JOB NO.: TCS00670/13

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

2nd QUARTERLY ENVIRONMENTAL MONITORING & AUDIT SUMMARY REPORT – (NOVEMBER 2013 to January 2014)

PREPARED FOR

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Quality Index

Date	Reference No.	Prepared By	Certified By
12 March 2014	TCS00670/13/600/R0128v2	 Donald Kwok (Environmental Consultant)	 T.W. Tam (Environmental Team Leader)

Version	Date	Description
1	17 February 2014	First Submission
2	12 March 2014	Amended against the IEC's comments on 11 March 2014

SMEC ASIA Ltd.
瑞峰工程顧問有限公司

SMEC ASIA LIMITED
Unit A-C, 27/F Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
T +852 3995 8100
F +852 3995 8101
E smecasia@smec.com
W www.smec.com

14 March 2014

Our ref: 7076192/L15592/RY/AB/AW/FL/rw
Your ref:

AECOM
8/F, Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin
N.T.

By Email & Post

Attention: Mr Kelvin LEE

Dear Sirs

Agreement No. CE 45/2008(EP)
Liantang/Heung Yuen Wai Boundary Control Point and Associated Works
Independent Environmental Checker – Investigation
Quarterly EM&A Summary Report (No. 2) – November 2013 to January 2014

With reference to the Quarterly EM&A Report No. 2 for November 2013 to January 2014 (Version 2) certified by the ET Leader we received on 12 March 2014, 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 **2nd** 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 **1 November 2013 to 31 January 2014** (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	**4**	**198**
	24-hour TSP	**4**	**63**
Construction Noise	$L_{eq(30min)}$ Daytime	**4**	**75**
Water Quality	Water sampling	**3 (Contract 3)**	**35***
		2 (Contract 5)	**37***
Joint Site Inspection / Audit	IEC, ET, the Contractor and RE joint site Environmental Inspection and Auditing	**Contract 3**	**13**
		Contract 5	**13**

(*) number of sampling day

BREACHES OF ACTION/LIMIT LEVELS

ES.03. In this Reporting Period, monitoring results demonstrated that no exceedance of environmental quality criteria recorded in air quality and construction noise. For water quality monitoring, a total of four (4) Limit Level exceedances were recorded in Reporting Period. 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	2	2	Not project related	N.A.
	SS	0	2	2	Not project related	N.A.

ENVIRONMENTAL COMPLAINT

ES.04. In the Reporting Period, one air quality of environmental complaint is received by CEDD on **22 January 2014**. According to investigation findings, air quality mitigation measure as provided by the Contractor of C5 has fulfilled the EM&A Manual requirement.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

REPORTING CHANGES

ES.06. Construction works of Contract 3 was commenced on 5 November 2013. Relevant monitoring locations of Contract 3 has been started on 5 November 2013 accordingly.

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 **2nd** 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 **1 November 2013 to 31 January 2014**.

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 Contract 2 has awarded in December 2013. Date of contract works commencement has yet to decide. 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 and construction work was commenced on 5 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 3 and Contract 5. They are summarized in below. Moreover, the master construction program of the Contract 5 is enclosed in ***Appendix C***.

Contract 2 (CV/2012/08)

- Contract 2 has awarded in December 2013. Date of contract works commencement has yet to decide. So, no construction activities were undertaken.

Contract 3 (CV/2012/09)

- Contract commenced in November 2013, the following activities were conducted in the Reporting Period.
  - Cable detection and trail trenches
  - Tree Felling Works
  - Trial Pit Excavation
  - Pre-drilling works and piling works
  - Extension of box culvert
  - Bored pile wall construction
  - Erection of site office
  - Construction of haul road and temporary soil platform for geotechnical works

Contract 4 (Contract number to be assigned)

- The contract has not yet awarded.

Contract 5 (CV/2013/03)

- Contract awarded in April 2013 and commenced in August 2013, the following activities were conducted in the Reporting Period.
  - Remaining works at RS1 & RS3;
  - Construction of Retaining Wall No.1;
  - Construction of temporary bridge B;
  - Construction of Village Houses at RS4;
  - Construction of 3rd wheel washing bay;
  - Western Lift shaft's piling works;
  - Geotechnical investigation and monitoring works;
  - Transplanting, Pruning/felling of existing trees;
  - Demolition of structures/ additional works at Loi Tung;
  - Formation works at BCP Area;
  - Construction of Depressed Road at BCP3;
  - Underground utilities detection;
  - Environmental impact monitoring;
  - Demolition works at former ArchSD office;
  - Filing works in ArcHD permanent office;
  - Archaeological Survey at Section T1;
  - Photographic and Cartographic Records of graves and well under EP; and
  - Liaise with various utility undertaker and villagers / Village representatives
  - Piling works at life shaft, Bridge J & footbridge;
  - Construction of pedestrian subway and pump room at LMH;
  - Pipe jacking across Kong Yuen River; and
  - Drainage and Sewerage works at LMH Road

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 the Contracts 3 and 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 3	Contract 5	Contract 2, 4 & 6
1	Air pollution Control (Construction Dust) Regulation	Ref. No: 362101 Notification received by EPD on 17 Jul 2013	Ref. No: 359338 Notified EPD on 13 May 2013	--
2	Chemical Waste Producer Registration - Waste Producers Number	No.:5113-634-C3817-01 Valid form 7 Oct 2013 till the end of Contract	No.: 5213-642-S3735-01 Valid form 8 Jun 2013 till the end of Contract	--
3	Water Pollution Control Ordinance - Discharge License	No.:WT00016832 – 2013 Valid from 28 Aug 13 to 31 Aug 2018	No.: W5/1G44/1 Valid from 8 Jun 13 to 30 Jun 2018	--

Item	Description	License/Permit Status		
		Contract 3	**Contract 5**	**Contract 2, 4 & 6**
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7017914 Valid form 2 Aug 13 till the end of Contract	Account No. 7017351 Valid form 29 Apr 13 till the end of Contract	--
5	Construction Noise Permit	GW-RN0747-13 Valid on 4 Dec 13 till 19 Jan 14	NA	--
		GW-RN0004-14 Valid on 7 Jan 14 till 22 Jun 2014		

3 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

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 PARAMETERS

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
AM9b	Nam Wa Po Village House No. 80	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		Nature of the location	Related to the Work Contract
		Coordinates			
		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
WM3-Control	Upstream of River Indus	836763	842400	Alternative location located at downstream 26m of the designated location	Contract 6

Station ID	Description	Designated / Alternative Location Coordinates		Nature of the location	Related to the Work Contract
		Easting	Northing		
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
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:

- DO level in the range of 0-20 mg/l and 0-200% saturation; and
- 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^{o} 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(A). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.

3.6.7 During the monitoring, all noise measurements were 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 were used as the monitoring parameter for the time period between 0700-1900 hours on weekdays; and also $Leq_{(15min)}$ in three consecutive $Leq_{(5min)}$ measurements is 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 was 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.

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 of known NTU 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 are analyzed with Suspended Solids (SS) as specified in the *EM&A Manual* by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). SS analysis is determined by the laboratory upon receipt of the water samples using *APHA Standard Methods 2540D* (namely ALS Method EA-025 as accredited HOKLAS Scheme) started 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 is 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 /m³)		Limit Level (μg/m³)	
	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) and 65 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 was commenced for Contract 3 and Contract 5. Therefore, air quality monitoring was only performed at 4 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
- AM9b - Nam Wa Po Village House No. 80

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	257	41	155	141	47	101
Record Date	03-Jan-14	29-Nov-13	Total 51 events	14-Dec-13	27-Nov-13	Total 16 events
AM2	266	56	171	147	50	116
Record Date	12-Nov-13	29-Nov-13	Total 51 events	09-Nov-13	27-Nov-13	Total 15 events
AM3	268	57	169	142	39	111
Record Date	28-Dec-13	29-Nov-13	Total 51 events	22-Jan-14	09-Nov-13	Total 16 events
AM9b	267	43	158	150	35	78
Record Date	23-Dec-13	29-Nov-13	Total 45 events	27-Nov-13	09-Nov-13	Total 16 events

4.2.2 In Reporting period, AM2 power failure occurred on 20 December 2013. Power supply has resumed on 23 December 2013. So, there has only fifteen events of 24-hour TSP monitoring were successful conducted at AM2.

4.2.3 Since the Contract 3 commenced on 6 November 2013, so 1-hour and 24-hour TSP of air quality monitoring are respectively undertaken on 6 November 2013 and 7 November 2013 at the designated location AM9b.

4.2.4 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
AM9b	Action Level	0	0	0
	Limit Level	0	0	0

4.2.5 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. 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 was commenced for Contract 3 and Contract 5. Therefore, noise monitoring was only performed at 5 relevant designated locations as below:

- NM1 - Tsung Yuen Ha Village House No. 63;
- NM2 - Village House near Lin Ma Hang Road;
- NM8 - Village House, Tong Hang;
- NM9 - Village House, Kiu Tau Village
- NM10 - Nam Wa Po Village House No. 78

5.2 SUMMARY OF MONITORING RESULTS

5.2.1 At NM10 noise monitoring location, sound level meter was set in 1m from the exterior of the building façade before December 2013. However, free-field status is performed after November 2013. So, façade correction (+3 dB(A) has added according to the requirement.

5.2.2 The sound level meter was set in 1m from the exterior of the building façade including noise monitoring locations NM1, NM2, NM8 and NM9. No façade correction (+3 dB(A) is added according to acoustical principles and EPD guidelines.

5.2.3 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	60	51
Record Date	3-Jan-13	27-Jan-14
NM2	67	58
Record Date	5-Dec-13	23-Nov-13
NM8	63	54
Record Date	5-Dec-13 / 19-Dec-13 / 21-Jan-14	6-Nov-13
NM9	71	55
Record Date	6-Nov-13 / 23-Dec-13	29-Nov-13
NM10	(*) 64	58
Record Date	27-Jan-14	23-Nov-13

Remarks

(*) *façade correction (+3 dB(A) is added according to acoustical principles and EPD guidelines*

5.2.4 Breaches of construction noise A/L levels and statistical analysis of compliance for 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		
NM8	0		
NM9	0		
NM10	0		

5.2.5 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. 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 was commenced for Contract 3 and Contract 5. Therefore, water quality monitoring was only performed at 5 relevant designated locations as below:

- WM1 – Contract 5 working site downstream at Kong Yiu Channel;
- WM1-Control – Contract 5 working site upstream at Kong Yiu Channel;
- WM4 – Contract 3 working site Downstream of Ma Wat Channel;
- WM4-Control A – Contract 3 working site Kau Lung Hang Stream; and
- WM4-Control B – Contract 3 working site Upstream of Ma Wat Channel

6.2 SUMMARY OF MONITORING RESULTS

6.2.1 Summary of monitoring results during the Reporting Period are tabulated in ***Tables 6-1 and 6-2.*** The relevant graphical plots throughout the Reporting Period are presented in ***Appendix G***.

Table 6-1 Summary of the Water Quality Monitoring Results – Contract 5

Statistics	DO (mg/L)		Turbidity (NTU)		SS (mg/L)	
	WM1	WM1-Control	WM1	WM1-Control	WM1	WM1-Control
Min	4.24	7.18	13.50	27.15	5.5	13.5
Max	10.73	11.50	945.50	151.00	276.5	112.5
Average	7.70	8.29	47.33	17.35	21.7	11.0

Table 6-2 Summary of the Water Quality Monitoring Results – Contract 3

Statistics	DO (mg/L)			Turbidity (NTU)			SS (mg/L)		
	WM4	WM4 - CA	WM4 - CB	WM4	WM4 - CA	WM4 - CB	WM4	WM4 - CA	WM4 - CB
Min	7.27	6.74	5.16	9.83	5.24	5.32	24.5	3.0	4.0
Max	12.11	11.29	10.52	40.50	145.50	16.50	45.5	110.5	30.0
Average	8.73	8.01	7.94	14.89	19.50	7.02	16.1	16.8	6.7

Noted:
WM4-CA = WM4-Control A
WM4-CB = WM4-Control B

6.2.2 Breaches of water quality A/L levels and statistical analysis of compliance for the water quality monitoring results are summarized in ***Tables 6-3 and 6-4***.

Table 6-3 Summaries of Breaches of the Existing Water Quality A/L Levels – Contract 5

Reporting Period	No. of sample analysis in each Parameter	Exceedance	DO	Turbidity	SS
November 2013	13	Action Level	0	0	0
		Limit Level	0	**1**	**1**
		Sub-Total	0	0	0
December 2013	12	Action Level	0	0	0
		Limit Level	0	**1**	**1**
		Sub-Total	0	0	0
January 2014	12	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
Total	**37**	**Action Level**	**0**	**0**	**0**
		Limit Level	**0**	**2**	**2**

Table 6-4 Summaries of Breaches of the Existing Water Quality A/L Levels – Contract 3

Reporting Period	No. of sample analysis in each Parameter	Exceedance	DO	Turbidity	SS
November 2013	11	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
December 2013	12	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
January 2014	12	Action Level	0	0	0
		Limit Level	0	0	0
		Sub-Total	0	0	0
Total	**35**	**Action Level**	**0**	**0**	**0**
		Limit Level	**0**	**0**	**0**

6.2.3 In view of the monitoring results of Dissolved Oxygen (DO), all the measured results in the Reporting Period were higher than Action Level exceedance and no exceedances were therefore triggered.

6.2.4 Four (4) Limit Level exceedances including parameters of turbidity and SS were recorded at water samples collected from WM1 on 25 November 2013 and 17 December 2013. NOEs were issued to relevant parties upon confirmation of the results. The investigation for the cause of exceedances was completed and it are concluded that the exceedance was not related to the works under the Project. The detailed findings have been presented in relevant monthly EM&A reports.

6.2.5 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	Contract No	Quantity				Disposal Location
		Nov 13	Dec 13	Jan 14	Total	
C&D Materials (Inert) (in '000ton)	**3**	1.351	0.177	0.409	1.937	-
	5	0	0	0		-
Reused in this Project (Inert) (in '000ton)	**3**	0.473	0.030	0	0.503	-
	5	0	0	0		-
Reused in other Projects (Inert) (in '000ton)	**3**	0	0	0	0	-
	5	0	0	0		-
Disposal as Public Fill (Inert) (in '000ton)	**3**	0.878	0.140	0.409	1.427	Tuen Mun 38
	5	0	0	0		-

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

Type of Waste	Contract No	Quantity				Disposal Location
		Nov 13	Dec 13	Jan 14	Total	
Recycled Metal (in '000ton)	**3**	0	0	0	**0.153**	-
	5	0	0.153	0		-
Recycled Paper / Cardboard Packing (in '000ton)	**3**	0	0	0	**0**	-
	5	0	0	0		-
Recycled Plastic (in '000ton)	**3**	0	0	0.100	**0.100**	By Licensing Collector
	5	0	0	0		-
Chemical Wastes (in '000ton)	**3**	0	0	0	**0**	-
	5	0	0	0		-
General Refuses (in '000ton)	**3**	0.055	0.055	0.110	**1.943**	NENT
	5	0.673	0.200	0.850		NENT

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 3

8.1.2 During the Reporting Period, ***13*** events of the joint site inspections were undertaken at Contract 3 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 – Contract 3

Reporting Period	Date of site inspection	Nos. of findings / reminders	Follow-Up Status
November 2013	6, 13, 20 and 27 November 2013	12	Completed
December 2013	4, 11, 18, 23 and 30 December 2013	10	Completed
January 2014	6, 13, 20 and 27 January 2014	12	Completed

8.1.3 In the Reporting Period, no non-compliance was recorded; however, ***34*** 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.

Contract 5

8.1.4 During the Reporting Period, ***13*** 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 8-2*** and the details of site inspection can be found in relevant EM&A monthly report.

Table 8-2 Summary of Reminders/Observations of Site Inspection – Contract 5

Reporting Period	Date of site inspection	Nos. of findings / reminders	Follow-Up Status
November 2013	7, 14, 21 and 28 November 2013	10	Completed
December 2013	5, 11, 19 and 24 December 2013	11	Completed
January 2014	2, 9, 16, 23 and 28 January 2014.	8	Completed

8.1.5 In the Reporting Period, no non-compliance was recorded; however, ***29*** 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

8.1.6 Since the construction works at the Contract 2, 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 3, no environmental complaint, summons and prosecution was received in the Reporting Period. However, one air quality complaint was received for Contract 5 on 22 January 2014. The statistical summary table of environmental complaint, summons and prosecution are presented in ***Tables 9-1, 9-2*** and ***9-3***.

Table 9-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
November 2013	3	0	0	NA
	5	0	0	NA
December 2013	3	0	0	NA
	5	0	0	NA
January 2014	3	0	0	NA
	5	1	0	Air Quality

Table 9-2 Statistical Summary of Environmental Summons

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
November 2013	3	0	0	NA
	5	0	0	NA
December 2013	3	0	0	NA
	5	0	0	NA
January 2014	3	0	0	NA
	5	0	0	NA

Table 9-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract No	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
November 2013	3	0	0	NA
	5	0	0	NA
December 2013	3	0	0	NA
	5	0	0	NA
January 2014	3	0	0	NA
	5	0	0	NA

9.2.2 According to the letter from the complainant, some construction vehicles were observed leaving some site exists without clean-up the wheels and soil trails were observed on Lin Ma Hang road. That would cause dust emissions, environmental pollution and serious impact on ecology as well as direct impact on the residents' daily life and health.

9.2.3 According to the investigation, air quality mitigation measure as provided by the Contractor C5 has fulfilled the EM&A Manual requirement.

9.2.4 Since the construction works at the Contract 2, 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.
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 the second Quarter EM&A Summary Report presenting the monitoring results and inspection findings for the Reporting Period from **1 November 2013 to 31 January 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 Levels exceedance was triggered according to the set out water quality criteria in Dissolved Oxygen. However, four (4) Limit Level exceedances including parameters turbidity and SS were recorded at WM1 dated 25 November 2013 and 17 December 2013. Notification on Exceedances (NOEs) has issued to all relevant parties. According to investigation findings concluded the exceedances should not be due to the Project works.

11.1.5 During the Reporting Period, the Contract 3 and Contract 5 were respectively undertaken 13 events joint site inspection 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 In the Reporting Period, no notification of summons or successful prosecution under the Project was received. However, one air quality complaint was received by CEDD on 22 January 2014. According to the investigation, air quality mitigation measure as provided by the Contractor C5 has fulfilled the EM&A Manual requirement.

11.2 RECOMMENDATIONS

11.2.1 During dry season, the potential construction dust impact should be paid attention since most of the construction sites are adjacent to villages. The Contractor should fully implement the construction dust mitigation measures properly. Special attention, daily cleanness shall be undertaken after each end-day. In particular, Main Contractors of Contracts 3 and 5 should ensure wheel and body washing all vehicles before leaving the site.

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

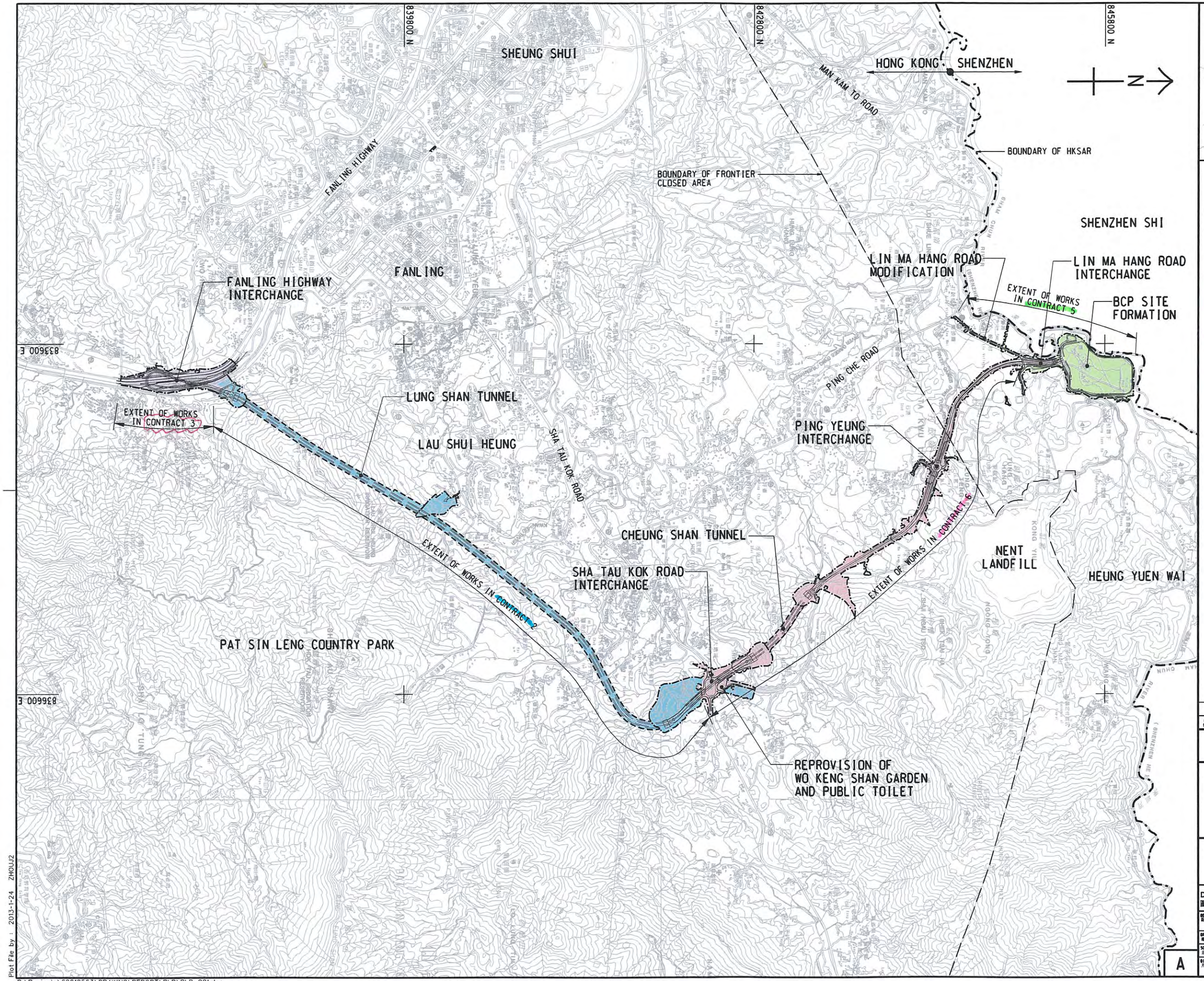
11.2.3 Construction noise should be a key environmental impact during the works. The noise mitigation measures such as use of quiet plants or temporary noise barrier installation at the construction noise predominate area should be implemented as accordance with the EM&A requirement.

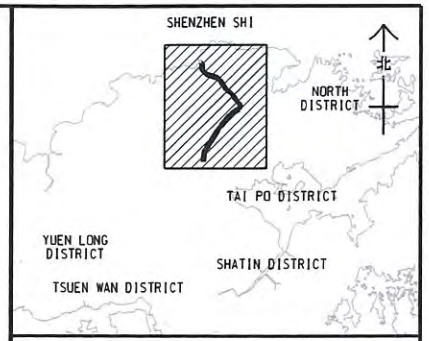
11.2.4 Mosquito control measures should be continued to prevent mosquito breeding on site.

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		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

A

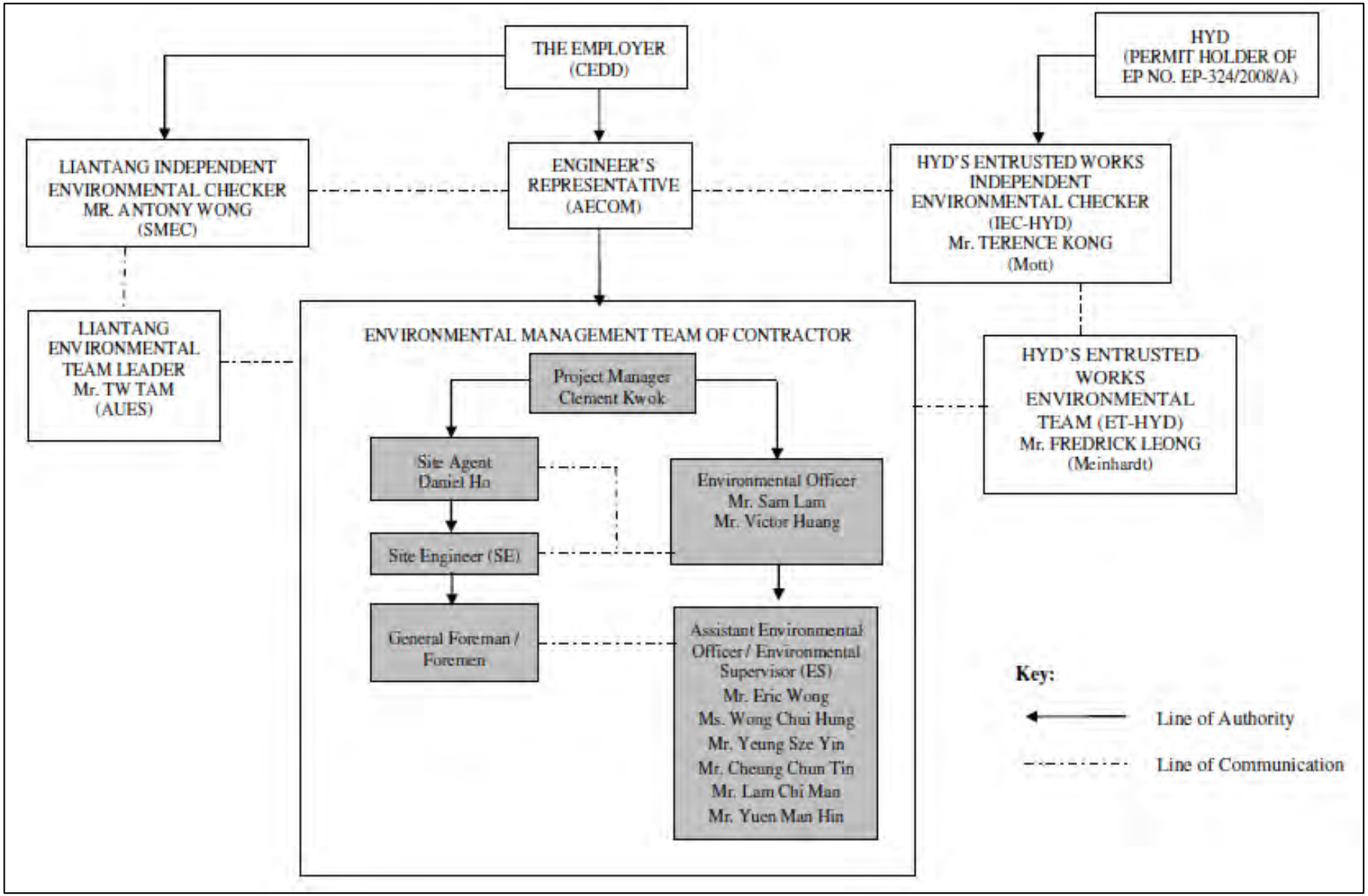
Plot File by : 2013-1-24 ZHOUJ2

P:\Projects\60212563\DRAWING\REPORT\PLP\PLP_001.dgn

Appendix B

Environmental Management Organization Chart

Contract 3


THE EMPLOYER
(CEDD)
HYD
(PERMIT HOLDER OF
EP NO. EP-324/2008/A)
LIANTANG INDEPENDENT
ENVIRONMENTAL CHECKER
MR. ANTONY WONG
(SMEC)
ENGINEER'S
REPRESENTATIVE
(AECOM)
HYD'S ENTRUSTED WORKS
INDEPENDENT
ENVIRONMENTAL CHECKER
(IEC-HYD)
Mr. TERENCE KONG
(Mott)
LIANTANG
ENVIRONMENTAL
TEAM LEADER
Mr. TW TAM
(AUES)
ENVIRONMENTAL MANAGEMENT TEAM OF CONTRACTOR
Project Manager
Clement Kwok
HYD'S ENTRUSTED
WORKS
ENVIRONMENTAL
TEAM (ET-HYD)
Mr. FREDRICK LEONG
(Meinhardt)
Site Agent
Daniel Ho
Environmental Officer
Mr. Sam Lam
Mr. Victor Huang
Site Engineer (SE)
General Foreman /
Foremen
Assistant Environmental
Officer / Environmental
Supervisor (ES)
Mr. Eric Wong
Ms. Wong Chui Hung
Mr. Yeung Sze Yin
Mr. Cheung Chun Tin
Mr. Lam Chi Man
Mr. Yuen Man Hin
Key:
Line of Authority
Line of Communication

Contact Details of Key Personnel for Contract 3 - CV/2012/09

Organization	Project Role	Name of Key Staff	Tel No	Fax No.
AECOM	Engineer's Representative	Alan Lee	2472 0212	2472 0132
SMEC	Independent Environmental Checker	Antony Wong	3995 8120	3995 8101
Chun Wo	Project Manager	Clement Kwok	2638 6136	2638 7077
Chun Wo	Site Agent	Daniel Ho	2638 6144	2638 7077
Chun Wo	Environmental Officer	Mr. Victor Huang	2638 6115	2638 7077
Chun Wo	Environmental Supervisor	Ms. Wong Chui Hing	2638 6125	2638 7077
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

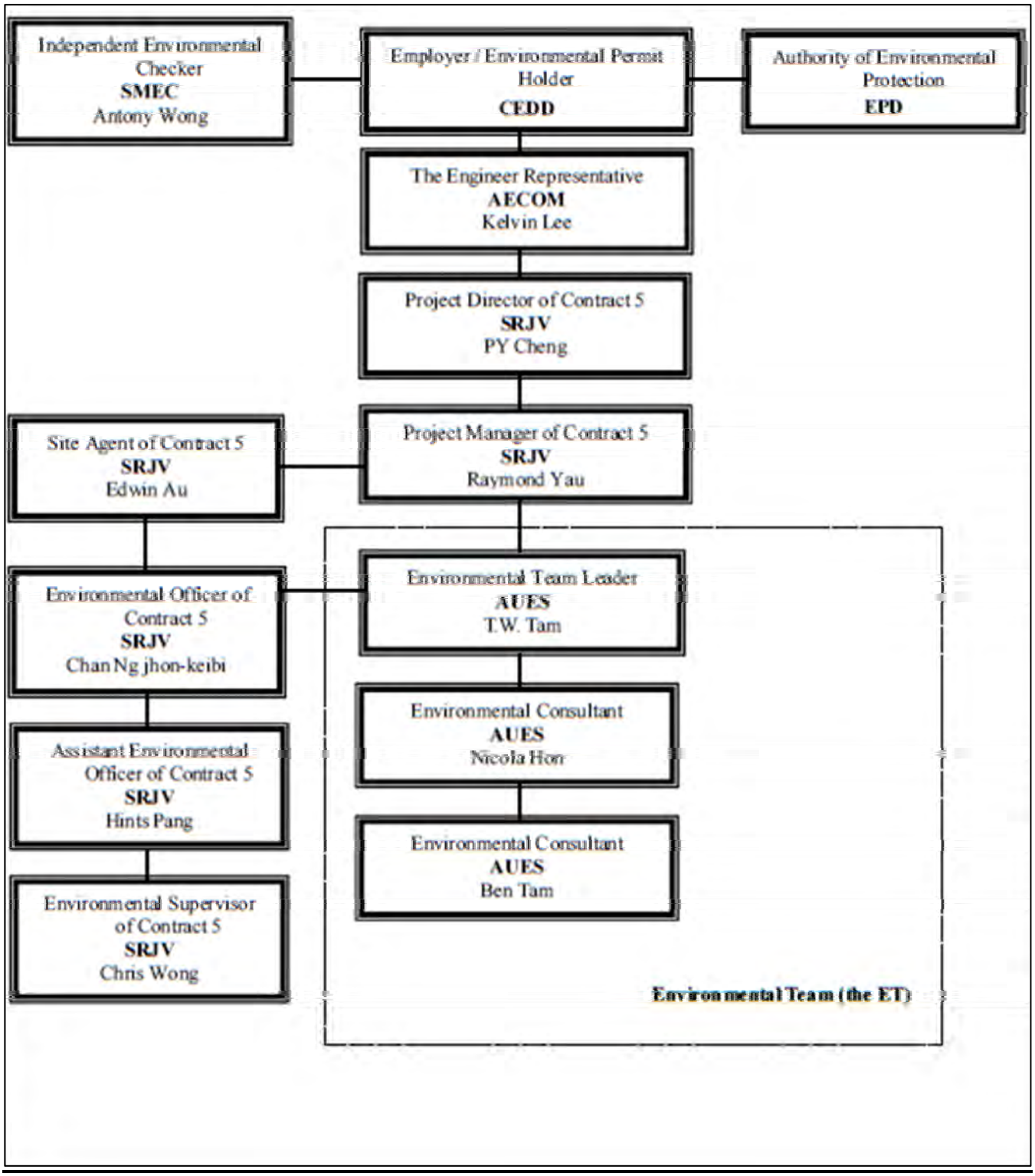
AECOM (Engineer) – AECOM Asia Co. Ltd.

Chun Wo (Main Contractor) – Chun Wo Construction Ltd.

SMEC (IEC) – SMEC Asia Limited

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

Contract 5


Independent Environmental Checker
SMEC
Antony Wong
Employer / Environmental Permit Holder
CEDD
Authority of Environmental Protection
EPD
The Engineer Representative
AECOM
Kelvin Lee
Project Director of Contract 5
SRJV
PY Cheng
Site Agent of Contract 5
SRJV
Edwin Au
Project Manager of Contract 5
SRJV
Raymond Yau
Environmental Officer of Contract 5
SRJV
Chan Ng jhon-keibi
Environmental Team Leader
AUES
T.W. Tam
Assistant Environmental Officer of Contract 5
SRJV
Hints Pang
Environmental Consultant
AUES
Nicola Hon
Environmental Supervisor of Contract 5
SRJV
Chris Wong
Environmental Consultant
AUES
Ben Tam
Environmental Team (the ET)

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

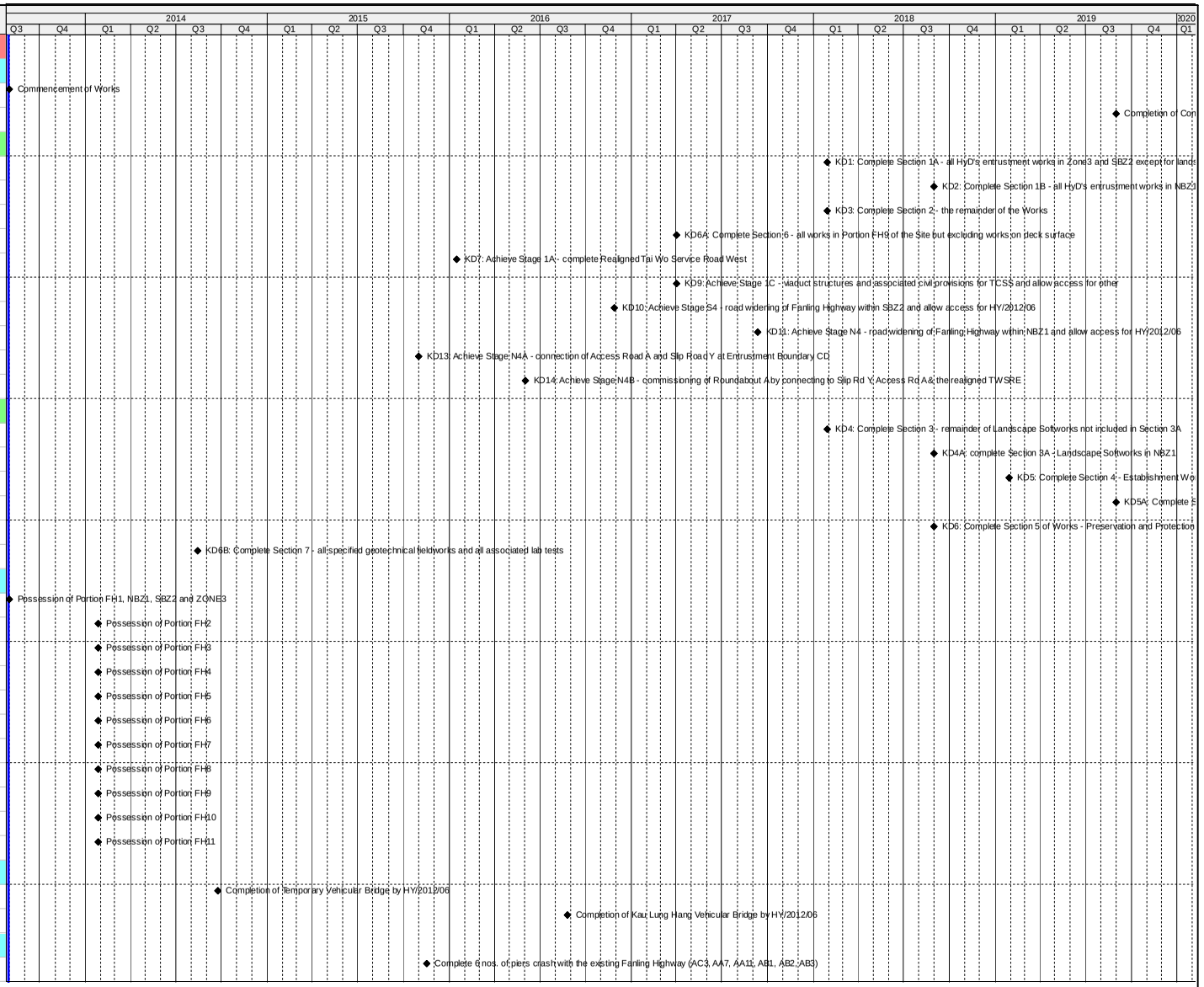
AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

Master Construction Programme

Contract 3

Activity ID	Activity Name	OD	Start	Finish
Initial Works Programme Rev 2 (Submission to ER)		2223	31-Jul-13	31-Aug-19
Key Dates (Contractual)		2223	31-Jul-13	31-Aug-19
KD-0010	Commencement of Works	0	31-Jul-13*	
KD-0020	Completion of Contract CV/2012/09	0		31-Aug-19*
Major Works		1035	31-Oct-15	31-Aug-18
KD-0100	KD1: Complete Section 1A - all HyD's entrustment works in Zone3 and SBZ2 except for landscaping works	0		29-Jan-18*
KD-0200	KD2: Complete Section 1B - all HyD's entrustment works in NBZ1 except for landscaping works	0		31-Aug-18*
KD-0300	KD3: Complete Section 2 - the remainder of the Works	0		29-Jan-18*
KD-0400	KD6A: Complete Section 6 - all works in Portion FH9 of the Site but excluding works on deck surface	0		01-Apr-17*
KD-0500	KD7: Achieve Stage 1A - complete Realigned Tai Wo Service Road West	0		16-Jan-16*
KD-0600	KD9: Achieve Stage 1C - viaduct structures and associated civil provisions for TCSS and allow access for other	0		01-Apr-17*
KD-0700	KD10: Achieve Stage S4 - road widening of Fanling Highway within SBZ2 and allow access for HY/2012/06	0		28-Nov-16*
KD-0800	KD11: Achieve Stage N4 - road widening of Fanling Highway within NBZ1 and allow access for HY/2012/06	0		11-Sep-17*
KD-0900	KD13: Achieve Stage N4A - connection of Access Road A and Slip Road Y at Entrustment Boundary CD	0		31-Oct-15*
KD-1000	KD14: Achieve Stage N4B - commissioning of Roundabout A by connecting to Slip Rd Y, Access Rd A& the realigned TWSRE	0		01-Jun-16*
Landscaping & Establishment Works		1843	14-Aug-14	31-Aug-19
KD-1100	KD4: Complete Section 3 - remainder of Landscape Softworks not included in Section 3A	0		29-Jan-18*
KD-1200	KD4A: complete Section 3A - Landscape Softworks in NBZ1	0		31-Aug-18*
KD-1300	KD5: Complete Section 4 - Establishment Works for Landscape Softworks under Section 3	0		29-Jan-19*
KD-1400	KD5A: Complete Section 4A - Establishment Works for Landscape Softworks under Section 3A	0		31-Aug-19*
KD-1500	KD6: Complete Section 5 of Works - Preservation and Protection of trees	0		31-Aug-18*
KD-1600	KD6B: Complete Section 7 - all specified geotechnical fieldworks and all associated lab tests	0		14-Aug-14*
Possession of Site		180	31-Jul-13	27-Jan-14
PS-P01	Possession of Portion FH1, NBZ1, SBZ2 and ZONE3	0	31-Jul-13*	
PS-P02	Possession of Portion FH2	0	27-Jan-14*	
PS-P03	Possession of Portion FH3	0	27-Jan-14*	
PS-P04	Possession of Portion FH4	0	27-Jan-14*	
PS-P05	Possession of Portion FH5	0	27-Jan-14*	
PS-P06	Possession of Portion FH6	0	27-Jan-14*	
PS-P07	Possession of Portion FH7	0	27-Jan-14*	
PS-P08	Possession of Portion FH8	0	27-Jan-14*	
PS-P09	Possession of Portion FH9	0	27-Jan-14*	
PS-P10	Possession of Portion FH10	0	27-Jan-14*	
PS-P11	Possession of Portion FH11	0	27-Jan-14*	
Dependent Milestones from Other Contracts		702	23-Sep-14	25-Aug-16
MS-0100	Completion of Temporary Vehicular Bridge by HY/2012/06	0		23-Sep-14*
MS-0110	Completion of Kau Lung Hang Vehicular Bridge by HY/2012/06	0		25-Aug-16*
Major Milestones and Events		1115	11-Sep-14	30-Sep-17
MS-0200	Complete 6 nos. of piers crash with the existing Fanling Highway (AC3, AA7, AA11, AB1, AB2, AB3)	0		17-Nov-15



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

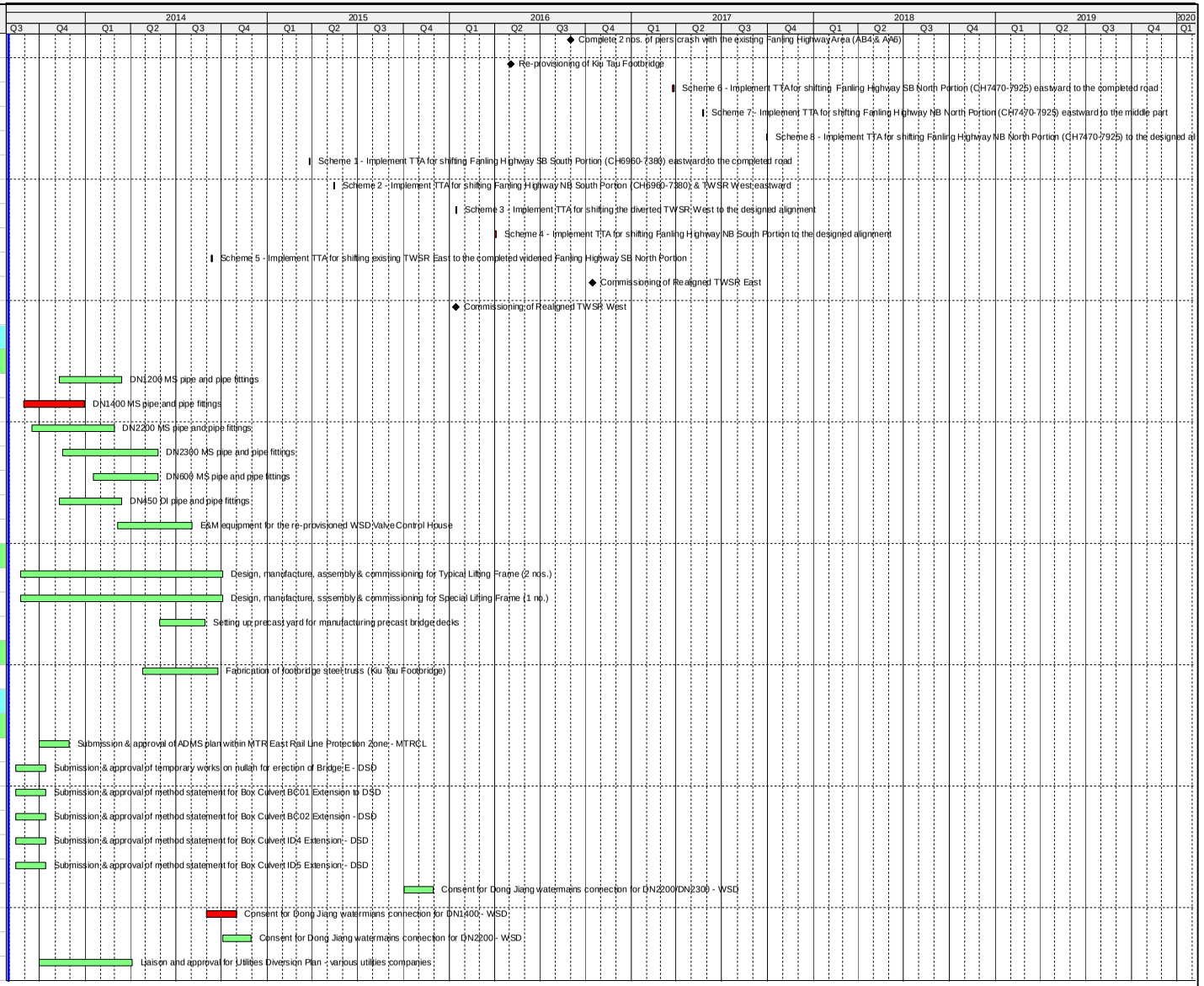
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
MS-0210	Complete 2 nos. of piers crash with the existing Fanling Highway Area (AB4 & AA6)	0		31-Aug-16
MS-0220	Re-provisioning of Kiu Tau Footbridge	0		03-May-16
MS-1000B	Scheme 6 - Implement TTA for shifting Fanling Highway SB North Portion (CH7470-7925) eastward to the completed road	2	25-Mar-17	28-Mar-17
MS-1000C	Scheme 7 - Implement TTA for shifting Fanling Highway NB North Portion (CH7470-7925) eastward to the middle part	2	23-May-17	25-May-17
MS-1000D	Scheme 8 - Implement TTA for shifting Fanling Highway NB North Portion (CH7470-7925) to the designed alignment	2	28-Sep-17	30-Sep-17
MS-2000A	Scheme 1 - Implement TTA for shifting Fanling Highway SB South Portion (CH6960-7380) eastward to the completed road	2	26-Mar-15	27-Mar-15
MS-2000B	Scheme 2 - Implement TTA for shifting Fanling Highway NB South Portion (CH6960-7380) & TWSR West eastward	2	14-May-15	15-May-15
MS-2000C	Scheme 3 - Implement TTA for shifting the diverted TWSR West to the designed alignment	2	15-Jan-16	16-Jan-16
MS-2000D	Scheme 4 - Implement TTA for shifting Fanling Highway NB South Portion to the designed alignment	2	01-Apr-16	05-Apr-16
MS-3000	Scheme 5 - Implement TTA for shifting existing TWSR East to the completed widened Fanling Highway SB North Portion	2	11-Sep-14	12-Sep-14
MS-3010	Commissioning of Realigned TWSR East	0	15-Oct-16	
MS-3020	Commissioning of Realigned TWSR West	0	15-Jan-16	
Major Procurement & Delivery		327	23-Aug-13	04-Oct-14
Water Supply Pipeworks		270	30-Aug-13	02-Aug-14
MM-1000	DN1200 MS pipe and pipe fittings	100	09-Nov-13	15-Mar-14
MM-1010	DN1400 MS pipe and pipe fittings	100	30-Aug-13	30-Dec-13
MM-1020	DN2200 MS pipe and pipe fittings	130	16-Sep-13	27-Feb-14
MM-1030	DN2300 MS pipe and pipe fittings	150	16-Nov-13	27-May-14
MM-1040	DN600 MS pipe and pipe fittings	100	17-Jan-14	27-May-14
MM-1050	DN450 DI pipe and pipe fittings	100	09-Nov-13	15-Mar-14
MM-1060	E&M equipment for the re-provisioned WSD Valve Control House	120	07-Mar-14	02-Aug-14
Precast Bridge Segment Lifting Frames and Precast Yard		327	23-Aug-13	04-Oct-14
MM-3000	Design, manufacture, assembly & commissioning for Typical Lifting Frame (2 nos.)	327	23-Aug-13	04-Oct-14
MM-3010	Design, manufacture, sssembly & commissioning for Special Lifting Frame (1 no.)	327	23-Aug-13	04-Oct-14
MM-3020	Setting up precast yard for manufacturing precast bridge decks	75	30-May-14	28-Aug-14
Footbridge Steel Truss		125	26-Apr-14	24-Sep-14
MM-3050	Fabrication of footbridge steel truss (Kiu Tau Footbridge)	125	26-Apr-14	24-Sep-14
Design and Submissions		688	31-Jul-13	30-Nov-15
Statutory Approval		676	14-Aug-13	30-Nov-15
PRE-1010	Submission & approval of ADMS plan within MTR East Rail Line Protection Zone - MTRCL	50	30-Sep-13	28-Nov-13
PRE-1020	Submission & approval of temporary works on nullah for erection of Bridge E - DSD	50	14-Aug-13	12-Oct-13
PRE-1030	Submission & approval of method statement for Box Culvert BC01 Extension to DSD	50	14-Aug-13	12-Oct-13
PRE-1040	Submission & approval of method statement for Box Culvert BC02 Extension - DSD	50	14-Aug-13	12-Oct-13
PRE-1050	Submission & approval of method statement for Box Culvert ID4 Extension - DSD	50	14-Aug-13	12-Oct-13
PRE-1060	Submission & approval of method statement for Box Culvert ID5 Extension - DSD	50	14-Aug-13	12-Oct-13
PRE-1070	Consent for Dong Jiang watermains connection for DN2200/DN2300 - WSD	50	02-Oct-15*	30-Nov-15
PRE-1080	Consent for Dong Jiang watermians connection for DN1400 - WSD	50	01-Sep-14*	31-Oct-14
PRE-1090	Consent for Dong Jiang watermains connection for DN2200 - WSD	50	03-Oct-14*	29-Nov-14
PRE-1100	Liaison and approval for Utilities Diversion Plan - various utilities companies	150	30-Sep-13	04-Apr-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

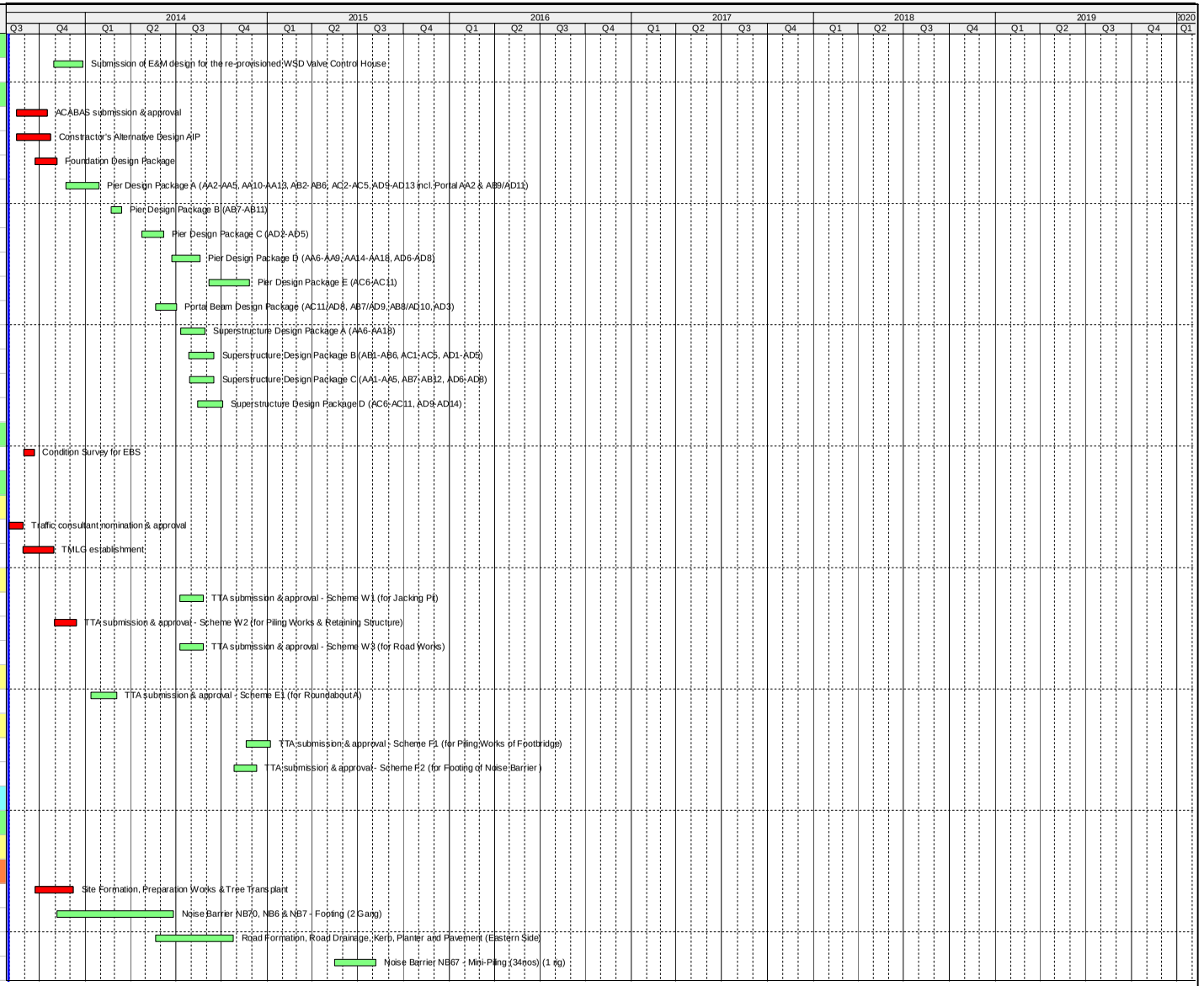
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
	Method Statement and Design (Major) Approved by AECOM	50	29-Oct-13	27-Dec-13
PRE-2000	Submission of E&M design for the re-provisioned WSD Valve Control House	50	29-Oct-13	27-Dec-13
	Contractor's Alternative Design (AD) Submission & Approval	378	15-Aug-13	25-Nov-14
PRE-4000	ACABAS submission & approval	50	15-Aug-13	15-Oct-13
PRE-4010	Constractor's Alternative Design AIP	56	16-Aug-13	23-Oct-13
PRE-4110	Foundation Design Package	36	21-Sep-13	04-Nov-13
PRE-4210	Pier Design Package A (AA2-AA5, AA10-AA13, AB2-AB6, AC2-AC5, AD9-AD13 incl. Portal AA2 & AB9/AD11)	54	22-Nov-13	27-Jan-14
PRE-4220	Pier Design Package B (AB7-AB11)	18	22-Feb-14	14-Mar-14
PRE-4230	Pier Design Package C (AD2-AD5)	36	24-Apr-14	07-Jun-14
PRE-4240	Pier Design Package D (AA6-AA9, AA14-AA18, AD6-AD8)	48	23-Jun-14	18-Aug-14
PRE-4250	Pier Design Package E (AC6-AC11)	66	06-Sep-14	25-Nov-14
PRE-4260	Portal Beam Design Package (AC11/AD8, AB7/AD9, AB8/AD10, AD3)	36	21-May-14	03-Jul-14
PRE-4310	Superstructure Design Package A (AA6-AA18)	42	11-Jul-14	28-Aug-14
PRE-4320	Superstructure Design Package B (AB1-AB6, AC1-AC5, AD1-AD5)	42	28-Jul-14	15-Sep-14
PRE-4330	Superstructure Design Package C (AA1-AA5, AB7-AB12, AD6-AD8)	42	29-Jul-14	16-Sep-14
PRE-4340	Superstructure Design Package D (AC6-AC11, AD9-AD14)	42	14-Aug-14	04-Oct-14
	Condition Survey	18	30-Aug-13	19-Sep-13
PRE-5000	Condition Survey for EBS	18	30-Aug-13	19-Sep-13
	Temporary Traffic Arrangement (TTA) Submission and Approval	425	31-Jul-13	07-Jan-15
	Forming of TMLG	75	31-Jul-13	29-Oct-13
PRE-6000	Traffic consultant nomination & approval	25	31-Jul-13	28-Aug-13
PRE-6020	TMLG establishment	50	29-Aug-13	29-Oct-13
	TTA for Tai Wo Service Road West	240	30-Oct-13	25-Aug-14
PRE-6100	TTA submission & approval - Scheme W1 (for Jacking Pit)	40	10-Jul-14	25-Aug-14
PRE-6110	TTA submission & approval - Scheme W2 (for Piling Works & Retaining Structure)	40	30-Oct-13	14-Dec-13
PRE-6140	TTA submission & approval - Scheme W3 (for Road Works)	40	10-Jul-14	25-Aug-14
	TTA for Tai Wo Service Road East	40	11-Jan-14	05-Mar-14
PRE-6200	TTA submission & approval - Scheme E1 (for Roundabout A)	40	11-Jan-14	05-Mar-14
	TTA for Fanling Highway Widening	60	27-Oct-14	07-Jan-15
PRE-6300	TTA submission & approval - Scheme F1 (for Piling Works of Footbridge)	40	19-Nov-14	07-Jan-15
PRE-6310	TTA submission & approval - Scheme F2 (for Footing of Noise Barrier)	40	27-Oct-14	11-Dec-14
	Section IA & IB - Fanling Highway Widening (KD-1 & KD-2)	1588	21-Sep-13	26-Jan-18
	Fanling Highway South Portion between CH6935 and CH7470	1211	21-Sep-13	13-Jan-17
	Fanling Highway Zone 1 between CH6935 and CH7130 (within SBZ2)	908	21-Sep-13	27-Oct-16
	At-Grade Roadworks (195m)	908	21-Sep-13	27-Oct-16
FHW-1100	Site Formation, Preparation Works & Tree Transplant	65	21-Sep-13	07-Dec-13
FHW-1110	Noise Barrier NB70, NB6 & NB7 - Footing (2 Gang)	186	04-Nov-13	26-Jun-14
FHW-1120	Road Formation, Road Drainage, Kerb, Planter and Pavement (Eastern Side)	130	22-May-14	25-Oct-14
FHW-1200	Noise Barrier NB67 - Mini-Piling (34nos) (1 rig)	68	16-May-15	06-Aug-15



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

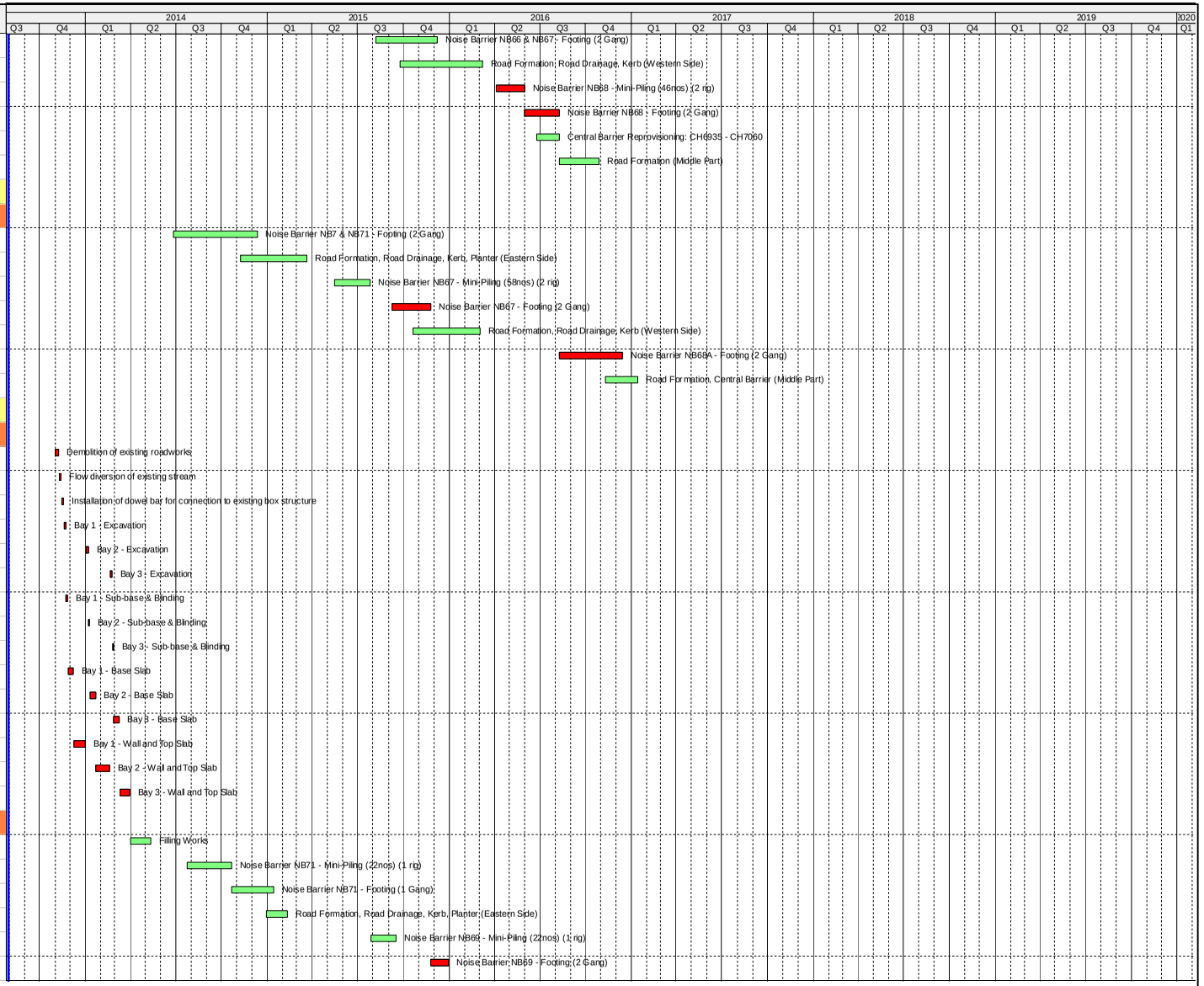
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
FHW-1210	Noise Barrier NB66 & NB67 - Footing (2 Gang)	102	07-Aug-15	07-Dec-15
FHW-1220	Road Formation, Road Drainage, Kerb (Western Side)	130	24-Sep-15	08-Mar-16
FHW-1300	Noise Barrier NB68 - Mini-Piling (46nos) (2 rig)	46	05-Apr-16	31-May-16
FHW-1310	Noise Barrier NB68 - Footing (2 Gang)	58	31-May-16	09-Aug-16
FHW-1320	Central Barrier Reprovisioning: CH6935 - CH7060	38	24-Jun-16	09-Aug-16
FHW-1330	Road Formation (Middle Part)	65	09-Aug-16	27-Oct-16
Fanling Highway Zone 2 between CH7130 and CH7290		752	27-Jun-14	13-Jan-17
At-Grade Roadworks (160m)		752	27-Jun-14	13-Jan-17
FHW-2100	Noise Barrier NB7 & NB71 - Footing (2 Gang)	141	27-Jun-14	12-Dec-14
FHW-2110	Road Formation, Road Drainage, Kerb, Planter (Eastern Side)	106	08-Nov-14	21-Mar-15
FHW-2200	Noise Barrier NB67 - Mini-Piling (58nos) (2 rig)	58	16-May-15	25-Jul-15
FHW-2210	Noise Barrier NB67 - Footing (2 Gang)	64	08-Sep-15	25-Nov-15
FHW-2220	Road Formation, Road Drainage, Kerb (Western Side)	106	20-Oct-15	03-Mar-16
FHW-2300	Noise Barrier NB68A - Footing (2 Gang)	106	09-Aug-16	13-Dec-16
FHW-2310	Road Formation, Central Barrier (Middle Part)	54	09-Nov-16	13-Jan-17
Fanling Highway Zone 3 between CH7290 and CH7310		1034	01-Nov-13	30-Aug-16
Box Culvert Extension - ID4		120	01-Nov-13	31-Mar-14
FHW-3000	Demolition of existing roadworks	7	01-Nov-13	08-Nov-13
FHW-3010	Flow diversion of existing stream	4	09-Nov-13	13-Nov-13
FHW-3020	Installation of dowel bar for connection to existing box structure	4	14-Nov-13	18-Nov-13
FHW-3030A	Bay 1 - Excavation	4	19-Nov-13	22-Nov-13
FHW-3030B	Bay 2 - Excavation	4	02-Jan-14	06-Jan-14
FHW-3030C	Bay 3 - Excavation	4	19-Feb-14	22-Feb-14
FHW-3040A	Bay 1 - Sub-base & Blinding	3	23-Nov-13	26-Nov-13
FHW-3040B	Bay 2 - Sub-base & Blinding	3	07-Jan-14	09-Jan-14
FHW-3040C	Bay 3 - Sub-base & Blinding	3	24-Feb-14	26-Feb-14
FHW-3050A	Bay 1 - Base Slab	10	27-Nov-13	07-Dec-13
FHW-3050B	Bay 2 - Base Slab	10	10-Jan-14	21-Jan-14
FHW-3050C	Bay 3 - Base Slab	10	27-Feb-14	10-Mar-14
FHW-3060A	Bay 1 - Wall and Top Slab	18	09-Dec-13	31-Dec-13
FHW-3060B	Bay 2 - Wall and Top Slab	18	22-Jan-14	18-Feb-14
FHW-3060C	Bay 3 - Wall and Top Slab	18	11-Mar-14	31-Mar-14
At-Grade Roadworks (20m)		709	01-Apr-14	30-Aug-16
FHW-3100	Filling Works	30	01-Apr-14	12-May-14
FHW-3110	Noise Barrier NB71 - Mini-Piling (22nos) (1 rig)	73	24-Jul-14	21-Oct-14
FHW-3120	Noise Barrier NB71 - Footing (1 Gang)	70	21-Oct-14	14-Jan-15
FHW-3130	Road Formation, Road Drainage, Kerb, Planter (Eastern Side)	35	30-Dec-14	10-Feb-15
FHW-3200	Noise Barrier NB69 - Mini-Piling (22nos) (1 rig)	44	27-Jul-15	15-Sep-15
FHW-3210	Noise Barrier NB69 - Footing (2 Gang)	29	25-Nov-15	31-Dec-15



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

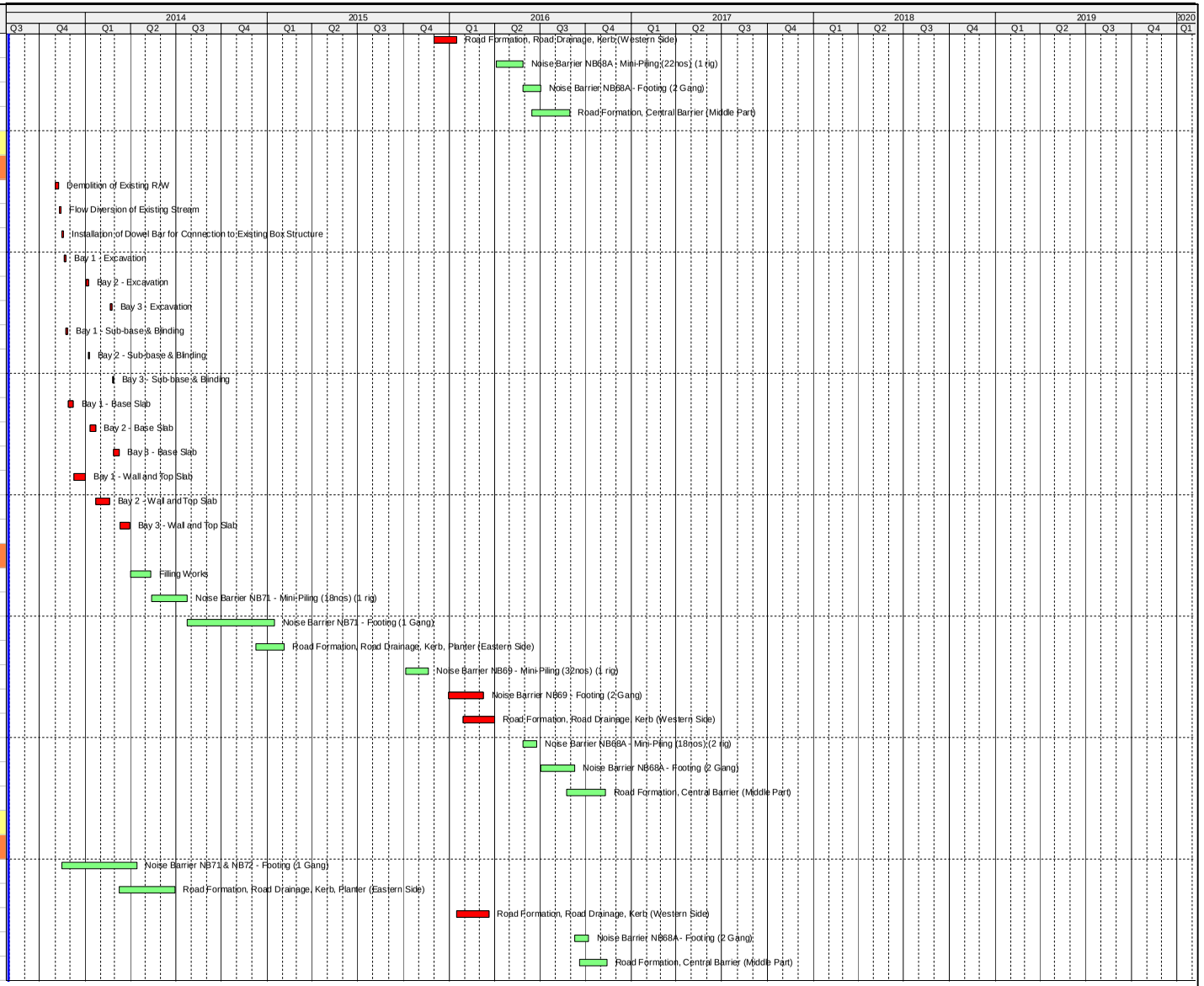
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
FHW-3220	Road Formation, Road Drainage, Kerb (Western Side)	35	02-Dec-15	15-Jan-16
FHW-3300	Noise Barrier NB68A - Mini-Piling (22nos) (1 rig)	44	05-Apr-16	28-May-16
FHW-3310	Noise Barrier NB68A - Footing (2 Gang)	28	28-May-16	02-Jul-16
FHW-3320	Road Formation, Central Barrier (Middle Part)	65	14-Jun-16	30-Aug-16
Fanling Highway Zone 4 between CH7310 and CH7380		1106	01-Nov-13	10-Nov-16
Box Culvert Extension - ID5		120	01-Nov-13	31-Mar-14
FHW-4000	Demolition of Existing R/W	7	01-Nov-13	08-Nov-13
FHW-4010	Flow Diversion of Existing Stream	4	09-Nov-13	13-Nov-13
FHW-4020	Installation of Dowel Bar for Connection to Existing Box Structure	4	14-Nov-13	18-Nov-13
FHW-4030A	Bay 1 - Excavation	4	19-Nov-13	22-Nov-13
FHW-4030B	Bay 2 - Excavation	4	02-Jan-14	06-Jan-14
FHW-4030C	Bay 3 - Excavation	4	19-Feb-14	22-Feb-14
FHW-4040A	Bay 1 - Sub-base & Blinding	3	23-Nov-13	26-Nov-13
FHW-4040B	Bay 2 - Sub-base & Blinding	3	07-Jan-14	09-Jan-14
FHW-4040C	Bay 3 - Sub-base & Blinding	3	24-Feb-14	26-Feb-14
FHW-4050A	Bay 1 - Base Slab	10	27-Nov-13	07-Dec-13
FHW-4050B	Bay 2 - Base Slab	10	10-Jan-14	21-Jan-14
FHW-4050C	Bay 3 - Base Slab	10	27-Feb-14	10-Mar-14
FHW-4060A	Bay 1 - Wall and Top Slab	18	09-Dec-13	31-Dec-13
FHW-4060B	Bay 2 - Wall and Top Slab	18	22-Jan-14	18-Feb-14
FHW-4060C	Bay 3 - Wall and Top Slab	18	11-Mar-14	31-Mar-14
At-Grade Roadworks (70m)		768	01-Apr-14	10-Nov-16
FHW-4100	Filling Works	30	01-Apr-14	12-May-14
FHW-4110	Noise Barrier NB71 - Mini-Piling (18nos) (1 rig)	60	13-May-14	23-Jul-14
FHW-4120	Noise Barrier NB71 - Footing (1 Gang)	145	24-Jul-14	15-Jan-15
FHW-4130	Road Formation, Road Drainage, Kerb, Planter (Eastern Side)	46	09-Dec-14	03-Feb-15
FHW-4200	Noise Barrier NB69 - Mini-Piling (32nos) (1 rig)	40	05-Oct-15	20-Nov-15
FHW-4210	Noise Barrier NB69 - Footing (2 Gang)	53	31-Dec-15	10-Mar-16
FHW-4220	Road Formation, Road Drainage, Kerb (Western Side)	46	28-Jan-16	01-Apr-16
FHW-4300	Noise Barrier NB68A - Mini-Piling (18nos) (2 rig)	23	28-May-16	25-Jun-16
FHW-4310	Noise Barrier NB68A - Footing (2 Gang)	59	02-Jul-16	09-Sep-16
FHW-4320	Road Formation, Central Barrier (Middle Part)	65	23-Aug-16	10-Nov-16
Fanling Highway Zone 5 between CH7380 and CH7470		879	14-Nov-13	12-Nov-16
At-Grade Roadworks (90m)		879	14-Nov-13	12-Nov-16
FHW-5110	Noise Barrier NB71 & NB72 - Footing (1 Gang)	120	14-Nov-13	14-Apr-14
FHW-5120	Road Formation, Road Drainage, Kerb, Planter (Eastern Side)	90	10-Mar-14	30-Jun-14
FHW-5200	Road Formation, Road Drainage, Kerb (Western Side)	50	15-Jan-16	21-Mar-16
FHW-5300	Noise Barrier NB68A - Footing (2 Gang)	22	09-Sep-16	07-Oct-16
FHW-5310	Road Formation, Central Barrier (Middle Part)	45	19-Sep-16	12-Nov-16



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- Milestone

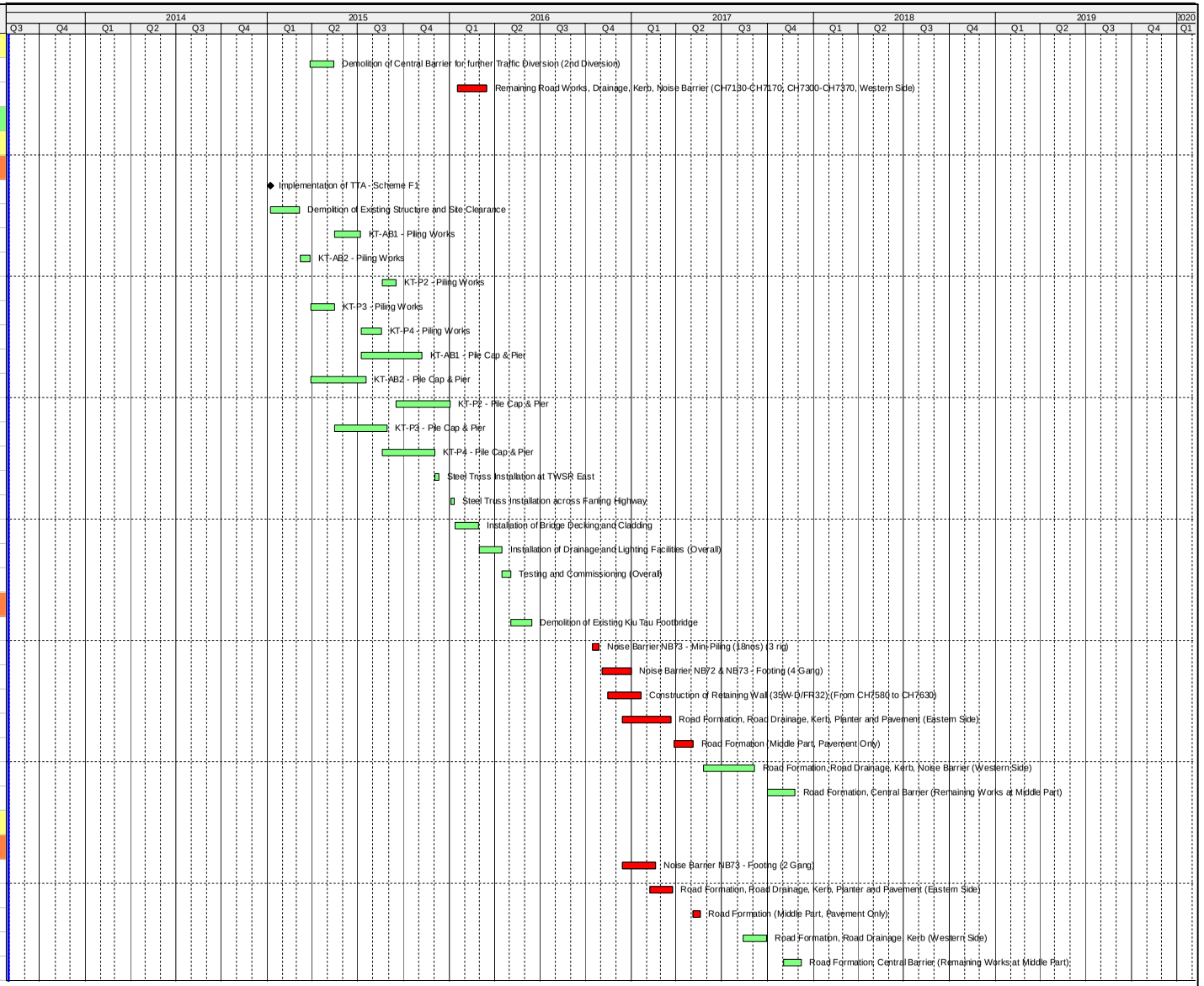
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
	Miscellaneous Works for Facilitating Traffic Diversion of Fanling Highway	284	28-Mar-15	16-Mar-16
FHW-M-1000	Demolition of Central Barrier for further Traffic Diversion (2nd Diversion)	35	28-Mar-15	13-May-15
FHW-M-1010	Remaining Road Works, Drainage, Kerb, Noise Barrier (CH7130-CH7170, CH7300-CH7370, Western Side)	45	18-Jan-16	16-Mar-16
	Fanling Highway North Portion between CH7470 and CH7925	1232	14-Nov-13	26-Jan-18
	Fanling Highway Zone 6 between CH7470 and CH7600 (Provision of Kiu Tau Footi	845	08-Jan-15	25-Nov-17
	Kiu Tau Footbridge Reprovision (East)	382	08-Jan-15	03-May-16
FHW-6000	Implementation of TTA - Scheme F1	0	08-Jan-15	
FHW-6010	Demolition of Existing Structure and Site Clearance	45	08-Jan-15	07-Mar-15
FHW-6020A	KT-AB1 - Piling Works	42	16-May-15	07-Jul-15
FHW-6020B	KT-AB2 - Piling Works	18	09-Mar-15	28-Mar-15
FHW-6020C	KT-P2 - Piling Works	24	19-Aug-15	15-Sep-15
FHW-6020D	KT-P3 - Piling Works	36	30-Mar-15	15-May-15
FHW-6020E	KT-P4 - Piling Works	36	08-Jul-15	18-Aug-15
FHW-6030A	KT-AB1 - Pile Cap & Pier	102	08-Jul-15	06-Nov-15
FHW-6030B	KT-AB2 - Pile Cap & Pier	88	30-Mar-15	18-Jul-15
FHW-6030C	KT-P2 - Pile Cap & Pier	88	16-Sep-15	02-Jan-16
FHW-6030D	KT-P3 - Pile Cap & Pier	88	16-May-15	29-Aug-15
FHW-6030E	KT-P4 - Pile Cap & Pier	88	19-Aug-15	02-Dec-15
FHW-6040	Steel Truss Installation at TWSR East	7	03-Dec-15	10-Dec-15
FHW-6050	Steel Truss Installation across Fanling Highway	7	04-Jan-16	11-Jan-16
FHW-6060	Installation of Bridge Decking and Cladding	36	12-Jan-16	29-Feb-16
FHW-6070	Installation of Drainage and Lighting Facilities (Overall)	36	01-Mar-16	15-Apr-16
FHW-6080	Testing and Commissioning (Overall)	14	16-Apr-16	03-May-16
	At-Grade Roadworks	463	04-May-16	25-Nov-17
FHW-6100	Demolition of Existing Kiu Tau Footbridge	35	04-May-16	15-Jun-16
FHW-6110	Noise Barrier NB73 - Mini-Piling (18nos) (3 rig)	12	15-Oct-16	28-Oct-16
FHW-6120	Noise Barrier NB72 & NB73 - Footing (4 Gang)	48	03-Nov-16	31-Dec-16
FHW-6130	Construction of Retaining Wall (35W-D/FR32) (From CH7580 to CH7630)	55	15-Nov-16	20-Jan-17
FHW-6140	Road Formation, Road Drainage, Kerb, Planter and Pavement (Eastern Side)	75	14-Dec-16	21-Mar-17
FHW-6200	Road Formation (Middle Part, Pavement Only)	26	28-Mar-17	04-May-17
FHW-6300	Road Formation, Road Drainage, Kerb, Noise Barrier (Western Side)	86	25-May-17	05-Sep-17
FHW-6400	Road Formation, Central Barrier (Remaining Works at Middle Part)	45	30-Sep-17	25-Nov-17
	Fanling Highway Zone 7 between CH7600 and CH7660 (Existing Vehicular Bridge)	287	14-Dec-16	07-Dec-17
	At-Grade Roadworks	287	14-Dec-16	07-Dec-17
FHW-7110	Noise Barrier NB73 - Footing (2 Gang)	48	14-Dec-16	18-Feb-17
FHW-7120	Road Formation, Road Drainage, Kerb, Planter and Pavement (Eastern Side)	40	07-Feb-17	25-Mar-17
FHW-7200	Road Formation (Middle Part, Pavement Only)	12	04-May-17	18-May-17
FHW-7300	Road Formation, Road Drainage, Kerb (Western Side)	40	12-Aug-17	28-Sep-17
FHW-7400	Road Formation, Central Barrier (Remaining Works at Middle Part)	30	02-Nov-17	07-Dec-17



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- Milestone

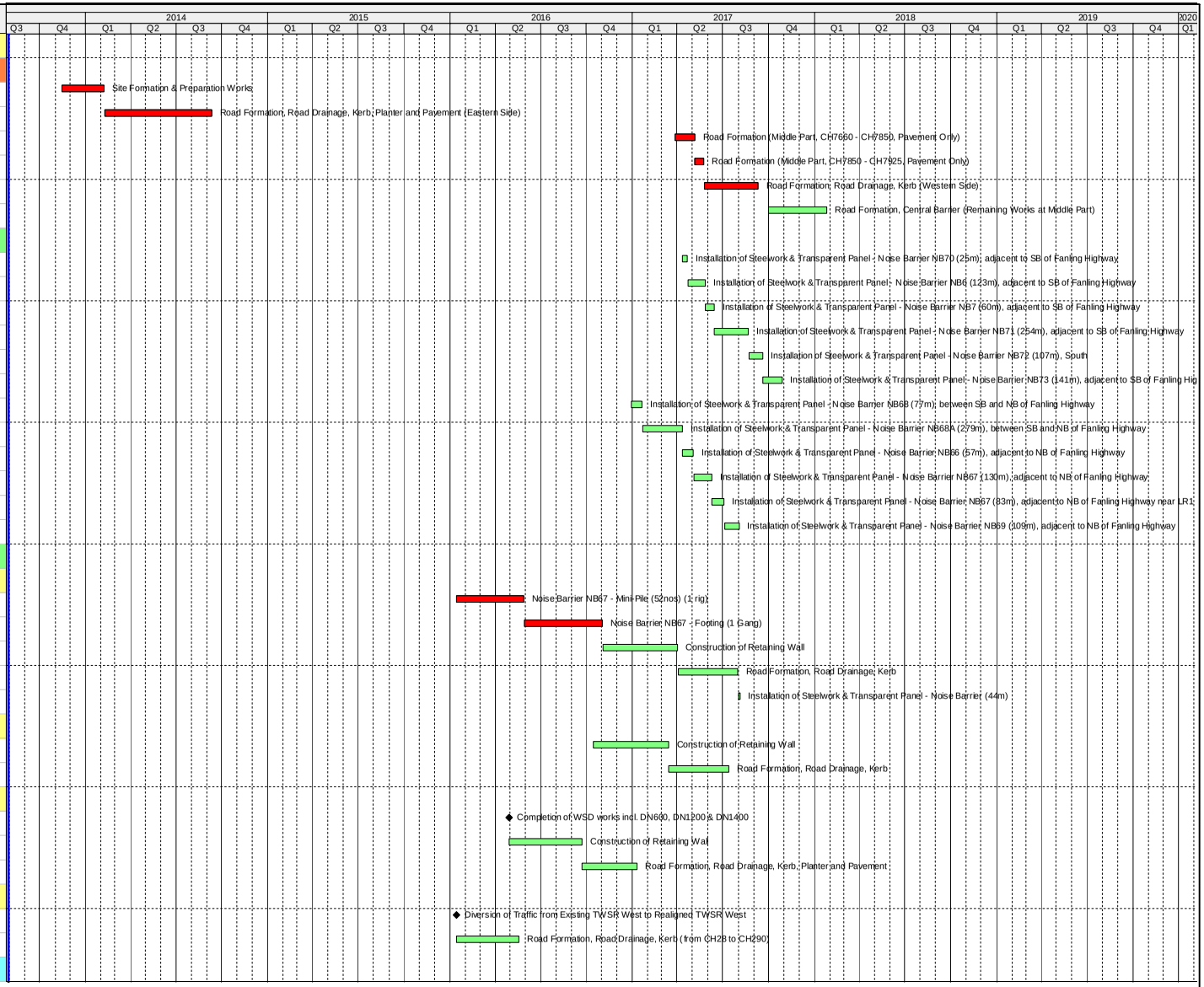
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
	Fanling Highway Zone 8 between CH7660 and CH7925	1232	14-Nov-13	26-Jan-18
	At-Grade Roadworks	1232	14-Nov-13	26-Jan-18
FHW-8100	Site Formation & Preparation Works	65	14-Nov-13	07-Feb-14
FHW-8110	Road Formation, Road Drainage, Kerb, Planter and Pavement (Eastern Side)	175	08-Feb-14	10-Sep-14
FHW-8200	Road Formation (Middle Part, CH7660 - CH7850, Pavement Only)	28	28-Mar-17	06-May-17
FHW-8210	Road Formation (Middle Part, CH7850 - CH7925, Pavement Only)	14	06-May-17	23-May-17
FHW-8300	Road Formation, Road Drainage, Kerb (Western Side)	90	25-May-17	09-Sep-17
FHW-8400	Road Formation, Central Barrier (Remaining Works at Middle Part)	95	30-Sep-17	26-Jan-18
	Remaining Works for Noise Barrier along widened Fanling Highway	242	30-Dec-16	27-Oct-17
FHW-NB-110	Installation of Steelwork & Transparent Panel - Noise Barrier NB70 (25m), adjacent to SB of Fanling Highway	6	12-Apr-17	21-Apr-17
FHW-NB-120	Installation of Steelwork & Transparent Panel - Noise Barrier NB6 (123m), adjacent to SB of Fanling Highway	28	22-Apr-17	26-May-17
FHW-NB-130	Installation of Steelwork & Transparent Panel - Noise Barrier NB7 (60m), adjacent to SB of Fanling Highway	14	27-May-17	13-Jun-17
FHW-NB-140	Installation of Steelwork & Transparent Panel - Noise Barrier NB71 (254m), adjacent to SB of Fanling Highway	58	14-Jun-17	21-Aug-17
FHW-NB-150	Installation of Steelwork & Transparent Panel - Noise Barrier NB72 (107m), South	24	22-Aug-17	18-Sep-17
FHW-NB-160	Installation of Steelwork & Transparent Panel - Noise Barrier NB73 (141m), adjacent to SB of Fanling Highway	32	19-Sep-17	27-Oct-17
FHW-NB-210	Installation of Steelwork & Transparent Panel - Noise Barrier NB68 (77m), between SB and NB of Fanling Highway	18	30-Dec-16	20-Jan-17
FHW-NB-220	Installation of Steelwork & Transparent Panel - Noise Barrier NB68A (279m), between SB and NB of Fanling Highway	62	21-Jan-17	11-Apr-17
FHW-NB-310	Installation of Steelwork & Transparent Panel - Noise Barrier NB66 (57m), adjacent to NB of Fanling Highway	14	12-Apr-17	02-May-17
FHW-NB-320	Installation of Steelwork & Transparent Panel - Noise Barrier NB67 (130m), adjacent to NB of Fanling Highway	30	04-May-17	08-Jun-17
FHW-NB-330	Installation of Steelwork & Transparent Panel - Noise Barrier NB67 (83m), adjacent to NB of Fanling Highway near LR1	20	09-Jun-17	03-Jul-17
FHW-NB-340	Installation of Steelwork & Transparent Panel - Noise Barrier NB69 (109m), adjacent to NB of Fanling Highway	26	04-Jul-17	02-Aug-17
	At Grade Link Road at Fanling Highway Interchange	453	15-Jan-16	05-Aug-17
	Link Road 1 (near Abutment AB1)	453	15-Jan-16	05-Aug-17
FHI-LR1-1000	Noise Barrier NB67 - Mini-Pile (52nos) (1 rig)	104	15-Jan-16	28-May-16
FHI-LR1-1010	Noise Barrier NB67 - Footing (1 Gang)	130	30-May-16	02-Nov-16
FHI-LR1-1020	Construction of Retaining Wall	120	03-Nov-16	01-Apr-17
FHI-LR1-1030	Road Formation, Road Drainage, Kerb	95	03-Apr-17	31-Jul-17
FHI-LR1-1040	Installation of Steelwork & Transparent Panel - Noise Barrier (44m)	4	01-Aug-17	05-Aug-17
	Link Road 2 (near Abutment AA1)	215	15-Oct-16	12-Jul-17
FHI-LR2-2000	Construction of Retaining Wall	120	15-Oct-16	14-Mar-17
FHI-LR2-2010	Road Formation, Road Drainage, Kerb	95	15-Mar-17	12-Jul-17
	Link Road 3 (near Abutment AD1)	210	28-Apr-16	10-Jan-17
FHI-LR3-3000	Completion of WSD works incl. DN600, DN1200 & DN1400	0		28-Apr-16
FHI-LR3-3010	Construction of Retaining Wall	120	29-Apr-16	21-Sep-16
FHI-LR3-3020	Road Formation, Road Drainage, Kerb, Planter and Pavement	90	22-Sep-16	10-Jan-17
	Link Road 4 (near Abutment AC1)	95	15-Jan-16	18-May-16
FHI-LR4-4000	Diversion of Traffic from Existing TWSR West to Realigned TWSR West	0	15-Jan-16	
FHI-LR4-4010	Road Formation, Road Drainage, Kerb (from CH28 to CH290)	95	15-Jan-16	18-May-16
	Section II - Remainder of the Works (KD-3)	1411	31-Dec-13	10-Nov-17



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

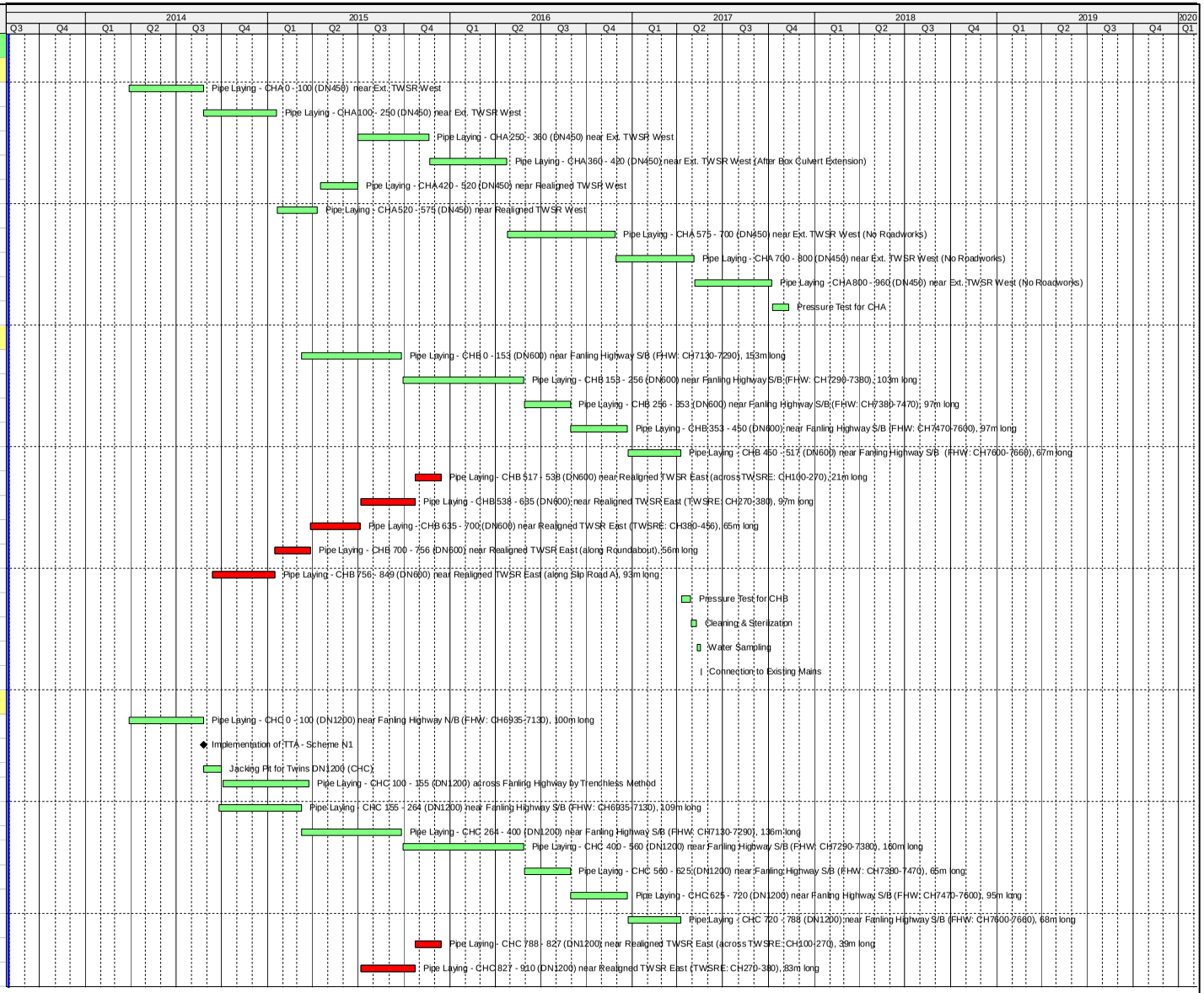
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
WSD Works		1411	31-Dec-13	10-Nov-17
DN450 Fire Mains (CHA)		1063	29-Mar-14	10-Nov-17
WA-1000	Pipe Laying - CHA 0 - 100 (DN450) near Ext. TWSR West	120	29-Mar-14	25-Aug-14
WA-1010	Pipe Laying - CHA 100 - 250 (DN450) near Ext. TWSR West	120	26-Aug-14	19-Jan-15
WA-1020	Pipe Laying - CHA 250 - 360 (DN450) near Ext. TWSR West	120	30-Jun-15	20-Nov-15
WA-1030	Pipe Laying - CHA 360 - 420 (DN450) near Ext. TWSR West (After Box Culvert Extension)	120	21-Nov-15	23-Apr-16
WA-1040	Pipe Laying - CHA 420 - 520 (DN450) near Realigned TWSR West	60	17-Apr-15	29-Jun-15
WA-1050	Pipe Laying - CHA 520 - 575 (DN450) near Realigned TWSR West	60	20-Jan-15	10-Apr-15
WA-1060	Pipe Laying - CHA 575 - 700 (DN450) near Ext. TWSR West (No Roadworks)	180	25-Apr-16	28-Nov-16
WA-1070	Pipe Laying - CHA 700 - 800 (DN450) near Ext. TWSR West (No Roadworks)	120	29-Nov-16	04-May-17
WA-1080	Pipe Laying - CHA 800 - 960 (DN450) near Ext. TWSR West (No Roadworks)	130	05-May-17	07-Oct-17
WA-2000	Pressure Test for CHA	28	09-Oct-17	10-Nov-17
DN600 Water Mains (CHB)		782	13-Sep-14	18-May-17
WB-1000	Pipe Laying - CHB 0 - 153 (DN600) near Fanling Highway S/B (FHW: CH7130-7290), 153m long	165	10-Mar-15	26-Sep-15
WB-1010	Pipe Laying - CHB 153 - 256 (DN600) near Fanling Highway S/B (FHW: CH7290-7380), 103m long	192	29-Sep-15	28-May-16
WB-1020	Pipe Laying - CHB 256 - 353 (DN600) near Fanling Highway S/B (FHW: CH7380-7470), 97m long	78	30-May-16	30-Aug-16
WB-1030	Pipe Laying - CHB 353 - 450 (DN600) near Fanling Highway S/B (FHW: CH7470-7600), 97m long	95	31-Aug-16	22-Dec-16
WB-1040	Pipe Laying - CHB 450 - 517 (DN600) near Fanling Highway S/B (FHW: CH7600-7660), 67m long	82	23-Dec-16	08-Apr-17
WB-1050	Pipe Laying - CHB 517 - 538 (DN600) near Realigned TWSR East (across TWSRE: CH100-270), 21m long	44	24-Oct-15	14-Dec-15
WB-1060	Pipe Laying - CHB 538 - 635 (DN600) near Realigned TWSR East (TWSRE: CH270-380), 97m long	92	06-Jul-15	23-Oct-15
WB-1070	Pipe Laying - CHB 635 - 700 (DN600) near Realigned TWSR East (TWSRE: CH380-456), 65m long	77	28-Mar-15	04-Jul-15
WB-1080	Pipe Laying - CHB 700 - 756 (DN600) near Realigned TWSR East (along Roundabout), 56m long	55	16-Jan-15	27-Mar-15
WB-1090	Pipe Laying - CHB 756 - 849 (DN600) near Realigned TWSR East (along Slip Road A), 93m long	102	13-Sep-14	15-Jan-15
WB-2000	Pressure Test for CHB	14	10-Apr-17	28-Apr-17
WB-2010	Cleaning & Sterilization	7	29-Apr-17	09-May-17
WB-2020	Water Sampling	7	10-May-17	17-May-17
WB-2030	Connection to Existing Mains	1	18-May-17	18-May-17
DN1200 Water Mains (CHC)		902	29-Mar-14	28-Apr-17
WC-1000	Pipe Laying - CHC 0 - 100 (DN1200) near Fanling Highway N/B (FHW: CH6935-7130), 100m long	120	29-Mar-14	25-Aug-14
WC-1010A	Implementation of TTA - Scheme N1	0	26-Aug-14	
WC-1010B	Jacking Pit for Twins DN1200 (CHC)	30	26-Aug-14	30-Sep-14
WC-1020	Pipe Laying - CHC 100 - 155 (DN1200) across Fanling Highway by Trenchless Method	140	03-Oct-14	25-Mar-15
WC-1030	Pipe Laying - CHC 155 - 264 (DN1200) near Fanling Highway S/B (FHW: CH6935-7130), 109m long	130	26-Sep-14	09-Mar-15
WC-1040	Pipe Laying - CHC 264 - 400 (DN1200) near Fanling Highway S/B (FHV	165	10-Mar-15	26-Sep-15
WC-1050	Pipe Laying - CHC 400 - 560 (DN1200) near Fanling Highway S/B (FHW: CH7290-7380), 160m long	192	29-Sep-15	28-May-16
WC-1060	Pipe Laying - CHC 560 - 625 (DN1200) near Fanling Highway S/B (FHW: CH7380-7470), 65m long	78	30-May-16	30-Aug-16
WC-1070	Pipe Laying - CHC 625 - 720 (DN1200) near Fanling Highway S/B (FHW: CH7470-7600), 95m long	95	31-Aug-16	22-Dec-16
WC-1080	Pipe Laying - CHC 720 - 788 (DN1200) near Fanling Highway S/B (FHW: CH7600-7660), 68m long	82	23-Dec-16	08-Apr-17
WC-1090	Pipe Laying - CHC 788 - 827 (DN1200) near Realigned TWSR East (across TWSRE: CH100-270), 39m long	44	24-Oct-15	14-Dec-15
WC-1100	Pipe Laying - CHC 827 - 910 (DN1200) near Realigned TWSR East (TWSRE: CH270-380), 83m long	92	06-Jul-15	23-Oct-15



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

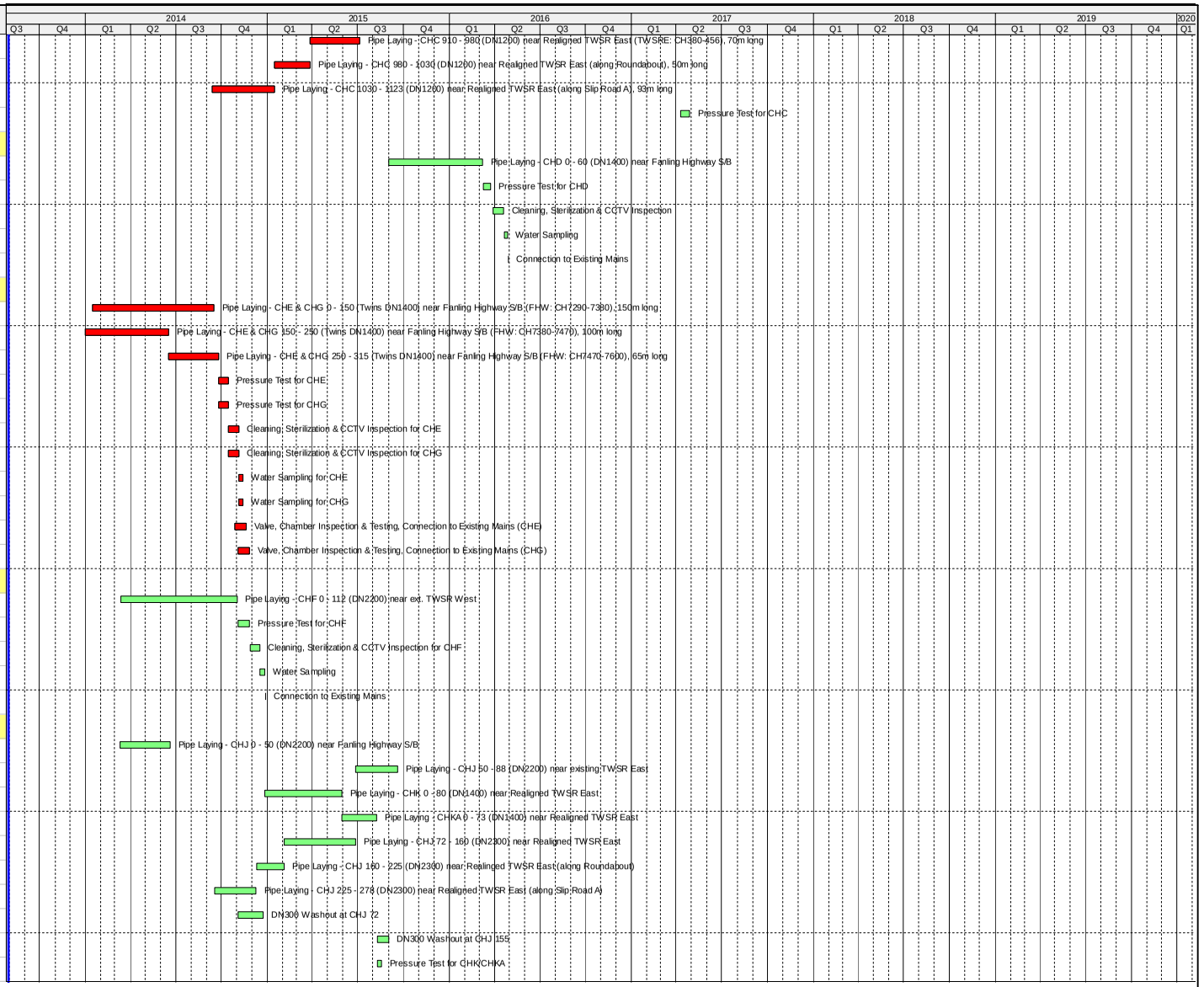
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
WC-1110	Pipe Laying - CHC 910 - 980 (DN1200) near Realigned TWSR East (TWSRE: CH380-456), 70m long	77	28-Mar-15	04-Jul-15
WC-1120	Pipe Laying - CHC 980 - 1030 (DN1200) near Realigned TWSR East (along Roundabout), 50m long	55	16-Jan-15	27-Mar-15
WC-1130	Pipe Laying - CHC 1030 - 1123 (DN1200) near Realigned TWSR East (along Slip Road A), 93m long	102	13-Sep-14	15-Jan-15
WC-2000	Pressure Test for CHC	14	10-Apr-17	28-Apr-17
DN1400 Water Mains (CHD)		190	02-Sep-15	28-Apr-16
WD-1000	Pipe Laying - CHD 0 - 60 (DN1400) near Fanling Highway S/B	150	02-Sep-15	08-Mar-16
WD-2000	Pressure Test for CHD	14	09-Mar-16	24-Mar-16
WD-2010	Cleaning, Sterilization & CCTV Inspection	18	29-Mar-16	19-Apr-16
WD-2020	Water Sampling	7	20-Apr-16	27-Apr-16
WD-2030	Connection to Existing Mains	1	28-Apr-16	28-Apr-16
Twin DN1400 Water Mains (CHE & CHG)		266	31-Dec-13	26-Nov-14
WE-1000	Pipe Laying - CHE & CHG 0 - 150 (Twins DN1400) near Fanling Highway S/B (FHW: CH7290-7380), 150m long	195	15-Jan-14	16-Sep-14
WE-1010	Pipe Laying - CHE & CHG 150 - 250 (Twins DN1400) near Fanling Highway S/B (FHW: CH7380-7470), 100m long	130	31-Dec-13	16-Jun-14
WE-1020	Pipe Laying - CHE & CHG 250 - 315 (Twins DN1400) near Fanling Highway S/B (FHW: CH7470-7600), 65m long	85	17-Jun-14	25-Sep-14
WE-2000A	Pressure Test for CHE	14	26-Sep-14	14-Oct-14
WE-2000B	Pressure Test for CHG	14	26-Sep-14	14-Oct-14
WE-2010A	Cleaning, Sterilization & CCTV Inspection for CHE	18	15-Oct-14	04-Nov-14
WE-2010B	Cleaning, Sterilization & CCTV Inspection for CHG	18	15-Oct-14	04-Nov-14
WE-2020A	Water Sampling for CHE	7	05-Nov-14	12-Nov-14
WE-2020B	Water Sampling for CHG	7	05-Nov-14	12-Nov-14
WE-2030A	Valve, Chamber Inspection & Testing, Connection to Existing Mains (CHE)	20	28-Oct-14	19-Nov-14*
WE-2030B	Valve, Chamber Inspection & Testing, Connection to Existing Mains (CHG)	20	04-Nov-14	26-Nov-14*
DN2200 Water Mains (CHF)		237	13-Mar-14	29-Dec-14
WF-1000	Pipe Laying - CHF 0 - 112 (DN2200) near ext. TWSR West	190	13-Mar-14	01-Nov-14
WF-2000	Pressure Test for CHF	21	03-Nov-14	26-Nov-14
WF-2010	Cleaning, Sterilization & CCTV Inspection for CHF	18	27-Nov-14	17-Dec-14
WF-2020	Water Sampling	7	18-Dec-14	27-Dec-14
WF-2030	Connection to Existing Mains	1	29-Dec-14	29-Dec-14
DN2200 & DN1400 Water Mains (CHJ & CHKA/CHK)		660	12-Mar-14	31-Dec-15
WJ-1000A	Pipe Laying - CHJ 0 - 50 (DN2200) near Fanling Highway S/B	80	12-Mar-14	20-Jun-14
WJ-1000B	Pipe Laying - CHJ 50 - 88 (DN2200) near existing TWSR East	85	27-Jun-15	19-Sep-15
WJ-1010A	Pipe Laying - CHK 0 - 80 (DN1400) near Realigned TWSR East	120	27-Dec-14	30-May-15
WJ-1010B	Pipe Laying - CHKA 0 - 73 (DN1400) near Realigned TWSR East	70	31-May-15	08-Aug-15
WJ-1020	Pipe Laying - CHJ 72 - 160 (DN2300) near Realigned TWSR East	110	04-Feb-15	26-Jun-15
WJ-1030	Pipe Laying - CHJ 160 - 225 (DN2300) near Realinged TWSR East (along Roundabout)	45	10-Dec-14	03-Feb-15
WJ-1040	Pipe Laying - CHJ 225 - 278 (DN2300) near Realigned TWSR East (along Slip Road A)	70	17-Sep-14	09-Dec-14
WJ-1050	DN300 Washout at CHJ 72	45	03-Nov-14	24-Dec-14
WJ-1060	DN300 Washout at CHJ 155	20	10-Aug-15	01-Sep-15
WJ-2000A	Pressure Test for CHK/CHKA	7	10-Aug-15	17-Aug-15



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

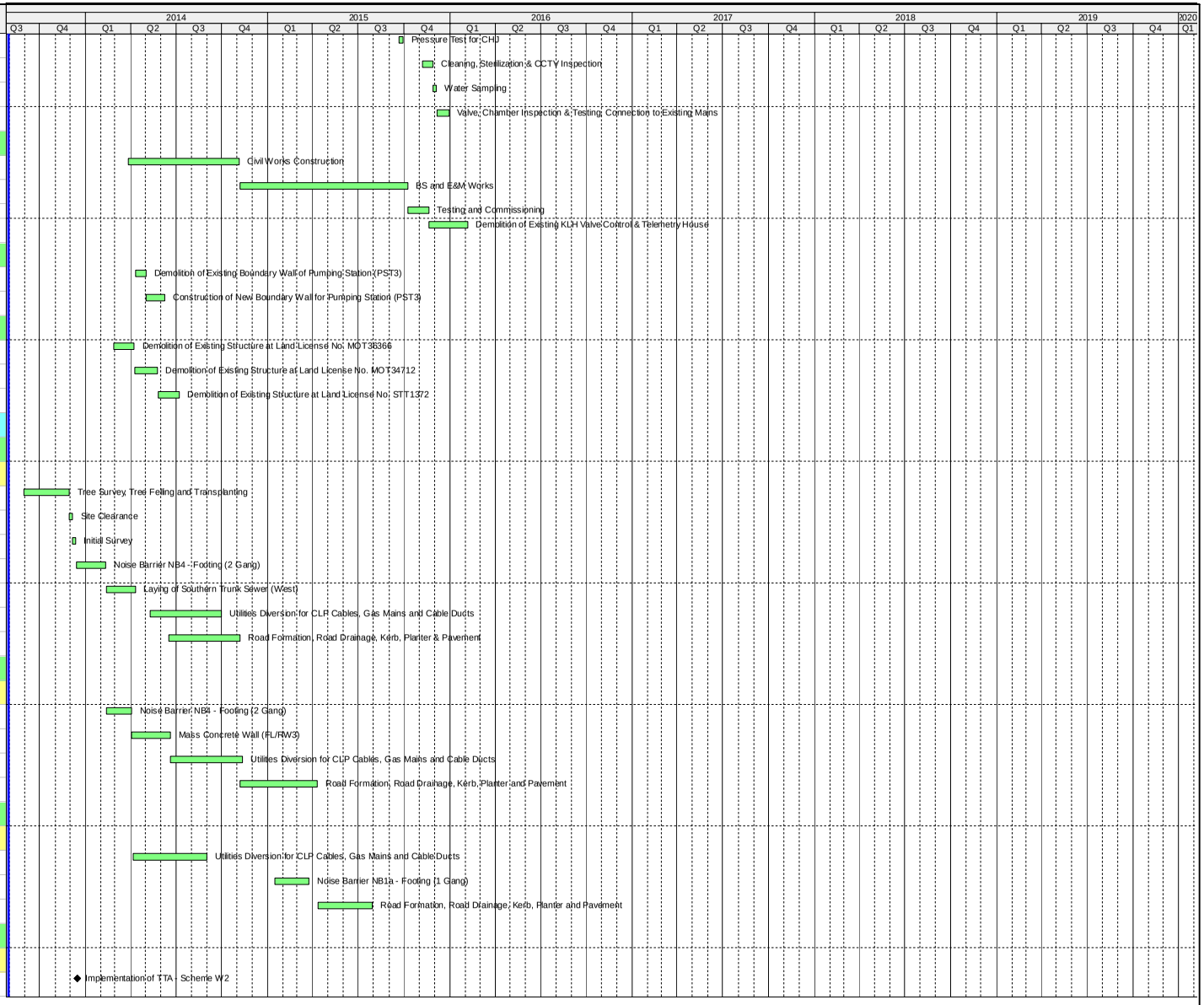
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
WJ-2000B	Pressure Test for CHJ	7	21-Sep-15	29-Sep-15
WJ-2010	Cleaning, Sterilization & CCTV Inspection	18	07-Nov-15	27-Nov-15
WJ-2020	Water Sampling	7	28-Nov-15	05-Dec-15
WJ-2030	Valve, Chamber Inspection & Testing, Connection to Existing Mains	20	07-Dec-15	31-Dec-15
Kau Lung Hang Valve Control & Telemetry House Reprovision		550	28-Mar-14	06-Feb-16
VCTH-1000	Civil Works Construction	180	28-Mar-14	05-Nov-14
VCTH-1010	BS and E&M Works	270	06-Nov-14	08-Oct-15
VCTH-1020	Testing and Commissioning	35	09-Oct-15	19-Nov-15
VCTH-1030	Demolition of Existing KLH Valve Control & Telemetry House	65	20-Nov-15	06-Feb-16
Existing Nam Wa Po Trunk Sewage Pumping Station (PST3)		45	11-Apr-14	09-Jun-14
PS-1000	Demolition of Existing Boundary Wall of Pumping Station (PST3)	15	11-Apr-14	02-May-14
PS-1010	Construction of New Boundary Wall for Pumping Station (PST3)	30	03-May-14	09-Jun-14
Demolition of Existing Structures		105	26-Feb-14	07-Jul-14
DE-1000	Demolition of Existing Structure at Land License No. MOT36366	35	26-Feb-14	08-Apr-14
DE-1010	Demolition of Existing Structure at Land License No. MOT34712	35	09-Apr-14	24-May-14
DE-1020	Demolition of Existing Structure at Land License No. STT1372	35	26-May-14	07-Jul-14
Stage 1A - Realignment of Tai Wo Service Road West (KD-7)		873	30-Aug-13	19-Jan-16
TWSRW Zone 1 betweeen CH100 and CH155		349	30-Aug-13	06-Nov-14
At-Grade Roadworks		349	30-Aug-13	06-Nov-14
TWSRW-1100	Tree Survey, Tree Felling and Transplanting	75	30-Aug-13	28-Nov-13
TWSRW-1110	Site Clearance	6	29-Nov-13	05-Dec-13
TWSRW-1120	Initial Survey	6	06-Dec-13	12-Dec-13
TWSRW-1130	Noise Barrier NB4 - Footing (2 Gang)	42	13-Dec-13	10-Feb-14
TWSRW-1140	Laying of Southern Trunk Sewer (West)	50	11-Feb-14	10-Apr-14
TWSRW-1150	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	10-May-14	30-Sep-14
TWSRW-1160	Road Formation, Road Drainage, Kerb, Planter & Pavement	120	16-Jun-14	06-Nov-14
TWSRW Zone 2 betweeen CH155 and CH280		340	11-Feb-14	10-Apr-15
At-Grade Roadworks		340	11-Feb-14	10-Apr-15
TWSRW-2100	Noise Barrier NB4 - Footing (2 Gang)	44	11-Feb-14	02-Apr-14
TWSRW-2110	Mass Concrete Wall (FL/RW3)	60	03-Apr-14	19-Jun-14
TWSRW-2120	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	20-Jun-14	11-Nov-14
TWSRW-2130	Road Formation, Road Drainage, Kerb, Planter and Pavement	120	07-Nov-14	10-Apr-15
TWSRW Zone 3 betweeen CH280 and CH315		384	07-Apr-14	29-Jul-15
At-Grade Roadworks		384	07-Apr-14	29-Jul-15
TWSRW-3100	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	07-Apr-14	01-Sep-14
TWSRW-3110	Noise Barrier NB1a - Footing (1 Gang)	52	16-Jan-15	24-Mar-15
TWSRW-3120	Road Formation, Road Drainage, Kerb, Planter and Pavement	90	11-Apr-15	29-Jul-15
TWSRW Zone 4 betweeen CH315 and CH376		810	24-Sep-13	12-Dec-15
Construction of Bridge E		612	24-Sep-13	28-May-15
TWSRW-4000	Implementation of TTA - Scheme W2	0	16-Dec-13	



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

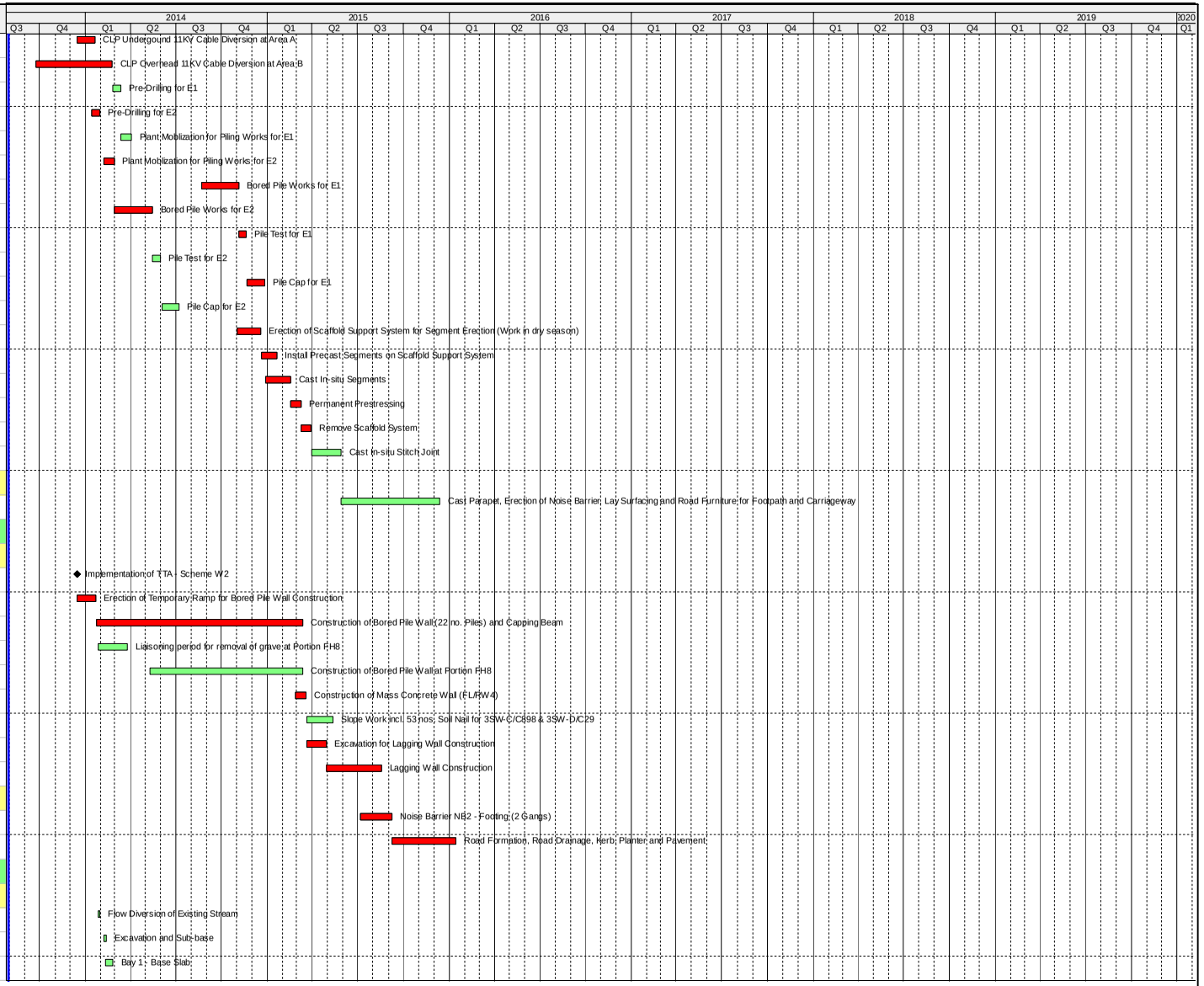
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
TWSRW-4000A	CLP Undergound 11KV Cable Diversion at Area A	28	16-Dec-13	20-Jan-14
TWSRW-4000A	CLP Overhead 11KV Cable Diversion at Area B	120	24-Sep-13	22-Feb-14
TWSRW-4010A	Pre-Drilling for E1	15	24-Feb-14	12-Mar-14
TWSRW-4010B	Pre-Drilling for E2	15	14-Jan-14	30-Jan-14
TWSRW-4020A	Plant Moblization for Piling Works for E1	18	13-Mar-14	02-Apr-14
TWSRW-4020B	Plant Moblization for Piling Works for E2	18	07-Feb-14	27-Feb-14
TWSRW-4030A	Bored Pile Works for E1	60	23-Aug-14	04-Nov-14
TWSRW-4030B	Bored Pile Works for E2	60	28-Feb-14	15-May-14
TWSRW-4040A	Pile Test for E1	14	05-Nov-14	20-Nov-14
TWSRW-4040B	Pile Test for E2	14	16-May-14	31-May-14
TWSRW-4050A	Pile Cap for E1	30	21-Nov-14	27-Dec-14
TWSRW-4050B	Pile Cap for E2	30	03-Jun-14	08-Jul-14
TWSRW-4060	Erection of Scaffold Support System for Segment Erection (Work in dry season)	42	01-Nov-14	19-Dec-14
TWSRW-4070A	Install Precast Segments on Scaffold Support System	24	20-Dec-14	20-Jan-15
TWSRW-4070B	Cast In-situ Segments	42	29-Dec-14	16-Feb-15
TWSRW-4080	Permanent Prestressing	12	17-Feb-15	09-Mar-15
TWSRW-4090A	Remove Scaffold System	18	10-Mar-15	30-Mar-15
TWSRW-4090B	Cast In-situ Stitch Joint	45	31-Mar-15	28-May-15
At-Grade Roadworks		165	29-May-15	12-Dec-15
TWSRW-4100	Cast Parapet, Erection of Noise Barrier, Lay Surfacing and Road Furniture for Footpath and Carriageway	165	29-May-15	12-Dec-15
TWSRW Zone 5 betweeen CH376 and CH520		609	16-Dec-13	14-Jan-16
Construction of Retaining Structures		486	16-Dec-13	17-Aug-15
TWSRW-5000	Implementation of TTA - Scheme W2	0	16-Dec-13	
TWSRW-5000B	Erection of Temporary Ramp for Bored Pile Wall Construction	30	16-Dec-13	22-Jan-14
TWSRW-5010	Construction of Bored Pile Wall (22 no. Piles) and Capping Beam	330	23-Jan-14	13-Mar-15
TWSRW-5020	Liaisoning period for removal of grave at Portion FH8	45	27-Jan-14	26-Mar-14
TWSRW-5030	Construction of Bored Pile Wall at Portion FH8	250	10-May-14	13-Mar-15
TWSRW-5040	Construction of Mass Concrete Wall (FL/RW4)	20	26-Feb-15	20-Mar-15
TWSRW-5050	Slope Work incl. 53 nos. Soil Nail for 3SW-C/C898 & 3SW-D/C29	40	21-Mar-15	12-May-15
TWSRW-5060	Excavation for Lagging Wall Construction	30	21-Mar-15	29-Apr-15
TWSRW-5070	Lagging Wall Construction	90	30-Apr-15	17-Aug-15
At-Grade Roadworks		159	06-Jul-15	14-Jan-16
TWSRW-5100	Noise Barrier NB2 - Footing (2 Gangs)	54	06-Jul-15	07-Sep-15
TWSRW-5110	Road Formation, Road Drainage, Kerb, Planter and Pavement	105	08-Sep-15	14-Jan-16
TWSRW Zone 6 betweeen CH520 and CH530		576	27-Jan-14	25-Aug-15
Box Culvert Extension - BC01		49	27-Jan-14	31-Mar-14
TWSRW-6000	Flow Diversion of Existing Stream	4	27-Jan-14	30-Jan-14
TWSRW-6010	Excavation and Sub-base	5	07-Feb-14	12-Feb-14
TWSRW-6020	Bay 1 - Base Slab	14	10-Feb-14	25-Feb-14



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

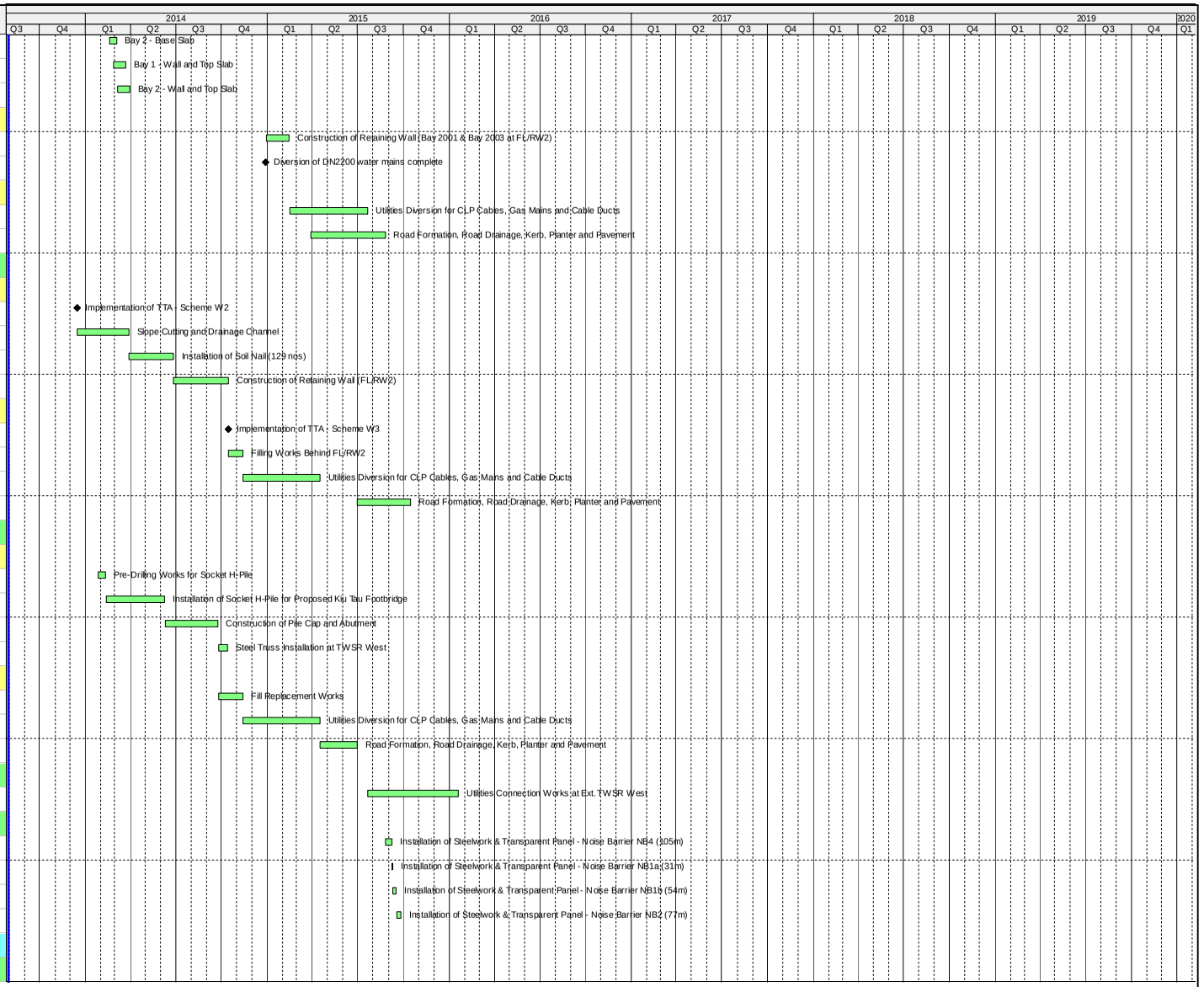
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
TWSRW-6030	Bay 2 - Base Slab	14	18-Feb-14	05-Mar-14
TWSRW-6040	Bay 1 - Wall and Top Slab	22	26-Feb-14	22-Mar-14
TWSRW-6050	Bay 2 - Wall and Top Slab	22	06-Mar-14	31-Mar-14
Construction of Retaining Structures		47	29-Dec-14	14-Feb-15
TWSRW-6060	Construction of Retaining Wall (Bay 2001 & Bay 2003 at FL/RW2)	40	30-Dec-14	14-Feb-15
TWSRW-6070	Diversion of DN2200 water mains complete	0		29-Dec-14
At-Grade Roadworks		150	16-Feb-15	25-Aug-15
TWSRW-6100	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	16-Feb-15	21-Jul-15
TWSRW-6110	Road Formation, Road Drainage, Kerb, Planter and Pavement	120	30-Mar-15	25-Aug-15
TWSRW Zone 7 betweeen CH530 and CH640		535	16-Dec-13	15-Oct-15
Construction of Retaining Structures		240	16-Dec-13	14-Oct-14
TWSRW-7000	Implementation of TTA - Scheme W2	0	16-Dec-13	
TWSRW-7010	Slope Cutting and Drainage Channel	80	16-Dec-13	28-Mar-14
TWSRW-7020	Installation of Soil Nail (129 nos)	70	29-Mar-14	26-Jun-14
TWSRW-7030	Construction of Retaining Wall (FL/RW2)	90	27-Jun-14	14-Oct-14
At-Grade Roadworks		295	15-Oct-14	15-Oct-15
TWSRW-7100	Implementation of TTA - Scheme W3	0	15-Oct-14	
TWSRW-7110	Filling Works Behind FL/RW2	25	15-Oct-14	12-Nov-14
TWSRW-7120	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	13-Nov-14	16-Apr-15
TWSRW-7140	Road Formation, Road Drainage, Kerb, Planter and Pavement	90	30-Jun-15	15-Oct-15
TWSRW Zone 8 betweeen CH640 and CH695		412	27-Jan-14	29-Jun-15
Kiu Tau Footbridge Reprovision (West)		206	27-Jan-14	13-Oct-14
TWSRW-8000	Pre-Drilling Works for Socket H-Pile	7	27-Jan-14	10-Feb-14
TWSRW-8010	Installation of Socket H-Pile for Proposed Kiu Tau Footbridge	95	11-Feb-14	09-Jun-14
TWSRW-8020	Construction of Pile Cap and Abutment	90	10-Jun-14	24-Sep-14
TWSRW-8030	Steel Truss Installation at TWSR West	14	25-Sep-14	13-Oct-14
At-Grade Roadworks		220	25-Sep-14	29-Jun-15
TWSRW-8100	Fill Replacement Works	40	25-Sep-14	12-Nov-14
TWSRW-8110	Utilities Diversion for CLP Cables, Gas Mains and Cable Ducts	120	13-Nov-14	16-Apr-15
TWSRW-8120	Road Formation, Road Drainage, Kerb, Planter and Pavement	60	17-Apr-15	29-Jun-15
Remainder of the Works		150	22-Jul-15	19-Jan-16
TWSRW-9000	Utilities Connection Works at Ext. TWSR West	150	22-Jul-15	19-Jan-16
Remaining Works for Noise Barrier along realigned TWSR West		27	26-Aug-15	25-Sep-15
TWSRW-NB-110	Installation of Steelwork & Transparent Panel - Noise Barrier NB4 (105m)	11	26-Aug-15	07-Sep-15
TWSRW-NB-120	Installation of Steelwork & Transparent Panel - Noise Barrier NB1a (31m)	3	07-Sep-15	10-Sep-15
TWSRW-NB-130	Installation of Steelwork & Transparent Panel - Noise Barrier NB1b (54m)	5	10-Sep-15	16-Sep-15
TWSRW-NB-140	Installation of Steelwork & Transparent Panel - Noise Barrier NB2 (77m)	8	17-Sep-15	25-Sep-15
Stage N4A & N4B - Realignment of Tai Wo Service Road East (KD-13 & KD-14)		1119	09-Dec-13	31-Dec-16
TWSRE Zone 1 between CH100 and CH270		850	27-Jan-14	25-May-16



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

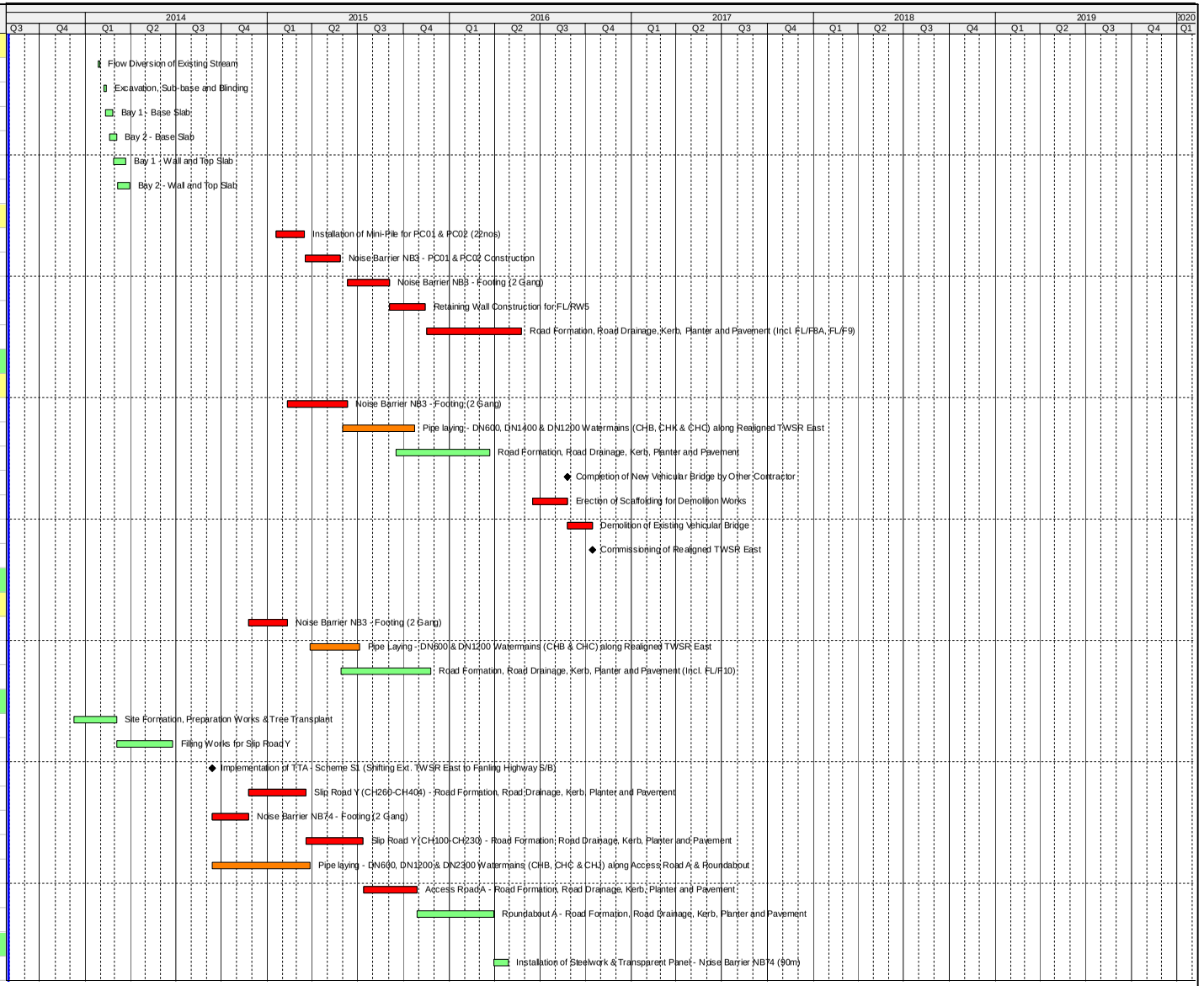
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
	Box Culvert Extension - BC02	49	27-Jan-14	31-Mar-14
TWSRE-1000	Flow Diversion of Existing Stream	4	27-Jan-14	30-Jan-14
TWSRE-1010	Excavation, Sub-base and Blinding	5	07-Feb-14	12-Feb-14
TWSRE-1020	Bay 1 - Base Slab	14	10-Feb-14	25-Feb-14
TWSRE-1030	Bay 2 - Base Slab	14	18-Feb-14	05-Mar-14
TWSRE-1040	Bay 1 - Wall and Top Slab	22	26-Feb-14	22-Mar-14
TWSRE-1050	Bay 2 - Wall and Top Slab	22	06-Mar-14	31-Mar-14
	At-Grade Roadworks	391	19-Jan-15	25-May-16
TWSRE-1100	Installation of Mini-Pile for PC01 & PC02 (22nos)	44	19-Jan-15	17-Mar-15
TWSRE-1110	Noise Barrier NB3 - PC01 & PC02 Construction	55	18-Mar-15	27-May-15
TWSRE-1120	Noise Barrier NB3 - Footing (2 Gang)	70	11-Jun-15	02-Sep-15
TWSRE-1130	Retaining Wall Construction for FL/RW5	60	03-Sep-15	14-Nov-15
TWSRE-1160	Road Formation, Road Drainage, Kerb, Planter and Pavement (Incl. FL/F8A, FL/F9)	150	16-Nov-15	25-May-16
	TWSRE Zone 2 between CH270 and CH380	489	10-Feb-15	15-Oct-16
	At-Grade Roadworks	489	10-Feb-15	15-Oct-16
TWSRE-2010	Noise Barrier NB3 - Footing (2 Gang)	92	10-Feb-15	10-Jun-15
TWSRE-2020*	Pipe laying - DN600, DN1400 & DN1200 Watermains (CHB, CHK & CHC) along Realigned TWSR East	120	01-Jun-15	23-Oct-15
TWSRE-2030	Road Formation, Road Drainage, Kerb, Planter and Pavement	150	16-Sep-15	22-Mar-16
TWSRE-2040	Completion of New Vehicular Bridge by Other Contractor	0		25-Aug-16
TWSRE-2050	Erection of Scaffolding for Demolition Works	60	16-Jun-16	25-Aug-16
TWSRE-2060	Demolition of Existing Vehicular Bridge	40	26-Aug-16	14-Oct-16
TWSRE-2070	Commissioning of Realigned TWSR East	0	15-Oct-16	
	TWSRE Zone 3 between CH380 and CH456	294	25-Nov-14	25-Nov-15
	At-Grade Roadworks	294	25-Nov-14	25-Nov-15
TWSRE-3010	Noise Barrier NB3 - Footing (2 Gang)	63	25-Nov-14	10-Feb-15
TWSRE-3020*	Pipe Laying - DN600 & DN1200 Watermains (CHB & CHC) along Realigned TWSR East	77	28-Mar-15	04-Jul-15
TWSRE-3030	Road Formation, Road Drainage, Kerb, Planter and Pavement (Incl. FL/F10)	150	29-May-15	25-Nov-15
	Roundabout A, Slip Road and Access Road	671	09-Dec-13	30-Mar-16
TWSRE-4000A	Site Formation, Preparation Works & Tree Transplant	65	09-Dec-13	04-Mar-14
TWSRE-4000B	Filling Works for Slip Road Y	90	05-Mar-14	25-Jun-14
TWSRE-4010	Implementation of TTA - Scheme S1 (Shifting Ext. TWSR East to Fanling Highway S/B)	0	13-Sep-14	
TWSRE-4020	Slip Road Y (CH260-CH404) - Road Formation, Road Drainage, Kerb, Planter and Pavement	90	25-Nov-14	19-Mar-15
TWSRE-4030	Noise Barrier NB74 - Footing (2 Gang)	60	13-Sep-14	24-Nov-14
TWSRE-4040	Slip Road Y (CH100-CH230) - Road Formation, Road Drainage, Kerb, Planter and Pavement	90	20-Mar-15	11-Jul-15
TWSRE-4050*	Pipe laying - DN600, DN1200 & DN2300 Watermains (CHB, CHC & CHJ) along Access Road A & Roundabout	157	13-Sep-14	27-Mar-15
TWSRE-4060	Access Road A - Road Formation, Road Drainage, Kerb, Planter and Pavement	90	13-Jul-15	28-Oct-15
TWSRE-4070	Roundabout A - Road Formation, Road Drainage, Kerb, Planter and Pavement	120	29-Oct-15	30-Mar-16
	Remaining Works for Noise Barrier along realigned TWSR East	227	31-Mar-16	31-Dec-16
TWSRE-NB-110	Installation of Steelwork & Transparent Panel - Noise Barrier NB74 (90m)	24	31-Mar-16	28-Apr-16



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

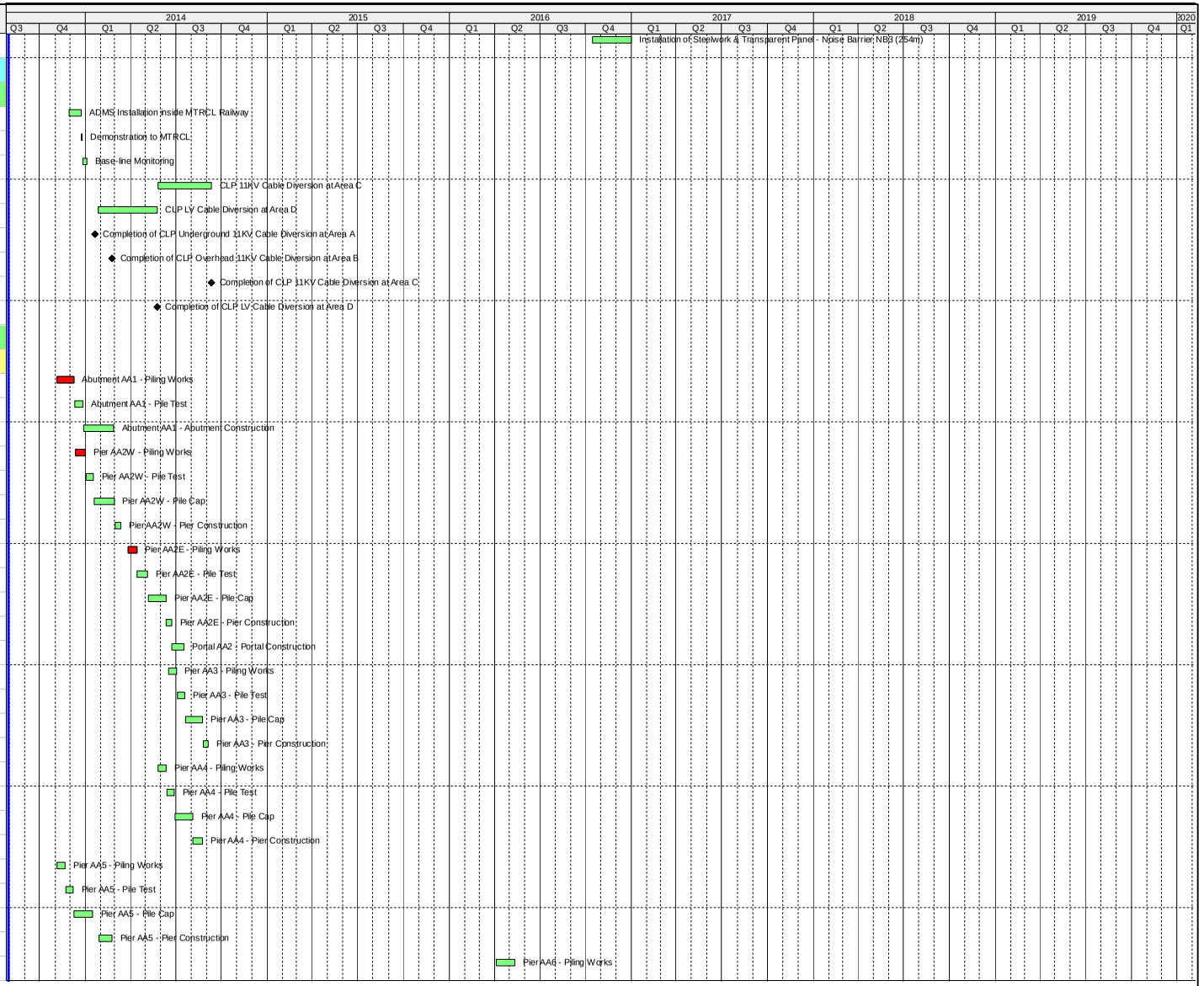
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
TWSRE-NB-120	Installation of Steelwork & Transparent Panel - Noise Barrier NB3 (254m)	65	15-Oct-16	31-Dec-16
Stage 1C - Viaduct Structure & TCSS Civil Provisions (KD-9)		1033	05-Nov-13	19-May-17
Preliminaries		227	29-Nov-13	10-Sep-14
B-1000	ADMS Installation inside MTRCL Railway	21	29-Nov-13	23-Dec-13
B-1010	Demonstration to MTRCL	1	24-Dec-13	24-Dec-13
B-1020	Base-line Monitoring	7	27-Dec-13	04-Jan-14
B-2000	CLP 11KV Cable Diversion at Area C	90	26-May-14	10-Sep-14
B-2010	CLP LV Cable Diversion at Area D	90	27-Jan-14	24-May-14
B-2020	Completion of CLP Underground 11KV Cable Diversion at Area A	0		20-Jan-14
B-2030	Completion of CLP Overhead 11KV Cable Diversion at Area B	0		22-Feb-14
B-2040	Completion of CLP 11KV Cable Diversion at Area C	0		10-Sep-14
B-2050	Completion of CLP LV Cable Diversion at Area D	0		24-May-14
Foundation & Pier Construction		827	05-Nov-13	31-Aug-16
Bridge A		795	05-Nov-13	25-Jul-16
BA-01-1000	Abutment AA1 - Piling Works	30	05-Nov-13*	09-Dec-13
BA-01-1010	Abutment AA1 - Pile Test	14	10-Dec-13	27-Dec-13
BA-01-1020	Abutment AA1 - Abutment Construction	45	28-Dec-13	26-Feb-14
BA-02-1000	Pier AA2W - Piling Works	15	12-Dec-13	31-Dec-13
BA-02-1010	Pier AA2W - Pile Test	14	02-Jan-14	17-Jan-14
BA-02-1020	Pier AA2W - Pile Cap	30	18-Jan-14	28-Feb-14
BA-02-1030	Pier AA2W - Pier Construction	10	01-Mar-14	12-Mar-14
BA-02-2000	Pier AA2E - Piling Works	15	27-Mar-14	14-Apr-14
BA-02-2010	Pier AA2E - Pile Test	14	15-Apr-14	05-May-14
BA-02-2020	Pier AA2E - Pile Cap	30	07-May-14	11-Jun-14
BA-02-2030	Pier AA2E - Pier Construction	10	12-Jun-14	23-Jun-14
BA-02-2040	PortalAA2 - Portal Construction	20	24-Jun-14	17-Jul-14
BA-03-1000	Pier AA3 - Piling Works	15	16-Jun-14	03-Jul-14
BA-03-1010	Pier AA3 - Pile Test	14	04-Jul-14	19-Jul-14
BA-03-1020	Pier AA3 - Pile Cap	30	21-Jul-14	23-Aug-14
BA-03-1030	Pier AA3 - Pier Construction	10	25-Aug-14	04-Sep-14
BA-04-1000	Pier AA4 - Piling Works	15	26-May-14	12-Jun-14
BA-04-1010	Pier AA4 - Pile Test	14	13-Jun-14	28-Jun-14
BA-04-1020	Pier AA4 - Pile Cap	30	30-Jun-14	04-Aug-14
BA-04-1030	Pier AA4 - Pier Construction	17	05-Aug-14	23-Aug-14
BA-05-1000	Pier AA5 - Piling Works	15	05-Nov-13*	21-Nov-13
BA-05-1010	Pier AA5 - Pile Test	14	22-Nov-13	07-Dec-13
BA-05-1020	Pier AA5 - Pile Cap	30	09-Dec-13	15-Jan-14
BA-05-1030	Pier AA5 - Pier Construction	17	28-Jan-14	22-Feb-14
BA-06-1000	Pier AA6 - Piling Works	30	05-Apr-16	11-May-16



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

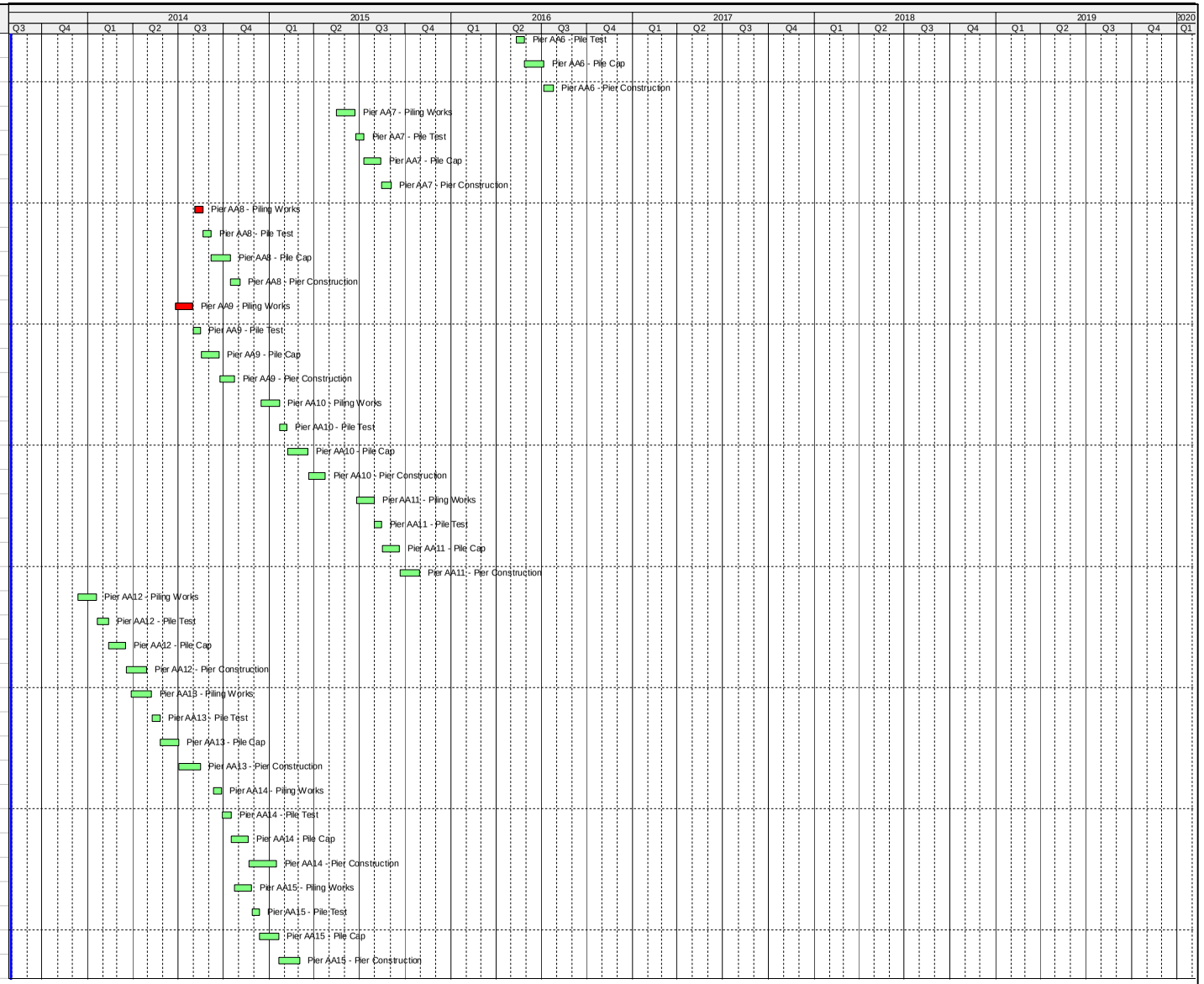
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BA-06-1010	Pier AA6 - Pile Test	14	11-May-16	28-May-16
BA-06-1020	Pier AA6 - Pile Cap	30	28-May-16	05-Jul-16
BA-06-1030	Pier AA6 - Pier Construction	17	05-Jul-16	25-Jul-16
BA-07-1000	Pier AA7 - Piling Works	30	16-May-15	22-Jun-15
BA-07-1010	Pier AA7 - Pile Test	14	23-Jun-15	09-Jul-15
BA-07-1020	Pier AA7 - Pile Cap	30	10-Jul-15	13-Aug-15
BA-07-1030	Pier AA7 - Pier Construction	17	14-Aug-15	02-Sep-15
BA-08-1000	Pier AA8 - Piling Works	15	04-Aug-14	20-Aug-14
BA-08-1010	Pier AA8 - Pile Test	14	21-Aug-14	05-Sep-14
BA-08-1020	Pier AA8 - Pile Cap	30	06-Sep-14	14-Oct-14
BA-08-1030	Pier AA8 - Pier Construction	17	15-Oct-14	03-Nov-14
BA-09-1000	Pier AA9 - Piling Works	30	26-Jun-14	31-Jul-14
BA-09-1010	Pier AA9 - Pile Test	14	01-Aug-14	16-Aug-14
BA-09-1020	Pier AA9 - Pile Cap	30	18-Aug-14	22-Sep-14
BA-09-1030	Pier AA9 - Pier Construction	24	23-Sep-14	22-Oct-14
BA-10-1000	Pier AA10 - Piling Works	30	15-Dec-14	21-Jan-15
BA-10-1010	Pier AA10 - Pile Test	14	22-Jan-15	06-Feb-15
BA-10-1020	Pier AA10 - Pile Cap	30	07-Feb-15	20-Mar-15
BA-10-1030	Pier AA10 - Pier Construction	24	21-Mar-15	22-Apr-15
BA-11-1000	Pier AA11 - Piling Works	30	25-Jun-15	30-Jul-15
BA-11-1010	Pier AA11 - Pile Test	14	31-Jul-15	15-Aug-15
BA-11-1020	Pier AA11 - Pile Cap	30	17-Aug-15	19-Sep-15
BA-11-1030	Pier AA11 - Pier Construction	31	21-Sep-15	29-Oct-15
BA-12-1000	Pier AA12 - Piling Works	30	12-Dec-13	18-Jan-14
BA-12-1010	Pier AA12 - Pile Test	14	20-Jan-14	11-Feb-14
BA-12-1020	Pier AA12 - Pile Cap	30	12-Feb-14	18-Mar-14
BA-12-1030	Pier AA12 - Pier Construction	31	19-Mar-14	28-Apr-14
BA-13-1000	Pier AA13 - Piling Works	30	29-Mar-14	09-May-14
BA-13-1010	Pier AA13 - Pile Test	14	10-May-14	26-May-14
BA-13-1020	Pier AA13 - Pile Cap	30	27-May-14	02-Jul-14
BA-13-1030	Pier AA13 - Pier Construction	38	03-Jul-14	15-Aug-14
BA-14-1000	Pier AA14 - Piling Works	15	11-Sep-14	27-Sep-14
BA-14-1010	Pier AA14 - Pile Test	14	29-Sep-14	16-Oct-14
BA-14-1020	Pier AA14 - Pile Cap	30	17-Oct-14	20-Nov-14
BA-14-1030	Pier AA14 - Pier Construction	45	21-Nov-14	15-Jan-15
BA-15-1000	Pier AA15 - Piling Works	30	23-Oct-14	26-Nov-14
BA-15-1010	Pier AA15 - Pile Test	14	27-Nov-14	12-Dec-14
BA-15-1020	Pier AA15 - Pile Cap	30	13-Dec-14	20-Jan-15
BA-15-1030	Pier AA15 - Pier Construction	31	21-Jan-15	04-Mar-15



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- Milestone

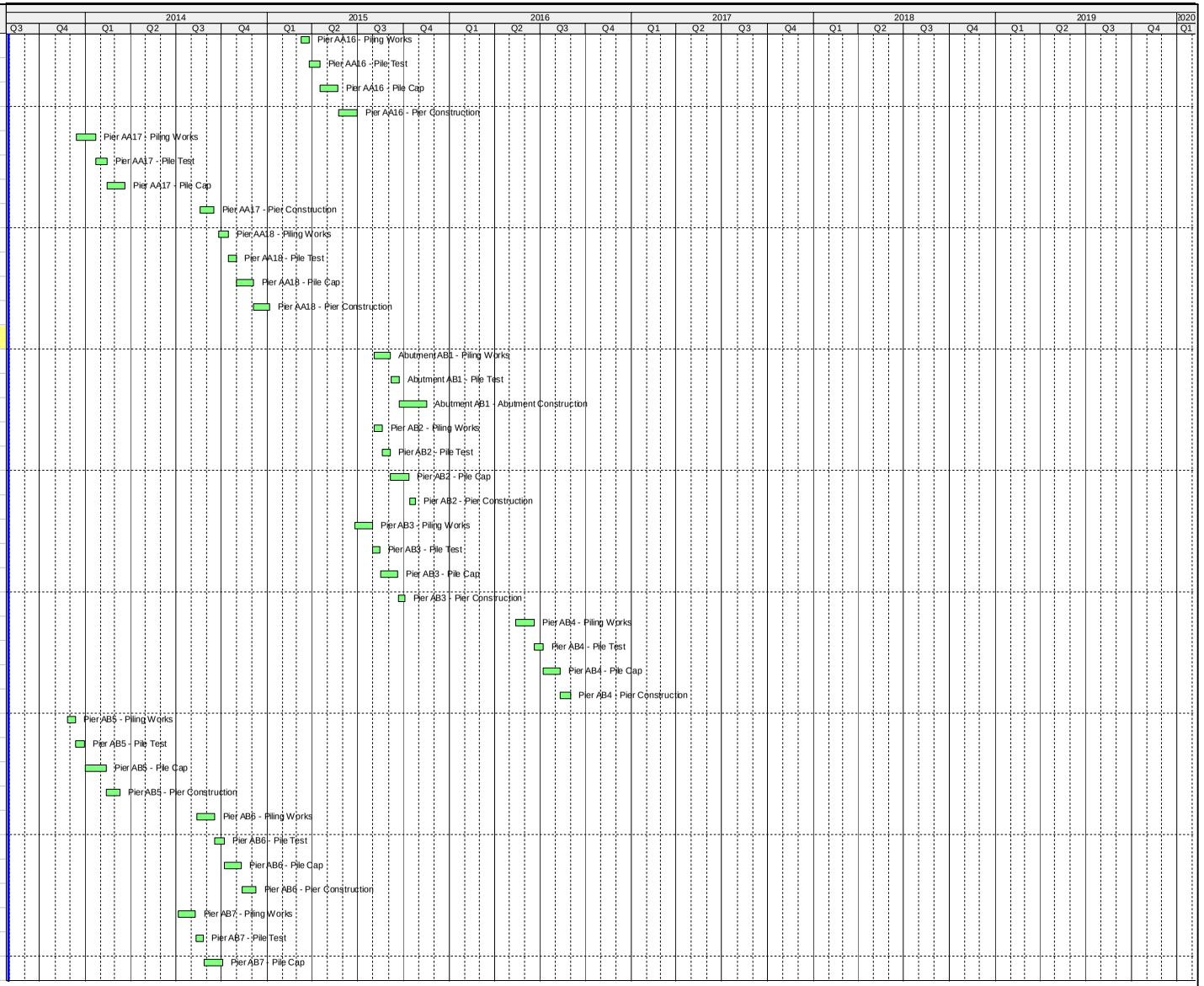
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BA-16-1000	Pier AA16 - Piling Works	15	10-Mar-15	26-Mar-15
BA-16-1010	Pier AA16 - Pile Test	14	27-Mar-15	16-Apr-15
BA-16-1020	Pier AA16 - Pile Cap	30	17-Apr-15	22-May-15
BA-16-1030	Pier AA16 - Pier Construction	31	23-May-15	30-Jun-15
BA-17-1000	Pier AA17 - Piling Works	30	14-Dec-13	21-Jan-14
BA-17-1010	Pier AA17 - Pile Test	14	22-Jan-14	13-Feb-14
BA-17-1020	Pier AA17 - Pile Cap	30	14-Feb-14	20-Mar-14
BA-17-1030	Pier AA17 - Pier Construction	24	19-Aug-14	16-Sep-14
BA-18-1000	Pier AA18 - Piling Works	15	25-Sep-14	14-Oct-14
BA-18-1010	Pier AA18 - Pile Test	14	15-Oct-14	30-Oct-14
BA-18-1020	Pier AA18 - Pile Cap	30	31-Oct-14	04-Dec-14
BA-18-1030	Pier AA18 - Pier Construction	24	05-Dec-14	05-Jan-15
Bridge B		810	25-Nov-13	31-Aug-16
BB-01-1000	Abutment AB1 - Piling Works	30	03-Aug-15	05-Sep-15
BB-01-1010	Abutment AB1 - Pile Test	14	07-Sep-15	22-Sep-15
BB-01-1020	Abutment AB1 - Abutment Construction	45	23-Sep-15	17-Nov-15
BB-02-1000	Pier AB2 - Piling Works	15	03-Aug-15	19-Aug-15
BB-02-1010	Pier AB2 - Pile Test	14	20-Aug-15	04-Sep-15
BB-02-1020	Pier AB2 - Pile Cap	30	05-Sep-15	12-Oct-15
BB-02-1030	Pier AB2 - Pier Construction	10	13-Oct-15	24-Oct-15
BB-03-1000	Pier AB3 - Piling Works	30	25-Jun-15	30-Jul-15
BB-03-1010	Pier AB3 - Pile Test	14	31-Jul-15	15-Aug-15
BB-03-1020	Pier AB3 - Pile Cap	30	17-Aug-15	19-Sep-15
BB-03-1030	Pier AB3 - Pier Construction	10	21-Sep-15	03-Oct-15
BB-04-1000	Pier AB4 - Piling Works	30	13-May-16	20-Jun-16
BB-04-1010	Pier AB4 - Pile Test	14	20-Jun-16	07-Jul-16
BB-04-1020	Pier AB4 - Pile Cap	30	07-Jul-16	11-Aug-16
BB-04-1030	Pier AB4 - Pier Construction	17	11-Aug-16	31-Aug-16
BB-05-1000	Pier AB5 - Piling Works	15	25-Nov-13	11-Dec-13
BB-05-1010	Pier AB5 - Pile Test	14	12-Dec-13	30-Dec-13
BB-05-1020	Pier AB5 - Pile Cap	30	31-Dec-13	11-Feb-14
BB-05-1030	Pier AB5 - Pier Construction	24	12-Feb-14	11-Mar-14
BB-06-1000	Pier AB6 - Piling Works	30	13-Aug-14	17-Sep-14
BB-06-1010	Pier AB6 - Pile Test	14	18-Sep-14	06-Oct-14
BB-06-1020	Pier AB6 - Pile Cap	30	07-Oct-14	10-Nov-14
BB-06-1030	Pier AB6 - Pier Construction	24	11-Nov-14	08-Dec-14
BB-07-1000	Pier AB7 - Piling Works	30	07-Jul-14	09-Aug-14
BB-07-1010	Pier AB7 - Pile Test	14	11-Aug-14	26-Aug-14
BB-07-1020	Pier AB7 - Pile Cap	30	27-Aug-14	03-Oct-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- Milestone

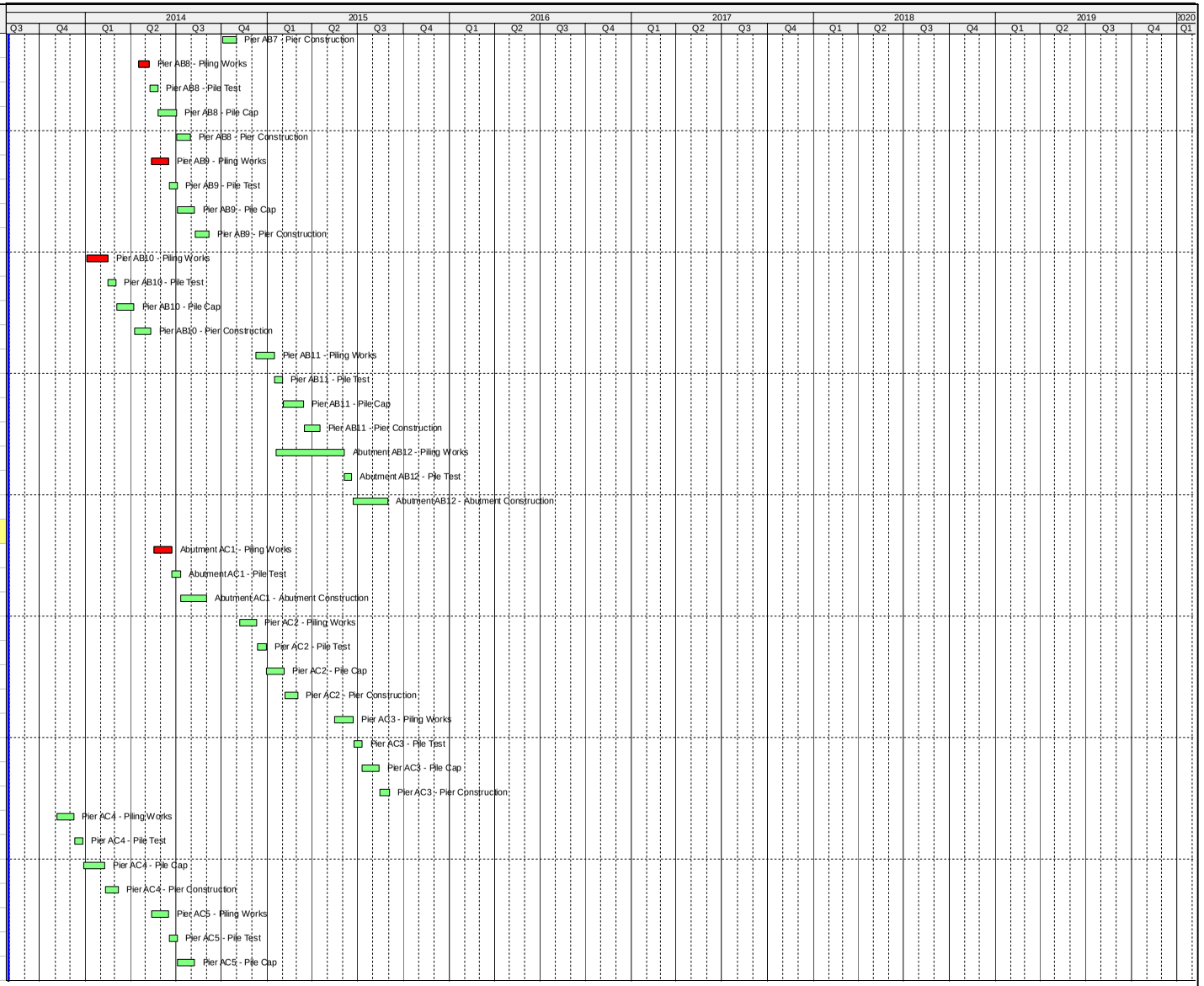
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BB-07-1030	Pier AB7 - Pier Construction	24	04-Oct-14	31-Oct-14
BB-08-1000	Pier AB8 - Piling Works	15	17-Apr-14	09-May-14
BB-08-1010	Pier AB8 - Pile Test	14	10-May-14	26-May-14
BB-08-1020	Pier AB8 - Pile Cap	30	27-May-14	02-Jul-14
BB-08-1030	Pier AB8 - Pier Construction	24	03-Jul-14	30-Jul-14
BB-09-1000	Pier AB9 - Piling Works	30	13-May-14	17-Jun-14
BB-09-1010	Pier AB9 - Pile Test	14	18-Jun-14	04-Jul-14
BB-09-1020	Pier AB9 - Pile Cap	30	05-Jul-14	08-Aug-14
BB-09-1030	Pier AB9 - Pier Construction	24	09-Aug-14	05-Sep-14
BB-10-1000	Pier AB10 - Piling Works	30	04-Jan-14	14-Feb-14
BB-10-1010	Pier AB10 - Pile Test	14	15-Feb-14	03-Mar-14
BB-10-1020	Pier AB10 - Pile Cap	30	04-Mar-14	08-Apr-14
BB-10-1030	Pier AB10 - Pier Construction	24	09-Apr-14	12-May-14
BB-11-1000	Pier AB11 - Piling Works	30	09-Dec-14	15-Jan-15
BB-11-1010	Pier AB11 - Pile Test	14	16-Jan-15	31-Jan-15
BB-11-1020	Pier AB11 - Pile Cap	30	02-Feb-15	14-Mar-15
BB-11-1030	Pier AB11 - Pier Construction	24	16-Mar-15	16-Apr-15
BB-12-1000	Abutment AB12 - Piling Works	105	19-Jan-15	03-Jun-15
BB-12-1010	Abutment AB12 - Pile Test	14	04-Jun-15	19-Jun-15
BB-12-1020	Abutment AB12 - Abutment Construction	60	22-Jun-15	31-Aug-15
Bridge C		535	05-Nov-13	02-Sep-15
BC-01-1000	Abutment AC1 - Piling Works	30	19-May-14	23-Jun-14
BC-01-1010	Abutment AC1 - Pile Test	14	24-Jun-14	10-Jul-14
BC-01-1020	Abutment AC1 - Abutment Construction	45	11-Jul-14	01-Sep-14
BC-02-1000	Pier AC2 - Piling Works	30	07-Nov-14	11-Dec-14
BC-02-1010	Pier AC2 - Pile Test	14	12-Dec-14	30-Dec-14
BC-02-1020	Pier AC2 - Pile Cap	30	31-Dec-14	04-Feb-15
BC-02-1030	Pier AC2 - Pier Construction	17	05-Feb-15	03-Mar-15
BC-03-1000	Pier AC3 - Piling Works	30	16-May-15	22-Jun-15
BC-03-1010	Pier AC3 - Pile Test	14	23-Jun-15	09-Jul-15
BC-03-1020	Pier AC3 - Pile Cap	30	10-Jul-15	13-Aug-15
BC-03-1030	Pier AC3 - Pier Construction	17	14-Aug-15	02-Sep-15
BC-04-1000	Pier AC4 - Piling Works	30	05-Nov-13*	09-Dec-13
BC-04-1010	Pier AC4 - Pile Test	14	10-Dec-13	27-Dec-13
BC-04-1020	Pier AC4 - Pile Cap	30	28-Dec-13	08-Feb-14
BC-04-1030	Pier AC4 - Pier Construction	24	10-Feb-14	08-Mar-14
BC-05-1000	Pier AC5 - Piling Works	30	13-May-14	17-Jun-14
BC-05-1010	Pier AC5 - Pile Test	14	18-Jun-14	04-Jul-14
BC-05-1020	Pier AC5 - Pile Cap	30	05-Jul-14	08-Aug-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

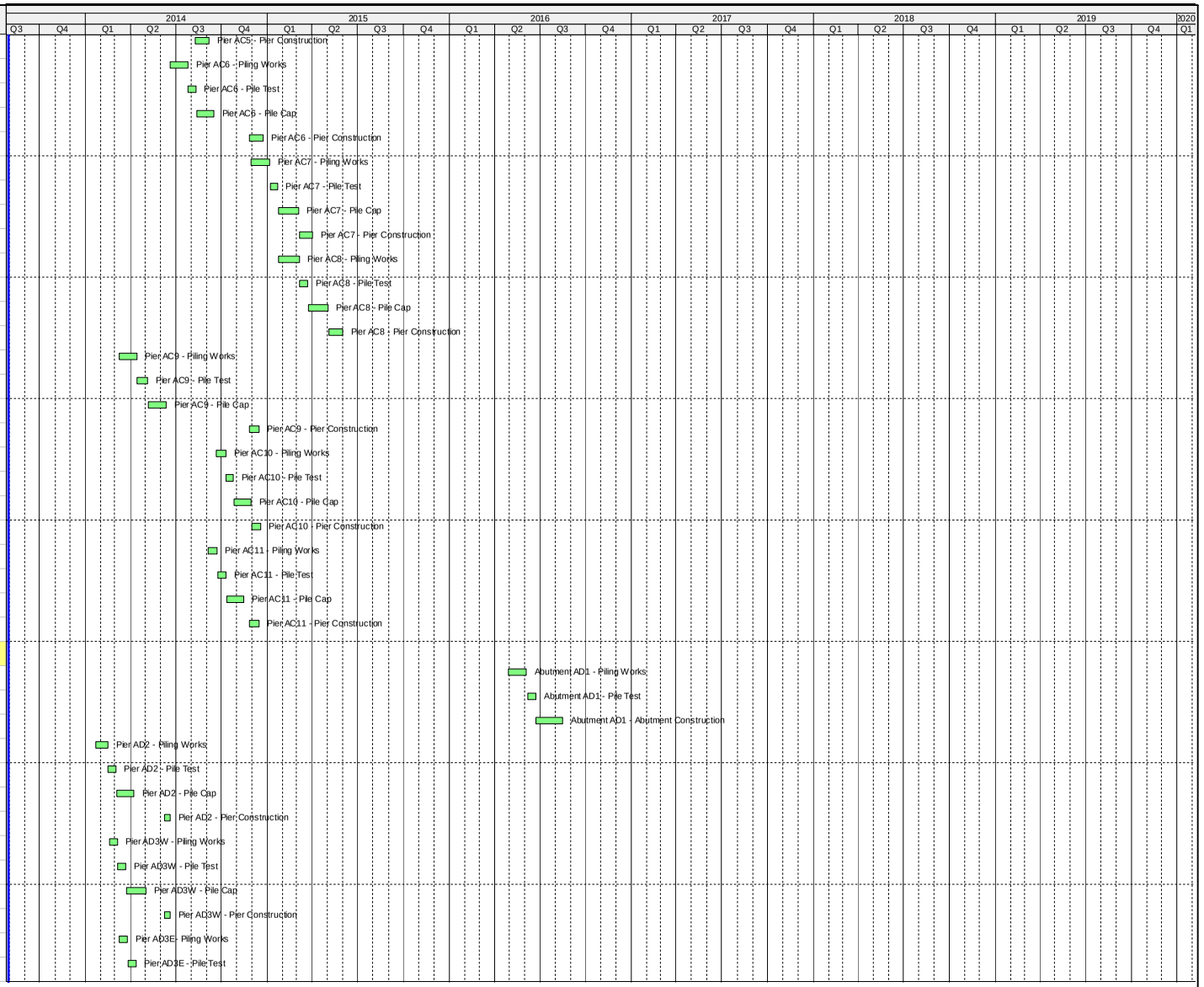
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BC-05-1030	Pier AC5 - Pier Construction	24	09-Aug-14	05-Sep-14
BC-06-1000	Pier AC6 - Piling Works	30	20-Jun-14	25-Jul-14
BC-06-1010	Pier AC6 - Pile Test	14	26-Jul-14	11-Aug-14
BC-06-1020	Pier AC6 - Pile Cap	30	12-Aug-14	16-Sep-14
BC-06-1030	Pier AC6 - Pier Construction	24	26-Nov-14	23-Dec-14
BC-07-1000	Pier AC7 - Piling Works	30	29-Nov-14	06-Jan-15
BC-07-1010	Pier AC7 - Pile Test	14	07-Jan-15	22-Jan-15
BC-07-1020	Pier AC7 - Pile Cap	30	23-Jan-15	05-Mar-15
BC-07-1030	Pier AC7 - Pier Construction	24	06-Mar-15	02-Apr-15
BC-08-1000	Pier AC8 - Piling Works	30	24-Jan-15	06-Mar-15
BC-08-1010	Pier AC8 - Pile Test	14	07-Mar-15	23-Mar-15
BC-08-1020	Pier AC8 - Pile Cap	30	24-Mar-15	02-May-15
BC-08-1030	Pier AC8 - Pier Construction	24	04-May-15	01-Jun-15
BC-09-1000	Pier AC9 - Piling Works	30	10-Mar-14	14-Apr-14
BC-09-1010	Pier AC9 - Pile Test	14	15-Apr-14	05-May-14
BC-09-1020	Pier AC9 - Pile Cap	30	07-May-14	11-Jun-14
BC-09-1030	Pier AC9 - Pier Construction	17	26-Nov-14	15-Dec-14
BC-10-1000	Pier AC10 - Piling Works	15	20-Sep-14	09-Oct-14
BC-10-1010	Pier AC10 - Pile Test	14	10-Oct-14	25-Oct-14
BC-10-1020	Pier AC10 - Pile Cap	30	27-Oct-14	29-Nov-14
BC-10-1030	Pier AC10 - Pier Construction	17	01-Dec-14	19-Dec-14
BC-11-1000	Pier AC11 - Piling Works	15	04-Sep-14	22-Sep-14
BC-11-1010	Pier AC11 - Pile Test	14	23-Sep-14	10-Oct-14
BC-11-1020	Pier AC11 - Pile Cap	30	11-Oct-14	14-Nov-14
BC-11-1030	Pier AC11 - Pier Construction	17	26-Nov-14	15-Dec-14
Bridge D		749	22-Jan-14	15-Aug-16
BD-01-1000	Abutment AD1 - Piling Works	30	29-Apr-16	04-Jun-16
BD-01-1010	Abutment AD1 - Pile Test	14	06-Jun-16	22-Jun-16
BD-01-1020	Abutment AD1 - Abutment Construction	45	23-Jun-16	15-Aug-16
BD-02-1000	Pier AD2 - Piling Works	15	22-Jan-14	14-Feb-14
BD-02-1010	Pier AD2 - Pile Test	14	15-Feb-14	03-Mar-14
BD-02-1020	Pier AD2 - Pile Cap	30	04-Mar-14	08-Apr-14
BD-02-1030	Pier AD2 - Pier Construction	10	09-Jun-14	19-Jun-14
BD-03-1000	Pier AD3W - Piling Works	15	18-Feb-14	06-Mar-14
BD-03-1010	Pier AD3W - Pile Test	14	07-Mar-14	22-Mar-14
BD-03-1020	Pier AD3W - Pile Cap	30	24-Mar-14	02-May-14
BD-03-1030	Pier AD3W - Pier Construction	10	09-Jun-14	19-Jun-14
BD-03-2000	Pier AD3E- Piling Works	15	10-Mar-14	26-Mar-14
BD-03-2010	Pier AD3E - Pile Test	14	27-Mar-14	12-Apr-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

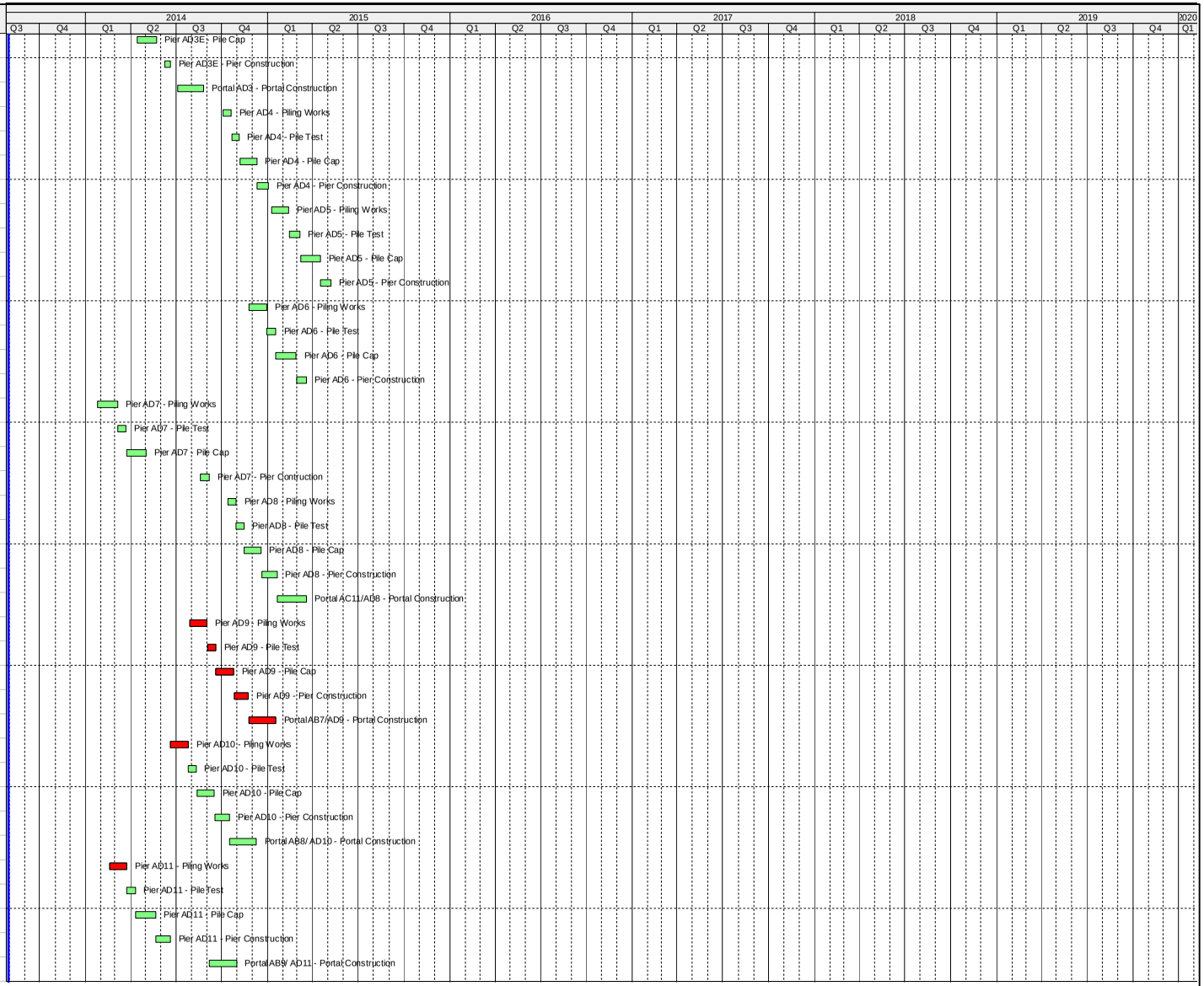
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BD-03-2020	Pier AD3E - Pile Cap	30	14-Apr-14	23-May-14
BD-03-2030	Pier AD3E - Pier Construction	10	09-Jun-14	19-Jun-14
BD-03-2040	PortalAD3 - Portal Construction	45	04-Jul-14	25-Aug-14
BD-04-1000	Pier AD4 - Piling Works	15	03-Oct-14	20-Oct-14
BD-04-1010	Pier AD4 - Pile Test	14	21-Oct-14	05-Nov-14
BD-04-1020	Pier AD4 - Pile Cap	30	06-Nov-14	10-Dec-14
BD-04-1030	Pier AD4 - Pier Construction	17	11-Dec-14	02-Jan-15
BD-05-1000	Pier AD5 - Piling Works	30	09-Jan-15	12-Feb-15
BD-05-1010	Pier AD5 - Pile Test	14	13-Feb-15	07-Mar-15
BD-05-1020	Pier AD5 - Pile Cap	30	09-Mar-15	16-Apr-15
BD-05-1030	Pier AD5 - Pier Construction	17	17-Apr-15	07-May-15
BD-06-1000	Pier AD6 - Piling Works	30	24-Nov-14	30-Dec-14
BD-06-1010	Pier AD6 - Pile Test	14	31-Dec-14	16-Jan-15
BD-06-1020	Pier AD6 - Pile Cap	30	17-Jan-15	27-Feb-15
BD-06-1030	Pier AD6 - Pier Construction	17	28-Feb-15	19-Mar-15
BD-07-1000	Pier AD7 - Piling Works	30	24-Jan-14	06-Mar-14
BD-07-1010	Pier AD7 - Pile Test	14	07-Mar-14	22-Mar-14
BD-07-1020	Pier AD7 - Pile Cap	30	24-Mar-14	02-May-14
BD-07-1030	Pier AD7 - Pier Contruction	17	19-Aug-14	06-Sep-14
BD-08-1000	Pier AD8 - Piling Works	15	13-Oct-14	29-Oct-14
BD-08-1010	Pier AD8 - Pile Test	14	30-Oct-14	14-Nov-14
BD-08-1020	Pier AD8 - Pile Cap	30	15-Nov-14	19-Dec-14
BD-08-1030	Pier AD8 - Pier Construction	24	20-Dec-14	20-Jan-15
BD-08-1040	PortalAC11/AD8 - Portal Construction	45	21-Jan-15	20-Mar-15
BD-09-1000	Pier AD9 - Piling Works	30	29-Jul-14	01-Sep-14
BD-09-1010	Pier AD9 - Pile Test	14	02-Sep-14	18-Sep-14
BD-09-1020	Pier AD9 - Pile Cap	30	19-Sep-14	25-Oct-14
BD-09-1030	Pier AD9 - Pier Construction	24	27-Oct-14	22-Nov-14
BD-09-1040	PortalAB7/AD9 - Portal Construction	45	24-Nov-14	17-Jan-15
BD-10-1000	Pier AD10 - Piling Works	30	20-Jun-14	25-Jul-14
BD-10-1010	Pier AD10 - Pile Test	14	26-Jul-14	11-Aug-14
BD-10-1020	Pier AD10 - Pile Cap	30	12-Aug-14	16-Sep-14
BD-10-1030	Pier AD10 - Pier Construction	24	17-Sep-14	16-Oct-14
BD-10-1040	PortalAB8/ AD10 - Portal Construction	45	17-Oct-14	08-Dec-14
BD-11-1000	Pier AD11 - Piling Works	30	18-Feb-14	24-Mar-14
BD-11-1010	Pier AD11 - Pile Test	14	25-Mar-14	10-Apr-14
BD-11-1020	Pier AD11 - Pile Cap	30	11-Apr-14	21-May-14
BD-11-1030	Pier AD11 - Pier Construction	24	22-May-14	19-Jun-14
BD-11-1040	PortalAB9/ AD11 - Portal Construction	45	06-Sep-14	31-Oct-14



Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

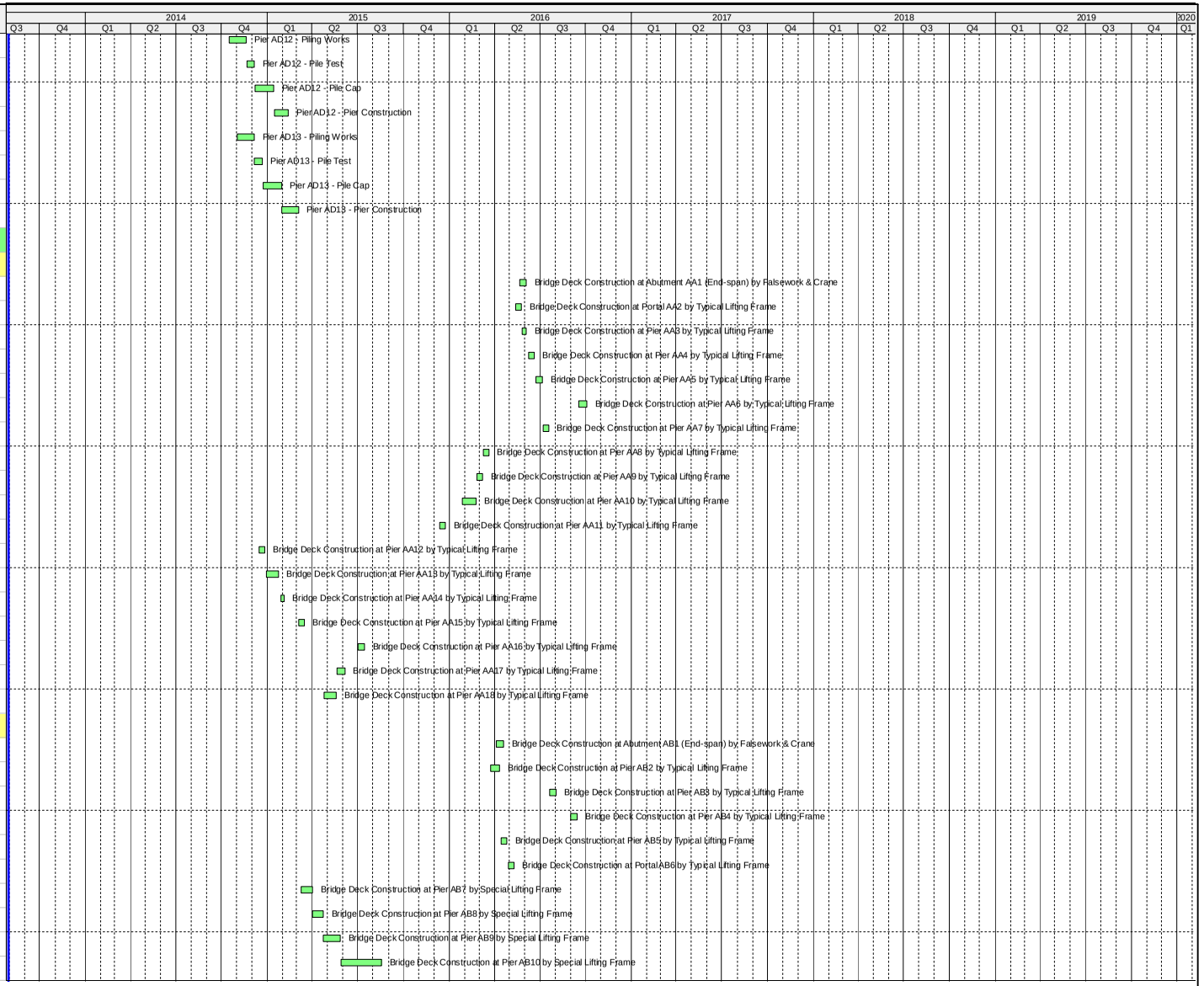
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
BD-12-1000	Pier AD12 - Piling Works	30	17-Oct-14	20-Nov-14
BD-12-1010	Pier AD12 - Pile Test	14	21-Nov-14	06-Dec-14
BD-12-1020	Pier AD12 - Pile Cap	30	08-Dec-14	14-Jan-15
BD-12-1030	Pier AD12 - Pier Construction	24	15-Jan-15	11-Feb-15
BD-13-1000	Pier AD13 - Piling Works	30	01-Nov-14	05-Dec-14
BD-13-1010	Pier AD13 - Pile Test	14	06-Dec-14	22-Dec-14
BD-13-1020	Pier AD13 - Pile Cap	30	23-Dec-14	29-Jan-15
BD-13-1030	Pier AD13 - Pier Construction	24	30-Jan-15	05-Mar-15
Viaduct Bridge Segement Erection		548	19-Nov-14	03-Oct-16
Bridge A		525	16-Dec-14	03-Oct-16
EA-1010	Bridge Deck Construction at Abutment AA1 (End-span) by Falsework & Crane	12	21-May-16	03-Jun-16
EA-1020	Bridge Deck Construction at Portal AA2 by Typical Lifting Frame	9	13-May-16	24-May-16
EA-1030	Bridge Deck Construction at Pier AA3 by Typical Lifting Frame	8	27-May-16	04-Jun-16
EA-1040	Bridge Deck Construction at Pier AA4 by Typical Lifting Frame	10	08-Jun-16	20-Jun-16
EA-1050	Bridge Deck Construction at Pier AA5 by Typical Lifting Frame	10	23-Jun-16	05-Jul-16
EA-1060	Bridge Deck Construction at Pier AA6 by Typical Lifting Frame	12	17-Sep-16	03-Oct-16
EA-1070	Bridge Deck Construction at Pier AA7 by Typical Lifting Frame	9	08-Jul-16	18-Jul-16
EA-1080	Bridge Deck Construction at Pier AA8 by Typical Lifting Frame	10	10-Mar-16	21-Mar-16
EA-1090	Bridge Deck Construction at Pier AA9 by Typical Lifting Frame	9	26-Feb-16	07-Mar-16
EA-1100	Bridge Deck Construction at Pier AA10 by Typical Lifting Frame	18	27-Jan-16	23-Feb-16
EA-1110	Bridge Deck Construction at Pier AA11 by Typical Lifting Frame	10	12-Dec-15	23-Dec-15
EA-1120	Bridge Deck Construction at Pier AA12 by Typical Lifting Frame	9	16-Dec-14	27-Dec-14
EA-1130	Bridge Deck Construction at Pier AA13 by Typical Lifting Frame	21	31-Dec-14	24-Jan-15
EA-1140	Bridge Deck Construction at Pier AA14 by Typical Lifting Frame	7	28-Jan-15	04-Feb-15
EA-1150	Bridge Deck Construction at Pier AA15 by Typical Lifting Frame	10	05-Mar-15	16-Mar-15
EA-1160	Bridge Deck Construction at Pier AA16 by Typical Lifting Frame	12	02-Jul-15	15-Jul-15
EA-1170	Bridge Deck Construction at Pier AA17 by Typical Lifting Frame	14	21-May-15	06-Jun-15
EA-1180	Bridge Deck Construction at Pier AA18 by Typical Lifting Frame	20	24-Apr-15	18-May-15
Bridge B		448	10-Mar-15	14-Sep-16
EB-1010	Bridge Deck Construction at Abutment AB1 (End-span) by Falsework & Crane	12	05-Apr-16	18-Apr-16
EB-1020	Bridge Deck Construction at Pier AB2 by Typical Lifting Frame	12	24-Mar-16	11-Apr-16
EB-1030	Bridge Deck Construction at Pier AB3 by Typical Lifting Frame	11	21-Jul-16	02-Aug-16
EB-1040	Bridge Deck Construction at Pier AB4 by Typical Lifting Frame	12	31-Aug-16	14-Sep-16
EB-1050	Bridge Deck Construction at Pier AB5 by Typical Lifting Frame	10	14-Apr-16	25-Apr-16
EB-1060	Bridge Deck Construction at Portal AB6 by Typical Lifting Frame	10	28-Apr-16	10-May-16
EB-1070	Bridge Deck Construction at Pier AB7 by Special Lifting Frame	20	10-Mar-15	01-Apr-15
EB-1080	Bridge Deck Construction at Pier AB8 by Special Lifting Frame	14	02-Apr-15	22-Apr-15
EB-1090	Bridge Deck Construction at Pier AB9 by Special Lifting Frame	28	23-Apr-15	27-May-15
EB-1100	Bridge Deck Construction at Pier AB10 by Special Lifting Frame	69	28-May-15	18-Aug-15



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

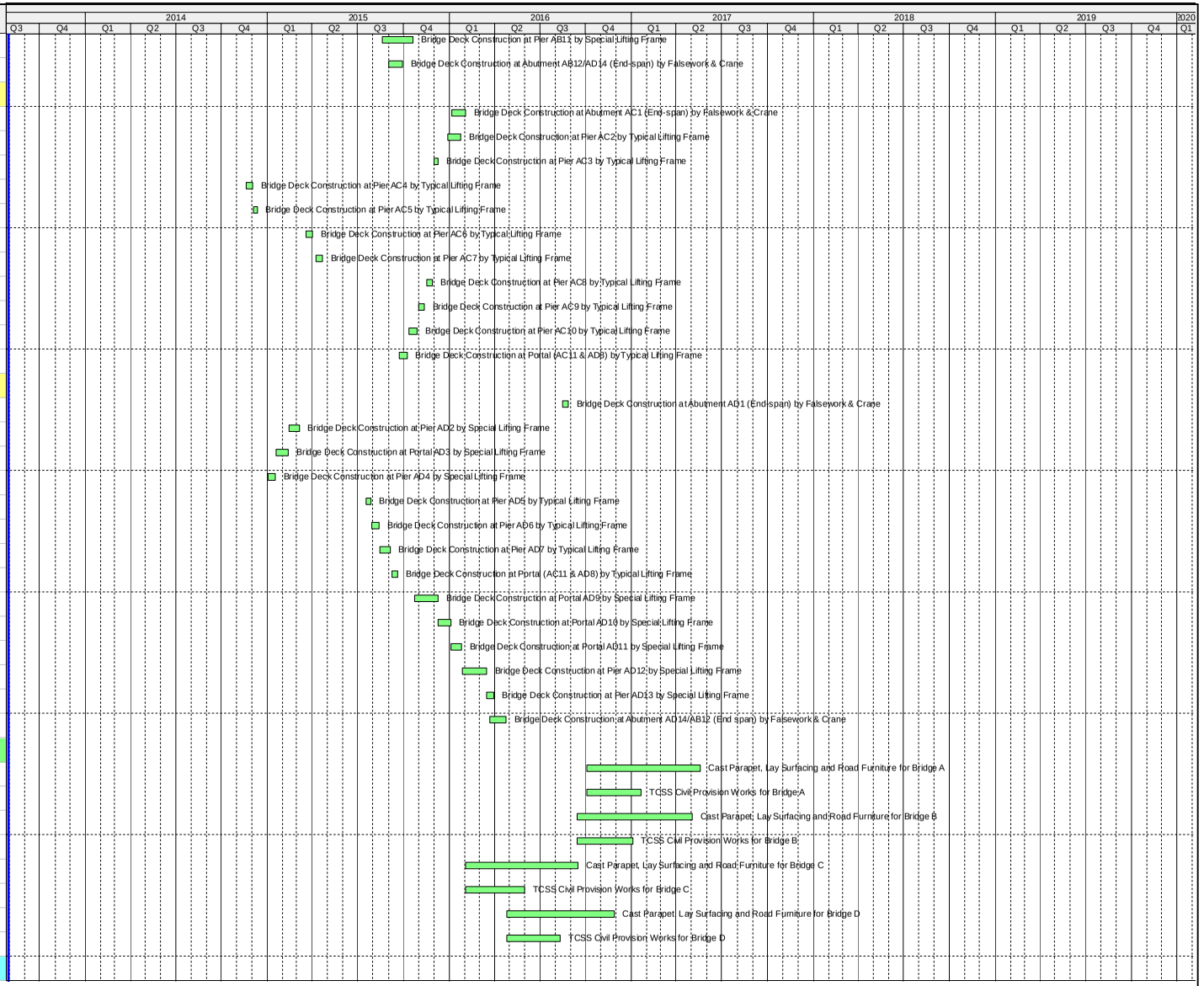
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
EB-1110	Bridge Deck Construction at Pier AB11 by Special Lifting Frame	52	19-Aug-15	20-Oct-15
EB-1120	Bridge Deck Construction at Abutment AB12/AD14 (End-span) by Falsework & Crane	24	01-Sep-15	29-Sep-15
Bridge C		355	19-Nov-14	02-Feb-16
EC-1010	Bridge Deck Construction at Abutment AC1 (End-span) by Falsework & Crane	24	06-Jan-16	02-Feb-16
EC-1020	Bridge Deck Construction at Pier AC2 by Typical Lifting Frame	22	29-Dec-15	23-Jan-16
EC-1030	Bridge Deck Construction at Pier AC3 by Typical Lifting Frame	7	02-Dec-15	09-Dec-15
EC-1040	Bridge Deck Construction at Pier AC4 by Typical Lifting Frame	12	19-Nov-14	02-Dec-14
EC-1050	Bridge Deck Construction at Pier AC5 by Typical Lifting Frame	7	05-Dec-14	12-Dec-14
EC-1060	Bridge Deck Construction at Pier AC6 by Typical Lifting Frame	12	19-Mar-15	01-Apr-15
EC-1070	Bridge Deck Construction at Pier AC7 by Typical Lifting Frame	11	09-Apr-15	21-Apr-15
EC-1080	Bridge Deck Construction at Pier AC8 by Typical Lifting Frame	12	16-Nov-15	28-Nov-15
EC-1090	Bridge Deck Construction at Pier AC9 by Typical Lifting Frame	11	31-Oct-15	12-Nov-15
EC-1100	Bridge Deck Construction at Pier AC10 by Typical Lifting Frame	14	12-Oct-15	28-Oct-15
EC-1110	Bridge Deck Construction at Portal (AC11 & AD8) by Typical Lifting Frame	12	23-Sep-15	08-Oct-15
Bridge D		483	03-Jan-15	27-Aug-16
ED-1010	Bridge Deck Construction at Abutment AD1 (End-span) by Falsework & Crane	11	16-Aug-16	27-Aug-16
ED-1020	Bridge Deck Construction at Pier AD2 by Special Lifting Frame	13	13-Feb-15	06-Mar-15
ED-1030	Bridge Deck Construction at Portal AD3 by Special Lifting Frame	22	19-Jan-15	12-Feb-15
ED-1040	Bridge Deck Construction at Pier AD4 by Special Lifting Frame	13	03-Jan-15	17-Jan-15
ED-1050	Bridge Deck Construction at Pier AD5 by Typical Lifting Frame	8	18-Jul-15	27-Jul-15
ED-1060	Bridge Deck Construction at Pier AD6 by Typical Lifting Frame	12	30-Jul-15	12-Aug-15
ED-1070	Bridge Deck Construction at Pier AD7 by Typical Lifting Frame	18	15-Aug-15	04-Sep-15
ED-1080	Bridge Deck Construction at Portal (AC11 & AD8) by Typical Lifting Frame	11	08-Sep-15	19-Sep-15
ED-1090	Bridge Deck Construction at Portal AD9 by Special Lifting Frame	40	24-Oct-15	09-Dec-15
ED-1100	Bridge Deck Construction at Portal AD10 by Special Lifting Frame	19	10-Dec-15	04-Jan-16
ED-1110	Bridge Deck Construction at Portal AD11 by Special Lifting Frame	19	05-Jan-16	26-Jan-16
ED-1120	Bridge Deck Construction at Pier AD12 by Special Lifting Frame	36	27-Jan-16	15-Mar-16
ED-1130	Bridge Deck Construction at Pier AD13 by Special Lifting Frame	11	16-Mar-16	31-Mar-16
ED-1140	Bridge Deck Construction at Abutment AD14/AB12 (End span) by Falsework & Crane	24	23-Mar-16	23-Apr-16
Civil Provision Works		373	03-Feb-16	19-May-17
C-1000	Cast Parapet, Lay Surfacing and Road Furniture for Bridge A	180	03-Oct-16	19-May-17
C-1010	TCSS Civil Provision Works for Bridge A	90	03-Oct-16	20-Jan-17
C-2000	Cast Parapet, Lay Surfacing and Road Furniture for Bridge B	180	14-Sep-16	02-May-17
C-2010	TCSS Civil Provision Works for Bridge B	90	14-Sep-16	04-Jan-17
C-3000	Cast Parapet, Lay Surfacing and Road Furniture for Bridge C	180	03-Feb-16	15-Sep-16
C-3010	TCSS Civil Provision Works for Bridge C	90	03-Feb-16	31-May-16
C-4000	Cast Parapet, Lay Surfacing and Road Furniture for Bridge D	180	25-Apr-16	28-Nov-16
C-4010	TCSS Civil Provision Works for Bridge D	90	25-Apr-16	11-Aug-16
Section VI - Works in Portion FH9 (KD-6A)		430	01-Nov-14	23-Apr-16



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

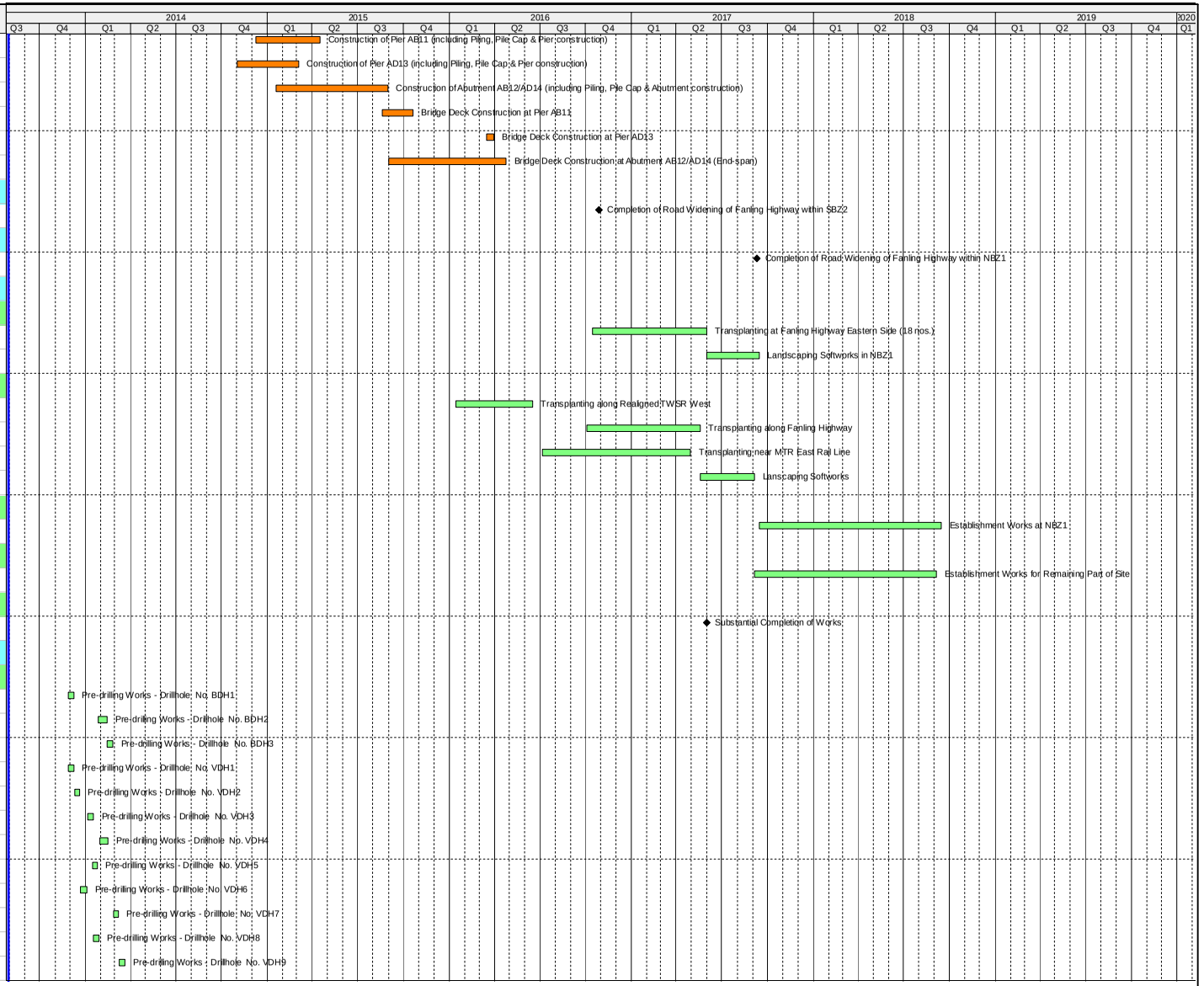
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
S6-1000	Construction of Pier AB11 (including Piling, Pile Cap & Pier construction)	98	09-Dec-14	16-Apr-15
S6-1010	Construction of Pier AD13 (including Piling, Pile Cap & Pier construction)	98	01-Nov-14	05-Mar-15
S6-1020	Construction of Abutment AB12/AD14 (including Piling, Pile Cap & Abutment construction)	179	19-Jan-15	31-Aug-15
S6-1030	Bridge Deck Construction at Pier AB11	52	19-Aug-15	20-Oct-15
S6-1040	Bridge Deck Construction at Pier AD13	11	16-Mar-16	31-Mar-16
S6-1050	Bridge Deck Construction at Abutment AB12/AD14 (End-span)	187	01-Sep-15	23-Apr-16
Stage S4 - Completion of Road Widening (SBZ2) and to Allow Access for HY/2(		0	27-Oct-16	27-Oct-16
SS4-1000	Completion of Road Widening of Fanling Highway within SBZ2	0		27-Oct-16
Stage N4 - Completion of Road Widening (NBZ1) and to Allow Access for HY/2		0	09-Sep-17	09-Sep-17
SN4-1000	Completion of Road Widening of Fanling Highway within NBZ1	0		09-Sep-17
Landscaping & Establishment Works (KD-4, 4A, 5, 5A, 6)		974	15-Jan-16	14-Sep-18
Secton IIIA - Landscaping Softworks in NBZ1		270	15-Oct-16	14-Sep-17
S3A-1000	Transplanting at Fanling Highway Eastern Side (18 nos.)	180	15-Oct-16	31-May-17
S3A-1010	Landscaping Softworks in NBZ1	90	01-Jun-17	14-Sep-17
Secton III - Remainder of Landscaping Softworks Not Included in Secton IIIA		479	15-Jan-16	04-Sep-17
S3-1000	Transplanting along Realigned TWSR West	120	15-Jan-16	17-Jun-16
S3-1010	Transplanting along Fanling Highway	180	03-Oct-16	19-May-17
S3-1020	Transplanting near MTR East Rail Line	240	06-Jul-16	29-Apr-17
S3-1030	Lanscaping Softworks	90	19-May-17	04-Sep-17
Establishment Works for Landscape Softworks under Section IIIA		365	15-Sep-17	14-Sep-18
S4A-1000	Establishment Works at NBZ1	365	15-Sep-17	14-Sep-18
Establishment Works for Landscape Softworks under Section III		365	04-Sep-17	04-Sep-18
S4-1000	Establishment Works for Remaining Part of Site	365	04-Sep-17	04-Sep-18
Preservation and Protection of Trees		0	31-May-17	31-May-17
S5-1000	Substantial Completion of Works	0		31-May-17
Section VII - All Geotechnical Fieldworks & All Associated Laboratory Tests (K		109	28-Nov-13	15-Apr-14
Installation of Geotechnical Instruments / Ground Investigation		103	28-Nov-13	08-Apr-14
S7-1000	Pre-drilling Works - Drillhole No. BDH1	10	28-Nov-13	09-Dec-13
S7-1010	Pre-drilling Works - Drillhole No. BDH2	10	27-Jan-14	13-Feb-14
S7-1020	Pre-drilling Works - Drillhole No. BDH3	10	14-Feb-14	25-Feb-14
S7-1030	Pre-drilling Works - Drillhole No. VDH1	10	28-Nov-13	09-Dec-13
S7-1040	Pre-drilling Works - Drillhole No. VDH2	10	10-Dec-13	20-Dec-13
S7-1050	Pre-drilling Works - Drillhole No. VDH3	10	06-Jan-14	16-Jan-14
S7-1060	Pre-drilling Works - Drillhole No. VDH4	10	29-Jan-14	15-Feb-14
S7-1070	Pre-drilling Works - Drillhole No. VDH5	10	15-Jan-14	25-Jan-14
S7-1080	Pre-drilling Works - Drillhole No. VDH6	10	21-Dec-13	04-Jan-14
S7-1090	Pre-drilling Works - Drillhole No. VDH7	10	26-Feb-14	08-Mar-14
S7-1100	Pre-drilling Works - Drillhole No. VDH8	10	17-Jan-14	28-Jan-14
S7-1110	Pre-drilling Works - Drillhole No. VDH9	10	10-Mar-14	20-Mar-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

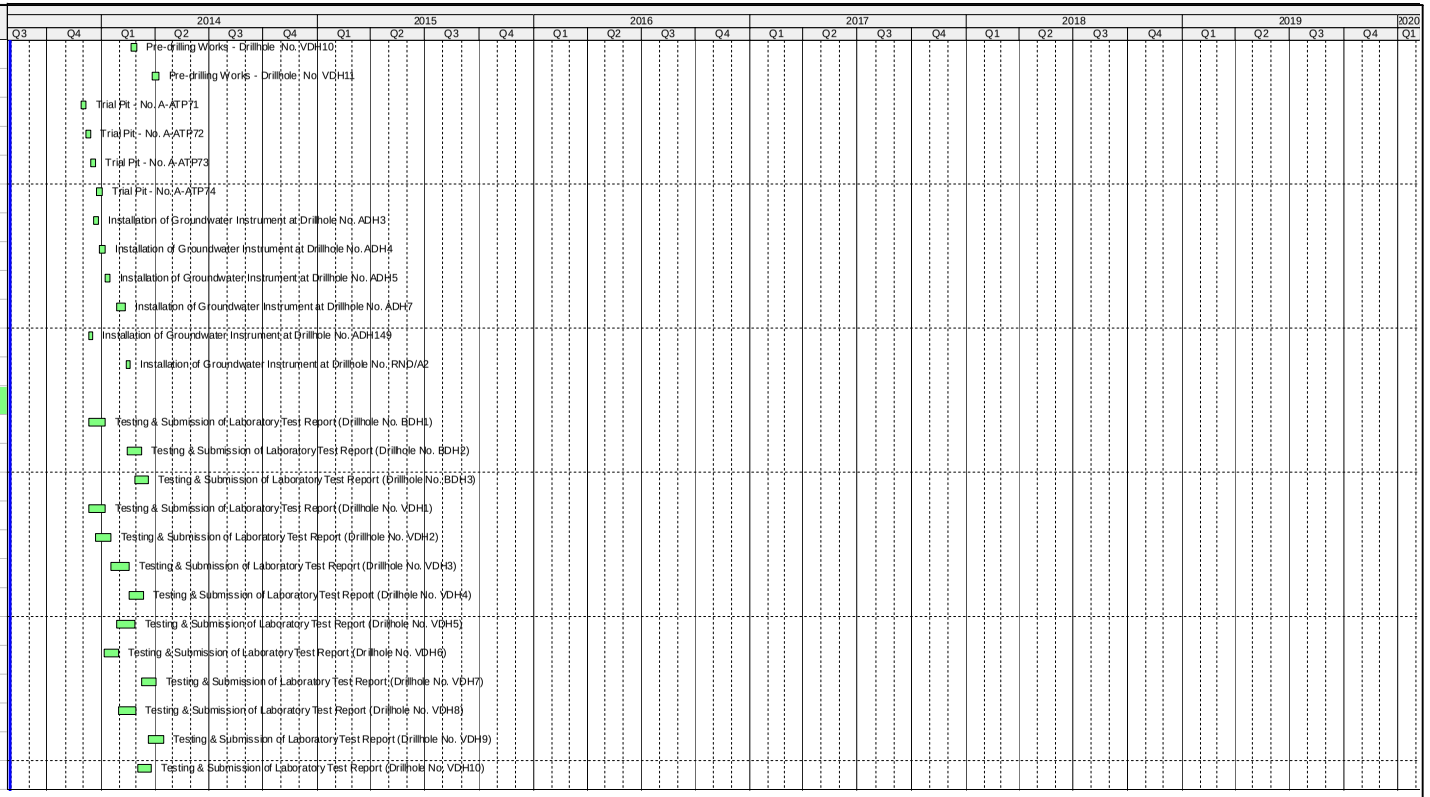
CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

Date	Revision	Checked	Approved
23-Oct-13		DW	

Activity ID	Activity Name	OD	Start	Finish
S7-1120	Pre-drilling Works - Drillhole No. VDH10	10	19-Feb-14	01-Mar-14
S7-1130	Pre-drilling Works - Drillhole No. VDH11	10	27-Mar-14	08-Apr-14
S7-2000	Trial Pit - No. A-ATP71	7	28-Nov-13	05-Dec-13
S7-2010	Trial Pit - No. A-ATP72	7	06-Dec-13	13-Dec-13
S7-2020	Trial Pit - No. A-ATP73	7	14-Dec-13	21-Dec-13
S7-2030	Trial Pit - No. A-ATP74	7	23-Dec-13	02-Jan-14
S7-3000	Installation of Groundwater Instrument at Drillhole No. ADH3	7	18-Dec-13	27-Dec-13
S7-3010	Installation of Groundwater Instrument at Drillhole No. ADH4	7	28-Dec-13	06-Jan-14
S7-3020	Installation of Groundwater Instrument at Drillhole No. ADH5	7	07-Jan-14	14-Jan-14
S7-3030	Installation of Groundwater Instrument at Drillhole No. ADH7	7	27-Jan-14	10-Feb-14
S7-3040	Installation of Groundwater Instrument at Drillhole No. ADH149	7	10-Dec-13	17-Dec-13
S7-3050	Installation of Groundwater Instrument at Drillhole No. RND/A2	7	11-Feb-14	18-Feb-14
Submission of Laboratory Tests		99	10-Dec-13	15-Apr-14
S7-5000	Testing & Submission of Laboratory Test Report (Drillhole No. BDH1)	21	10-Dec-13	06-Jan-14
S7-5010	Testing & Submission of Laboratory Test Report (Drillhole No. BDH2)	21	14-Feb-14	10-Mar-14
S7-5020	Testing & Submission of Laboratory Test Report (Drillhole No. BDH3)	21	26-Feb-14	21-Mar-14
S7-5030	Testing & Submission of Laboratory Test Report (Drillhole No. VDH1)	21	10-Dec-13	06-Jan-14
S7-5040	Testing & Submission of Laboratory Test Report (Drillhole No. VDH2)	21	21-Dec-13	17-Jan-14
S7-5050	Testing & Submission of Laboratory Test Report (Drillhole No. VDH3)	21	17-Jan-14	17-Feb-14
S7-5060	Testing & Submission of Laboratory Test Report (Drillhole No. VDH4)	21	17-Feb-14	12-Mar-14
S7-5070	Testing & Submission of Laboratory Test Report (Drillhole No. VDH5)	21	27-Jan-14	26-Feb-14
S7-5080	Testing & Submission of Laboratory Test Report (Drillhole No. VDH6)	21	06-Jan-14	29-Jan-14
S7-5090	Testing & Submission of Laboratory Test Report (Drillhole No. VDH7)	21	10-Mar-14	02-Apr-14
S7-5100	Testing & Submission of Laboratory Test Report (Drillhole No. VDH8)	21	29-Jan-14	28-Feb-14
S7-5110	Testing & Submission of Laboratory Test Report (Drillhole No. VDH9)	21	21-Mar-14	15-Apr-14
S7-5120	Testing & Submission of Laboratory Test Report (Drillhole No. VDH10)	21	03-Mar-14	26-Mar-14



俊和建築工程有限公司
CHUN WO CONSTRUCTION & ENGINEERING CO., LTD.

Actual Work
Remaining Work
Summary Bar
Critical Remaining Work
Milestone

CEDD Contract No. CV/2012/09

Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Initial Works Programme Rev 2

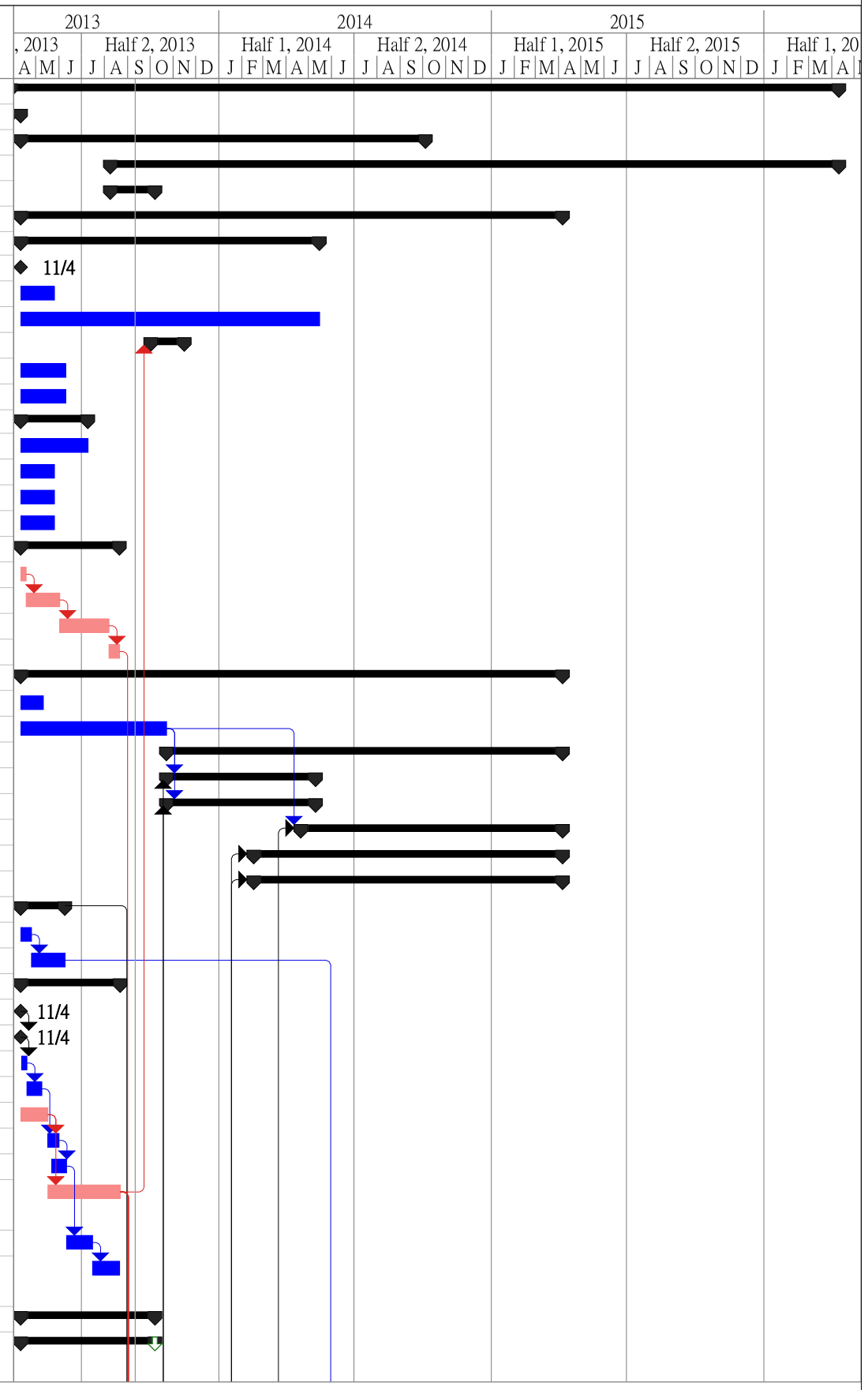
Date	Revision	Checked	Approved
23-Oct-13		DW	

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*



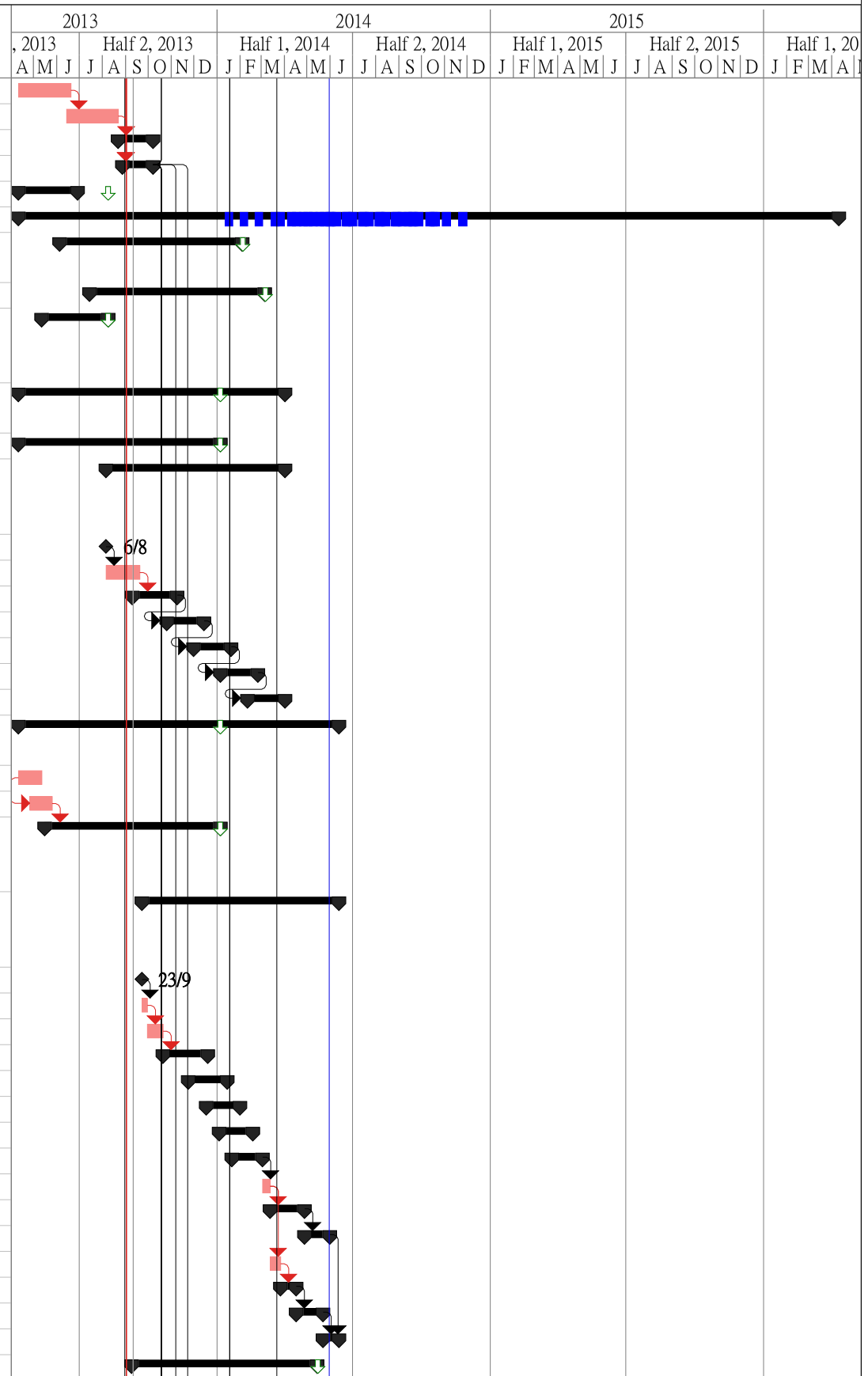
Revision: 1

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**



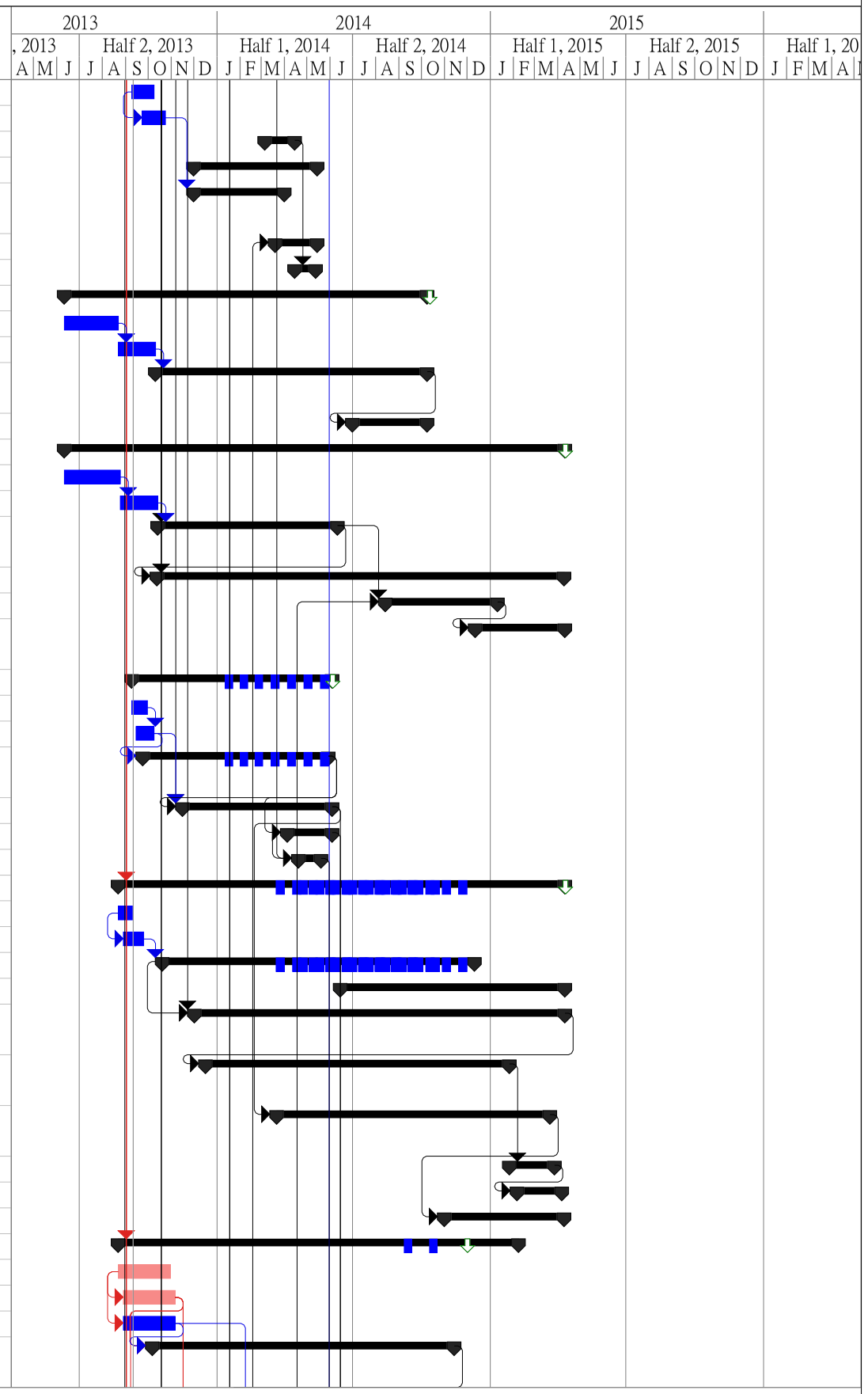
Revision: 1

Task | 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

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



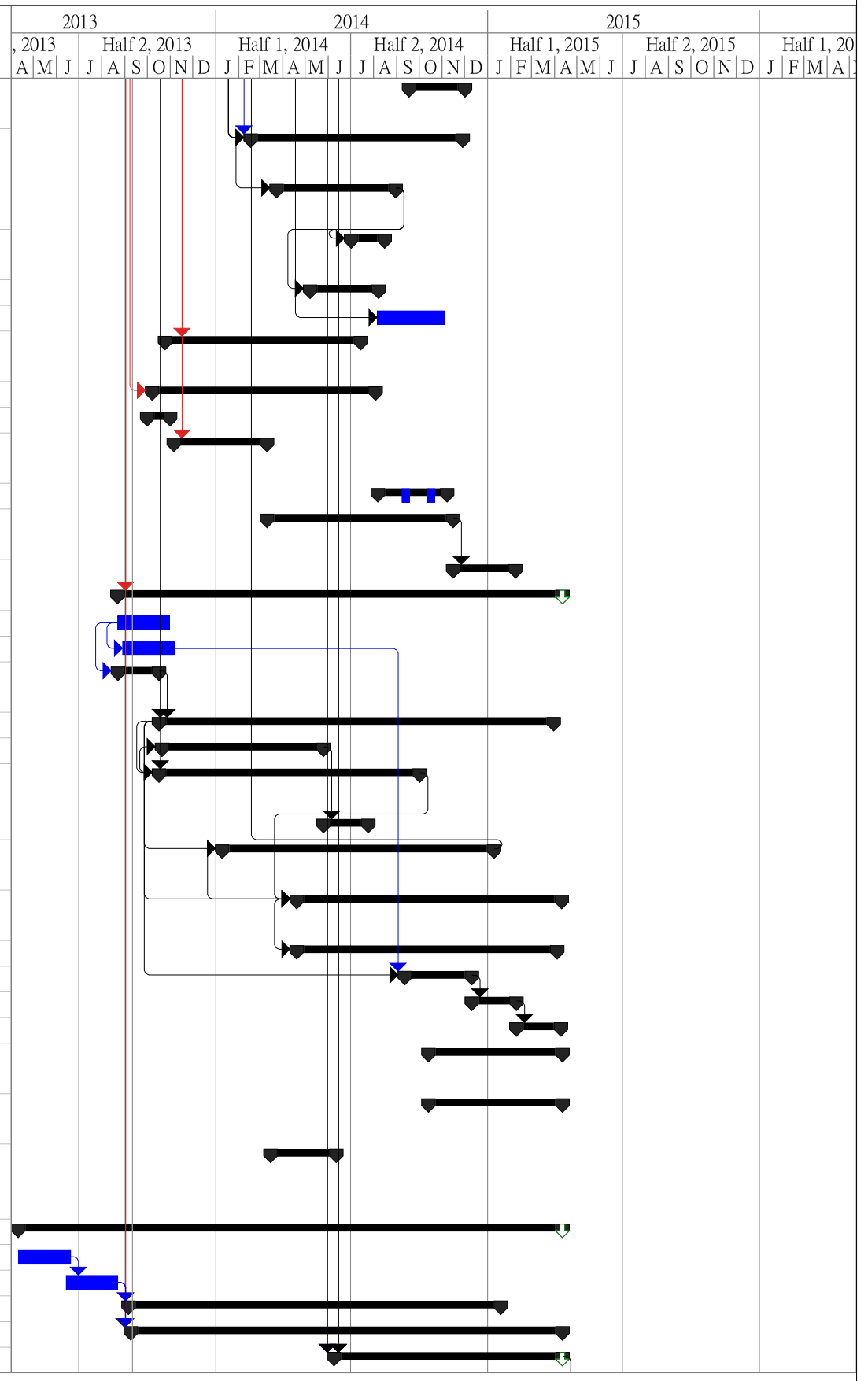
Revision: 1

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***



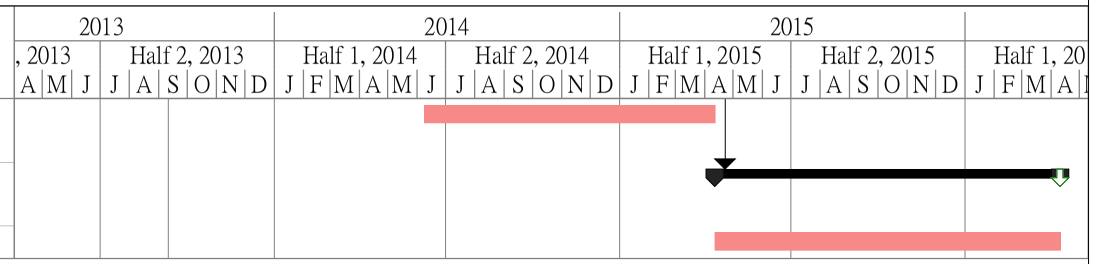
Revision: 1

Task	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

Works Programme (Rev.1)

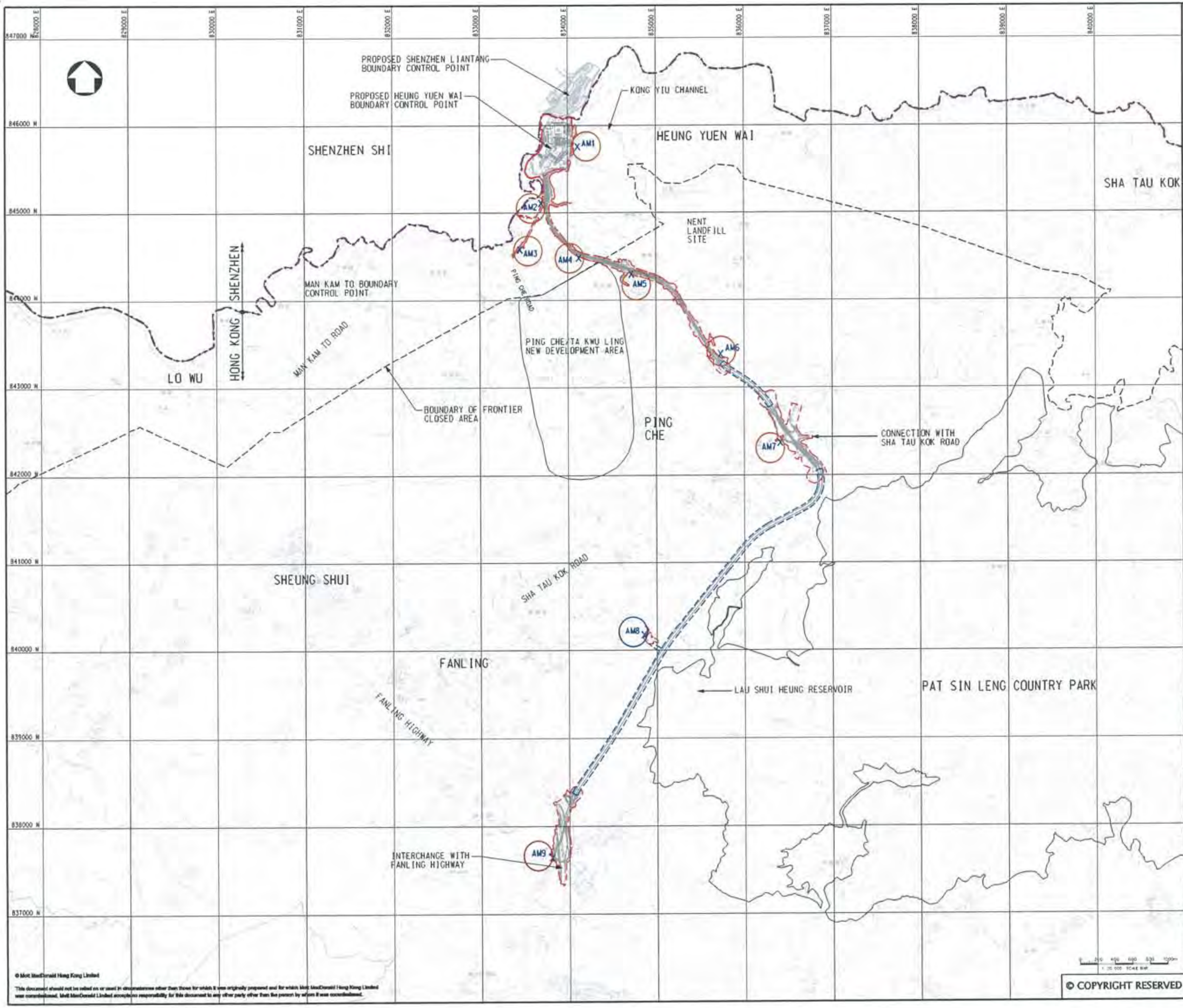
ID	WBS	Task Name	Duration	Start	Finish	Critical
2284	*4.14.1*	*Landscape Soft works in all Portions of the Site (including transplant trees to permanent locations)*	*307 days*	*Mon 9/6/14*	*Sat 11/4/15*	*Yes*
2285	***4.15***	***Section XVI of the Works - Establishment works for landscape soft works***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

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

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

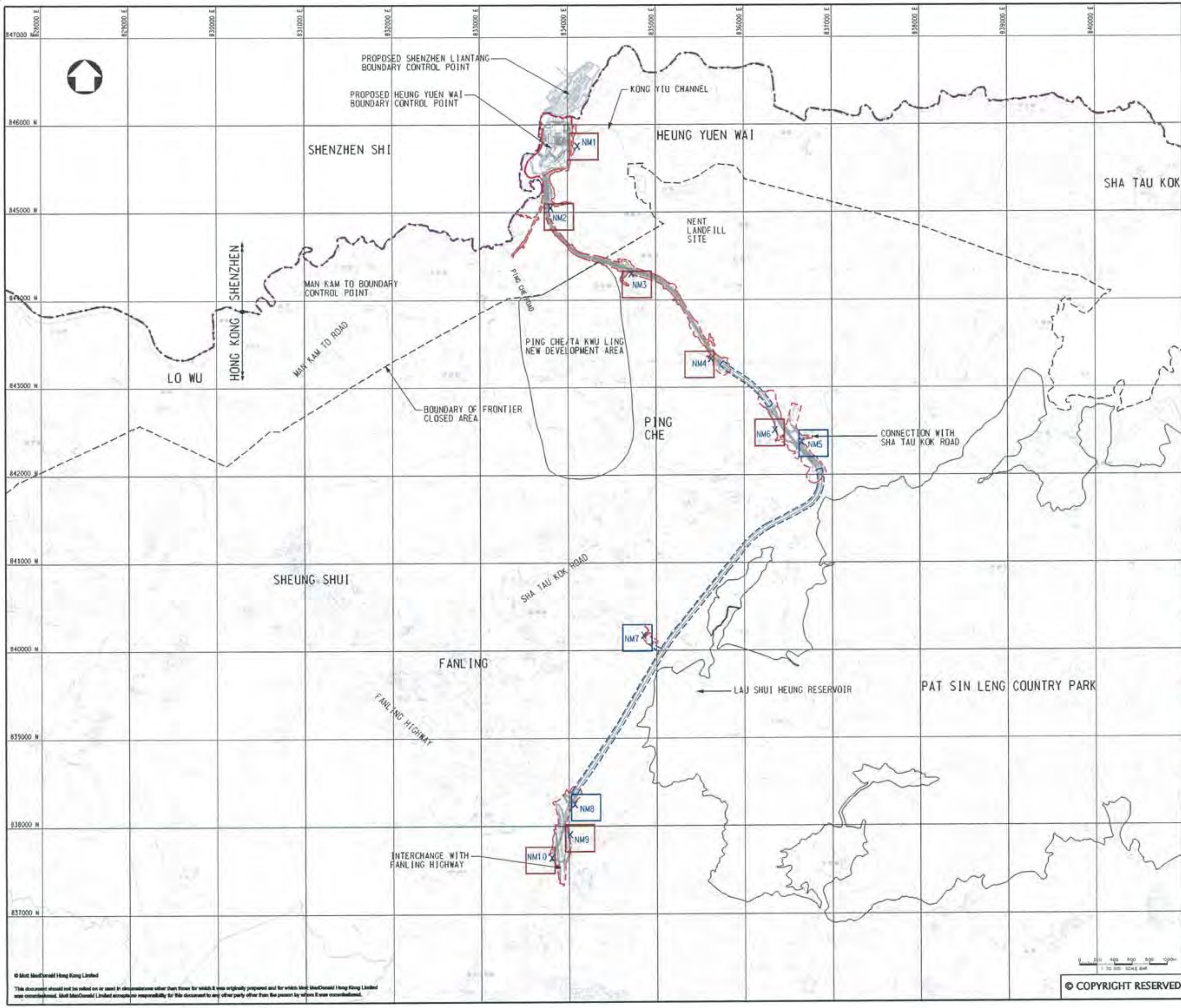
Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

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



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

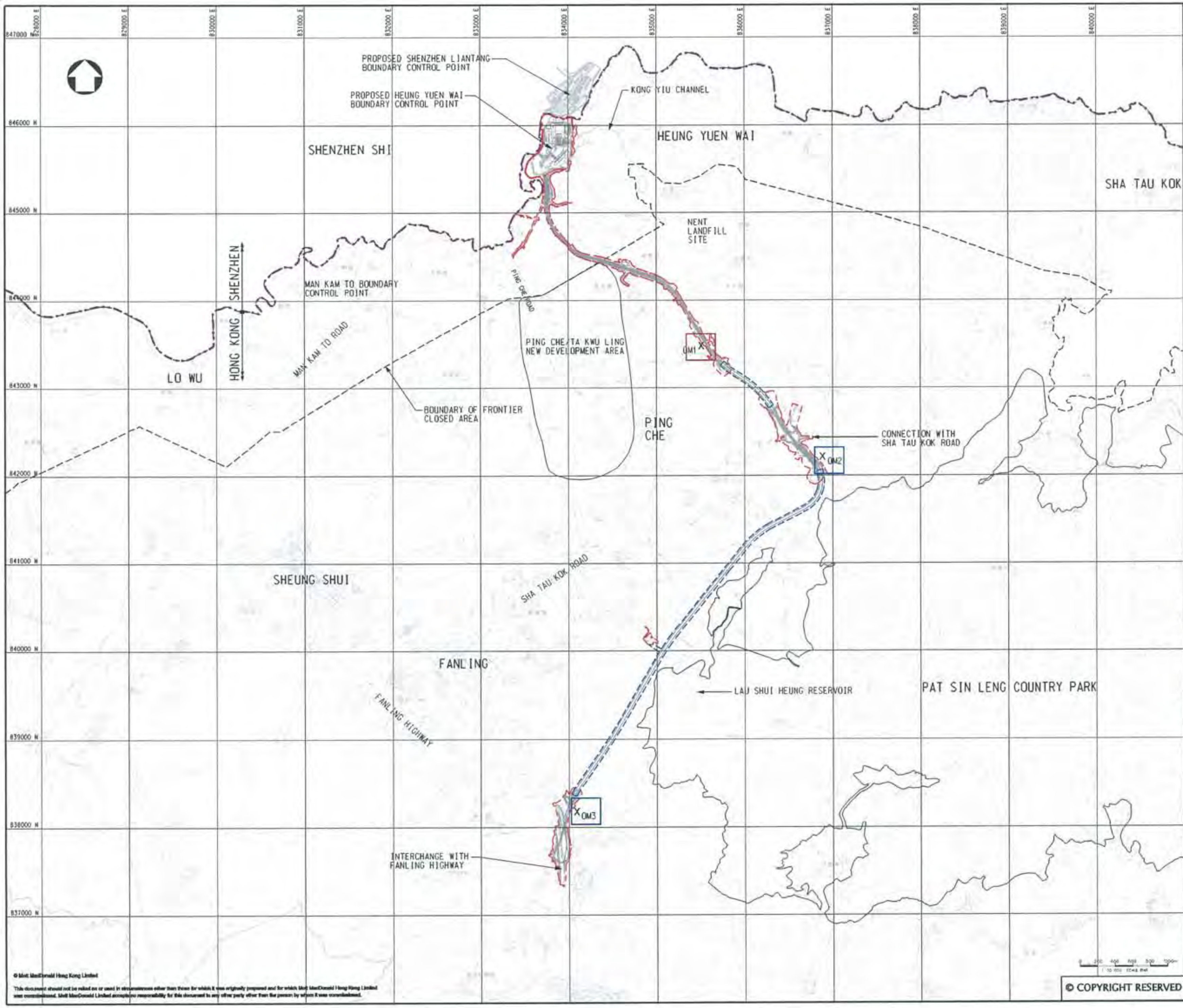
Mott MacDonald

Client: 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		



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

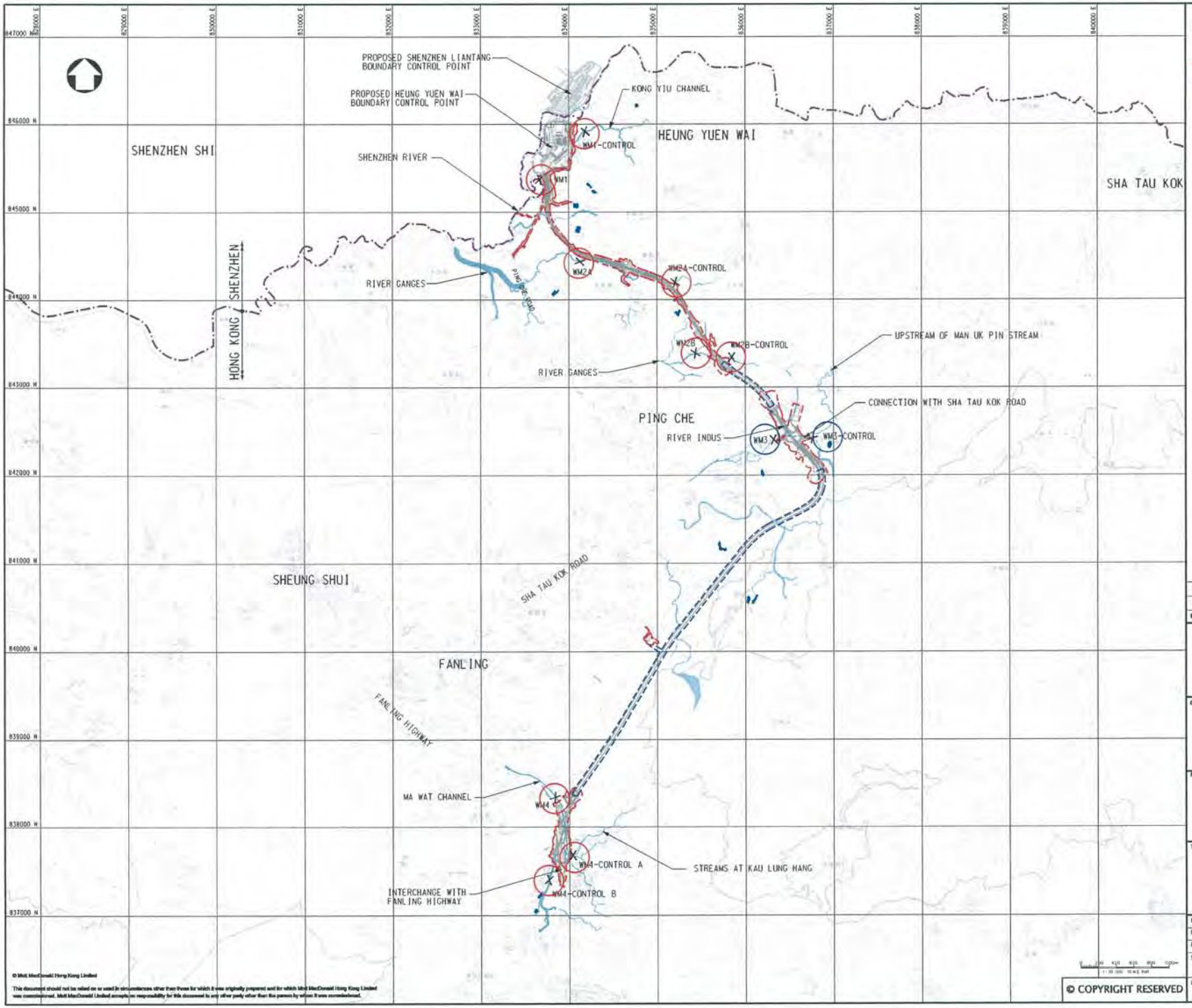
Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

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 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

Mott MacDonald

Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

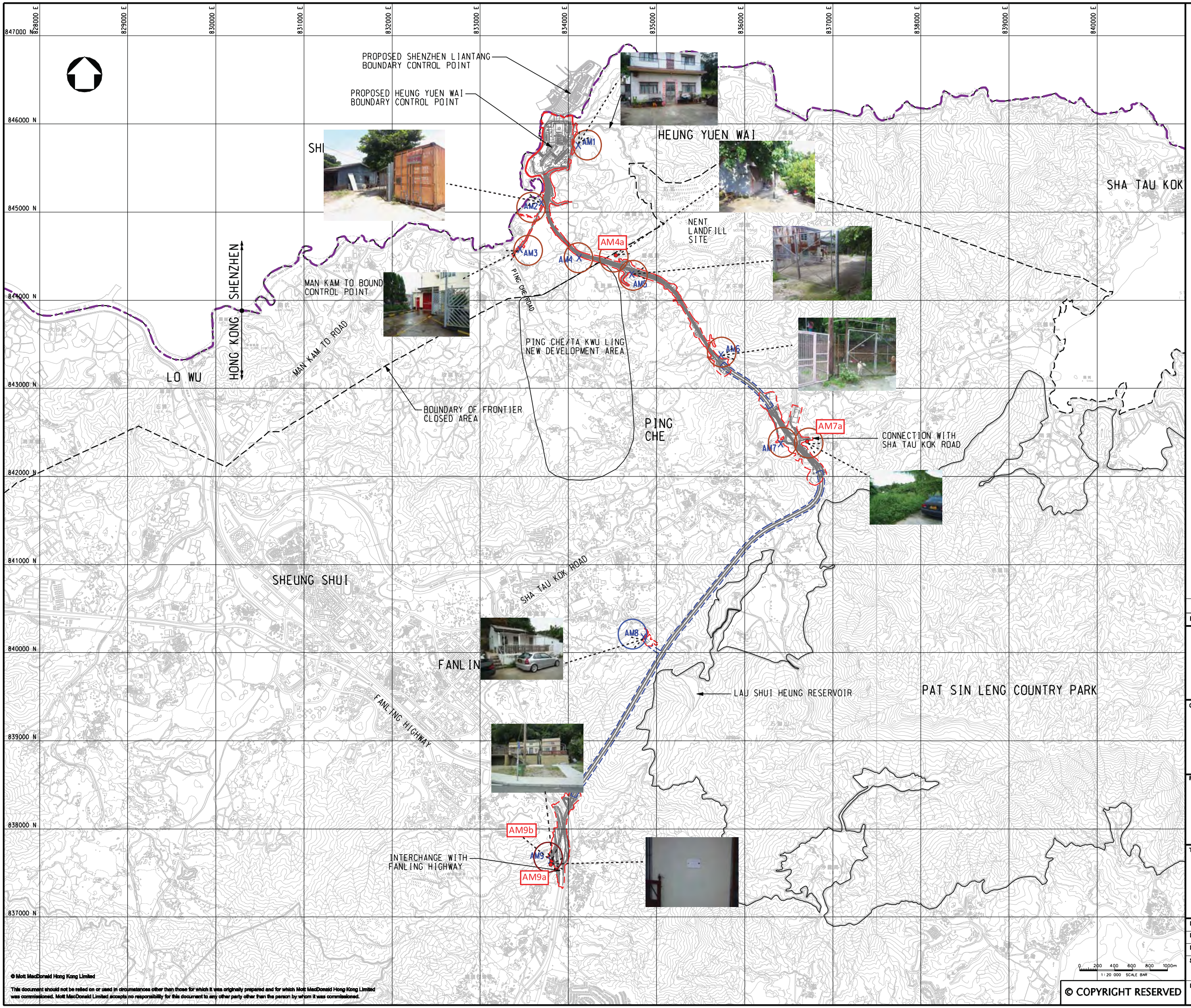
Project: AGREEMENT NO. CE45/2008(CE) LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS

Title: 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



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

Mott MacDonald
20/F Two Landmark East
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W www.mottmac.com.hk

Client

CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

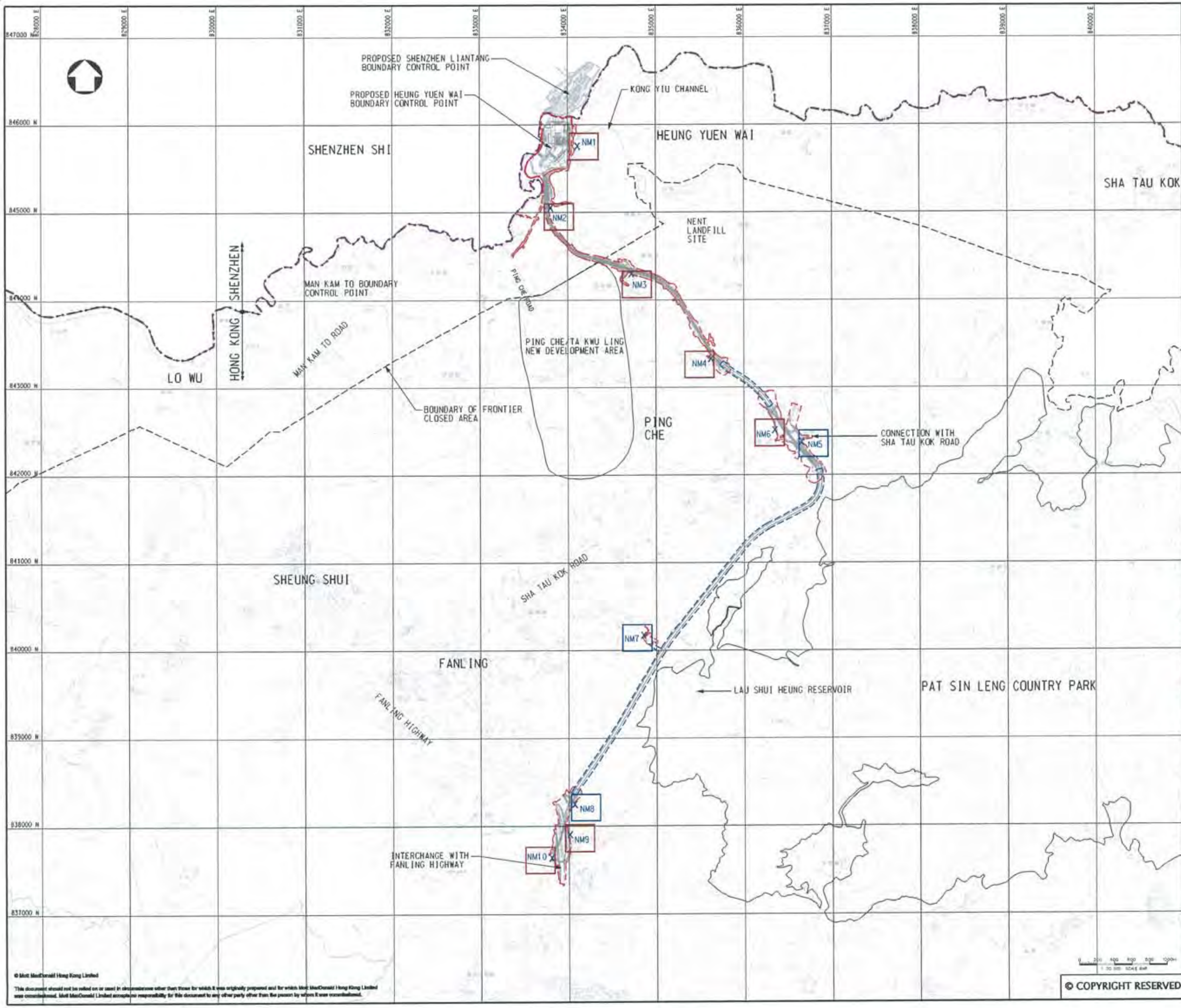
Project

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	MING		Coordination	EC	
Dwg.Chk.	DC		Approved	HT	
Scale at A1	1:20000	Project	255228		Status PRE
		CAD file	j:\255228\report\env\em&a\00083\FIG 2-1.dgn		
Drawing No	FIGURE 2.1				Rev P1



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

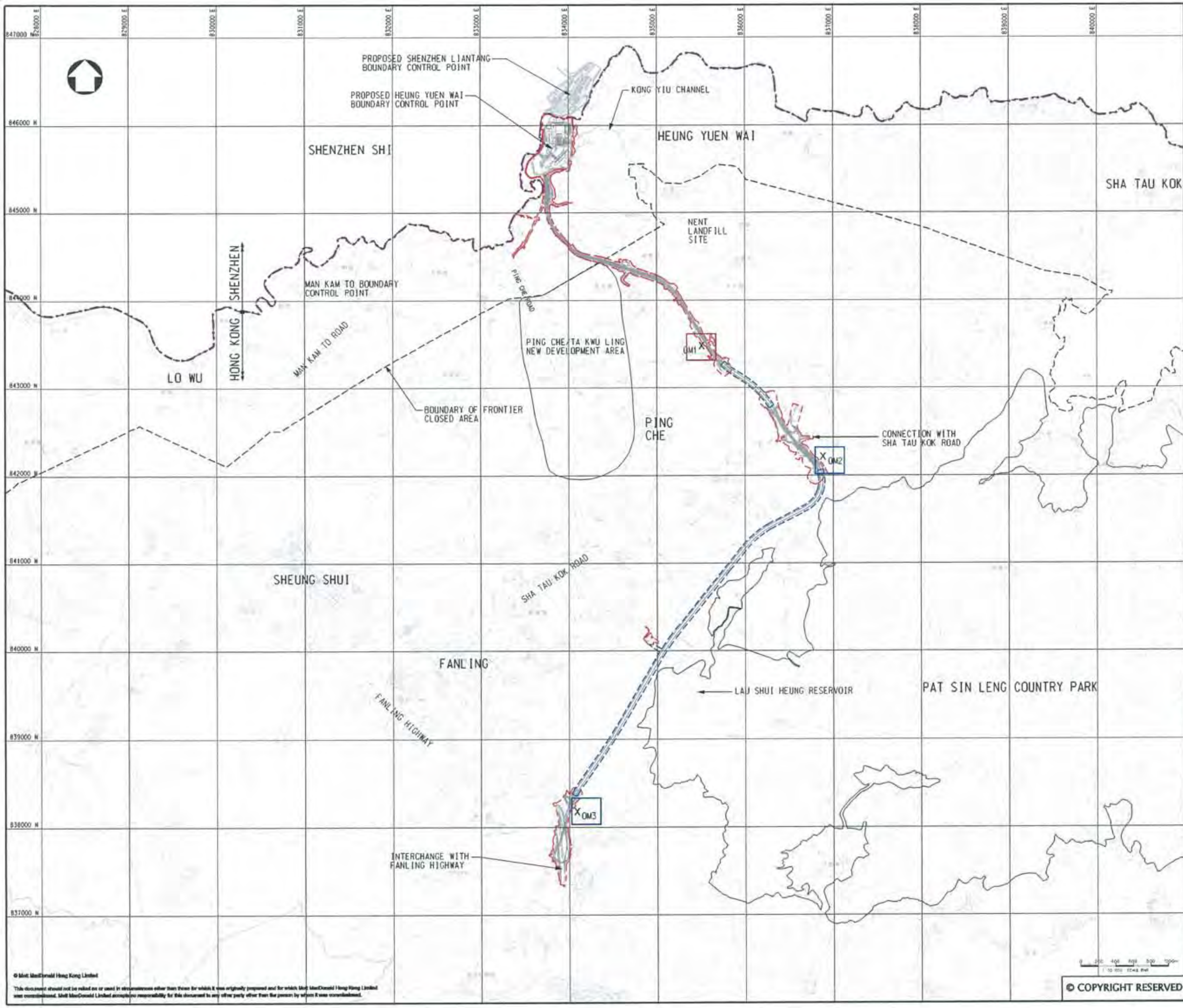
Mott MacDonald

Client: CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

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

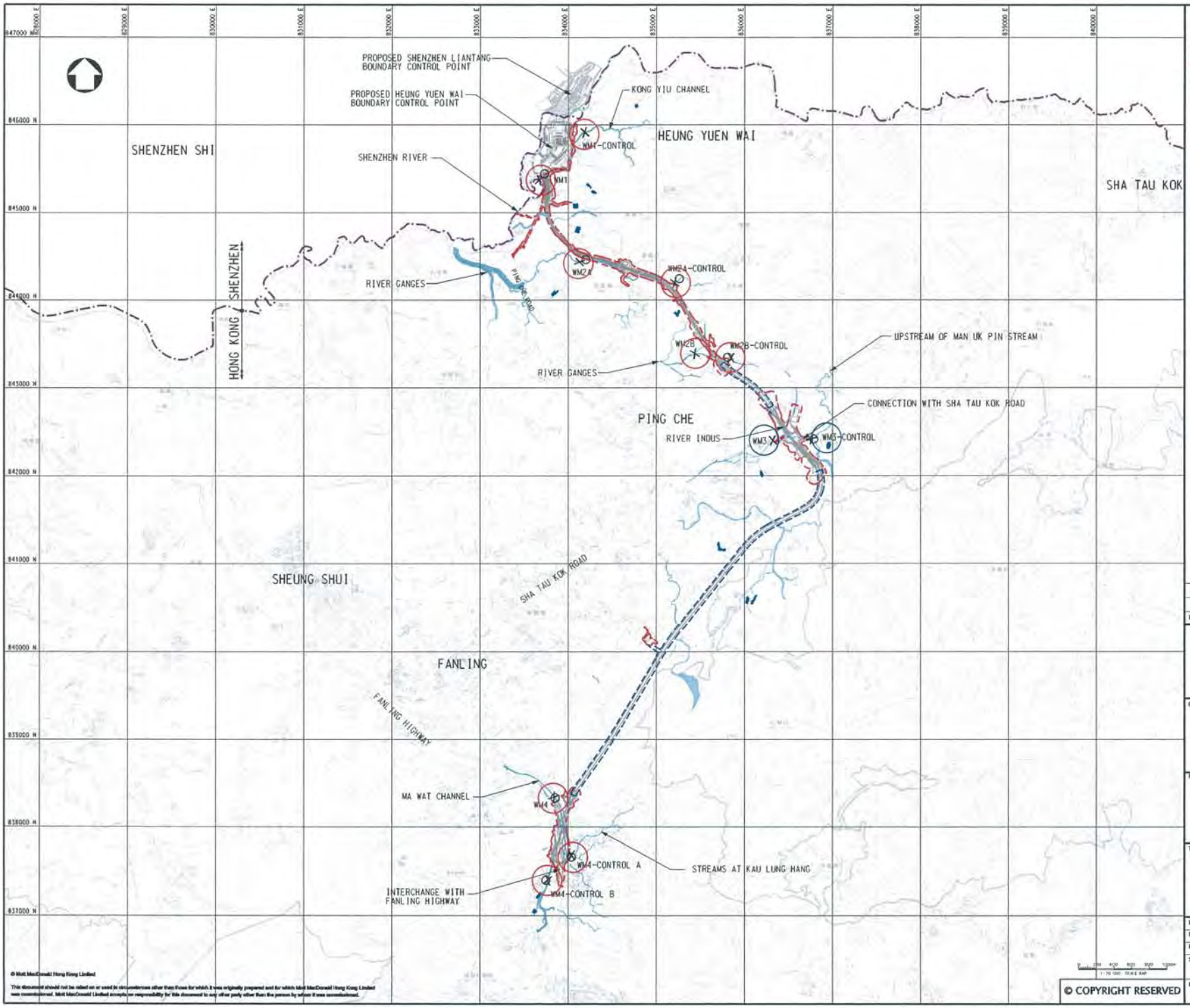
Mott MacDonald

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 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		Location found during site visit – Coordinates	
	Easting	Northing	Easting	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

Mott MacDonald
35/F Two Landmark East
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong
t +852 3638 8787
f +852 3607 1825
w www.mottmac.com.hk

Client

CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

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

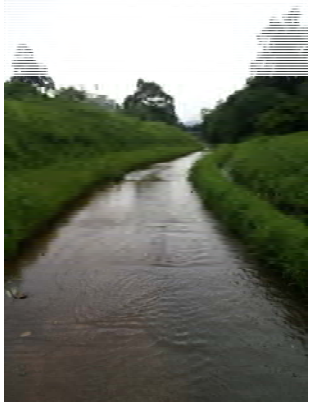
Title

LOCATIONS OF PROPOSED WATER QUALITY MONITORING STATIONS

Designed	HC		Eng.Chk.	EC	
Drawn	MING		Coordination	EC	
Dwg.Chk.	HC		Approved	HT	
Scale at A1	1:20000	Project	255228	Status	PRE
		CAD file	A1\255228\REPORT\EMY-EM&A MANUAL\FIG 4-1.dgn		
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 F

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.

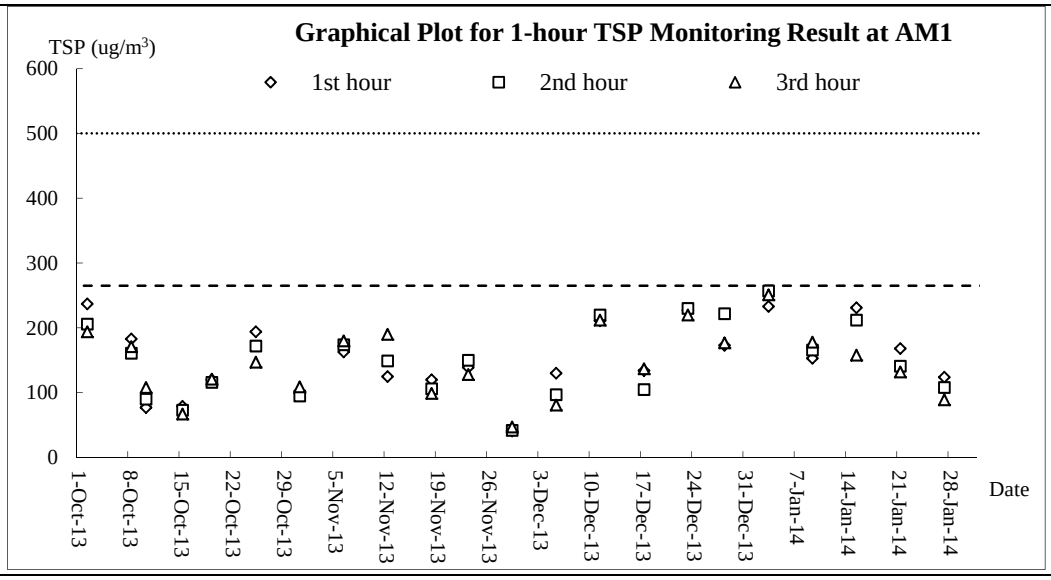
Event and Action Plan for Water Quality

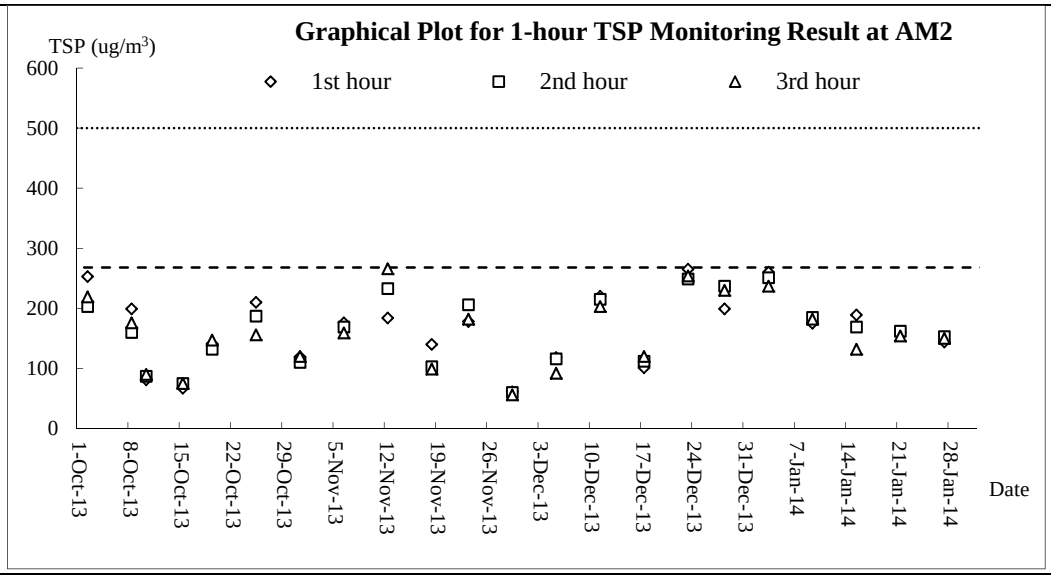
EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify reasons for non-compliance and sources of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working 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; 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.	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; 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.

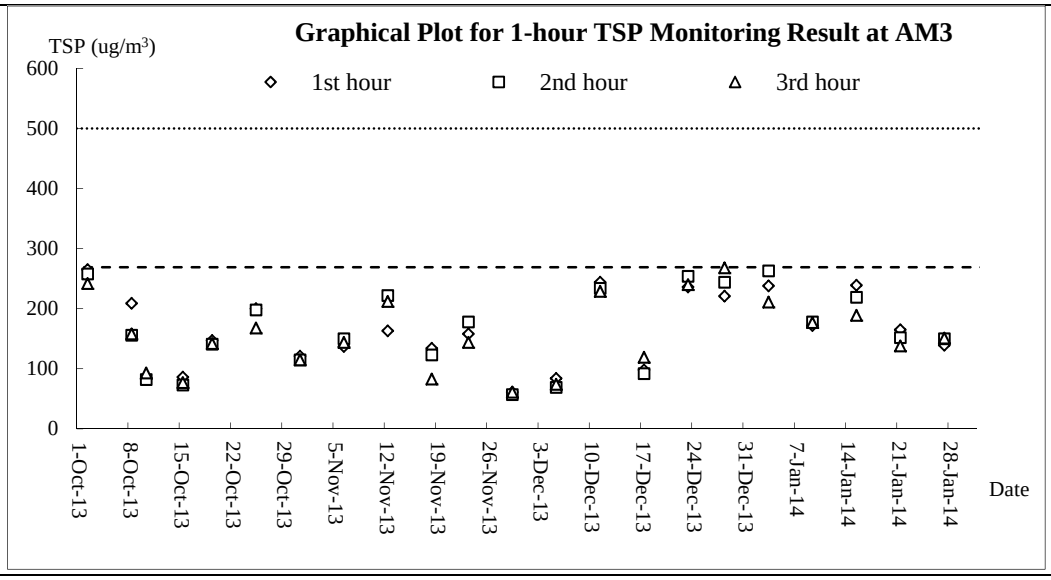
Appendix G

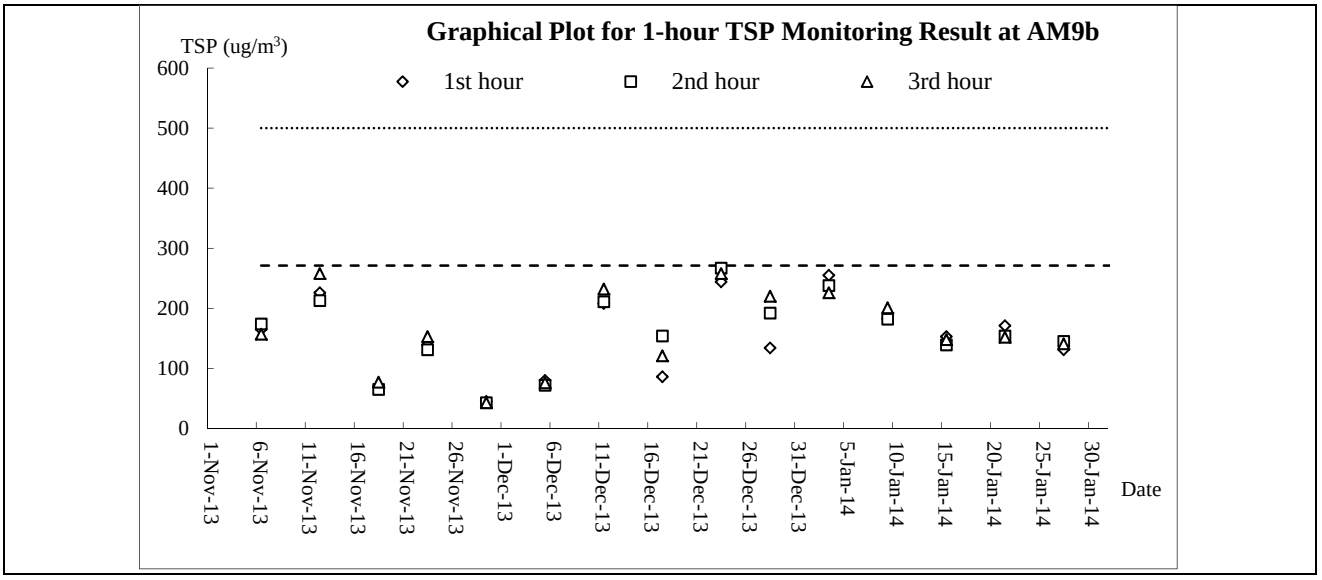
Graphical Plots for Monitoring Result

Air Quality – 1-hour TSP

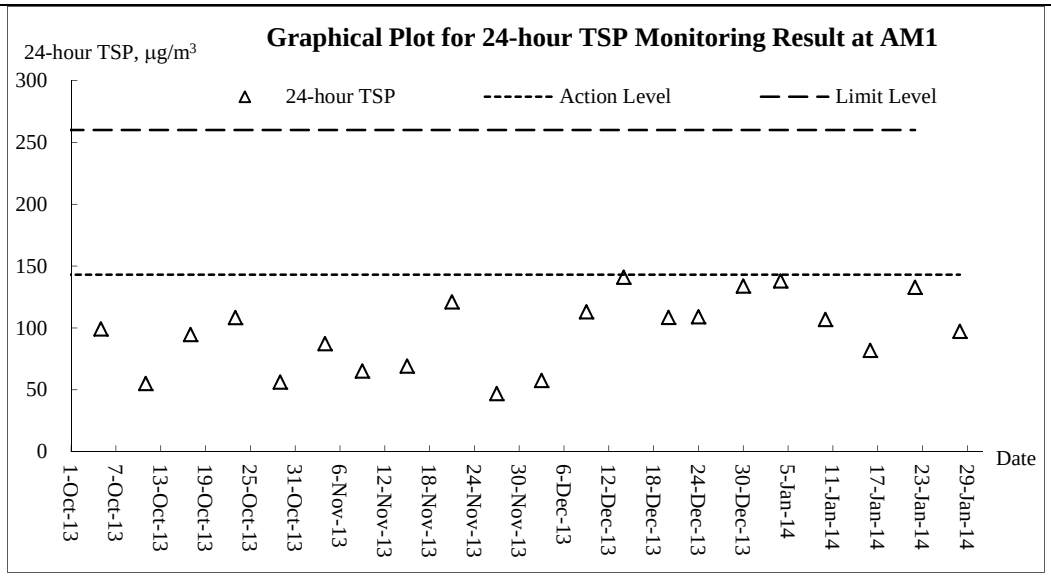


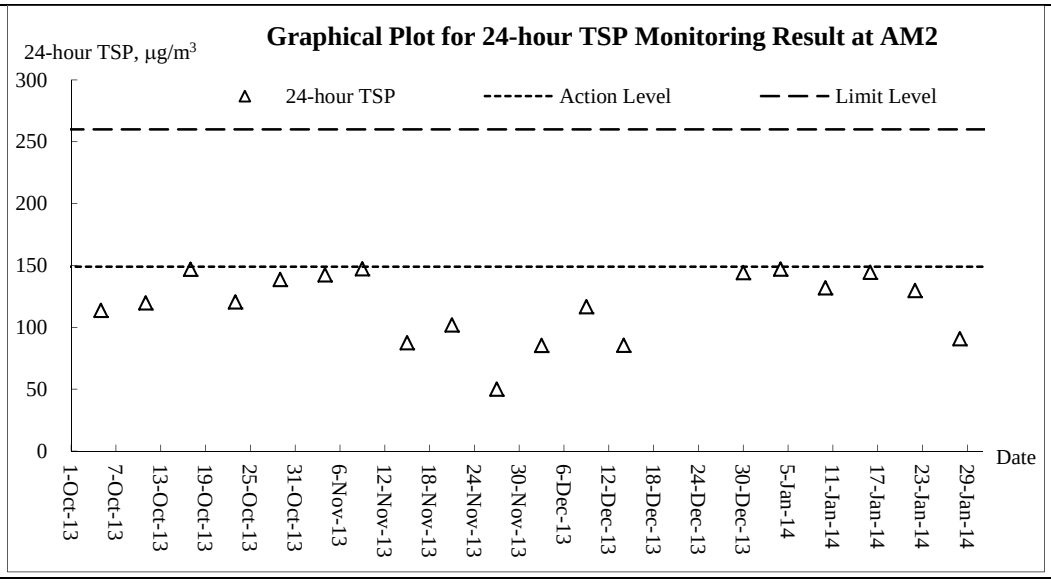


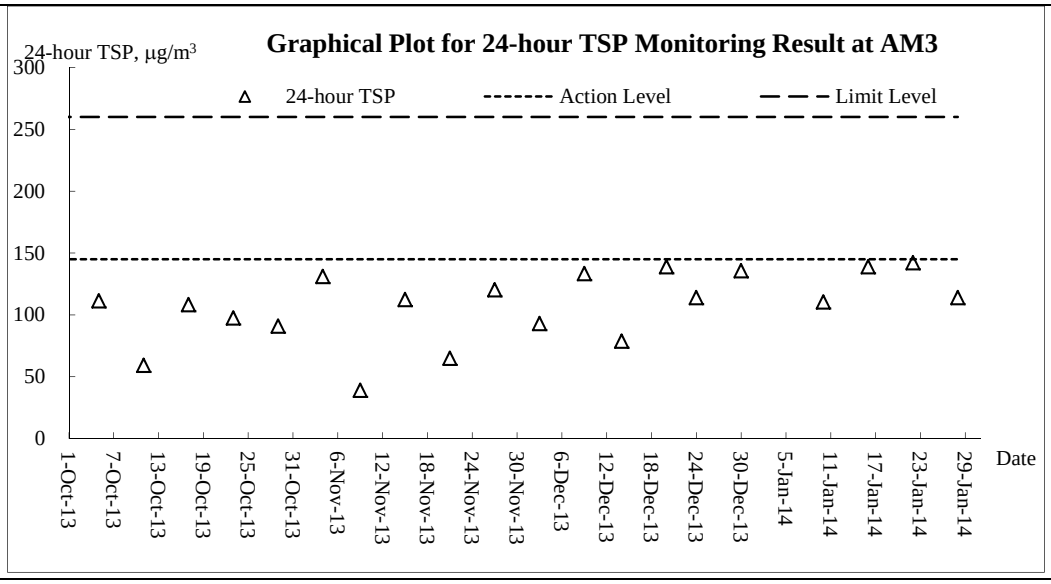


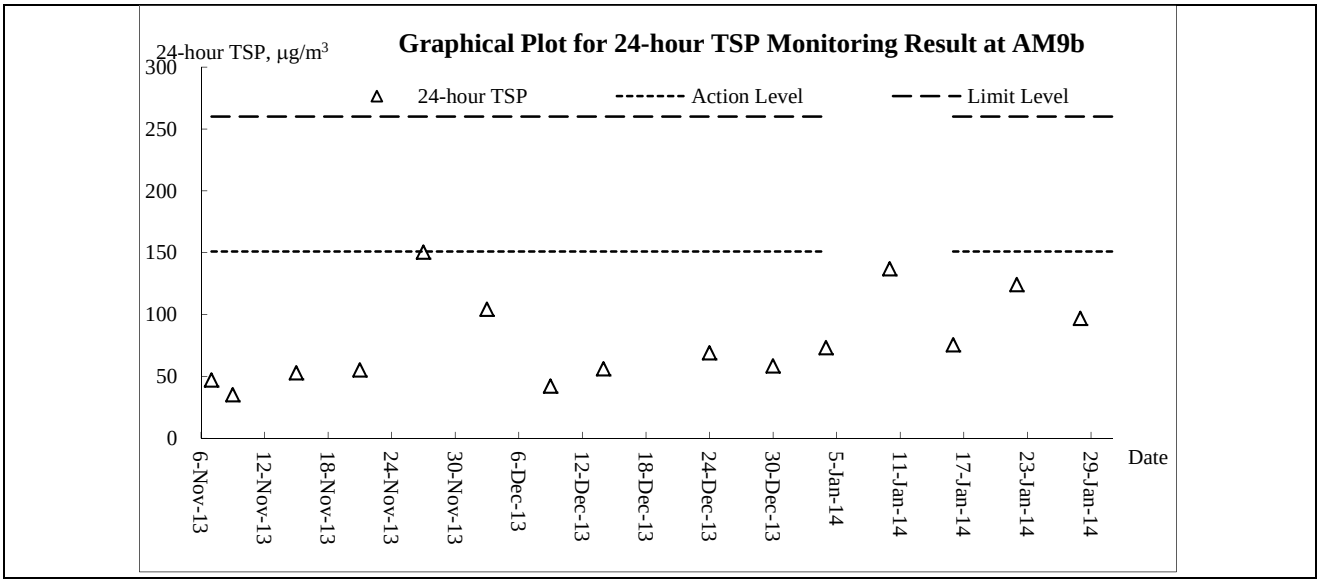

Graphical Plot for 1-hour TSP Monitoring Result at AM9b
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Nov-13
6-Nov-13
11-Nov-13
16-Nov-13
21-Nov-13
26-Nov-13
1-Dec-13
6-Dec-13
11-Dec-13
16-Dec-13
21-Dec-13
26-Dec-13
31-Dec-13
5-Jan-14
10-Jan-14
15-Jan-14
20-Jan-14
25-Jan-14
30-Jan-14
Date

Air Quality – 24-hour TSP

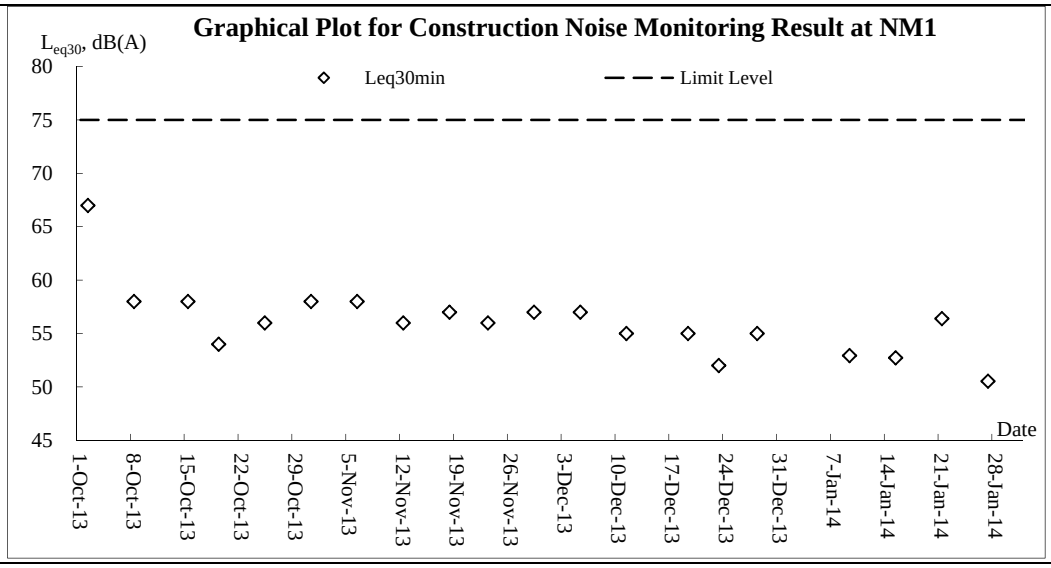


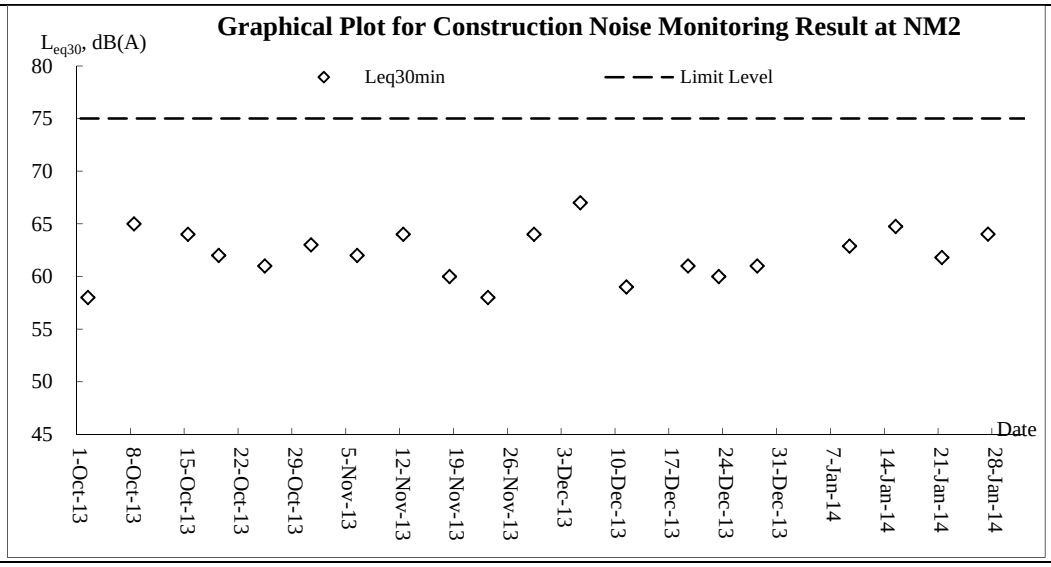


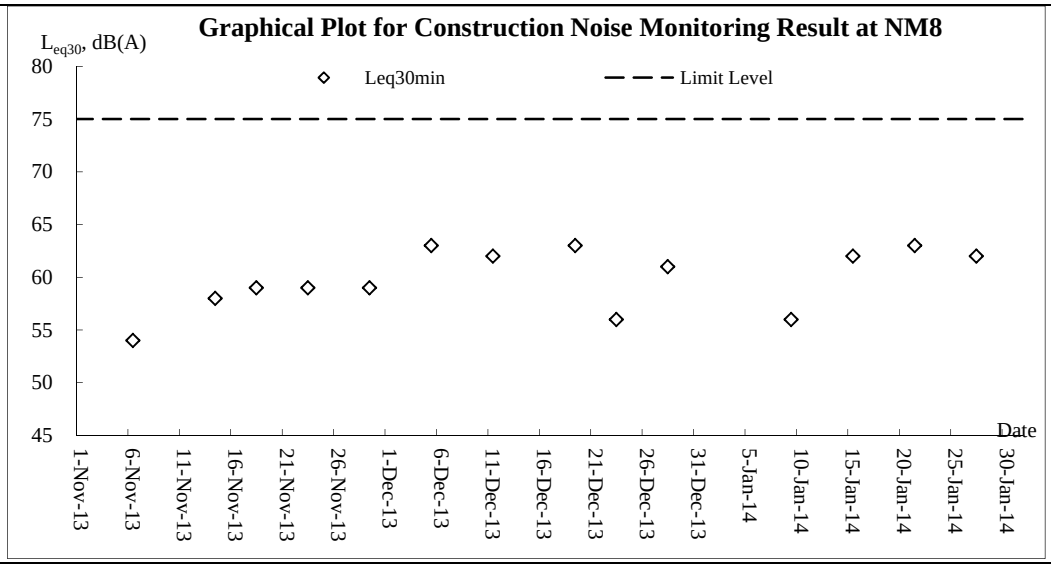


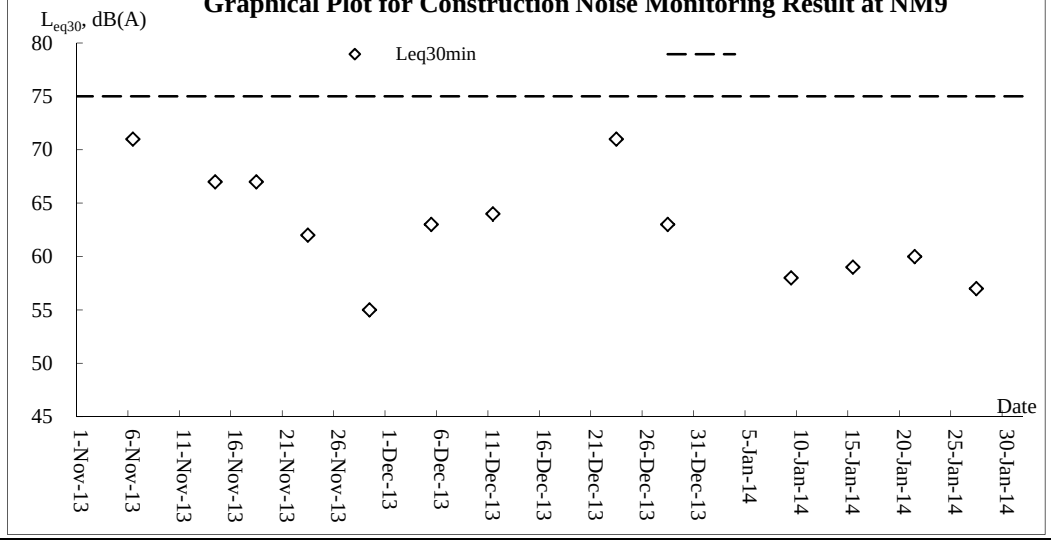

Graphical Plot for 24-hour TSP Monitoring Result at AM9b
24-hour TSP, μg/m3
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
6-Nov-13
12-Nov-13
18-Nov-13
24-Nov-13
30-Nov-13
6-Dec-13
12-Dec-13
18-Dec-13
24-Dec-13
30-Dec-13
5-Jan-14
11-Jan-14
17-Jan-14
23-Jan-14
29-Jan-14
Date

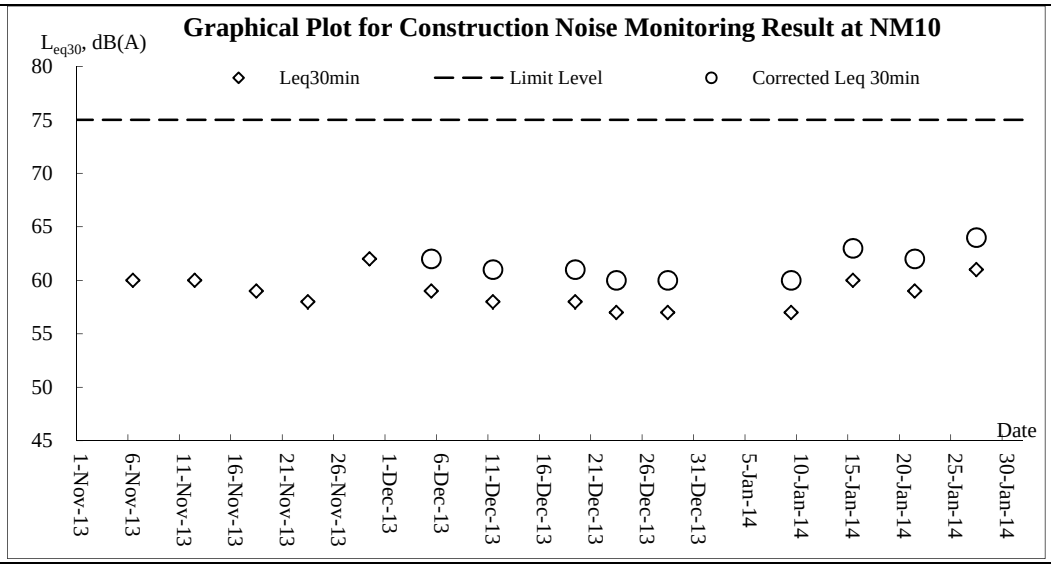
Noise


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
1-Oct-13
8-Oct-13
15-Oct-13
22-Oct-13
29-Oct-13
5-Nov-13
12-Nov-13
19-Nov-13
26-Nov-13
3-Dec-13
10-Dec-13
17-Dec-13
24-Dec-13
31-Dec-13
7-Jan-14
14-Jan-14
21-Jan-14
28-Jan-14

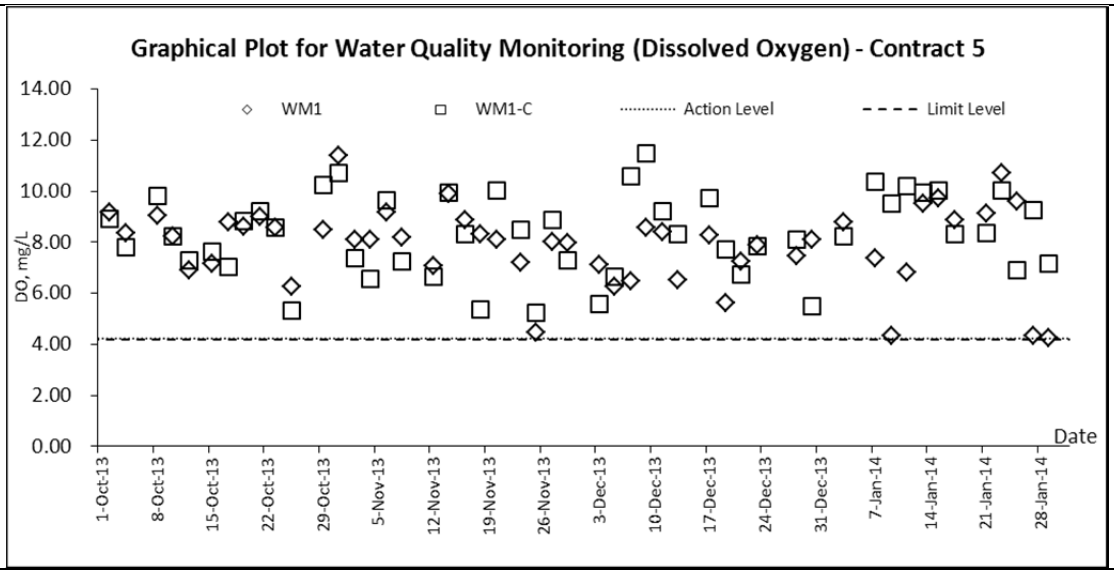

Graphical Plot for Construction Noise Monitoring Result at NM2
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Oct-13
8-Oct-13
15-Oct-13
22-Oct-13
29-Oct-13
5-Nov-13
12-Nov-13
19-Nov-13
26-Nov-13
3-Dec-13
10-Dec-13
17-Dec-13
24-Dec-13
31-Dec-13
7-Jan-14
14-Jan-14
21-Jan-14
28-Jan-14

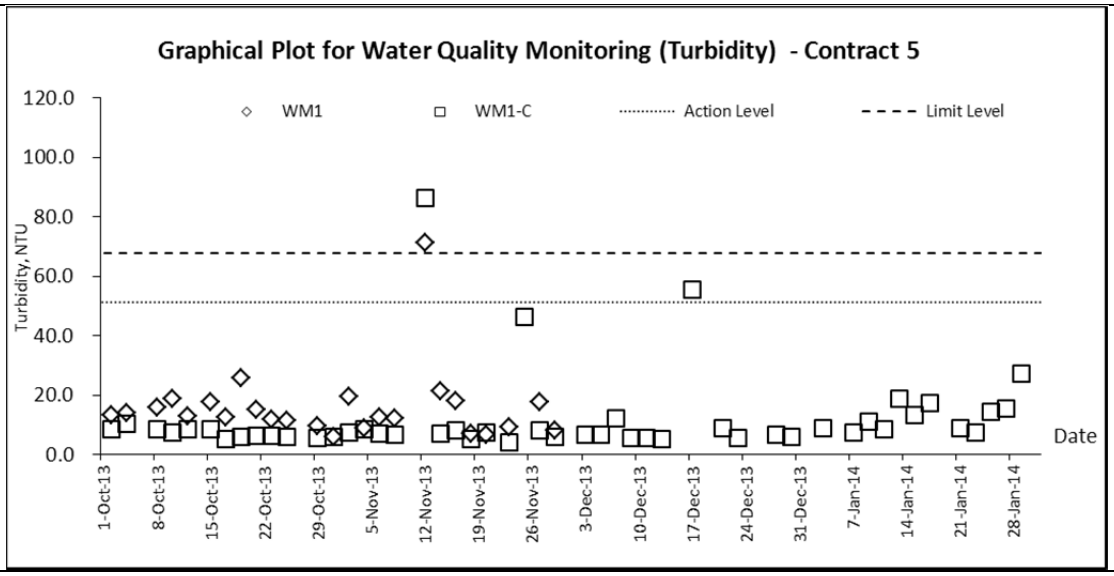

Graphical Plot for Construction Noise Monitoring Result at NM8
L_{eq30}, dB(A)
Leq30min
Limit Level
80
75
70
65
60
55
50
45
Date
1-Nov-13
6-Nov-13
11-Nov-13
16-Nov-13
21-Nov-13
26-Nov-13
1-Dec-13
6-Dec-13
11-Dec-13
16-Dec-13
21-Dec-13
26-Dec-13
31-Dec-13
5-Jan-14
10-Jan-14
15-Jan-14
20-Jan-14
25-Jan-14
30-Jan-14

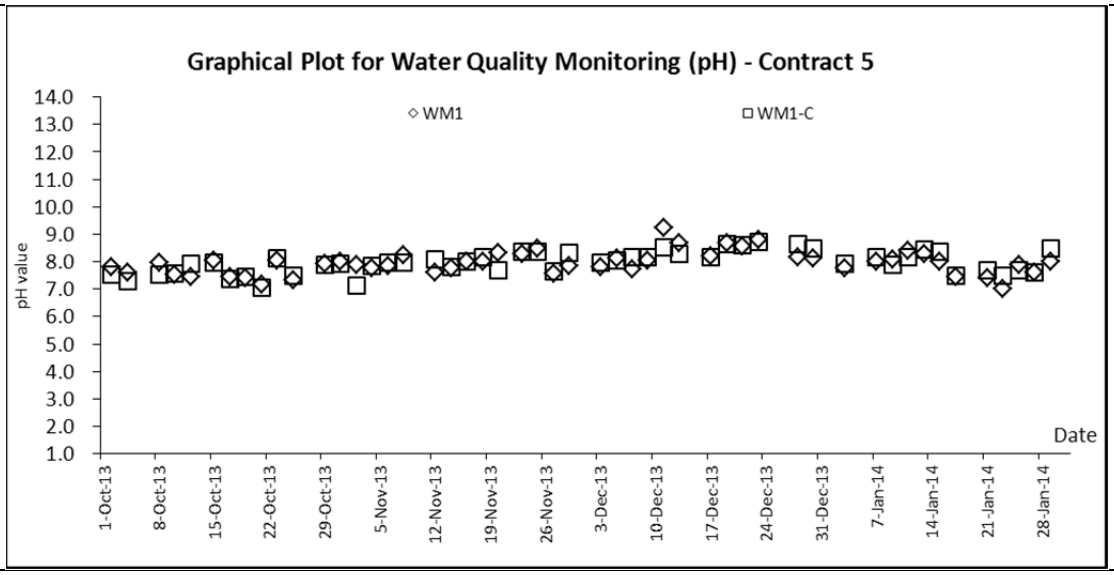

Graphical Plot for Construction Noise Monitoring Result at NM9
Leq30, dB(A)
Leq30min
80
75
70
65
60
55
50
45
Date
1-Nov-13
6-Nov-13
11-Nov-13
16-Nov-13
21-Nov-13
26-Nov-13
1-Dec-13
6-Dec-13
11-Dec-13
16-Dec-13
21-Dec-13
26-Dec-13
31-Dec-13
5-Jan-14
10-Jan-14
15-Jan-14
20-Jan-14
25-Jan-14
30-Jan-14

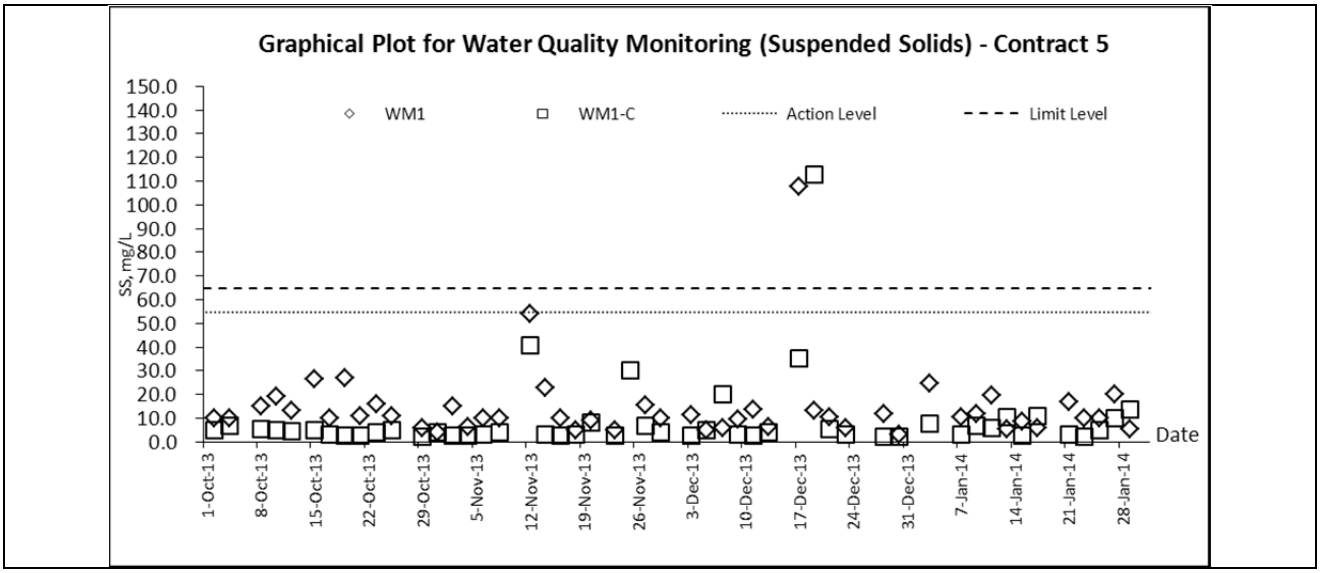

Graphical Plot for Construction Noise Monitoring Result at NM10
Leq30, dB(A)
Leq30min
Limit Level
Corrected Leq 30min
80
75
70
65
60
55
50
45
Date
1-Nov-13
6-Nov-13
11-Nov-13
16-Nov-13
21-Nov-13
26-Nov-13
1-Dec-13
6-Dec-13
11-Dec-13
16-Dec-13
21-Dec-13
26-Dec-13
31-Dec-13
5-Jan-14
10-Jan-14
15-Jan-14
20-Jan-14
25-Jan-14
30-Jan-14

Water Quality - Contract 5

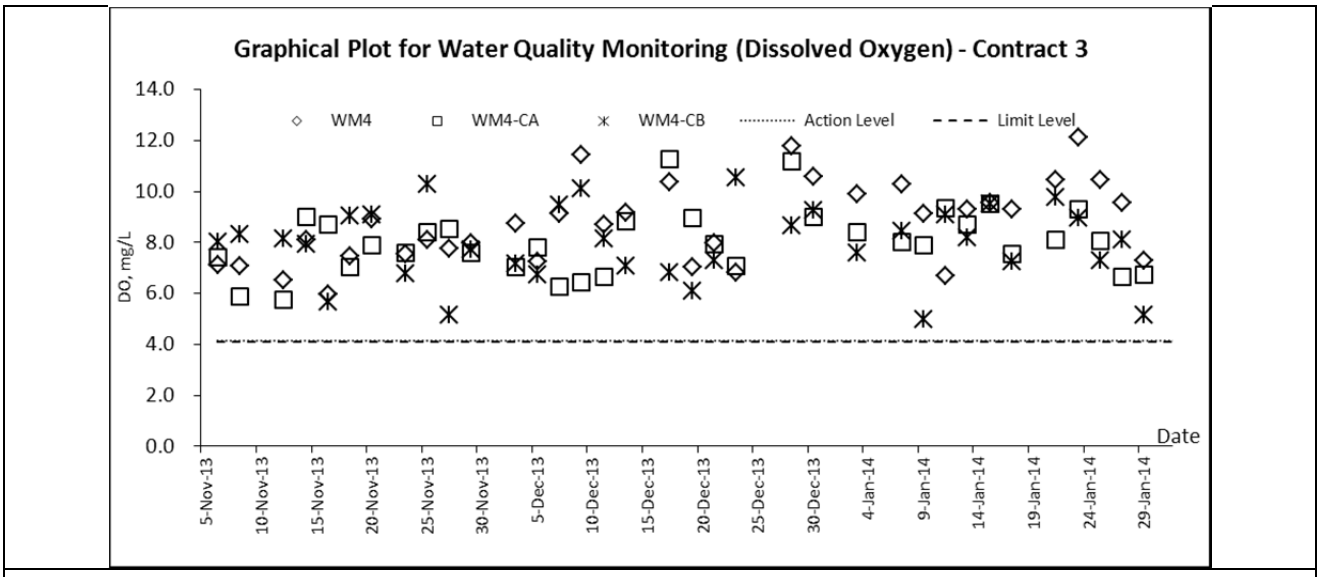


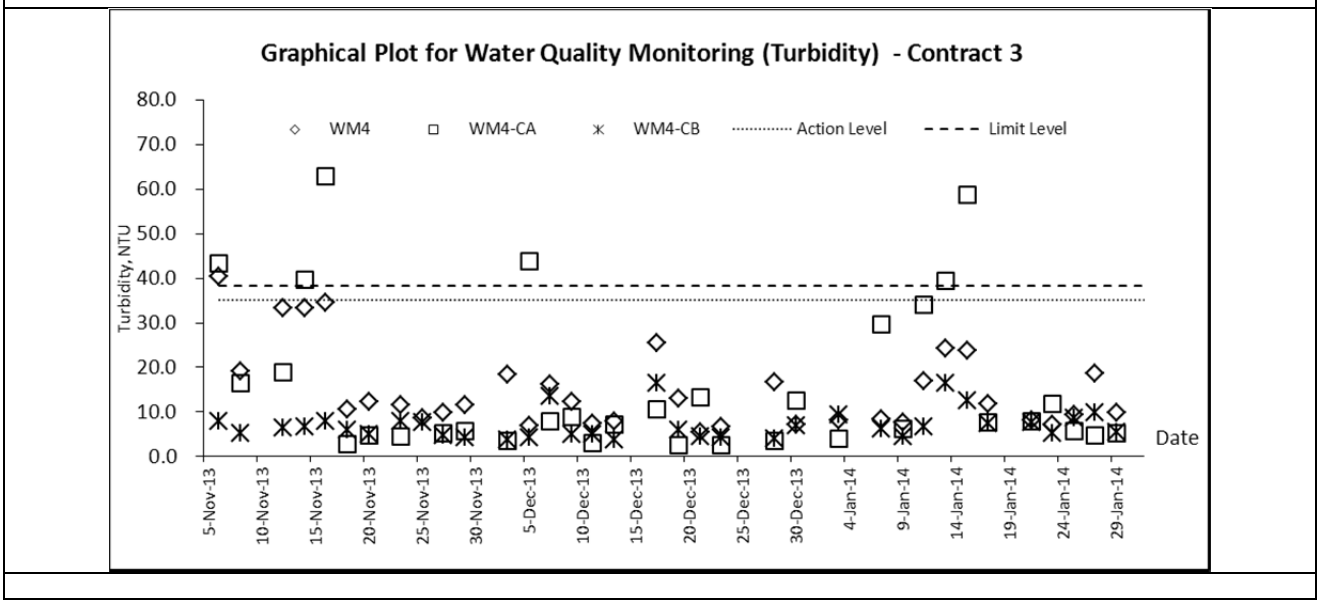


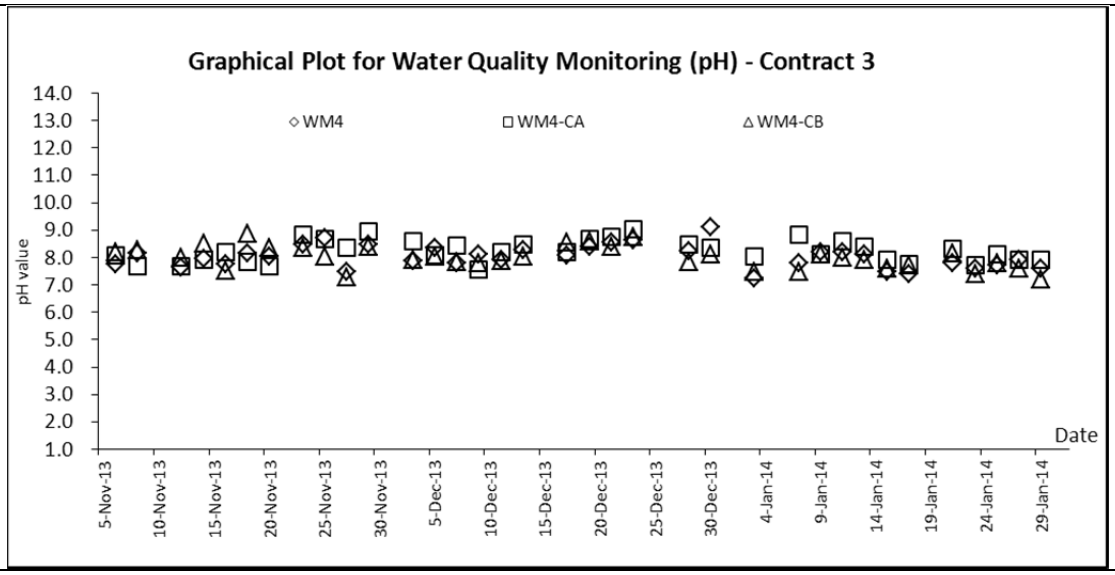


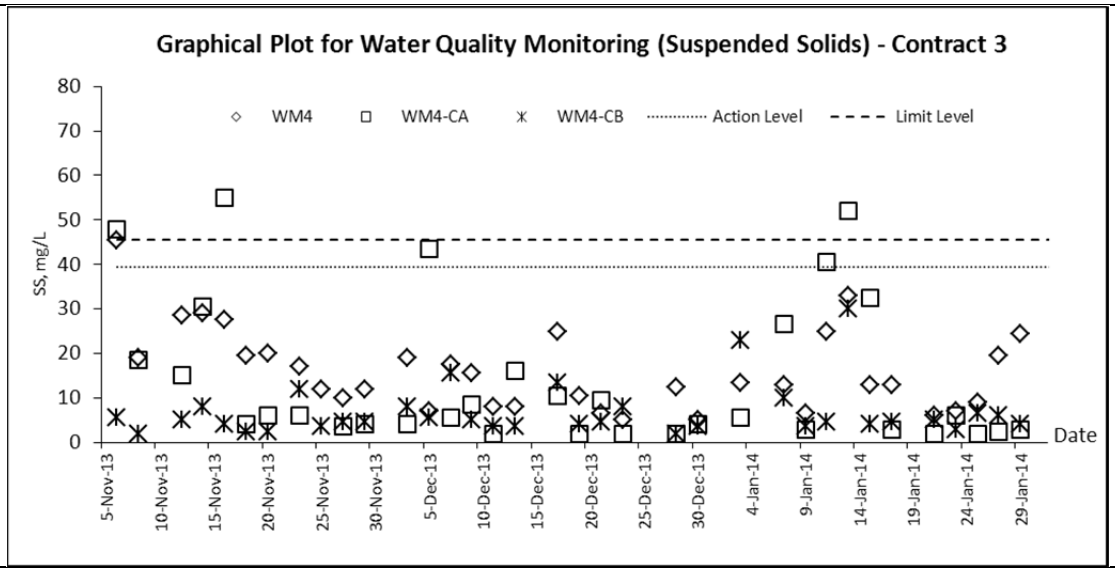


Water Quality - Contract 3






Graphical Plot for Water Quality Monitoring (pH) - Contract 3
WM4
WM4-CA
WM4-CB
pH value
Date
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
5-Nov-13
10-Nov-13
15-Nov-13
20-Nov-13
25-Nov-13
30-Nov-13
5-Dec-13
10-Dec-13
15-Dec-13
20-Dec-13
25-Dec-13
30-Dec-13
4-Jan-14
9-Jan-14
14-Jan-14
19-Jan-14
24-Jan-14
29-Jan-14


Graphical Plot for Water Quality Monitoring (Suspended Solids) - Contract 3
WM4
WM4-CA
WM4-CB
Action Level
Limit Level
SS, mg/L
Date
80
70
60
50
40
30
20
10
0
5-Nov-13
10-Nov-13
15-Nov-13
20-Nov-13
25-Nov-13
30-Nov-13
5-Dec-13
10-Dec-13
15-Dec-13
20-Dec-13
25-Dec-13
30-Dec-13
4-Jan-14
9-Jan-14
14-Jan-14
19-Jan-14
24-Jan-14
29-Jan-14

Appendix H

Weather information

Weather Condition Extracted from HKO

The weather of November 2013

The weather of November 2013 was mainly attributed by Severe Typhoon Krosa and Super Typhoon Haiyan, the weather of November 2013 was wetter than usual. The total rainfall of the month was 83.1 millimetres, more than double of the normal figure of 37.6 millimetres. The accumulated rainfall since 1 January was 2759.0 millimetres, about 16 percent above the normal figure of 2371.6 millimetres for the same period. It was also gloomier than usual with 133.4 hours bright sunshine, about 26 percent below normal. The monthly mean temperature of 21.7 degrees was slightly below the normal figure of 21.8 degrees.

The weather of December 2013

Under the influence of cold spells brought by the winter monsoon during the second half of the month, the weather of December 2013 was significantly colder than usual. The monthly mean temperature of 16.1 degrees was 1.8 degrees below the normal figure of 17.9 degrees, the lowest for December since 1975. The active winter monsoon also maintained generally dry conditions for most parts of the month, and yet the month turned out to be much wetter than usual in terms of rainfall due to the rainy episode between 14 and 17 December. The total rainfall of the month was 88.3 millimetres, more than three times the normal figure of 26.8 millimetres and the tenth highest for December on record. The annual total rainfall of 2013 was 2847.3 millimetres, about 19 percent above the normal figure of 2398.5 millimetres.

The weather of January 2014

Under the dominance of a dry northeast monsoon for most part of the month, the weather in January 2014 was sunnier and drier than usual. The mean amount of cloud for the month was 32 percent, tied with 1986 as the fourth lowest record for January. With less cloud cover, the total duration of bright sunshine in the month was 238.8 hours, tying with 1902 as the sixth highest record for January. Only traces of rainfall were recorded in the month, making it one of the second driest Januarys on record. The monthly mean temperature of 16.3 degrees was on par with the normal.

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

Appendix I

Waste Flow Table

Name of Department: CEDD

Contract No.: CV/2012/09

Monthly Summary Waste Flow Table for December 2013 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated (in '000m^3)	Hard Rock and Large Broken Concrete (in '000m^3)	Reused in the Contract (in '000m^3)	Reused in other Projects (in '000m^3)	Disposed as Public Fill (in '000m^3)	Imported Fill (in '000m^3)	Metals (in '000m^3)	Paper/ cardboard packaging (in '000m^3)	Plastics (see Note 3) (in '000m^3)	Chemical Waste (in '000m^3)	Others, e.g. general refuse (in '000m^3)
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Sub-total											
Jul											
Aug	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0	0	0	0	0.004
Oct	0	0	0	0	0	0	0	0	0	0	0.003
Nov	1.351	0	0.473	0	0.878	0	0	0	0	0	0.055
Dec	0.177	0.007	0.030	0	0.140	0.600	0	0	0	0	0.055
Total	1.528	0.007	0.503	0	1.018	0.600	0	0	0	0	0.117

Note:

1. Assume the density of soil fill is 2 ton/m^3.
2. Assume the density of rock and broken concrete is 2.5 ton/m^3.
3. Assume each truck of C&D wastes is 5m^3.
4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
5. The slurry and bentonite are disposed at Tseung Kwun O 137.
6. The non-inert C&D wastes are disposed at NENT.

Name of Department: CEDD

Contract No.: CV/2012/09

Monthly Summary Waste Flow Table for 2014 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated (in '000m^3)	Hard Rock and Large Broken Concrete (in '000m^3)	Reused in the Contract (in '000m^3)	Reused in other Projects (in '000m^3)	Disposed as Public Fill (in '000m^3)	Imported Fill (in '000m^3)	Metals (in '000m^3)	Paper/ cardboard packaging (in '000m^3)	Plastics (see Note 3) (in '000m^3)	Chemical Waste (in '000m^3)	Others, e.g. general refuse (in '000m^3)
Jan	0.409	0.084	0	0	0.409	0.200	0	0	0.010	0	0.110
Feb											
Mar											
Apr											
May											
Jun											
Sub-total	0.409	0.084	0	0	0.409	0.200	0	0	0.010	0	0.110
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.409	0.084	0	0	0.409	0.200	0	0	0.010	0	0.110

Note:

1. Assume the density of soil fill is 2 ton/m^3.
2. Assume the density of rock and broken concrete is 2.5 ton/m^3.
3. Assume each truck of C&D wastes is 5m^3.
4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
5. The slurry and bentonite are disposed at Tseung Kwun O 137.
6. The non-inert C&D wastes are disposed at NENT.

Name of Department: CEDD

Monthly Summary Waste Flow Table for 2013

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	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	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
JAN	--	--	--	--	--	--	--	--	--	--	--
FEB	--	--	--	--	--	--	--	--	--	--	--
MAR	--	--	--	--	--	--	--	--	--	--	--
APRIL	0	0	0	0	0	0	0	0	0	0	0
MAY	0	0	0	0	0	0	0	0	0	0	0
JUN	0	0	0	0	0	0	0	0	0	0	0
Sub Total	0	0	0	0	0	0	0	0	0	0	0
JUL	0	0	0	0	0	0	0	0	0	0	0.005
AUG	0	0	0	0	0	0.771	0	0	0	0	0
SEP	0	0	0	0	0	0.415	1.38	0	0	0	0.085
OCT	0	0	0	0	0	24.770	7.02	0	0	0	1.060
NOV	0	0	0	0	0	18.325	1.89	0	0	0	0.890
DEC	**0**	**0**	**0**	**0**	**0**	**4.76**	**11.53**	**0**	**0**	**0**	**0.2**
Total	0	0	0	0	0	49.041	21.82	0	0	0	2.24

Notes:

(1) The performance targets are given in PS clause 6(14) above.

(2) The waste flow table shall also include C&D materials that are specified in the Contractor to be imported for use at the Site.

(3) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage
- Imported Fill = Estimated by the Contractor
- Metal = Estimated by the Contractor
- Paper/cardboard packaging = Estimated by the Contractor
- Plastics = Estimated by the Contractor
- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)
- Other, e.g. general refuse = Estimated by the Contractor

Name of Department: CEDD

Monthly Summary Waste Flow Table for 2014

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	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	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
JAN	**0**	**0**	**0**	**0**	**0**	**16.571**	**0**	**0**	**0**	**0**	**0.85**
FEB											
MAR											
APRIL											
MAY											
JUN											
Sub Total	0	0	0	0	0	16.571	0	0	0	0	0.85
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
Total	0	0	0	0	0	16.57	0	0	0	0	0.85

Notes:

(1) The performance targets are given in PS clause 6(14) above.

(2) The waste flow table shall also include C&D materials that are specified in the Contractor to be imported for use at the Site.

(3) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage
- Imported Fill = Estimated by the Contractor
- Metal = Estimated by the Contractor
- Paper/cardboard packaging = Estimated by the Contractor
- Plastics = Estimated by the Contractor
- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)
- Other, e.g. general refuse = Estimated by the Contractor

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