

Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2

Quarterly EM&A Report

May 2019 to July 2019

Submitted to

Environmental Protection Department

Prepared By

Meinhardt Infrastructure and Environment Ltd

Meinhardt Infrastructure and Environment Limited

**Entrusted Portion of Widening of Tolo
Highway / Fanling Highway between Island
House Interchange and Fanling Stage 2**

Quarterly EM&A Report

(May 2019 to July 2019)

Certified by: Fredrick Leong 

Position: Environmental Team Leader

Date: 27 Aug 2019

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Attn: Mr. James Penny

Your Reference

Our Reference

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Environmental Monitoring and Audit (EM&A) for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2 (between Tai Hang to Wo Hop Shek Interchange) – Entrusted Works Environmental Permit No. EP-324/2008/E Quarterly EM&A Summary Report for May 2019 to July 2019 for the portion of Stage 2 works entrusted to CEDD under Contract No. CV/2012/09

23 August 2019
By Fax (2805 5028) & Hand

We refer to the revised Quarterly EM&A Summary Report for May 2019 to July 2019 for the Project received on 20 August 2019 submitted by ET via email. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



Steven Tang
Independent Environmental Checker

c.c.
HyD
CEDD/BCP
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Mr. Chung Lok Chin
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Date	Revision	Prepared By	Checked By	Approved By
27 Aug 2019	0	WK CHIU Bobo HUI 	Fredrick LEONG 	Helen COCHRANE 

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EXECUTIVE SUMMARY

This report documents the findings of EM&A works conducted in the quarter between 1 May 2019 and 31 July 2019.

The impact stage EM&A programme for the Project includes air quality and noise monitoring.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting quarter.

In the reporting quarter, no exceedance event was recorded. No necessary remedial actions have been taken.

No environmental non-compliance was recorded in the reporting quarter. No environmental complaint was received in the reporting quarter. No environmental related prosecution or notification of summons was received in the reporting quarter.

The box culvert works have been partially completed by the end of March 2014 except the last construction activity, installation of a base slab at Box Culvert ID4. The installation of the base slab at Box Culvert ID4 was commenced in December 2016 and has been completed in March 2017.

The 4-week post construction water quality monitoring has been commenced and completed in April 2017.

As informed by the contractor, all major construction activities of the Entrusted Portion Project of Section 1A and 1B were substantially completed on 28 September 2018 and 3 October 2018 respectively. In such regard, the EM&A Programme of the captioned project, including monthly EM&A reporting and the corresponding environmental monitoring and audit works, is no longer required and we proposed to cease it by the end of December 2018 and we have submitted the termination proposal to EPD on 24 December 2018. The EM&A monitoring and audit works will be carried until the termination proposal is approved.

1 INTRODUCTION AND PROJECT INFORMATION

1.1 Background

1.1.1 The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). An Environmental Impact Assessment (EIA) Report together with an Environmental Monitoring and Audit (EM&A) Manual were approved on 14 July 2000 (Register Number: EIA-043/2000). The Project is governed by an Environmental Permit (EP) (EP-324/2008) which was granted on 23 December 2008. A variation of EP (VEP) was applied and the VEP (EP-324/2008/A) was subsequently granted on 31 January 2012. An additional VEP has been applied on 24 February 2014 and the VEP (EP-324/2008/B) was subsequently granted on 17 March 2014. Furthermore, an additional VEP has been applied on 9 March 2015 and the VEP (EP-324/2008/C) was subsequently granted on 27 March 2015. The previous VEP (EP-324/2008/D) was granted on 27 August 2015. The current VEP (EP-324/2008/E) was granted on 26 January 2017.

1.1.2 Chun Wo Construction & Engineering Co Ltd (Chun Wo) was commissioned by the Civil Engineering and Development Department (CEDD) as the Civil Contractor for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. Meinhardt Infrastructure & Environment Ltd (MIEL) has been appointed by Chun Wo as the Environmental Team (ET) to fulfill the corresponding EM&A requirements pursuant to Environmental Permit No. EP-324/2008/D in accordance with the Updated EM&A Manual (dated March 2015) for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. The EM&A programme commenced in 5 November 2013.

1.1.3 **Figure 1** shows the works areas for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2.

1.2 Construction Programme and Activities

1.2.1 The construction programme is presented in **Appendix A**. The remaining construction activities undertaken in the reporting quarter are summarized below:

- Road Pavement Works;
- Water Main Laying Works;
- Road Drainage Works; and
- Remaining Works of Kiu Tau Footbridge.

2 Project Organisation

2.1.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project, together with the general enquiry hotline, are summarised in **Table 2.1**.

Table 2.1 Contact Information of Key Personnel

Party	Role	Position	Name	Telephone	Fax
AECOM	Engineer's Representative	Senior Resident Engineer	Mr. Alan Lee	2171 3303	2171 3498
		Resident Engineer (Environmental)	Mr. Perry Yam	2171 3350	
Mott MacDonald	Independent Environmental Checker (IEC)	IEC	Mr. Steven Tang	2828 5920	2827 1823
Chun Wo	Contractor	Site Agent	Mr. Daniel Ho	2638 6144	2638 7077
		Environmental Officer	Mr. Yang Ran	26386147	
		Environmental Supervisor	Mr. Franki Leung	2638 7005	
Meinhardt	Environmental Team (ET)	ET Leader	Mr. Fredrick Leong	2859 1739	2540 1580
Enquiry Hotline	General Enquiry	--	Ms Helena Mak	6355 1731	--

2.2 Purpose of the Report

2.2.1 This is the Quarterly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between 1 May 2019 and 31 July 2019.

3 SUMMARY OF EM&A REQUIREMENTS

3.1 Monitoring Requirements

3.1.1 In accordance with the Updated EM&A Manual, environmental parameters including Air Quality and Noise have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit Levels are given in **Table 3.1** and the location of the monitoring station is shown in the **Figure 2**.

Table 3.1 Monitoring Parameter

Parameter	Unit	Action Level	Limit Level	Frequency
Air Quality				
1-hour TSP	µg/m ³	292.7	500	Three times every 6 days
24-hour TSP	µg/m ³	170.3	260	Once every 6 days
Construction Noise				
Leq 30min	dB(A)	When one documented valid complaint is received	75	Once every Week

Temporary Suspension of Box Culvert Works and Water Quality Monitoring

3.1.2 The box culvert works have been completed in the end of March 2017. The 4-week post construction water quality monitoring has been completed in the end of April 2017 in the same manner as the impact monitoring.

3.2 Environmental Mitigation Measures

3.2.1 Environmental mitigation measures have been recommended in the EM&A Manual and are given in **Appendix C**. The implementation status for the reporting quarter is also given in the Appendix.

4 SUMMARY OF EM&A MONITORING DATA

4.1 Monitoring Data

4.1.1 Monitoring has been conducted in accordance with the specification in the EM&A Manual in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and are given in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter have been given in **Appendix E**. A summary on the monitoring results has also been given in **Table 4.1**.

Table 4.1 Summary of Monitoring Data in the Reporting Quarter

Monitoring Location	Minimum	Maximum	Average
Air Quality			
1 hour Total Suspended Particulate			
SR77	38.7µg/m ³	191.4µg/m ³	92.5µg/m ³
24 hour Total Suspended Particulate			
SR77	19.9µg/m ³	124.8µg/m ³	68.2 µg/m ³
Construction Noise			
SR77	63.5dB(A)	69.0dB(A)	66.0dB(A)

4.2 Summary of Monitoring Exceedances

4.2.1 The number of exceedances event recorded in the reporting quarter is summarized in **Table 4.2**.

Table 4.2 Summary of Exceedance Events in the Reporting Quarter

Parameter	Criteria	Number of Exceedances Events	Number of Project Related Exceedance Events
Air Quality			
1-hour Total Suspended Particulates	Action Level	0	0
	Limit Level	0	0
24-hour Total Suspended Particulates	Action Level	0	0
	Limit Level	0	0
Construction Noise			
Leq 30min	Action Level	0	0
	Limit Level	0	0
	Limit Level	0	0

4.2.2 No exceedance of Action Level and Limit level for 1-hour TSP and 24-hour TSP monitoring were recorded at SR77 in the reporting quarter.

4.2.3 No exceedance of noise monitoring was recorded at SR77 in the reporting quarter.

4.2.4 The Contractor has been reminded to strengthen the mitigation measures including:

Water Quality

- All wastewater/ rainwater shall be treated properly prior to discharge in accordance with WPCO License.

5 WASTE MANAGEMENT

- 5.1.1 The Contractor has registered as a chemical waste producer of the Project. The C&D materials and waste sorting were carried out on-site. Receptacles were provided for general refuse collection.
- 5.1.2 During the reporting quarter, a total of 6741m³ of excavated material has been generated. 6327m³ of inert C&D materials was disposed of at public fill to Tuen Mun Area 38, while 0m³ of inert C&D materials was reused on site. 385m³ of general refuse was disposed of at North East New Territories (NENT) Landfill. No plastics and no paper/cardboard packaging were collected by recycling contractor in the reporting quarter. No metals were collected by recycling contractor in the reporting quarter. No chemical waste was collected by licensed contractor in the reporting quarter. Details of the waste management data are presented in **Appendix F**.

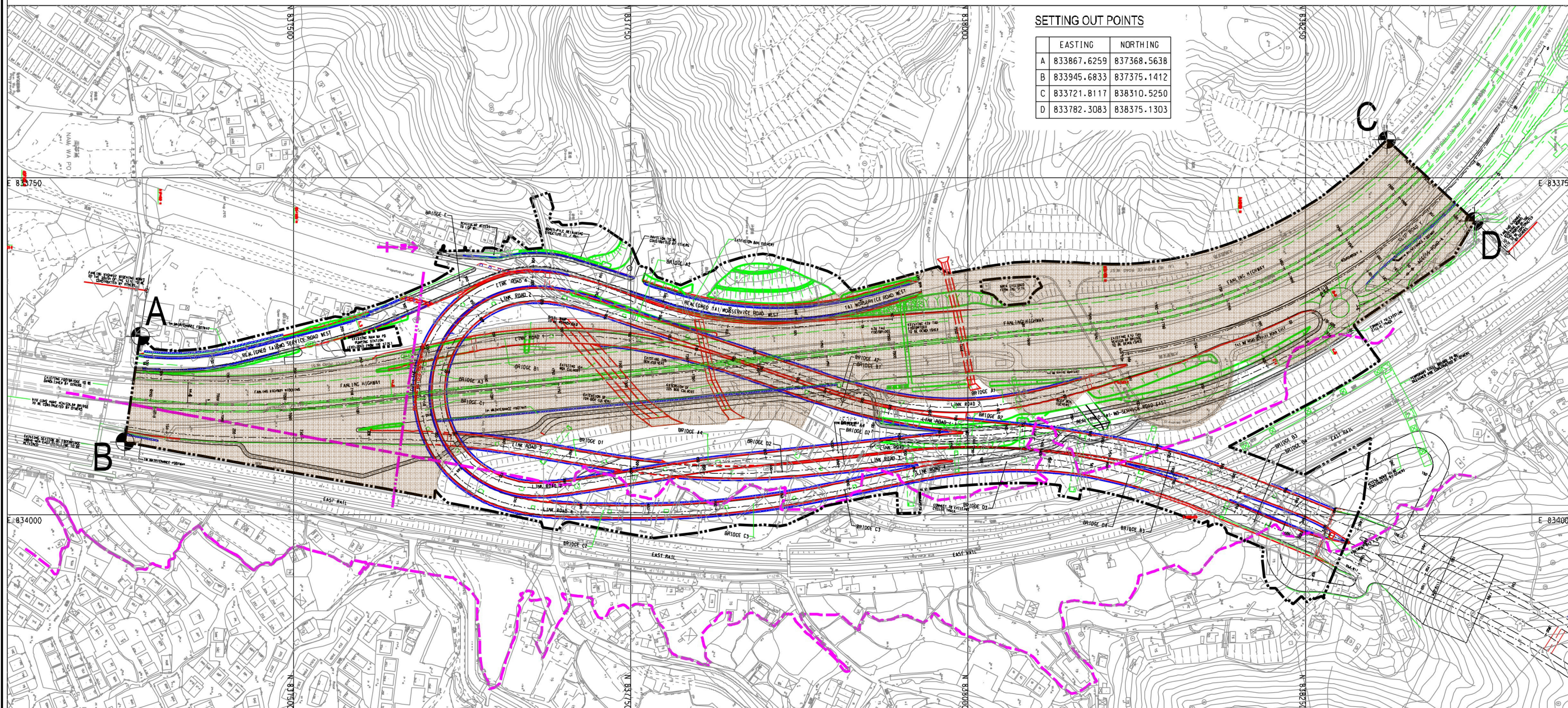
6 ENVIRONMENTAL NON-CONFORMANCE

- 6.1.1 No environmental non-compliance was recorded in the reporting quarter. No environmental complaint was received. No environmental related prosecution or notification of summons was received in the reporting quarter. The summary for the non-compliance, complaints and prosecutions is provided in **Appendix G**.

7 CONCLUSION, COMMENTS AND RECOMMENDATIONS

- 7.1.1 The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting quarter.
- 7.1.2 In the reporting quarter, no exceedance event was recorded.
- 7.1.3 No environmental non-compliance was recorded in the reporting quarter. No environmental complaints were received in the reporting quarter. No environmental related prosecution or notification of summons was received in the reporting quarter.
- 7.1.4 The box culvert works have been completed in the end of March 2017. The 4-week post construction water quality monitoring has been completed in the end of April 2017 in the same manner as the impact monitoring.

Figure



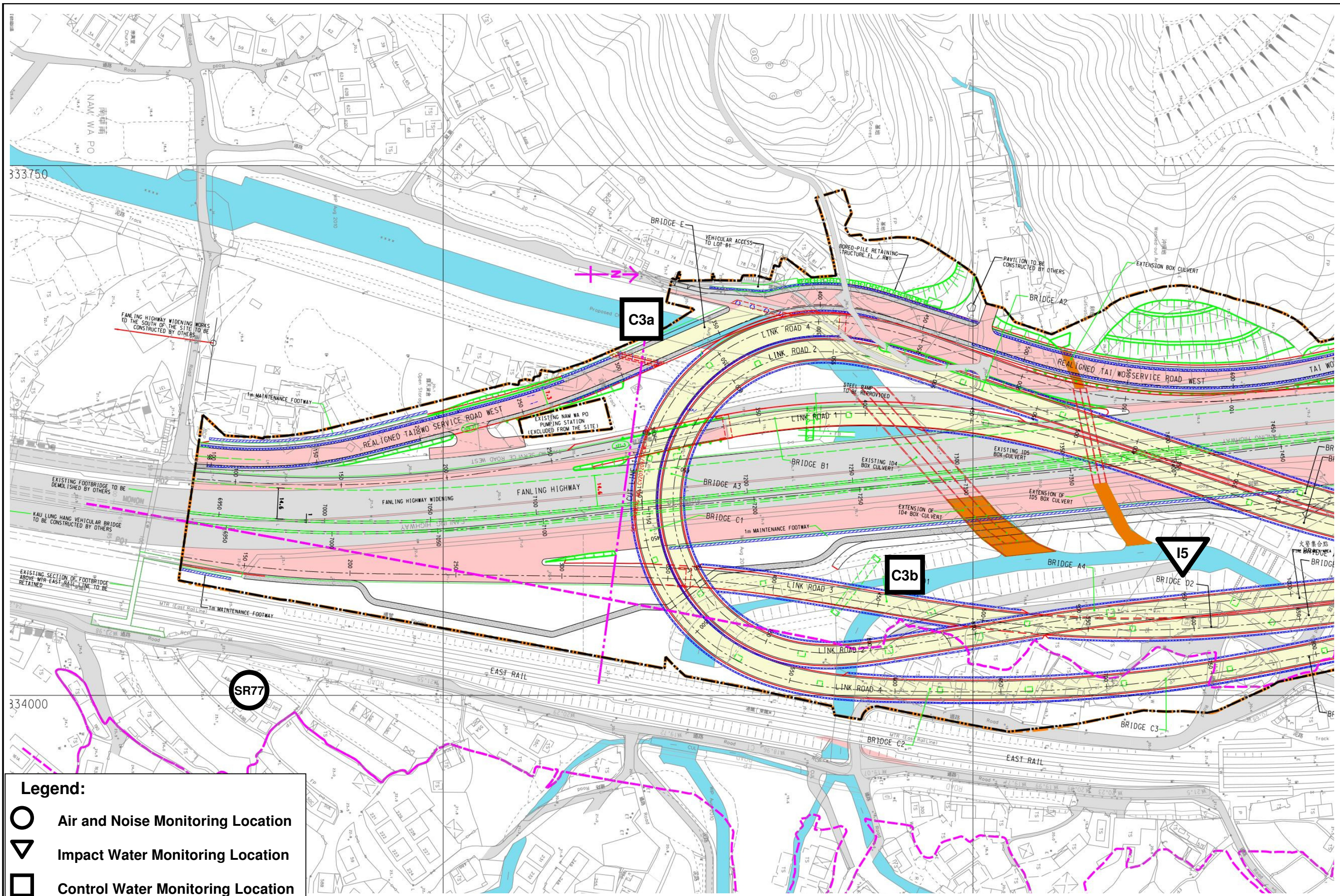
SETTING OUT POINTS

	EASTING	NORTHING
A	833867.6259	837368.5638
B	833945.6833	837375.1412
C	833721.8117	838310.5250
D	833782.3083	838375.1303

CV/201209-T-CWC-SK-001g_AD_edit.dgn 22/1/2014 17:10:34

Legend:

 Works Area for Entrusted Portion



- Legend:**
- Air and Noise Monitoring Location
 - ▽ Impact Water Monitoring Location
 - Control Water Monitoring Location

Figure 2: Environmental Monitoring Locations

Appendix A Construction Programme

Activity ID	Activity Name	OD	RD	Start	Finish	2014					2015					2016					2017					2018					2019									
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
MS-0110	Completion of 4 nos. of piers crash with the existing FLH NB (by 2 sets)	0	0	20-Apr-16A	◆ Completion of 4 nos. of piers crash with the existing FLH NB (by 2 sets)																																			
MS-0210	Completion of 2 nos. of piers crash with existing FLH (by 1 set)	1073	0	09-Nov-14A	◆ Completion of 2 nos. of piers crash with existing FLH (by 1 set)																																			
MS-0210	Commissioning of the diverted twin DN1400 Dong Jiang Watermains (Stage 1)	0	0	27-May-15A	◆ Commissioning of the diverted twin DN1400 Dong Jiang Watermains (Stage 1)																																			
MS-0220	Commissioning of the diverted twin DN1400 Dong Jiang Watermains (Stage 2)	0	0	05-Sep-17*	◆ Commissioning of the diverted twin DN1400 Dong Jiang Watermains (Stage 2)																																			
MS-0230	Commissioning of the diverted DN2300 Dong Jiang Watermains	0	0	24-Dec-15A	◆ Commissioning of the diverted DN2300 Dong Jiang Watermains																																			
MS-0310	Demolition of the whole Kiu Tau Vehicular Bridge	0	0	22-Mar-17A	◆ Demolition of the whole Kiu Tau Vehicular Bridge																																			
MS-0320	Commissioning of re-aligned TWSRE	0	0	18-Sep-17	◆ Commissioning of re-aligned TWSRE																																			
MS-0410	TTA to divert TWSRW traffic to the completed re-aligned TWSRW (excl. South Buffer Zone)	1	0	26-Apr-16A	I TTA to divert TWSRW traffic to the completed re-aligned TWSRW (excl. South Buffer Zone)																																			
MS-1010A	T1a: TTA to shift FLHS SB eastward to the widened pavement (shift 1 lane)	1	0	09-Nov-14A	I T1a: TTA to shift FLHS SB eastward to the widened pavement (shift 1 lane)																																			
MS-1010B	T1b: TTA to shift FLHS SB eastward to the widened pavement (shift 2 lanes)	1	0	08-Mar-15A	I T1b: TTA to shift FLHS SB eastward to the widened pavement (shift 2 lanes)																																			
MS-1010C	T1c: TTA to shift FLHS SB eastward to the widened pavement (shift 3 lanes)	1	0	22-Mar-15A	I T1c: TTA to shift FLHS SB eastward to the widened pavement (shift 3 lanes)																																			
MS-1020	T2: TTA to shift FLHS NB eastward	1	0	27-Jun-15A	I T2: TTA to shift FLHS NB eastward																																			
MS-1030A	T3a: TTA to shift FLHS SB eastward to unoccupy the middle (between CH7130 & CH7470) [TA no.R-2]	1	0	07-Mar-16A	I T3a: TTA to shift FLHS SB eastward to unoccupy the middle (between CH7130 & CH7470) [TA no.R-2]																																			
MS-1030B	T3b: TTA to split FLHS NB & SB with 3 Lanes in the middle unoccupied (between CH7130 & CH7470) [TA no.R-2]	1	0	20-Mar-16A	I T3b: TTA to split FLHS NB & SB with 3 Lanes in the middle unoccupied (between CH7130 & CH7470) [TA no.R-2]																																			
MS-1040	T4: TTA to shift partial FLHN SB eastward to Temp. Pavement connecting FHW3's TTA Scheme [TA no.R-3]	1	0	21-Aug-16A	I T4: TTA to shift partial FLHN SB eastward to Temp. Pavement connecting FHW3's TTA Scheme [TA no.R-3]																																			
MS-1050	T5: TTA to shift partial FLHN NB eastward to existing SB connecting FHW3's TTA Scheme [TA no.R-4]	1	0	26-Nov-16A	I T5: TTA to shift partial FLHN NB eastward to existing SB connecting FHW3's TTA Scheme [TA no.R-4]																																			
MS-1060a	T6a: TTA to shift FLH SB eastward (shift 2 lanes) (North Portion)	1	1	23-Apr-17*	I T6a: TTA to shift FLH SB eastward (shift 2 lanes) (North Portion)																																			
MS-1060c	T6c: TTA to shift FLH SB Fast Lane eastward (North Portion)	1	1	30-Jun-17	I T6c: TTA to shift FLH SB Fast Lane eastward (North Portion)																																			
MS-1060c1	T6c1: TTA to shift FLH SB eastward (shift 3 lanes at Zone 5)	1	1	06-Oct-17	I T6c1: TTA to shift FLH SB eastward (shift 3 lanes at Zone 5)																																			
MS-1060d	T6d: TTA to shift FLH SB eastward (shift 3 Lanes) (South Portion)	1	1	22-Sep-17	I T6d: TTA to shift FLH SB eastward (shift 3 Lanes) (South Portion)																																			
MS-1060e	T6e: TTA to shift FLH SB Fast Lane to the Permanent Alignment (4th lane) (South Portion)	1	1	03-Nov-17	I T6e: TTA to shift FLH SB Fast Lane to the Permanent Alignment (4th lane) (South Portion)																																			
MS-1060f	T6f: TTA to shift FLH SB Middle Lane to the Permanent Alignment (3rd lane) (South Portion)	1	1	03-Dec-17	I T6f: TTA to shift FLH SB Middle Lane to the Permanent Alignment (3rd lane) (South Portion)																																			
MS-1060h	T6h: TTA to shift FLH SB Slow Lane to the Permanent Alignment (2nd lane) (South Portion)	1	1	05-Jan-18	I T6h: TTA to shift FLH SB Slow Lane to the Permanent Alignment (2nd lane) (South Portion)																																			
MS-1070a	T7a: TTA to shift FLHS SB eastward (shift 3 lanes), within SBZ	1	0	20-Apr-17A	I T7a: TTA to shift FLHS SB eastward (shift 3 lanes), within SBZ																																			
MS-1070b	T7b: TTA to shift FLH SB Fast Lane to the Permanent Alignment (4th lane), within SBZ	1	1	11-Aug-17	I T7b: TTA to shift FLH SB Fast Lane to the Permanent Alignment (4th lane), within SBZ																																			
MS-1070c	T7c: TTA to shift FLH SB Middle Lane to the Permanent Alignment (3rd lane), within SBZ	1	1	16-Sep-17	I T7c: TTA to shift FLH SB Middle Lane to the Permanent Alignment (3rd lane), within SBZ																																			
MS-1070d	T7d: TTA to shift FLH SB Slow Lane to the Permanent Alignment (2nd lane), within SBZ	1	1	12-Nov-17	I T7d: TTA to shift FLH SB Slow Lane to the Permanent Alignment (2nd lane), within SBZ																																			
MS-1080a	T8a: TTA to shift FLH NB Fast Lane to the Permanent Alignment (4th lane) (South Portion)	1	0	24-Mar-17A	I T8a: TTA to shift FLH NB Fast Lane to the Permanent Alignment (4th lane) (South Portion)																																			
MS-1080b	T8b: TTA to shift FLH NB Middle Lane to the Permanent Alignment (3rd lane) (South Portion)	1	1	16-May-17	I T8b: TTA to shift FLH NB Middle Lane to the Permanent Alignment (3rd lane) (South Portion)																																			
MS-1080c	T8c: TTA to shift FLH NB Slow Lane to the Permanent Alignment (2nd lane) (South Portion)	1	1	11-Jun-17	I T8c: TTA to shift FLH NB Slow Lane to the Permanent Alignment (2nd lane) (South Portion)																																			
MS-1090a	T9a: TTA to shift FLHS NB westward (shift 3 lanes), within SBZ	1	1	13-Aug-17	I T9a: TTA to shift FLHS NB westward (shift 3 lanes), within SBZ																																			
MS-1090b	T9b: TTA to shift FLHS NB Fast Lane to the Permanent Alignment (4th lane), within SBZ	1	1	10-Oct-17	I T9b: TTA to shift FLHS NB Fast Lane to the Permanent Alignment (4th lane), within SBZ																																			
MS-1090c	T9c: TTA to shift FLHS NB Middle Lane to the Permanent Alignment (3rd lane), within SBZ	1	1	10-Nov-17	I T9c: TTA to shift FLHS NB Middle Lane to the Permanent Alignment (3rd lane), within SBZ																																			
MS-1090d	T9d: TTA to shift FLHS NB Slow Lane to the Permanent Alignment (2nd lane), within SBZ	1	1	10-Dec-17	I T9d: TTA to shift FLHS NB Slow Lane to the Permanent Alignment (2nd lane), within SBZ																																			
MS-1110a	T11a: TTA to shift FLHN NB Slow Lane to the Permanent Alignment (1st lane), within NBZ	1	1	08-Mar-18	I T11a: TTA to shift FLHN NB Slow Lane to the Permanent Alignment (1st lane), within NBZ																																			
MS-1110b	T11b: TTA to shift FLHN NB Middle Lane to the Permanent Alignment (2nd lane), within NBZ	1	1	22-Apr-18	I T11b: TTA to shift FLHN NB Middle Lane to the Permanent Alignment (2nd lane), within NBZ																																			
MS-1110c	T11c: TTA to shift FLHN NB Fast Lane to the Permanent Alignment (3rd lane), within NBZ	1	1	05-Jun-18	I T11c: TTA to shift FLHN NB Fast Lane to the Permanent Alignment (3rd lane), within NBZ																																			
MS-1120a	T12a: TTA to shift FLHN SB Fast Lane to the Permanent Alignment (4th lane), within NBZ	1	1	30-Sep-17	I T12a: TTA to shift FLHN SB Fast Lane to the Permanent Alignment (4th lane), within NBZ																																			
MS-1120b	T12b: TTA to shift FLHN SB Middle Lane to the Permanent Alignment (3rd lane), within NBZ	1	1	21-Nov-17	I T12b: TTA to shift FLHN SB Middle Lane to the Permanent Alignment (3rd lane), within NBZ																																			
MS-1120c	T12c: TTA to shift FLHN SB Slow Lane to the Permanent Alignment (2nd lane), within NBZ	1	1	11-Jan-18	I T12c: TTA to shift FLHN SB Slow Lane to the Permanent Alignment (2nd lane), within NBZ																																			



- Actual Work
- Remaining Work
- Summary Bar
- Critical Remaining Work
- ◆ Milestone
- Actual Level of Effort

CEDD Contract No. CV/2012/09

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

Updated Master Works Programme (Revision UMP05B)

Programme ID: UMP05B (Data Date: 20-Apr-17) Print Date: 13-May-17
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Date	Revision	Checked	Approved
07-Mar-17	Draft	Sam Lam	David Tung

Activity ID	Activity Name	UD	RD	Start	Finish	2014				2015				2016				2017				2018				2019											
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AtGrade Roadworks (130m)						1115	237	27-Mar-14	01-Feb-18																												
FHW-300	Footpath, DSD Access Track adjacent to SB lane	70	70	01-Nov-17	24-Jan-18																																
FHW-310D	Filing Works & Reinstatement	30	0	27-Mar-14	13-May-14																																
FHW-312D	Noise Barrier NB71 - Mini-Piling adjacent to SB lane (36nos)	40	0	24-May-14	02-Aug-14																																
FHW-313D	Noise Barrier NB71 - Footing adjacent to SB lane (130m) including Pile Cap	324	0	23-May-14	20-Oct-15																																
FHW-3140*	Pipe Laying - Twin DN1400 Watermains (CHE & F) along Fanning Highway (90m long, 3m depth)	90	0	07-Jun-14	06-Sep-14																																
FHW-3150*	Pipe Laying - DN600, DN1200 Watermains (CHB&CHC) along Fanning Highway (90m long, 3m depth)	150	0	07-Jun-14	02-Sep-16																																
FHW-316D	Temporary Diversion of existing DN600 watermains to facilitate Road Formation (FLH SB slow lane & hard shoulder)	12	0	28-Dec-15	03-Feb-16																																
FHW-317D	Road Formation, Kerb and Pavement (FLH SB Slow lane and hard shoulder)	63	0	05-Oct-15	02-Mar-16																																
FHW-321D	Noise Barrier NB68A - Pre-drilling and Mini-Piling at central median (CSO: 20 nos)	50	0	21-May-16	21-Feb-17																																
FHW-3220A	Noise Barrier NB68A - Footing at central median (Bay 13, 30m)	73	0	11-Oct-16	06-Mar-17																																
FHW-3220B	Noise Barrier NB68A - Footing at central median (Bay 14 - 15, 24m)	32	0	28-Nov-16	21-Jan-17																																
FHW-3220C	Noise Barrier NB68A - Footing at central median (Bay 16 - 18, 25m)	55	55	09-May-17	13-Jul-17																																
FHW-323D	Road Pavement (Middle Part: FLH NB 4th lanes)	55	0	17-Jan-17	23-Mar-17																																
FHW-324D	Road Pavement (Middle Part: FLH SB 4th lanes)	30	30	23-Sep-17	31-Oct-17																																
FHW-330D	Reinstatement of existing NB slow lane	5	0	22-Feb-16	19-Mar-16																																
FHW-331D	Road Pavement (FLH NB 3rd lane) by re-surfacing	32	20	25-Mar-17	15-May-17																																
FHW-332D	Road Pavement (FLH NB 2nd lane) by re-surfacing	21	21	17-May-17	10-Jun-17																																
FHW-3330a	Noise Barrier NB69 - Pre-drilling & Mini-Piling (Cap45), (5nos)	35	0	16-Feb-17	27-Mar-17																																
FHW-3330b	Noise Barrier NB69 - Pre-drilling & Mini-Piling adjacent to NB lane (25nos)	84	84	12-Jun-17	18-Sep-17																																
FHW-334D	Noise Barrier NB69 - Footing adjacent to NB lane (108m)	77	77	25-Aug-17	25-Nov-17																																
FHW-335D	Road Drainage, Road Formation & Pavement (FLH NB 1st lane & hard shoulder)	85	85	21-Oct-17	01-Feb-18																																
Miscellaneous Works for Facilitating Traffic Diversion of Fanning Highway						297	0	13-Jul-14	20-Jun-15																												
FHW-M-1010	Permanent Road Formation with 1 lanes width between CH7130 and CH7380 (Eastern Side) by means of re-construction	62	0	13-Jul-14	08-Nov-14																																
FHW-M-1020	Permanent Road Formation with 2 lanes width between CH6935 and CH7130 (Eastern Side) by means of re-construction	45	0	10-Nov-14	07-Mar-15																																
FHW-M-1030	Permanent Road Formation with 3 lanes width between CH6935 and CH7130 (Eastern Side) by means of re-surfacing	12	0	09-Mar-15	22-Mar-15																																
FHW-M-1040	Demolition of a certain section of Central Barrier & Make Good of Road Pavement for further Traffic Diversion	54	0	23-Mar-15	20-Jun-15																																
Fanning Highway North Portion between CH7470 and CH7925						1407	406	30-Aug-13	03-Sep-18																												
Fanning Highway Zone 4 between CH7380 and CH7470						932	206	15-Oct-14	03-Feb-18																												
AtGrade Roadworks (90m)						932	206	15-Oct-14	03-Feb-18																												
FHW-400	Footpath, DSD Access Track adjacent to SB lane	70	70	01-Nov-17	24-Jan-18																																
FHW-4100A	Noise Barrier NB72 - Footing adjacent to SB lane (78m)	88	88	01-Jun-17	12-Sep-17																																
FHW-4100B	Noise Barrier NB72 - Footing adjacent to SB lane (12m), access of TWSRE	50	50	18-Sep-17	17-Nov-17																																
FHW-4120A	Road Drainage, Road Formation & Pavement (FLH SB Merging lane)	70	70	13-Sep-17	06-Dec-17																																
FHW-4120B	Remaining Road Drainage, Road Formation & Pavement (FLH SB Merging lane)	35	35	07-Dec-17	19-Jan-18																																
FHW-413D	Road Pavement (FLH SB 3rd lane) by re-surfacing	25	25	04-Nov-17	02-Dec-17																																
FHW-414D	Road Pavement (FLH SB 2nd lane) by re-surfacing	25	25	04-Dec-17	04-Jan-18																																
FHW-415D	Road Pavement (FLH SB 1st lane) by re-surfacing	25	25	06-Jan-18	03-Feb-18																																
FHW-4160*	Pipe Laying - Twin DN1400 Watermains (CHE & CHS) along Fanning Highway (90m long, 3m depth)	155	0	15-Oct-14	12-Mar-15																																
FHW-4170*	Pipe Laying - DN600 & DN1200 Watermains (CHB&CHC) along Fanning Highway (90m long, 3m depth)	60	0	27-Nov-14	18-May-15																																

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CEDD Contract No. CV/2012/09

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

Updated Master Works Programme (Revision UMP05B)

Programme ID: UMP05B (Data Date: 20-Apr-17) Print Date: 13-May-17

Date	Revision	Checked	Approved
07-Mar-17	Draft	Sam Lam	David Tung




Activity ID	Activity Name	OD	RD	Start	Finish	2014												2015												2016												2017												2018												2019											
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																			
Erection of Sign Gantry																																																																													
Section II - Remainder of the Works (KD-3)																																																																													
At Grade Link Road at Fanning Highway Interchange																																																																													
Link Road 1 (near Abutment AB1)																																																																													
Link Road 2 (near Abutment AA1)																																																																													
Link Road 3 (near Abutment AD1)																																																																													

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Box Culvert Extension - BC01						1160	45	07-Jan-14 A	06-Mar-18																																																																				
TWSRW-6000	Flow Diversion of Existing Stream	4	0	07-Jan-14 A	07-Jan-14 A	I Flow Diversion of Existing Stream																																																																							
TWSRW-6010A	Excavation and Sub-base for construction of Bay 1	5	0	07-Jan-14 A	25-Jan-14 A	■ Excavation and Sub-base for construction of Bay 1																																																																							
TWSRW-6010B	Excavation and Sub-base for construction of Bay 2	18	0	04-Mar-14 A	12-Mar-14 A	■ Excavation and Sub-base for construction of Bay 2																																																																							
TWSRW-6020	Bay 1 - Base Slab	14	0	11-Feb-14 A	28-Feb-14 A	■ Bay 1 - Base Slab																																																																							
TWSRW-6030	Bay 2 - Base Slab	14	0	13-Mar-14 A	18-Mar-14 A	■ Bay 2 - Base Slab																																																																							
TWSRW-6030B	Bay 2 - Remaining Base Slab (treated as outstanding works)	45	45	06-Jan-18*	06-Mar-18*	■ Bay 2 - Remaining Base Slab (treated as outstanding works)																																																																							
TWSRW-6040	Bay 1 - Wall and Top Slab	18	0	01-Mar-14 A	10-Mar-14 A	■ Bay 1 - Wall and Top Slab																																																																							
TWSRW-6050	Bay 2 - Wall and Top Slab	11	0	19-Mar-14 A	25-Jun-14 A	■ Bay 2 - Wall and Top Slab																																																																							
TWSRW-6060	Backfilling to existing road level	55	0	25-Mar-14 A	09-Jun-14 A	■ Backfilling to existing road level																																																																							
TWSRW-6070	Inlet structure of the box culvert BC01 (Covered by VO. 41)	70	0	17-Dec-14 A	19-Mar-15 A	■ Inlet structure of the box culvert BC01 (Covered by VO. 41)																																																																							
TWSRW-6080	Backfilling to existing road level after completion of inlet structure	72	0	20-Mar-15 A	21-May-15 A	■ Backfilling to existing road level after completion of inlet structure																																																																							
At-Grade Roadworks						90	0	22-May-15 A	28-Jul-16 A																																																																				
TWSRW-6110	Slope Upgrading Works for unequipped feature beside Slope 35W-D/C80 (Covered by VO. 68)	90	0	22-May-15 A	28-Jul-16 A	■ Slope Upgrading Works for unequipped feature beside Slope 35W-D/C80 (Covered by VO. 68)																																																																							
TWSRW Zone 7 between CH530 and CH640						1130	70	06-Dec-13 A	22-Dec-17																																																																				
Construction of Retaining Structures						235	0	06-Dec-13 A	27-Nov-14 A																																																																				
TWSRW-7000	Implementation of TTA - Scheme W2 (Part 2)	0	0	06-Dec-13 A		◆ Implementation of TTA - Scheme W2 (Part 2)																																																																							
TWSRW-7010	Slope Cutting and Drainage Channel	235	0	06-Dec-13 A	27-Nov-14 A	■ Slope Cutting and Drainage Channel																																																																							
TWSRW-7020	Installation of Soil Nail (129 nos)	40	0	10-Jun-14 A	13-Sep-14 A	■ Installation of Soil Nail (129 nos)																																																																							
At-Grade Roadworks						833	70	03-Nov-14 A	22-Dec-17																																																																				
TWSRW-7100	Preparation Works for Implementation of TTA - Scheme W3A (temporary road connecting the realigned TWSRW to existing)	45	0	29-Feb-16 A	25-Apr-16 A	■ Preparation Works for Implementation of TTA - Scheme W3A (temporary road connecting the realigned TWSRW to existing)																																																																							
TWSRW-7110	Implementation of TTA - Scheme W3A (temporary road connecting the realigned TWSRW to existing)	0	0	26-Apr-16 A		◆ Implementation of TTA - Scheme W3A (temporary road connecting the realigned TWSRW to existing)																																																																							
TWSRW-7130	Road Drainage (incl. Zone 6 & Zone 7)	80	0	03-Nov-14 A	27-Jan-15 A	■ Road Drainage (incl. Zone 6 & Zone 7)																																																																							
TWSRW-7140	Installation of Cable Ducts for Utilities Diversion Works at Area 4 (Approx. 150m) (by utilities undertakers)	233	0	29-Jan-15 A	23-Dec-15 A	■ Installation of Cable Ducts for Utilities Diversion Works at Area 4 (Approx. 150m) (by utilities undertakers)																																																																							
TWSRW-7150	Road Drainage, Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 6 & Zone 7)	49	0	01-Dec-15 A	04-Feb-16 A	■ Road Drainage, Road Formation, DN150 watermain, Kerb, Planter and Pavement (incl. Zone 6 & Zone 7)																																																																							
TWSRW-7160	Pipe Laying - DN150	70	0	13-Jul-15 A	21-Dec-15 A	■ Pipe Laying - DN150																																																																							
TWSRW-7170	Preparation Works for Implementation of TTA - Scheme W3B (shift TWSRW NB traffic westward, permanent alignment)	90	0	27-Apr-16 A	30-Aug-16 A	■ Preparation Works for Implementation of TTA - Scheme W3B (shift TWSRW NB traffic westward, permanent alignment)																																																																							
TWSRW-7180	Implementation of TTA - Scheme W3B (shift TWSRW NB traffic westward, i.e. permanent alignment)	0	0	31-Aug-16 A		◆ Implementation of TTA - Scheme W3B (shift TWSRW NB traffic westward, i.e. permanent alignment)																																																																							
TWSRW-7190	Remaining Road Drainage, Road Formation, Road Pavement and Footpath (incl. Zone 6 & Zone 7)	70	70	29-Sep-17	22-Dec-17	■ Remaining Road Drainage, Road Formation, Road Pavement and Footpath (incl. Zone 6 & Zone 7)																																																																							
TWSRW Zone 8 between CH640 and CH655						800	103	06-Oct-14 A	02-Feb-18																																																																				
Kiu Tau Footbridge Re-provision (West)						527	0	06-Oct-14 A	20-Feb-17 A																																																																				
TWSRW-8000	Pre-Drilling Works for Socket H-Pile	7	0	06-Oct-14 A	21-Oct-14 A	■ Pre-Drilling Works for Socket H-Pile																																																																							
TWSRW-8010A	Working Platform for Piling Work of Proposed Kiu Tau Footbridge	24	0	11-May-15 A	20-Jun-15 A	■ Working Platform for Piling Work of Proposed Kiu Tau Footbridge																																																																							
TWSRW-8010B	Installation of Socket H-Pile for Proposed Kiu Tau Footbridge (13 nos of Pile)	75	0	07-Jul-15 A	11-Sep-15 A	■ Installation of Socket H-Pile for Proposed Kiu Tau Footbridge (13 nos of Pile)																																																																							
TWSRW-8020A	KT-P1 & P5 - Pile Cap	85	0	02-Dec-15 A	20-Jul-16 A	■ KT-P1 & P5 - Pile Cap																																																																							
TWSRW-8020A10	KT-P1 & P5 - Pier Construction	28	0	01-Nov-16 A	16-Nov-16 A	■ KT-P1 & P5 - Pier Construction																																																																							
TWSRW-8020A20	KT-P1 & P5 - RC Deck & Bearing Installation	30	0	19-Dec-16 A	18-Jan-17 A	■ KT-P1 & P5 - RC Deck & Bearing Installation																																																																							
TWSRW-8030	KT-AB4 - Pile Cap, Abutment and Bearing Installation	36	0	02-Dec-15 A	03-Nov-16 A	■ KT-AB4 - Pile Cap, Abutment and Bearing Installation																																																																							
TWSRW-8040	Steel Truss Installation at TWSR West	4	0	16-Feb-17 A	20-Feb-17 A	■ Steel Truss Installation at TWSR West																																																																							
At-Grade Roadworks						598	103	21-Dec-15 A	02-Feb-18																																																																				



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

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CEDD Contract No. CV/2012/09

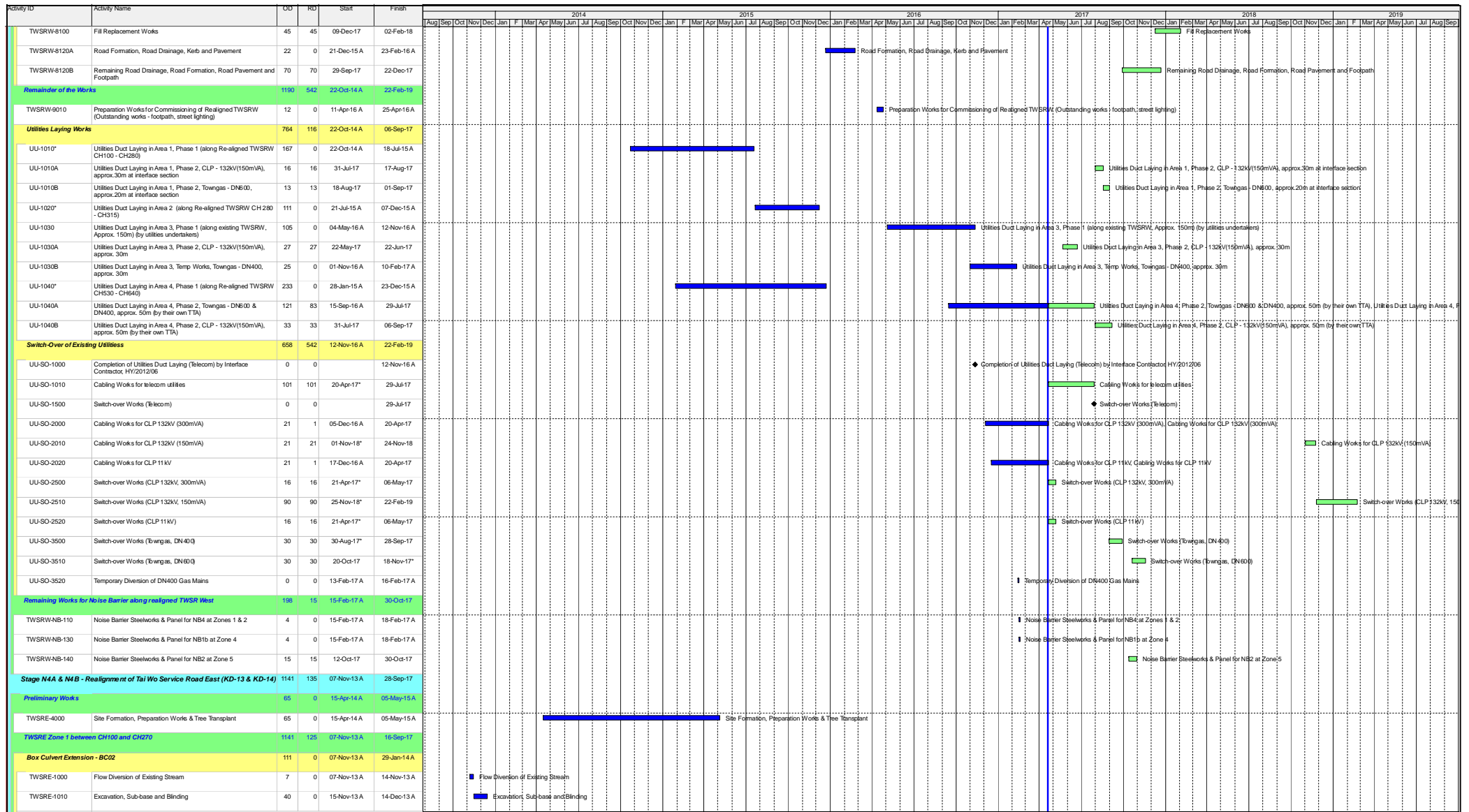
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Updated Master Works Programme (Revision UMP05B)

Programme ID: UMP05B (Data Date: 20-Apr-17) Print Date: 13-May-17

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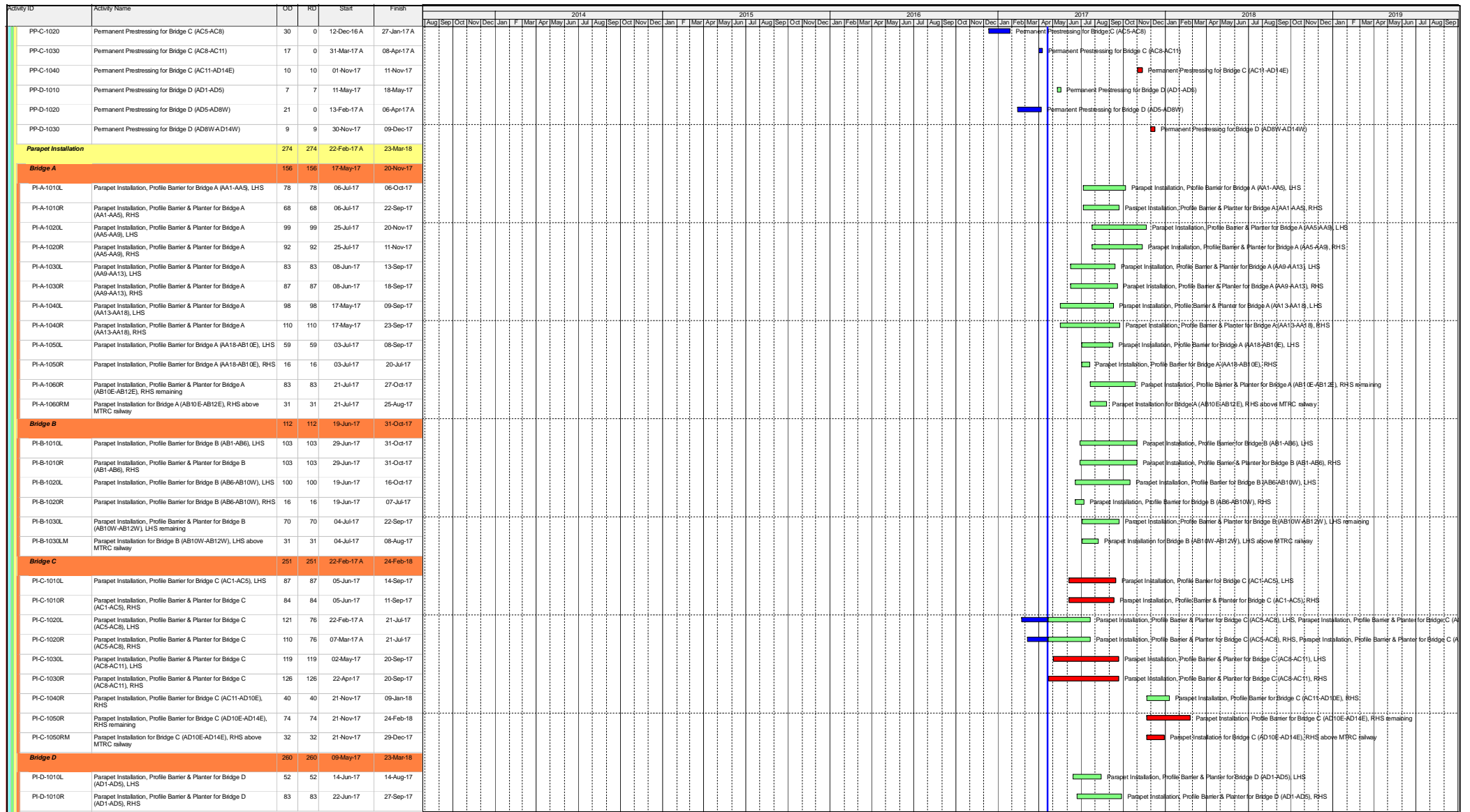
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Activity ID	Activity Name	UD	RD	Start	Finish	2014				2015				2016				2017				2018				2019												
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
PI-D-1020L	Parapet Installation, Profile Barrier for Bridge D (AD5-AD8W), LHS	90	90	09-May-17	23-Aug-17																																	
PI-D-1020R	Parapet Installation, Profile Barrier & Planter for Bridge D (AD5-AD8W), RHS	78	78	15-May-17	15-Aug-17																																	
PI-D-1030L	Parapet Installation, Profile Barrier for Bridge D (AD8W-AD10W), LHS	16	16	19-Dec-17	09-Jan-18																																	
PI-D-1040L	Parapet Installation, Profile Barrier & Planter for Bridge D (AD10W-AD14W), LHS remaining	73	73	19-Dec-17	23-Mar-18																																	
PI-D-1040LM	Parapet Installation for Bridge D (AD10W-AD14W), LHS above MTRC railway	31	31	19-Dec-17	26-Jan-18																																	
Roadworks, Road Facilities and Miscellaneous inside Viaduct Internal Voids		251	251	19-Jul-17	28-May-18																																	
RS-1000	Movement Joints and Road Furniture incl. Deck Drainage, Lightings, Steel Rails,NB, Water Main for Bridge A (AA1 to AB12)	140	140	29-Jul-17	15-Jan-18																																	
RS-1010	Movement Joints and Road Furniture incl. Deck Drainage, Lightings, Steel Rails,NB, Water Main for Bridge B (AB1 to AB12)	120	120	02-Aug-17	22-Dec-17																																	
RS-1020	Movement Joints and Road Furniture incl. Deck Drainage, Lightings, Steel Rails,NB, Water Main for Bridge C (AC1 to AD10)	100	100	19-Jul-17	15-Nov-17																																	
RS-1030	Movement Joints and Road Furniture incl. Deck Drainage, Lightings, Steel Rails,NB, Water Main for Bridge D (AD1 to AD6)	80	80	18-Aug-17	22-Nov-17																																	
RS-1040	Movement Joints and Road Furniture incl. Deck Drainage, Lightings, Steel Rails,NB, Water Main for Bridge D (AD8 to AD14)	49	49	06-Feb-18	14-Apr-18																																	
RS-1050	Road Pavement for Bridge A & B	47	47	08-Dec-17	03-Feb-18																																	
RS-1060	Road Pavement for Bridge C & D	35	35	16-Apr-18	28-May-18																																	
Section VI - Works in Portion FH9 (KD-6A)		872	191	16-Aug-14 A	20-Dec-17																																	
Preliminary Preparation Works		62	0	16-Aug-14 A	04-Feb-15 A																																	
S6-1000	Completion of Temporary Vehicular Bridge by C2 Contractor	0	0	03-Feb-15 A																																		
S6-1010	Tree Felling and Tree Transplant	7	0	16-Aug-14 A	19-Aug-14 A																																	
S6-1020	Site Clearance and Site Formation	21	0	13-Jan-15 A	04-Feb-15 A																																	
Major Works		831	191	06-Feb-15 A	20-Dec-17																																	
S6-2007	Construction of Abutment AB12/AD14 (including Piling, Pile Cap & Abutment construction)	276	0	06-Feb-15 A	20-Feb-17 A																																	
S6-3000	Removal of Temp Road, Facilities and reinstatement the Portion FH9 to the condition as taking possession	14	14	05-Dec-17	20-Dec-17																																	
S6-4000	Falsework Erection for Installation of Bridge Deck at Abutment AD14W	15	15	18-Oct-17	04-Nov-17																																	
S6-4010	Falsework Erection for Installation of Bridge Deck at Abutment AD14E	15	15	15-Sep-17	03-Oct-17																																	
S6-4020	Falsework Erection for Installation of Bridge Deck at Abutment AB12W	15	15	06-May-17	23-May-17																																	
S6-4030	Falsework Erection for Installation of Bridge Deck at Abutment AB12E	15	15	24-May-17	10-Jun-17																																	
S6-5000	Removal of Falsework near Abutment AD14W	4	4	30-Nov-17	04-Dec-17																																	
S6-5010	Removal of Falsework near Abutment AD14E	4	4	01-Nov-17	04-Nov-17																																	
S6-5020	Removal of Falsework near Abutment AB12W	4	4	16-Jun-17	20-Jun-17																																	
S6-5030	Removal of Falsework near Abutment AB12E	4	4	05-Jul-17	08-Jul-17																																	
Landscaping & Establishment Works (KD-4, 4A, 5, 5A, 6)		581	581	05-Sep-17	29-Aug-19																																	
Section IIIA - Landscaping Softworks in NBZ1		168	168	30-Jan-18	29-Aug-18																																	
S3A-1000	Transplanting at Farling Highway	28	28	15-Jun-18	19-Jul-18																																	
S3A-1010	Remaining Land Formation near Roundabout A at NBZ1	45	45	30-Jan-18	29-Mar-18																																	
S3A-1030	Transplanting near Roundabout A in NBZ1	60	60	03-Apr-18	14-Jun-18																																	
S3A-1040	Landscaping Softworks in NBZ1	35	35	20-Jul-18	29-Aug-18																																	
Section III - Remainder of Landscaping Softworks Not Included in Section IIIA		120	120	05-Sep-17	29-Jan-18																																	
S3-1000	Transplanting along Reassigned TWSR West	60	60	05-Sep-17	16-Nov-17																																	
S3-1010	Transplanting along Farling Highway	70	70	18-Sep-17	11-Dec-17																																	
S3-1020	Remaining Drainage Works and Land Formation at FH3, FH4, FH5	50	50	28-Sep-17	28-Nov-17																																	
S3-1030	Transplanting near FH3, FH4, FH5	50	50	24-Oct-17	21-Dec-17																																	



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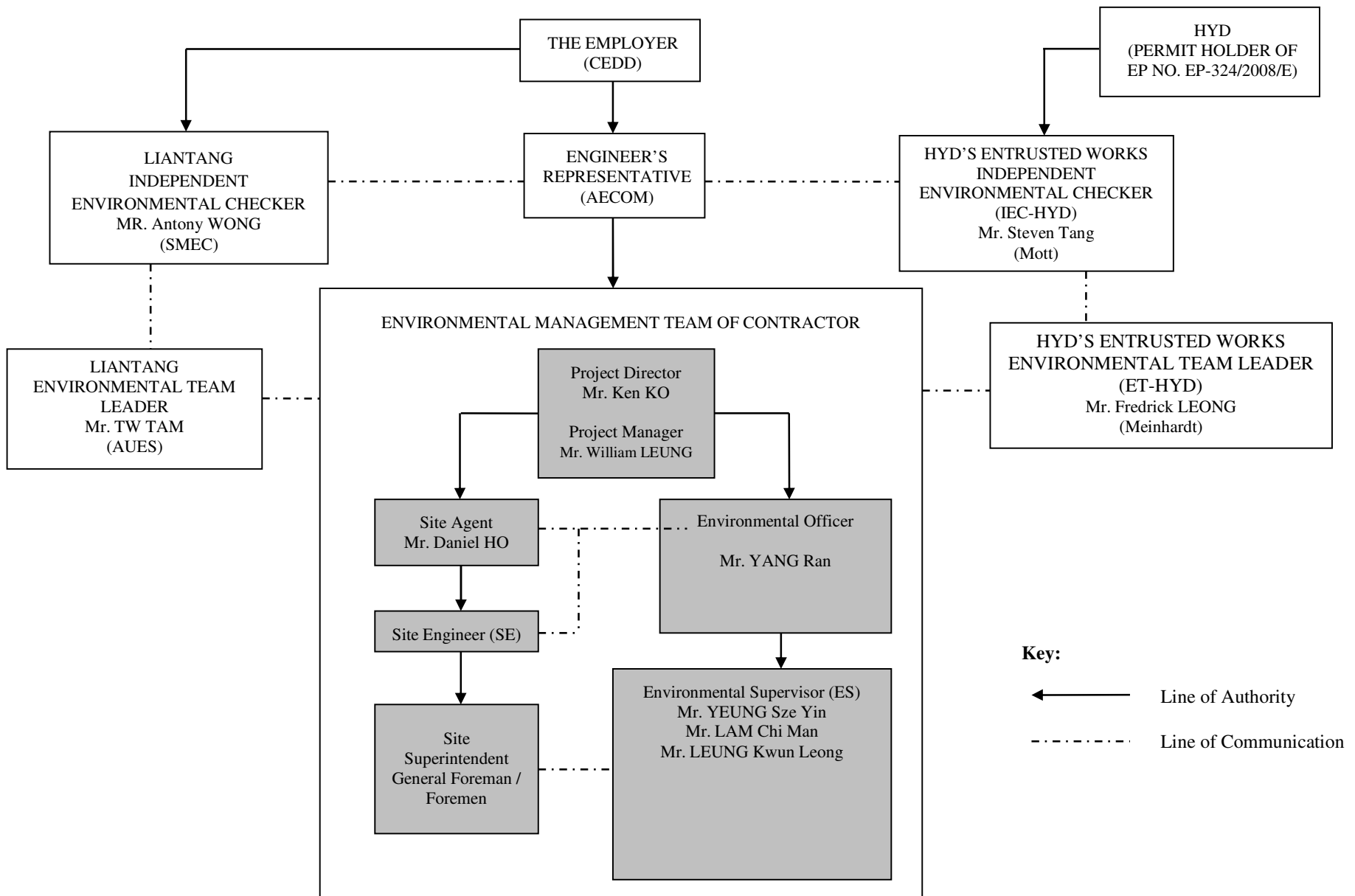
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Updated Master Works Programme (Revision UMP05B)

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07-Mar-17	Draft	Sam Lam	David Tung

Appendix B

Project Organization Structure



Appendix C Implementation Schedule of Environmental Mitigation Measures (EMIS)

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
Air Quality				
Air Quality during Construction	<ul style="list-style-type: none"> Restricting heights from which materials are dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading. All stockpiles of excavated materials or spoil of more than 50m³ shall be enclosed, covered or dampened during dry or windy conditions. Effective water sprays shall be used to control potential dust emission sources such as unpaved haul roads and active construction areas. All spraying of materials and surfaces shall avoid excessive water usage. Vehicles that have the potential to create dust while transporting materials shall be covered, with the cover properly secured and extended over the edges of the side and tail boards. Materials shall be dampened, if necessary, before transportation. Travelling speeds shall be controlled to reduce traffic induced dust dispersion and re-suspension within the site from the operating haul trucks. Vehicle washing facilities shall be provided to minimise the quantity of material deposited on public roads. 	During Construction	Contractor	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
Air Quality during Operation	Not required	N/A	N/A	N/A
Noise				
Noise during Construction	<ul style="list-style-type: none"> Use of silenced plant or plant equipped with mufflers or dampers in substitute of ordinary plant. Reduce the number of equipment and their percentage on-time. 	During Construction	Contractor	<ul style="list-style-type: none"> ✓ ✓
Noise during Operation	Not required	N/A	N/A	N/A
Water Quality				
Water Quality during Construction	<p><u>Road Widening Works, Earthworks and Culvert Extension Works</u></p> <ul style="list-style-type: none"> Wastewater generated from any concrete batching washdown of equipment or similar activities should be discharged into foul sewers, after the removal of settleable solids, and pH adjustment as necessary. All sewage discharges from the study area should meet the TM standards and approval from EPD through the licensing process is required. Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained. 	During Construction	Contractor	<ul style="list-style-type: none"> Rem. ✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
	<ul style="list-style-type: none"> • Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/or silt traps before discharging to the drainage outfalls. • Regular inspections of stilling basins and/or silt traps is required to ensure that sediment is not conveyed into the existing drainage system. • Open stockpiles should be covered with a tarpaulin cover. • During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded. • Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains. • Fuels should be stored in bunded areas such that spillage can be easily collected. 			✓ ✓ ✓ ✓ ✓
Water Quality during Operation	Not required	N/A	N/A	N/A
Waste Management				
Waste Management during Construction	<p><u>General Waste</u></p> <ul style="list-style-type: none"> • Transport of wastes off site as soon as possible. • Maintenance of accurate waste records. • Minimisation of waste generation for disposal (via reduction/recycling/re-use). • No on-site burning will be permitted. • Use of re-useable metal hoardings/signboards. <p><u>Vegetation from site clearance</u></p> <ul style="list-style-type: none"> • Segregation of materials to facilitate disposal. • Mulching to reduce bulk and where possible review opportunities for the possible beneficial use within landscaping areas. <p><u>Demolition Wastes</u></p> <ul style="list-style-type: none"> • Segregation of materials to facilitate disposal. • Appropriate stockpile management. 	During Construction During Construction During Construction	Contractor Contractor Contractor	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
	<p><u>Excavated Materials</u></p> <ul style="list-style-type: none"> Segregation of materials to facilitate disposal / reuse. Appropriate stockpile management. Re-use of excavated material on or off site (where possible). Special handling and disposal procedures in the event that contaminated materials are excavated. 	During Construction	Contractor	✓ ✓ ✓ N/A
	<p><u>Construction Wastes</u></p> <ul style="list-style-type: none"> Segregation of materials to facilitate recycling/reuse (within designated area in appropriate containers/stockpiles). Appropriate stockpile management. Planning to reduce over ordering and waste generation. Recycling and re-use of materials where possible (e.g. metal, wood from formwork) For material which cannot be re-used/recycled, collection should be carried out by an approved waste contractor for landfill disposal. 	During Construction	Contractor	✓ ✓ ✓ ✓ ✓
	<p><u>Bentonite Slurries</u></p> <ul style="list-style-type: none"> Bentonite slurries should be reused as far as possible. Disposal in accordance with Practice Note For Professional Persons ProPECC PN 1/94. 	During Construction	Contractor	N/A N/A
	<p><u>Chemical Wastes</u></p> <ul style="list-style-type: none"> Storage within locked, covered and bunded area. The storage area shall not be located adjacent to sensitive receivers e.g. drains. Minimise waste production and recycle oils/solvents where possible. A spill response procedure shall be in place and absorption material available for minor spillages. Use appropriate and labelled containers. 	During Construction	Contractor	✓ ✓ ✓ ✓ ✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
	<ul style="list-style-type: none"> • Educate site workers on site cleanliness/waste management procedures. • If chemical wastes are to be generated, the contractor must register with EPD as a chemical waste producer. • The chemical wastes shall be collected by a licensed chemical waste collector. <p><u>Municipal Wastes</u></p> <ul style="list-style-type: none"> • Waste shall be stored within a temporary refuse collection facility, in appropriate containers prior to collection and disposal. • Regular, daily collections are required by an approved waste collector. 	During Construction	Contractor	✓ ✓ ✓ ✓ ✓
Waste Management during Operation	Not required.	N/A	N/A	N/A
Ecology				
Ecology during Construction	<p><u>Accurate Delineation of Works Area</u></p> <ul style="list-style-type: none"> • Boundaries of proposed works areas shall be clearly identified and separated from external areas by a physical barrier to prevent encroachment of adjacent habitats. • Individual trees which fall within the works areas but which work plans show do not require removal are to be retained and fenced off to maximise protection. <p><u>Dust generation</u></p> <p>There are a number of measures which shall be taken as specified in the Air Pollution Control (Construction Dust) Regulation on 'Dust Control Requirements, including the following key measures to be applied during construction:</p> <ul style="list-style-type: none"> • vehicle washing facilities to be provided at every discernible or designated vehicle exit point; • all temporary site access roads shall be sprayed with water to suppress dust as necessary; • all dusty materials should be sprayed with water immediately prior to any handling; and 	During Construction	Contractor	✓ ✓ ✓ ✓ ✓

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
	<ul style="list-style-type: none"> all debris should be covered entirely by impervious sheeting or stored in a sheltered debris collection area. <p><u>Surface Run-off</u></p> <p>In general, mitigation measures shall be in accordance with ProPECC PN1/94 on 'Construction Site Drainage'. Key measures include:</p> <ul style="list-style-type: none"> Bund and cover stockpiles to avoid run-off; Channel any run-off through a system of oil, grease and sediment / silt traps and reuse water on site where ever practical; All vehicle maintenance to be undertaken within a bunded area; and Maximise vegetation retention on-site to maximise absorption (minimise transport). 	During Construction	Contractor	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>
Ecology during Operation	<ul style="list-style-type: none"> To conduct compensatory ecological planting as specified in the latest landscape plans approved by EPD (Clause 2.6 of the Environmental Permit refers). 	During Construction and operation	Contractor (during construction) / LCSD* (during operation)	N/A
Landscape and Visual				
Landscape and Visual during Construction	<p><u>Preservation of Existing Vegetation</u></p> <ul style="list-style-type: none"> Trees identified for retention within the project limit would be protected during the works The tree transplanting and planting works shall be implemented by approved Landscape Contractors 	During Construction	Contractor	<p>✓</p> <p>✓</p>

Impact	Environmental Protection Measures	Timing	Responsibility	Implementation Status #
	<p><u>Temporary Works Areas</u></p> <ul style="list-style-type: none"> Where feasible the works areas would be screened using hoarding and existing vegetation would be retained where possible to reduce the landscape and visual impacts arising from the construction activity. The landscape of these works areas would be restored following the completion of the construction phase. <p><u>Hoarding</u></p> <ul style="list-style-type: none"> A hoarding would be erected where practicable in the most visually sensitive locations to screen the temporary construction works from the local VSRs. <p><u>Top Soils</u></p> <ul style="list-style-type: none"> The works will result in disturbance to extensive areas of topsoil. Topsoil worthy of retention should be stockpiled for use following completion of the civil engineering works. It should either be temporarily vegetated with hydroseeded grass or turned over on a regular basis. <p><u>Protection of Important Landscape Features</u></p> <ul style="list-style-type: none"> Important features such as temples, Island House and kilns within the study area, although remote from the proposed works retained and adequately protected. 	During Construction	Contractor	✓
		During Construction	Contractor	✓
		During Construction	Contractor	N/A
		During Construction	Contractor	N/A
Landscape and Visual during Operation	Not required.	N/A	N/A	N/A

Appendix D

Meteorological Data Extracted from Hong Kong Observatory

Daily Extract of Meteorological Observations , May 2019

Day	Hong Kong Observatory							King's Park	Waglan Island [^]		
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
01	1009.1	27.1	25.4	23.8	21.1	78	85	0.2	3.0	***	***
02	1012.1	24.4	23.0	21.7	19.2	80	89	0.5	0.2	***	***
03	1014.5	24.0	21.8	19.3	18.2	81	91	5.3	1.7	***	***
04	1013.2	23.8	22.6	21.0	18.1	76	88	8.4	0.0	***	***
05	1009.4	22.3	21.7	20.9	20.6	93	94	8.3	0.0	***	***
06	1008.7	22.8	21.8	20.0	20.1	90	95	11.3	0.0	***	***
07	1010.2	21.4	20.5	18.9	18.3	87	95	17.0	0.0	***	***
08	1009.3	21.2	20.4	19.8	18.3	88	93	25.1	0.0	***	***
09	1008.1	26.3	22.7	20.2	21.1	90	92	10.0	1.0	***	***
10	1010.0	26.7	23.9	22.7	21.6	87	83	0.0	3.4	***	***
11	1011.5	28.9	25.3	22.8	20.8	76	14	0.0	11.3	***	***
12	1011.2	28.9	25.5	23.5	21.7	80	57	0.0	9.7	***	***
13	1010.5	26.3	25.1	23.9	23.1	89	92	Trace	0.5	***	***
14	1009.2	31.1	27.5	25.2	24.4	84	64	0.0	8.0	***	***
15	1009.1	30.9	28.5	26.4	25.6	85	85	Trace	1.8	***	***
16	1007.4	31.5	29.2	27.8	26.0	83	82	0.8	5.0	***	***
17	1005.5	31.6	29.6	28.4	25.9	80	82	0.1	3.9	***	***
18	1005.2	32.3	30.0	28.5	26.1	80	77	Trace	9.0	***	***
19	1006.9	32.3	30.2	29.2	26.3	80	79	0.0	7.2	***	***
20	1008.0	32.0	29.1	25.0	25.9	83	85	9.0	2.7	***	***
21	1010.8	26.5	25.0	22.6	21.6	82	91	3.3	0.2	***	***
22	1010.1	28.3	25.3	22.6	22.1	83	77	0.7	8.6	***	***
23	1010.2	26.8	25.9	24.7	24.1	90	89	6.5	0.1	***	***
24	1011.0	25.8	24.8	23.8	23.4	92	97	21.5	0.1	***	***
25	1008.8	28.9	26.7	25.1	24.9	90	89	2.4	1.2	***	***
26	1007.8	28.1	26.5	24.7	25.0	92	83	15.1	2.5	***	***
27	1008.1	28.0	26.5	25.4	25.2	93	87	27.8	0.0	***	***
28	1008.7	27.7	25.9	23.9	24.6	92	87	43.9	0.9	***	***
29	1009.9	25.7	24.7	23.4	23.1	91	95	3.2	0.0	***	***
30	1010.1	25.9	24.4	23.2	22.5	89	97	3.2	1.0	***	***
31	1008.7	26.7	25.7	25.0	24.4	93	93	11.0	0.1	***	***
Mean/Total	1009.5	27.2	25.3	23.7	22.7	86	83	234.6	83.1	***	***
Normal [§]	1009.3	28.4	25.9	24.1	22.6	83	76	304.7	140.4	080	19.7

*** unavailable

[^] Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

[§] 1981-2010 Climatological Normal, unless otherwise specified

Daily Extract of Meteorological Observations , June 2019

Day	Hong Kong Observatory							King's Park	Waglan Island [^]		
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
01	1007.5	30.8	27.2	24.9	24.7	87	85	32.6	2.0	***	***
02	1007.2	31.2	27.2	25.4	24.6	86	81	3.0	4.5	***	***
03	1007.3	30.2	27.5	25.3	24.7	85	83	34.1	3.8	***	***
04	1008.6	31.1	28.0	25.9	25.9	89	84	38.1	3.4	***	***
05	1009.5	32.6	29.4	27.4	25.9	82	78	0.0	7.3	***	***
06	1010.4	33.0	30.2	28.5	25.9	78	76	Trace	7.8	***	***
07	1010.4	33.2	30.1	28.6	25.5	77	72	0.0	9.9	***	***
08	1008.5	32.4	30.1	28.2	25.4	76	76	1.1	9.6	***	***
09	1005.4	32.3	30.1	28.4	26.0	79	82	4.1	6.4	***	***
10	1003.5	31.7	29.5	25.8	25.7	81	86	3.3	2.3	***	***
11	1004.4	29.4	27.5	24.6	25.9	91	90	111.6	0.3	***	***
12	1005.3	29.6	27.5	26.5	25.8	91	89	1.5	1.4	***	***
13	1003.0	30.7	27.7	25.5	25.6	88	90	55.8	0.2	***	***
14	1002.4	31.6	28.4	25.4	23.5	76	58	16.5	10.7	***	***
15	1005.3	31.4	28.6	26.4	23.4	74	42	Trace	11.1	***	***
16	1006.5	30.1	27.9	26.8	24.1	80	77	0.0	9.0	***	***
17	1007.3	28.7	27.6	26.8	25.3	88	87	4.7	0.5	***	***
18	1008.1	30.0	28.6	27.5	26.4	88	82	11.1	2.4	***	***
19	1007.8	31.7	28.9	26.5	26.4	87	84	14.0	2.8	***	***
20	1006.9	32.5	30.1	28.2	26.1	80	66	0.5	9.2	***	***
21	1005.9	32.8	30.8	29.5	26.3	77	79	0.7	8.7	***	***
22	1004.7	33.0	30.7	28.7	26.4	78	81	0.7	8.9	***	***
23	1004.8	32.2	30.3	29.1	26.4	80	84	3.2	3.9	***	***
24	1006.2	30.6	29.1	24.7	26.2	85	88	16.8	0.2	***	***
25	1006.7	29.7	27.2	24.8	25.1	89	88	35.4	0.4	***	***
26	1004.0	31.4	28.6	26.1	26.0	86	78	0.9	3.7	***	***
27	1001.7	32.5	30.2	28.3	26.9	83	78	3.5	5.3	***	***
28	1001.7	32.7	30.5	29.3	27.1	82	77	2.2	5.3	***	***
29	1001.6	33.3	31.0	29.5	26.8	79	72	0.6	6.5	***	***
30	1001.6	33.0	29.5	26.9	26.7	85	74	33.1	6.4	***	***
Mean/Total	1005.8	31.5	29.0	27.0	25.7	83	79	429.1	153.9	***	***
Normal [§]	1006.1	30.2	27.9	26.2	24.6	82	77	456.1	146.1	220	22.9

*** unavailable

[^] Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

[§] 1981-2010 Climatological Normal, unless otherwise specified

Daily Extract of Meteorological Observations , July 2019

Day	Hong Kong Observatory								King's Park	Waglan Island [^]	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
01	1001.6	33.2	30.0	26.8	26.5	82	72	15.3	***	***	***
02	1001.4	31.1	28.9	26.3	26.0	85	82	19.1	***	***	***
03	1004.0	28.7	26.6	25.5	25.7	95	93	79.1	***	***	***
04	1006.3	32.3	29.1	27.0	26.0	84	85	13.0	***	***	***
05	1004.9	32.0	29.5	26.8	25.4	79	83	1.3	***	***	***
06	1003.5	31.6	29.8	27.9	25.9	80	85	1.5	***	***	***
07	1004.7	31.4	29.7	28.9	26.0	81	88	4.3	***	***	***
08	1005.6	32.3	30.1	29.1	26.1	79	85	0.1	***	***	***
09	1003.4	31.7	30.0	28.7	26.1	80	88	6.0	***	***	***
10	1003.5	30.2	28.6	26.5	26.0	86	88	14.3	***	***	***
11	1007.5	30.9	28.8	27.5	26.1	86	87	6.0	***	***	***
12	1007.4	32.3	29.9	28.1	26.0	80	82	2.6	***	***	***
13	1005.4	32.2	30.1	29.2	25.6	77	88	Trace	***	***	***
14	1004.0	32.3	30.1	29.2	26.0	79	85	Trace	***	***	***
15	1004.8	33.7	30.4	28.7	26.0	77	74	0.0	***	***	***
16	1004.7	33.4	30.3	28.4	25.5	76	47	0.0	***	***	***
17	1001.4	33.1	30.5	28.3	26.5	79	66	0.0	***	***	***
18	998.7	35.0	31.3	29.6	26.4	75	53	Trace	***	***	***
19	1001.2	32.8	29.5	26.9	26.3	83	73	22.6	***	***	***
20	1005.2	31.9	28.6	26.6	26.1	87	85	6.4	***	***	***
21	1006.4	31.5	29.3	27.3	26.1	83	85	0.1	***	***	***
22	1005.5	31.5	29.2	27.1	25.7	82	88	0.4	***	***	***
23	1005.3	32.7	29.5	27.2	25.8	80	75	Trace	***	***	***
24	1006.6	33.1	30.0	28.4	26.3	81	68	Trace	***	***	***
25	1008.0	32.6	30.1	28.3	25.9	79	62	1.0	***	***	***
26	1006.9	33.5	30.7	28.8	25.8	76	63	Trace	***	***	***
27	1005.8	33.3	30.6	29.0	25.7	76	78	0.0	***	***	***
28	1006.6	32.3	29.6	28.0	25.7	80	77	0.5	***	***	***
29	1006.6	31.4	28.8	27.4	25.4	82	79	1.0	***	***	***
30	1004.5	31.5	28.9	26.7	25.6	82	84	12.8	***	***	***
31	1002.0	28.1	26.2	24.5	24.6	91	91	121.1	***	***	***
Mean/Total	1004.6	32.1	29.5	27.7	25.9	81	79	328.5	***	***	***
Normal [§]	1005.7	31.4	28.8	26.8	25.1	81	69	376.5	212.0	230	21.3

*** unavailable

[^] Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

[§] 1981-2010 Climatological Normal, unless otherwise specified

Appendix E Environmental Monitoring Data for Air, Noise and Water Quality

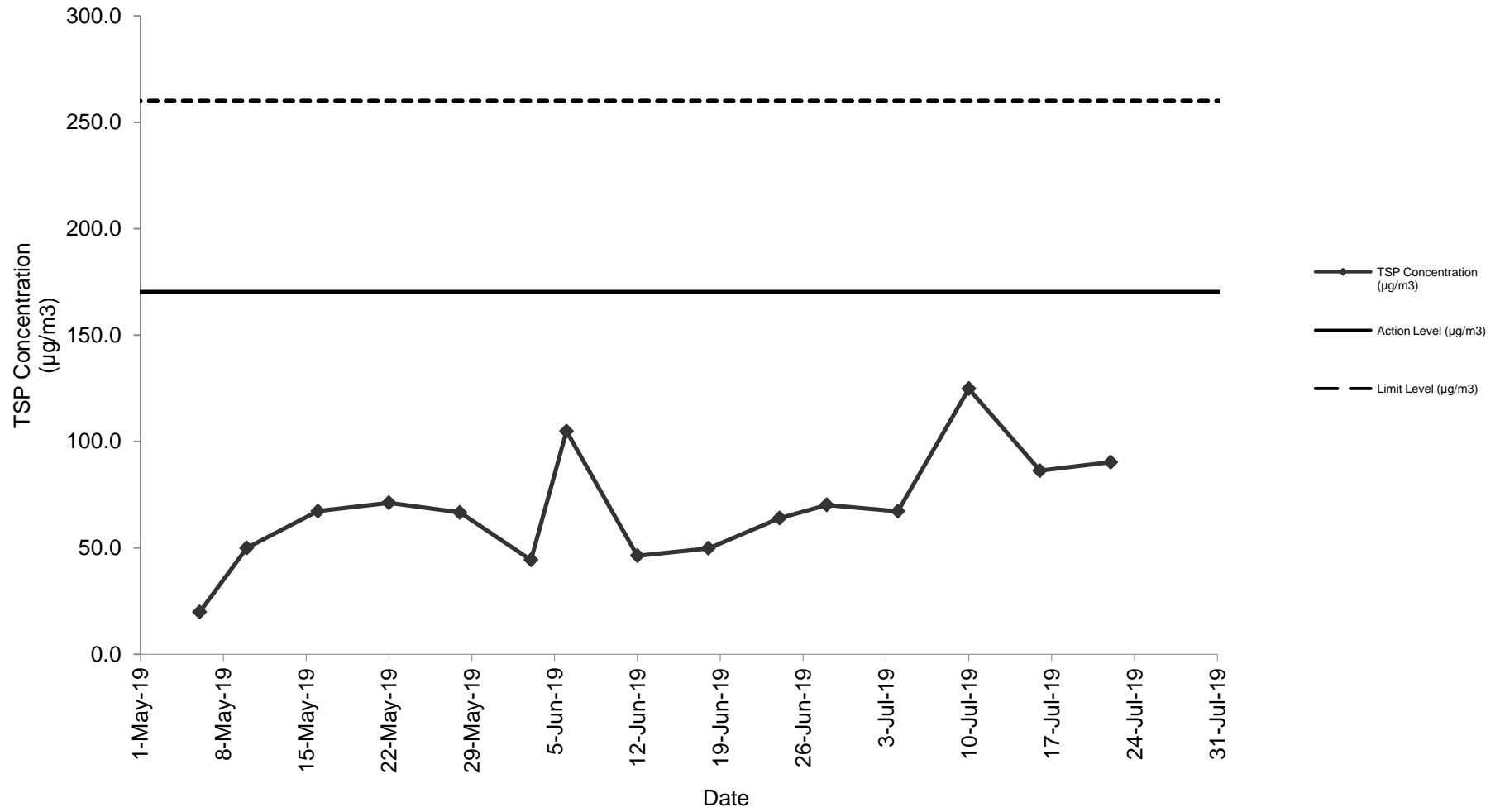
Appendix E
Air Quality Monitoring Results and their Graphical Presentation

24-Hour TSP Monitoring Result at Station: SR77

Sampling Date	Weather Condition	Paper No.	Wt. of paper (g)			Elapse Time			Flow Rate (CFM)			Flow Rate (m ³ /min)			Total Volume (m ³)	TSP Concentration (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Wind speed m/s	Wind direction
			Initial Wt.	Final Wt.	Wt. of Dust	Initial	Final	Sampling Hour	Initial	Final	Avg Flow Rate	Initial	Final	Avg Flow Rate						
6-May-19	Cloudy	C260	2.6749	2.7162	0.0413	35.67	59.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	19.9	170.3	260.0	<5	N
10-May-19	Sunny	C262	2.6512	2.7551	0.1039	62.67	86.67	24.00	51	51	51.0	1.44	1.44	1.44	2079.59	50.0	170.3	260.0	<5	N
16-May-19	No data was provided, due to the eletricity supply was suspended.																			
22-May-19	Sunny	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	67.2	170.3	260.0	<5	N
28-May-19	Sunny	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	71.2	170.3	260.0	<5	N
3-Jun-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	66.7	170.3	260.0	<5	N
6-Jun-19	Fine	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	44.4	170.3	260.0	<5	N
12-Jun-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	104.8	170.3	260.0	<5	N
18-Jun-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	46.3	170.3	260.0	<5	N
24-Jun-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	49.8	170.3	260.0	<5	N
28-Jun-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	64.0	170.3	260.0	<5	N
4-Jul-19	Fine	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	70.2	170.3	260.0	<5	N
10-Jul-19	Cloudy	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	67.2	170.3	260.0	<5	N
16-Jul-19	Fine	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	124.8	170.3	260.0	<5	N
22-Jul-19	Fine	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	86.3	170.3	260.0	<5	N
26-Jul-19	Fine	-	-	-	-	-	-	24.00	-	-	-	-	-	-	-	90.3	170.3	260.0	<5	N

Summary For the Reporting Quarter (May 2019 - July 2019)	
Average	68.2
Minimum	19.9
Maximun	124.8

24-Hour TSP Monitoring Result at Station: SR77 (May 2019 - July 2019)



Appendix E

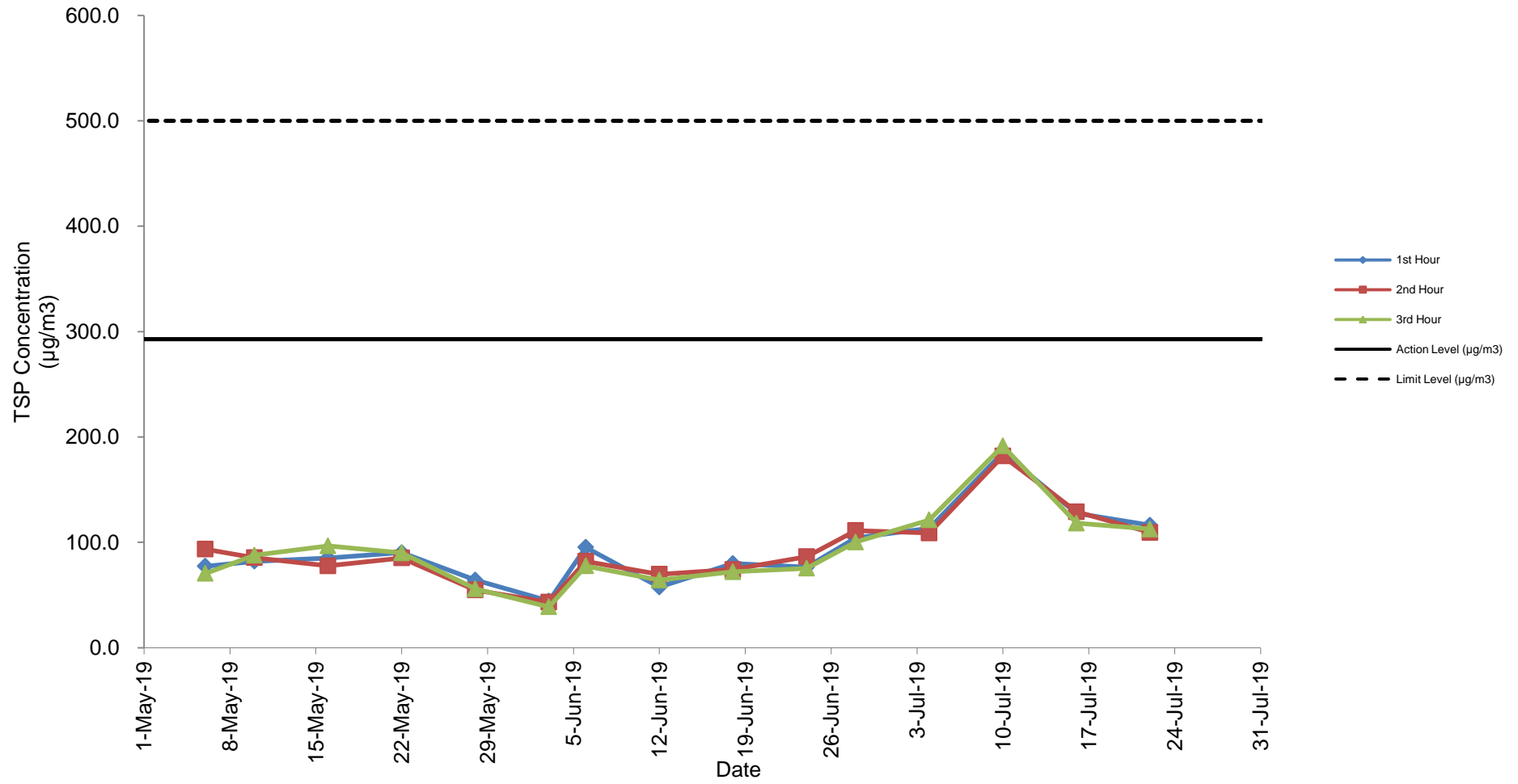
Air Quality Monitoring Results and their Graphical Presentation

1-Hour TSP Monitoring Result at Station: SR77

Date	Weather Condition	Time			Conc.(µg/m ³)			Action Level (µg/m ³)	Limit Level (µg/m ³)
					1 st Hour	2 nd Hour	3 rd Hour		
6-May-19	Sunny	9:00	-	12:08	77.3	93.5	70.4	292.7	500.0
10-May-19	Sunny	9:00	-	12:08	81.9	85.4	87.7	292.7	500.0
16-May-19	No data was provided, due to the electricity supply was suspended.								
22-May-19	Sunny	11:00	-	14:00	85.1	77.7	96.6	292.7	500.0
28-May-19	Sunny	11:00	-	14:00	90.1	85.2	89.9	292.7	500.0
3-Jun-19	Cloudy	9:45	-	12:45	64.2	54.7	55.8	292.7	500.0
6-Jun-19	Fine	9:00	-	12:00	44.3	43.2	38.7	292.7	500.0
12-Jun-19	Cloudy	9:00	-	12:00	95.2	81.9	77.5	292.7	500.0
18-Jun-19	Cloudy	9:00	-	12:00	57.5	69.7	64.2	292.7	500.0
24-Jun-19	Cloudy	9:00	-	12:00	79.8	74.3	72.1	292.7	500.0
28-Jun-19	Cloudy	9:00	-	12:00	76.4	86.3	75.3	292.7	500.0
4-Jul-19	Fine	9:45	-	11:45	104.1	111.1	100.3	292.7	500.0
10-Jul-19	Cloudy	9:00	-	11:00	113.2	108.8	121.2	292.7	500.0
16-Jul-19	Fine	9:00	-	11:00	185.1	181.8	191.4	292.7	500.0
22-Jul-19	Fine	9:00	-	11:00	127.5	129.0	118.2	292.7	500.0
26-Jul-19	Fine	9:00	-	11:00	116.2	109.3	112.6	292.7	500.0

Summary For the Reporting Quarter (May 2019 - July 2019)	
Average	92.5
Minimum	38.7
Maximum	191.4

1-Hour TSP Monitoring Result at station: SR77 (May 2019 - July 2019)

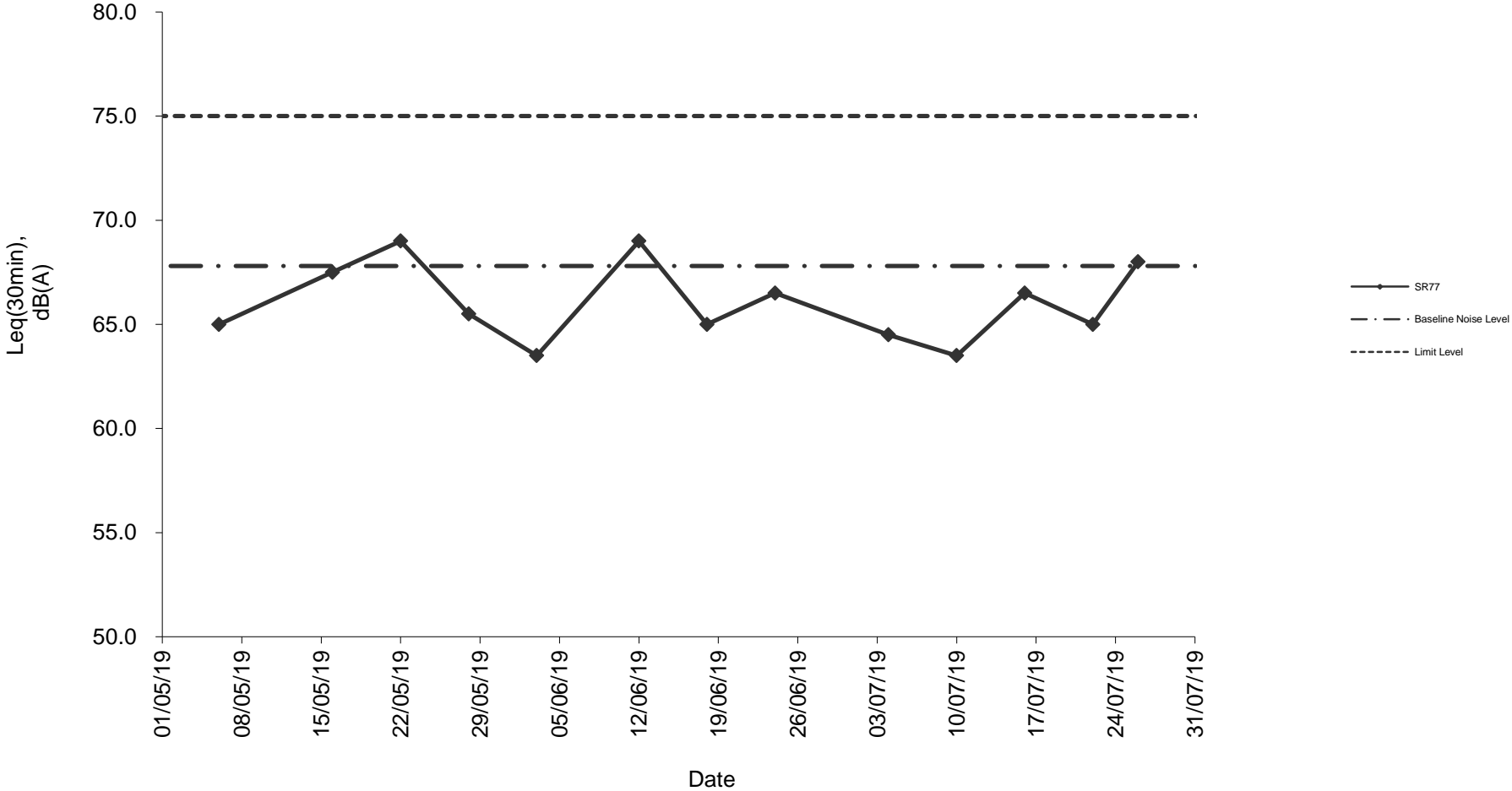


Noise Monitoring Result at SR77

Date	Weather Condition	Start Time	End Time	Measured Noise Level (dB(A))*			Baseline Corrected Level, dB(A)**	Baseline Noise Level (dB(A)), Leq(30min)	Limit Level dB(A)	Exceedance (Y / N)
				L10(30min)	L90(30min)	Leq(30min)				
2019-05-06	Cloudy	11:15	11:45	92.0	63.5	65.0	-	67.8	75.0	N
2019-05-16	Sunny	11:15	11:45	93.5	66.0	67.5	-	67.8	75.0	N
2019-05-22	Fine	11:30	12:00	93.5	60.5	69.0	-	67.8	75.0	N
2019-05-28	Sunny	11:30	12:00	85.5	56.0	65.5	-	67.8	75.0	N
2019-06-03	Cloudy	11:15	11:45	97.0	58.0	63.5	-	67.8	75.0	N
2019-06-12	Cloudy	11:15	11:45	99.0	56.5	69.0	-	67.8	75.0	N
2019-06-18	Cloudy	11:15	11:45	91.5	56.0	65.0	-	67.8	75.0	N
2019-06-24	Cloudy	11:15	11:45	98.5	56.5	66.5	-	67.8	75.0	N
2019-07-04	Fine	11:15	11:45	97.5	58.5	64.5	-	67.8	75.0	N
2019-07-10	Cloudy	11:15	11:45	100.0	60	63.5	-	67.8	75.0	N
2019-07-16	Fine	11:15	11:45	94.5	61	66.5	-	67.8	75.0	N
2019-07-22	Fine	11:15	11:45	103.5	56	65	-	67.8	75.0	N
2019-07-26	Fine	11:15	11:45	106.5	57.0	68.0	-	67.8	75.0	N

Summary For the Reporting Quarter (May 2019 - July 2019)	
Average	66.0
Minimum	63.5
Maximum	69.0

**Noise monitoring result: SR77
(May 2019 - July 2019)**



Appendix F

Waste Flow Table

Monthly Summary Waste Flow Table

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	Soil	Soil Reused in the Contract	Soil Reused in other Projects	Soil Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging (Note 3)	Plastics	Chemical Waste	General Refuse (Note 2)
Unit	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in m ³)	(in '000m ³)
May-19	4.291	0.414	3.877	-	-	3.877	0.000	-	-	-	-	0.180
Jun-19	1.345	-	1.345	-	-	1.345	0.301	-	-	-	-	0.115
Jul-19	1.105	-	1.105	0.000	-	1.105	0.048	-	-	-	-	0.090
Total	6.741	0.414	6.327	-	-	6.327	0.349	-	-	-	-	0.385

- Note:
1. Assume the density of soil fill is 2 ton/m³.
 2. Assume the density of rock and broken concrete is 2.5 ton/m³.
 3. Assume each truck of C&D wastes is 5m³.
 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.
 7. Assume the density of metal is 7,850 kg/m³.

Appendix G Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative Complaint Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
C131126	26, November, 2013	Mr. Tony Hung from WWF	Mat Wat River (works sites for box culvert extension)	Suspected unauthorised discharge of water from a construction site to Ma Wat River, Tai Wo Service Road East, Tai Po	<p>It was found that the water leaving the end of the steel pipes was the diverted water from the upstream of the existing box culverts, instead of being discharged from the construction works sites.</p> <p>An EM&A Programme is being undertaken to monitoring the environmental performance of the construction works, and the Contractor has also implemented appropriate mitigation measures to avoid silt-laden runoff discharging from the works sites into the river.</p> <p>The complaint is considered an invalid complaint under this Project.</p>	Completed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
C141120	20 November, 2014	EPD	Ng Tung River and Ma Wat River nearby the site of the Liantang/ Heung Yuen Wai BCP Project (Contract Number CV/2012/09)	At Bridge NF426 in Fanling, the whole Ng Tung River showed milky and suspected illegal discharge by nearby factory has undertaken. (粉嶺近天橋編號 NF426 梧桐河整條河河水呈奶白色懷疑附近有工廠非法排放污水)	<p>Water Supplies Department (WSD) conducted a washout procedure on 20 November 2014 at about 9:30am to flush the newly installed water pipe of diameter of 1400mm which has recently finished disinfection. It is understood that the procedure has lasted for about 1 hour and large amount of freshwater has been discharged into the Ma Wat River through a washout port.</p> <p>Although water was observed seeping from the gantry switch and flew into the works sites, the area is a sump pit and the water was unlikely to run off and entered the river directly. As such, it is anticipated that only freshwater has been discharged into Ma Wat River through the washout port.</p> <p>Both site inspections conducted by the ET before the complaint (19 November 2014), and after the complaint (24 November 2014) did not identify any deficiencies on environmental mitigation measures. Also, there were no rains during the period and the risk of construction site run-off is considered minimal.</p>	Completed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>The water from the Ma Wat Channel adjoins the Ng Tung River before passing through the complaint location, so other pollution sources may also occur at upstream of Ng Tung River</p> <p>The complaint is considered unlikely due to the construction works of this project.</p>	
C171228	28 December, 2017	1823	Kau Lung Hang and Hong Lok Yuen	<p>Air quality issue nearby Kau Lung Hang and Hong Lok Yuen area. Stockpiling within the Project area was observed to be uncovered, causing dust dispersion within the area. (大埔九龍坑附近的空氣污染問題嚴重。吐露港公路蓮塘口岸隧道工程經常見到沙泥沒有覆蓋，導致沙土飛揚散佈九龍坑，康樂園一帶，造成極大困擾與明顯健康風險。要求立即改善，懲罰相</p>	<p>The Environmental Team (ET) was informed of the complaint through Chun Wo and CEDD via 1823 online-enquiry/ complaint form received on 28 December 2017 at 9:04am. Investigation was triggered in accordance with the procedures as specified in Section 7.3 of the EM&A Manual. A joint investigation by the ET and the IEC was conducted on 28 December 2017.</p> <p>As advised by the Contractor, no construction works were carried out during the public holiday.</p> <p>No exceedance of TSP level at the air monitoring station under this Contract was recorded in the past six months except 8 December 2017.</p>	

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				<p>關建築商。附圖是該區狀況。昨日洗車，一日已經沙塵滿佈。)</p>	<p>Exceedance on 8 December 2017 was considered not project related as no major excavation works located close to the monitoring location at SR77.</p> <p>Based on the routine environmental site inspection and information provided by the Contractor, it is considered that dust suppression measures have been implemented to minimize dust nuisance arising from the works areas. Nonetheless, the ET and IEC will continue the auditing and reviewing of the Contractor's implementation of mitigation measures during the construction period.</p>	



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