

12 January 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 Tovey

Dear Sir,

**Re: Agreement No. CE 48/2011 (EP)  
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 December 2016**

Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for December 2016 (Rev. 1) certified by the ET Leader (ET's ref.: "MCL/ED/0027/2017/C" dated 12 January 2017) and provided to us via e-mail on 12 January 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.

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

Internal: DY, YH, ENPO Site

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Date 12 January 2017  
Our Ref. MCL/ED/0027/2017/C

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

BY HAND

Attn.: Mr. Raymond Dai, IEC

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 December 2016 (Rev.1) for your verification.

Should you require further information, please do not hesitate to contact our Miss Scarlet Cheng at 3565 4156 or the undersigned at 3565 4115.

Yours faithfully,  
for and on behalf of  
MATERIALAB CONSULTANTS LIMITED



Arthur Cheng  
Environmental Team Leader

AC/jt

c.c. AECOM – Mr. P.K. Lee, Mr. W.S. Ng, Mr. Patrick Ko  
RAMBOLL ENVIRON – Mr. Ray Yan, Mr. Andy Wong  
CHEC – Mr. Marko Chan

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**MaterialLab**

Report No.: 0165/15/ED/0662

**MONTHLY ENVIRONMENTAL MONITORING & AUDIT  
REPORT (Rev. 1)**

**December 2016**

**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/0662

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 MaterialLab 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).

MaterialLab 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 16<sup>th</sup> Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 01 December 2016 to 31 December 2016 (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 December 2016 to 31 December 2016) (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, 08, 15, 22 and 29 December 2016.

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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
004	ENPO-C0107	14 December 2016	Noise
005	ENPO-C0108	28 December 2016	Hygiene on site

After investigation, it was concluded that these two complaints were not related to 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. Site Investigation at Portion G & N;
2. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
3. Piling at Portion C, STP, Area G (Bridge A1 & A9), Box Culvert B & C;
4. CUE Construction at Portion B, C & J;
5. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
6. Radiation Screen Wall and Sign Gantry Footing at Portion B, E P, N;
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;

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11. Box Culvert D at Portion A1; 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. Concealed Conduit works at Inbound and Outbound Vehicle Kiosk.

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## 1. INTRODUCTION

### 1.1 Background

1.1.1 MaterialLab 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 sixteenth 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 December 2016 to 31 December 2016 (reporting period) under Contract No. HY/2013/03 (from 01 December 2016 to 31 December 2016 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

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- system including traffic control and surveillance system (TCSS), etc.;
- 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 / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (China Harbour Engineering Co. Ltd)	Site Agent	Mr. Paul Pui	9125 0700	2512 0427
	Assistant Environmental Manager	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 / Independent Environmental Checker (Ramboll Environ Hong Kong Limited)	Environmental Project Office Leader	Mr. Y. H. Hui	3547 2133	3465 2899
	Independent Environmental Checker (IEC)	Mr. Raymond Dai	3465 2888	3465 2899
	Environmental Site Supervisor	Mr. Ray Yan	5181 8165	3465 2899
Contractor (ATAL Technologies Limited)	Site Agent	Mr. Eric Yim	2565 3355	3162 5217
	Environmental Officer	Mr. W. Li	2565 3137	3162 5217
Environmental Team (MaterialLab 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. Site Investigation at Portion G & N;
2. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
3. Piling at Portion C, STP, Area G (Bridge A1 & A9), Box Culvert B & C;
4. CUE Construction at Portion B, C & J;
5. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;

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6. Radiation Screen Wall and Sign Gantry Footing at Portion B, E P, N;
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 D at Portion A1; Shuttle kiosk & Subway at Portion; 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. Concealed Conduit works at CUE Vehicle Kiosk.

- 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 was 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 QUALITY 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)
<b>1 hour TSP</b>		
AMS6	360	500
AMS7	370	
<b>24 hours TSP</b>		
AMS6	173	260
AMS7	183	

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 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.

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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
<b>For the Time Period 0700-1900 hrs. on Normal Weekdays</b>		
NMS2	When one documented complaint is received	75.0 dB (A) Leq (30 min.)
NMS3B		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.

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

### 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 exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2010/02 during the reporting 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**

6.1.1 After the acceptance of the review of the approved Sediment Quality Report (SQR) for this 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 sites allocated to this Project are the Mud Pit CMP2 of the Confined Marine Sediment Disposal Facility to the South of The Brothers or at CMP Va, CMP Vd to the East of Sha Chau.

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. 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 Va, CMP Vd of the Confined Marine Sediment Disposal Facility to the East of Sha Chau (ESC) or the Mud Pit CMP2 of the Confined Marine Sediment Disposal Facility to the South of the Brothers.

### **6.3 Quantity Disposed**

6.3.1 Marine sediment extracted from bored piling from this Contract was disposed to allocated dumping site in December 2016. The summary of marine sediment disposed up to end December 2016 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'000m <sup>3</sup> )			
	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
<b>Sub-Total</b>	<b>11.016</b>	<b>16.928</b>	<b>12.052</b>	<b>39.996</b>
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
<b>Total</b>	<b>18,520</b>	<b>46,144</b>	<b>35,452</b>	<b>100,116</b>

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, 08, 15, 22 and 29 December 2016 by the representatives of Engineer, Contractor, ET and IEC (IEC for 15 December 2016).
- 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

##### 25 Nov 2016

1. CHEC was reminded to provide drip tray for chemical containers at CUE works area. Subsequently, chemical containers were removed at CUE works area. The observation was closed on 02 December 2016.
2. CHEC was reminded to remove stagnant water accumulated at Building 037 and Bridge A7 area. Subsequently, stagnant water was cleared at Building 037 and Bridge A7 area. The observation was closed on 02 December 2016.
3. CHEC was reminded to enhance watering for dusty operation at Bridge A7 area. Subsequently, watering was increased at Bridge A7 area. The observation was closed on 02 December 2016.

##### 02 Dec 2016

1. CHEC was reminded to remove stagnant water accumulated at CUE works area. Subsequently, stagnant water was cleared at CUE works area. The observation was closed on 08 December 2016.
2. CHEC was reminded to remove general refuse accumulated at CUE works area and building 026. Subsequently, general refuse was removed at CUE works area and Building 026. The observation was closed on 08 December 2016.

##### 08 Dec 2016

1. CHEC was reminded to provide drip trays for chemical containers at Building 035. Subsequently, chemical containers were removed at Building 035. The observation was closed on 15 December 2016.
2. CHEC was reminded to remove general refuse accumulated at CUE works area. Subsequently, general refuse was removed at CUE works area. The observation was closed on 15 December 2016.
3. CHEC was reminded to remove stagnant water accumulated at the beams at 035 Building. Subsequently, stagnant water was cleared at the beams at 035 Building. The observation was closed on 15 December 2016.

##### 15 Dec 2016

1. CHEC was reminded to remove general refuse accumulated at CUE works area and STP works area. Subsequently, general refuse was removed at CUE works area and STP works area. The observation was closed on 22 December 2016.

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2. CHEC was reminded to provide drip trays for chemical containers at STP works area. Subsequently, chemical containers were removed at STP works area. The observation was closed on 22 December 2016.
3. CHEC was reminded to increase watering for dust suppression at STP works area. Subsequently, watering was increased at STP works area. The observation was closed on 22 December 2016.
4. CHEC was reminded to provide drip trays for generators and air compressors at STP works area. Subsequently, generators and air compressors were removed at STP works area. The observation was closed on 22 December 2016.

22 Dec 2016

1. CHEC was reminded to remove general refuse accumulated at Building 026. Subsequently, general refuse was removed at Building 026. The observation was closed on 29 December 2016.

29 Dec 2016

1. CHEC was reminded to remove stagnant water accumulated at CUE works area and Building 037. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
2. CHEC was reminded to increase watering for dust suppression at STP area. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.
3. CHEC was reminded to remove refuse on site. 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 Dec 2016

1. Nil findings.

08 Dec 2016

1. Nil findings.

15 Dec 2016

1. Nil findings.

22 Dec 2016

1. Nil findings.

29 Dec 2016

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**.



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- 7.2.3 4,960 (in'000m<sup>3</sup>) of excavated marine sediment and 2,792 (in'000m<sup>3</sup>) of excavated marine sediment in Cat L (from Contract No. HY/2013/03), 0.161 (in'000m<sup>3</sup>) of Inert C & D Wastes and 0.663 (in'000m<sup>3</sup>) 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 tonnes of paper/cardboard packaging were generated and recycled (from Contract No. HY/2013/06 within Contract No. HY/2013/03 works area) in this reporting period.
- 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.
- 7.2.6 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

- 7.4.1 In response to the site audit findings, the Contractor carried out corrective actions.
- 7.4.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is 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 December 2016 would be provided to ER, ETL, IEC/ENPO for checking within the month of January 2017.
- 7.4.4 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

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- 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.
- 7.5.2 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.
- 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 impacts 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
004	ENPO-C0107	14 December 2016	Noise
005	ENPO-C0108	28 December 2016	Hygiene on site

- 7.6.2 The first complaint (ENPO-C0107) was received by EPD from a member of the public on 13 December 2016 and was referred by EPD to the ENPO. Then the ENPO forwarded the complaint by email to the R.E. (AECOM Asia Co. Ltd.), the Contractor (China Harbour Engineering Co. Ltd.) and the ET (Materialab Consultants Ltd.) of Contract No. HY/2013/03 on 14 December 2016.

Details of Complaint

One complaint was forwarded by IEC on 14 December 2016, with the information provided by the EPD.

A member of the public complained about hammering noise that possibly came from construction site's operation overnight recently. As there are many construction sites nearby, the complainant could not confirm the exact source, but believed the noise was most likely to come from the construction sites of HZMB.

On 20 December 2016, EPD supplemented the information as follow:

"The complainant lives in Seaview Crescent. According to the complainant, he sometimes hears noise created by impacting metals or metal/ground, particularly in December 2016".

Investigation of Complaint

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Date Complaint Investigated by Environmental Team: 14 and 20 December 2016

### Summary of Investigation

Interview was conducted on 14 and 20 December 2016 with Mr. Marko Chan, Assistant Environmental Manager of CHEC and site management. The construction works stopped before 23:00 normally; ONLY overnight concreting will be conducted under emergency case, and there was no continuous hammering during night time from 01 November 2016 to 19 December 2016.

### Investigation Results

The ET of 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 on complying with the specific CNP for overnight operation and reminded to comply with the 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.

### Follow up status (complaints)

During weekly site audit on 03, 10, 17 and 25 November 2016, 02, 08 and 15 December 2016, ET confirmed that the Contractor had provided workable and effective noise mitigation measures between 0700 and 1900 hours on normal weekdays. Mitigation measures implemented include: 1. Machines and generators that may be in intermittent use were shut down between work periods; 2. Silencers or mufflers on construction equipment were properly fitted and maintained without significant noise generation; 3. Generators were situated as far away from NSRs as possible and practicable; and 4. Material stockpiles, site office and other structures were effectively utilized, where practicable, to screen noise from on-site construction activities.

### Recommendation to the Contractor

The Contractor was reminded to:

1. Review measures to control construction site noise levels, such as the use of temporary noise barriers and avoid noisy construction works during night time.
2. Use movable noise barriers or full enclosure for noisy operations as far as practicable.
3. Sequence operations of noisy equipment.
4. Comply with the specific CNP for overnight operation.

### 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 the specific CNP for overnight operation to the Contractor. According to site audit conducted recently, ET confirmed all mitigation measures stipulated in the EMIS had been implemented

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during site audit on 03, 10, 17 and 25 November 2016, 02, 08 and 15 December 2016, 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.

7.6.3 The second complaint (ENPO-C0108) was received by Highways Department from a member of the public on 28 December 2016 and was referred by Highways Department to the ENPO. Then the ENPO forwarded the complaint by email to the R.E. (AECOM Asia Co. Ltd.), the Contractor (China Harbour Engineering Co. Ltd.) and the ET (MaterialLab Consultants Ltd.) of Contract No. HY/2013/03 on 28 December 2016.

### Details of Complaint

One complaint was forwarded from IEC on 28 December 2016, with the information provided by Highways Department.

The complainant complained that there are many problems observed at the construction site of HZMB artificial island of Lantau. The complainant specified that mosquito breeding problem within the construction site was severe. Toilet's hygiene was poor and lack of flushing facilities, which were belonged to CHEC's construction site.

### Investigation of Complaint

Date Complaint Investigated by Environmental Team: 29 December 2016

### Summary of Investigation

Interview was conducted on 29 December 2016 with Mr. Marko Chan, Assistant Environmental Manager of CHEC and site management. CHEC has strengthened the mosquito prevention and control work. Includes remove stagnant water regularly, and apply anti-mosquito larvicides into the stagnant water where accumulation of water was unavoidable at the construction site of Contract No. HY/2013/03.

### Investigation Results

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

- Waste Management (Construction Waste)  
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.

### Follow up status (complaints)

During weekly site audit on 02, 08, 15, 22 and 29 December 2016, ET confirmed that the Contractor had provided workable and effective sewage mitigation measures on site. Mitigation

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measures implemented include: 1. Remove stagnant water regularly, and apply anti-mosquito larvicides into the stagnant water where accumulation of water was unavoidable; 2. Adequate numbers of portable toilets were provided for the workers. The portable toilets were maintained in a state which will not deter the workers from utilizing these portable toilets. Night soil was collected by licensed collectors regularly.

#### Recommendation to the Contractor

The Contractor was reminded to:

1. Remove stagnant water regularly, and apply anti-mosquito larvicides into the stagnant water where accumulation of water was unavoidable.
2. 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.

#### 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 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 02, 08, 15, 22 and 29 December 2016, in particular to the following aspect:

- Waste Management (Construction Waste)

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.

- 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

8.1.1 As informed by the Contractor, the following are the major construction activities anticipated in January 2017.

For Contract No. HY/2013/03

1. Site Investigation at Portion G & N;
2. Building at Portion A1, B, G, N, J, STP & Pumping Stations;
3. Piling at Portion C, STP, Area G (Bridge A1 & A9), Box Culvert B & C;
4. CUE Construction at Portion B, C & J;
5. Drainage & Sewerage Work, Water Main & Cable Duct at Portion B, H1, H2, J, P, G & A1;
6. Radiation Screen Wall and Sign Gantry Footing at Portion B, E P, N;
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 D at Portion A1; 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. Concealed Conduit works at Inbound and Outbound Vehicle Kiosk.

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

8.2.1 The tentative schedule for weekly site inspections for January 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.
- 9.4 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.
- 9.5 There was no marine works conducted during the reporting period and therefore, no water quality impact monitoring result is reported.
- 9.6 There was no marine works conducted during the reporting period and therefore, no ecology monitoring result is reported.
- 9.7 Environmental site inspections were carried out on 02, 08, 15, 22 and 29 December 2016. 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 hammering noise that possibly came from construction site's operation overnight, and poor hygiene on site including the problems of severe mosquito breeding, poor toilet hygiene and lacking flushing facilities during the reporting period. After investigation, it was found that the complaints were not related to Contract No. HY/2013/03.
- 9.9 There were no notifications of summons or prosecutions received during the reporting period.

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## Figure 1

### Air Quality Monitoring Stations





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### **Figure 2**

### **Noise Monitoring Stations**



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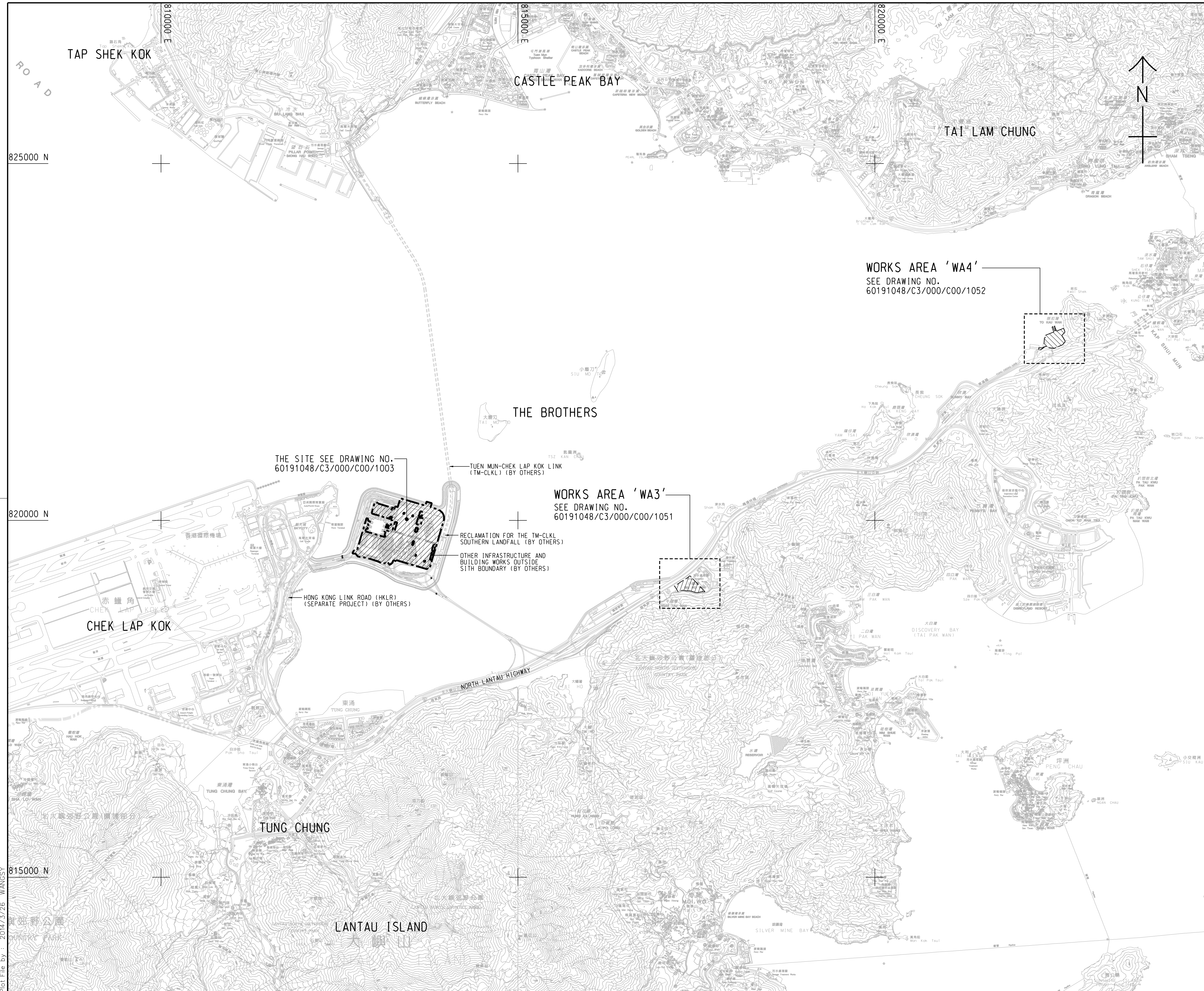
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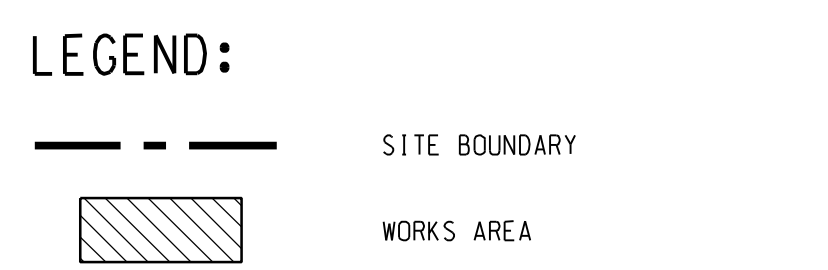
### **Appendix A**

#### **Location of Works Areas**





- NOTES:**
- COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
  - DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.
  - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C3/000/C00/1051 TO 1053.



THE SITE SEE DRAWING NO. 60191048/C3/000/C00/1003

TUEN MUN-CHEK LAP KOK LINK (TM-CLKL) (BY OTHERS)

WORKS AREA 'WA3'  
SEE DRAWING NO. 60191048/C3/000/C00/1051

RECLAMATION FOR THE TM-CLKL SOUTHERN LANDFALL (BY OTHERS)  
OTHER INFRASTRUCTURE AND BUILDING WORKS OUTSIDE SITE BOUNDARY (BY OTHERS)

HONG KONG LINK ROAD (HKLR) (SEPARATE PROJECT) (BY OTHERS)

WORKS AREA 'WA4'  
SEE DRAWING NO. 60191048/C3/000/C00/1052

- TENDER DRAWING		BSCW SCI	MAR. 14
REV. 修改	DESCRIPTION 內容摘要	D.C. 檢閱	DATE 日期

**路政署 HIGHWAYS DEPARTMENT**  
**港珠澳大橋香港工程管理處**  
 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - VEHICLE CLEARANCE PLAZAS AND  
 ANCILLARY BUILDINGS AND FACILITIES

**SITE LOCATION PLAN**

**AECOM** + +  
 Rogers Stirk Harbour + Partners  
**Aedas**  
 BURO HAPPOLD ATKINS ADI + +

DRG. NO. 60191048/C3/000/C00/1000  
 圖紙編號

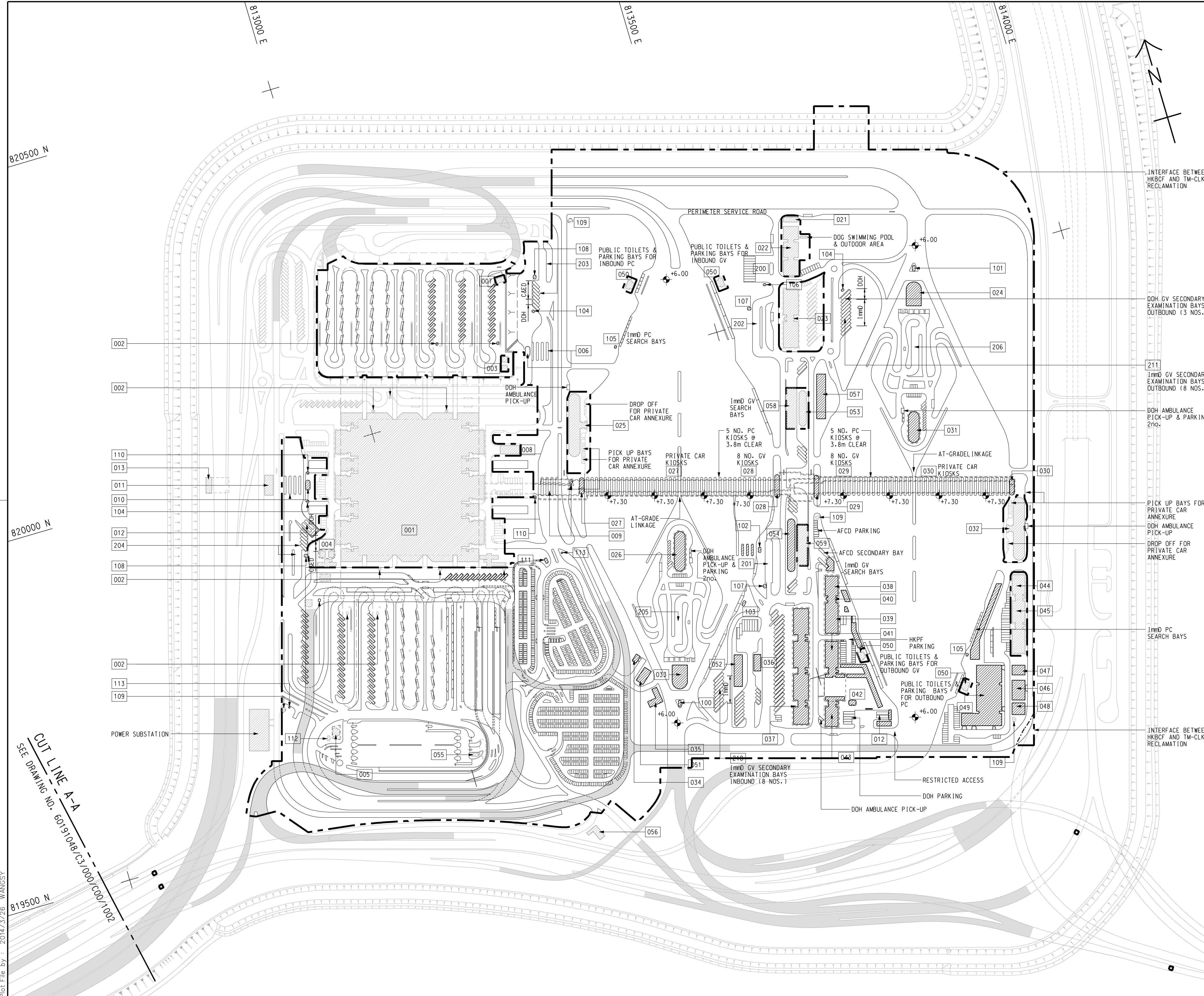
DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2013/03	P. Dir. APPROVED 批准人	TKH
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DRAWN BY 繪圖	WSY	STATUS 階段	
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SCALE 比例 A1 1 : 25000  
 DIMENSIONS ARE IN 尺寸單位 METRES  
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Plot File by : 2014/3/26 WANGSY





**NOTE:**

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 60191048/C3/000/C00/1003.

**LEGEND:**

- SITE BOUNDARY
- VIADUCT
- BUILDING/FACILITIES

INTERFACE BETWEEN HKBCF AND TM-CLKL RECLAMATION

DOH GV SECONDARY EXAMINATION BAYS OUTBOUND (3 NOS.)

211  
ImmD GV SECONDARY EXAMINATION BAYS OUTBOUND (8 NOS.)

DOH AMBULANCE PICK-UP & PARKING 2no.

PICK UP BAYS FOR PRIVATE CAR ANNEXURE  
DOH AMBULANCE PICK-UP  
DROP OFF FOR PRIVATE CAR ANNEXURE

ImmD PC SEARCH BAYS

INTERFACE BETWEEN HKBCF AND TM-CLKL RECLAMATION

- TENDER DRAWING		BWCW SCI	MAR. 14
REV. 修改	DESCRIPTION 内容摘要	CHK'D 查核	DATE 日期

**路政署 HIGHWAYS DEPARTMENT**  
**港珠澳大桥香港工程管理处**  
 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - VEHICLE CLEARANCE PLAZAS AND  
 ANCILLARY BUILDINGS AND FACILITIES

**MASTER LAYOUT PLAN**

SHEET 1 OF 2

**AECOM** **Aedas**  
 Rogers Stirk Harbour + Partners  
 BURO HAPPOLD ATKINS ADI

DRG. NO. 60191048/C3/000/C00/1001  
 圖紙編號

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. DIR. APPROVED 批准人
BWCW	HY/2013/03	TKH

DRAWN BY 繪圖	STATUS 階段
WSY	初步

SCALE 比例 A1 1 : 2500  
 DIMENSIONS ARE IN 尺寸單位 METRES

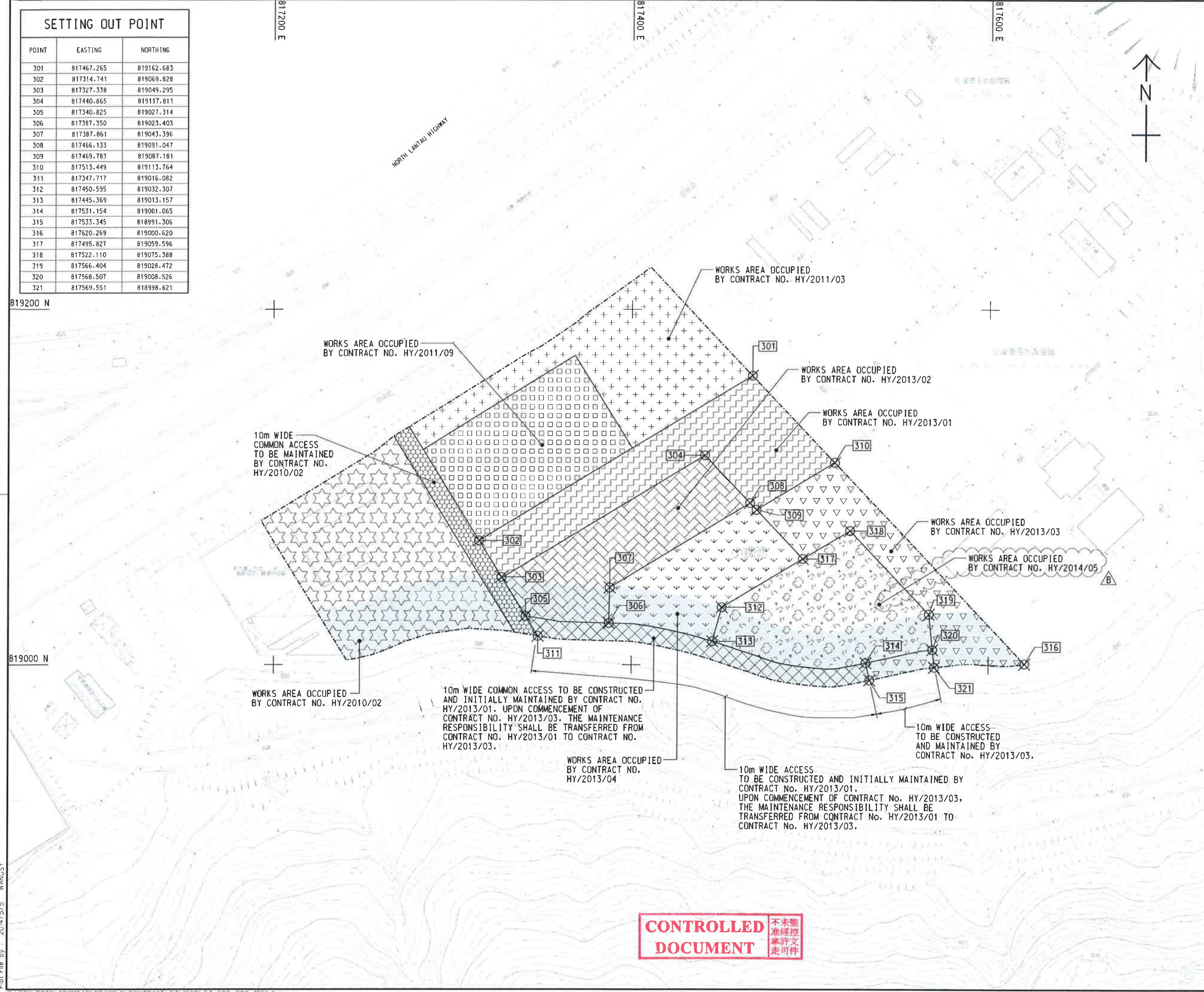
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CUT LINE A-A  
 SEE DRAWING NO. 60191048/C3/000/C00/1002

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SETTING OUT POINT		
POINT	EASTING	NORTHING
301	817467.265	819162.683
302	817314.741	819069.828
303	817327.338	819049.295
304	817440.865	819117.811
305	817340.825	819027.314
306	817387.350	819023.403
307	817387.861	819043.396
308	817466.133	819091.047
309	817469.783	819087.181
310	817513.449	819113.764
311	817347.717	819016.082
312	817450.595	819032.307
313	817445.369	819013.157
314	817531.154	819001.065
315	817533.345	818991.306
316	817620.269	819000.620
317	817495.827	819059.596
318	817522.110	819075.388
319	817566.404	819028.472
320	817568.507	819008.526
321	817569.551	818998.621



**NOTES:**

- COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
- DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

**LEGEND:**

	WORKS AREA BOUNDARY
	PORTION 3.1
	PORTION 3.2
	PORTION 3.3
	PORTION 3.4
	PORTION 3.5
	PORTION 3.6
	PORTION 3.7
	PORTION 3.8
	PORTION 3.9
	PORTION 3.10
	NON-BUILDING AREA 8200m <sup>2</sup> (WHOLE)

**FOR CONSTRUCTION**

C	WORKING DRAWING	BWCW SCI	MAY. 15
B	TENDER ADDENDUM NO. 2	BWCW SCI	MAY. 14
A	TENDER ADDENDUM NO. 1	BWCW SCI	APR. 14
-	TENDER DRAWING	BWCW SCI	MAR. 14
REV.	DESCRIPTION	REV. NO.	DATE

**HONG KONG HIGHWAYS DEPARTMENT**  
 香港路政處  
 香港、珠海、澳門大橋工程管理局  
 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE  
 HONG KONG BOUNDARY CROSSING FACILITIES  
 - VEHICLE CLEARANCE PLAZAS AND  
 ANCILLARY BUILDINGS AND FACILITIES

WORKS AREA WA3

**AECOM** **Aedas**  
 Rogers Stirk Harbour + Partners  
 BURO HAPPOLD ATKINS ADI

DRG. NO. 60191048/C3/000/C00/1051C  
 圖紙編號

DESIGNED BY BWCW	CONTRACT NO. HY/2013/03	A. BY APPROVED TKH
DRAWN BY WSY	STATUS WD	<b>WORKING DRAWING</b>
SCALE A1 1 : 1000	© COPYRIGHT RESERVED	

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SETTING OUT POINT

POINT	EASTING	NORTHING
401	822488.151	822632.315
402	822640.593	822689.415
403	822515.608	822559.848
404	822610.940	822599.642
405	822629.428	822607.359
406	822526.988	822529.813
407	822618.348	822567.950
408	822542.232	822489.581
409	822584.983	822507.426
410	822606.866	822516.561
411	822560.278	822441.956
412	822602.949	822460.010
413	822621.914	822467.959
414	822624.130	822470.998
415	822651.725	822508.856
416	822644.758	822521.192

822600 N

822400 N

822400 E

822600 E



LOCATION PLAN  
SCALE 1 : 25000

NOTES:

- COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
- DIMENSIONS ARE IN MILLIMETER AND CHAINAGE ARE IN METRES UNLESS OTHERWISE SHOWN.

LEGEND:

WORKS AREA BOUNDARY	DESCRIPTION
[Symbol]	PORTION 4.1
[Symbol]	PORTION 4.2
[Symbol]	PORTION 4.3
[Symbol]	PORTION 4.4
[Symbol]	PORTION 4.5
[Symbol]	PORTION 4.6
[Symbol]	PORTION 4.7
[Symbol]	PORTION 4.8
[Symbol]	PORTION 4.9

**CONTROLLED DOCUMENT**  
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准許文  
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**FOR CONSTRUCTION**

REV. NO.	DESCRIPTION	DATE	BY	CHECKED	DATE
C	WORKING DRAWING	MAY. 15	BWCW	SCI	
B	TENDER ADDENDUM NO. 2	MAY. 14	BWCW	SCI	
A	TENDER ADDENDUM NO. 1	APR. 14	BWCW	SCI	
-	TENDER DRAWING	MAR. 14	BWCW	SCI	

**HIGHWAYS DEPARTMENT**  
香港路政署  
HONG KONG - ZHUHAI - MACAO BRIDGE  
HONG KONG BOUNDARY CROSSING FACILITIES  
- VEHICLE CLEARANCE PLAZAS AND  
ANCILLARY BUILDINGS AND FACILITIES

WORKS AREA WA4

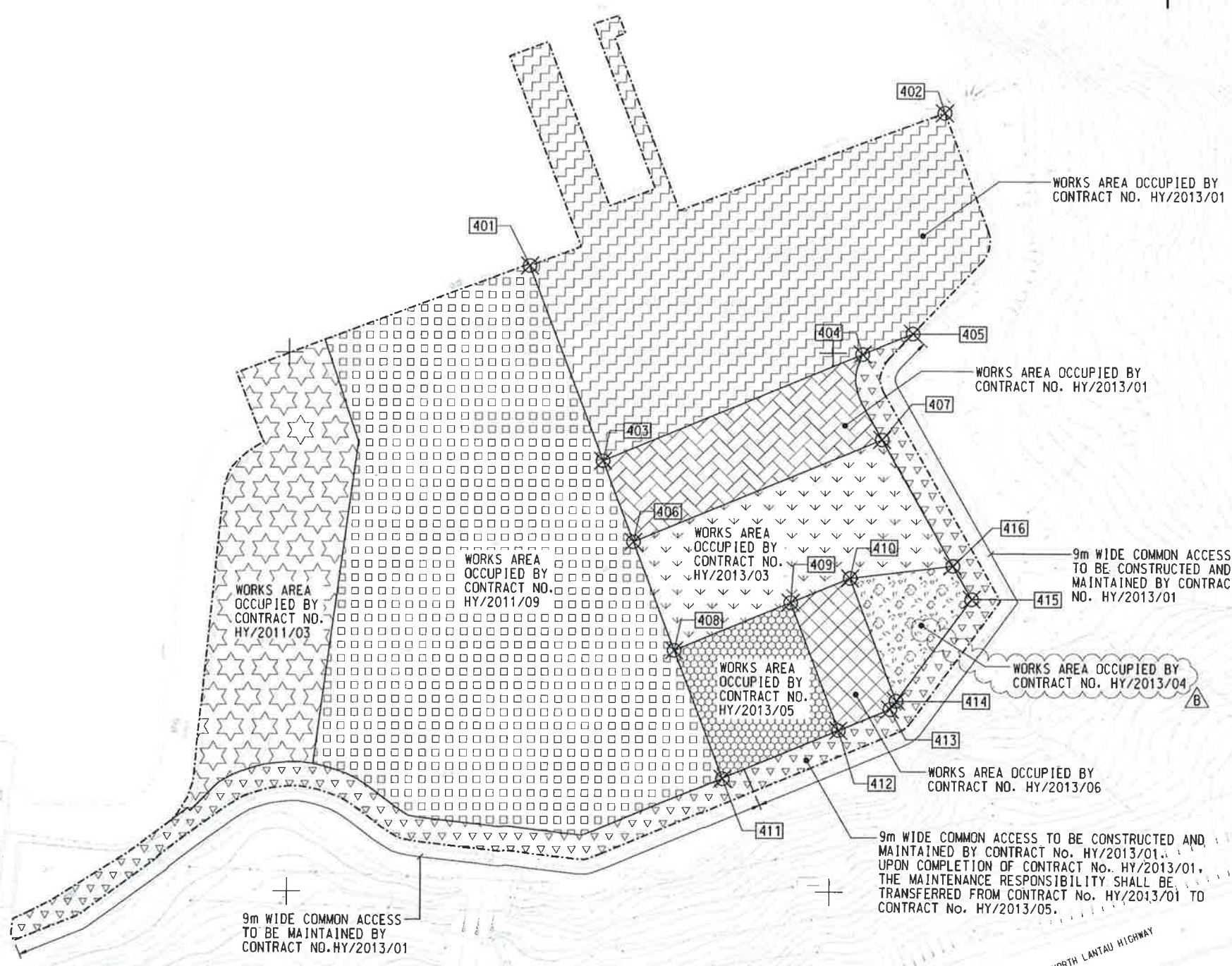
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Rogers Stirk Harbour + Partners  
+  
BURO HAPPOLD ATKINS ADI +

DRG. NO. 60191048/C3/000/C00/1052C  
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DRAWN BY WSY	STATUS WORKING DRAWING	
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9m WIDE COMMON ACCESS TO BE CONSTRUCTED AND MAINTAINED BY CONTRACT No. HY/2013/01. UPON COMPLETION OF CONTRACT No. HY/2013/01, THE MAINTENANCE RESPONSIBILITY SHALL BE TRANSFERRED FROM CONTRACT No. HY/2013/01 TO CONTRACT No. HY/2013/05.



## **MATERIALAB CONSULTANTS LIMITED**

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Fax : (852)-24508032

Email : mcl@fugro.com

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**MaterialLab**

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Report No.: 0165/15/ED/0662

### **Appendix B**

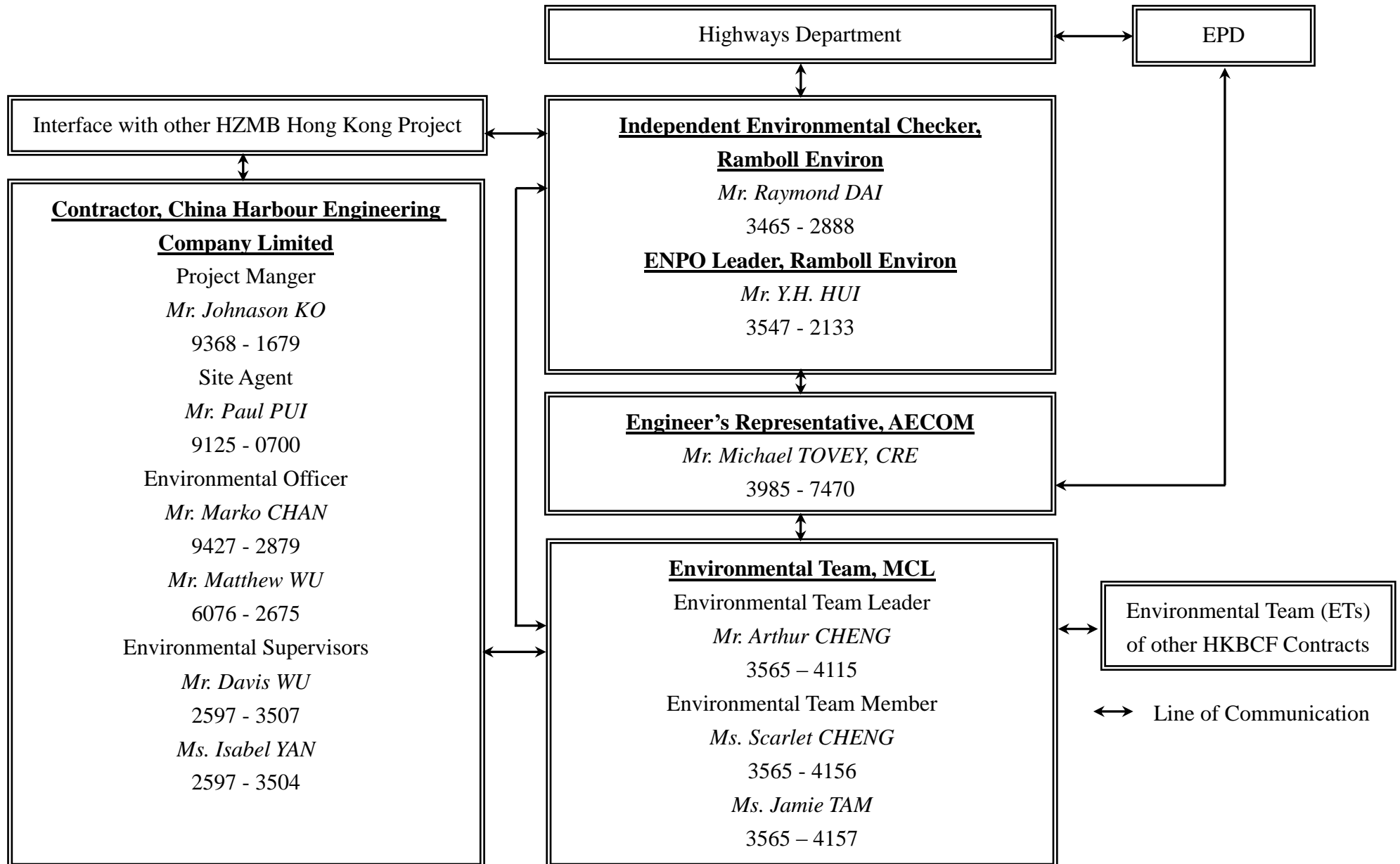
#### **Project Organization for Environmental Works**

# CHINA HARBOUR ENGINEERING COMPANY LIMITED



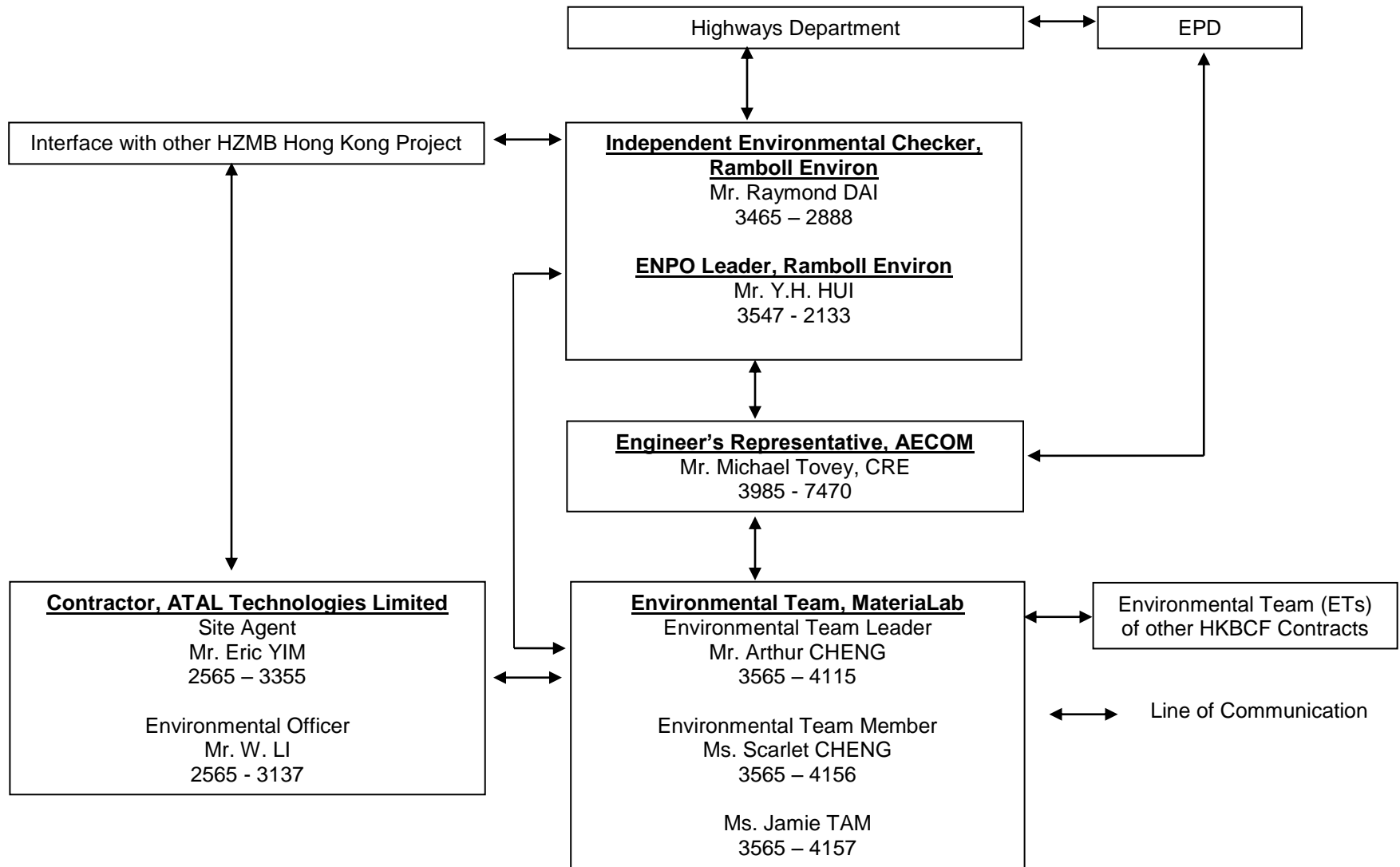
Contract No. HY/2013/03 Hong Kong-Zhuhai-Macao Bridge, Hong Kong Boundary Crossing Facilities – Vehicle Clearance Plazas and Ancillary Buildings and Facilities

## 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**

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is white and is set against a black background that consists of two thick horizontal bars, one above and one below the text.

Report No.: 0165/15/ED/0662

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### **Appendix C**

### **Construction Programme**

Activity ID	Activity Name	2016		2017		
		Dec	Jan	Feb	Mar	Apr
<b>HKBCF - VCP &amp; Ancillary Buildings and Facilities, DWP Rev. 3B, DD 31 Dec. 16</b>						
<b>CONTRACT DATES</b>						
<b>Key Dates</b>						
A1320	KD32 Achievement of Section IV(b) of the Works (646 days; 15 Jan. 17)					◆ KD32 Achievement of Section IV(b) of the Works (646 days; 15 Jan. 17)
A1330	KD33 Achievement of Section IV(c) of the Works (646 days; 15 Jan. 17)					◆ KD33 Achievement of Section IV(c) of the Works (646 days; 15 Jan. 17)
<b>Site Access &amp; Possession</b>						
<b>Possession of Portion of Site</b>						
A0030	Possession of Portion B (<=100 days)					◆ Possession of Portion B (<=100 days)
A0110	Possession of Portion J (<=320 days)					◆ Possession of Portion J (<=320 days)
A0150	Possession of Portion N (<=345 days)					◆ Possession of Portion N (<=345 days)
A0160	Possession of Portion P (<=502 days)					◆ Possession of Portion P (<=502 days)
A0170	Possession of Portion Q (<=500 days)					◆ Possession of Portion Q (<=500 days)
<b>Access to Locations of the Site</b>						
A0210	Contract Date for Access to Location 1.1 (490 days)					◆ Contract Date for Access to Location 1.1 (490 days)
A0220	Contract Date for Access to Location 1.2 (405 days)					◆ Contract Date for Access to Location 1.2 (405 days)
A0230	Contract Date for Access to Location 1.3 (488 days)					◆ Contract Date for Access to Location 1.3 (488 days)
A0240	Contract Date for Access to Location 1.4 (488 days)					◆ Contract Date for Access to Location 1.4 (488 days)
A0250	Contract Date for Access to Location 1.5 (580 days)					◆ Contract Date for Access to Location 1.5 (580 days)
A0260	Contract Date for Access to Location 1.6A (700 days)					◆ Contract Date for Access to Location 1.6A (700 days)
A0280	Contract Date for Access to Location 1.7A (610 days)					◆ Contract Date for Access to Location 1.7A (610 days)
A0290	Contract Date for Access to Location 1.7B (610 days)					◆ Contract Date for Access to Location 1.7B (610 days)
A0300	Contract Date for Access to Location 1.7C (610 days)					◆ Contract Date for Access to Location 1.7C (610 days)
A0310	Contract Date for Access to Location 1.8 PCB (Basement level up to ground floor slab) (395 days)					◆ Contract Date for Access to Location 1.8 PCB (Basement level up to ground floor slab) (395 days)
A0320	Contract Date for Access to Location 1.8 PCB (Ground Floor level or above) (515 days)					◆ Contract Date for Access to Location 1.8 PCB (Ground Floor level or above) (515 days)
A0330	Contract Date for Access to External Area for Contract HY/2013/01 for ELV System Installation (570 days)					◆ Contract Date for Access to External Area for Contract HY/2013/01 for ELV System Installation (570 days)
A0340	Contract Date for Access to External Area for Contract HY/2013/02 for ELV System Installation (560 days)					◆ Contract Date for Access to External Area for Contract HY/2013/02 for ELV System Installation (560 days)
A0350	Contract Date for Access to External Area for Contract HY/2013/04 ELV System Installation (560 days)					◆ Contract Date for Access to External Area for Contract HY/2013/04 ELV System Installation (560 days)
<b>Section/Stage Subject to Excision</b>						
A0770	Contract Date for Section VI (650 days, latest date when the Engineer may order)					◆ Contract Date for Section VI (650 days, latest date when the Engineer may order)
A0780	Contract Date for Section VII (650 days, latest date when the Engineer may order)					◆ Contract Date for Section VII (650 days, latest date when the Engineer may order)
<b>PRELIMINARY</b>						
<b>Precast Yard for Bridge Segement</b>						
A0630	Segment Manufacture					
<b>PORTION A1</b>						
<b>Portion A1 Structures</b>						
<b>Bridge A9</b>						
<b>Bored Pile</b>						
SA9120	Bored pile for A9 Bridge, 10 no.					
<b>Pile Cap</b>						
SA9210	Cap - A905					
SA9220	Cap - P904					
SA9230	Cap - P903					
SA9240	Cap - P902					
SA9250	Cap - A901					
<b>Pier &amp; Abutment</b>						

- Actual Work
- Remaining Work
- Critical
- ◆ Milestone

**THREE MONTH ROLLING PROGRAMME  
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES**

Date	Revision	Checked	Approved
31-Oct-16	3MRP updated as of 30 Oct. 2016	ZJ	
30-Nov-16	3MRP updated as of 30 Nov. 2016	ZJ	
31-Dec-16	3MRP updated as of 31 Dec. 2016	ZJ	

Activity ID	Activity Name	2016		2017			
		Dec	Jan	Feb	Mar	Apr	
SA9310	Abutment A905						
SA9320	Pier P904						
SA9330	Pier P903						
SA9340	Pier P902						
SA9350	Abutment A901						
<b>Structure Deck</b>							
SA9400	Falsework for Deck A905 - P904						
SA9410	Deck on A905, P904 + Stressing						
SA9415	Falsework for Deck P904 - P903						
<b>Retaining Wall W8-1</b>							
SW8110	Construction of Retaining Wall W8-1 (U-shape, 4 bays)						
SW8120	Backfilling W8-1						
<b>Retaining Wall W9-1</b>							
SW9110	Construction of Retaining Wall W9-1 (U-shape, 4 bays)						
SW9120	Backfilling W9-1						
<b>Box Culvert D</b>							
<b>Box Culvert D Construction</b>							
SD0170	Box Culvert D Construction (Stage 4, Bay 19 - 21 & 24 - 32)						
SD0180	Box Culvert D Backfilling						
<b>047 - Fresh Water Pumping Station, Portion A1 &amp; A2</b>							
A04750	Pump House Construction						
<b>049 - Sewage Treatment Plant, Portion A1 &amp; A2</b>							
A04950	Sheet Piling as ELS1 for Equalization Tanks						
A04960	Sheet Piling as ELS2 for Sludge Holding Tanks						
B04960	ELS1 + Blinding for Equalization Tanks + Wet Well & Inlet Chamber						
B04970	Constructing Base Slab for Equalization Tanks + Wet Well & Inlet Chamber						
B04980	Backfilling + Removing 3rd Strut of ELS1						
B04990	Constructing Wall Stem for Equalization Tanks						
C04910	Water-tightness Test for Equalization Tanks						
C04920	Backfilling + Removal of ELS1						
C04940	Constructing Base Slab of Sludge Holding Tanks						
C04950	Backfilling + Removal Strut of ELS2						
C04960	Constructing Wall Stem of Sludge Holding Tanks						
C04970	Water-tightness Test for Sludge Holding Tanks						
C04990	Backfilling + Removal of ELS2						
D04920	Constructing Base Slab for MBR Tanks						
D04930	Constructing Wall Stem for MBR Tanks						
D04940	Water-tightness Test for MBR Tanks						
D04950	Backfilling + Removal of ELS3						
D04960	Constructing Ground Slab for Transformer Room						
D04970	Transformer Room Construction						
D04980	BS + E&M for Transformer Room to CLP (KD7)						
D04990	Other Ground Slab Construction						
<b>Portion A1 Buildings</b>							
<b>012 - DOH Disinsection Area and Store Room 1, at Portion A1</b>							
A01250	Finishing						
A01260	BS for Office Accommodation (Stage 8) (Degree 2)						
A01270	BS + E&M for Office Accommodation (Stage 9) (Degree 3)						
A01280	Other BS + E&M Installation						
<b>Test &amp; Commission</b>							

- Actual Work
- Remaining Work
- Critical
- Milestone

**THREE MONTH ROLLING PROGRAMME  
VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES**

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31-Oct-16	3MRP updated as of 30 Oct. 2016	ZJ	
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31-Dec-16	3MRP updated as of 31 Dec. 2016	ZJ	

Activity ID	Activity Name	2016		2017			
		Dec	Jan	Feb	Mar	Apr	
C01210	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
<b>036 - Weigh Station</b>							
A03650	Ceiling/Wall Plaster & Painting	█					
A03660	Floor Screed	█					
A03665	External Wall Plaster & Tile	█	█				
A03670	BS for Office Accomodation (Stage 8)	█	█				
A03680	BS + E&M for Office Accommodation (Stage 9)	█	█	█	█	█	█
A03690	Other BS + E&M Installation	█	█	█	█	█	█
<b>037 C&amp;ED Tower Cum Inbound Cargo Examination Building (Portion A1 &amp; B)</b>							
A03740	Steel Frame Structure Installation	█	█	█	█	█	█
A03742A	Mock-up Sample for Curtain Wall	█					
A03742B	Mock-up Sample for Cladding	█					
A03742C	Mock-up Sample for Mesh Screen Wall (SS41) & Balustrade	█					
A03742E	Mock-up Sample for Toilet Counter Top (WF24)	█					
A03744	Curtain Wall/Metal Roof/Aluminium Cladding Installation	█	█	█	█	█	█
A03746	Blockwall Laying	█	█				
A03748	Wall/Ceiling Plastering/Tiling	█	█	█			
A03752	Floor Screed/Tiling		█	█	█	█	█
A03756	Window/Door Frame Installation		█	█	█	█	█
A03760	BS + E&M for AVCSS Cabling (KD18A)	█	█	█			
A03770	BS + E&M for AVCSS Cabling (KD18B)	█	█		█	█	█
A03780	BS for Office Accomodation (KD9)	█	█		█	█	█
A03785	BS for Office Accomodation (KD10)	█	█				█
A03790	Other BS + E&M Installation	█	█	█	█	█	█
<b>Test &amp; Commission</b>							
B03790	Beam Plus Monthly Submission & Issue						█
<b>041 Fire Station Cum Ambulance Depot</b>							
A04120	Superstructure, G/F to 1/F	█	█	█	█	█	█
A04122	Superstructure, 1/F to 2/F (incl. parapet wall and planter wall)	█	█	█	█	█	█
A04126	Cladding & Curtain Wall Installation (incl. steel & metal works)	█	█	█	█	█	█
A04132	Blockworks		█	█	█	█	█
A04133	Ceiling & Wall Plastering/Wall Tiling		█	█	█	█	█
A04134	Floor Screeding/Tiling/Vinyl Tiles			█	█	█	█
A04135	Ceiling/Wall Painting				█	█	█
A04136	Carpentry (Door, Fabric Wall Panel, Movable/Folding Partition)				█	█	█
A04137	False Ceiling Installation				█	█	█
A04140	BS for Office Accomodation (Stage 8)		█	█	█	█	█
A04160	Other BS + E&M Installation		█	█	█	█	█
<b>Test &amp; Commission</b>							
B04120	Submission & Issue of WW046 I, II, III (Inside Services & FS)				█	█	█
<b>042 Drill Tower</b>							
A04260	Finishing	█	█	█	█	█	█
A04270	BS for Office Accomodation (Stage 8)	█	█	█	█	█	█
A04280	BS + E&M for Office Accomodation (Stage 9)	█	█	█	█	█	█
A04290	Other BS + E&M Installation	█	█	█	█	█	█
<b>Test &amp; Commission</b>							
B04220	T&C for BS Pumps						█
<b>043 DOH Office + Store Room</b>							
A04330	Superstructure	█	█	█	█	█	█
A04340	Water Tanks for F.S./Sprinkler Pump Room			█	█	█	█

█ Actual Work  
█ Remaining Work  
█ Critical  
◆ Milestone

**THREE MONTH ROLLING PROGRAMME**  
**VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES**  
 Page 3 of 18

Date	Revision	Checked	Approved
31-Oct-16	3MRP updated as of 30 Oct. 2016	ZJ	
30-Nov-16	3MRP updated as of 30 Nov. 2016	ZJ	
31-Dec-16	3MRP updated as of 31 Dec. 2016	ZJ	

Activity ID	Activity Name	2016		2017			
		Dec	Jan	Feb	Mar	Apr	
A04370	Cladding & Curtain Wall Installation (incl. steel & metal works)						
A04380	BS for Office Accomodation (Stage 8)						
B04310	Other BS + E&M Installation						
B04330	Stainless Steel Mesh Installation						
B04340	Metal Windows/Louvres/Doors/Railing etc. installation						
B04350	Blockworks						
B04360	Wall Plastering/Tiling						
C04310	C/S Wall Plastering						
<b>052 - Transforms (Zone 4)</b>							
A05235	Energisation by CLP						
A05250	Ceiling/Wall Painting Finish & Floor Screed						
A05260	External Wall Plaster & Wall (KD10)						
A05270	Main Switch/L.V. Switch Board Installation						
A05280	Genset Installation						
<b>T&amp;C and Statutory Inspection</b>							
B05210	T&C for BS & Pumps						
B05220	DG application						◆ DG application
B05240	EPD Generator Set Emission Application						
B05270	Non-Essential T&C (Non-FSI)						
B05280	OP Application & TPIDC Inspection						
<b>Completion of Fire Services Installation and Equipment (FCD)</b>							
C05210	Approved Building Plans						◆ Approved Building Plans
<b>105 IMMD Guard Booth, Portion A1 (Mock Up)</b>							
B10500	Shop Drawings & Material Submission						
B10510	Excavation + Blinding						
B10520	Substructure (Raft Foundation)						
B10530	On Grade Ground Slab						
<b>Facade Envelop Structure Installation</b>							
B10580	Shop Drawing Submission and Approval						
B10590	Fabrication of F/C System						
<b>External Works for Portion A1</b>							
<b>Drainage Works</b>							
ED0020	Drainage Works (773m & 34MHs), Stage 1 (Western)						
ED5590	Drainage Works (774m & 35MHs), Stage 2 (Middle)						
ED5600	Sewerage (300m & 9MHs), Stage 2 (Middle)						
<b>Waterpipe Laying</b>							
EW5010	Fresh Water Main Laying (700 m), Stage 1 (Western)						
EW6010	Flushing Water Main Laying (322 m), Stage 1 (Western)						
EW6020	Fresh Water Main Laying (700 m), Stage 2 (Middle)						
EW6030	Flushing Water Main Laying (322 m), Stage 2 (Middle)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5260	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5270	Duct & Cable Laying for TCSS & Lighting						
<b>PORTION A2</b>							
<b>Portion A2 Structures</b>							
<b>046 - Refuse Collection Point, Portion A2</b>							
A04610	Raft Foundation						
A04620	Superstructure w/2 water tank						
<b>Test &amp; Commission</b>							
B04620	Submission & Issue of WW046 I, II, III (Inside Services & FS)						

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<b>048 - Reclaimed Water Pumping Station, Portion A2</b>							
A04830	Sheet Piling as ELS for Basement 1	█					
A04840	Pile testing	█					
A04850	Excavation + Blinding for Basement 1	█					
A04860	Basement 1 Construction			█			
A04865	Water-tightness Test for Basement 1				█		
A04867	Backfilling + Removal of ELS					█	
A04870	Basement 2 Construction				█		
A04880	Water-tightness Test for Basement 2						█
<b>Retaining Wall W9-2</b>							
SW9210	Construction of Retaining Wall W9-2 (U-shape, 6 bay)						█
<b>External Works for Portion A2</b>							
<b>Drainage Works</b>							
ED2280	Drainage Works (114m & 8MHs), Stage 1 (Eastern)						█
ED3560	Sewerage (161m & 5MHs), Stage 1 (Eastern)						█
<b>PORTION B</b>							
<b>Portion B Structures</b>							
<b>Retaining Wall W7-2</b>							
S70870	Construction of Retaining Wall W7-2 (L-shape, 1 bays)				█		
S70890	Retaining Wall W7-2 Backfilling					█	
<b>Retaining Wall W6-1</b>							
S62050	Construction of Retaining Wall W6-1 (L-shape, 4 bays)	█		█			
S62060	Retaining Wall W6-1 Backfilling					█	
<b>Bay 4 - 19 of CUE/Staff Subway</b>							
C02760	Internal Finishes & Cable Containment (KD1)	█					
C02770	BS + E&M Installation for AVCSS (Stage 1)	█		█			
C02780	Allow Access to C1 for Chilled Water Pipe (CUE) installation						◆ Allow Access
<b>Bay 20 - 24 of CUE/Staff Subway</b>							
C02820	Bay 20 - 24 Construction - Base Slab	█					
C02830	Bay 20 - 24 Construction - Wall + Top Slab	█		█			
C02840	Internal Finishes & Cable Containment (KD1)					█	
C02850	BS + E&M Installation for AVCSS (Stage 1)						█
<b>Bay 25 - 29 of CUE/Staff Subway</b>							
C02920	Bay 25 - 29 Construction - Base Slab	█		█			
C02930	Bay 25 - 29 Construction - Wall + Top Slab	█		█			
C02960	Internal Finishes & Cable Containment (KD1)					█	
C02970	BS + E&M Installation for AVCSS (KD1)						█
<b>Portion B Buildings</b>							
<b>027/028 Inbound Kiosks &amp; 029 Outbound Kiosks</b>							
A02710	Pre-fabrication for the Steel Kiosks	█		█			
A02715	Mock up for Steel Kiosks	█		█			
A02718	Mock up for Goods Vehicle Canopy			█			
A02720	Superstructure	█			█		
A02730	Construction of Subway Entrance					█	
A02750	Finishing					█	
A02780	BS + E&M for AVCSS Works (KD18A)			█			
A02790	BS + E&M for AVCSS Cabling (KD18B)						█
B02720	Other BS + E&M Installation						█
<b>027/028 Inbound Kiosks &amp; 029 Outbound Kiosks, Section IX, Subject to Excision</b>							

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B02740	Pre-fabrication for the Steel Kiosks						
B02750	Superstructure						
B02760	BS + E&M for AVCSS Works (KD18C)						
<b>026 Inbound IMMD and DOH Secondary Screening Building</b>							
A02630	Superstructure						
A02640	Finishing						
A02650	Contractor's Design Submission for SS Mesh Screen & Approval						
A02660	Contractor's Design Submission for Aluminium Cladding & Approval						
A02670	BS for Office Accomodation (Stage 8)						
A02690	Other BS + E&M Installation						
<b>Test &amp; Commission</b>							
B02620	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
<b>054 Inbound Fixed X-ray Building</b>							
A05460	Finishing						
A05467	Energisation by CLP						
A05470	BS for Office Accomodation (Stage 8)						
A05480	BS + E&M for Office Accomodation (Stage 9)						
A05490	Other BS + E&M Installation						
B05410	Lift Installation						
<b>Completion of Fire Services Installation and Equipment (FCD)</b>							
F05440	Approved Building Plans						
<b>Waterworks Ordinance (WSD)</b>							
G05410	Approval Letter and approved Drawings						
<b>038 AFCD Office</b>							
A03830	Superstructure; G/F to 1/F						
A03840	Superstructure; 1/F to 2/F (incl. parapet and planter wall)						
A03850	Finishing + Curtain Wall Installation						
A03870	BS for Office Accomodation (Stage 8)						
A03890	Other BS + E&M Installation						
<b>Test &amp; Commission</b>							
B03830	Submission & Issue of WW046 I, II, III (Inside Services & FS)						
B03880	Form 314 & 501 submission						
C03810	DG application						
C03820	Form 2 Submission						
<b>039 Police Main Building</b>							
A03930	Superstructure; G/F to 1/F						
A03935	Superstructure; 1/F to 2/F (incl. parapet and planter wall)						
<b>Test &amp; Commission</b>							
B03950	Beam Plus Monthly Submission & Issue						
<b>040 Incident Control Tower</b>							
A04040	Superstructure						
A04050	Finishing (KD9)						
A04060	BS for Office Accomodation (Stage 8), & for TCSS works (KD14)						
<b>Facade Cladding System</b>							
B04010	Shop Drawing Submission and Approval						
B04020	Fabrication of F/C System						
<b>Glass Wall</b>							
C04010	Shop Drawing Submission and Approval						
C04020	Fabrication of Glass Wall						
C04030	Casted-in Items Installation						

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- ◆ Form 314 & 501
- ◆ DG application
- ◆ Form 2 Submis

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<b>102 HKPF UVSS Monitor Room</b>							
A10220	Superstructure						
A10230	Finishing (False Ceiling) (KD9)						
A10240	BS for Office Accomodation (Stage 8)						
A10270	Other BS + E&M Installation						
<b>Metal Canopy and Roof Installation</b>							
B10210	Shop Drawing Submission and Approval						
B10212	Fabrication of MC/R						
B10220	Casted-in Items Installation						
<b>103 Police Inspection Post</b>							
A10330	Raft Foundation						
A10340	Superstructure (Roof Slabs)						
A10350	Finishing (False Ceiling) (KD9)						
A10360	BS for Office Accomodation (Stage 8)						
A10380	Other BS + E&M Installation						
C10320	WVO 46 Part I, II, III Submission (inside Service + FS)					◆ WVO 46 Part I, II, III Submission (inside	
<b>HPL Composite Panel Cladding System</b>							
B10310	Shop Drawing Submission and Approval						
B10320	Fabrication of HPL Cladding						
<b>057 Transformers (Zone 2)</b>							
A05730	Superstructure						
A05740	Finishing						
A05750	BS + E&M for Tx Room to CLP (Stage 4)						
A05760	BS for Office Accomodation (Stage 8)						
A05770	BS + E&M for Office Accomodation (Stage 9)						
A05780	Other BS + E&M Installation						
<b>Completion of Fire Services Installation and Equipment (FCD)</b>							
F05740	Provision of Approved Building Plans by the Engineer					◆ Provision of Approved Building Plans by the Engineer	
<b>DG License &amp; EPD Generator Approval</b>							
G05710	Approval Letter and approved Drawings					◆ Approval Letter and approved Drawings	
<b>107 - C&amp;ED Mobile X-ray Operation Office (Cargo), Portion B</b>							
C10720	Raft Foundation						
C10730	Superstructure (Roof Slabs)						
C10740	Finishing						
C10750	BS for Office Accomodation (Stage 8)						
C10770	Other BS + E&M Installation						
<b>113 - Field Kiosk for Access Control, Portion B</b>							
B11320	Raft Foundation						
B11330	Superstructure (Roof Beams & Slabs)						
B11340	Finishing						
B11350	BS for Office Accomodation (Stage 8)						
<b>201 - Inbound Cargo Mobile X-ray Operation Area</b>							
ER5740	Radiation Screen Wall Construction						
ER5850	Construction of the Area and Access to the Interface Contractor						
<b>205 - Inbound Private Car Mobile X-ray Operation Area</b>							
ER5750	Radiation Screen Wall Construction						
ER5860	Construction of the Area and Access to the Interface Contractor						
<b>External Works for Portion B</b>							
<b>Drainage Works</b>							
ED5650	Drainage Works (1130m & 60MHs), Stage 2						

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ED5660	Sewerage (300m & 8MHs), Stage 2						
ED5670	Drainage Works (1130m & 60MHs), Stage 3 (N/W)						
ED5680	Sewerage (300m & 8MHs), Stage 3 (N/W)						
ED5690	Drainage Works (1130m & 60MHs), Stage 4 (N/E)						
ED5700	Sewerage (300m & 82MHs), Stage 4 (N/E)						
<b>Waterpipe Laying</b>							
EW1550	Fresh Water Main Laying (472m), Stage 1 (S/W)						
EW1560	Flushing Water Main Laying (460m), Stage 1 (S/W)						
EW6080	Fresh Water Main Laying (500m), Stage 2 (S/E)						
EW6090	Flushing Water Main Laying (460m), Stage 2 (S/E)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5300	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5310	Duct & Cable Laying for TCSS & Lighting						
EU5630	Access date to Telephone Companies					◆ Access date to Telephone Companies	
<b>Roadworks</b>							
ER1640	Subbase (10000 ton), Stage 1 (N/W)						
ER3590	Bitumen Pavement (14000 ton), Stage 1 (N/W)						
ER3600	Rigid Pavement (594 m3), Footpath & EVA, Stage 1 (N/W)						
ER5590	Subbase (11000 ton), Stage 2 (N/E)						
ER5600	Bitumen Pavement (15000 ton), Stage 2 (N/E)						
ER5610	Rigid Pavement (594 m3), Footpath & EVA, Stage 2 (N/E)						
<b>Sign Gantry ADS 306A &amp; ADS 306B</b>							
ES5240	Fabrication & Delivery of Sign Gantrys to Site						
<b>PORTION C</b>							
<b>Portion C Buildings</b>							
<b>009 - Staff Subway Entrance (Bay 0 - 3) &amp; Shuttle Bus Kiosks</b>							
A00940	Finishing						
A00950	BS + E&M for AVCSS works (KD 1)						
A00960	Allow Access to C1 for Chilled Water Pipe Installation (CUE)					◆ Allow Access to C1 for Chilled Water Pipe	
B00910	Substructure and Staircase Construction (Portion B&C)						
B00920	Kiosk Superstructure						
<b>104 - DOH Secondary Screening Station, at Portion C</b>							
<b>Facade Cladding System</b>							
A10460	Shop Drawing Submission and Approval						
A10465	Fabrication of F/C System						
<b>110 IMMD Guard Booth (Type 2) East</b>							
<b>Facade Envelop Structure Installation</b>							
A11040	Shop Drawing Submission and Approval						
A11045	Fabrication of F/C System						
<b>111 Field Kiosk for Carpark Operator</b>							
<b>HPL Composite Panel Cladding System</b>							
B11110	Shop Drawing Submission and Approval						
B11120	Fabrication of HPL Cladding						
<b>External Works for Portion C</b>							
<b>Works in Location 1.2, 1.8 &amp; 011 - Emergency Generator Building</b>							
BB1440	Works & T&C in Location 1.2						
BB1450	Works & T&C in Location 1.8						
BB1460	ELV System Installation for Contract HY/2013/01						

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<b>Portion D Building</b>							
<b>113 - Field Kiosk for Access Control, Portion D</b>							
C11360	Raft Foundation						
C11370	Superstructure (Roof Beams & Slabs)						
C11380	Finishing						
D11340	BS for Office Accomodation (Stage 8)						
<b>External Works for Portion D</b>							
<b>Drainage Works</b>							
SG3640	Drainage Works (361m & 14MHs)						
SG3760	Sewerage (121m & 6MHs)						
<b>Waterpipe Laying</b>							
SW3650	Fresh Water Main Laying (108m)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
SU5340	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
SU5350	Duct & Cable Laying for TCSS & Lighting						
SU5640	Access dates to Telephone Companies						
<b>Works of Car Park Management System at Location 1.5, 1.6A &amp; 1.6B</b>							
SR5540	Works & T&C for Car Park Management System at Location 1.5						
<b>Roadworks</b>							
SR3740	Subbase (261 ton)						
<b>PORTION E</b>							
<b>006 - Shuttle Bus Kiosk &amp; Staff Subway Entrance, at Portion E &amp; M</b>							
A00610	ELS + Blinding for Subway						
A00620	Constructing base of Subway						
A00630	Constructing wall stem + top slab of Subway						
A00640	Backfilling						
<b>External Works for Portion E</b>							
<b>Drainage Works</b>							
SG3780	Drainage Works (99m & 5MHs)						
SG3900	Sewerage (38m & 1 MH)						
<b>Waterpipe Laying</b>							
SW3790	Fresh Water Main Laying (45m)						
SW3800	Flushing Water Main Laying (25m)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
SU5360	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
SU5370	Duct & Cable Laying for TCSS & Lighting						
<b>PORTION G, H1 &amp; H2</b>							
<b>Portion G Structures</b>							
<b>Box Culvert C</b>							
<b>Steel H Pile</b>							
SC0280	Box C - 54 nos. of driven H pile, Stage 3						
<b>Box Culvert Structure</b>							
SC0310	Box C - Branch Construction						
SC0320	Box C - Branch Backfilling						
SC0380	Box C - Construction of Main Body						
<b>Bridge A1</b>							
<b>Pier &amp; Abutment</b>							
SA1310	Abutment A106						

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<b>Structure Deck</b>							
SA1480	Deck on P104, P105 + Stressing	Actual Work					
SA1490	Falsework for Deck P105, A106		Remaining Work				
SA1510	Deck on P105, A106 + Stressing			Remaining Work			
<b>Bridge A3</b>							
<b>Pile Cap</b>							
SA3220	Cap - P304a/b						
SA3250	Cap - A305	Actual Work					
<b>Pier &amp; Abutment</b>							
SA3320	Pier P304a, P304b	Actual Work					
SA3330	Abutment A305		Actual Work	Remaining Work			
<b>Structure Deck</b>							
SA3420	Deck on P301 - P302 + Stressing	Actual Work					
SA3430	Falsework for Deck P302 - P303		Actual Work				
SA3440	Deck on P302 - P303 + Stressing			Actual Work			
SA3450	Falsework for Deck P303 - P304a/P304b				Remaining Work		
SA3460	Deck on P303, P304a/P304b + Stressing					Remaining Work	
<b>Bridge A4</b>							
<b>Pile Cap</b>							
SA4210	Cap - P401			Remaining Work			
SA4220	Cap - P402	Actual Work					
<b>Pier &amp; Abutment</b>							
SA4310	Pier P401				Remaining Work		
SA4320	Pier P402		Actual Work	Remaining Work			
<b>Structure Deck</b>							
SA4410	Falsework for Deck P502b, P401					Remaining Work	
SA4420	Deck on P502b, P401 + Stressing					Remaining Work	
SA4430	Falsework for Deck P401, P402					Remaining Work	
SA4450	Falsework for Deck P304b, P402			Remaining Work			
SA4460	Deck on P304b, P401, P402 + Stressing				Remaining Work		
<b>Bridge A5</b>							
<b>Pile Cap</b>							
SA5250	Cap - A501		Actual Work	Remaining Work			
SA5260	Cap - P502a/b		Actual Work	Remaining Work			
<b>Pier &amp; Abutment</b>							
SA5330	Pier P503	Actual Work					
SA5360	Pier P502a/b			Remaining Work			
SA5370	Abutment A501			Remaining Work			
<b>Structure Deck</b>							
SA5410	Falsework for Deck P504 - P505	Actual Work					
SA5420	Deck on P504, P505 + Stressing		Actual Work	Remaining Work			
SA5430	Falsework for Deck P503 - P504		Actual Work	Remaining Work			
SA5440	Deck on P503, P504, + Stressing			Remaining Work			
SA5450	Falsework for Deck P505 - P506	Actual Work					
SA5460	Deck on P505, P506 + Stressing		Actual Work	Remaining Work			
SA5470	Falsework for Deck P502a, P502b, P503			Remaining Work			
SA5480	Deck on P502a, P502b & P503 + Stressing				Remaining Work		
SA5510	Falsework for Deck P506 - P507			Remaining Work			
SA5520	Deck on P506 & P507 + Stressing				Remaining Work		
<b>Bridge A6</b>							

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<b>Structure Deck</b>							
SA6460	Deck on P603, P604 + Stressing						
SA6470	Falsework for Deck P604, P605						
SA6480	Deck on P604, P605 + Stressing						
SA6490	Falsework for Deck P605, P606						
SA6510	Deck on P605, P606 + Stressing						
SA6520	Falsework for Deck P606 - A607						
<b>Bridge A7a, A7b, A7c</b>							
<b>Pile Cap</b>							
SA7370	Cap for P703						
<b>Pier &amp; Abutment</b>							
SA7560	Pier P702						
SA7570	Pier P703						
SA7580	Abutment A701						
<b>Structure Deck</b>							
SA7730	Falsework for Deck P705 - P706						
SA7740	Deck on P705 & P706 (Bridge A7a) + Stressing						
SA7750	Falsework for Deck P704, P705						
SA7770	Deck on P704 & P705 (Bridge A7a) + Stressing						
SA7780	Falsework for Deck P703, P704						
SA7790	Deck on P703, P704 (Bridge A7a) + Stressing						
SA7810	Falsework for Deck P702, P703						
SA7820	Deck on P702, P703 (Bridge A7 a) + Stressing						
SA7830	Falsework for Deck A701, P702						
SA7850	Falsework for Deck P707, P708 (A7c)						
SA7860	Deck on P707, P708 (Bridge A7c) + Stressing						
SA7870	Falsework for Deck P708 - P709 (A7c)						
SA7880	Deck on P708 & P709 (Bridge A7c) + Stressing						
SA7890	Falsework for Deck P709, P710 (A7c)						
SA7910	Deck on P709, P710 (Bridge A7c) + Stressing						
SA7920	Falsework for Deck P710 - A711 (A7c)						
SA7930	Deck on P710 & A711 (Bridge A7c) + Stressing						
SA7940	Parapet for Bridge A7b (8 pour) & E&M Works						
<b>Bridge A8</b>							
<b>Pier &amp; Abutment</b>							
SA8310	Abutment A804						
<b>Structure Deck</b>							
SA8410	Falsework for Deck P801, P802						
SA8420	Deck on P801, P802 + Stressing						
SA8430	Falsework for Deck P802, P803						
SA8440	Deck on P802, P803 + Stressing						
SA8450	Falsework for Deck P803, A804						
SA8460	Deck on P803, A804 + Stressing						
<b>Retaining Walls W1-1, W3-1, W5-1 &amp; W7-1</b>							
<b>Retaining Wall W1-1</b>							
SW1110	Construction of Retaining Wall W1-1 (L-shape, 4 bays)						
SW1120	Retaining Wall W1-1 Backfilling						
<b>Retaining Wall W3-1</b>							
SW3130	Bored Pile for W3-1, 16 Nr.						
SW3140	Pile Testing for W3-1						

- █ Actual Work
- █ Remaining Work
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Activity ID	Activity Name	2016		2017			
		Dec	Jan	Feb	Mar	Apr	
SW3150	Construction of Retaining Wall W3-1 (U-shape, 4 bays)			[Green bar from Feb to Apr]			
<b>Retaining Wall W5-1</b>							
SW5010	Construction of Retaining Wall W5-1 (L-shape, 5 bays)			[Green bar from Feb to Apr]			
<b>Portion G Buildings</b>							
<b>033 Inbound Private Car Exam Building</b>							
A03360	External Works			[Green bar from Jan to Mar]			
A03370	BS for Office Accomodation (Stage 8)	[Blue bar]		[Green bar from Jan to Mar]			
A03380	BS + E&M for Office Accomodation (Stage 9)					[Green bar]	
A03390	Other BS + E&M Installation			[Green bar from Jan to Mar]			
C03310	Submission & Issue of WW046 I, II, III (Inside Services & FS)		[Green bar]				
<b>Glass Canopy Installation</b>							
B03300	Shop Drawing Submission and Approval	[Blue bar]					
B03305	Fabrication of Glass Canopy			[Green bar from Jan to Mar]			
B03350	Casted-in Items Installation					[Green bar]	
<b>Aluminium Metal Canopy</b>							
B03310	Shop Drawing Submission and Approval						
B03315	Fabrication of F/C System			[Green bar from Jan to Mar]			
B03320	Casted-in Items Installation					[Green bar]	
<b>034 Satellite RCP South</b>							
A03450	Finishing	[Blue bar]		[Green bar]			
A03460	BS for Office Accomodation (Stage 8)	[Blue bar]		[Green bar from Jan to Mar]			
A03470	BS + E&M for Office Accomodation (Stage 9)					[Green bar]	
A03480	Other BS + E&M Installation			[Green bar from Jan to Mar]			
<b>S S Facade Greenery System</b>							
B03410	Shop Drawing Submission for Approval	[Blue bar]					
B03415	Fabrication of SS F/G System			[Green bar from Jan to Mar]			
B03420	Casted-in Items Installation					[Green bar]	
<b>035 - Sewage Pumping Station, Portion G</b>							
A03570	Constructing of Base Slab of Wet Well	[Blue bar]		[Red bar]			
A03580	Constructing of Wall Stem of Wet Well			[Red bar]			
A03590	Water-tightness Test for Wet Wells				[Red bar]		
B03510	Backfilling + Removal of ELS					[Red bar]	
B03520	ELS + Blinding for Basement					[Red bar]	
B03530	Constructing Base Slab of Basement					[Red bar]	
<b>051 Transformers (Zone 5)</b>							
A05150	Finishing	[Blue bar]		[Green bar]			
A05165	Energisation by CLP	[Blue bar]		[Green bar from Jan to Mar]			
A05170	BS for Office Accommodations (KD9)	[Blue bar]		[Green bar from Jan to Mar]			
A05180	BS + E&M for Office Accommodation (KD10)					[Green bar]	
A05190	Other BS + E & M Installation	[Blue bar]		[Green bar from Jan to Mar]			
<b>Completion of Fire Services Installation and Equipment (FCD)</b>							
F05140	Approved Building Plans						
<b>100 Inbound Traffic Control Kiosk</b>							
A10050	Finishing	[Blue bar]		[Green bar from Jan to Mar]			
A10070	BS + E&M for AVCSS Works (KD18A)	[Blue bar]		[Green bar from Jan to Mar]			
B10060	BS + E&M for AVCSS Cabling (KD18B)					[Green bar]	
B10070	BS for Office Accommodations (KD9)					[Green bar]	
<b>HPL Composite Panel Cladding System</b>							
B10010	Shop Drawing Submission and Approval			[Green bar]			
B10015	Fabrication of F/C System					[Green bar]	

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		Dec	Jan	Feb	Mar	Apr	
<b>112 Field Kiosk for Taxi Queuing Area</b>							
A11230	Structure	Actual Work					
A11240	Finishing		Actual Work	Remaining Work			
A11250	BS + E & M Installation			Remaining Work			
A11260	T&C for BS & Pumps SWT					Remaining Work	
A11280	OP Application & TPIDC Inspection					Remaining Work	
<b>External Works for Portion G, H1 &amp; H2</b>							
<b>ELV Works within Portion H2 in the Hong Kong Side PTI</b>							
EU1550	ELV Works within Portion H2 in the Hong Kong Side PTI (KD19)					Critical	
<b>Works within Portion H1 &amp; H2 except the ELV Works in the Hong Kong Side PTI</b>							
EU1560	Drainage & Sewerage Works within Portion H1 & H2 in the Hong Kong Side PTI (KD20)	Actual Work					
<b>All Works within the Boundary defined in Drawing No. 60191048/C3/000/C00/1050</b>							
BEU1570	Drainage & Sewerage Works (incl. CLP) within the Boundary defined in Drawing No. 60191048/C3/000/1050	Actual Work					
<b>Sign Gantry DS40, DS41 &amp; DS75</b>							
ES0020	Sign Gantry DS40 Pre-bored H Piling, 12 Nr.	Actual Work					
ES0040	Sign Gantry DS41 Driven Piling 4 Nr.						
ES0080	Testing for Pre-bored H Piling			Remaining Work			
ES0180	Fabrication & Delivery of Sign Gantrys to Site	Actual Work		Remaining Work			
<b>Canopy and Covered Walkway</b>							
CC1310	Shop drawing, Approved & Fabrication	Actual Work					
CC1320	Footing	Actual Work		Remaining Work			
CC1330	Steel Frame Installation				Remaining Work		
<b>PORTION J</b>							
<b>Portion J Structure</b>							
<b>Bay 30 - 41 of CUE/Staff Subway (Portion J)</b>							
B03040	Bay 30 - 33 Construction - Base Slab			Remaining Work			
B03050	Bay 30 - 33 Construction - Wall + Top Slab	Actual Work					
B03220	Bay 34 - 39 Construction - Base Slab	Actual Work					
B03230	Bay 34 - 39 Construction - Wall + Top Slab, Staircase	Actual Work		Remaining Work			
B03240	Bay 40 - 41 Construction - Base Slab			Remaining Work			
B03250	Bay 40 - 41 Construction - Wall + Top Slab, Staircase	Actual Work		Remaining Work			
B03260	Internal Finishes & Cable Containment (KD2)			Remaining Work			
B03270	BS + E&M Installation for ACVSS (Stage 2) (KD2)			Remaining Work			
<b>030 Outbound Private Car &amp; GV Kiosks</b>							
A03020	Pre-fabrication for the Steel Kiosks	Actual Work		Remaining Work			
A03030	Superstructure (Incl. Entrance & Toilet)				Remaining Work		
<b>030 Outbound Kiosks, Section IX, Subject to Excision</b>							
C03020	Pre-fabrication for the Steel Kiosks	Actual Work		Remaining Work			
C03030	Superstructure				Remaining Work		
<b>Portion J Buildings</b>							
<b>024 Outbound Private Car Exam Building</b>							
A02400	Excavation + Blinding (PL Test)	Actual Work		Critical			
A02410	Raft Foundation			Critical			
A02420	Superstructure				Critical		
<b>Glass Canopy Installation</b>							
B02410	Shop Drawing Submission and Approval			Remaining Work			
B02415	Fabrication of F/C System				Remaining Work		
<b>Aluminium Metal Canopy</b>							

■ Actual Work  
■ Remaining Work  
■ Critical  
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		Dec	Jan	Feb	Mar	Apr	
B02450	Shop Drawing Submission and Approval			[Green bar]			
B02455	Fabrication of F/C System			[Green bar]			
<b>031 Outbound IMMD and DOH Secondary Screen Building</b>							
A03110	Raft Foundation	[Blue bar]					
A03140	Superstructure	[Blue bar]	[Green bar]				
A03150	Finishing (KD31)					[Green bar]	
A03160	BS for Office Accommodations (KD18F)					[Green bar]	
A03180	Other BS + E & M Installation (KD31)					[Green bar]	
<b>Test &amp; Commission</b>							
C03120	Submission & Issue of WW046 I, II, III (Inside Services & FS)					[Green bar]	
<b>060 - Single Storey Support Building Associated with Buildings 044 &amp; 045</b>							
A06000	Excavation + Blinding (+ PL Test)	[Blue bar]					
A06010	Raft Foundation (Traper)		[Blue bar]	[Red bar]			
A06020	Superstructure (Traper) Construction				[Red bar]	[Red bar]	
A06040	Excavation + Blinding (Strip part)			[Green bar]			
A06045	Raft Foundation (Strip part)				[Red bar]	[Red bar]	
<b>Waterworks Ordinance (WSD)</b>							
G06020	Submission of WWO46 - Part I & II (Inside Services)			[Red bar]			
<b>061 Telecom Building</b>							
A06120	Excavation + Blinding	[Blue bar]					
A06130	Raft Foundation		[Blue bar]	[Green bar]			
A06140	Superstructure				[Green bar]	[Green bar]	
A06150	Finishing (KD9)					[Green bar]	
A06160	BS for Office Accommodations (KD9)					[Green bar]	
<b>Aluminium Metal Canopy</b>							
B06110	Shop Drawing Submission and Approval			[Green bar]			
B06115	Fabrication of Aluminium Cladding				[Green bar]	[Green bar]	
<b>101 Outbound Traffic Control Kiosk</b>							
A10100	Excavation + Blinding		[Blue bar]	[Green bar]			
A10110	Raft Foundation			[Green bar]			
A10130	Superstructure (Roof Beams & Slabs)				[Green bar]	[Green bar]	
A10140	Finishing					[Green bar]	
A10150	BS + E&M for AVCSS Works (KD18A)					[Green bar]	
A10160	BS + E&M for AVCSS Cabling (KD18B)					[Green bar]	
A10170	BS for Office Accommodations (KD9)					[Green bar]	
A10190	Other BS + E & M Installation					[Green bar]	
C10110	Submission of WWO46 - Part I & II (Inside Services)					[Green bar]	
<b>HPL Composite Panel Cladding System</b>							
B10110	Shop Drawing Submission and Approval			[Green bar]			
B10120	Fabrication of HPL Cladding				[Green bar]	[Green bar]	
<b>206 - Outbound Private Car Mobile X-ray Operation Area</b>							
ER5780	Radiation Screen Wall Construction			[Green bar]	[Green bar]	[Green bar]	
<b>External Works for Portion J</b>							
<b>Drainage Works</b>							
ED4220	Drainage Works (1700m & 86MHs), Stage 1 (Northern)	[Blue bar]	[Red bar]	[Red bar]	[Red bar]	[Red bar]	
ED4340	Sewerage (425m & 11MHs), Stage 1 (Northern)	[Blue bar]	[Red bar]	[Red bar]	[Red bar]	[Red bar]	
ED5710	Drainage Works (1697m & 85MHs), Stage 2 (Southern)				[Red bar]	[Red bar]	
ED5720	Sewerage (425m & 12MHs), Stage 2 (Southern)				[Red bar]	[Red bar]	
<b>Waterpipe Laying</b>							
EW4230	Fresh Water Main Laying (770m), Stage 1 (Northern)			[Red bar]	[Red bar]	[Red bar]	

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EW4240	Flushing Water Main Laying (431m), Stage 1 (Northern)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5420	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5430	Duct & Cable Laying for TCSS & Lighting						
<b>Roadworks</b>							
ER4320	Subbase (15400 ton), Stage 1 (Northern)						
ER4350	Bitumen Pavement (20000 ton), Stage 1 (Northern)						
ER4360	Rigid Pavement (173 m3), Footpath & EVA, Stage 1 (Northern)						
<b>Sign Gantry DS104</b>							
ES0140	Sign Gantry DS104 P-bored Piling, 8 Nr.						
ES5130	Testing for P-bored Piles						
ES5140	Submission and approval for Sign Gantry						
ES5150	Fabrication & Delivery of Sign Gantrys to Site						
<b>PORTION K, L, M, S &amp; T</b>							
<b>Portion K Building</b>							
<b>002 - C&amp;ED Observation Guard Booth No. 1, Portion K</b>							
A00210	Excavation + Blinding						
A00220	Raft Foundation						
A00230	Superstructure						
<b>002 - C&amp;ED Observation Guard Booth No. 2, Portion K</b>							
B00210	Excavation + Blinding						
B00220	Raft Foundation						
B00230	Superstructure						
<b>Portion M Buildings</b>							
<b>108 - C&amp;ED Mobile X-ray Operation Office, Portion M</b>							
B10800	Excavation + Blinding						
B10810	Substructure (raft Foundation)						
B10840	Superstructure (Roof beams & Slabs)						
B10850	Finishing						
B10860	BS for Office Accommodations (KD9)						
<b>HPL Composite Panel Cladding System</b>							
C10810	Shop Drawing Submission and Approval						
C10820	Fabrication of HPL Cladding						
<b>104 DOH Screening Station, at Portion M</b>							
C10400	Excavation + Blinding						
C10430	Structure (Raft Foundation)						
C10440	Finishing						
C10450	BS for Office Accommodations (KD9)						
C10470	Other BS + E & M Installation						
<b>Facade Envelop Structure Installation</b>							
D10450	Shop Drawing Submission and Approval						
D10455	Fabrication of F/C System						
<b>203 - Outbound Coach/Shuttle Bus Exam Area &amp; Mobile X-ray Operation Area</b>							
ER5770	Radiation Screen Wall Construction						
<b>External Works</b>							
<b>Additional Works (Filling &amp; RE Slope), SA1</b>							
ED3120	Approval of RE Slope by GEO/AECOM						
ED3210	C1 Contractor to Completed cooling mains at east Portion (Stage1)						
ED3220	Removal of Access & Form another Temp. Access for Cooling Main						

◆ C1 Contractor to Completed cooling mains at east Portion (Stage1)

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		Dec	Jan	Feb	Mar	Apr	
ED3270	Remove surcharge at the edge of Platform (North, Portion S, KD32)						
ED3280	Remove surcharge at the Platform (East, Portion T, KD33)						
<b>Construction of Slopes</b>							
ED3510	Footing for the Planter Wall, RE slope (West)						
ED3520	Construct RE slope (West)						
ED3550	Construction of fill slope (North)						
<b>Drainage Works</b>							
ED4370	Drainage Works (1477m & 81MHs), Stage 1 (Eastern)						
ED4490	Sewerage (78m & 2MHs), Stage 1 (Eastern)						
<b>Waterpipe Laying</b>							
EW4380	Fresh Water Main Laying (608m), Stage 1 (Eastern)						
EW4390	Flushing Water Main Laying (13m), Stage 1 (Eastern)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5450	Duct & Cable Laying for TCSS & Lighting						
<b>Canopy and Covered Walkway</b>							
CC1400	Shop drawing, Approved & Fabrication						
<b>PORTION N</b>							
<b>Portion N Structure</b>							
<b>Box Culvert B</b>							
<b>Bored Pile</b>							
SB0560	Install H-piles						
SB0590	Box B - Foundation: Revised as H-Piles						
<b>Box Culvert Structure</b>							
SB0710	Box B - Construction (Stage 1)						
SB0715	Handover from RC (1/11/16)						
SB0722	Box B - Temporary Works for Construction of Outfall Structure						
<b>Portion N Buildings</b>							
<b>104 DOH Screening Station, at Portion N</b>							
<b>Facade Envelop Structure Installation</b>							
D10410	Shop Drawing Submission and Approval						
D10415	Fabrication of F/C System						
<b>106 C&amp;ED Detention Area Guard Booth</b>							
A10600	Excavation + Blinding						
A10610	Structure (Raft Foundation)						
A10640	Finishing						
E10640	BS for Office Accommodations (KD9)						
E10660	Other BS + E & M Installation						
<b>Facade Envelop Structure Installation</b>							
B10610	Shop Drawing Submission and Approval						
B10615	Fabrication of F/C System						
<b>107 C&amp;ED Mobile X-ray Operation Office, Portion N</b>							
A10700	Excavation + Blinding						
A10710	Substructure (Raft Foundation)						
A10740	Superstructure						
<b>HPL Composite Panel Cladding System</b>							
B10710	Shop Drawing Submission and Approval						
B10720	Fabrication of HPL Composite Panel System						
<b>200 - Inbound/Outbound Vehicle Detection Area</b>							
ER5810	Construction of the Area and Access to the Interface Contractor						

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		Dec	Jan	Feb	Mar	Apr	
<b>202 - Outbound Cargo Mobile X-ray Opeartion Area</b>							
ER5790	Radiation Screen Wall Construction						
<b>External Works for Portion N</b>							
<b>Drainage Works</b>							
AS0150	Initial Survey						
ED4620	Drainage Works (964m & 56MHs), Stage 1 (Southern)						
ED4650	Sewerage (383m & 12MHs), Stage 1 (Southern)						
<b>Waterpipe Laying</b>							
EW4530	Fresh Water Main Laying (641m)						
EW4540	Flushing Water Main Laying (413m)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5460	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
EU5470	Duct & Cable Laying for TCSS & Lighting						
<b>PORTION P</b>							
<b>Portion Structure</b>							
<b>Retaining Wall RW1</b>							
RW1110	Construction of Retaining Wall RW1 (U-shape, 5 bays)						
<b>Portion P Buildings</b>							
<b>105 IMMD Guard Booth, Portion P</b>							
A10510	Excavation + Blinding						
A10520	Substructure (Raft Foundation)						
A10530	On Grade Ground Slab						
A10540	Finishing						
E10500	BS for Office Accommodations (KD9)						
E10510	BS + E&M for Office Accommodation (KD10)						
E10520	Other BS + E & M Installation						
<b>Facade Envelop Structure Installation</b>							
A10560	Shop Drawing Submission and Approval						
A10565	Fabrication of F/C System						
<b>External Works for Portion P</b>							
<b>Drainage Works</b>							
AS0160	Initial Survey						
ED4670	Drainage Works (2957m & 128MHs)						
ED4790	Sewerage (269m & 7MHs)						
<b>Waterpipe Laying</b>							
EW4680	Fresh Water Main Laying (1270m)						
EW4690	Flushing Water Main Laying (455m)						
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
EU5640	Access dates to Telephone Companies						◆ Access dates to Telephone Companies
<b>Roadworks</b>							
ER4770	Subbase (16519 ton)						
ER4800	Bitumen Pavement (23958 ton)						
ER4810	Rigid Pavement (220 m3), Footpath & EVA						
<b>PORTION Q</b>							
<b>External Works for Portion Q</b>							
<b>Duct Laying for Utilities/Telecom Cabling, TCSS &amp; Lighting</b>							
ED5570	Duct & Cable Laying for Utilities/Telecom, CLP, BS & ELV						
ED5580	Duct & Cable Laying for TCSS & Lighting						

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EU1490	ELV System Installation for Contract HY/2013/04						
<i>Roadworks</i>							
AS0170	Initial Survey						
<i>Landscape Works</i>							
A5170	Design and Procurement for Irrigation System						

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2015		2016				2017				2018				2019		
						Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Hong Kong-Zhuhai_Macao Bridge Hong Kong Boundary Crossir</b>						1266	31-Jul-15 A	30-Jan-19	0												30-Jan-19, H	
<b>Key Dates</b>						901	31-Jul-15 A	30-Jan-18	0												30-Jan-18, Key Dates	
A1000	Acceptance of Contract	0	31-Jul-15 A																			
A1010	Commencement of Works	0	14-Aug-15*		0																	
A1020	Excision of Phase 2 (Section II & III)	365	14-Aug-15	12-Aug-16	0																	
A1120	KD1 (Phase 1 / Section I) (28 Kiosks)	0		24-Jul-17*	0																	
A1470	KD2 (Phase 2 / Section II) (2 Kiosks)	0		02-Oct-17*	0																	
A1480	KD3 (Phase 2 / Section III) (42 Kiosks)	0		30-Jan-18*	0																	
<b>Interface Activities</b>						430	14-Aug-15	16-Oct-16	128												16-Oct-16, Interface Activities	
A6860	Interface Management Plan Submission between C6 and C1	212	14-Aug-15	12-Mar-16	154																	
A6865	Interface Management Plan between C6 and C1 reviewed by Engineer	14	13-Mar-16	26-Mar-16	154																	
A6870	Detailed Interface Document Submission between C6 and C1	30	27-Mar-16	25-Apr-16	154																	
A6875	Detailed Interface Document between C6 and C1 reviewed by Engineer	14	26-Apr-16	09-May-16	154																	
A6880	Interface Management Plan Submission between C6 and C3	262	14-Aug-15	01-May-16	76																	
A6885	Interface Management Plan between C6 and C3 reviewed by Engineer	14	02-May-16	15-May-16	76																	
A6890	Detailed Interface Document Submission between C6 and C3	30	16-May-16	14-Jun-16	76																	
A6895	Detailed Interface Document between C6 and C3 reviewed by Engineer	14	15-Jun-16	28-Jun-16	76																	
A6900	Interface Management Plan Submission between C6 and C8	372	14-Aug-15	19-Aug-16	128																	
A6905	Interface Management Plan between C6 and C8 reviewed by Engineer	14	20-Aug-16	02-Sep-16	128																	
A6910	Detailed Interface Document Submission between C6 and C8	30	03-Sep-16	02-Oct-16	128																	
A6915	Detailed Interface Document between C6 and C8 reviewed by Engineer	14	03-Oct-16	16-Oct-16	128																	
<b>Site and Facility Inspection</b>						424	26-Apr-16	23-Jun-17	586												23-Jun-17, Site and Facility Inspection	
A4730	Pre Site and Facility Inspection by Contractor at Location 1 - Deg1	7	26-Apr-16*	02-May-16	154																	
A4740	Joint Site and Facility Inspection with Interface Contractor at Location 1 - Deg1	7	03-May-16	09-May-16	154																	
A4760	Pre Site and Facility Inspection by Contractor at Location 2 - Deg1	7	25-Jun-16*	01-Jul-16	94																	
A4770	Joint Site and Facility Inspection with Interface Contractor at Location 2 - Deg1	7	02-Jul-16*	08-Jul-16	94																	
A4772	Pre Site and Facility Inspection by Contractor at Location 2 - Deg2	7	14-Aug-16*	20-Aug-16	122																	
A4774	Joint Site and Facility Inspection with Interface Contractor at Location 2 - Deg2	7	21-Aug-16	27-Aug-16	122																	
A4775	Joint Site and Facility Inspection with Interface Contractor at Location 2 for Server Installation	7	21-Aug-16*	27-Aug-16	122																	
A4780	Pre Site and Facility Inspection by Contractor at Location 3 - Deg1	7	03-Sep-16*	09-Sep-16	87																	
A4790	Joint Site and Facility Inspection with Interface Contractor at Location 3 - Deg1	7	10-Sep-16	16-Sep-16	87																	
A4800	Pre Site and Facility Inspection by Contractor at Location 3 - Deg2	7	31-Jan-17*	06-Feb-17	0																	
A4810	Joint Site and Facility Inspection with Interface Contractor at Location 3 - Deg2	7	07-Feb-17	13-Feb-17	0																	
A4820	Pre Site and Facility Inspection by Contractor at Location 3a - Deg1	7	03-Sep-16*	09-Sep-16	115																	
A4830	Joint Site and Facility Inspection with Interface Contractor at Location 3a - Deg1	7	10-Sep-16	16-Sep-16	115																	
A4840	Pre Site and Facility Inspection by Contractor at Location 3a - Deg2	7	22-Nov-16*	28-Nov-16	70																	
A4850	Joint Site and Facility Inspection with Interface Contractor at Location 3a - Deg2	7	29-Nov-16	05-Dec-16	70																	
A4851	Joint Site and Facility Inspection with Interface Contractor at Location 3a for Server Installation	7	29-Nov-16*	05-Dec-16	119																	
A4860	Pre Site and Facility Inspection by Contractor at Location 4 - Deg1	7	11-Jan-17*	17-Jan-17	20																	
A4870	Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg1	7	18-Jan-17	24-Jan-17	20																	
A4880	Pre Site and Facility Inspection by Contractor at Location 4 - Deg2	7	10-Jun-17*	16-Jun-17	586																	
A4890	Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg2	7	17-Jun-17	23-Jun-17	586																	
A4891	Pre Site and Facility Inspection by Contractor at Location 4a - Deg1	7	11-Jan-17*	17-Jan-17	41																	

Programme No.: HZMB-DWP Data Date: 14-Aug-15	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: blue; border: 1px solid black;"></span> Actual Level of Effort</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span> Actual Work</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; border: 1px solid black;"></span> Remaining Work</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black;"></span> Critical Remaining Work</li> <li><span style="display: inline-block; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid black;"></span> Milestone</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: black; border: 1px solid black;"></span> summary</li> </ul>	<b>Hong Kong-Zhuhai-Macao Bridge</b> <b>Hong Kong Boundary Crossing</b> <b>Facilities - Automatic Vehicle</b> <b>Clearance Support System (AVCSS)</b>		Date	Revision	Checked	Approved
				14-Nov-16	Rev.: 0	WC	LC







Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2015		2016				2017				2018				2019	
						Q2	Q3	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
A1162	Location 4a(Outbd Cargo Exam Bldg (023))-Deg2 (630d)	0	05-May-17*		0																◆ Location 4a(Outbd Cargo Exam Bldg (023))-Deg2 (630d), 05-May-17*
A1170	Location 5(Common Utility Enclosure & Staff Subway)-Deg1 (320d)	0	29-Jun-16*		76																◆ Location 5(Common Utility Enclosure & Staff Subway)-Deg1 (320d), 29-Jun-16*
A1180	Location 5(Common Utility Enclosure & Staff Subway)-Deg2 (-)	0	16-Nov-16*		121																◆ Location 5(Common Utility Enclosure & Staff Subway)-Deg2 (-), 16-Nov-16*
A1190	Location 6(Common Utility Enclosure & Staff Subway)-Deg1 (400d)	0	17-Sep-16*		59																◆ Location 6(Common Utility Enclosure & Staff Subway)-Deg1 (400d), 17-Sep-16*
A1200	Location 6(Common Utility Enclosure & Staff Subway)-Deg2 (-)	0	06-Nov-16*		131																◆ Location 6(Common Utility Enclosure & Staff Subway)-Deg2 (-), 06-Nov-16*
A1210	Location 7(Common Utility Enclosure & Staff Subway)-Deg1 (270d)	0	10-May-16*		126																◆ Location 7(Common Utility Enclosure & Staff Subway)-Deg1 (270d), 10-May-16*
A1230	Location 8(Inbd Private Car Annex (025))-Deg1 (430d)	0	17-Oct-16*		128																◆ Location 8(Inbd Private Car Annex (025))-Deg1 (430d), 17-Oct-16*
A1240	Location 8(Inbd Private Car Annex (025))-Deg2 (580d)	0	16-May-17*		0																◆ Location 8(Inbd Private Car Annex (025))-Deg2 (580d), 16-May-17*
A1241	Location 8(Inbd Private Car Annex (025) Canopy)-Deg1 (430d)	0	17-Oct-16*		128																◆ Location 8(Inbd Private Car Annex (025) Canopy)-Deg1 (430d), 17-Oct-16*
A1242	Location 8(Inbd Private Car Annex (025) Canopy)-Deg2 (580d)	0	16-May-17*		625																◆ Location 8(Inbd Private Car Annex (025) Canopy)-Deg2 (580d), 16-May-17*
A1250	Location 9(Outbd Private Car Annex (032))-Deg1 (520d)	0	15-Jan-17*		64																◆ Location 9(Outbd Private Car Annex (032))-Deg1 (520d), 15-Jan-17*
A1260	Location 9(Outbd Private Car Annex (032))-Deg2 (660d)	0	04-Jun-17*		0																◆ Location 9(Outbd Private Car Annex (032))-Deg2 (660d), 04-Jun-17*
A1261	Location 9(Outbd Private Car Annex (032) Canopy)-Deg1 (520d)	0	15-Jan-17*		64																◆ Location 9(Outbd Private Car Annex (032) Canopy)-Deg1 (520d), 15-Jan-17*
A1262	Location 9(Outbd Private Car Annex (032) Canopy)-Deg2 (660d)	0	04-Jun-17*		606																◆ Location 9(Outbd Private Car Annex (032) Canopy)-Deg2 (660d), 04-Jun-17*
A1270	Location 10(Shuttle Bus Kiosks (006))-Deg1 (480d)	0	06-Dec-16*		30																◆ Location 10(Shuttle Bus Kiosks (006))-Deg1 (480d), 06-Dec-16*
A1280	Location 10(Shuttle Bus Kiosks (006))-Deg2 (550d)	0	14-Feb-17*		40																◆ Location 10(Shuttle Bus Kiosks (006))-Deg2 (550d), 14-Feb-17*
A1281	Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg1 (480d)	0	06-Dec-16*		70																◆ Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg1 (480d), 06-Dec-16*
A1282	Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg2 (550d)	0	14-Feb-17*		716																◆ Location 10(Shuttle Bus Kiosks (006) Canopy)-Deg2 (550d), 14-Feb-17*
A1290	Location 11(Outbd Coach Kiosks (009))-Deg1 (400d)	0	17-Sep-16*		190																◆ Location 11(Outbd Coach Kiosks (009))-Deg1 (400d), 17-Sep-16*
A1300	Location 11(Outbd Coach Kiosks (009))-Deg2 (480d)	0	06-Dec-16*		140																◆ Location 11(Outbd Coach Kiosks (009))-Deg2 (480d), 06-Dec-16*
A1301	Location 11(Outbd Coach Kiosks (009) Canopy)-Deg1 (400d)	0	17-Sep-16*		190																◆ Location 11(Outbd Coach Kiosks (009) Canopy)-Deg1 (400d), 17-Sep-16*
A1302	Location 11(Outbd Coach Kiosks (009) Canopy)-Deg2 (480d)	0	06-Dec-16*		786																◆ Location 11(Outbd Coach Kiosks (009) Canopy)-Deg2 (480d), 06-Dec-16*
A1303	Location 11(Inbd Coach Kiosks (010))-Deg1 (400d)	0	17-Sep-16*		70																◆ Location 11(Inbd Coach Kiosks (010))-Deg1 (400d), 17-Sep-16*
A1304	Location 11(Inbd Coach Kiosks (010))-Deg2 (480d)	0	06-Dec-16*		198																◆ Location 11(Inbd Coach Kiosks (010))-Deg2 (480d), 06-Dec-16*
A1305	Location 11(Inbd Coach Kiosks (010) Canopy)-Deg1 (400d)	0	17-Sep-16*		220																◆ Location 11(Inbd Coach Kiosks (010) Canopy)-Deg1 (400d), 17-Sep-16*
A1306	Location 11(Inbd Coach Kiosks (010) Canopy)-Deg2 (480d)	0	06-Dec-16*		786																◆ Location 11(Inbd Coach Kiosks (010) Canopy)-Deg2 (480d), 06-Dec-16*
A1310	Location 12(Inbd Private Car Kiosks(027))-Deg1 (400d)	0	17-Sep-16*		24																◆ Location 12(Inbd Private Car Kiosks(027))-Deg1 (400d), 17-Sep-16*
A1311	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d)	0	06-Dec-16*		33																◆ Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d), 06-Dec-16*
A1312	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg1 (400d)	0	17-Sep-16*		24																◆ Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg1 (400d), 17-Sep-16*
A1313	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d)	0	06-Dec-16*		786																◆ Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d), 06-Dec-16*
A1314	Location 12(Inbd GV Kiosks (028))-Deg1 (400d)	0	17-Sep-16*		0																◆ Location 12(Inbd GV Kiosks (028))-Deg1 (400d), 17-Sep-16*
A1315	Location 12(Inbd GV Kiosks (028))-Deg2 (480d)	0	06-Dec-16*		78																◆ Location 12(Inbd GV Kiosks (028))-Deg2 (480d), 06-Dec-16*
A1316	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d)	0	17-Sep-16*		0																◆ Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d), 17-Sep-16*
A1317	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d)	0	06-Dec-16*		786																◆ Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d), 06-Dec-16*
A1318	Location 12(Outbd GV Kiosks (029))-Deg1 (400d)	0	17-Sep-16*		48																◆ Location 12(Outbd GV Kiosks (029))-Deg1 (400d), 17-Sep-16*
A1319	Location 12(Outbd GV Kiosks (029))-Deg2 (480d)	0	06-Dec-16*		33																◆ Location 12(Outbd GV Kiosks (029))-Deg2 (480d), 06-Dec-16*
A1320	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d)	0	17-Sep-16*		48																◆ Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d), 17-Sep-16*
A1321	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d)	0	06-Dec-16*		786																◆ Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d), 06-Dec-16*
A1330	Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d)	0	06-Dec-16*		0																◆ Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d), 06-Dec-16*
A1340	Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d)	0	14-Feb-17		0																◆ Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d), 14-Feb-17
A1341	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d)	0	06-Dec-16*		0																◆ Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d), 06-Dec-16*
A1342	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d)	0	14-Feb-17*		716																◆ Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d), 14-Feb-17*
A1350	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d)	0	15-Apr-17*		68																◆ Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d), 15-Apr-17*
A1370	Location 15(Inbd Traffic Control Kiosk (100))-Deg1 (400d)	0	17-Sep-16*		206																◆ Location 15(Inbd Traffic Control Kiosk (100))-Deg1 (400d), 17-Sep-16*
A1380	Location 15(Inbd Traffic Control Kiosk (100))-Deg2 (480d)	0	06-Dec-16*		140																◆ Location 15(Inbd Traffic Control Kiosk (100))-Deg2 (480d), 06-Dec-16*

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





Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2015																				2016				2017				2018				2019	
						Q2					Q3					Q4					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2									
A4590	Installation of fencing post along the site boundary	3	02-Nov-15*	04-Nov-15	1183																																		
A4600	Excavation for underground drainage pipe	1	04-Nov-15*	04-Nov-15	1183																																		
A4610	Evenly spread the asphalt scrap material by backhoe	3	05-Nov-15*	07-Nov-15	1180																																		
A4620	Cast concrete for the u-channel and underground drainage pipe	1	05-Nov-15*	05-Nov-15	1182																																		
A4630	Remove the u-channel framework	1	06-Nov-15*	06-Nov-15	1181																																		
A4640	Installation of chain-link fencing along the site boundary	2	06-Nov-15*	07-Nov-15	1180																																		
A4650	Installation of access doors	1	07-Nov-15*	07-Nov-15	1180																																		
A4660	Excavation for drainage ditch	3	06-Nov-15*	09-Nov-15	1010																																		
A4670	Cast concrete for the drainage ditch	1	10-Nov-15*	10-Nov-15	1177																																		
A4680	Compact the asphalt scrap material	2	09-Nov-15*	10-Nov-15	1177																																		
A4690	Land surveying	1	11-Nov-15*	11-Nov-15	1174																																		
A4700	Inspection of chain-link fencing and access doors	1	12-Nov-15*	12-Nov-15	1174																																		
A4710	Testing of drains	1	13-Nov-15*	13-Nov-15	1174																																		
A4720	Completion of the works	0	14-Nov-15		1174																																		
<b>Detailed Design Specification</b>		<b>365</b>	<b>14-Aug-15</b>	<b>12-Aug-16</b>	<b>0</b>																																		
A1808	Preliminary System Proposal Submission	28	14-Aug-15	10-Sep-15	0																																		
A1809	Engineer's agreement with preliminary system proposal	45	11-Sep-15	25-Oct-15	0																																		
A1810	Draft Detailed Design Specification (DDS) Submission	48	26-Oct-15	12-Dec-15	0																																		
A1814	Draft Hardware Function Design Specification for Computer system and Network system (HFD)	48	26-Oct-15	12-Dec-15	0																																		
A1815	Draft Software Function Design Specification for Computer system and Network system (SFD)	48	26-Oct-15	12-Dec-15	0																																		
A1820	Engineer's Review and Approval for Draft Detailed Design Specification (DDS)	60	13-Dec-15*	10-Feb-16	0																																		
A1823	Engineer's Review and Approval for Draft Hardware FDS for Computer system and Network system (HFD)	60	13-Dec-15*	10-Feb-16	0																																		
A1824	Engineer's Review and Approval for Draft Software FDS for Computer system and Network system (SFD)	60	13-Dec-15*	10-Feb-16	0																																		
A1829	Interface Requirements for CED (LBS, CED IT Server, Metro-Ethernet) and IMMD (AVCS)	29	01-Feb-16*	29-Feb-16	0																																		
A1830	Final DDS Submission (AVCSS, VTS, VIDS)(Phase 1/Section I)	30	01-Mar-16	30-Mar-16	0																																		
A1831	Development of System Security Plan	49	11-Feb-16	30-Mar-16	0																																		
A1840	Engineer's Review and Approval for Final DDS Submission including System Security Plan (AVCSS)(Phase 1/Section I)	30	31-Mar-16	29-Apr-16	0																																		
A1850	Final DDS Submission (AVCSS)(Phase 2/Section II&III)	60	30-Apr-16	28-Jun-16	0																																		
A1860	Engineer's Review and Approval for DDS Submission (AVCSS)(Phase 2/Section II&III)	45	29-Jun-16*	12-Aug-16	0																																		
<b>Construction Design and Management</b>		<b>60</b>	<b>07-May-16</b>	<b>05-Jul-16</b>	<b>52</b>																																		
A6920	Construction Health and Safety Plan Submission	30	07-May-16*	05-Jun-16	52																																		
A6930	Construction Health and Safety Plan reviewed by Engineer	30	06-Jun-16	05-Jul-16	52																																		
<b>Supply/Manufacture Mock-up items</b>		<b>82</b>	<b>30-Apr-16</b>	<b>20-Jul-16</b>	<b>51</b>																																		
A4749	Preparation of Kiosk equipment Mock-up	68	30-Apr-16	06-Jul-16	51																																		
A4750	Installation of Kiosk equipment Mock-up	14	07-Jul-16	20-Jul-16	51																																		
<b>Supply/Manufacture prototypes</b>		<b>60</b>	<b>30-Apr-16</b>	<b>28-Jun-16</b>	<b>0</b>																																		
A2900	Manufacture LED Display Prototype (VID, ODB and XDB)	60	30-Apr-16	28-Jun-16	0																																		
A2910	Manufacture All-In-One Panel Prototype (AIOP)	60	30-Apr-16	28-Jun-16	0																																		
<b>Software Design, Coding and Testing</b>		<b>407</b>	<b>11-Apr-16</b>	<b>22-May-17</b>	<b>0</b>																																		

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Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2015		2016				2017				2018				2019							
						Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2					
<b>Coding</b>						270	11-Apr-16	05-Jan-17	0	05-Jan-17, Coding																	
A5460	CCS, SURCON, SYSCON, CDBS Development Stage 1	70	11-Apr-16*	19-Jun-16	0	CCS, SURCON, SYSCON, CDBS Development Stage 1																					
A5500	VTS Development Stage 1	70	11-Apr-16*	19-Jun-16	0	VTS Development Stage 1																					
A5510	VIDS Development Stage 1	64	11-Apr-16*	13-Jun-16	15	VIDS Development Stage 1																					
A5540	CCS, SURCON, SYSCON, CDBS Development Stage 2	170	20-Jul-16	05-Jan-17	0	CCS, SURCON, SYSCON, CDBS Development Stage 2																					
A5580	VTS Development Stage 2	170	20-Jul-16	05-Jan-17	0	VTS Development Stage 2																					
A5590	VIDS Development Stage 2	162	28-Jul-16	05-Jan-17	0	VIDS Development Stage 2																					
<b>Software System Inetgration</b>						388	30-Apr-16	22-May-17	0	22-May-17, Software System Inetgration																	
A5520	Test Plan Documentation Submission	237	30-Apr-16	22-Dec-16	0	Test Plan Documentation Submission																					
A5530	Engineer's Review and Approval for Test Plan Documentation Submission	14	23-Dec-16	05-Jan-17	0	Engineer's Review and Approval for Test Plan Documentation Submission																					
A5600	Software System Integration Test	45	06-Jan-17	19-Feb-17	0	Software System Integration Test																					
A5630	CCS/SYSCON/SURCON/CDBS/VTS/VIDS Software Enhancement	50	20-Feb-17	10-Apr-17	0	CCS/SYSCON/SURCON/CDBS/VTS/VIDS Software Enhancement																					
A5640	Software User Acceptance Test (UAT)	42	11-Apr-17	22-May-17	0	Software User Acceptance Test (UAT)																					
<b>Prototype &amp; Software Simulation Tests</b>						133	30-Apr-16	09-Sep-16	0	09-Sep-16, Prototype & Software Simulation Tests																	
A1910	Prototype Test Document	30	30-Apr-16	29-May-16	6	Prototype Test Document																					
A2130	Engineer's Approval for Testing Document	15	30-May-16	13-Jun-16	6	Engineer's Approval for Testing Document																					
A2920	CCWS with CDBS, SURCON and SYSCON (Software Simulation/ Software Integration Test)	30	20-Jun-16	19-Jul-16	0	CCWS with CDBS, SURCON and SYSCON (Software Simulation/ Software Integration Test)																					
A2930	Vehicle Tracking System (VTS) (Software Simulation/ Software Integration Test)	30	20-Jun-16	19-Jul-16	0	Vehicle Tracking System (VTS) (Software Simulation/ Software Integration Test)																					
A2950	LED Displays (VID, ODB and XDB)	29	29-Jun-16*	27-Jul-16	0	LED Displays (VID, ODB and XDB)																					
A2960	All-In-One Panel (AIOP)	29	29-Jun-16*	27-Jul-16	0	All-In-One Panel (AIOP)																					
A3020	Prototype Testing Report Submission	30	28-Jul-16	26-Aug-16	0	Prototype Testing Report Submission																					
A4350	Engineer's Approval for Prototype Testing Report	14	27-Aug-16	09-Sep-16	0	Engineer's Approval for Prototype Testing Report																					
<b>Procurement - Phase 1 / Section I</b>						242	30-Apr-16	27-Dec-16	0	27-Dec-16, Procurement - Phase 1 / Section I																	
A3070	Procurement of Equipment for Phase 1/Section I	242	30-Apr-16	27-Dec-16	0	Procurement of Equipment for Phase 1/Section I																					
A3080	Procurement of Cable and Accessories for Phase 1 /Section I	122	30-Apr-16	29-Aug-16	0	Procurement of Cable and Accessories for Phase 1 /Section I																					
A3990	Procurement of All Servers and Workstations	242	30-Apr-16	27-Dec-16	0	Procurement of All Servers and Workstations																					
<b>Supply/Manufacture products for FAT</b>						62	10-Sep-16	10-Nov-16	0	10-Nov-16, Supply/Manufacture products for FAT																	
A2980	Supply/Manufacture LED Display (ODB, VID and XDB) for FAT	54	10-Sep-16	02-Nov-16	0	Supply/Manufacture LED Display (ODB, VID and XDB) for FAT																					
A2990	Supply/Manufacture All-In-One Panel (AIOP) for FAT	62	10-Sep-16	10-Nov-16	0	Supply/Manufacture All-In-One Panel (AIOP) for FAT																					
A3000	Supply/Manufacture off-the-shelf equipment for FAT	50	10-Sep-16	29-Oct-16	0	Supply/Manufacture off-the-shelf equipment for FAT																					
<b>Factory Acceptance Test (FAT)</b>						94	10-Sep-16	12-Dec-16	0	12-Dec-16, Factory Acceptance Test (FAT)																	
A2120	FAT Procedure Document	36	10-Sep-16	15-Oct-16	0	FAT Procedure Document																					
A2121	Engineer's Approval for FAT Procedure Document	14	16-Oct-16	29-Oct-16	0	Engineer's Approval for FAT Procedure Document																					
A3050	FAT for Licence Plate Recognition System (LPRS)	2	30-Oct-16	31-Oct-16	0	FAT for Licence Plate Recognition System (LPRS)																					
A3060	FAT for PA/Intercom	2	01-Nov-16	02-Nov-16	0	FAT for PA/Intercom																					
A3090	FAT for ODB	2	03-Nov-16	04-Nov-16	0	FAT for ODB																					
A3100	FAT for XDB	2	03-Nov-16	04-Nov-16	0	FAT for XDB																					
A3110	FAT for VID	2	03-Nov-16	04-Nov-16	0	FAT for VID																					
A3120	FAT for Video Management System (VMS)	2	05-Nov-16	06-Nov-16	0	FAT for Video Management System (VMS)																					
A3130	FAT for Vehicle Tracking System (VTS)	2	07-Nov-16	08-Nov-16	0	FAT for Vehicle Tracking System (VTS)																					
A3140	FAT for Communication Network (CMN)	2	09-Nov-16	10-Nov-16	0	FAT for Communication Network (CMN)																					
A3150	FAT for All-In-One Panel (AIOP)	2	11-Nov-16	12-Nov-16	0	FAT for All-In-One Panel (AIOP)																					
A3160	FAT for AVCSS System Test	2	13-Nov-16	14-Nov-16	0	FAT for AVCSS System Test																					
A4360	FAT Report Submission	14	15-Nov-16	28-Nov-16	0	FAT Report Submission																					

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						Q2	Q3	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
A4370	Engineer's Approval for FAT Report Submission	14	29-Nov-16	12-Dec-16	0																	
<b>Supply/Manufacture Equipment</b>		60	13-Dec-16	10-Feb-17	0																	
A6830	Supply/Manufacture LED (ODB, VID and XDB) Display for installation	45	13-Dec-16	26-Jan-17	0																	
A6840	Supply/Manufacture AIOP for installation	60	13-Dec-16	10-Feb-17	0																	
<b>Delivery and Bench Acceptance Test for Phase 1/ Section I</b>		176	30-Aug-16	21-Feb-17	0																	
A6740	Material On-Site for Phase 1/Section I	6	28-Dec-16	02-Jan-17	0																	
A6750	Material Bench Acceptance Test for Phase 1/Section I	5	03-Jan-17	07-Jan-17	0																	
A6850	Cable On-Site for Phase 1/Section I	14	30-Aug-16	12-Sep-16	0																	
A6960	AIOP On-Site for Phase 1/Section I	6	11-Feb-17	16-Feb-17	0																	
A6970	AIOP Bench Acceptance Test for Phase 1/Section I	5	17-Feb-17	21-Feb-17	0																	
A6980	LED (ODB, VID and XDB) On-Site for Phase 1/Section I	5	27-Jan-17	31-Jan-17	0																	
A6990	LED (ODB, VID and XDB) Bench Acceptance Test for Phase 1/Section I	5	01-Feb-17	05-Feb-17	0																	
<b>Installation - Phase 1 / Section I</b>		290	13-Sep-16	29-Jun-17	20																	
<b>Location 1(PCB (001) Basement)</b>		35	11-Oct-16	14-Nov-16	0																	
A3081	Cable Laying and termination at Location 1 and Location 2	35	11-Oct-16	14-Nov-16	0																	
<b>Location 1(PCB (001) ELV Room (Grid Line E3))</b>		35	11-Oct-16	14-Nov-16	0																	
A3101	Cable Laying and termination at Location 1 and Location 2	35	11-Oct-16	14-Nov-16	0																	
<b>Location 2(PCB (001) Ground Floor ELV Room (Grid Line E3))</b>		35	11-Oct-16	14-Nov-16	0																	
A3121	Cable Laying and termination at Location 1 and Location 2	35	11-Oct-16	14-Nov-16	0																	
<b>Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD))</b>		171	11-Oct-16	30-Mar-17	0																	
A2041	Cable Laying and termination at Location 1 and Location 2	35	11-Oct-16	14-Nov-16	0																	
A2042	Cable Testing	54	15-Nov-16	07-Jan-17	0																	
A2043	Intercom and PA system Installation	65	08-Jan-17	13-Mar-17	0																	
A2044	Intercom and PA system tuning	17	14-Mar-17	30-Mar-17	0																	
<b>Location 2(PCB (001) First Floor Main Server Room)</b>		175	11-Oct-16	03-Apr-17	0																	
A2001	Cable Laying and termination at Location 1 and Location 2	35	11-Oct-16	14-Nov-16	0																	
A2002	Cable Testing	43	15-Nov-16	27-Dec-16	0																	
A2003	AVCSS Network and Server Installation	49	28-Dec-16	14-Feb-17	0																	
A2004	AVCSS Network and Server Tuning	48	15-Feb-17	03-Apr-17	0																	
<b>Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,12)</b>		133	10-Jan-17	22-May-17	0																	
A3241	Cable Laying and termination in Location 3 and Location 3a	35	10-Jan-17	13-Feb-17	0																	
A3242	AVCSS SURCON WS and 55" LCD Installation	28	14-Feb-17	13-Mar-17	0																	
A3243	VTS WS Installation	28	14-Feb-17	13-Mar-17	0																	
A3245	SURCON, WS Tuning	70	14-Mar-17	22-May-17	0																	
<b>Location 3(Inbd Cargo Exam Bldg (037) ELV Room)</b>		28	13-Dec-16	09-Jan-17	0																	
A3210	Cable Laying and termination between Location 3 and CUE	28	13-Dec-16	09-Jan-17	0																	
<b>Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)</b>		133	10-Jan-17	22-May-17	0																	
A2071	Cable Laying and termination in Location 3 and Location 3a	35	10-Jan-17	13-Feb-17	0																	
A2072	AVCSS SYSCON WS and 55" TV Wall Installation	14	14-Feb-17	27-Feb-17	0																	
A2074	AVCSS SYSCON WS Tuning	84	28-Feb-17	22-May-17	0																	
<b>Location 3(Inbd Cargo Exam Bldg (037) MDF Room)</b>		28	13-Dec-16	09-Jan-17	0																	
A3190	Cable Laying and termination between Location 3 and CUE	28	13-Dec-16	09-Jan-17	0																	
<b>Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Room)</b>		133	10-Jan-17	22-May-17	0																	
A2091	Cable Laying and termination in Location 3 and Location 3a	35	10-Jan-17	13-Feb-17	0																	
A2092	AVCSS SYSCON,SURCON and Intercom Installation	49	14-Feb-17	03-Apr-17	0																	

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						Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
A4140	Outbound VID field equipment installation (8 VID)	32	03-Apr-17	04-May-17	0																			
A4150	Outbound VTS field equipment installation (3 RFID + 3 Cameras)	16	11-Apr-17	26-Apr-17	0																			
A4170	Outbound TLS field equipment installation (4 TLS)	8	27-Apr-17	04-May-17	0																			
A4180	Outbound VID, VTS and TLS field equipment tuning	18	05-May-17	22-May-17	0																			
<b>Underground Ducting between Inbd Cargo Exam Bldg (037) and CUE</b>																								
A3810	Cable Laying and termination (note: Access Date by C03)	35	08-Jan-17	11-Feb-17	0																			
<b>Underground Ducting between Inbd Cargo Exam Bldg (037) and Inbd Vehicle Clea</b>																								
A3830	Cable Laying and termination (note: Access Date by C03)	26	12-Feb-17	09-Mar-17	0																			
<b>Underground Ducting between CUE and Outbd Car Exam Bldg (023)</b>																								
A3850	Cable Laying and termination (note: Access Date by C03)	24	10-Mar-17	02-Apr-17	0																			
<b>Underground Ducting Between Outbd Cargo Exam Bldg (023) and Outbd Vehicle C</b>																								
A3870	Cable Laying and termination (note: Access Date by C03)	24	03-Apr-17	26-Apr-17	0																			
<b>Underground Ducting between CUE and Outbd Vehicle Clearance Plaza</b>																								
A3890	Cable Laying and termination (note: Access Date by C03)	26	27-Apr-17	22-May-17	0																			
<b>On-Site Test and Commissioning (Phase 1 / Section I)</b>																								
A2150	Testing & Commissioning Documents Submission (8 weeks before Testings carried out)	30	15-Jan-17*	13-Feb-17	84																			
A2151	Engineer Approval for T&C Document	14	14-Feb-17	27-Feb-17	84																			
A2152	Joint Site Inspection for Permanent Power/Tele-communication for Initial on-site testing	14	17-Mar-17*	30-Mar-17	0																			
A2153	Initial on-site Testing & Commissioning	53	31-Mar-17	22-May-17	0																			
<b>Site Acceptance Test (Phase 1 / Section I)</b>																								
A6601	Interface Readiness CED(LBS, CED IT, Metro-Ethernet) and IMMD (AVS)	36	17-Apr-17*	22-May-17	0																			
A6602	SAT for AVCSS	28	23-May-17	19-Jun-17	0																			
A6603	SAT for Location 18 (AVCSS SURCON and 55" LCD)	5	30-Jun-17	04-Jul-17	0																			
A6630	SAT Test Document Submission	30	20-Jun-17	19-Jul-17	0																			
A6640	Software Manual Documentations Submission	30	20-Jun-17	19-Jul-17	0																			
<b>Security Risk Assessment and Audit</b>																								
A6800	SRAA (Assessment)	9	23-May-17	31-May-17	0																			
A6810	Fix per SRAA Assessment	40	01-Jun-17	10-Jul-17	0																			
A6820	SRAA Audit	9	11-Jul-17	19-Jul-17	0																			
<b>Operability Period Test (Phase 1 / Section I)</b>																								
A5610	Joint Site Inspection for utilities, telecom connection and metro ethernet for OPT	7	13-Jun-17*	19-Jun-17	0																			
A5620	Operability Period Test (OPT) Phase 1	15	20-Jun-17	04-Jul-17	0																			
A5650	Operability Period Test (OPT) Phase 2	15	05-Jul-17	19-Jul-17	0																			
<b>Completion (Phase 1 /Section I)</b>																								
A2230	AVCSS - Certificate of Completion (Phase 1/Section I)	5	20-Jul-17	24-Jul-17	0																			
A2231	Certificate of Completion Approval by Engineer	0		24-Jul-17	0																			
<b>Training and Document (Phase 1 /Section I)</b>																								
A2180	Training Materials & Documentation Submission	30	21-Feb-17*	22-Mar-17	14																			
A2190	Operation and Maintenance Training	110	23-Mar-17	10-Jul-17	14																			
<b>Operation (Phase 1 /Section I)</b>																								
A2240	Site Operation (Phase 1/Section I)	0	25-Jul-17	25-Jul-17	0																			
<b>Engineering Support for Phase 1 / Section I</b>																								
		190	25-Jul-17	30-Jan-18	0																			

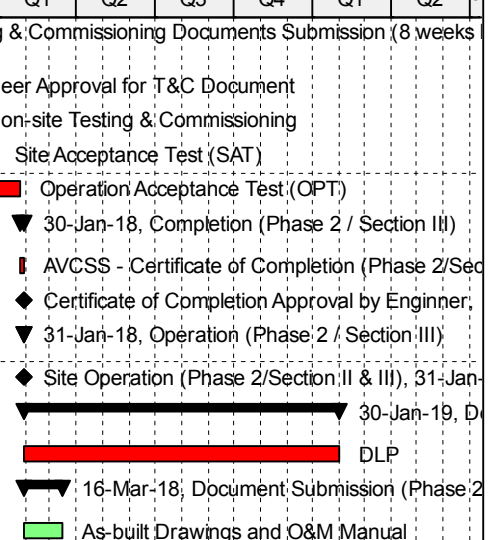
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A2370	Testing & Commissioning Documents Submission (8 weeks before Testings carried out)	30	30-Aug-17*	28-Sep-17	0																		
A2371	Engineer Approval for T&C Document	14	29-Sep-17	12-Oct-17	0																		
A2373	Initial on-site Testing & Commissioning	98	07-Jul-17	12-Oct-17	0																		
A2380	Site Acceptance Test (SAT)	75	13-Oct-17	26-Dec-17	0																		
A2390	Operation Acceptance Test (OPT)	30	27-Dec-17	25-Jan-18	0																		
<b>Completion (Phase 2 / Section III)</b>		5	26-Jan-18	30-Jan-18	0																		
A2400	AVCSS - Certificate of Completion (Phase 2/Section III)	5	26-Jan-18	30-Jan-18	0																		
A4330	Certificate of Completion Approval by Enginner	0		30-Jan-18	0																		
<b>Operation (Phase 2 / Section III)</b>		0	31-Jan-18	31-Jan-18	365																		
A2420	Site Operation (Phase 2/Section II & III)	0	31-Jan-18		365																		
<b>Defect Liability Period (DLP)</b>		365	31-Jan-18	30-Jan-19	0																		
A2430	DLP	365	31-Jan-18	30-Jan-19	0																		
<b>Document Submission (Phase 2 / Section III)</b>		45	31-Jan-18	16-Mar-18	320																		
A4340	As-built Drawings and O&M Manual	45	31-Jan-18	16-Mar-18	320																		



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## **MATERIALAB CONSULTANTS LIMITED**

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

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Report No.: 0165/15/ED/0662

### **Appendix D**

#### **Event / Action Plan**

**Appendix D –**

**Event / Action Plan for Air Quality and Noise Monitoring**

Event / Action Plan for Air Quality

Event	Action			
	ET	IEC	ER	Contractor
<b>Action Level</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures;  2. Inform IEC and ER;  3. Repeat measurement to confirm finding;  4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET;  2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice;  2. Amend working methods if appropriate.

Event	Action			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and ER;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to ER within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

Event	Action			
	ET	IEC	ER	Contractor
<b>Limit Level</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures;  2. Inform ER, Contractor and EPD;  3. Repeat measurement to confirm finding;  4. Increase monitoring frequency to daily;  5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET;  2. Check Contractor's working method;  3. Discuss with ET and Contractor on possible remedial measures;  4. Advise the ER on the effectiveness of the proposed remedial measures;  5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing;  2. Notify Contractor;  3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance;  2. Submit proposals for remedial actions to IEC within 3 working days of notification;  3. Implement the agreed proposals;  4. Amend proposal if appropriate.



Event	Action			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedances abated.</li> </ol>

Event / Action Plan for Construction Noise Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>3. Report the results of investigation to the IEC,ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC;</li> <li>2. Implement noise mitigation proposals.</li> </ol>

Event	Action			
	ET	IEC	ER	Contractor
Limit Level	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, EPD and Contractor;</li> <li>2. Identify source;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

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### **Appendix E**

### **Waste Flow Table**



**Monthly Summary of Waste Flow Table for 2016 (year)**

Name of Person completing the Record: Marko Chan

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
		(see Note 1)						(see Note 2)		
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m <sup>3</sup> )
Jan	0.000	0	0	0	0.000	0	0.992	0	0	0.073
Feb	0.000	0	0	0	0.000	0	0	0	0	0.093
Mar	0.087	0	0	0	0.087	0	0.392	0	0	0.200
Apr	0.184	0	0	0	0.184	0	0.411	0	0	0.224
May	0.203	0	0	0	0.203	0	0	0	0	0.293
Jun	0.244	0	0	0	0.244	0	0.413	0	0	0.322
Jul	2.429	0	0	0	2.429	0	0.419	0	0	0.312
Aug	0.057	0	0	0	0.057	0	0.340	0	0	0.288
Sept	0.000	0	0	0	0.000	0	0	0	0	0.327
Oct	0.379	0	0	0	0.379	0	0.400	0	0	0.332
Nov	0.229	0	0	0	0.229	0	0.389 <sup>(3)</sup>	0	0	0.644
Dec	0.161	0	0	0	0.161	0	0.406	0	0	0.663
<b>Total</b>	<b>3.973</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>3.973</b>	<b>0.000</b>	<b>4.162</b>	<b>0.000</b>	<b>0.000</b>	<b>3.771</b>

Notes:

- (1) Broken concrete for recycling into aggregates.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (3) 0.389 (in '000 Kg) of paper/cardboard packaging was updated compared to previous monthly report.

## Monthly Summary of Excavated Marine Sediment for 2016 (year)

Month	Total Quantity of Excavated Marine Sediment Generated in '000m <sup>3</sup>	Reused in this contract in '000m <sup>3</sup>	Reused in other Projects in '000m <sup>3</sup>	Disposed of at CMP in '000m <sup>3</sup>
Jan	1.950	0	0	1.950
Feb	2.328	0	0	2.328
Mar	2.464	0	0	2.464
Apr	5.602	0	0	5.602
May	0	0	0	0
Jun	4.584	0	0	4.584
Jul	10.728	0	0	10.728
Aug	1.544	0	0	1.544
Sep	6.816	0	0	6.816
Oct	2.376	0	0	2.376
Nov	0	0	0	0
Dec	2.792 (Cat.L)	0	0	2.792 (Cat.L)
	4.960	0	0	4.960
<b>Total</b>	<b>46.144</b>	<b>0.000</b>	<b>0.000</b>	<b>46.144</b>

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

### Monthly Summary Waste Flow Table

Project name 工程項目名稱 : Contract No. HY/2013/06 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities-Automatic Vehicle Clearance Support System

Location 工程地點: Artificial Island of HKIAP

Year: 2016

Month	Inert C&D Waste disposal 墮性廢物 (in tonnes) (see Note 1)						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								Total Quantity Generated / 總生產量		
	Reused in the Work Package (e.g. backfilling) / 再用於工程 (如回填)		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, 填料等)		Others, (e.g. general refuse, broken formwork etc) / 其他 (如垃圾, 廢板枋等)		Metals / 金屬		Plastic / 塑膠		Paper/cardboard packaging / 廢紙/包裝紙類		Chemical Waste / 化學廢物				
	(b)		(c)		(d)		(e)		(in tonnes)		(in tonnes)		(in tonnes)		(in litre)		(a)= (b+c+d+e)		
	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	Est./ 估計數量)	Act./ (實際數量)	
January																			
February																			
March																			
April																			
May																			
June																			
July																			
August																			
September	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.002	0.002	N/A	N/A	0.002	0.002
October	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.002	0.002	N/A	N/A	0.002	0.002
November	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.002(2)	0.002(2)	N/A	N/A	0.002	0.002
December	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.002	0.002	N/A	N/A	0.002	0.002
<b>Total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.008</b>	<b>0.008</b>	<b>0.000</b>	<b>0.000</b>	<b>0.008</b>	<b>0.008</b>

Notes: (1) The quantities 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<sup>-3</sup>.  
 (2) 0.002 (in tonnes) of paper/cardboard packaging was updated compared to previous monthly report.

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### **Appendix F**

#### **Environmental Licenses and Permits**



**Appendix F - Environmental Permit / Licences Summary for Contract No. HY/2013/03**

(update: 30/12/2016)

Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	Valid Date		Status	Remark
						From	To		
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance	EP-353/2009/K	HKBCF	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	GW-RS0933-16	Main Site Area	18-Aug-16	01-Sep-16	05-Sep-16	31-Dec-16	Valid until 31-Dec-16	
10	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0960-16	Main Site Area	06-Sep-16	15-Sep-16	19-Sep-16	18-Dec-16	Valid until 18-Dec-16	
11	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	
12	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	
13	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	
14	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-132	East of Sha Chau (CMP Vd)	03-Nov-16	30-Nov-16	05-Dec-16	04-Jan-17	Valid until 04-Jan-17	

15	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-140	East of Sha Chau (CMP Va) or South of Brothers (CMP2)	14-Nov-16	30-Nov-16	30-Nov-16	29-Dec-16	Valid until 29-Dec-16	
16	Permit issued Under the Dumping at Sea Ordinance	EP/MD/17-146	East of Sha Chau (CMP Va) or South of Brothers (CMP2)	25-Nov-16	16-Dec-16	16-Dec-16	29-Dec-16	Valid until 29-Dec-16	

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

(update: 30/12/2016)

Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	Valid Date		Status	Remark
						From	To		
1	Environmental Permit Pursuant to Environmental Impact Assessment Ordinance	EP-353/2009/K	HKBCF	24-Mar-16	11-Apr-16	11-Apr-16	Nil	Valid	
2	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. 7023015	Main Site Area	07-Aug-15	20-Aug-15	20-Aug-15	Nil	Valid	
3	Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	#

# 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)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
<b>Air Quality</b>				
S5.5.6.1	A1	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	V
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: <ul style="list-style-type: none"> <li>• 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;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• 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;</li> <li>• 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 concrete, bituminous materials or hardcores;</li> </ul>	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• 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;</li> <li>• 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,</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• 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</li> </ul>	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• 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 allowed;</li> <li>• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally</li> </ul>	All construction sites	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation 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 <ul style="list-style-type: none"> <li>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</li> </ul>		
S5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	√
S5.5.6.4	A4	4) 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	√
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected Representative dust monitoring station	√
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant; <ul style="list-style-type: none"> <li>Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system;</li> <li>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;</li> <li>Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;</li> <li>The materials which may generate airborne dusty emissions should be wetted by water spray system;</li> <li>All receiving hoppers should be enclosed on three sides up to 3m above unloading point;</li> <li>All conveyor transfer points should be totally enclosed;</li> <li>All access and route roads within the premises should be paved and wetted; and</li> <li>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</li> </ul>	Selected Representative dust monitoring station	N/A
S5.5.2.7	A7	The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point: <ul style="list-style-type: none"> <li>All road surface within the barging facilities will be paved;</li> <li>Dust enclosures will be provided for the loading ramp;</li> <li>Vehicles will be required to pass through designated wheels wash facilities; and</li> <li>Continuous water spray at the loading points</li> </ul>	All construction sites	√
<b>Construction Nose (Air borne)</b>				
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: <ul style="list-style-type: none"> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>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;</li> <li>plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> </ul>	All construction sites	√

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<ul style="list-style-type: none"> <li>mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>		
S6.4.11	N2	2) 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	3) 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	4) 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
<b>Sediment</b>				
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	All construction sites	V
<b>Waste Management (Construction Waste)</b>				
S8.3.8	WM1	<p><b>Construction and Demolition Material</b></p> <p>The following mitigation measures should be implemented in handling the waste:</p> <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>Carry out on-site sorting;</li> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>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&amp;D materials and to minimize their generation during the course of construction.</li> <li>In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final</li> </ul>	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		disposal sites to the Project Proponent and get its approval before implementation		
S8.3.9- S8.3.11	WM2	<u>C&amp;D Waste</u> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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.</li> <li>• The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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.</li> </ul>	All construction sites	V
S8.2.12- S8.3.15	WM3	<u>Chemical Waste</u> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>	All construction sites	V
S8.3.16	WM4	<u>Sewage</u> <ul style="list-style-type: none"> <li>• 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.</li> </ul>	All construction sites	V
S8.3.17	WM5	<u>General Refuse</u> <ul style="list-style-type: none"> <li>• General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>• 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</li> </ul>	All construction sites	V



EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<p>law.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.</li> </ul>		
<b>Water Quality ( Construction Phase)</b>				
S9.11.1.7	W2	<p><u>Land Works</u></p> <p>General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include:</p> <ul style="list-style-type: none"> <li>• wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;</li> <li>• sewage effluent and discharges from on-site kitchen 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• temporary access roads should be surfaced with crushed stone or gravel;</li> <li>• rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;</li> <li>• measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system;</li> <li>• open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;</li> <li>• 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;</li> <li>• discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</li> </ul>	Land-based works area	V
S9.11.1.7	W2	<ul style="list-style-type: none"> <li>• all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit;</li> <li>• wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;</li> <li>• the section of construction road between the wheel</li> </ul>	Land-based works area	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<p>washing bay and the public road should be surfaced with crushed stone or coarse gravel;</p> <ul style="list-style-type: none"> <li>• wastewater generated from concreting, plastering, Internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;</li> <li>• 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;</li> <li>• the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;</li> <li>• waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance;</li> <li>• 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</li> <li>• surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.</li> </ul>		
<b>Ecology (Construction Phase)</b>				
S10.7	E4	<ul style="list-style-type: none"> <li>• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater</li> </ul>	Land-based works areas	V
S10.7	E5	<ul style="list-style-type: none"> <li>• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time</li> </ul>	Land-based works areas	V
S10.7	E8	<ul style="list-style-type: none"> <li>• Control vessel speed</li> <li>• Skipper training</li> <li>• Predefined and regular routes for working vessels; avoid Brother Islands.</li> </ul>	Marine Traffic	V
<b>Fisheries</b>				
S11.7	F4	<ul style="list-style-type: none"> <li>• Maritime Oil Spill Response Plan (MOSRP);</li> <li>• Contingency plan.</li> </ul>	HKBCF	V
<b>Landscape &amp; Visual (Detailed Design Phase)</b>				
S14.3.3.1	LV1	<p>General design measures include:</p> <ul style="list-style-type: none"> <li>• Roadside planting and planting along the edge of the HKBCF Island is proposed;</li> <li>• 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;</li> <li>• Protection measures for the trees to be retained during construction activities;</li> <li>• Optimizing the sizes and spacing of the bridge columns;</li> <li>• Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;</li> <li>• Providing planting area around peripheral of HKBCF for tree planting screening effect;</li> <li>• Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline;</li> <li>• 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</li> </ul>	HKBCF	V

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 <ul style="list-style-type: none"> <li>• 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.</li> </ul>		
<b>Landscape &amp; Visual (Construction Phase)</b>				
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	<u>Mitigate Visual Impacts</u> 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
<b>EM&amp;A</b>				
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	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) 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;

x = not implemented;

N/A = not applicable

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

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### **Appendix H**

#### **Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions**

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Appendix H –

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

For Contract No. HY/2013/03

<b>Cumulative Statistics</b>			
<b>Reporting Period</b>	<b>Complaints</b>	<b>Notifications of Summons</b>	<b>Successful Prosecutions</b>
This reporting period	2	0	0
From commencement date of construction to end of reporting month	5	0	0

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

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

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### **Appendix I**

#### **Environmental Site Inspection Schedule**

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**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 December 2016**

Dec-2016						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2 Environmental Site Inspection	3
4	5	6	7	8 Environmental Site Inspection	9	10
11	12	13	14	15 Environmental Site Inspection	16	17
18	19	20	21	22 Environmental Site Inspection	23	24
25	26 Public Holiday	27 Public Holiday	28	29 Environmental Site Inspection	30	31

**Tentative Environmental Site Inspection Schedule for January 2017**

Jan-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 Environmental Site Inspection	27	28 Public Holiday
29	30 Public Holiday	31 Public Holiday				

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**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 December 2016**

Dec-2016						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2 Environmental Site Inspection	3
4	5	6	7	8 Environmental Site Inspection	9	10
11	12	13	14	15 Environmental Site Inspection	16	17
18	19	20	21	22 Environmental Site Inspection	23	24
25	26 Public Holiday	27 Public Holiday	28	29 Environmental Site Inspection	30	31

**Tentative Environmental Site Inspection Schedule for January 2017**

Jan-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 Environmental Site Inspection	27	28 Public Holiday
29	30 Public Holiday	31 Public Holiday				