

Ref.: HYDHZMBEEM00_0_5288L.17

21 April 2017

By Fax (3468 2076) and By Post

AECOM Asia Co. Ltd. The PRE's Office 5 Ying Hei Road, Tung Chung, Lantau Hong Kong

Attention: Mr. Michael Tovev

Dear Sir,

Agreement No. CE 48/2011 (EP) Re:

Environmental Project Office for the

HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities,

and Tuen Mun-Chek Lap Kok Link - Investigation

Contract No. HY/2013/03 - HZMB HKBCF - Vehicle Clearance Plazas and

Ancillary Buildings and Facilities

Monthly Environmental Monitoring & Audit Report for March 2017

Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for March 2017 (Rev. 2) certified by the ET Leader (ET's ref.: "MCL/ED/0254/2017/C" dated 20 April 2017) and provided to us via e-mail on 21 April 2017.

We are pleased to inform you that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 5.4 of the Environmental Permit No. EP-353/2009/K.

The ET Leader is reminded that it is the ET's responsibility to ensure the report be timely submitted to the Director of Environmental Protection and the reported information be true, valid and correct as per Conditions 5.4 and 5.5 of EP-353/2009/K.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully, For and on behalf of Ramboll Environ Hong Kong Limited

Raymond Dai

Independent Environmental Checker

C.C. HyD Mr. Vico Cheung (By Fax: 3188 6614) Mr. Ken Woo (By Fax: 3188 6614) HyD Mr. Arthur Chena (By Fax: 2450 8032) MCL CHEC Mr. Johnason Ko (By Fax: 2887 3014)

Internal: DY, YH, ENPO Site

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MCL/ED/0254/2017/D

20 April 2017

Date

Our Ref.

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Website: www.materialab-consultant.com

Ramboll Environ Hong Kong Limited (formerly ENVIRON Hong Kong Limited) 21/F, BEA Harbour View Centre 56 Gloucester Road, Wan Chai Hong Kong

Attn.: Mr. Raymond Dai, IEC

BY HAND

Dear Sir.

EP Condition 5.4 - Monthly EM&A Report for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities -Vehicle Clearance Plazas and Ancillary Buildings and Facilities (Contract No. HY/2013/03)

Pursuant to Condition 5.4 of the Environmental Permit (EP-353/2009/K) for the captioned project, we are pleased to submit the certified Monthly EM&A Report for March 2017 (Rev.2) for your verification.

Should you require further information, please do not hesitate to contact our Miss Jamie Tam at 3565 4157 or the undersigned at 3565 4115.

Yours faithfully, for and on behalf of MATERIALAB CONSULTANTS LIMITED

Arthur Chena

Environmental Team Leader

AC/jt

AECOM - Mr. P.K. Lee, Mr. W.S. Ng, Mr. Patrick Ko C.C. RAMBOLL ENVIRON - Mr. Ray Yan, Mr. Andy Wong

CHEC - Mr. Marko Chan

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Report No.: 0165/15/ED/0761

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT (Rev. 2)

March 2017

Client:

China Harbour Engineering Co., Ltd.

Project:

Contract No. HY/2013/03

Hong Kong-Zhuhai-Macao Bridge

Hong Kong Boundary Crossing Facilities -

Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Report No.:

0165/15/ED/0761

Prepared by: Jamie Tam

Reviewed by: Bong Yu

Certified by:

Arthur Cheng

Environmental Team Leader

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EXECUTIVE SUMMARY

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2013/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities" (includes the construction works of Contract No. HY/2013/06 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System" within Contract No. HY/2013/03 works area) (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2013/03 was awarded to China Harbour Engineering Co. Limited (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited within Contract No. HY/2013/03 works area) (hereafter referred to as "the Contractor") and MateriaLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by the Contractor.

Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register.

Commencement of Contract No. HY/2013/03 took place on 10 April 2015 while the construction works and the EM&A programme of Contract No. HY/2013/03 commenced on 29 August 2015 (commencement of Contract No. HY/2013/06 took place on 14 August 2015 while the construction works and the EM&A programme of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area commenced on 13 September 2016).

MateriaLab Consultants Limited (MCL) has been appointed by the Contractor to implement the Environmental Monitoring & Audit (EM&A) programme for the Contract in accordance with the Updated EM&A Manual for HKBCF (Version 1.0) and will be providing environmental team services for the Contract.

This is the 19th Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 01 March 2017 to 31 March 2017 (includes the findings of the EM&A programme of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area during the reporting period from 01 March 2017 to 31 March 2017) (the "reporting period"). The monthly EM&A programme was undertaken in accordance with the Updated EM&A Manual for HKBCF (Version 1.0). It should be noted that the air quality and noise monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao Bridge HKBCF — Reclamation Works" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road — Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 and noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2010/02 and HY/2011/03. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) during the reporting period are listed below:

Environmental Site Inspection: 02, 09, 16, 24 and 30 March 2017.

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Breaches of Action and Limit Levels

Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

There was no marine works conducted during the reporting period and therefore, no water quality impact monitoring result is reported.

There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.

Complaint Log

There were two complaints received in relation to the environmental impact during the reporting period.

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
006	ENPO-C0110	21 March 2017	Water pollution
007	ENPO-C0113	28 March 2017	Noise and water pollution

After investigation, one complaint cannot be concluded that the captioned complaint was related to Contract No. HY/2013/03 due to lack of information and another complaint was not related to Contract No. HY/2013/03. Both complaints were not related to Contract No. HY/2013/06 within Contract No. HY/2013/03.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Reporting Changes

There was no reporting change during the reporting period.

Future Key Issues

The future key issues to be undertaken in the upcoming month are:

For Contract No. HY/2013/03

- 1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
- Piling at Box Culvert B & Sign Gantry:
- CUE Construction at Portion B, C & J: 3.
- Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1; 4.
- 5. Radiation Screen Wall at Portion B, E P, N,M,C;
- Sign Gantry Footing at Portion B; 6.
- Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G; 7.
- Bridge Works at A1 to A9; 8.

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- 9. Site Foundation Works at Portion K;
- 10. Cover Walkway at Portion H1 & H2;
- 11. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E; and
- 12. Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

1. Installation of conceal conduit and services conduit installation at Building 037 and CUE works area.

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1. INTRODUCTION

1.1 Background

- 1.1.1 MateriaLab Consultants Limited was commissioned by China Harbour Engineering Co. Limited (also referred to as "the Contractor") to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for Contract No. HY/2013/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities Vehicle Clearance Plazas and Ancillary Buildings and Facilities" (includes the construction works of Contract No. HY/2013/06 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities Automatic Vehicle Clearance Support System" within Contract No. HY/2013/03 works area) ("the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR).
- 1.1.2 Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) is part of Hong Kong–Zhuhai–Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) which is "Designated Projects", under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499) and for which an EIA Report (Register No. AEIAR-145-2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP- 353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance. The general layout of the Project area is shown in Appendix A.
- 1.1.3 This is the nineteenth EM&A report to document the findings of site inspection activities and EM&A programme carried out by the Contractor of Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) from 01 March 2017 to 31 March 2017 (reporting period) under Contract No. HY/2013/03 (from 01 March 2017 to 31 March 2017 for the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) and is submitted to fulfil Condition 5.4 of the EP.

1.2 Project Description

- 1.2.1 The works to be executed under Contract No. HY/2013/03 include the following major items:
 - a. Cargo clearance facilities including kiosks for clearance of good vehicles, customs inspection platforms, X-ray building, etc.;
 - b. Passenger related facilities including processing kiosks and examination facilities for private cars and coaches, annexure for examination of accompanying passengers of private cars, etc.:
 - c. Accommodation/offices for the facilities (like fire station, police station, buildings for Immigration Department [ImmD], Hong Kong Customs and Excise Department [C&ED], Agriculture, Fisheries and Conservation Department [AFCD], Food and Environmental Hygiene Department [FEHD], Department of Health [DofH] etc.) of the Government departments providing services in connection with the HKBCF;
 - d. Provision of transport and miscellaneous facilities inside the HKBCF including public transport interchange (PTI), transport drop-off and pick-up areas, vehicle holding areas, passenger queuing areas, road networks, footbridges, fencing, sewerage and drainage systems, sewage treatment plant and treated effluent disposal facilities, water supply system, building services works, electronic system, and traffic control and information system including traffic control and surveillance system (TCSS), etc.;

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- e. Provision of roads connecting the BCF to the Hong Kong Link Road (HKLR), the Tuen Mun Chek Lap Kok Link (TM-CLKL) and the Hong Kong International Airport (HKIA), expect the part of road works in HKIA entrusted to the HKLR project; and
- f. Reprovisioning of the affected HKIA's facilities, expect those affected by the Automated People Mover (APM) system such as the existing east rescue berth.
- 1.2.2 The works to be executed under Contract No. HY/2013/06 within Contract No. HY/2013/03 works area include the following major items:
 - a. The Automatic Vehicle Clearance Support System amid to increasing traffic flow for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities;
 - b. Responsible for designs and develops a set of tailor-made computer monitoring and control systems to for daily security operation; and
 - c. The Clearance Workstations at 72 vehicle clearance kiosks, Customs and Excise's inbound and outbound traffic control centers as well as a Vehicle Tracking System.

1.3 Project Organisation

1.3.1 The Project Organisation for Environmental Works of Contract No. HY/2013/03 is shown in **Appendix B**. The contact person and telephone numbers of key personnel for the captioned project are shown in **Table 1.1**:

Table 1.1 Contact Persons and Telephone Numbers of Key Personnel (for Contract No. HY/2013/03)

Party	Position	Contact Person	Telephone No.	Fax No.
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Michael Tovey	3985 7470	3902 8800
Environmental Project Office /	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
Independent Environmental Checker	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
(Ramboll Environ Hong Kong Limited)	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (China Harbour	Site Agent	Mr. Paul Pui	9125 0700	2512 0427
Engineering Co. Ltd)	Environmental Officer	Mr. Marko Chan	9427 2879	2512 0427
Environmental Team (MateriaLab Consultants Limited)	Environmental Team Leader (ETL)	Mr. Arthur Cheng	3565 4115	2450 8032
24-hr Complaint Hotline			5236 7111	

1.3.2 The Project Organisation for Environmental Works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area is shown in **Appendix B**. The contact person and telephone numbers of key personnel for the captioned project are shown in **Table 1.2**:

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Table 1.2 Contact Persons and Telephone Numbers of Key Personnel (for Contract No. HY/2013/06 within Contract No. HY/2013/03 works area)

Party	Position	Contact Person	Telephone No.	Fax No.
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Michael Tovey	3985 7470	3902 8800
Environmental Project Office /	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
Independent Environmental Checker	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
(Ramboll Environ Hong Kong Limited)	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (ATAL Technologies	Site Agent	Mr. Eric Yim	2565 3355	3162 5217
Limited)	Environmental Officer	Mr. W. Li	2565 3137	3162 5217
Environmental Team (MateriaLab Consultants Limited)	Environmental Team Leader (ETL)	Mr. Arthur Cheng	3565 4115	2450 8032
24-hr Complaint Hotline			6509 0375	

- 1.3.3 The Contract HY/2013/03 has commenced on 10 April 2015. The commencement of construction works and the EM&A programme have commenced on 29 August 2015.
- 1.3.4 The Contract HY/2013/06 has commenced on 14 August 2015. The commencement of construction works and the EM&A programme have commenced on 13 September 2016 within Contract No. HY/2013/03 works area.

1.4 Construction Programme

1.4.1 The construction programme for Contract No. HY/2013/03 (includes the construction works of HY/2013/06 within Contract No. HY/2013/03 works area) are provided in **Appendix C**.

1.5 Construction Works Undertaken during the Reporting Period

1.5.1 The construction works of Contract No. HY/2013/03 commenced on 29 August 2015 (includes the construction works of Contract No. HY/2013/06 commenced on 13 September 2016 within Contract No. HY/2013/03 works area). During this reporting period, the following major site activities were commenced:

For Contract No. HY/2013/03

- 1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
- 2. Piling at Box Culvert B & Sign Gantry;
- 3. CUE Construction at Portion B, C & J;
- 4. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
- 5. Radiation Screen Wall at Portion B, E P, N,M,C;
- Sign Gantry Footing at Portion B;
- 7. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G;

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- 8. Bridge Works at A1 to A9;
- 9. Site Foundation Works at Portion K;
- 10. Cover Walkway at Portion H1 & H2:
- 11. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E; and
- Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

- Wiring and installation of services conduit at Building 037 and CUE works area.
- 1.5.2 Refer to operation team confirmation and further checking, the reported construction works for box culverts, pumping stations and STP were confirmed land-based for Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area). There were no work activities or construction works at the seafront or in contact with marine water during the reporting period for Contract No. HY/2013/03 (includes the construction works of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area).

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2. AIR QUAILITY MONITORING

2.1 Monitoring Locations

2.1.1 The air quality monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao-Bridge HKBCF – Reclamation Works" and Contract No. HY/2011/03 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7 as part of EM&A programme if these air quality monitoring stations are no longer covered under Contract No. HY/2010/02 and HY/2011/03. **Figure 1** shows the locations of air monitoring stations.

Table 2.1 Air Quality Monitoring Location

Air Monitoring Station	Location
AMS6	Dragonair/CNAC (Group) Building (A80)
AMS7	Hong Kong SkyCity Marriott Hotel

2.2 Monitoring Requirements

- 2.2.1 The monitoring requirements, equipment, parameters, frequency and duration, methodology, schedule, and meteorological information are described in the monthly EM&A Reports prepared for Contract No. HY/2010/02 and HY/2011/03.
- 2.2.2 The Action and Limit levels for 1-hr TSP and 24-hr TSP are summarized in Table 2.2.

Table 2.2 Action and Limit Levels for Air Quality

Monitoring Station	Action Level (µg/m³)	Limit Level (µg/m³)	
	1 hour TSP		
AMS6	360	E00	
AMS7	370	500	
24 hours TSP			
AMS6	173	260	
AMS7	183	260	

- 2.2.3 The event and action plan is provided in **Appendix D**.
- 2.2.4 If exceedance(s) at these stations is/are recorded by the ET of the Contract or referred by the other ET under the HZMB project to the Contract, the ET of the Contract will carry out an investigation and findings will be reported in the monthly EM&A Report.

2.3 Monitoring Results

- 2.3.1 The monitoring results for AMS6 and AMS7 are reported in the monthly EM&A Reports prepared for Contract No. HY/2011/03 and HY/2010/02 respectively.
- 2.3.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 2.3.3 There was no Action and Limit Level exceedances of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

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3. NOISE MONITORING

3.1 Monitoring Locations

3.1.1 The noise monitoring works for the Contract are covered by Contract No. HY/2010/02 "Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works". The ET of the Contract or another ET of the HZMB project is required to conduct noise monitoring at NMS2 and NMS3B as part of EM&A programme if these monitoring stations are no longer covered under Contract No. HY/2010/02. Figure 2 shows the locations of noise monitoring stations.

Table 3.1 Construction Noise Monitoring Location

ID No.	Description
NMS2	Seaview Crescent
NMS3B	Site Boundary of Site Office Area at WA2

3.2 Monitoring Requirements

- 3.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology and monitoring schedule are detailed in the monthly EM&A Reports prepared for Contract No. HY/2010/02.
- 3.2.2 The Action and Limit Levels for construction noise are defined in **Table 3.2**.

Table 3.2 Action and Limit Level for Construction Noise

Monitoring Station	Action Level	Limit Level	
For the Time Period 0700-1900 hrs. on Normal Weekdays			
NMS2	When one documented	75.0 dB (A) Leq (30 min.)	
NMS3B	complaint is received	70.0 dB (A) Leq (30 min.)*	

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

3.3 Monitoring Results

3.3.1 The monitoring results for NMS2 and NMS3B are reported in the monthly EM&A Reports prepared for Contract No. HY/2010/02. No noise exceedance was recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2010/02 during the reporting period.

^{*} Reduce to 70 dB(A) for schools and 65 dB(A) during school examination period

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4. WATER QUALITY MONITORING

- 4.1 There was no marine works conducted during the reporting period and therefore, no relevant monitoring result is reported. However, ET of the Contract shall closely monitor on the status of marine works, which shall conduct monitoring when marine works commence in the future.
- 4.2 The ET of the Contract is required to conduct impact water quality monitoring as part of EM&A programme if water quality monitoring is no longer covered by another ET of the HZMB project. The ETL shall review and obtain IEC, ENPO and EPD agreement on the contract specific water quality monitoring works at least a month before the commencement of any marine works.

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5. **ECOLOGY MONITORING**

- 5.1 There was no marine works conducted which impacted to the ecology during the reporting period and therefore, no relevant monitoring result is reported. However, ET of the Contract shall closely monitor on the status of marine works, which shall conduct monitoring when marine works commence in the future.
- 5.2 The ET of the Contract is required to conduct ecology monitoring as part of EM&A programme if ecology monitoring is no longer covered by another ET of the HZMB project. The ETL shall review and obtain IEC, ENPO, AFCD and EPD agreement on the contract specific marine ecology monitoring works at least a month before the commencement of any marine works.

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6. DISPOSAL OF MARINE SEDIMENT EXTRACTED FROM BORED PILING WORKS

6.1 **Background**

- After the acceptance of the review of the approved Sediment Quality Report (SQR) for this 6.1.1 Project under EPD letter dated 19 August 2015, an approval to dispose the marine sediment extracted from bored piling for this Project was then approved under memo from Secretary, Marine Fill Committee of CEDD dated 20 August 2015 for the disposal of marine sediment extracted from bored piling works. The disposal site allocated to this Project is the Mud Pit CMP Vd of the Confined Marine Sediment Disposal Facility to the East of Sha Chau (ESC) during this reporting period.
- 6.1.2 No extracted marine sediment was treated using cement solidification/stabilisation (Cement S/S) techniques under Contract No. HY/2013/03 during this reporting period. The marine sediment extracted from this Contract was disposed to the MFC allocated disposal sites directly without treatment during this reporting period. As a practical means, the disposal operation is managed by one contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from all three Contracts (Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04).

6.2 **Dumping Arrangements**

- 6.2.1 The barge for disposal of marine sediment was morn at the temporary loading and unloading at the east shore of the HKBCF Island, which has been being used by reclamation contractor (Contract No. HY/2010/02) for reclamation activities. In terms of safety consideration and to avoid mixing of sediment between contracts, each dumping date was allocated to one Contract. The quantity of marine sediment disposed on each date was from one Contract.
- 6.2.2 During dumping, Contractor of Contract No. HY/2013/03 is responsible for transporting the marine sediment from the site area of Contract No. HY/2013/03 to the barge. The estimated quantity of marine sediment in each truck is confirmed by Resident Site Staff of Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04. The trip tickets for transportation and disposal of marine sediment are collected and checked. Contract No. HY/2013/03 as the dumping permit holder is responsible for reporting to EPD the quantity disposed of as the condition stipulated in the dumping permit. The disposal site allocated to this Project is the Mud Pit CMP Vd of the Confined Marine Sediment Disposal Facility to the East of Sha Chau (ESC) during this reporting period.

6.3 **Quantity Disposed**

Marine sediment extracted from bored piling from this Contract was disposed to allocated 6.3.1 dumping site in March 2017. The summary of marine sediment disposed up to end March 2017 is shown in the following table:

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Table 6.1 Summary of Marine Sediment Disposed to Dumping Site

Month/Year	Quantity disposed (in'000m³)			
	HY/2013/02	HY/2013/03	HY/2013/04	Total
Jan 2016	1.272	1.950	0.800	4.022
Feb 2016	2.816	2.328	0.704	5.848
Mar 2016	0.600	2.464	3.942	7.006
Apr 2016	5.128	5.602	5.028	15.758
May 2016	0.000	0.000	0.000	0.000
Jun 2016	1.200	4.584	1.578	7.362
Sub-Total	11.016	16.928	12.052	39.996
Jul 2016	0.728	10.728	3.690	15.146
Aug 2016	1.784	1.544	4.428	7.756
Sep 2016	2.328	6.816	3.888	13.032
Oct 2016	1.096	2.376	5.286	8.758
Nov 2016	0.000	0.000	0.000	0.000
Dec 2016	1.568	4.960	2.538	9.066
Cat L in Dec 2016	0.000	2.792	3.570	6.362
Sub-Total	18.520	46.144	35.452	100.116
Jan 2017	0.000	0.656	6.552	7.208
Feb 2017	0.088	0.264	1.380	1.732
Mar 2017	0.000	0.000	0.000	0.000
Total	18.608	47.064	43.384	109.056

Note: All sediments are in Type II disposal method except Cat L (in Type I)

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7. ENVIRONMENTAL SITE INSPECTION AND AUDIT

7.1 Site Inspection

- 7.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 7.1.2 The joint site audits for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) were conducted on 02, 09, 16, 24 and 30 March 2017 by the representatives of Engineer, Contractor, ET and IEC (IEC for 24 March 2017).
- 7.1.3 Particular observations during the site inspection and corrective actions undertaken by the Contractor are described below:

For Contract No. HY/2013/03

24 Feb 2017

- 1. CHEC was reminded to provide drip tray for chemical containers. Subsequently, drip tray for chemical containers were provided. The observation was closed on 02 March 2017.
- CHEC was reminded to provide maintenance for a generator in A8 Bridge which emitted smoke. Subsequently, the generator was removed. The observation was closed on 02 March 2017.
- 3. CHEC was reminded to remove stagnant water onsite. Subsequently, stagnant water was removed. The observation was closed on 02 March 2017.
- 4. CHEC was reminded to remove general refuse accumulated at Box Culvert B. Subsequently, general refuse accumulated at Box Culvert B was removed. The observation was closed on 02 March 2017.

02 Mar 2017

- The Contractor was reminded to increase watering for dust suppression on site. Subsequently, watering for dust suppression was provided. The observation was closed on 09 March 2017.
- 2. The Contractor was reminded to remove food waste accumulated at Building 026 and 057. Subsequently, food waste accumulated at Building 026 and 057 were removed. The observation was closed on 09 March 2017.

09 Mar 2017

- 1. The Contractor was reminded to remove the general refuse accumulated at Building 054 and 037. Subsequently, general refuse accumulated at Building 054 and 037 was removed. The observation was closed on 16 March 2017.
- The Contractor was reminded to remove stagnant water accumulated at drip tray for chemical containers at Building 054. Subsequently, stagnant water accumulated at drip tray for chemical containers at Building 054 was removed. The observation was closed on 16 March 2017.

16 Mar 2017

1. The Contractor was reminded to remove the food waste accumulated at Building 037 and 038. Subsequently, food waste accumulated at Building 037 and 038 were removed. The observation was closed on 24 March 2017.

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24 Mar 2017

- 1. The Contractor was reminded to remove stagnant water accumulated at Building 037. Subsequently, stagnant water accumulated at Building 037 was removed. The observation was closed on 30 March 2017.
- 2. The Contractor was reminded to remove the construction waste accumulated at Building 037. Subsequently, construction waste accumulated at Building 037 were removed. The observation was closed on 30 March 2017.
- 3. The contractor was reminded to remove food waste accumulated at STP. Subsequently, food waste accumulated at STP were removed. The observation was closed on 30 March 2017.

30 Mar 2017

- 1. The Contractor was reminded to remove food waste accumulated at Building 033. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
- 2. The Contractor was reminded to remove the stagnant water accumulated at the drip tray of the chemical container of Building 033. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

02 Mar 2017

1. Nil findings.

09 Mar 2017

1. Nil findings.

16 Mar 2017

1. Nil findings.

24 Mar 2017

1. Nil findings.

30 Mar 2017

1. Nil findings.

7.2 Advice on the Solid and Liquid Waste Management Status

- 7.2.1 The Contractor of Contract No. HY/2013/03 registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 7.2.2 The monthly summary of waste flow table for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) are detailed in Appendix E.
- 0.000 (in'000m³) of excavated marine sediment (from Contract No. HY/2013/03), 0.000 7.2.3 (in'000m³) of Inert C & D Wastes and 0.999 (in'000m³) of Non-inert C & D Wastes were generated (from Contract No. HY/2013/03) in this reporting period. No Inert C & D Wastes and 0.002 (in tonnes) of Non-inert C & D Wastes were generated (from Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) in this reporting period. 0.000 (in tonnes) paper/cardboard packaging and 0.005 (in tonnes) metals were generated and recycled (from Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) in this reporting period.

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- 7.2.4 The excavated marine mud from the land-based works was disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee. The Contractor of Contract No. HY/2013/03 shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.
- 7.2.5 The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.
- Contractor of Contract No. HY/2013/03's site arrangement for disposal of bentonite slurry to Tseung Kwan O Area 137 Fill Bank was checked by ET and formal consent has been obtained from Tseung Kwan O Area 137 Fill Bank for receiving used bentonite slurry generated from Contract No. HY/2013/03.

7.3 **Environmental Licenses and Permits**

7.3.1 The valid environmental licenses and permits for Contract No. HY/2013/03 (includes Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) during the reporting period are summarized in Appendix F. The Contractor of Contract No. HY/2013/06 was advised to register as a chemical waste producer when chemical waste is expected to generate for the foreseeable future from the operations (For Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation).

7.4 **Implementation Status of Environmental Mitigation Measures**

- In response to the site audit findings, the Contractor carried out corrective actions.
- A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is 7.4.2 presented in Appendix G. All necessary mitigation measures at this stage of works were implemented properly.
- 7.4.3 Implementation status of Regular Marine Travel Route Plan (RMTRP) was checked by ET. Training of marine travel route for marine vessels operator was given to relevant staff and relevant records were kept properly. The marine traffic records and geographical plots of all the vessels tracks to demonstrate the conformance of the vessel to the proposed route in February 2017 would be provided to ER, ETL, IEC/ENPO for checking within the month of April 2017.
- With respect to condition 3.26A of EP-353/2009/K approved by EPD on 11 April 2016, the numbers and operating periods of floating grout production facilities and floating concrete batching plants on-site to review on the compliance to this EP condition were checked. Under Contract No. HY/2013/03, one floating concrete batching plant was operated on-site during the reporting period.

7.5 Summary of Exceedance of the Environmental Quality Performance Limit

- 7.5.1 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level 7.5.2 recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

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- 7.5.3 There was no Action and Limit Level exceedance for noise recorded at station NMS2 and station NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 7.5.4 There was no marine works conducted during the reporting period and therefore, no relevant monitoring result is reported.
- 7.5.5 There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.

7.6 Summary of Complaints, Notification of Summons and Successful Prosecution

7.6.1 There were two complaints received in relation to the environmental impact during the reporting period. The summary of environmental complaints is presented in **Table 7.1**. The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.

Table 7.1 Summary of Environmental Complaints for the Reporting Month

Log No.	Environmental Complaint Ref. No.	Date of Complaint Receipt	Description
006	ENPO-C0110	21 March 2017	Water pollution
007	ENPO-C0113	28 March 2017	Noise and water pollution

7.6.2 The first complaint (ENPO-C0110) was received by EPD from a member of the public and was referred by EPD to the ENPO. Then the ENPO forwarded the complaint by email to the ET (Materialab Consulants Ltd.) of the Contract No. HY/2013/03 on 21 March 2017.

Details of Complaint

One complaint was forwarded from IEC on 21 March 2017, with the following information provided by EPD:

The complainant complained about the construction site at the east of HZMB artificial island in Tung Chung which was belonged to Dragages Hong Kong. The construction site discharged waste water into open water frequently in the evening causing ecological pollution.

Investigation of Complaint

Date Complaint Investigated by Environmental Team: 22 March 2017

Summary of Investigation

After liaising with CHEC and the operation team, it cannot be identified if the location mentioned in the complaint is under HY/2013/03 or not. As there are construction sites which under other contracts of HZMB.

Notwithstanding the above, interview was conducted on 22 March 2017 with Mr. Marko Chan, Environmental Officer of CHEC and site management. Wastewater was treated properly and discharged recently. Water sampling will also be conducted regularly to monitor water quality. The location plan showing the existing wastewater treatment facilities and discharge points is shown in Appendix A and the result of water sampling on the complaint date is shown in Appendix B.

During the site inspection conducted on 24 March 2017, the discharge point located in the construction site of Dragages Hong Kong has been visited. It was connected to two tanks in

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STP which carried underground water pumped out. Water was being treated before discharge. By observation, the water discharged from the discharge point and water discharge to the tanks looked clear. Photos of investigation during this site audit is shown in Appendix C. According to the result of water sampling conducted on the complaint date at the tank in STP as shown in Appendix B. no exceedance was recorded.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area, they do not have any marine works, marine transportation nor water discharge.

Investigation Results

Due to lack of information, The ET of Contract No. HY/2013/03 cannot conclude that the captioned complaint is related to the construction activities of our contract. Nevertheless, the Contractor had been reminded to comply with the requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual, in particular:

· Water Quality

W2: Land Work

Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters

The ET of Contract No. HY/2013/06 within Contract No. HY/2013/03 works area concluded that the captioned complaint is not related to the construction activities of our contract.

Follow up status (complaints)

During weekly site audit on 2, 9, 16 and 24 February 2017, 2, 9 and 16 March 2017, ET confirmed that the Contractor had provided workable and effective water quality mitigation measures on site. Mitigation measures implemented include: 1. Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters: 2. storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct storm water to such silt removal facilities. Catch pits and perimeter channels should be constructed in advance of site formation works and earthworks; 3. Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects. The implementation status of the mitigation measures will be checked during the following site audits.

Recommendations to the Contractor

The Contractor was reminded to continue to fully implement all water quality mitigation measures and comply with the requirements of Water Discharge License.

Follow up Status (Overall)

As The ET of Contract No. HY/2013/03 (including Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) is not able to conclude the validity of this complaint, additional follow up is needed. ET has proposed several recommendations to the Contractor, and reminded on complying with the requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual. According to site audit conducted recently, ET confirmed all mitigation measures stipulated in the EMIS had been implemented during site

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audit on 2, 9, 16 and 24 February 2017, 2, 9 and 16 March 2017 and will keep checking their implementation status during the future site audit, in particular to the following aspect:

· Water Quality:

W2: Land Work

Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters

The second complaint (ENPO-C0113) was received by EPD from a member of the public on 27 March 2017 and was referred by EPD to the ENPO. Then the ENPO forwarded the complaint by email to the ET (Materialab Consulants Ltd.) of the Contract No. HY/2013/03 on 28 March 2017.

Details of Complaint

One complaint was forwarded from IEC on 28 March 2017, with the following information provided by EPD:

As advised by EPD, the complaint should be made by a resident of Century Link. The complainant complained that starting from around 10pm to midnight on 27 March 2017, there were loud noise outside. By observation, the noise should come from the construction of artificial island of HZMB. Besides, in the morning on 28 March 207, water pollution was observed in the sea outside which should result from HZMB project. The photo provided by the complainant is shown in Appendix B.

Investigation of Complaint

Date Complaint Investigated by Environmental Team: 28 March 2017

Summary of Investigation

Interview was conducted on 28 March 2017 with Mr. Marko Chan, Environmental Officer of CHEC and site management. Night works were conducted on 26 March 2017 under Construction Noise Permit for Contract No. HY/2013/03 including GW-RS1329-16 & GW-RS0205-17 as shown in Appendix A.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area, as confirmed with the operation team, there was no construction work at the said location during complained hours, i.e. from 2200 on 27 March 2017.

Regarding the water pollution problem, there was no marine work and marine transportation undertaken on 26 and 27 March 2017. The location of pollution indicated in the complaint should be at the South of the artificial island. There is no discharge point nearby for Contract No. HY/2013/03.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area, there was no marine work, marine transportation nor water discharge.

Investigation Results

The ET of Contract No. HY/2013/03 (including Contract No. HY/2013/06 within Contract No. HY/2013/03) concluded that the captioned complaint is not related to the construction activities of our contract. Nevertheless, the Contractor had been reminded to comply with the

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requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual, in particular:

Construction Noise (air borne):

N1: Use of good site practices to limit noise emissions; machines and plants (such as trucks. cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum: and

N5: sequencing operation of construction plants where practicable.

Water Quality

W1:

- Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation:
- Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
- The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.

W2: Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.

Follow up status (complaints)

During weekly site audit on 2, 9, 16, 24 and 30 March 2017, ET confirmed that the Contractor had provided workable and effective noise and sewage mitigation measures on site.

Noise mitigation measures implemented include: 1. Machines and generators that may be in intermittent use were shut down between work periods; 2. Silencers or mufflers construction equipment were properly fitted and maintained without significant noise generation; 3. Generators were situated as far away from NSRs as possible and practicable; 4. Material stockpiles, site office and other structures were effectively utilized, where practicable, to screen noise from on-site construction activities.

Water quality mitigation measures implemented include: 1. loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; 2. Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes; 3. The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; 4. Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.

Recommendations to the Contractor

The Contractor was reminded to fully implement all noise and water quality mitigation measures and comply with the requirements of Water Discharge License and Construction Noise Permit.

Follow up Status (Overall)

The captioned complaint is not valid and therefore, no additional follow up is needed. However, ET has proposed several recommendations to the Contractor, and reminded on complying with

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the requirements stipulated in the Environmental Mitigation Implementation Schedule (EMIS) of the EM&A Manual to the Contractor. According to site audit conducted recently, ET confirmed all mitigation measures stipulated in the EMIS had been implemented during site audit on 2, 9, 16, 24 and 30 March 2017, in particular to the following aspect:

Construction Noise (air borne):

N1: Use of good site practices to limit noise emissions: machines and plants (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; and

N5: sequencing operation of construction plants where practicable.

Water Quality

W1:

- Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
- · Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
- The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.

W2: Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.

- 7.6.4 There was no notification for summons or prosecutions received in relation to the environmental impact during this reporting period.
- 7.6.5 Statistics on environmental complaints, notifications of summons and successful prosecutions are provided in **Appendix H**.

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8. **FUTURE KEY ISSUES**

8.1 **Construction Programme for the Coming Months**

As informed by the Contractor, the following are the major construction activities anticipated in 8.1.1 March 2017:

For Contract No. HY/2013/03

- 1. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
- Piling at Box Culvert B & Sign Gantry:
- 3. CUE Construction at Portion B, C & J;
- 4. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
- 5. Radiation Screen Wall at Portion B, E P, N,M,C;
- 6. Sign Gantry Footing at Portion B;
- 7. Sewerage Pumping Station, High Mast Lighting Foundation & Box Culvert C at Portion G;
- 8. Bridge Works at A1 to A9:
- 9. Site Foundation Works at Portion K;
- 10. Cover Walkway at Portion H1 & H2;
- 11. Box Culvert B at Portion N; Shuttle kiosk & Subway at Portion E; and
- 12. Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

1. Installation of conceal conduit and services conduit installation at Building 037 and CUE works area.

8.2 **Environmental Site Inspection Schedule for the Coming Month**

8.2.1 The tentative schedule for weekly site inspections for March 2017 is provided in **Appendix I**.

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9. CONCLUSIONS

- 9.1 Commencement of Contract No. HY/2013/03 took place on 10 April 2015. The commencement date for construction works and the EM&A programme of Contract No. HY/2013/03 commenced on 29 August 2015 (commencement of Contract No. HY/2013/06 took place on 14 August 2015. The commencement date for construction works and the EM&A programme of Contract No. HY/2013/06 commenced on 13 September 2016 within Contract No. HY/2013/03 works area).
- 9.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 9.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS7 by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- There was no Action and Limit Level exceedance for noise recorded at station NMS2 and 9.4 station NMS3B by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 9.5 There was no marine works conducted during the reporting period and therefore, no water quality impact monitoring result is reported.
- There was no marine works conducted during the reporting period and therefore, no ecology 9.6 monitoring result is reported.
- 9.7 Environmental site inspections were carried out on 02, 09, 16, 24 and 30 March 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.
- 9.8 There were two complaints received in relation to pollution about noise and water pollution. After investigation, the first complaint cannot be concluded that the captioned complaint was related to Contract No. HY/2013/03 due to lack of information and another complaint was not related to Contract No. HY/2013/03. Both complaints were not related to Contract No. HY/2013/06 within Contract No. HY/2013/03.
- 9.9 There were no notifications of summons or prosecutions received during the reporting period.

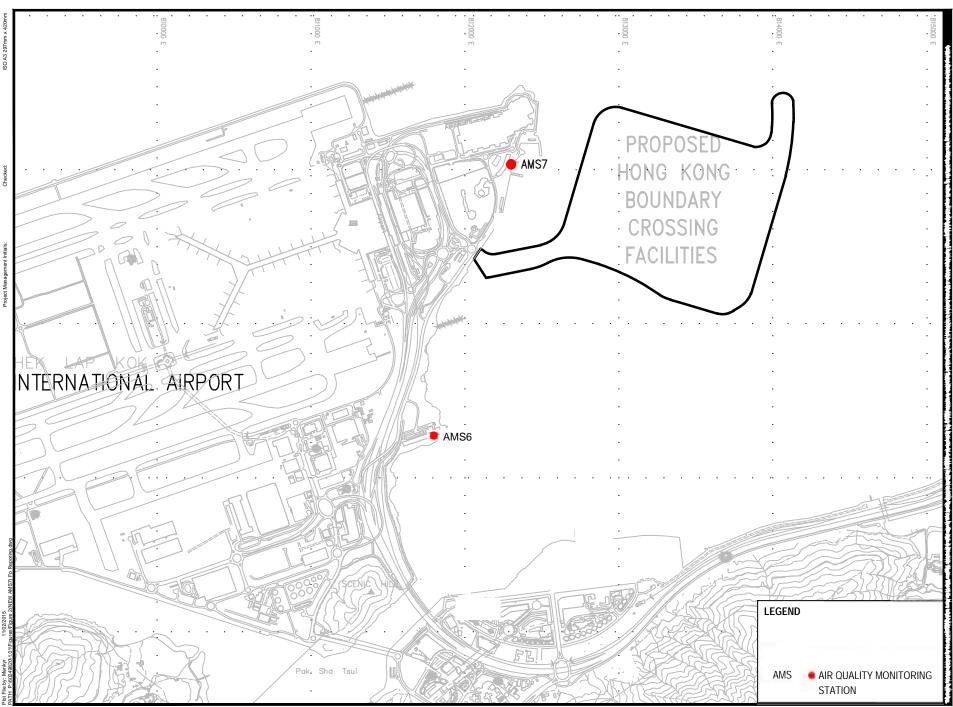
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0761

Figure 1

Air Quality Monitoring Stations



AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG BOUNDARY CROSSING FACILITIES - RECLAMATION WORKS

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax

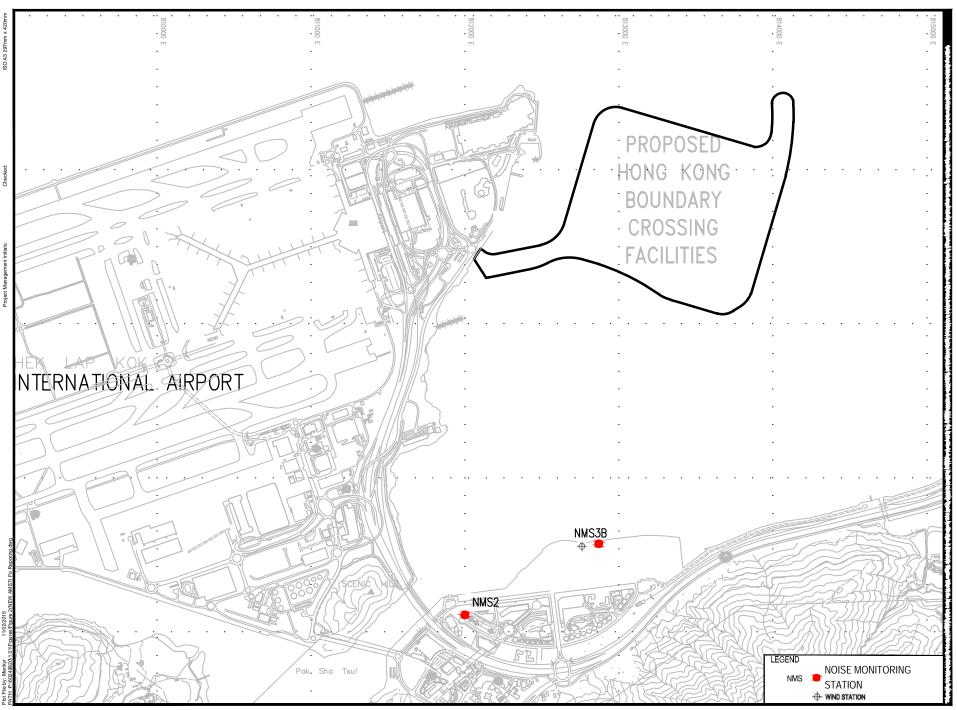
Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0761

Figure 2

Noise Monitoring Stations



AIR QUALITY AND NOISE MONITORING STATIONS FOR HKBCF

HONG KONG - ZHUHAI - MACAO BRIDGE HONG KONG BOUNDARY CROSSING FACILITIES - RECLAMATION WORKS

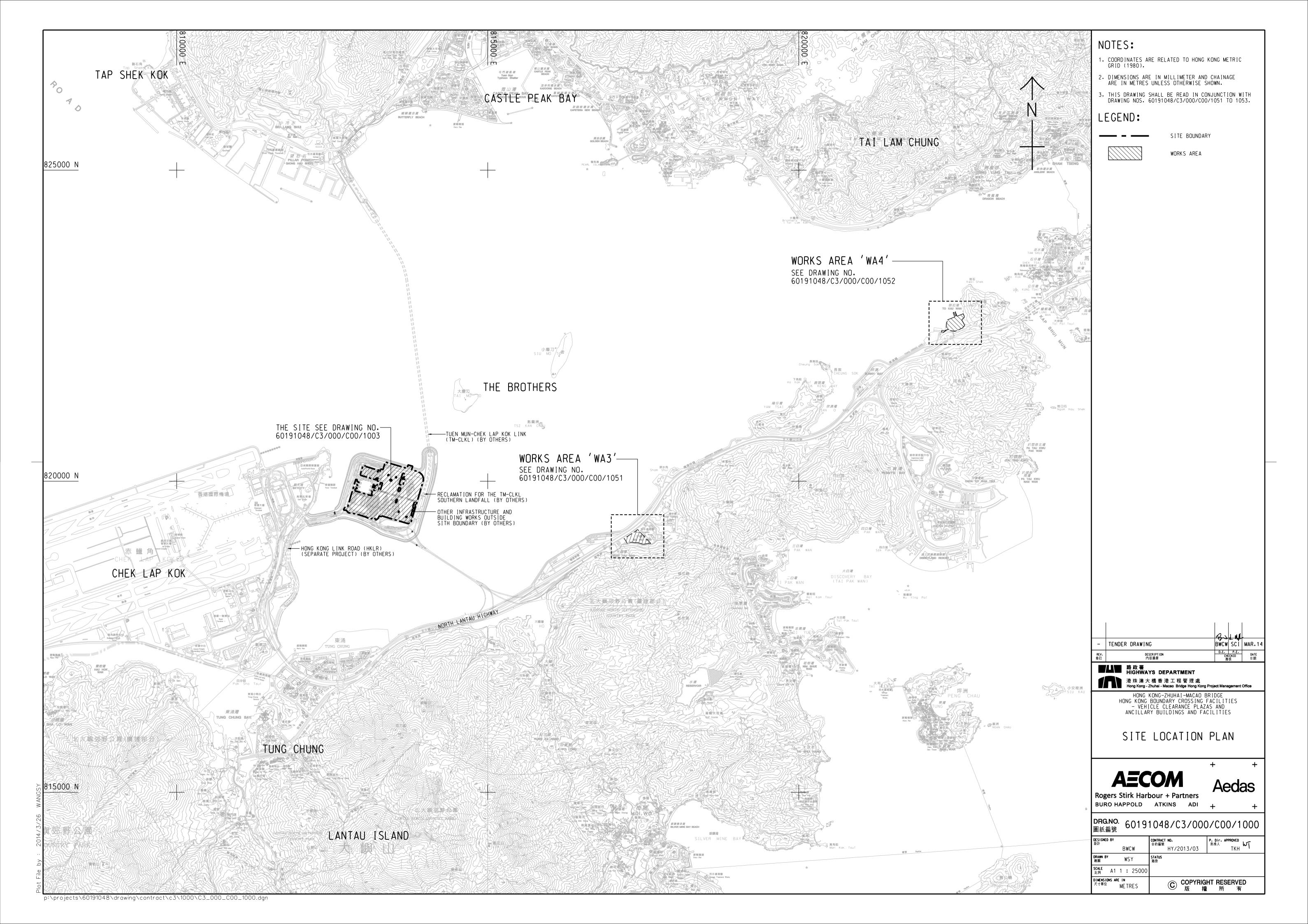
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

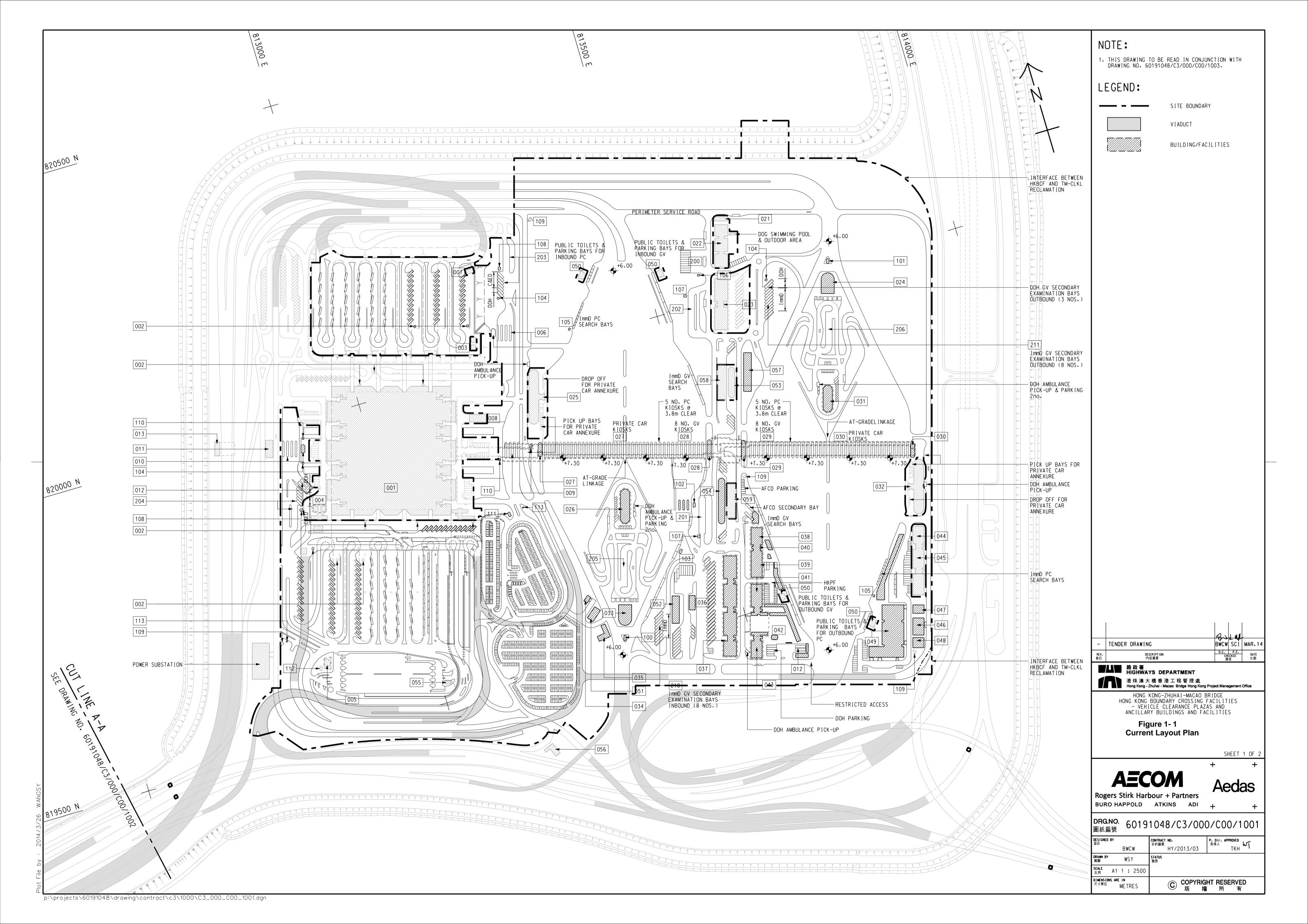
MateriaLab

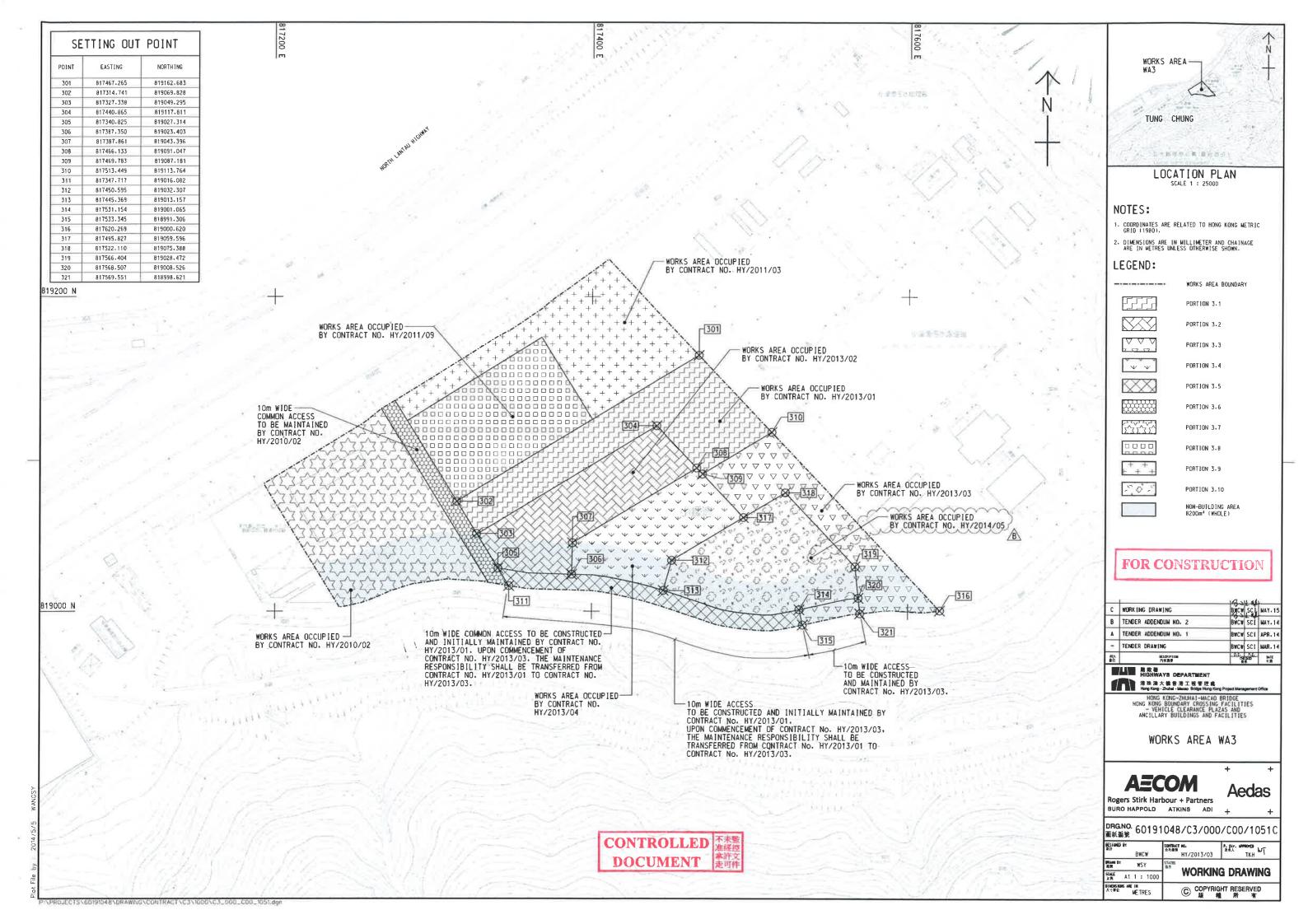
Report No.: 0165/15/ED/0761

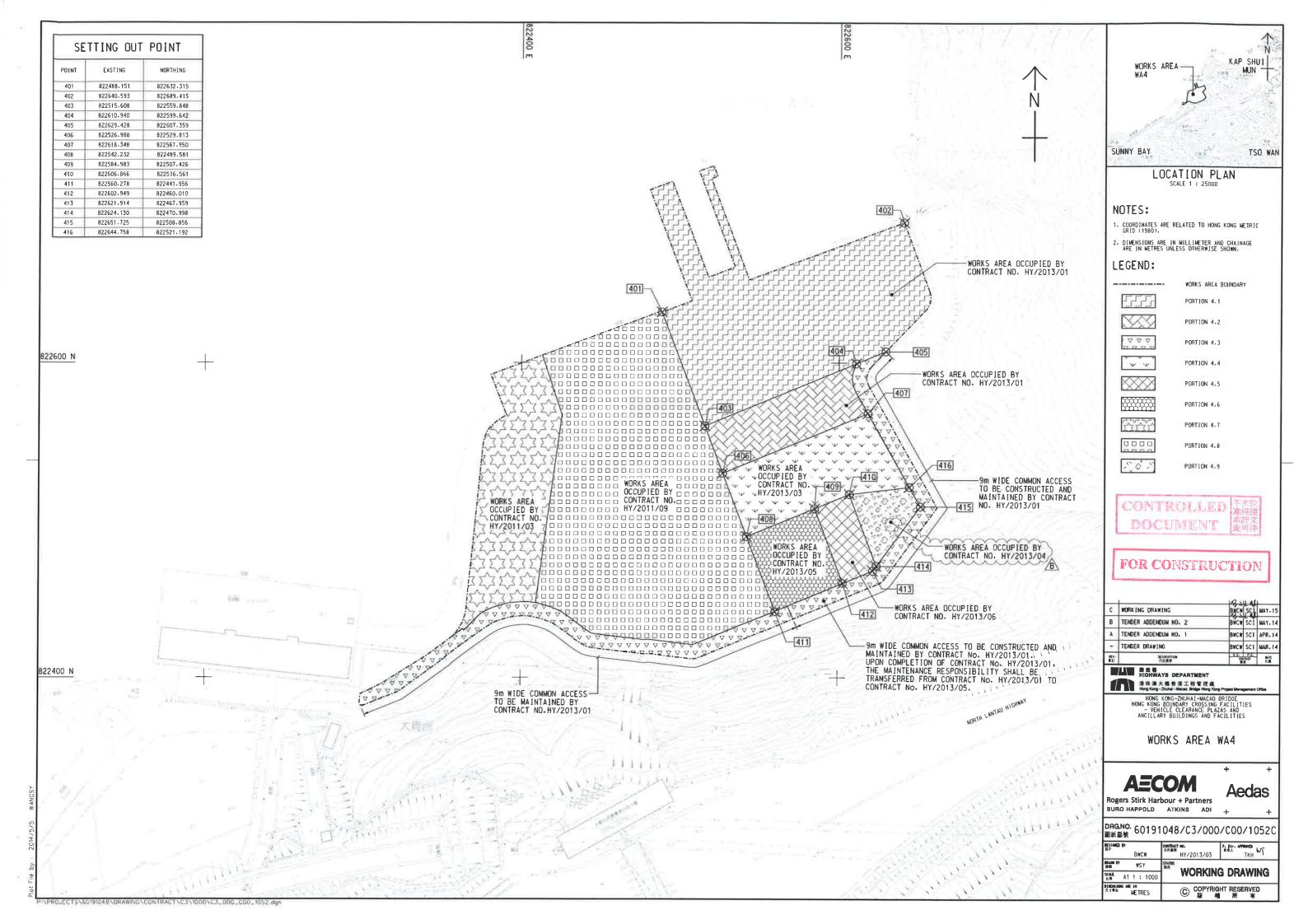
Appendix A

Location of Works Areas









MATERIALAB CONSULTANTS LIMITED

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

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Appendix B

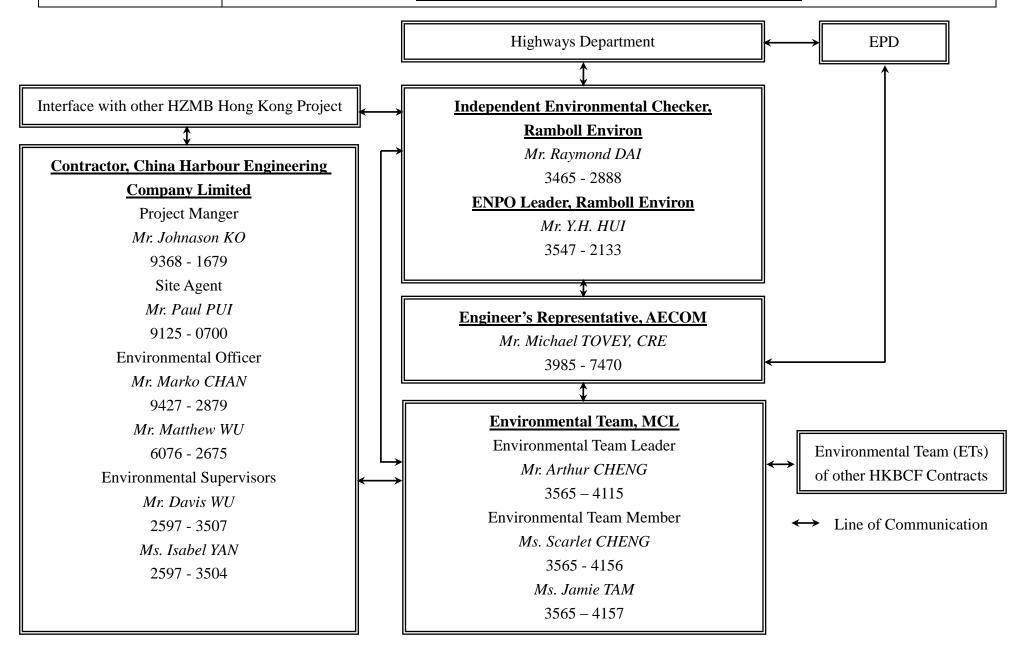
Project Organization for Environmental Works

CHINA HARBOUR ENGINEERING COMPANY LIMITED



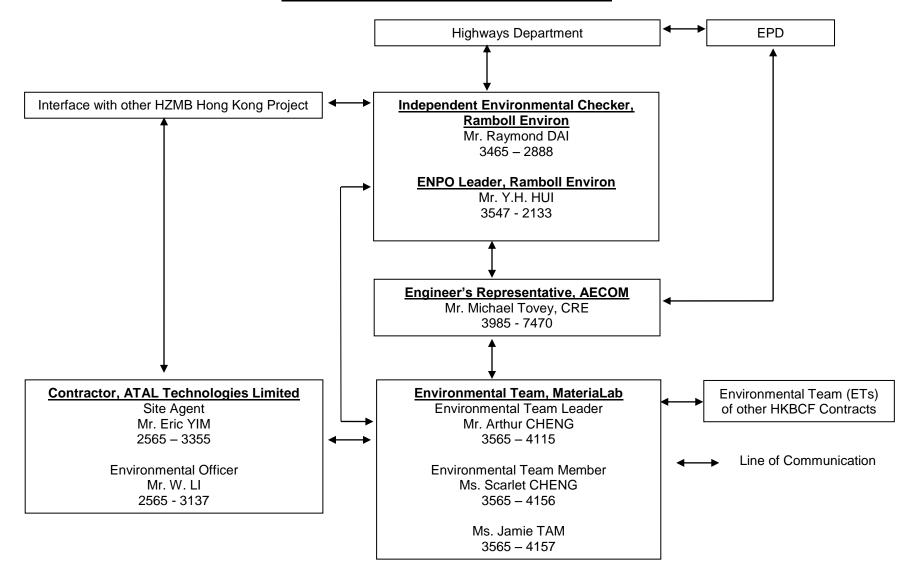
Contract No. HY/2013/03 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Projects Organization for Environmental Works



Contract No. HY/2013/06 (within Contract No. HY/2013/03 works area) Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System

Projects Organization for Environmental Works



MATERIALAB CONSULTANTS LIMITED

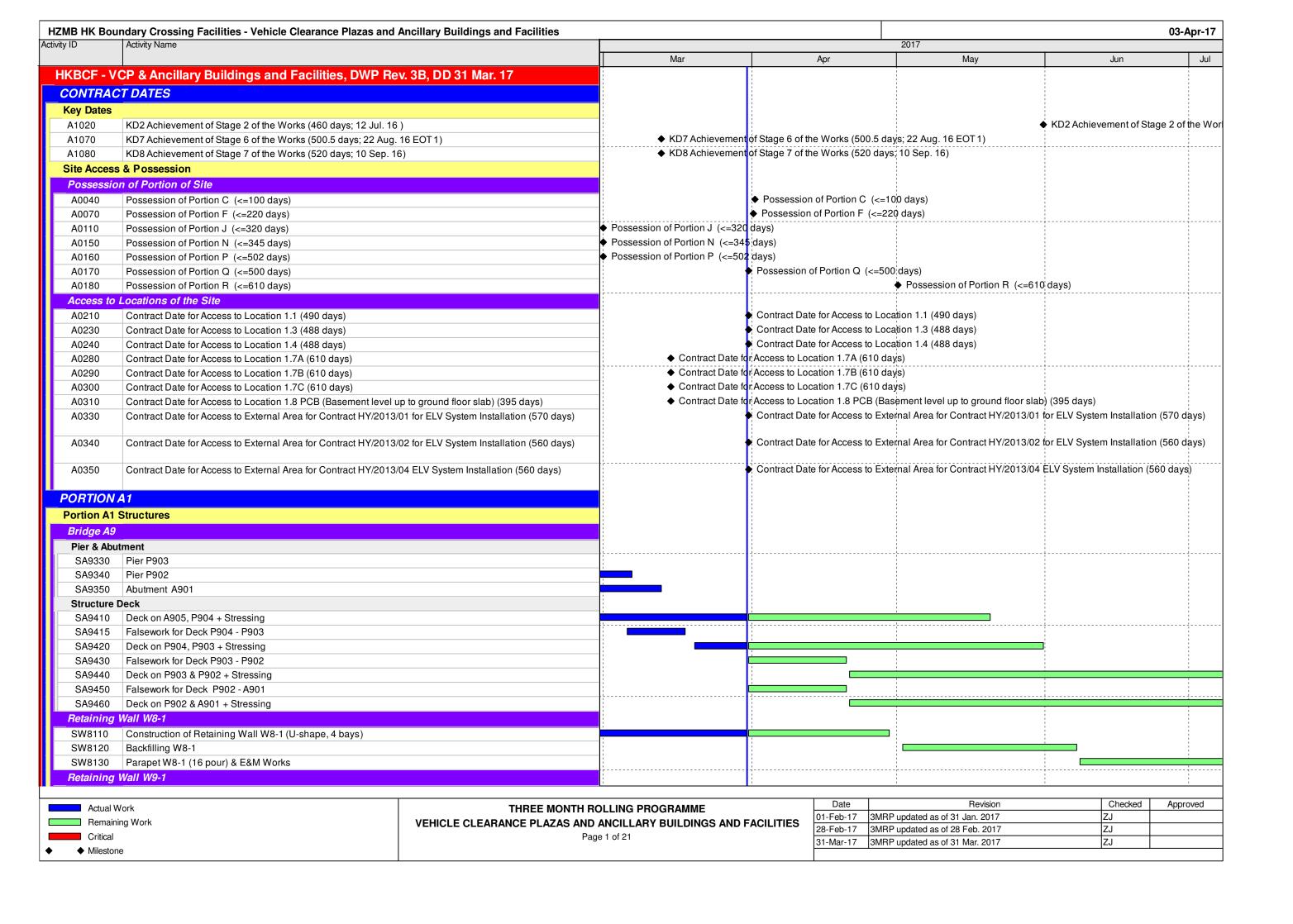
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com

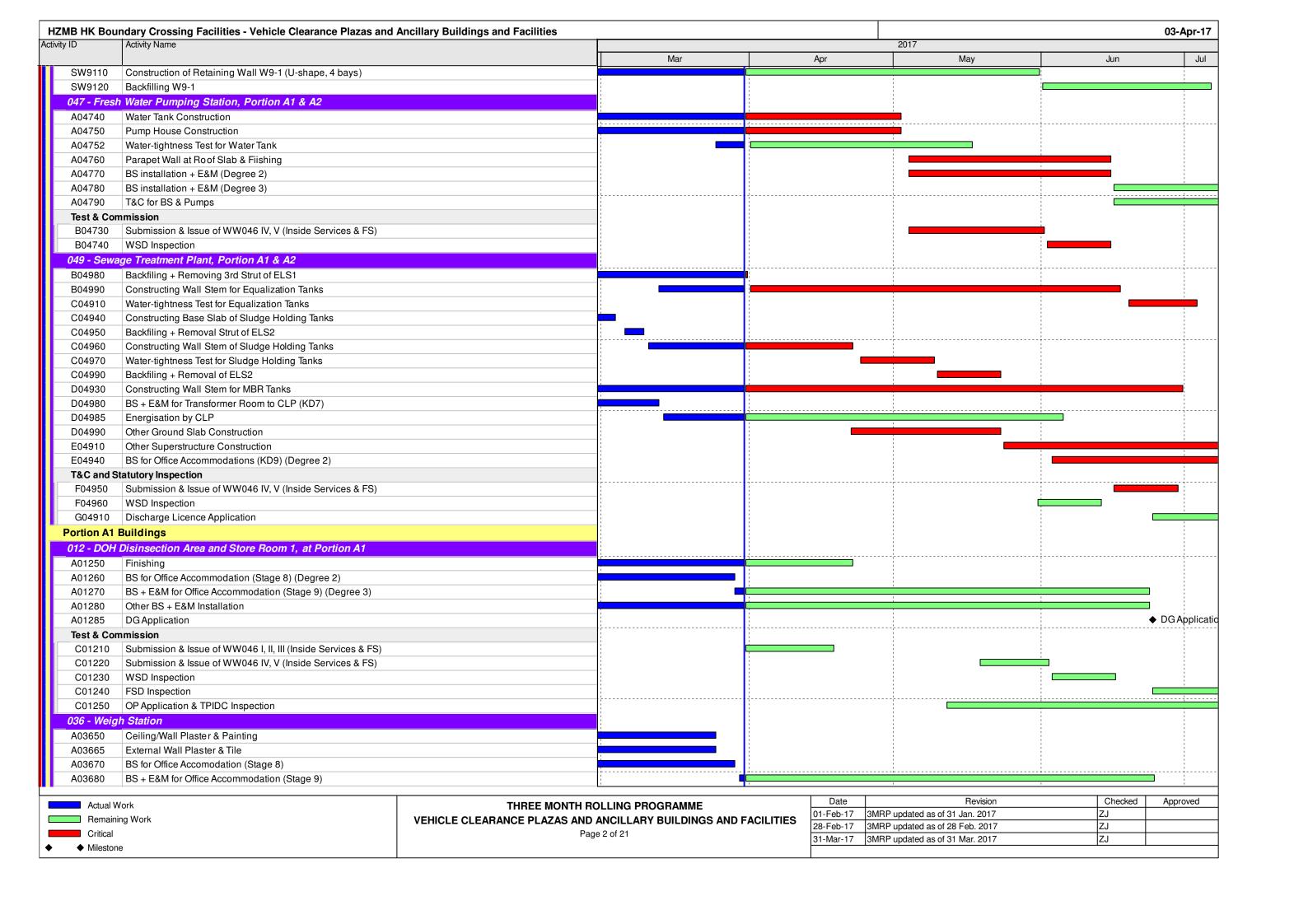


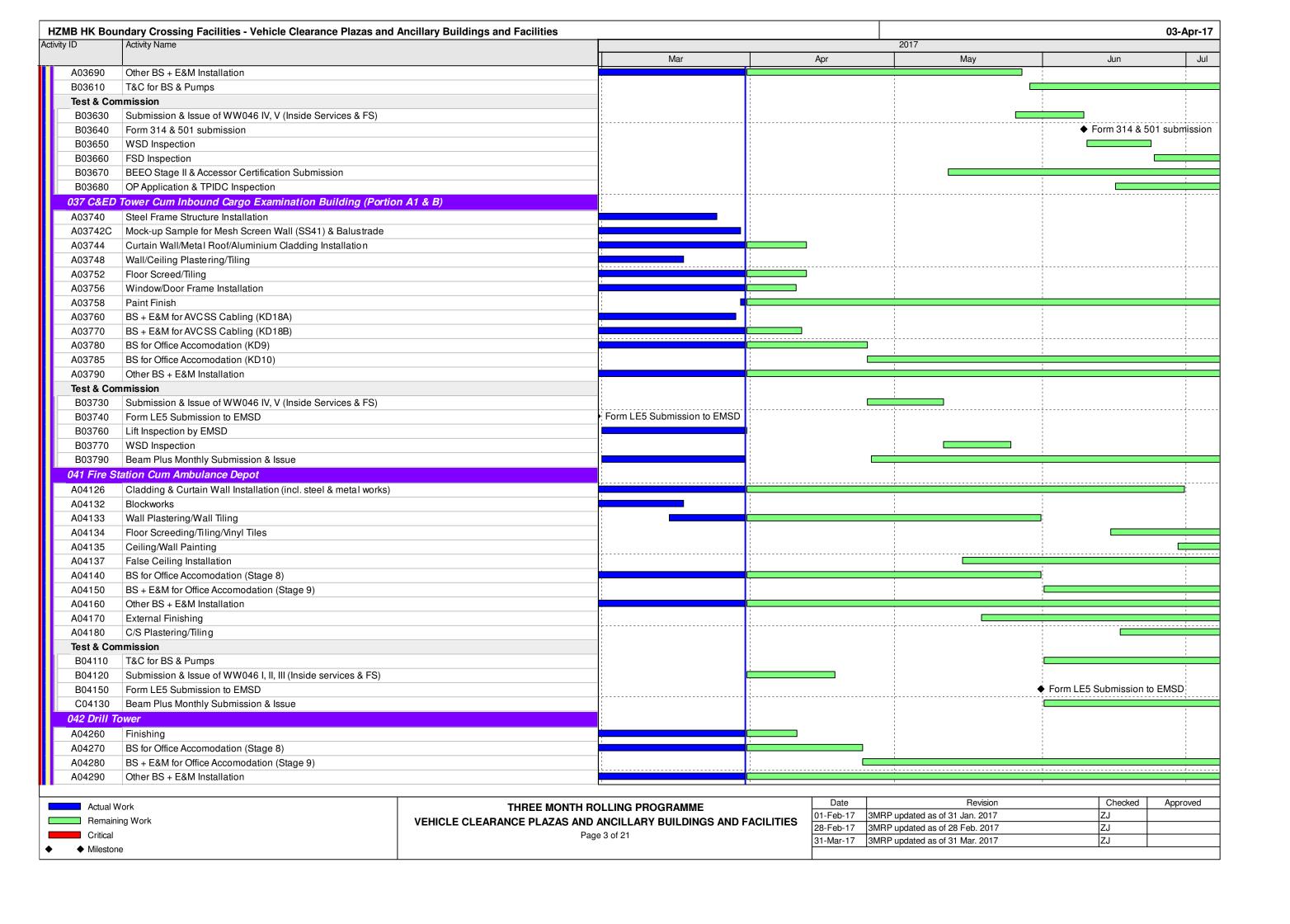
Report No.: 0165/15/ED/0761

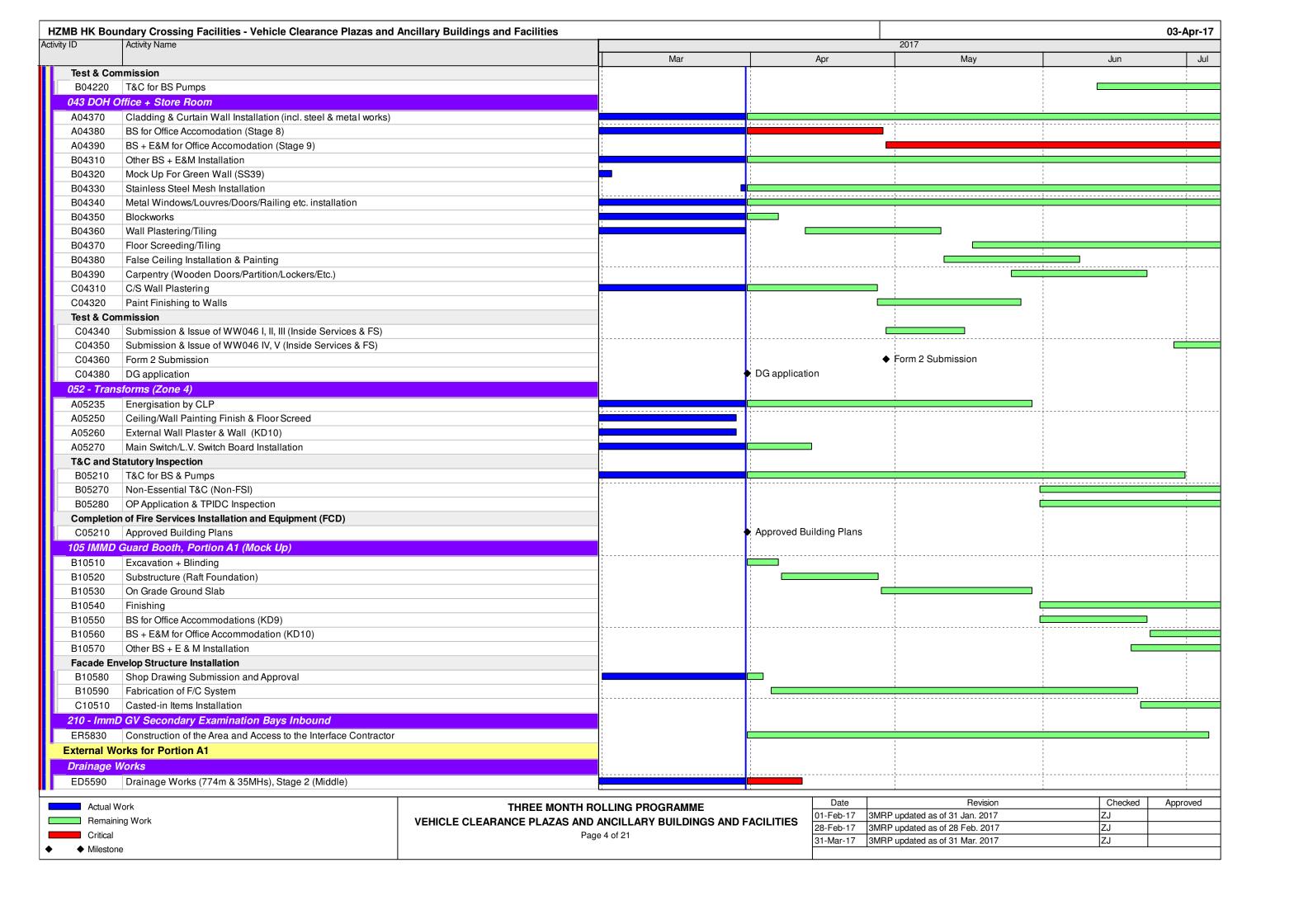
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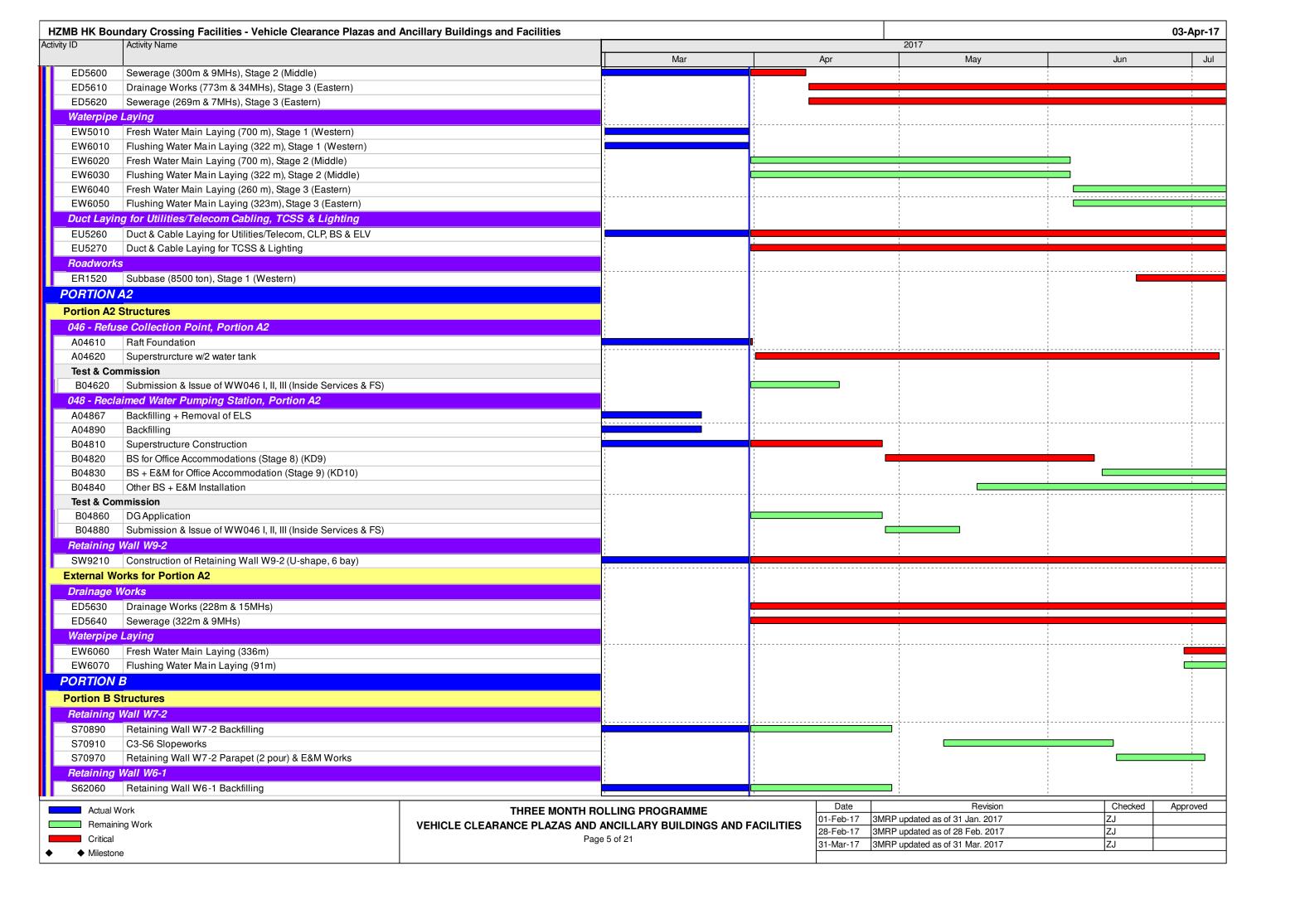
Construction Programme

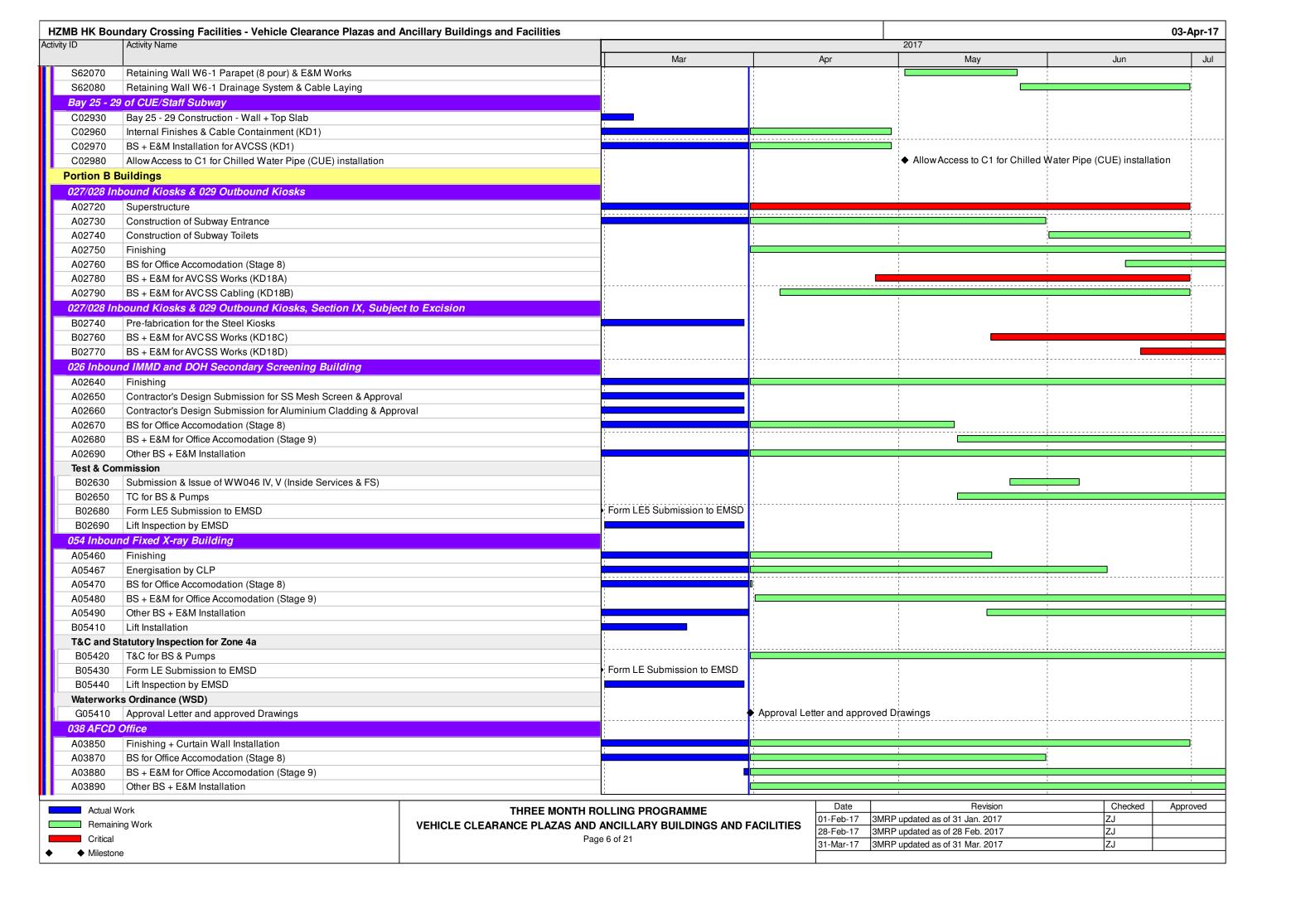


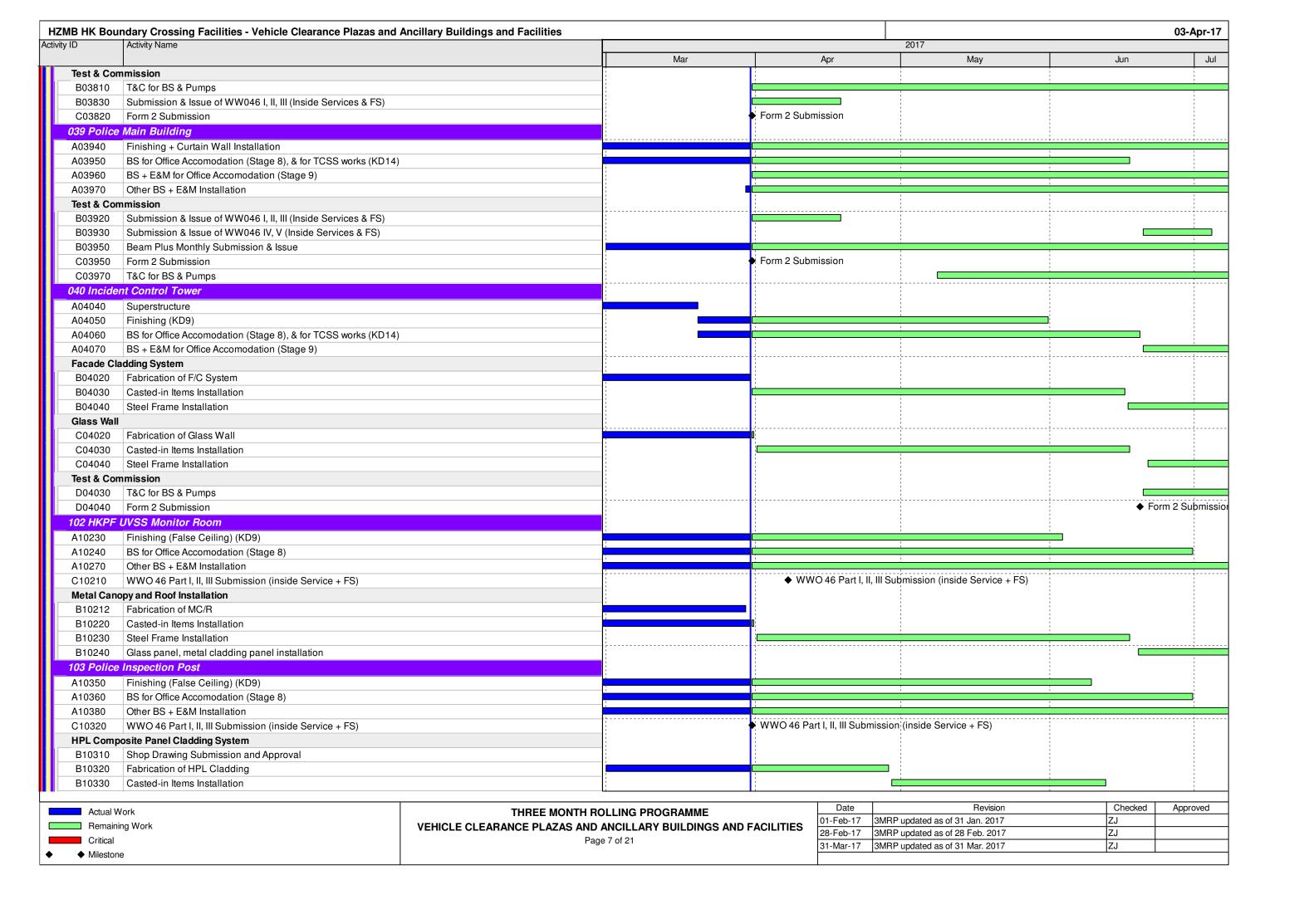


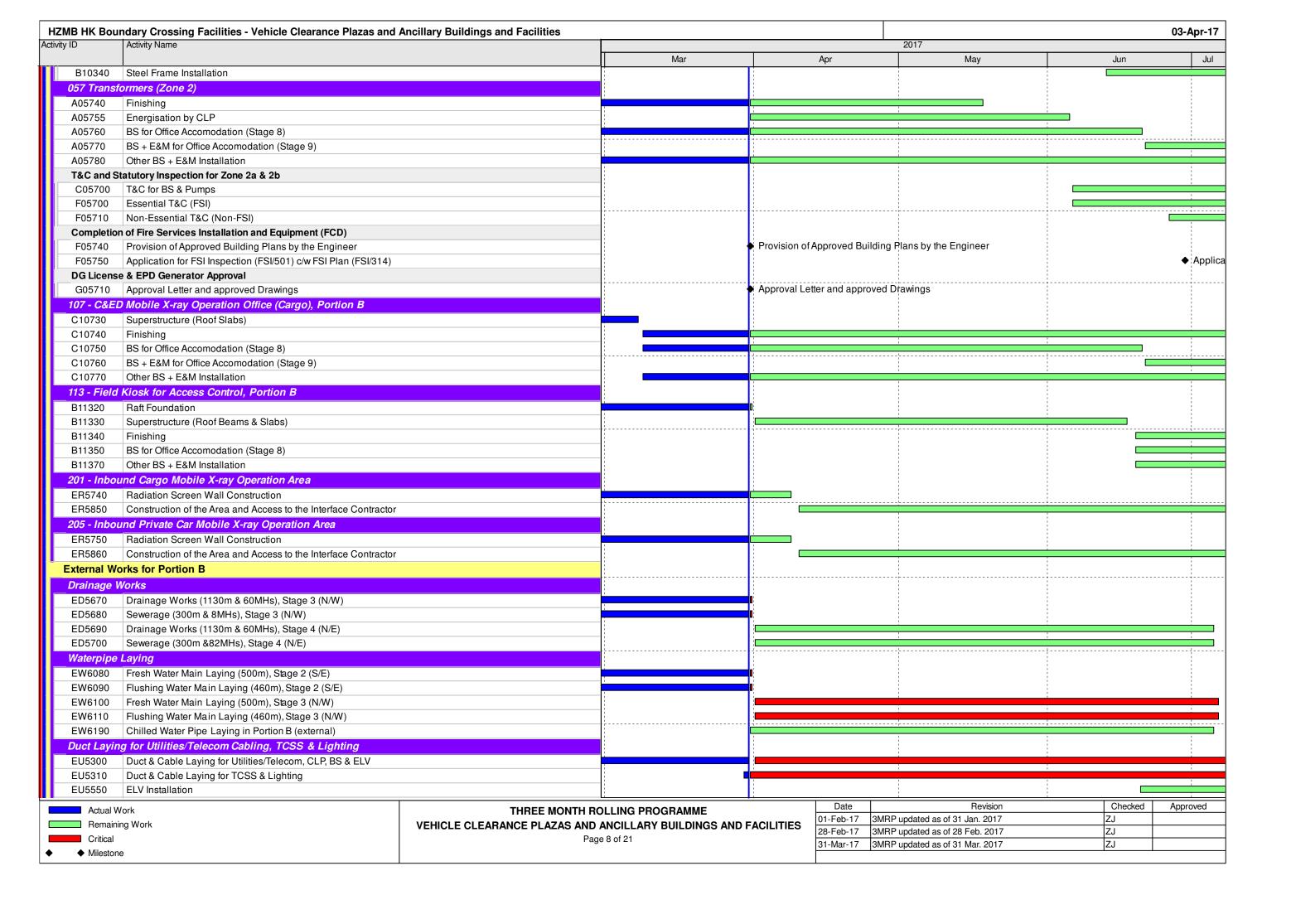


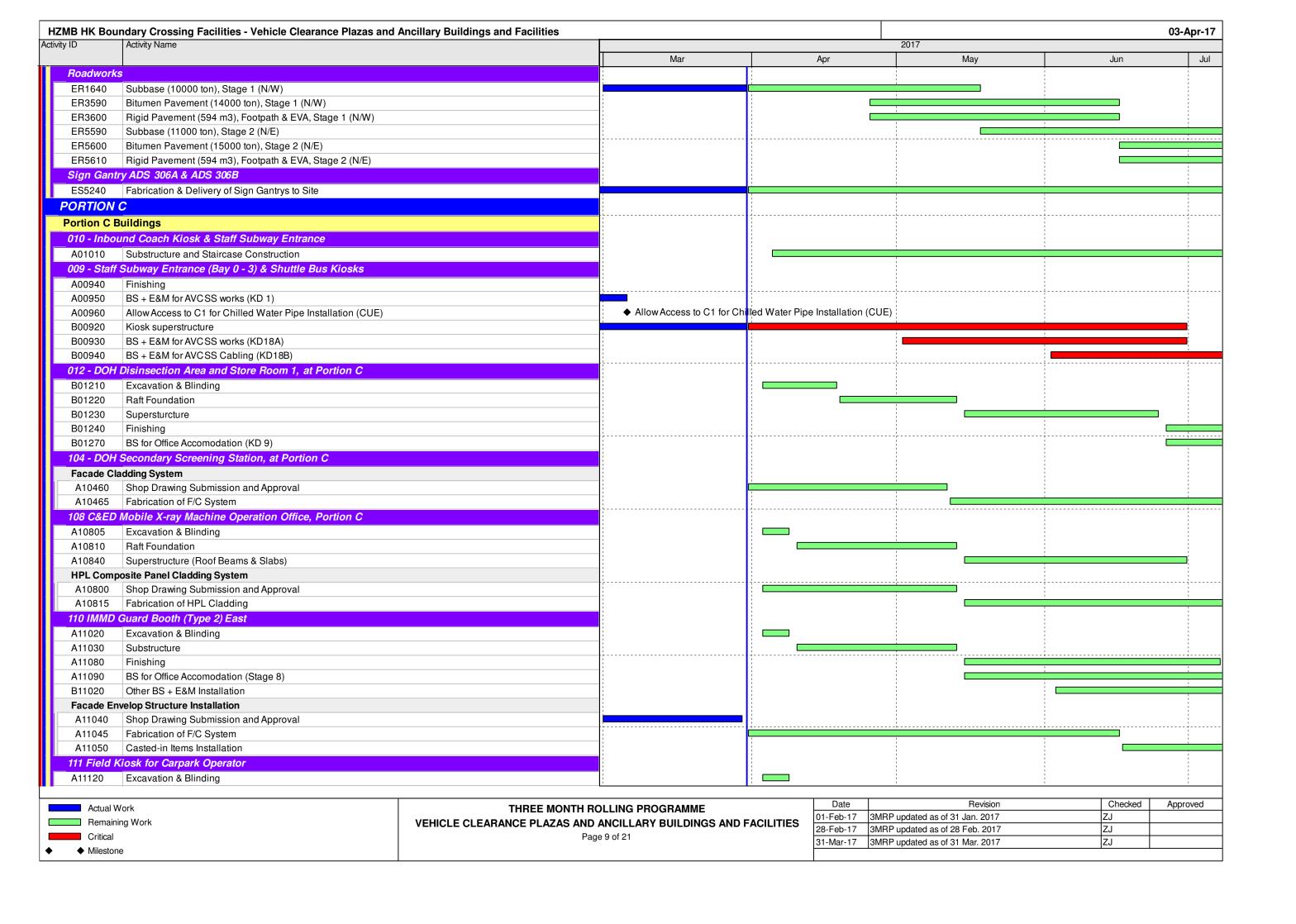


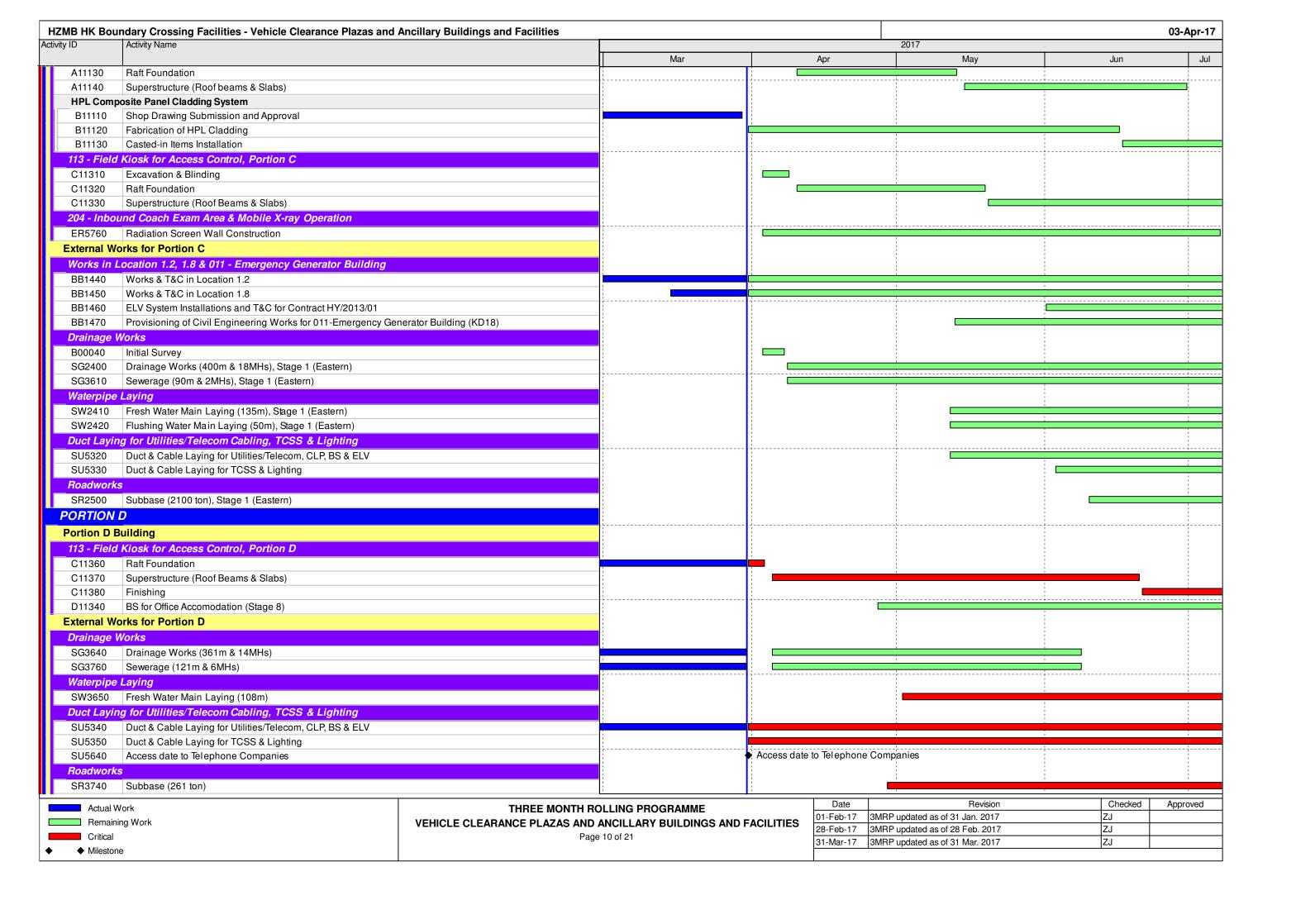


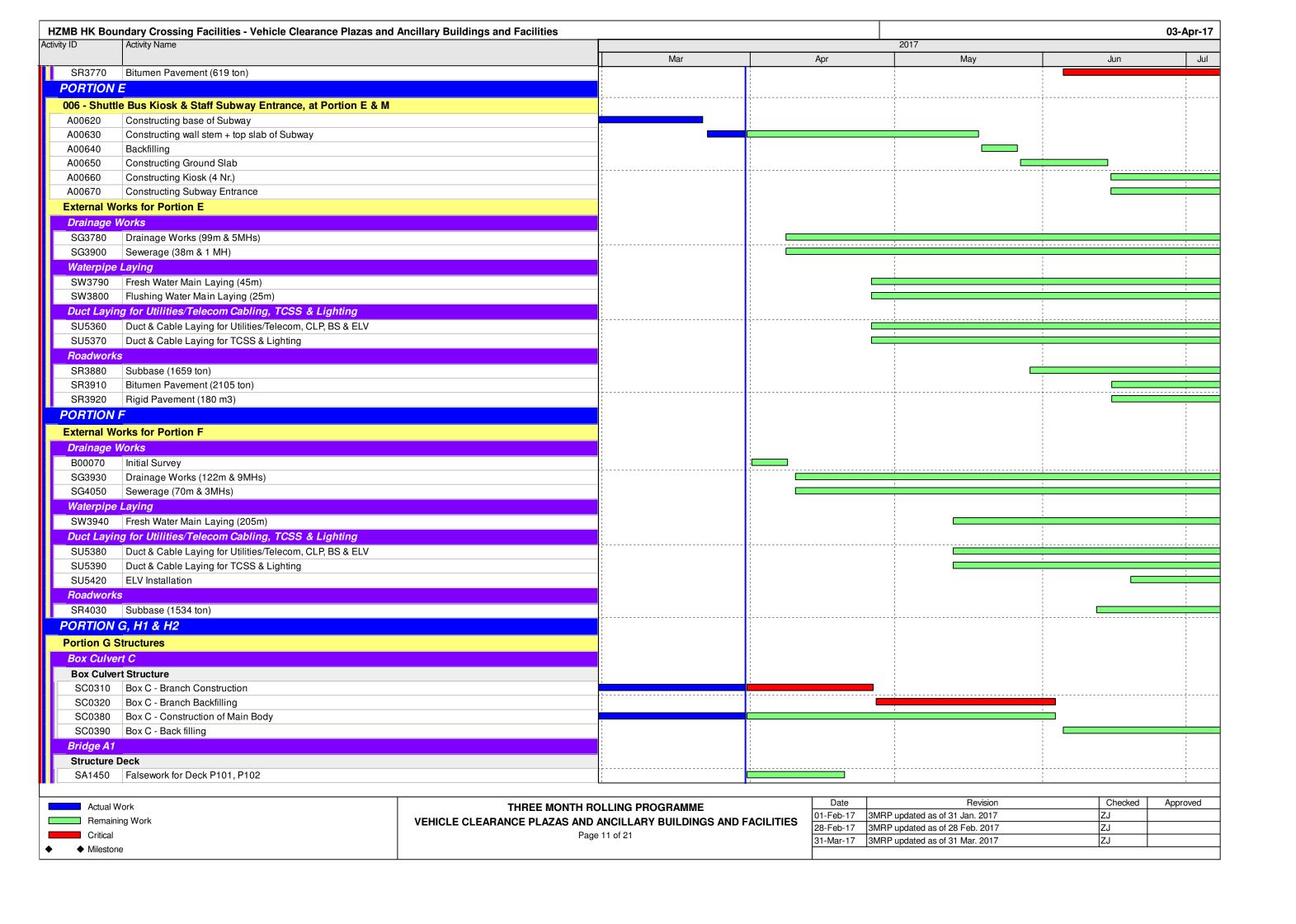


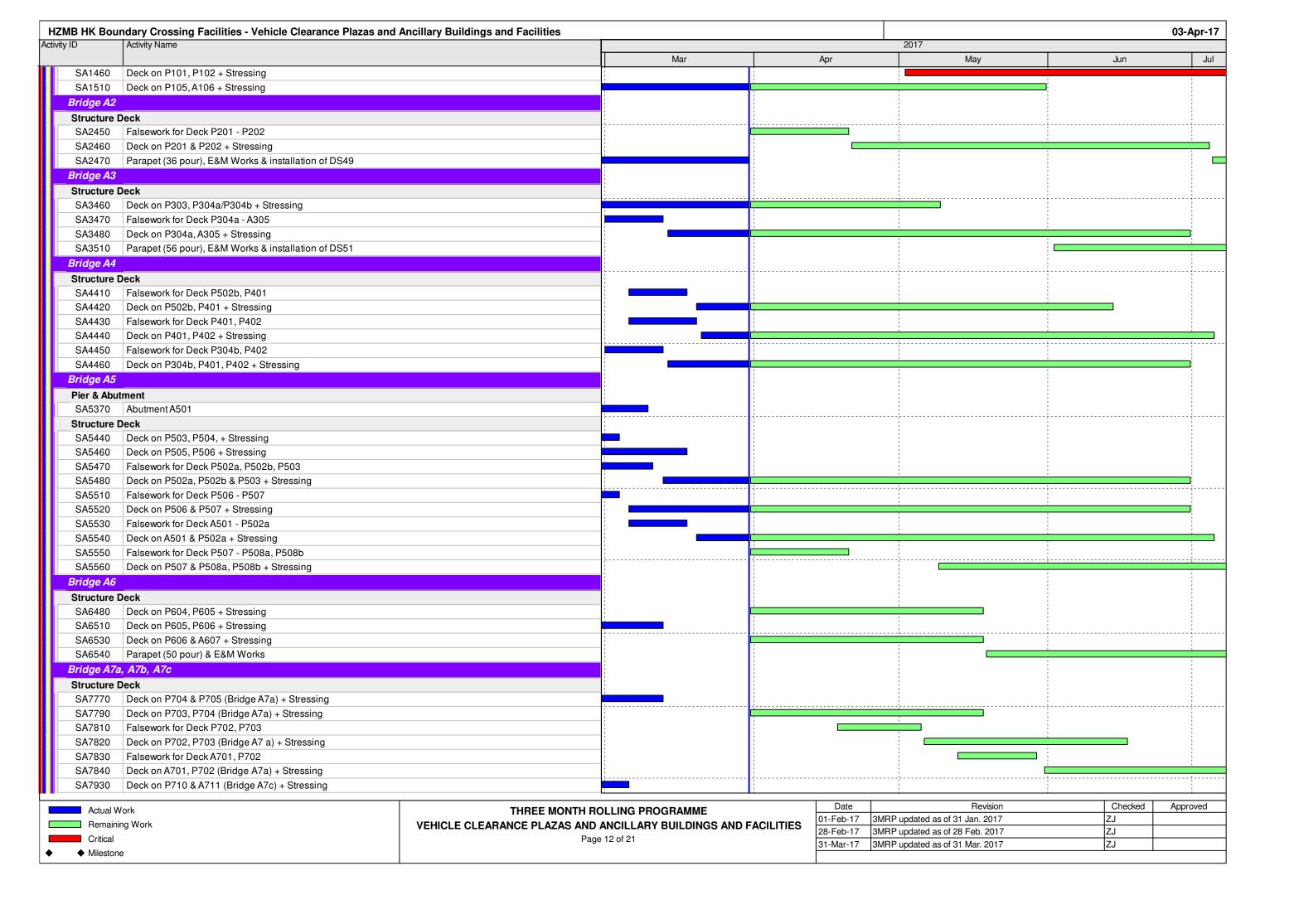


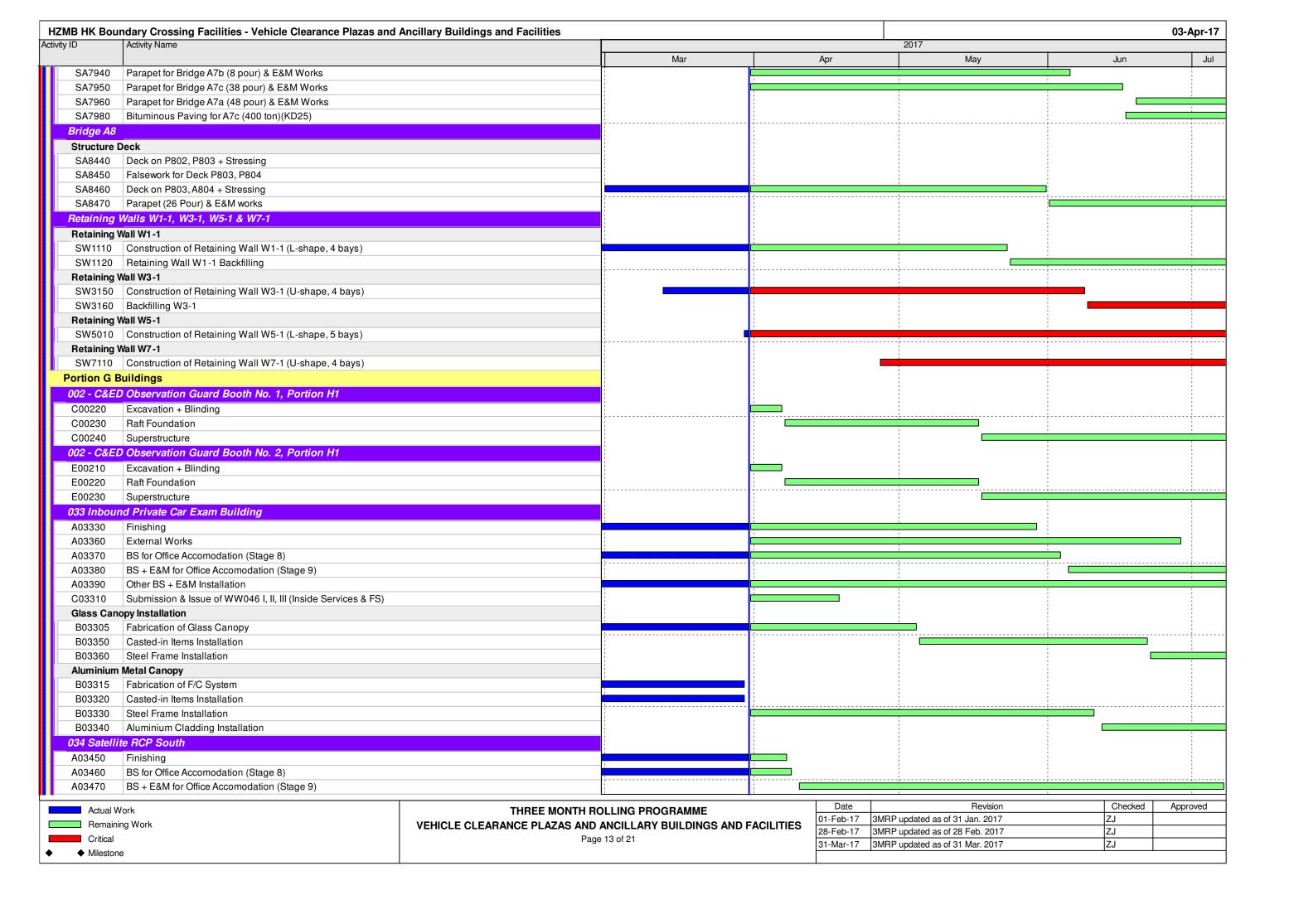


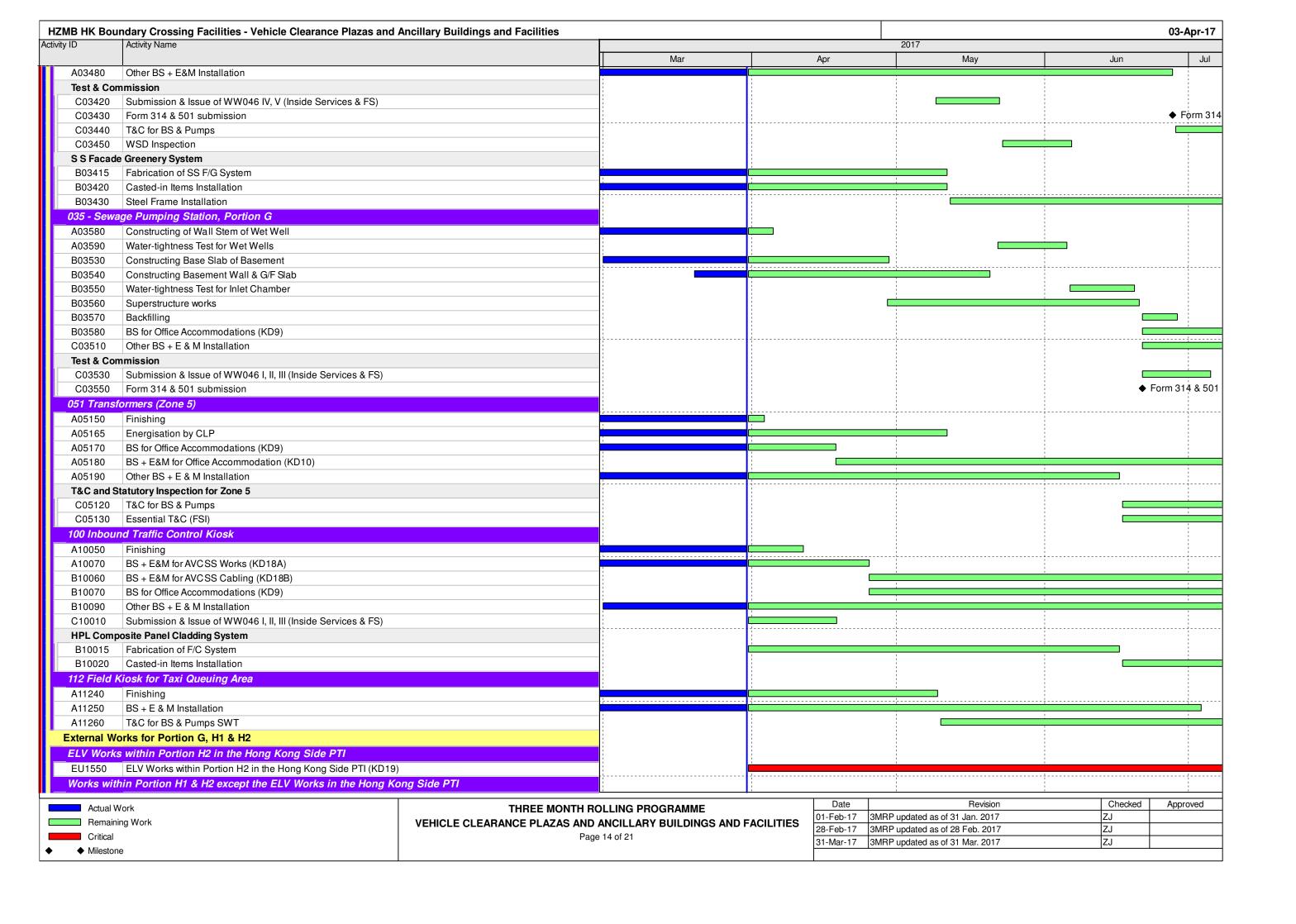


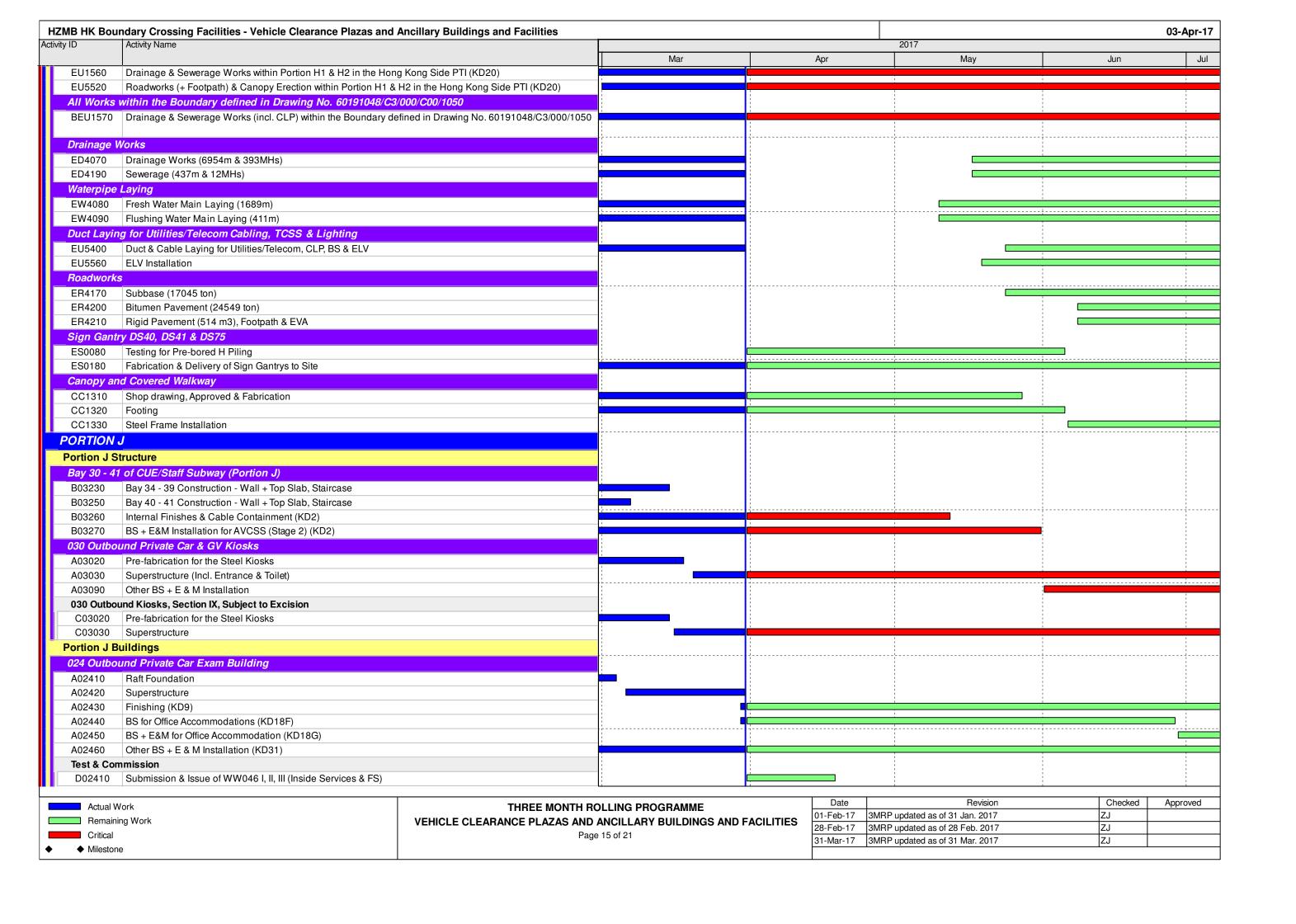


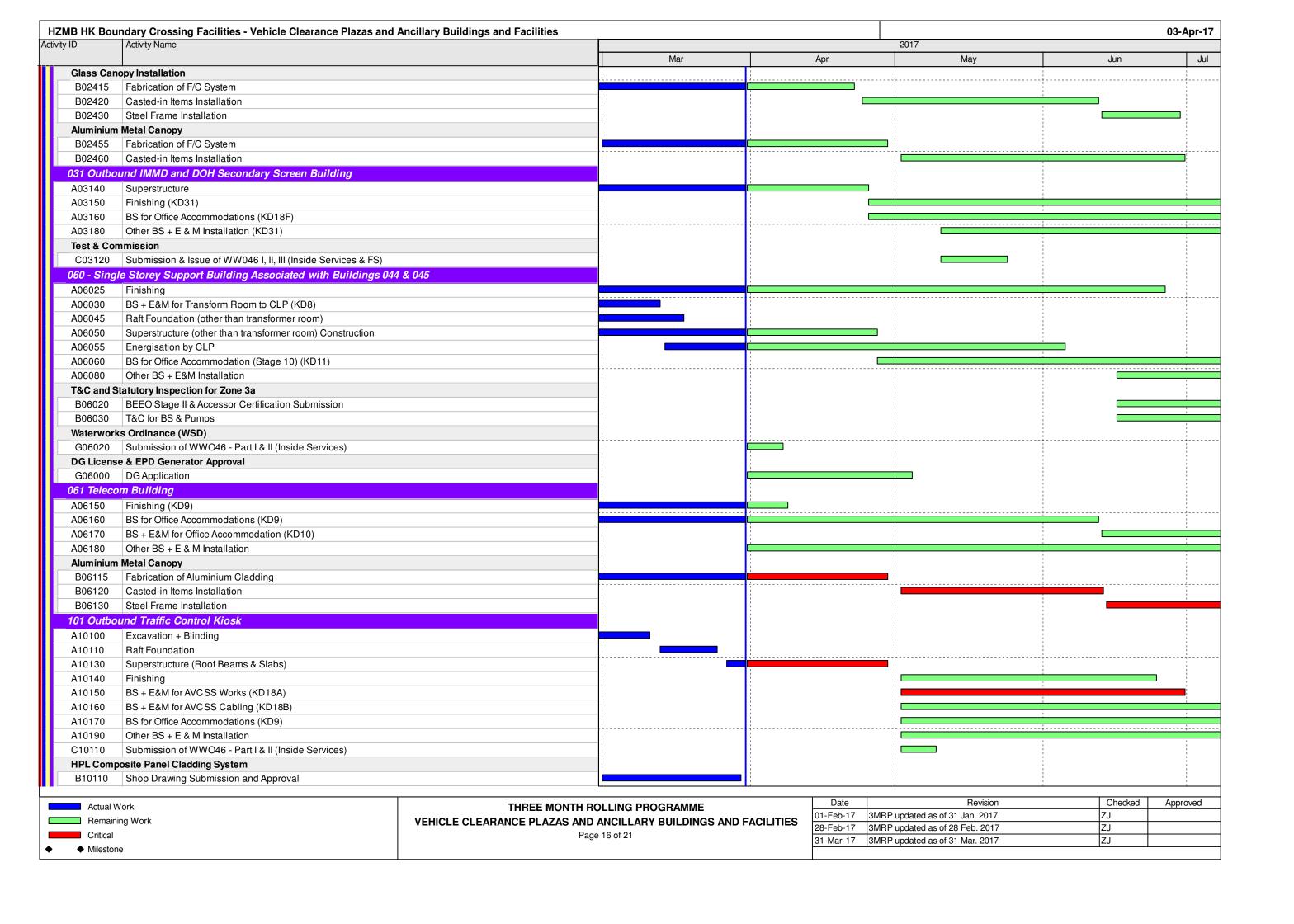


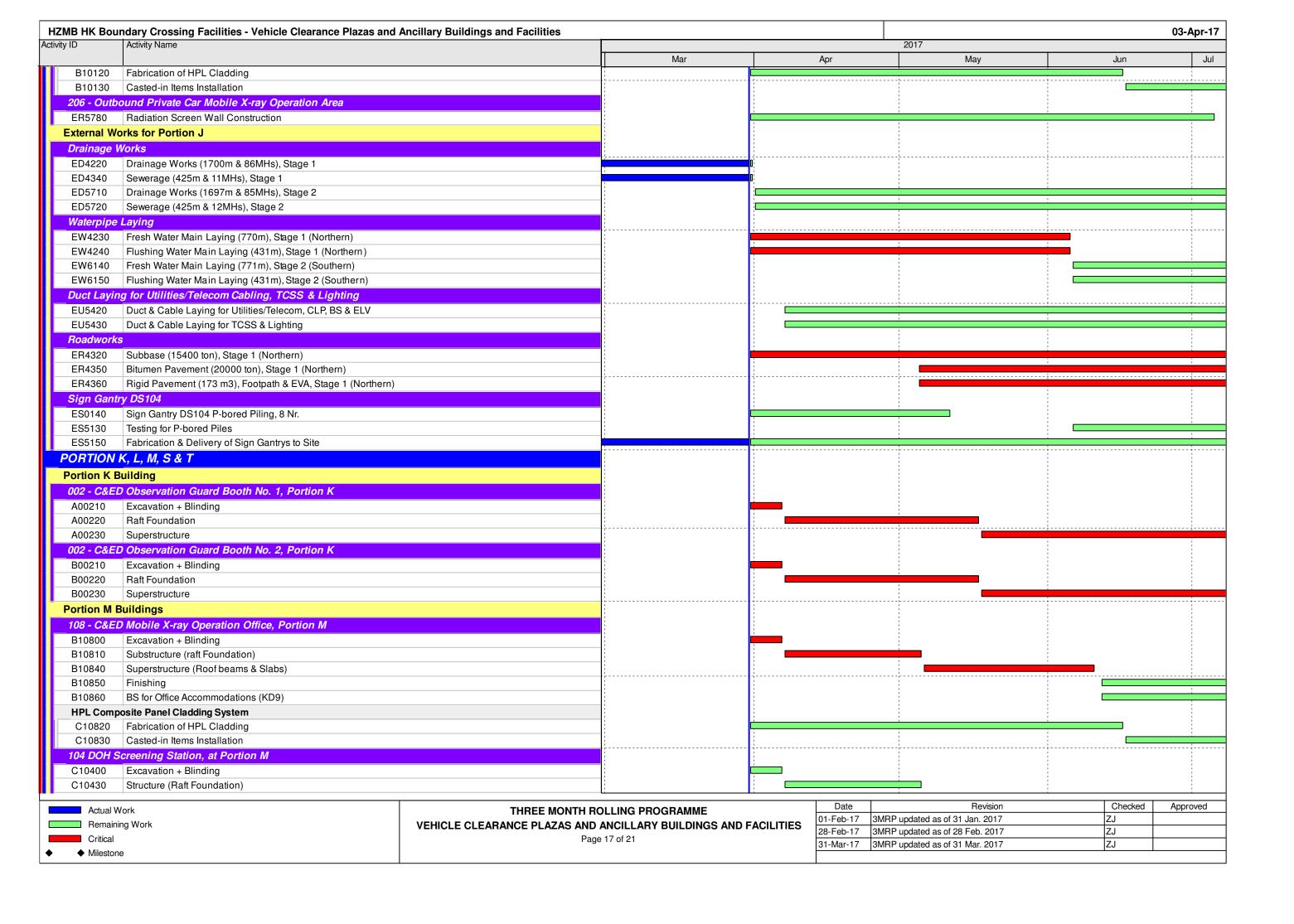


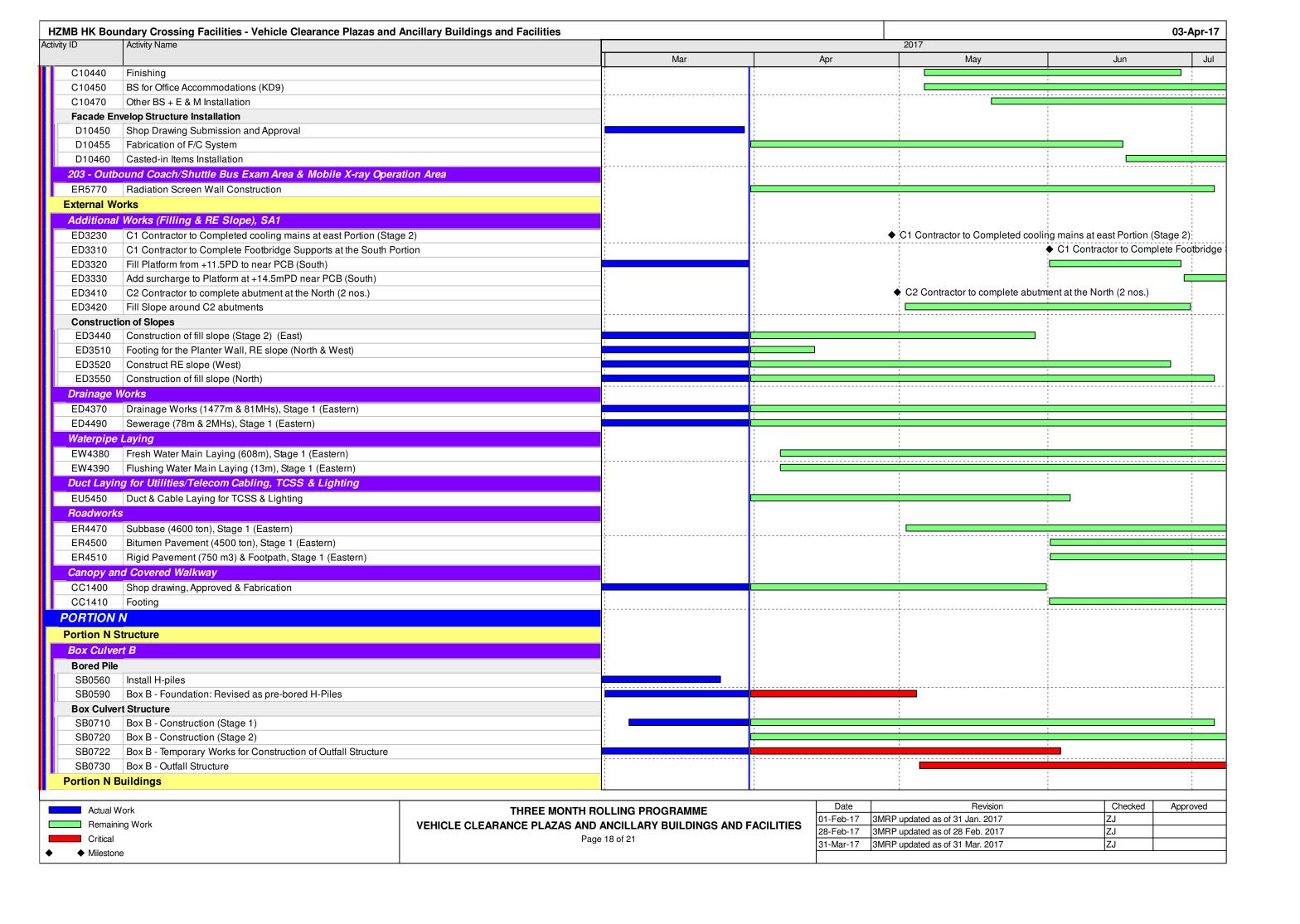


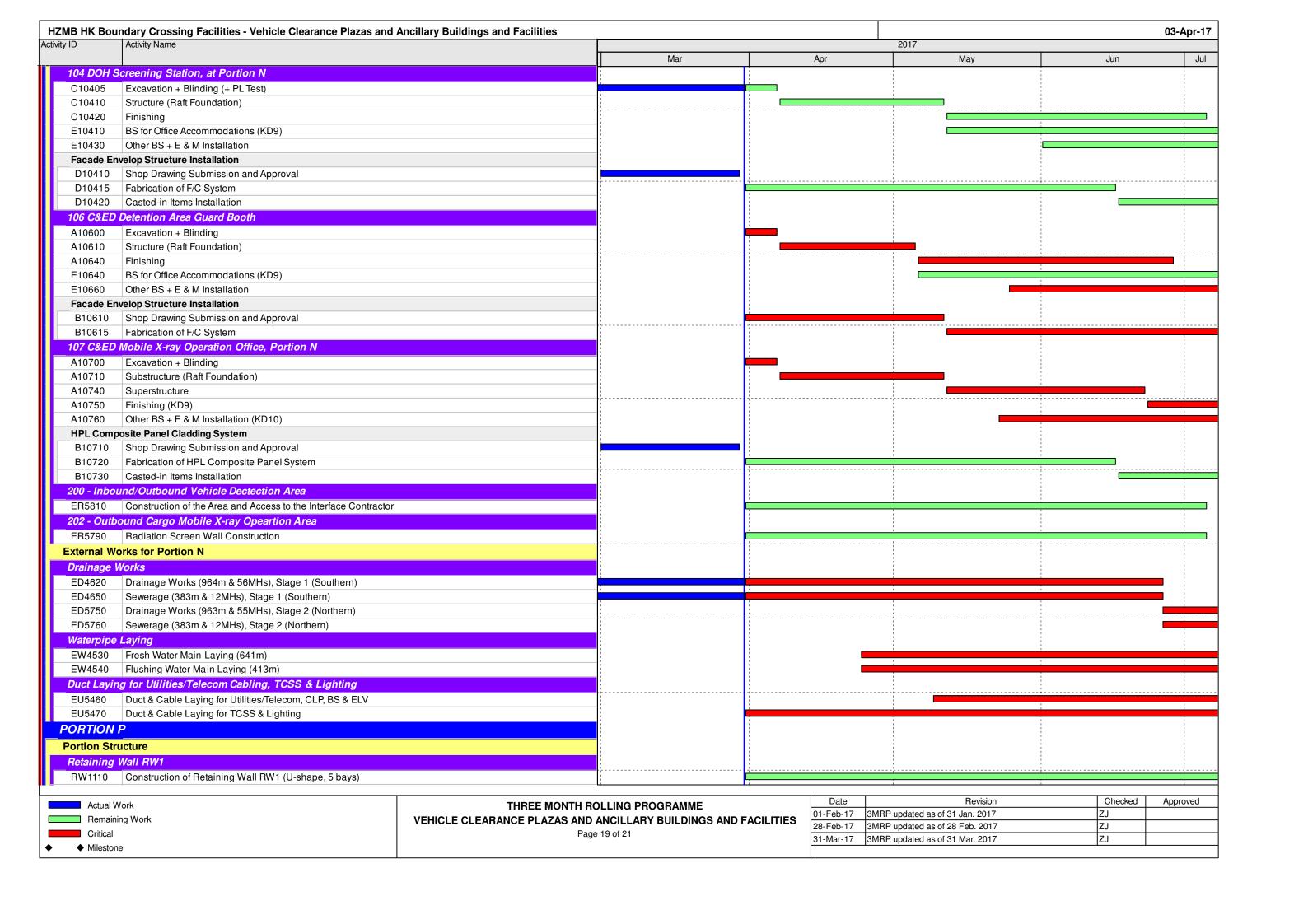


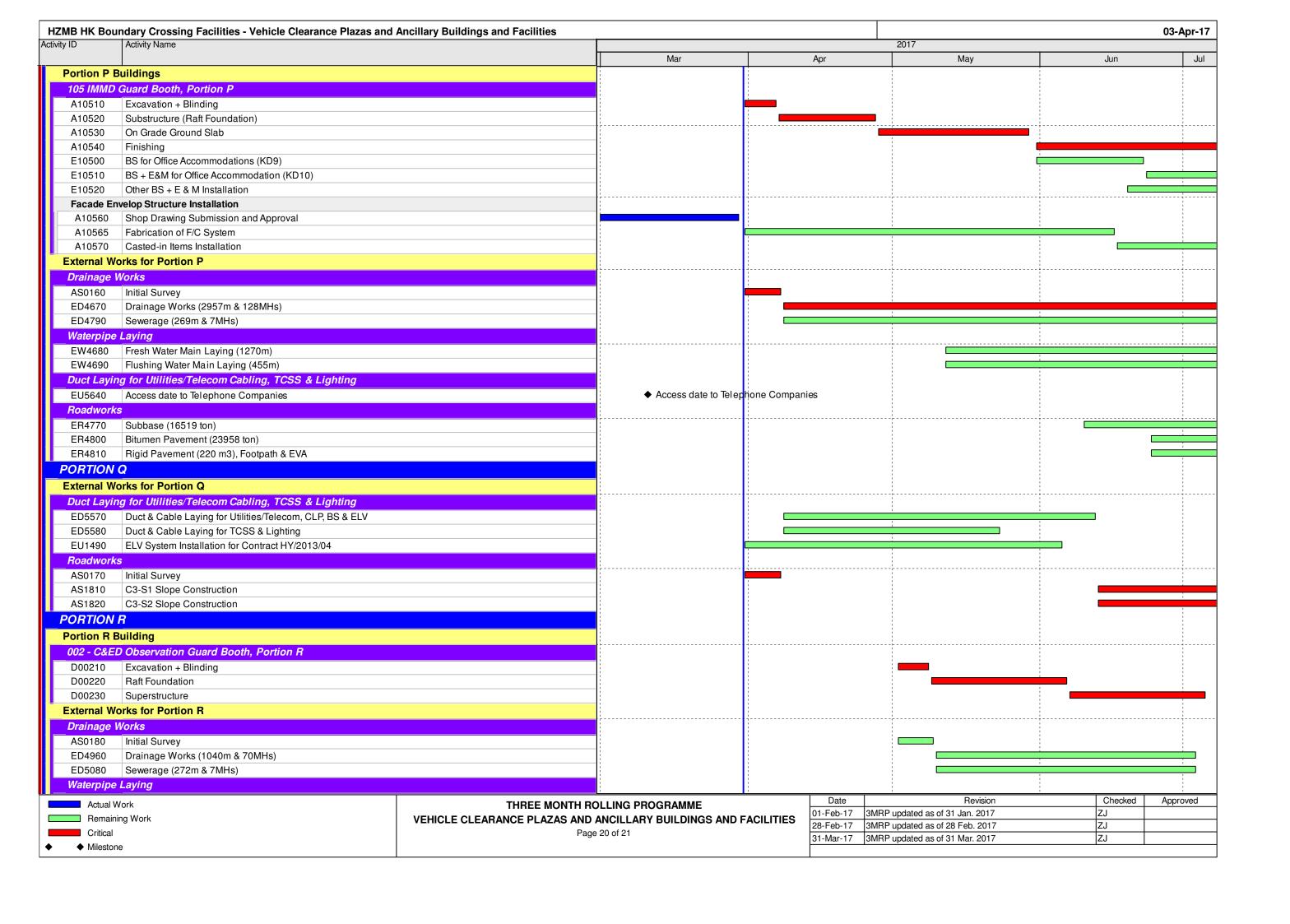












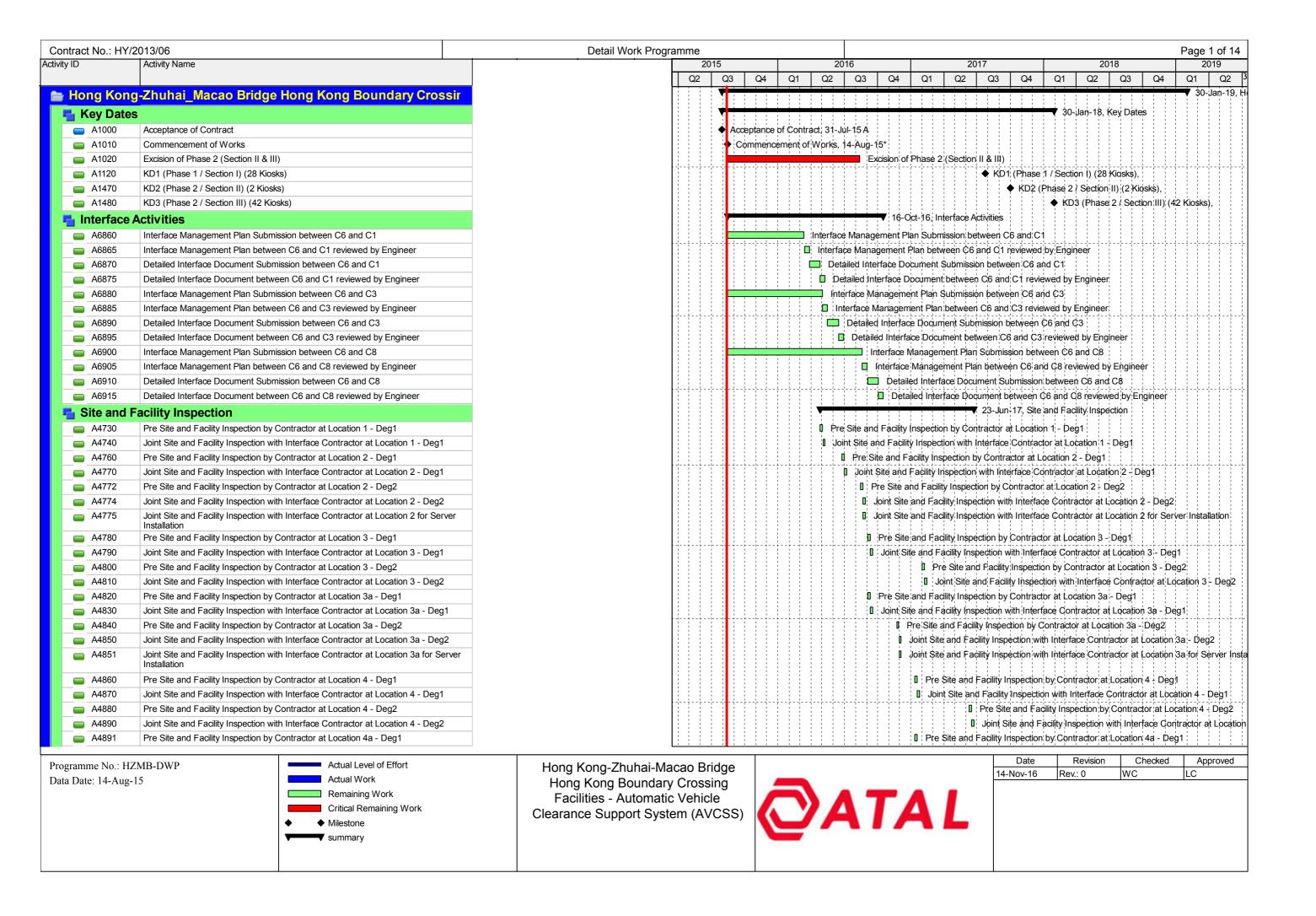
HZMB HK Bou	ndary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities					03-Apr-17				
Activity ID	Activity Name			2017						
		Mar	Apr	May	Jun	Jul				
EW4970	Fresh Water Main Laying (614m)									
EW4980	Flushing Water Main Laying (222m)					:				
Duct Layin	g for Utilities/Telecom Cabling, TCSS & Lighting				1 1 1	! !				
EU5500	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV					1				
EU5510	Duct & Cable Laying for TCSS & Lighting									
EU5610	ELV Installation		1		1	1				
Landscape	Works			1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
A5170	Design and Procurement for Irrigation System	1	1	1	1	1				

Actual Work
Remaining Work
Critical

Milestone

THREE MONTH ROLLING PROGRAMME
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES
Page 21 of 21

Date	Revision	Checked	Approved
01-Feb-17	3MRP updated as of 31 Jan. 2017	ZJ	
28-Feb-17	3MRP updated as of 28 Feb. 2017	ZJ	
31-Mar-17	3MRP updated as of 31 Mar. 2017	ZJ	
			-

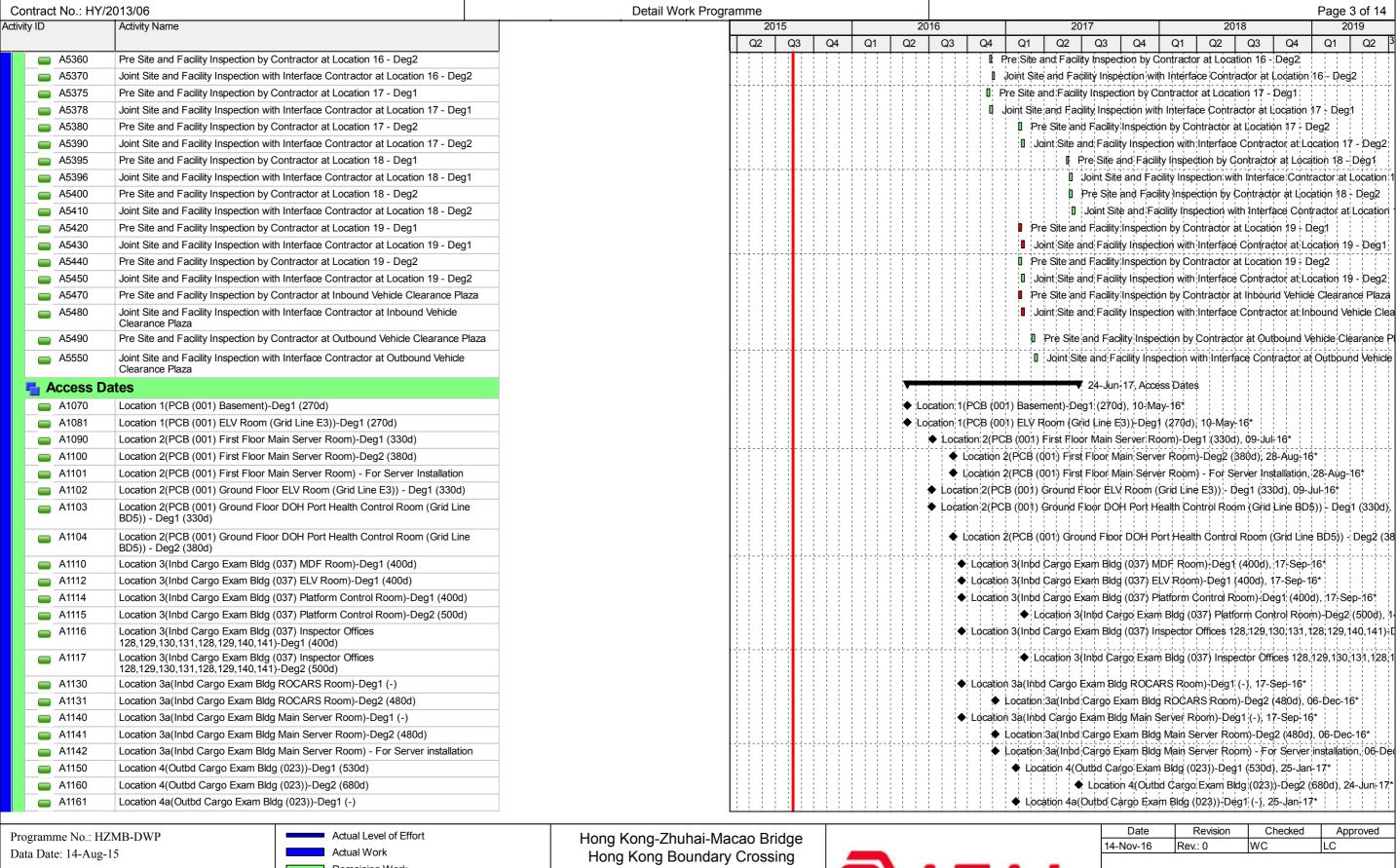


Contract No.: HY	7/2013/06	Detail Work Programme											Page 2
ctivity ID	Activity Name	20	15			20)16			2017		2018	201
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2 Q3 Q4			Q4 Q1
A4892	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg1								1 1 1 1	Site and Facility Inspen			
A4900	Pre Site and Facility Inspection by Contractor at Location 4a - Deg2	i i i i i i i i i i i i i i i i i i i				ļļļ				Pre Site and Facilit		íiiiii	
A4910	Joint Site and Facility Inspection with Interface Contractor at Location 4a - Deg2								1 1 1 1	Joint Site and Faci	1 11 1 1	: : : : : : :	ntractor at Loca
A4920	Pre Site and Facility Inspection by Contractor at Location 5 - Deg1					1 1 1	1 1 1	1 1 1	1 1 1 1	ction by Contractor at			
A4930	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg1						Joint	Site and I	Facility Insp	ection with Interface C	ontractor at L	ocation 5 - Deg1	
A 4940	Pre Site and Facility Inspection by Contractor at Location 5 - Deg2							i i i	i i i i	Facility Inspection by C			
A4950	Joint Site and Facility Inspection with Interface Contractor at Location 5 - Deg2					1.1.1		0 J	oint Site an	d Facility Inspection wi	th Interface C	ontractor at Loca	tion 5 - Deg2
A4960	Pre Site and Facility Inspection by Contractor at Location 6 - Deg1						1	Pre Site	and Facilit	y Inspection by Contra	ctor at Location	on 6 - Deg1	
A4970	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg1							Joint S	ite and Fac	ility Inspection with Inte	erface Contrac	ctor at Location 6	- Deg1
A4980	Pre Site and Facility Inspection by Contractor at Location 6 - Deg2							I Pre	Site and F	acility Inspection by C	ontractor at Lo	ocation 6 - Deg2	
A 4990	Joint Site and Facility Inspection with Interface Contractor at Location 6 - Deg2							I Jo	int Site and	Facility Inspection with	n Interface Co	ntractor at Locati	on 6 - Deg2
A 5000	Pre Site and Facility Inspection by Contractor at Location 7 - Deg1		1 1			☐ Pre	Site an	d Facility	Inspection	by Contractor at Loca	tion 7 - Deg1		
A 5010	Joint Site and Facility Inspection with Interface Contractor at Location 7 - Deg1					I Joi	int Site a	and Facili	ty Inspectio	n with Interface Contra	actor at Locati	on:7 - Deg1	
A 5020	Pre Site and Facility Inspection by Contractor at Location 8 - Deg1							1 Pre S	Site and Fa	cility Inspection by Cor	tractor at Loc	ation 8 - Deg1	
A 5030	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg1							■ Join	Site and F	acility Inspection with I	nterface Cont	tractor at Location	8 - Deg1
A 5040	Pre Site and Facility Inspection by Contractor at Location 8 - Deg2									Pre Site and Facil	ity Inspection t	by Contractor at L	ocation 8 - Deg
A 5050	Joint Site and Facility Inspection with Interface Contractor at Location 8 - Deg2									Joint Site and Fac	cility Inspection	with Interface C	ontractor at Loc
A 5060	Pre Site and Facility Inspection by Contractor at Location 9 - Deg1	†				7777			Pre Site	and Facility Inspection	n by Contracto	or at Location 9 -	Deg1
A 5070	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg1								■ Joint S	ite and Facility Inspect	ion with Interfa	ace Contractor at	Location 9 - De
■ A5080	Pre Site and Facility Inspection by Contractor at Location 9 - Deg2									Pre Site and Fac	cility Inspection	by Contractor at	Location 9 - De
A 5090	Joint Site and Facility Inspection with Interface Contractor at Location 9 - Deg2									Joint Site and F	acility Inspecti	on with Interface	Contractor at Lo
A 5100	Pre Site and Facility Inspection by Contractor at Location 10 - Deg1							G 1	Pre Site an	d Facility Inspection by	Contractor a	t Location 10 - De	g1
A5110	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg1			1-1-1		1-1-1-				nd Facility Inspection		iiiii	
A5120	Pre Site and Facility Inspection by Contractor at Location 10 - Deg2								1 1 1 1	Site and Facility Inspec		: : : : : :	
A5130	Joint Site and Facility Inspection with Interface Contractor at Location 10 - Deg2								1 1 1 1	t Site and Facility Insp	1 1 1 1 1		
A 5140	Pre Site and Facility Inspection by Contractor at Location 11 - Deg1						10	Pre Site	1 1 1 1	y Inspection by Contra		: : : : : :	
A5150	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg1						1 1 1	1 1 1	1 1 1 1	lity Inspection with Inte			l - Dea1
A 5160	Pre Site and Facility Inspection by Contractor at Location 11 - Deg2			fff		1-1-1-				d Facility Inspection by		iiiiii	
A5170	Joint Site and Facility Inspection with Interface Contractor at Location 11 - Deg2							1 1 1	1 1 1 1	nd Facility Inspection		: : : : : :	
A5180	Pre Site and Facility Inspection by Contractor at Location 12 - Deg1							1 1 1	1 1 1 1	y Inspection by Contra			aug
A5190	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg1						1 1 1	1 1 1	1 1 1 1	ility Inspection with Inte	-		2 - Deg1
A5200	Pre Site and Facility Inspection by Contractor at Location 12 - Deg2							i i i	i i i i	d Facility Inspection by	- i i i i i		
A5210	Joint Site and Facility Inspection with Interface Contractor at Location 12 - Deg2									nd Facility Inspection		iiiii	
A5220	Pre Site and Facility Inspection by Contractor at Location 13 - Deg1							1 1 1	1 1 1 1	d Facility Inspection by		: : : : : :	
A5230	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg1							1 1 1	1 1 1 1	ind Facility Inspection			
A5240	Pre Site and Facility Inspection by Contractor at Location 13 - Deg2								1 1 1 1	Site and Facility Inspec		: : : : : :	
A5250	Joint Site and Facility Inspection with Interface Contractor at Location 13 - Deg2								1 1 1 1	t Site and Facility Insp			
A5250 A5260	Pre Site and Facility Inspection by Contractor at Location 14 - Deg1	ļ-iii		}						Pre Site and Facility		iiiii	
	Joint Site and Facility Inspection with Interface Contractor at Location 14 - Deg1								1 1 1 1		1 1 1 1 1	! ! ! ! ! ! !	1 1 1 1 1 1
A5270	, ,							Drb Cite	1 1 1 1	Joint Site and Facility			racion al Locatio
A5300	Pre Site and Facility Inspection by Contractor at Location 15 - Deg1						1 1 1	1 1 1	1 1 1 1	y Inspection by Contra		: : : : • : :	
A5310	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg1						: ; ; u	1 1 1	1 1 1 1	lity Inspection with Inte			
■ A5320	Pre Site and Facility Inspection by Contractor at Location 15 - Deg2	ļ.iii.								d Facility Inspection by		iiiiiii	
A5330	Joint Site and Facility Inspection with Interface Contractor at Location 15 - Deg2							1 1 1	1 1 1 1	nd Facility Inspection			ation 15 - Deg2
A5340	Pre Site and Facility Inspection by Contractor at Location 16 - Deg1						i i i	i i i	1 1 1 1	y Inspection by Contra			
A 5350	Joint Site and Facility Inspection with Interface Contractor at Location 16 - Deg1	<u> </u>				<u> </u>	; ; ; 0	¡ Joint¦Si	te and Fac	ility Inspection with Inte	errace Contrac	ctor at Location 16	o - Deg1
ogramme No.: H	HZMB-DWP Actual Level of Effort	Hong Kong Zhuhai Macao Pri	dao							Date	Rev	vision Chec	ked Appr
ata Date: 14-Aug		Hong Kong-Zhuhai-Macao Bri Hong Kong Boundary Crossi	•		_					14-Nov-16	Rev.: 0	WC	LC

Remaining Work Critical Remaining Work summary



Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC



actual Level of Effort

Actual Work

Remaining Work

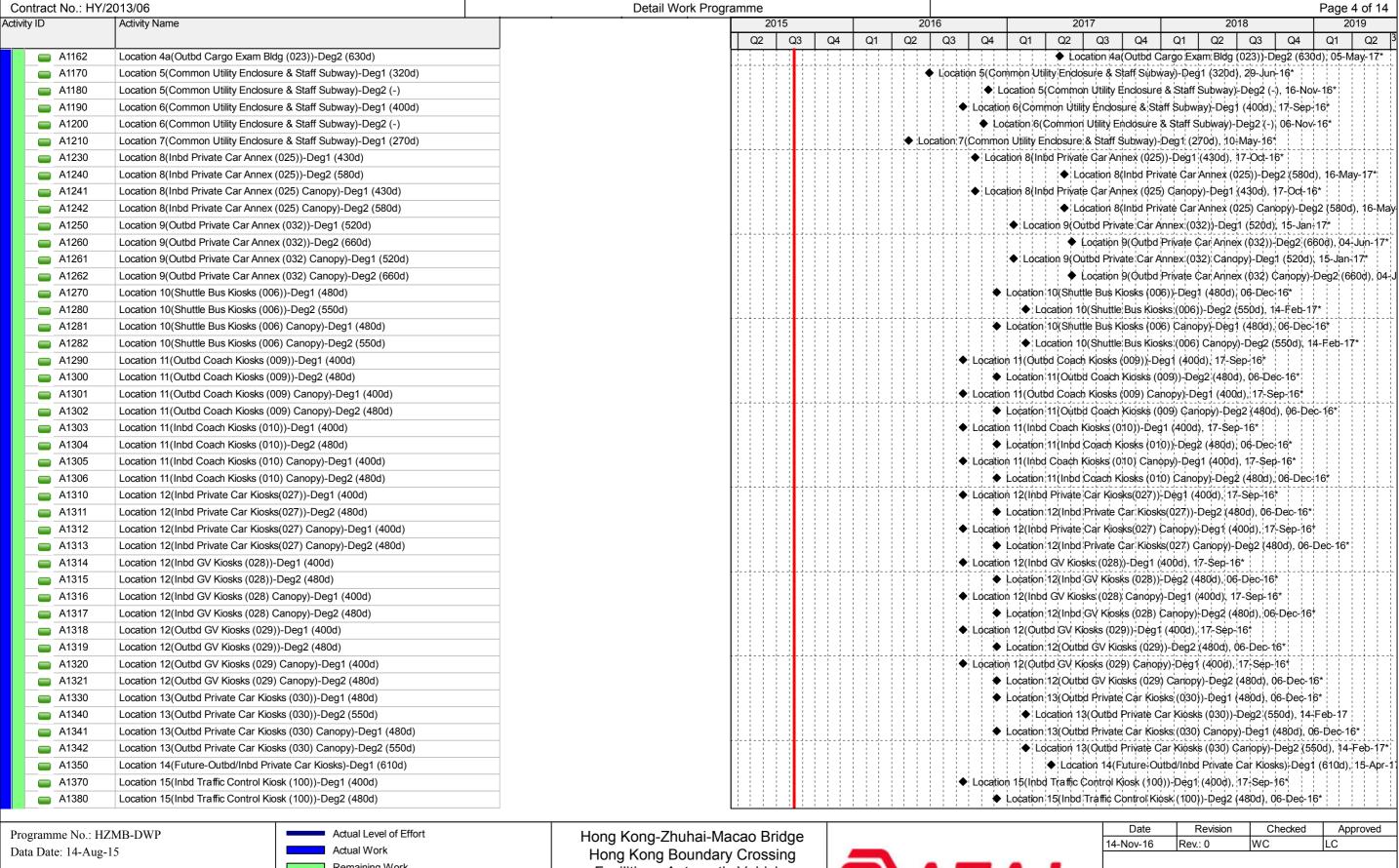
Critical Remaining Work

Milestone

summary

Hong Kong-Zhuhar-Macao Bhage
Hong Kong Boundary Crossing
Facilities - Automatic Vehicle
Clearance Support System (AVCSS)

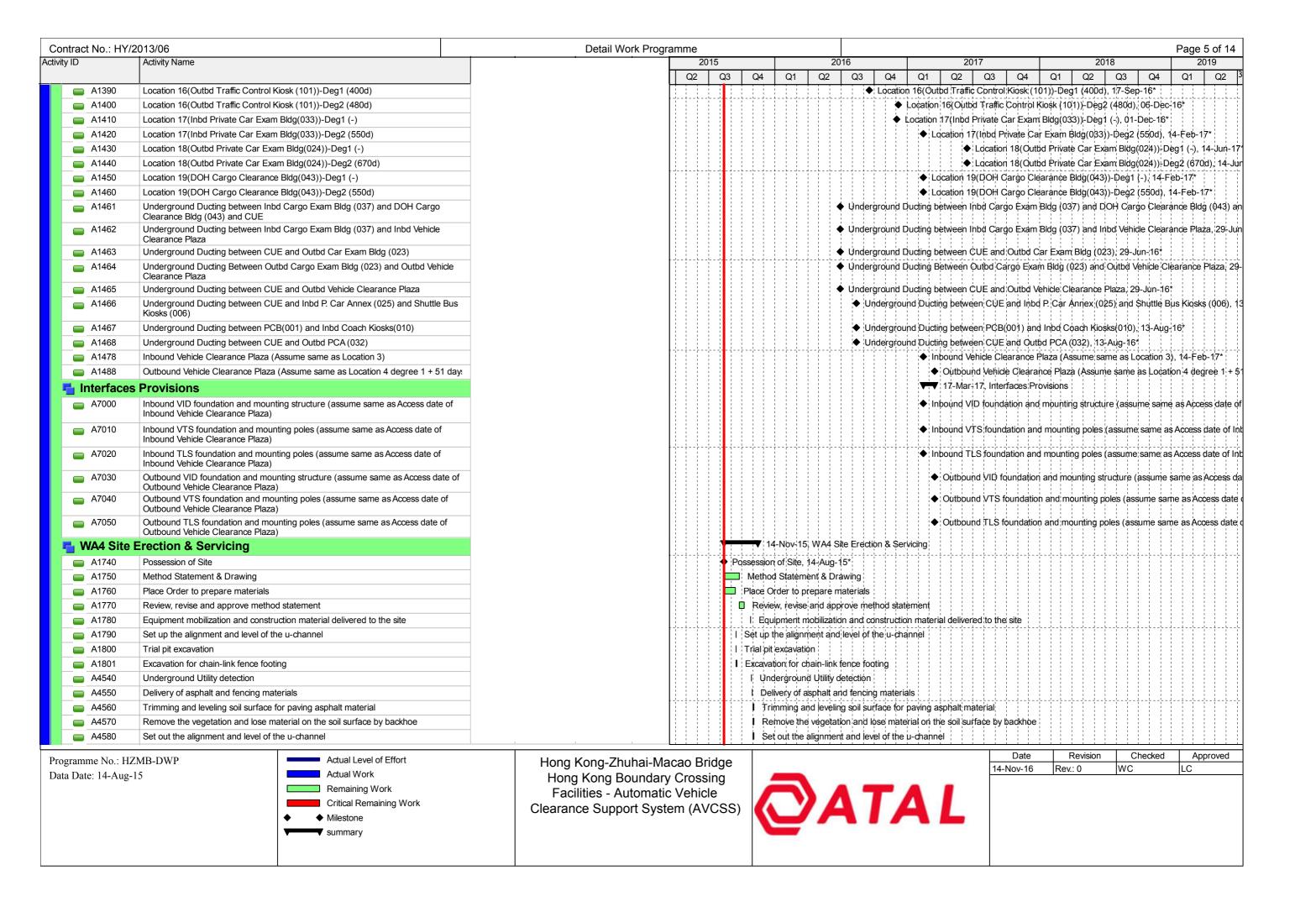


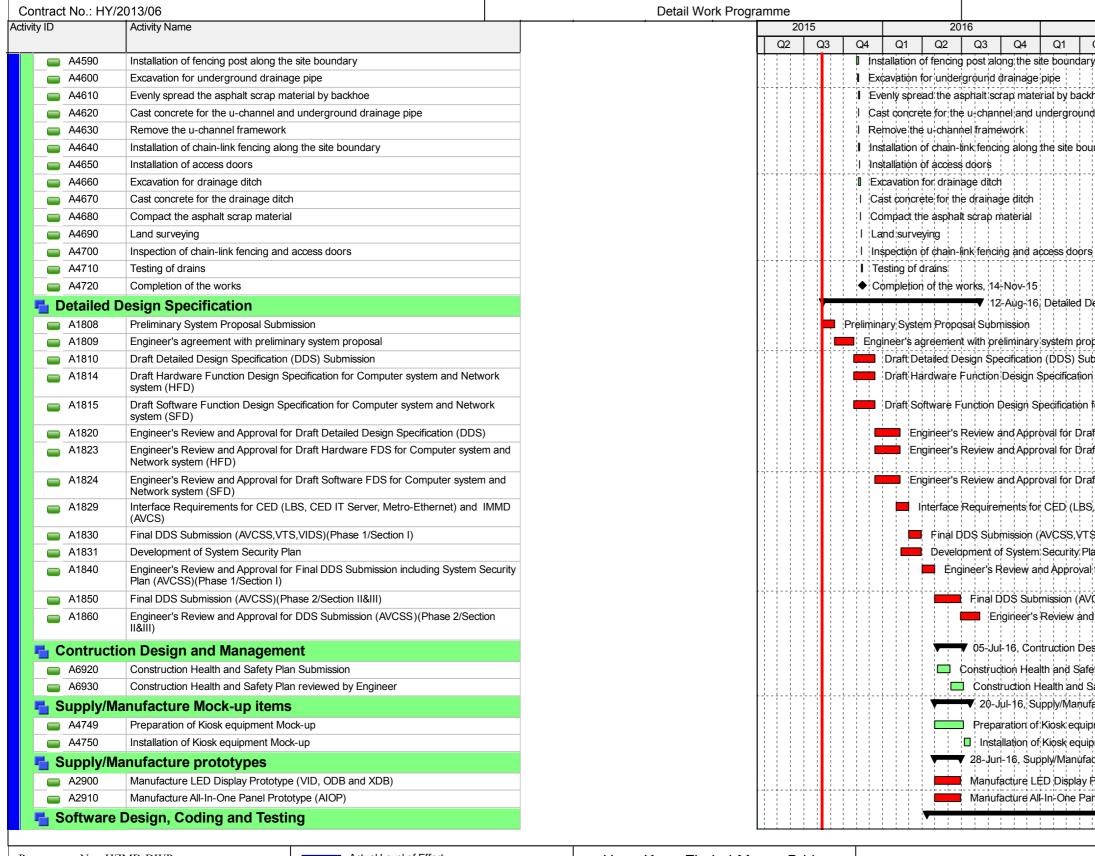


Remaining Work Critical Remaining Work ◆ Milestone summary

Facilities - Automatic Vehicle Clearance Support System (AVCSS)







I Evenly spread the asphalt scrap material by backhoe Cast concrete for the u-channel and underground drainage pipe Remove the u-channel framework Installation of chain-link fencing along the site boundary Installation of access doors Excavation for drainage ditch I Cast concrete for the drainage ditch I Compact the asphalt scrap material I Land surveying I Inspection of chain-link fencing and access doors I Testing of drains Completion of the works, 14-Nov-15 ■ 12-Aug-16, Detailed Design Specification Preliminary System Proposal Submission Engineer's agreement with preliminary system proposal Draft Detailed Design Specification (DDS) Submission Draft Hardware Function Design Specification for Computer system and Network system (HFD) Draft Software Function Design Specification for Computer system and Network system (SFD) Engineer's Review and Approval for Draft Detailed Design Specification (DDS) Engineer's Review and Approval for Draft Handware FDS for Computer system and Network system (HFD) Engineer's Review and Approval for Draft Software FDS for Computer system and Network system (SFD): Interface Requirements for CED (LBS, CED IT Server, Metro-Ethernet) and IMMD (AVC\$) Final DD\$ Submission (AVCSS,VT\$,VID\$)(Phase 1/Section I) Development of System Security Plan Engineer's Review and Approval for Final DDS Submission including System Security Plan (AVCSS) (Phase Final DD\$ Submission (AVCSS)(Phase 2/Section II&III) Engineer's Review and Approval for DDS Submission (AVCSS)(Phase 2/Section [I&II]) 05-Jul-16, Contruction Design and Management Construction Health and Safety Plan Submission Construction Health and Safety Plan reviewed by Engineer 20-Jul-16, Supply/Manufacture Mock-up items Preparation of Kiosk equipment Mock-up Installation of Kiosk equipment Mock-up ▼ 28-Jun-16, Supply/Manufacture prototypes Manufacture LED Display Prototype (VID, ODB and XDB) Manufacture All-In-One Panel Prototype (AIOP) ▼ 22-May-17, Software Design, Coding and Testing Revision | Checked | Approved

2017

Q3

Q2

2016

Q3

Q4

Q2

Programme No.: HZMB-DWP Data Date: 14-Aug-15

 Actual Level of Effort Actual Work Remaining Work Critical Remaining Work Milestone summary

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)



14-Nov-16	Rev.: 0	WC	LC

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2019

Q2

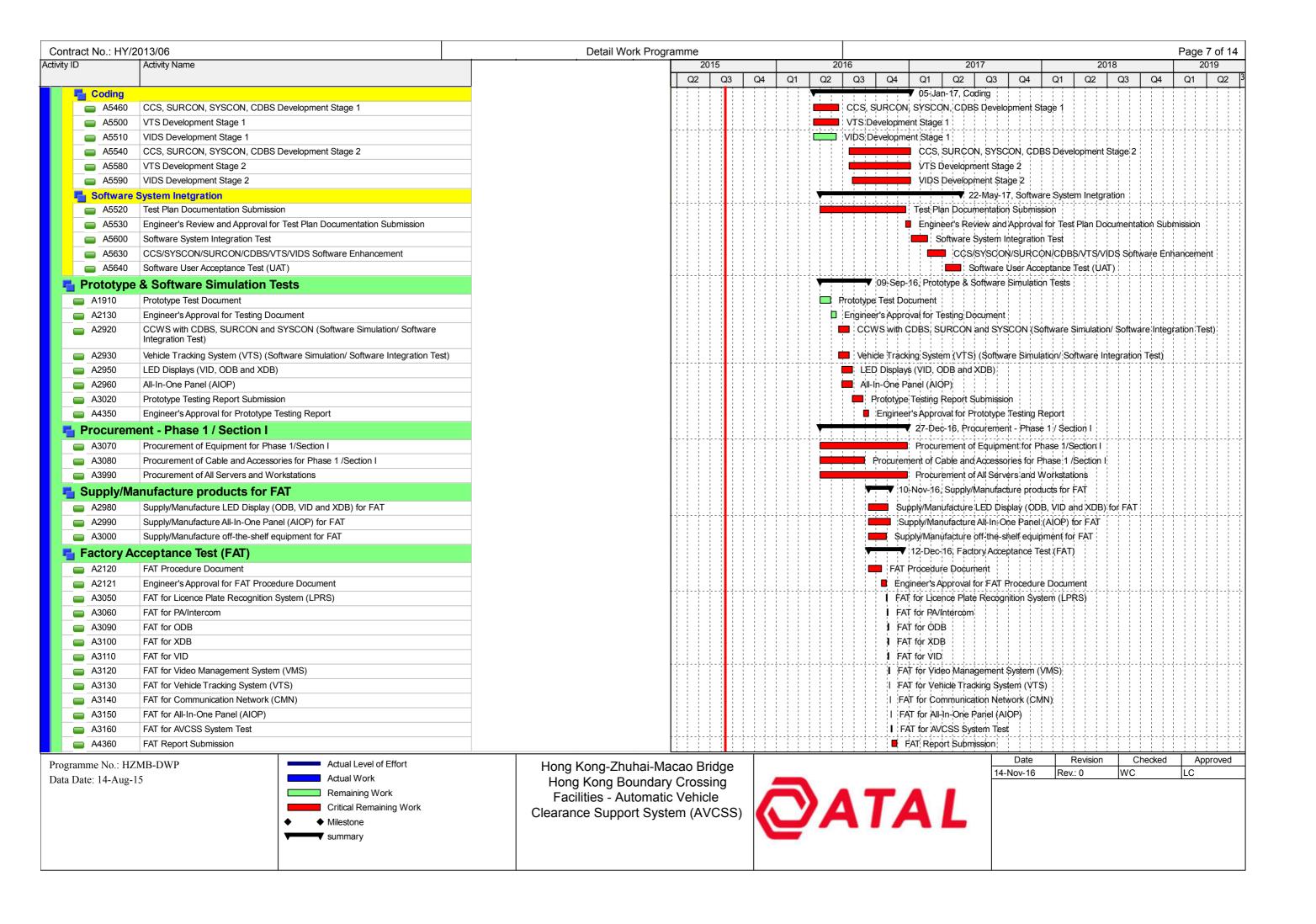
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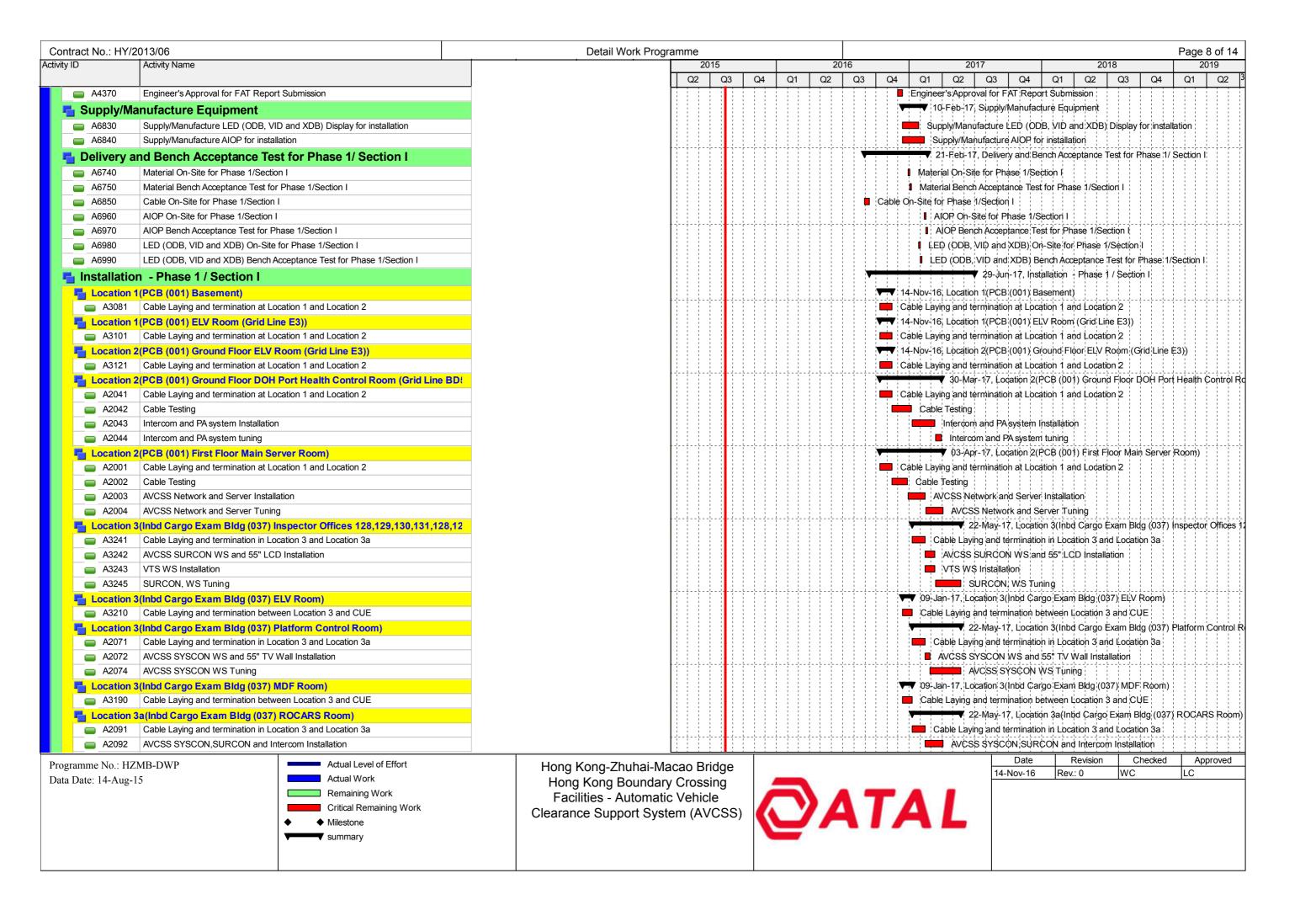
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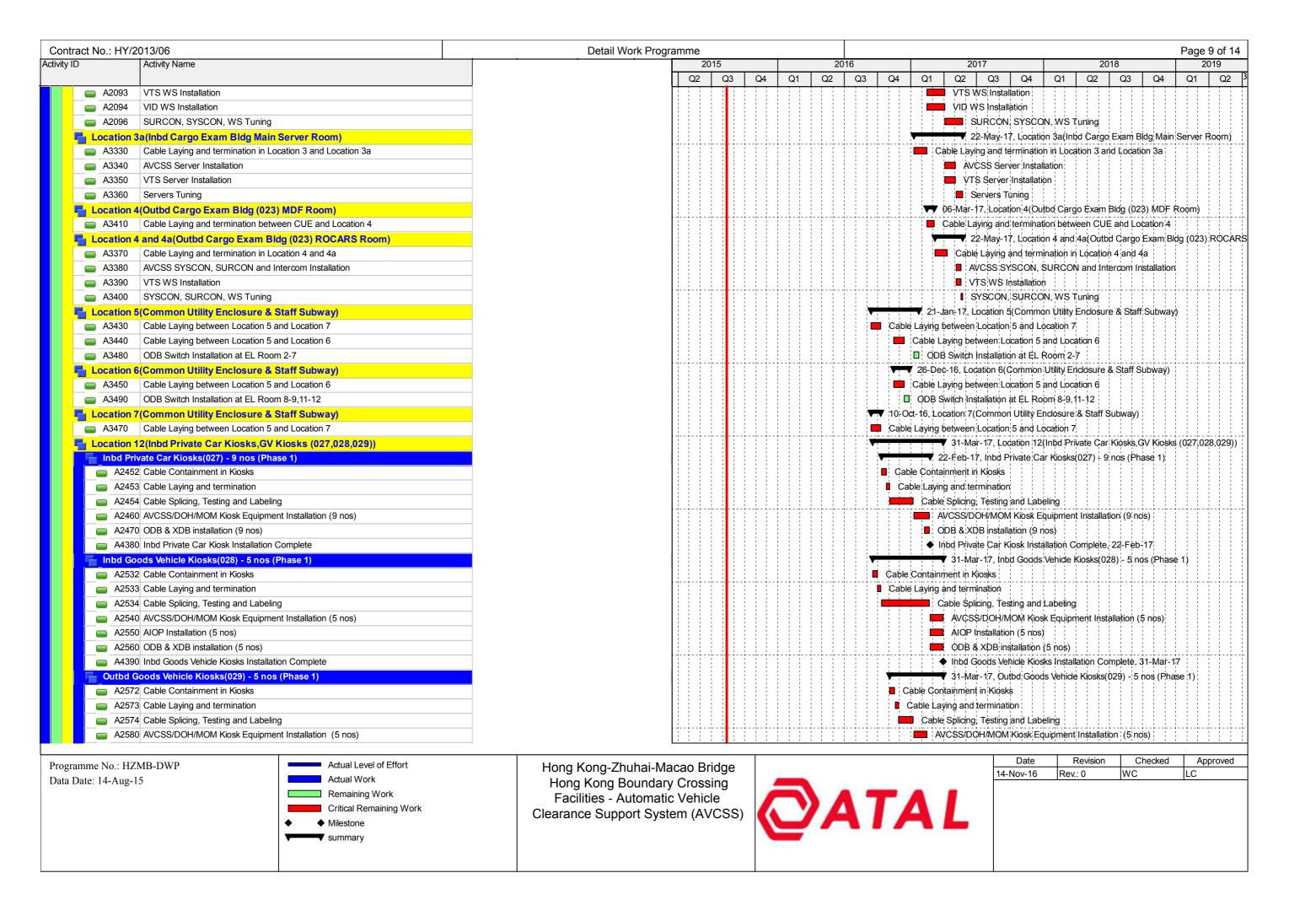
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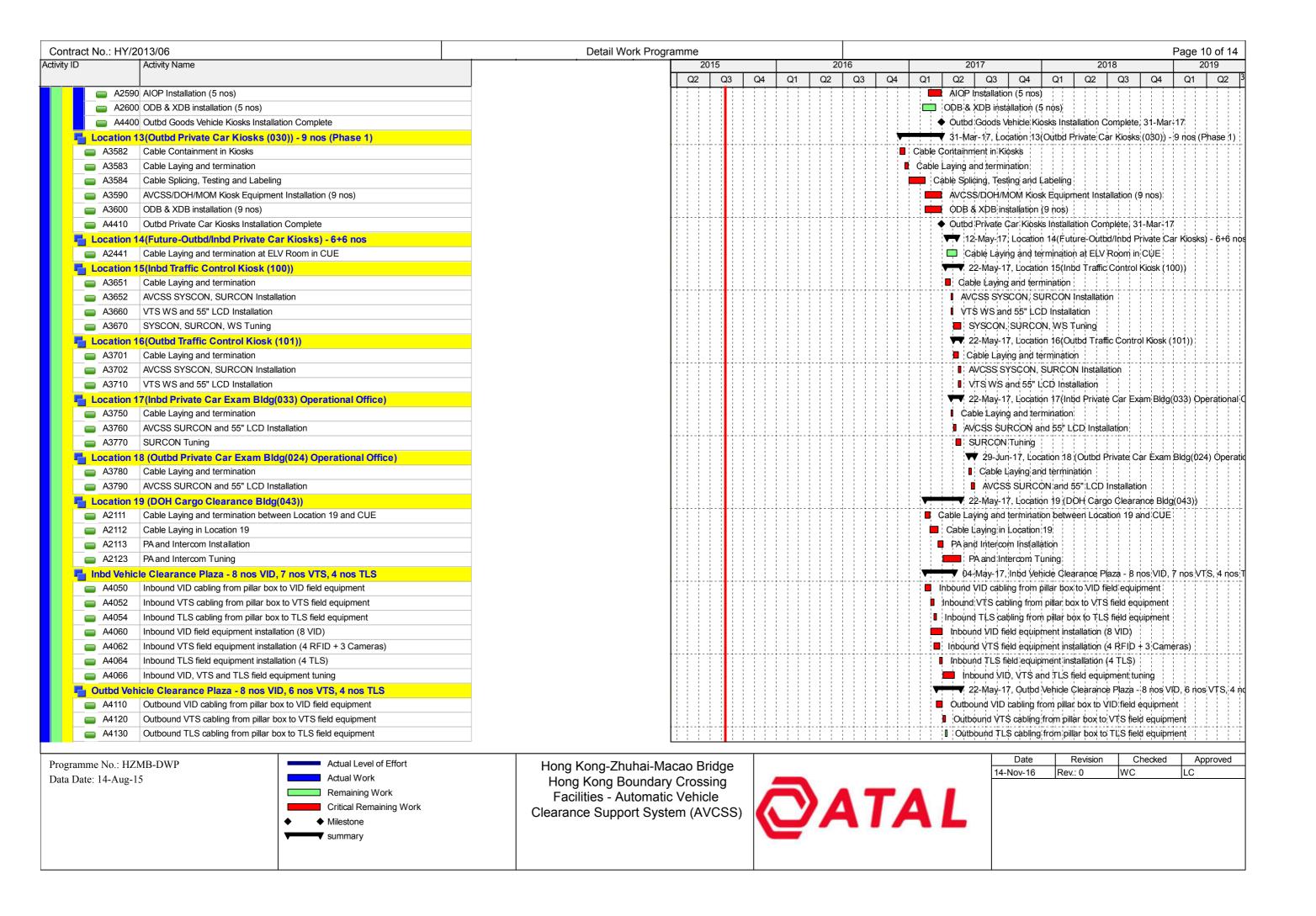
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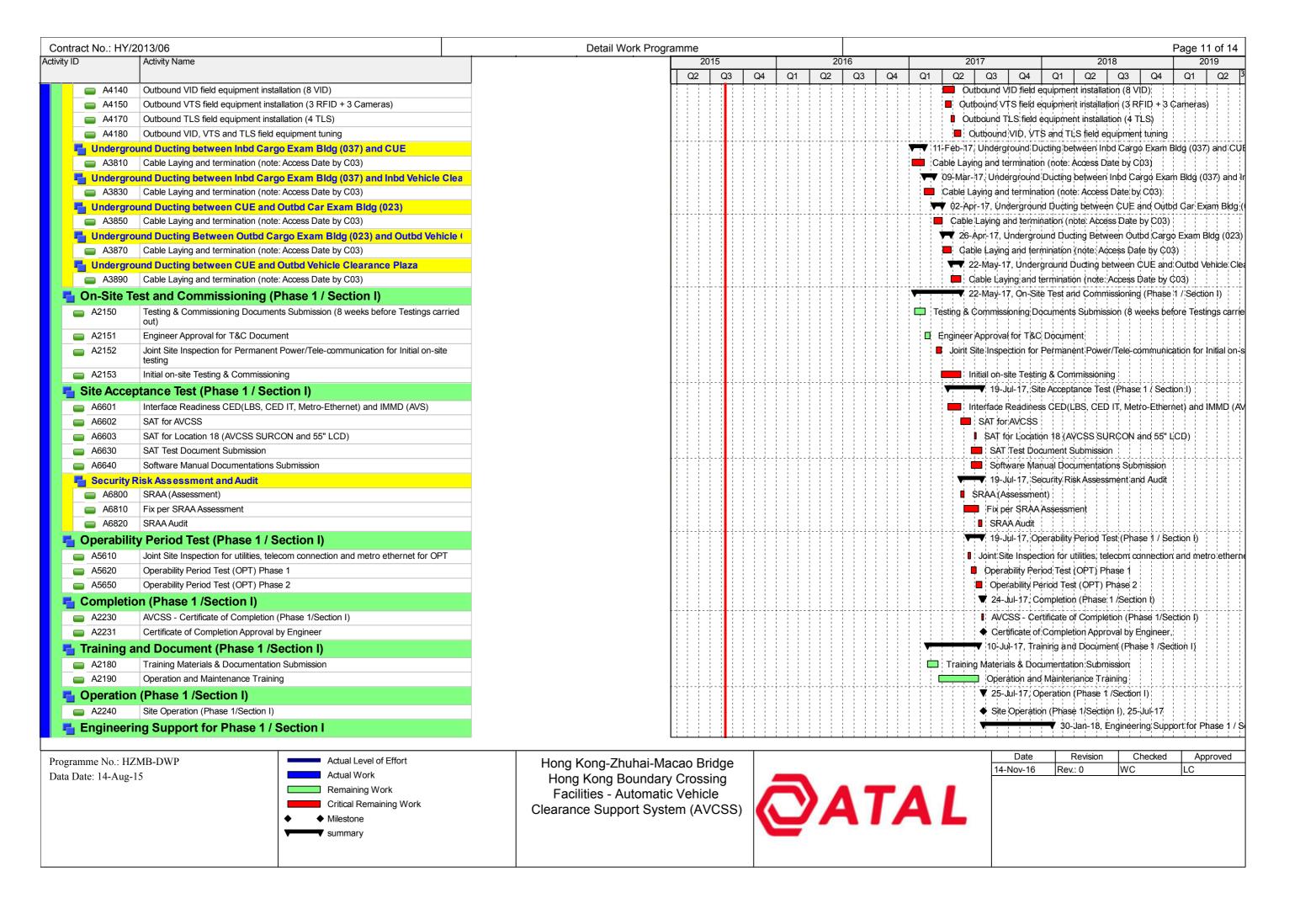
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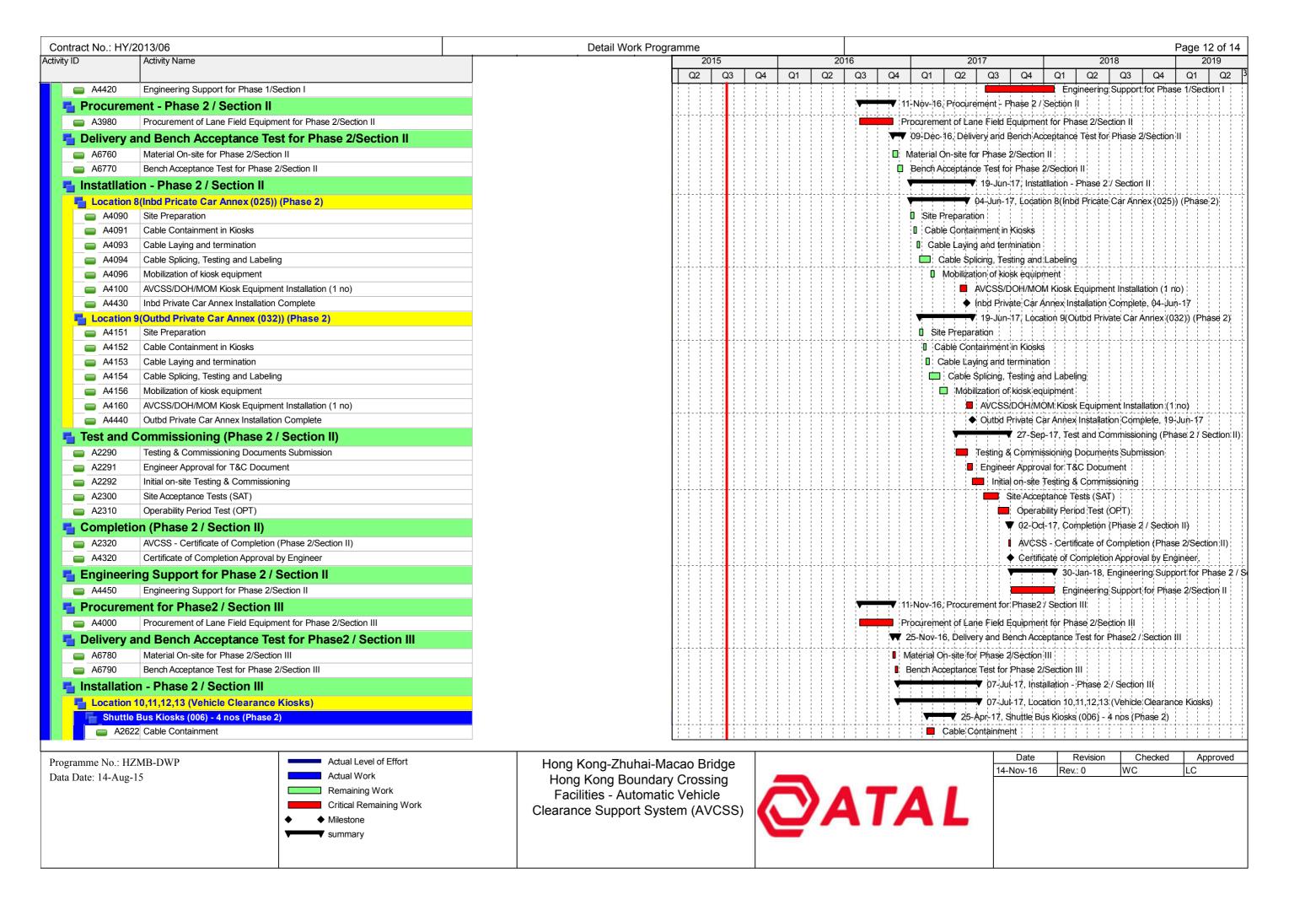


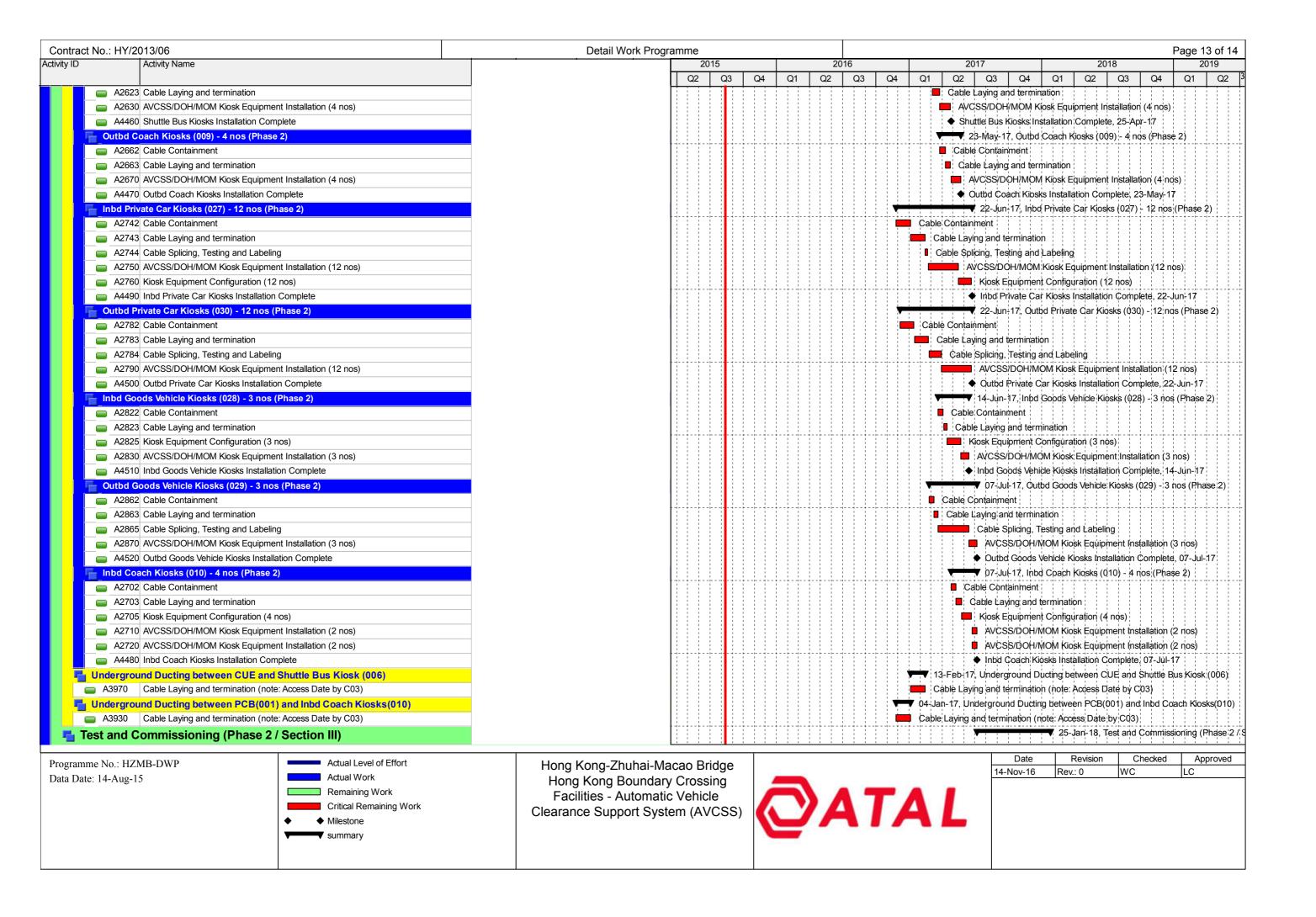


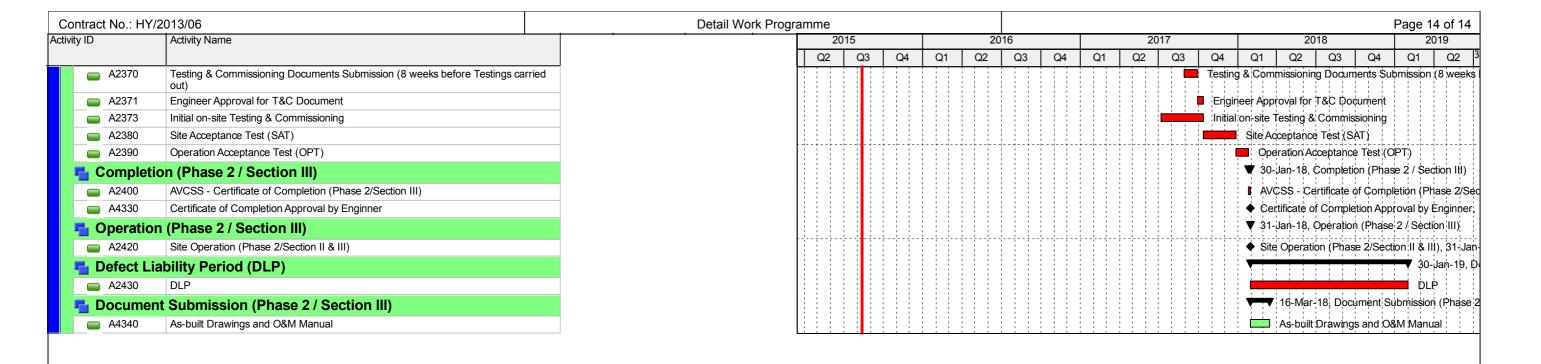












Programme No.: HZMB-DWP Data Date: 14-Aug-15

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

Milestone

summary

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)



Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
	•	•	•

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0761

Appendix D

Event / Action Plan

Appendix D -

Event / Action Plan for Air Quality and Noise Monitoring

Event / Action Plan for Air Quality

Event		Ac	tion	
	ET	IEC	ER	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 measureme nt to confirm finding; 4. Increase monitoring frequency to daily.	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.

Event		Ac	tion	
	ET	IEC	ER	Contractor
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurement s to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedanc e continues, arrange meeting with IEC and ER; If exceedanc e stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise Implementatio n 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.

Event		Ac	tion	
	ET	IEC	ER	Contractor
Limit Level				
1. Exceedance for one sample	 Identify source, investigate the causes of exceedance a nd propose remedial measures; Inform ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementatio n of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate.

Event		Act	Action				
Event	ET	IEC	ER	Contractor			
2. Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 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; 3. Supervise the implementation of remedial measures.	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; 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. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedances abated. 			

Event / Action Plan for Construction Noise Monitoring

Event		Act	ion	
	ET	IEC	ER	Contractor
Action Level	1. Notify IEC and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Report the results of investigation to the IEC,ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1.Submit noise mitigation proposals to IEC; 2.Implement noise mitigation proposals.

Event		Act	tion	
	ET	IEC	ER	Contractor
Limit Level	1.Inform IEC, ER, EPD and Contractor; 2.Identify source; 3.Repeat measurements to confirm findings; 4.Increase monitoring frequency; 5.Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6.Inform IEC, ER and EPD the causes and actions taken for the exceedances; 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 Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1.Confirm receipt of notification of failure in writing; 2.Notify Contractor; 3.Require Contractor to propose remedial measures for the analysed noise problem; 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.

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Appendix E

Waste Flow Table



Contract No. HY/2013/03
Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities
- Vehicle Clearance Plazas and Ancillary Buildings and Facilities

Monthly Summary of Waste Flow Table for 2017 (year)

Name of Person completing the Record: Marko Chan

	Actual Qu	uantities of Ine	ert C&D Mater	ials Generate	d Monthly	Actual Quantities of Non-inert C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other	Disposed as Public Fill	Metals	Paper/ cardboard	Plastics	Chemical Waste	Others, e.g. general
	Gonoratoa	(see Note 1)	ano communi	Projects	. 30.10 1 111		packaging	(see Note 2)	114010	refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m ³)
Jan	0.000	0	0	0	0.000	0	0	0	0	0.580
Feb	0.000	0	0	0	0.000	0	0	0	0	0.585
Mar	0.000	0	0	0	0.000	0	0	0	0	0.999
Apr										
May										
Jun										
Jul										
Aug										
Sept										
Oct										
Nov										
Dec										
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.164

Notes: (1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

Monthly Summary of Excavated Marine Sediment for 2017 (year)

Month	Total Quantity of Excavated Marine Sediment Generated	Reused in this contract	Reused in other Projects	Disposed of at CMP
	in '000m ³	in '000m ³	in '000m ³	in '000m ³
Jan	0.656	0	0	0.656
Feb	0.264	0	0	0.264
Mar	0.000	0	0	0.000
Apr				
May				
Jun				
Jul				
Aug				
Sep				
Oct				
Nov				
Dec				
Total	0.920	0.000	0.000	0.920



ATAL Technologies Ltd.

Contract No. HY/2013/06 HKBCF Automatic Vehicle Clearence Support System

Location: Artifical Island of HKIAP (C3 Area)

Monthly Summary Waste Flow Table for 2017

		Inert C&D Waste disposal / 墮性廢物 (in tonnes) (see Note 1)					disp 非堕f	Non-inert C&D Waste disposal 非墮性廢物 (in tonnes) Waste to be recycled and returned / 可再循環利用或回收的廢物														
Month	Pack	ckfilling) <工程	Reused in other Projects 再用於其他工程		Inert Waste (e.g. soil, broken concrete, rubble, fill material etc.) 墮性廢物 (如泥, 石矢頭, 石, 填 料等)		Others (e.g. general refuse, broken formwork etc) 其他 (如垃圾, 廢板枋等)		Metals 金屬		rk etc) wetals 金屬		general refuse, n formwork etc) 其他 Metals 金屬		Plastic 塑膠		Paper/cardboard packaging 廢紙/包裝紙類			al Waste 卧廢物	Gene	Quantity erated E產量
	(k	p)	((c)	(0	d)	(e)	(in to	nnes)	(in to	nnes)	(in to	nnes)	(in	litre)	(a)= (b-	+c+d+e)				
	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量				
January	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000				
February	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000				
March	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002				
April																						
May																						
June																						
July																						
August																						
September																						
October																						
November																						
December																						
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.005	0.000	0.000	0.004	0.004	0.000	0.000	0.002	0.002				

(1) The quantitles of C&D Materials, in tonne, was calculated by multiply the estimated volume, in m3, with the density of the soil, which is 1.5 gcm-3.

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Appendix F

Environmental Licenses and Permits

T,	D '//I' D '// /'	D. 'AN	XX7 1 A	A 1' (' D (I D	Valid	Date	G	Remark
Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	From	То	Status	
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance	EP-353/2009/K	НКВСГ	24-Mar-16	11-Apr-16	11-Apr-16	Nil	Valid	
2	Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	Ref No. 387703	Main Site Area	15-Apr-15	15-Apr-15	15-Apr-15	Nil	Valid	
3	Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	Ref No. 387735	Works Area WA3	15-Apr-15	15-Apr-15	15-Apr-15	Nil	Valid	
4	Billing A/C for Construction Waste Disposal Pursuant to Section 6 & 9 of the Waste Disposal (Charges for Disposal of Construction waste) Regulation	A/C No. 7022228	Main Site Area, WA3 & 4	15-Apr-15	06-May-15	06-May-15	Nil	Valid	
5	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	5213-951-C1186-28	Main Site Area	28-Apr-15	01-Jun-15	01-Jun-15	Nil	Valid	
6	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	5213-974-C3597-03	Works Area WA4	28-Apr-15	01-Jun-15	01-Jun-15	Nil	Valid	
7	Water Discharge License Pursuant to Water Pollution Control Ordinance (Cap 358)	WT00022180-2015	Works Area WA3	29-Apr-15	04-Aug-15	03-Aug-15	31-Aug-20	Valid	
8	Water Discharge License Pursuant to Water Pollution Control Ordinance (Cap 358)	WT00025384-2016	Main Site Area	09-Mar-16	10-Nov-16	10-Nov-16	30-Sep-20	Valid	
9	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0028-16	Portion A, G, H & N	15-Sep-16	29-Sep-16	03-Oct-16	02-Apr-17	Valid until 02-Apr-17	
10	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS1267-16	Main Site Area	02-Dec-16	16-Dec-16	19-Dec-16	18-Mar-17	Valid until 18-Mar-17	
11	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS1329-16	Main Site Area	09-Dec-16	23-Dec-16	01-Jan-17	30-Apr-17	Valid	
12	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0205-17	Main Site Area	01-Mar-17	15-Mar-17	19-Mar-17	18-Jun-17	Valid	
13	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-170	East of Sha Chau (CMP Vd)	12-Jan-17	24-Jan-17	05-Feb-17	04-Mar-17	Valid until 04-Mar-17	
14	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-190	East of Sha Chau (CMP Vd)	01-Mar-17	17-Mar-17	20-Mar-17	19-Apr-17	Valid	
15	Specified Process License for Tar and Bitumen Works Pursuant to Section 14 of the Air Pollution Control Ordinance	L-15-039(1)	Temporary Asphalt Mixing Facility	05-Dec-16	16-Mar-17	16-Mar-17	15-Mar-19	Valid	

Environmental Permit / Licences Summary for Contract No. HY/2013/06 within the HY/2013/03 site works area

Item	Downit/Ligange Designation	Permit No.	Work Area	Application Date	Isana Data	Valid	Date	Status	Remark
Item	Permit/Licence Registration	Permit No.		Application Date	Issue Date	From	То	Status	
1	Environmental Permit	EP-353/2009/K	HKBCF	24-Mar-16	11-Apr-16	11-Apr-16	Nil	Valid	
1	Pursuant to Environmental Impact Assessment Ordinance	E1 -353/2009/K	TIKBET	24-Wai-10	11-Api-10	11-Api-10	1111	vanu	
	Billing A/C for Construction Waste Disposal								
2	Pursuant to Section 6 & 9 of the Waste Disposal (Charges for	A/C No. 7023015	Main Site Area	07-Aug-15	20-Aug-15	20-Aug-15	Nil	Valid	
	Disposal of Construction waste) Regulation								
3	Registration as Waste Producer	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	#
	Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	IV.A.	IN.A.	IN.A.	IN.A.	N.A.	IN.A.	IN.A.	

(update: 18/04/2017)

[#] The Contractor of Contract No. HY/2013/06 was advised to register as a chemical waste producer when chemical waste is expected to generate for the foreseeable future from the operations.

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Appendix G

Implementation Schedule for Environmental Mitigation Measures (EMIS)

Appendix G – Implementation Schedule of Environmental Mitigation Measures (EMIS)

S5.5.6.2 A2	A1 A2	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation 2) Proper watering of exposed spoil should be undertaken throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;	All construction sites All construction sites	V
S5.5.6.2 A2		requirements given in the Air Pollution Control (Construction Dust) Regulation 2) Proper watering of exposed spoil should be undertaken throughout the construction phase: Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from	construction sites All construction	·
	A2	throughout the construction phase: Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from	construction	V
S5.5.6.2 A2		 A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones. The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with 		
	A2	 concrete, bituminous materials or hardcores; When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials, Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; Any skip hoist for material transport should be totally enclosed by impervious sheeting; Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top 	All construction sites	V
S5.5.6.2 A2	Δ2	Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is	All construction sites	N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Location of	Implementation
	Log Ref.		the measures	Status
		enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction,		
		turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site r part of the construction site where the exposed earth lies		
S5.5.6.3	A3	The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	V
\$5.5.6.4	A4	Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	All construction sites	V
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected Represent- ative dust monitoring station	V
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant; Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; The materials which may generate airborne dusty emissions should be wetted by water spray system; All receiving hoppers should be enclosed on three sides up to 3m above unloading point;	Selected Represent- ative dust monitoring station	N/A
		 All conveyor transfer points should be totally enclosed; All access and route roads within the premises should be paved and wetted; and Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body 		
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: All road surface within the barging facilities will be paved; Dust enclosures will be provided for the loading ramp; Vehicles will be required to pass through designated wheels wash facilities; and Continuous water spray at the loading points	All construction sites	V
Construction			LAU	V
\$6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) 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, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		 mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
S6.4.11	N2	 Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period. 	All construction sites	V
S6.4.12	N3	Install movable noise barriers (typically density@14kg/m acoustic mat or full enclosure close to noisy plants including compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	N/A
S6.4.13	N4	Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction site	V
S6.4.14	N5	5) Sequencing operation of construction plants where practicable	All construction sites where practicable	V
S5.1	N6	6) Implement a noise monitoring under EM&A programme.	Selected representative noise monitoring station	V
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002	All	٧
		Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	construction sites	
S8.3.8	igement (C WM1	construction Waste) Construction and Demolition Material	All	V
		 The following mitigation measures should be implemented in handling the waste: Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and Implement an enhanced Waste Management Plan similar to E7WBTC (Works) No. 19/2005 - "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final 	construction sites	

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		disposal sites to the Project Proponent and get its		
S8.3.9- S8.3.11	WM2	approval before implementation C&D Waste Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.	All construction sites	V
\$8.2.12- \$8.3.15	WM3	 Chemical Waste Chemical Waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. The storage area for chemical wastes should be clearly labeled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD. 	All construction sites	V
S8.3.16	WM4	Sewage Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	All construction sites	V
S8.3.17	WM5	General Refuse General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by	All construction sites	V

Water Quality	Log Ref.	law. Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. Land Works General construction activities on land should also be	measures	
		 Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. Land Works 	Land bassa	
		stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. uction Phase) Land Works	Lond book	
		made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. Land Works	Lond book	
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		management procedure, including reduction, reuse and recycling of wastes. uction Phase) Land Works	Land based	
		recycling of wastes. uction Phase) Land Works	Lond book	
		uction Phase) Land Works	I and hassel	
		Land Works	Lond boood	1
			Land-based	V
		General construction activities on land should also be i	works area	•
1		governed by standard good working practice. Specific		
		measures to be written into the works contracts should		
		include:		
		 wastewater from temporary site facilities should be 		
		controlled to prevent direct discharge to surface or marine		
		waters;		
		sewage effluent and discharges from on-site kitchen (activities a half the affine stad to be consequent).		
		facilities shall be directed to Government sewer in		
		accordance with the requirements of the WPCO or		
		collected for disposal offsite. The use of soakaways shall be avoided:		
		 storm drainage shall be directed to storm drains via 		
		adequately designed sand/silt removal facilities such as		
		sand traps, silt traps and sediment basins. Channels,		
		earth bunds or sand bag barriers should be provided on		
		site to properly direct stormwater to such silt removal		
		facilities. Catchpits and perimeter channels should be		
		constructed in advance of site formation works and		
		earthworks;		
		 silt removal facilities, channels and manholes shall be 		
		maintained and any deposited silt and grit shall be		
		removed regularly, including specifically at the onset of		
		and after each rainstorm;		
		temporary access roads should be surfaced with crushed stope or gravel:		
		stone or gravel; rainwater pumped out from trenches or foundation		
		excavations should be discharged into storm drains via		
		silt removal facilities;		
		 measures should be taken to prevent the washout of 		
		construction materials, soil, silt or debris into any drainage		
		system;		
		 open stockpiles of construction materials (e.g. aggregates 		
		and sand) on site should be covered with tarpaulin or		
		similar fabric during rainstorms;		
		 manholes (including any newly constructed ones) should 		
		always be adequately covered and temporarily sealed so		
		as to prevent silt, construction materials or debris from		
		getting into the drainage system, and to prevent storm		
		run-off from getting into foul sewers;		
		discharges of surface run-off into foul sewers must always		
		be prevented in order not to unduly overload the foul		
S0 11 1 7	W2	sewerage system;	Land based	V
S9.11.1.7	VVZ	all vehicles and plant should be cleaned before they leave the construction site to ensure that he continued or	Land-based works area	V
		the construction site to ensure that no earth, mud or	works area	
		debris is deposited by them on roads. A wheel washing bay should be provided at every site exit;		
		 wheel wash overflow shall be directed to silt removal 		
		facilities before being discharged to the storm drain;		
		the section of construction road between the wheel		

EIA Ref.	EM&A	Recommended Mitigation Measures	Location of	Implementation
	Log Ref.		the measures	Status
	11011	washing bay and the public road should be surfaced with	mousures	
		crushed stone or coarse gravel;		
		wastewater generated from concreting, plastering, laterally describes allowing words and other similar.		
		Internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;		
		 vehicle and plant servicing areas, vehicle wash bays and 		
		lubrication facilities shall be located under roofed areas.		
		The drainage in these covered areas shall be connected		
		to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site		
		disposal;		
		the contractors shall prepare an oil / chemical cleanup		
		plan and ensure that leakages or spillages are contained		
		and cleaned up immediately; • waste oil should be collected and stored for recycling or		
		disposal, in accordance with the Waste Disposal		
		Ordinance;		
		all fuel tanks and chemical storage areas should be		
		provided with locks and be sited on sealed areas. The		
		storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the		
		largest tank; and		
		surface run-off from bunded areas should pass through		
		oil/grease traps prior to discharge to the stormwater		
Ecology (Co	nstruction	system. Phase)		
S10.7	E4	Watering to reduce dust generation; prevention of siltation	Land-based	V
		of freshwater habitats; Site runoff should be desilted, to	works areas	
		reduce the potential for suspended sediments, organics		
		and other contaminants to enter streams and standing freshwater		
S10.7	E5	Good site practices, including strictly following the	Land-based	V
		permitted works hours, using quieter machines where	works areas	
		practicable, and avoiding excessive lightings during night time		
S10.7	E8	Control vessel speed	Marine	V
		Skipper training	Traffic	
		Predefined and regular routes for working vessels; avoid		
Fisheries		Brother Islands.		
Fisheries S11.7	F4	Maritime Oil Spill Response Plan (MOSRP);	HKBCF	V
		Contingency plan.		
Landscape		Detailed Design Phase)		
S14.3.3.1	LV1	General design measures include:	HKBCF	V
		 Roadside planting and planting along the edge of the HKBCF Island is proposed; 		
		Transplanting of mature trees in good health and amenity		
		value where appropriate and reinstatement of areas		
		disturbed during construction by compensatory hydro-		
		seeding and planting; • Protection measures for the trees to be retained during		
		construction activities;		
		Optimizing the sizes and spacing of the bridge columns;		
		• Fine-tuning the location of the bridge columns to avoid		
		visually-sensitive locations;		
		 Providing planting area around peripheral of HKBCF for tree planting screening effect; 		
		 Providing salt-tolerant native trees along the planter strip 		
		at affected seawall and newly reclaimed coastline;		
		• For HKBCF, providing aesthetic architectural design on		
		the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and		
		subtle materials for other facilities buildings and so on),		
		and the related infrastructure (e.g. parapet planting and		

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.		
Landscape	& Visual (C	Construction Phase)		
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts G1. Grass-hydroseed bare soil surface and stock pile areas. G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this is for HKLR. G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF G5. Vegetation reinstatement and upgrading to disturbed areas G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed G7. Providing planting area around peripheral of HKBCF for tree planting screening effect; G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. G9. Reserve of loose natural granite rocks for re-use, Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline.	HKBCF	N/A
S14.3.3.3	LV3	Mitigate Visual Impacts V1. Minimize time for construction activities during construction period. V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.	HKBCF	N/A
EM&A	1		l .	<u> </u>
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual	All construction sites	V
S15.5 – S15.6	EM2	An Environmental Team needs to be employed as per the EM&A Manual. Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	All construction sites	V

Legend: V = implemented;

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Report No.: 0165/15/ED/0761

Appendix H

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Room 723 & 725, 7/F, Block B,

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Report No.: 0165/15/ED/0761

Appendix H -

Statistics on Environmental Complaints, Notifications of Summons and Successful **Prosecutions**

For Contract No. HY/2013/03

		Cumulative Statistics	
Reporting Period	Complaints	Notifications of	Successful
		Summons	Prosecutions
This reporting period	2	0	0
From commencement	7	0	0
date of construction to			
end of reporting month			

For Contract No. HY/2013/06 within Contract No. HY/2013/03 works area

		Cumulative Statistics	
Reporting Period	Complaints	Notifications of	Successful
		Summons	Prosecutions
This reporting period	0	0	0
From commencement	0	0	0
date of construction to			
end of reporting month			

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, : (852)-24508238 : (852)-24508032 Tel Fax Hong Kong. Email : mcl@fugro.com



Report No.: 0165/15/ED/0761

Appendix I

Environmental Site Inspection Schedule

Room 723 & 725, 7/F, Block B,

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Report No.: 0165/15/ED/0761

Contract No. HY/2013/03 HZMB HKBCF - Vehicle Clearance Plazas and Ancillary Buildings and Facilities **Weekly Environmental Site Inspection Schedule**

Environmental Site Inspection Schedule for March 2017

			Mar-2017			
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 Environmental Site Inspection	3	4
5	6	7	8	9 Environmental Site Inspection	10	11
12	13	14	15	16 Environmental Site Inspection	17	18
19	20	21	22	23	24 Environmental Site Inspection	25
26	27	28	29	30 Environmental Site Inspection	31	

Tentative Environmental Site Inspection Schedule for April 2017

Apr-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5 Environmental Site Inspection	6	7	8
9	10	11	12 Environmental Site Inspection	13	14	15
16	17	18	19	20 Environmental Site Inspection	21	22
23	24	25	26	27	28 Environmental Site Inspection	29
30						

Room 723 & 725, 7/F, Block B,

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Report No.: 0165/15/ED/0761

Contract No. HY/2013/06 (within Contract No. HY/2013/03 works area) HZMB HKBCF – Automatic Vehicle Clearance Support System Weekly Environmental Site Inspection Schedule

Environmental Site Inspection Schedule for March 2017

			Mar-2017			
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 Environmental Site Inspection	3	4
5	6	7	8	9 Environmental Site Inspection	10	11
12	13	14	15	16 Environmental Site Inspection	17	18
19	20	21	22	23	24 Environmental Site Inspection	25
26	27	28	29	30 Environmental Site Inspection	31	

Tentative Environmental Site Inspection Schedule for April 2017

Apr-2017						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5 Environmental Site Inspection	6	7	8
9	10	11	12 Environmental Site Inspection	13	14	15
16	17	18	19	20 Environmental Site Inspection	21	22
23	24	25	26	27	28 Environmental Site Inspection	29
30						