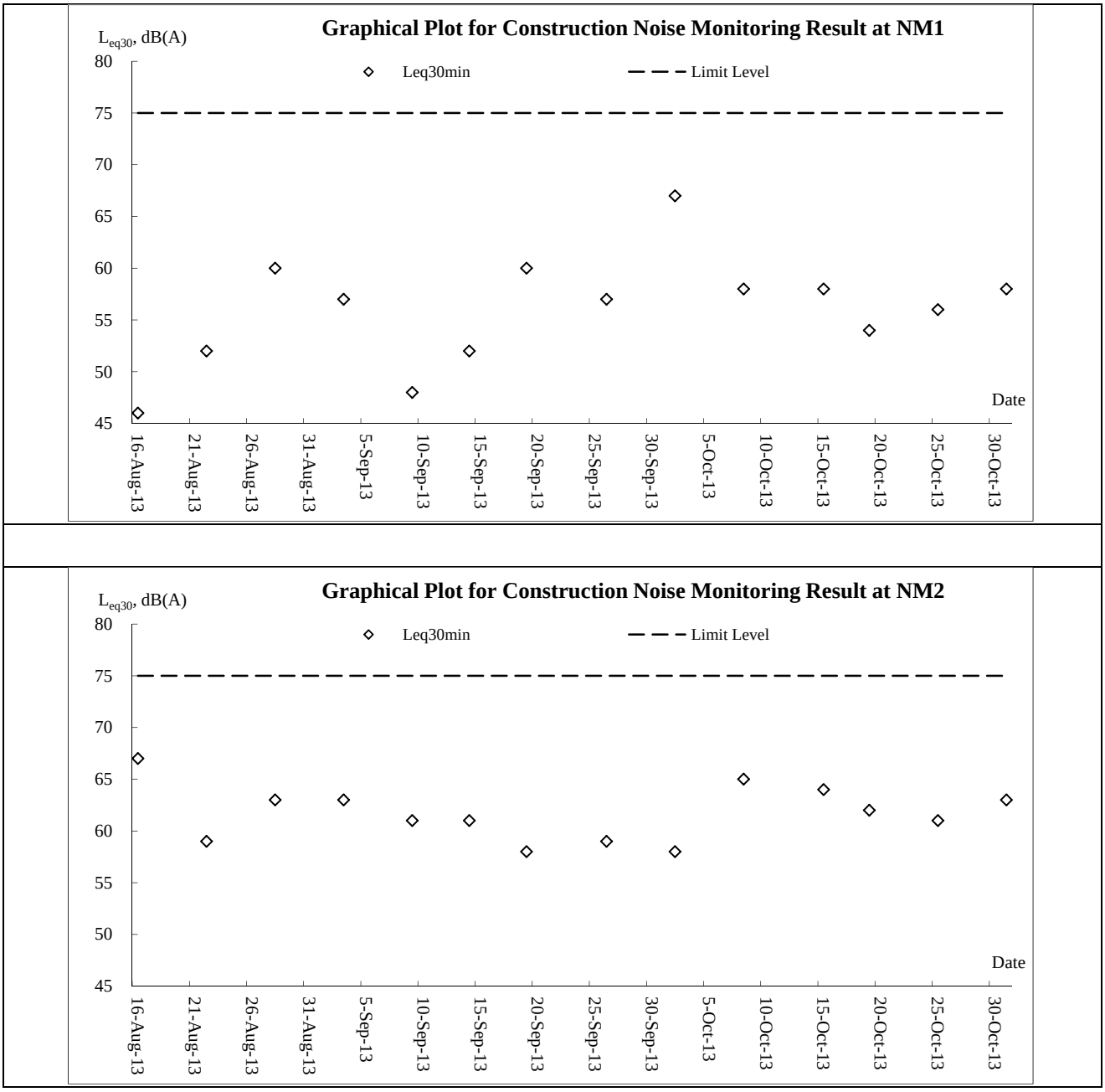
Air Quality – 24-hour TSP





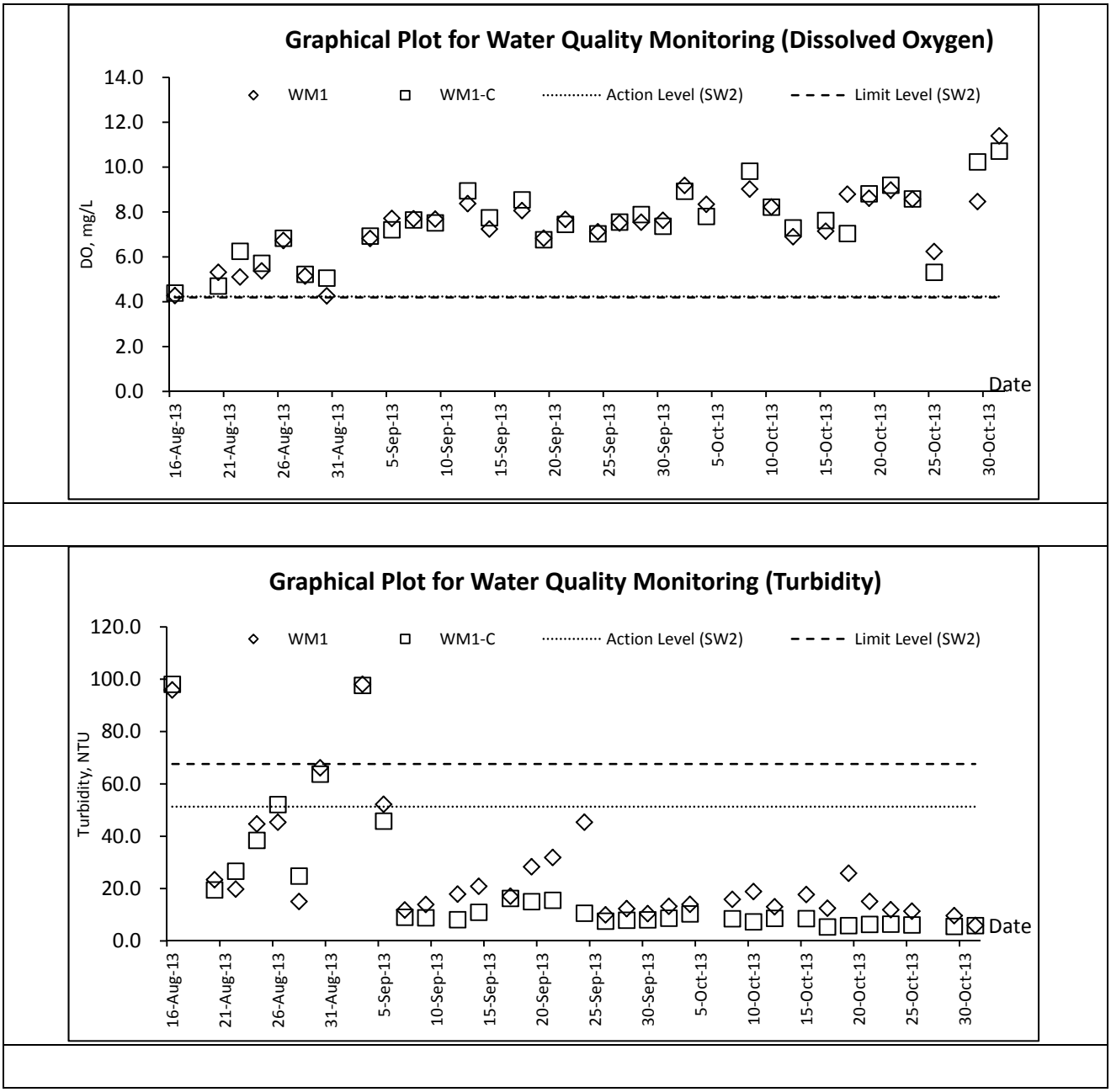

Graphical Plot for 24-hour TSP Monitoring Result at AM3
24-hour TSP, µg/m3
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13
Date

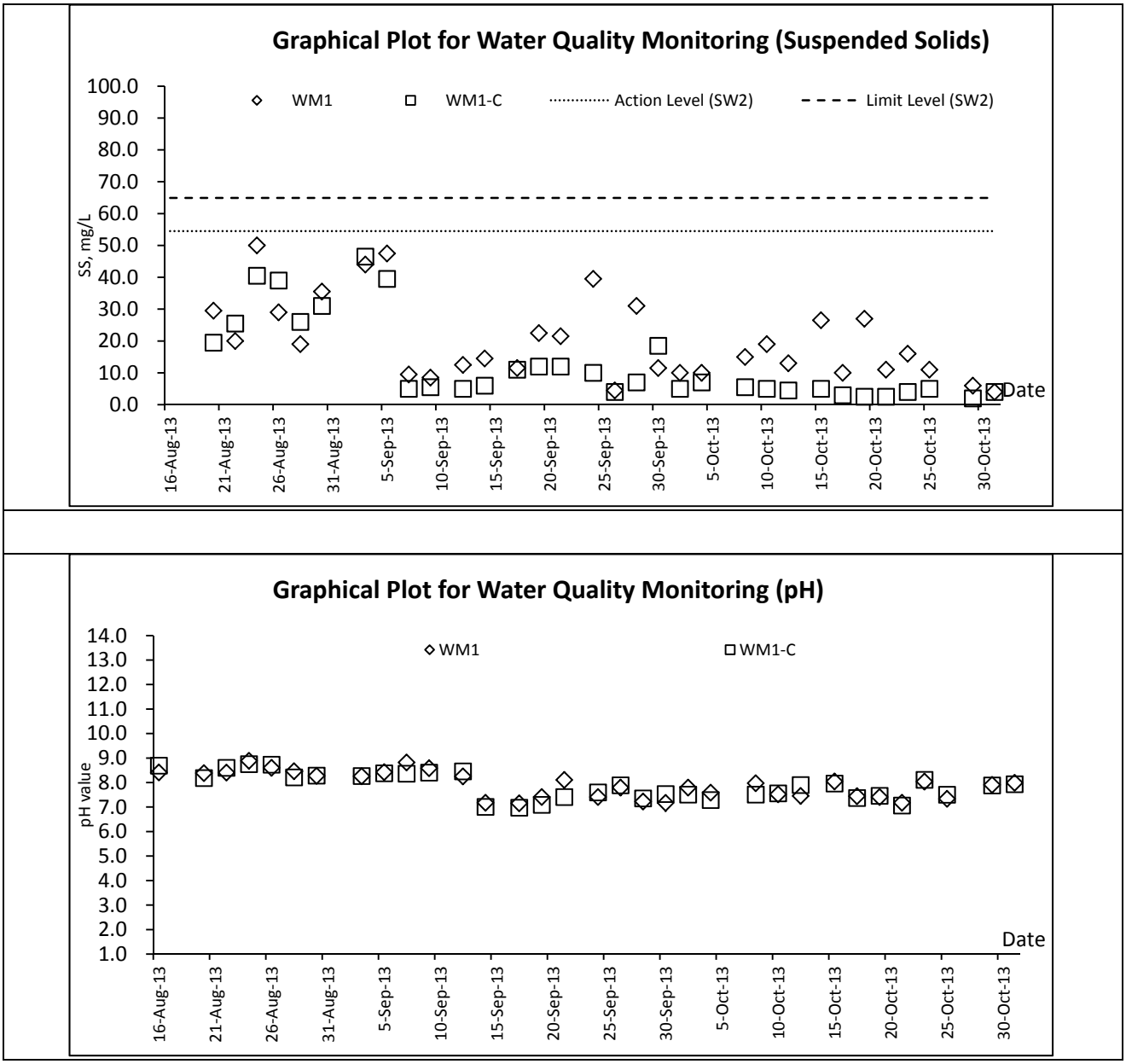
Noise


Graphical Plot for Construction Noise Monitoring Result at NM1
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13

Graphical Plot for Construction Noise Monitoring Result at NM2
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13

Water Quality




Graphical Plot for Water Quality Monitoring (Suspended Solids)
WM1
WM1-C
Action Level (SW2)
Limit Level (SW2)
SS, mg/L
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Date
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13
Graphical Plot for Water Quality Monitoring (pH)
WM1
WM1-C
pH value
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
Date
16-Aug-13
21-Aug-13
26-Aug-13
31-Aug-13
5-Sep-13
10-Sep-13
15-Sep-13
20-Sep-13
25-Sep-13
30-Sep-13
5-Oct-13
10-Oct-13
15-Oct-13
20-Oct-13
25-Oct-13
30-Oct-13

Appendix H

Weather information

Weather Condition Extracted from HKO

The weather of August 2013

The weather of August 2013 was rather gloomy, mainly due to a prolonged period of cloudy and rainy weather associated with tropical cyclones Utor and Trami in mid-August. The total duration of bright sunshine recorded in the month was 148.1 hours, the 10th lowest on record for the month of August and about 22 percent below the normal figure of 188.9 hours. The monthly total rainfall of 445.4 millimetres was slightly above the normal figure of 432.2 millimetres. The accumulated rainfall since 1 January was 2218.8 millimetres, about 16 percent above the normal figure of 1905.5 millimetres for the same period.

The weather of September 2013

Due to the heavy rain episodes in the early part of the month and the rainfall associated with tropical cyclone Usagi in late September, it was wetter than usual in September 2013. The total rainfall of the month was 454.2 millimetres, about 39 percent above the normal figure of 327.6 millimetres. The accumulated rainfall since 1 January was 2673.0 millimetres, about 20 percent above the normal figure of 2233.1 millimetres for the same period. While the month was overall slightly cooler than normal, the approach of Usagi also brought very hot conditions and high temperatures on 20 and 21 September.

The weather of October 2013

With the dominance of dry northeast monsoon for most of the time in the month, October 2013 was sunnier and drier than usual. The monthly total duration of bright sunshine was 247.3 hours, about 28 percent above the normal figure of 193.9 hours. The monthly mean relative humidity of 66 percent was the third lowest for October since 1961. Also, the monthly total rainfall was 2.9 millimetres, only about 3 percent of the normal figure of 100.9 millimetres. However, the accumulated rainfall since 1 January of 2675.9 millimetres was still about 15 percent above the normal figure of 2334.0 millimetres for the same period. The month was also slightly warmer than usual. The monthly mean temperature of 25.7 degrees was 0.2 degrees above the normal figure of 25.5 degrees.

Remark: The meteorological data during the Reporting Period is presented in the relevant monthly EM&A report.

Appendix I

Waste Flow Table

10.0 Monthly Summary Waste Flow Table for 2013

Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)	(in '000ton)
JAN											
FEB											
MAR											
APRIL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
JUN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
JUL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00064
AUG	0.000	0.000	0.000	0.000	0.000	1.465	0.000	0.000	0.000	0.000	0.000
SEP	0.000	0.000	0.000	0.000	0.000	0.788	0.000	0.000	0.000	0.000	0.048
OCT	0.000	0.000	0.000	0.000	0.000	47.063	0.000	0.000	0.000	0.000	0.996
Sub Total	0.000	0.000	0.000	0.000	0.000	49.316	0.000	0.000	0.000	0.000	1.045
NOV											
DEC											
Total	0.000	0.000	0.000	0.000	0.000	49.316	0.000	0.000	0.000	0.000	1.045

Notes :
(1) Note Used.
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Sites.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
(4) The summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table for review and monitoring.

Appendix J

Implementation Schedule for Environmental Mitigation Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Air Quality Impact (Construction)							
3.6.1.1	2.1	**General Dust Control Measures** The following dust suppression measures should be implemented: ■ Frequent water spraying for active construction areas (4 times per day for active areas in Po Kak Tsai and 8 times per day for all other active areas), including areas with heavy construction and slope cutting activities ■ 80% of stockpile areas should be covered by impervious sheets ■ Speed of trucks within the site should be controlled to about 10 km/hr ■ All haul roads within the site should be paved to avoid dust emission due to vehicular movement	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation
3.6.1.2	2.1	**Best Practice for Dust Control** The relevant best practices for dust control as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted to further reduce the construction dust impacts of the Project. These best practices include: *Good site management* ■ The Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. ■ Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimize the release of visible dust emission. ■ Any piles of materials accumulated on or around the work areas should be cleaned up regularly. ■ Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimizing generation of fugitive dust emissions. ■ The material should be handled properly to prevent fugitive dust emission before cleaning. *Disturbed Parts of the Roads* ■ Each and every main temporary access should be paved with	To minimize adverse dust emission generated from various construction activities of the works sites	Contractor	Construction Works Sites	During Construction	EIA Recommendation and Air Pollution Control (Construction Dust) Regulation

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or ■ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. *Exposed Earth* ■ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. *Loading, Unloading or Transfer of Dusty Materials* ■ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. *Debris Handling* ■ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. ■ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. *Transport of Dusty Materials* ■ Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. *Wheel washing* ■ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. *Use of vehicles* ■ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. ■ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.				

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Site hoarding ■ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. *Blasting* ■ The areas within 30m from the blasting area should be wetted with water prior to blasting.					
Air Quality Impact (Operation)							
3.5.2.2	2.2	The following odour containment and control measures will be provided for the proposed sewage treatment work at the BCP site: ■ The treatment work will be totally enclosed. Negative pressure ventilation will be provided within the enclosure to avoid any fugitive odorous emission from the treatment work. ■ Further odour containment will be achieved by covering or confining the sewage channels, sewage tanks, and equipment with potential odour emission. ■ Proper mixing will be provided at the equalization and sludge holding tanks to prevent sewage septicity. ■ Chemical or biological deodorisation facilities with a minimum odour removal efficiency of 90% will be provided to treat potential odorous emissions from the treatment plant including sewage channels / tanks, filter press and screening facilities so as to minimize any potential odour impact to the nearby ASRs.	To minimize potential odour impact from operation of the proposed sewage treatment work at BCP	DSD	BCP	Operation Phase	EIA recommendation
Noise Impact (Construction)							
4.4.1.4	3.1	**Adoption of Quieter PME** Use of the recommended quieter PME such as those given in the BS5228: Part 1:2009 and presented in **Table 4.14**, which can be found in Hong Kong.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and Noise Control Ordinance (NCO)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	**Use of Movable Noise Barrier** The use of movable barrier for certain PME can further alleviate the construction noise impacts. In general, a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME can be achieved depending on the actual design of the movable noise barrier. The Contractor shall be responsible for design of the movable noise barrier with due consideration given to the size of the PME and the requirement for intercepting the line of sight between the NSRs and PME. Barrier material with surface mass in excess of 7 kg/m^2 is recommended to achieve the predicted screening effect.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	**Use of Noise Enclosure/ Acoustic Shed** The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the GW-TM.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
4.4.1.4	3.1	**Use of Noise Insulating Fabric** Noise insulating fabric can be adopted for certain PME (e.g. drill rig, pilling auger etc). The insulating fabric should be lapped such that there are no openings or gaps on the joints. Technical data from manufacturers state that by using the Fabric, a noise reduction of over 10 dB(A) can be achieved on noise level.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.4.1.4	3.1	**Good Site Practice** The good site practices listed below should be followed during each phase of construction: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction programme; • Mobile plant, if any, should be sited as far from NSRs as possible; • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.	To minimize the construction air-borne noise impact	Contractors	Construction Work Sites	During Construction	EIA recommendation, EIAO and NCO
Noise Impact (Operation)							
		Road Traffic Noise					
Table 4.42 and Figure 4.20.1 to 4.20.4	3.2	Erection of noise barrier/ enclosure along the viaduct section.	To minimize the road traffic noise along the connecting road of BCP	Contractor	Loi Tung and Fanling Highway Interchange	Before Operation	EIAO and NCO
		Fixed Plant Noise					
Table 4.46	3.2	Specification of the maximum allowable sound power levels of the proposed fixed plants during daytime and night-time.	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIA recommendation, EIAO and NCO

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
4.5.2.4	3.2	The following noise reduction measures shall be considered as far as practicable during operation: • Choose quieter plant such as those which have been effectively silenced; • Include noise levels specification when ordering new plant (including chillier and E/M equipment); • Locate fixed plant/louver away from any NSRs as far as practicable; • Locate fixed plant in walled plant rooms or in specially designed enclosures; • Locate noisy machines in a basement or a completely separate building; • Install direct noise mitigation measures including silencers, acoustic louvers and acoustic enclosure where necessary; and • Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.	To minimize the fixed plant noise impact	Managing Authority of the buildings / Contractor	BCP, Administration Building and all ventilation buildings	Before Operation	EIAO and NCO
Water Quality Impact (Construction)							
5.6.1.1	4.1	**Construction site runoff and drainage** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts: ▪ At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the Contractor prior to the commencement of construction. ▪ The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas.	To control site runoff and drainage; prevent high sediment loading from reaching the nearby watercourses	Contractor	Construction Works Sites	Construction Phase	Practice Note for Professional Persons on Construction Site Drainage (ProPECC Note PN 1/94)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Temporary ditches should be provided to facilitate the runoff discharge into stormwater drainage system through a sediment/silt trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates, if practical. ▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractor prior to the commencement of construction. ▪ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. ▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. ▪ If surface excavation works cannot be avoided during the wet season (April to September), temporarily exposed slope/soil surfaces should be covered by tarpaulin or other means, as far as practicable, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Interception channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC Note PN 1/94. ▪ The overall slope of the site should be kept to a minimum to reduce					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		the erosive potential of surface water flows. ▪ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. ▪ Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. ▪ Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. ▪ Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. ▪ Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.					
5.6.1.1	4.1	**Good site practices for works within water gathering grounds** The following conditions should be complied, if there is any works to be carried out within the water gathering grounds:	To minimize water quality impacts to the water gathering grounds	Contractor	Construction Works Sites within the water gathering	Construction Phase	ProPECC Note PN 1/94

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		▪ Adequate measures should be implemented to ensure no pollution or siltation occurs to the catchwaters and catchments. ▪ No earth, building materials, oil or fuel, soil, toxic materials or any materials that may possibly cause contamination to water gathering grounds are allowed to be stockpiled on site. ▪ All surplus spoil should be removed from water gathering grounds as soon as possible. ▪ Temporary drains with silt traps should be constructed at the site boundary before the commencement of any earthworks. ▪ Regular cleaning of silt traps should be carried out to ensure proper operation at all time. ▪ All excavated or filled surfaces which have the risk of erosion should always be protected form erosion. ▪ Facilities for washing the wheels of vehicles before leaving the site should be provided. ▪ Any construction plant which causes pollution to catchwaters or catchments due to the leakage of oil or fuel should be removed off site immediately. ▪ No maintenance activities which may generate chemical wastes should be undertaken in the water gathering grounds. Vehicle maintenance should be confined to designated paved areas only and any spillages should be cleared up immediately using absorbents and waste oils should be collected in designated tanks prior to disposal off site. All storm water run-off from these areas should be discharged via oil/petrol separators and sand/silt removal traps. ▪ Any soil contaminated with fuel leaked from plant should be removed off site and the voids arising from removal of contaminated soil should be replaced by suitable material approved by the Director of Water Supplies. ▪ Provision of temporary toilet facilities and use of chemicals or insecticide of any kind are subject to the approval of the Director of Water Supplies. ▪ Drainage plans should be submitted for approval by the Director of			grounds		

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		Water Supplies. ▪ An unimpeded access through the waterworks access road should always be maintained. ▪ Earthworks near catchwaters or streamcourses should only be carried out in dry season between October and March, ▪ Advance notice must be given before the commencement of works on site quoting WSD's approval letter reference.					
5.6.1.2	4.1	**Good site practices of general construction activities** Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby stormwater drain. Stockpiles of cement and other construction materials should be kept covered when not being used. Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby stormwater drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.	To minimize water quality impacts	Contractor	All construction works sites	Construction phase	EIA Recommendation
5.6.1.3	4.1	**Sewage effluent from construction workforce** Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize water quality impacts	Contractor	All construction works sites with on-site sanitary facilities	Construction phase	EIA Recommendation and Water Pollution Control Ordinance (WPCO)
5.6.1.4	4.1	**Hydrogeological Impact** Grout injection works would be conducted before blasting, for sealing a limited area around the tunnel with a grout of a suitable strength for controlling the potential groundwater inflows. The pre-injection grouting method would be supplemented by post-injection grouting where necessary to further enhance the groundwater inflow control. On-site treatment for the groundwater ingress pumped out would be required to remove any contamination by grouting materials before discharge off-site.	To minimize water quality impacts	Contractor	Construction works sites of the drill and blast tunnel	Construction phase	EIA Recommendation and WPCO
Water Quality Impact (Operation)							
		No mitigation measure is required.					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
Sewage and Sewerage Treatment Impact (Construction)							
6.7	5	The sewage generated by the on-site workforce should be collected in chemical toilets and disposed of off-site by a licensed waste collector.	To minimize water quality impacts	Contractor	All construction works sites with on-site sanitary facilities	Construction phase	EIA recommendation and WPCO
Sewage and Sewerage Treatment Impact (Operation)							
6.6.3	5	Sewage generated by the BCP and Chuk Yuen Village Resite will be collected and treated by the proposed on-site sewage treatment facility using Membrane Bioreactor treatment with a portion of the treated wastewater reused for irrigation and flushing within the BCP.	To minimize water quality impacts	DSD	BCP	Operation phase	EIA recommendation and WPCO
6.5.3	5	Sewage generated from the Administration Building will be discharged to the existing local sewerage system.	To minimize water quality impacts	DSD	Administration Building	Operation phase	EIA recommendation and WPCO
Waste Management Implication (Construction)							
7.6.1.1	6	**Good Site Practices** Adverse impacts related to waste management such as potential hazard, air, odour, noise, wastewater discharge and public transport as mentioned in section 3.4.7.2 (ii)(c) of the Study Brief are not expected to arise, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities include: ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site ▪ Training of site personnel in proper waste management and chemical handling procedures ▪ Provision of sufficient waste disposal points and regular collection of waste ▪ Dust suppression measures as required under the Air Pollution Control (Construction Dust) Regulation should be followed as far as practicable. Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by covering trucks or in enclosed containers ▪ General refuse shall be removed away immediately for disposal. As	To minimize adverse environmental impact	Contractor	Construction works sites (general)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; Waste Disposal (Chemical Wastes) (General) Regulation; and ETWB TC(W) No. 19/2005, Environmental Management on Construction Site

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		such odour is not anticipated to be an issue to distant sensitive receivers ▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction from public road ▪ Covers and water spraying system should be provided for the stockpiled C&D material to prevent dust impact or being washed away ▪ Designate different locations for storage of C&D material to enhance reuse ▪ Well planned programme for transportation of C&D material to lessen the off-site traffic impact. Well planned delivery programme for offsite disposal and imported filling material such that adverse noise impact from transporting of C&D material is not anticipated ▪ Site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be adopted as far as practicable, such as cleaning and maintenance of drainage systems regularly ▪ Provision of cover for the stockpile material, sand bag or earth bund as barrier to prevent material from washing away and entering the drains					
7.6.1.2	6	**Waste Reduction Measures** Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: ▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal ▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force ▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials ▪ Plan and stock construction materials carefully to minimise amount	To reduce the quantity of wastes	Contractor	Construction works sites (General)	Construction Phase	EIA recommendation and Waste Disposal Ordinance

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?
		of waste generated and avoid unnecessary generation of waste ▪ In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.					
7.6.1.3	6	**C&D Materials** In order to minimise impacts resulting from collection and transportation of C&D material for off-site disposal, the excavated materials should be reused on-site as backfilling material as far as practicable. The surplus rock and other inert C&D material would be disposed of at the Government's Public Fill Reception Facilities (PFRFs) at Tuen Mun Area 38 for beneficial use by other projects in the HKSAR as the last resort. C&D waste generated from general site clearance and tree felling works would require disposal to the designated landfill site. Other mitigation requirements are listed below: ▪ A Waste Management Plan should be prepared and implemented in accordance with ETWB TC(W) No. 19/2005 Environmental Management on Construction Site; and ▪ In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills, and to control fly-tipping, a trip-ticket system (e.g. ETWB TCW No. 31/2004) should be included.	To minimize impacts resulting from C&D material	Contractor	Construction Works Sites (General)	Construction Phase	EIA recommendation; Waste Disposal Ordinance; and ETWB TCW No. 31/2004
7.6.1.4	6	**General refuse** General refuse should be stored in enclosed bins or compaction units separated from other C&D material. A reputable waste collector is to be employed by the Contractor to remove general refuse from the site separately. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' litter.	To minimize impacts resulting from collection and transportation of general refuse for off-site disposal	Contractor	Construction works sites (General)	Construction phase	Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation
7.6.1.5	6	**Chemical waste** If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical	To minimize impacts resulting from collection and transportation of chemical waste for off-site disposal	Contractor	Construction works sites (General)	Construction phase	Waste Disposal (Chemical Waste) (General) Regulation and Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes