

MATERIALAB CONSULTANTS LIMITED

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Report No.: 0165/15/ED/0381

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT (Rev. 1)

March 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/0381

Prepared by: Sandra Pang

Reviewed by: Bong Yu

Certified by:


Arthur Cheng
Environmental Team Leader

15 April 2016

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 March 2016**

Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for March 2016 (Rev. 1) certified by the ET Leader (ET's ref.: "MCL/ED/0200/2016/C" dated 15 April 2016) and provided to us via e-mail on 15 April 2016.

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/J.

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. Matthew Fung	(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, CL, ENPO Site

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Date 15 April 2016
Our Ref. MCL/ED/0200/2016/C

Ramboll Environ Hong Kong Limited
(formerly ENVIRON Hong Kong Limited)
Room 2403, 24/F, Jubilee Centre,
18 Fenwick Street, Wan Chai,
Hong Kong

BY HAND

Attn.: Mr. Raymond Dai, IEC

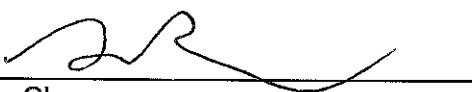
Dear Sir,

**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 March 2016 (Rev.1) for your verification.

Should you require further information, please do not hesitate to contact our Ms Sandra Pang 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/by

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

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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” (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to China Harbour Engineering Co. Limited (hereafter referred to as “the Contractor”) and MaterialLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by the Contractor.

The Contract 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/J, was issued on 25 February 2016. These documents are available through the EIA Ordinance Register.

Commencement of the Contract took place on 10 April 2015 while the construction works and the EM&A programme of this Contract commenced on 29 August 2015.

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 7th Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 March 2016 to 31 March 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 during the reporting period are listed below:

Environmental Site Inspection: 4, 11, 17, 24 and 31 March 2016.

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.

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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 no complaints received in relation to the environmental impact during the reporting period.

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:

- Site Investigation at Portion G;
- Piling at Portion A1, STP, Pumping Station, B & G (Bridge A1, A2, A6 & A7b);
- Building at Portion A1 & G;
- CUE Construction at Portion B;
- Drainage & Sewerage Work, Radiation Screen Wall and Sign Gantry Footing at Portion B; and
- Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

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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” (“the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR).
- 1.1.2 The Contract 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/J, was issued on 25 February 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 seventh EM&A report to document the findings of site inspection activities and EM&A programme carried out by the Contractor from 1 March 2016 to 31 March 2016 (reporting period) under Contract No. HY/2013/03 and is submitted to fulfil Condition 5.4 of the EP.

1.2 Project Description

- 1.2.1 The works to be executed under this Contract include the following major items:
- Cargo clearance facilities including kiosks for clearance of good vehicles, customs inspection platforms, X-ray building, etc.;
 - Passenger related facilities including processing kiosks and examination facilities for private cars and coaches, annexure for examination of accompanying passengers of private cars, etc.;
 - 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;
 - Provision of transport and miscellaneous facilities inside the HKBCF including public transport interchange (PTI), transport drop-off and pick-up areas, vehicle holding areas, passenger queuing areas, road networks, footbridges, fencing, sewerage and drainage systems, sewage treatment plant and treated effluent disposal facilities, water supply system, building services works, electronic system, and traffic control and information system including traffic control and surveillance system (TCSS), etc.;
 - 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
 - Reprovisioning of the affected HKIA’s facilities, expect those affected by the Automated People Mover (APM) system such as the existing east rescue berth.

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1.3 Project Organisation

1.3.1 The Project Organisation for Environmental Works 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

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	34652899
	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
	Environmental Officer	Mr. Marko Chan	9427 2879	2512 0427
Environmental Team (MaterialLab Consultants Limited)	Environmental Team Leader (ETL)	Mr. Arthur Cheng	3565 4115	2450 8032
24-hr Complaint Hotline	--	--	5236 7111	--

1.3.2 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.

1.4 Construction Programme

1.4.1 The construction programme is provided in **Appendix C**.

1.5 Construction Works Undertaken during the Reporting Period

1.5.1 The construction works of this Contract commenced on 29 August 2015. During this reporting period, the following major site activities were commenced:

- Site Investigation at Portion G;
- Piling at Portion A1, STP, Pumping Station, B & G (Bridge A1, A2, A6 & A7b);
- Building at Portion A1 & G;
- CUE Construction at Portion B;
- Drainage & Sewerage Work at Portion B; and
- Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

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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)
1 hour TSP		
AMS6	360	500
AMS7	370	
24 hours TSP		
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
For the Time Period 0700-1900 hrs. on Normal Weekdays		
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.
- 4.3 With respect to condition 3.26A of EP-353/2009/J approved by EPD on 25 February 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. One floating grout production facilities as floating concrete batching plant was operated on-site during the reporting period.

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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.
- 5.3 With respect to condition 3.26A of EP-353/2009/J approved by EPD on 25 February 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. One floating grout production facilities as floating concrete batching plant was operated on-site during the reporting period.

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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 the East of Sha Chau). As advised by CEDD in the memo dated 19 February 2016, from 00:00 on 22 March 2016 onward, the disposal space at CMP2 of the South of The Brothers is closed and all disposal of contaminated sediment is to be carried out at CMP Vd to the East of Sha Chau (ESC).

6.1.2 No extracted marine sediment was treated using cement solidification/stabilisation (Cement S/S) techniques under Contract No. HY/2013/03 during this reporting period. The marine sediment extracted from this Contract was disposed to the MFC allocated disposal sites directly without treatment during this reporting period. As a practical means, the disposal operation is managed by one contractor who is also responsible for applying dumping permit and its subsequent extension applications from EPD. Contract No. HY/2013/03 has been assigned to coordinate and arrange for disposal of extracted marine sediment from all three Contracts (Contract Nos. HY/2013/02, HY/2013/03 and HY/2013/04).

6.2 Dumping Arrangements

6.2.1 The barge for disposal of marine sediment was moored 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 CMP2 of the Confined Marine Sediment Disposal Facility to the South of The Brothers and Mud Pit CMP Vd of the Confined Marine Sediment Disposal Facility to the East of Sha Chau (ESC) during this reporting period.

6.3 Quantity Disposed

6.3.1 Marine sediment extracted from bored piling from this Contract was disposed to allocated dumping site in March 2016. The summary of marine sediment disposed up to end March 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 ³)			
	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
Total	4.688	6.742	5.446	16.876

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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 were conducted on 4, 11, 17, 24 and 31 March 2016 by the representatives of Engineer, Contractor, ET and IEC (IEC for 4 March 2016).
- 7.1.3 Particular observations during the site inspection and corrective actions undertaken by the Contractor are described below:

26 February 2016

1. CHEC was reminded to remove the stagnant water accumulated at the generator's drip tray at CUE works area and the concreted area at Area 1. Subsequently, the stagnant water was removed at the generator's drip tray at CUE works area and the concreted area at Area 1. The observation was closed on 11 March 2016.
2. CHEC was reminded to provide drip tray for chemical containers or handle as chemical waste at Area 1. Subsequently, chemical containers were removed at Area 1. The observation was closed on 11 March 2016.

4 March 2016

1. CHEC was reminded to provide water spraying for haul roads and increase frequency at CUE works area and Area 1. Subsequently, water spraying was provided for haul roads and the frequency was increased at CUE works area and Area 1. The observation was closed on 11 March 2016.
2. CHEC was reminded to remove the stagnant water accumulated at the concreted area at Area 1. Subsequently, the stagnant water was removed at the concreted area at Area 1. The observation was closed on 11 March 2016.
3. CHEC was reminded to provide drip tray for chemical containers or handle as chemical waste at Area 1. Subsequently, drip tray was provided for chemical containers at Area 1. The observation was closed on 11 March 2016.

11 March 2016

1. CHEC was reminded to maintain good housekeeping practice at Area 1. Subsequently, good housekeeping practice was maintained at Area 1. The observation was closed on 17 March 2016.
2. CHEC was reminded to provide drip tray for chemical containers or handle as chemical waste at Area 1. Subsequently, the chemical containers were removed at Area 1. The observation was closed on 17 March 2016.

17 March 2016

1. CHEC was reminded to maintain good housekeeping on site at CUE Works Area. Subsequently, good housekeeping was maintained on site at CUE Works Area. The observation was closed on 24 March 2016.

24 March 2016

1. No particular findings.

31 March 2016

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1. CHEC was reminded to remove the stagnant water accumulated at CUE Works Area. 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 remove the stagnant water accumulated at Portion A1. Follow-up actions for outstanding observation will be checked in the upcoming site inspections and reported in the coming reporting period.

7.2 Advice on the Solid and Liquid Waste Management Status

- 7.2.1 The Contractor 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 is detailed in **Appendix E**.
- 7.2.3 2.464 (in'000m³) of excavated marine sediment (from Contract No. HY/2013/03), 0.087 (in'000m³) of Bentonite Slurry and 0.200 (in'000m³) of Non-inert C & D Wastes were generated 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 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.

7.3 Environmental Licenses and Permits

- 7.3.1 The valid environmental licenses and permits during the reporting period are summarized in **Appendix F**.

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. 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 March 2016 will be provided to ER, ETL, IEC/ENPO for checking within the month of April 2016.

7.5 Summary of Exceedance of the Environmental Quality Performance Limit

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

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- 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 no complaints received in relation to the environmental impact during the reporting period. The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.
- 7.6.2 There was no notification for summons or prosecutions received in relation to the environmental impact during this reporting period.
- 7.6.3 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 April 2016:

- Site Investigation at Portion G;
- Piling at Portion A1, STP, Pumping Station, B & G (Bridge A1, A2, A6 & A7b);
- Building at Portion A1 & G;
- CUE Construction at Portion B;
- Drainage & Sewerage Work, Radiation Screen Wall and Sign Gantry Footing at Portion B; and
- Marine sediment excavation activities from the land-based works and corresponding disposal at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee.

8.2 Environmental Site Inspection Schedule for the Coming Month

8.2.1 The tentative schedule for weekly site inspections for April 2016 is provided in **Appendix I**.

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9. CONCLUSIONS

- 9.1 Commencement of the Contract took place on 10 April 2015. The commencement date for construction works and the EM&A programme of the Contract commenced on 29 August 2015.
- 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 4, 11, 17, 24 and 31 March 2016. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.
- 9.8 There were no complaints received in relation to the environmental impact during the reporting period.
- 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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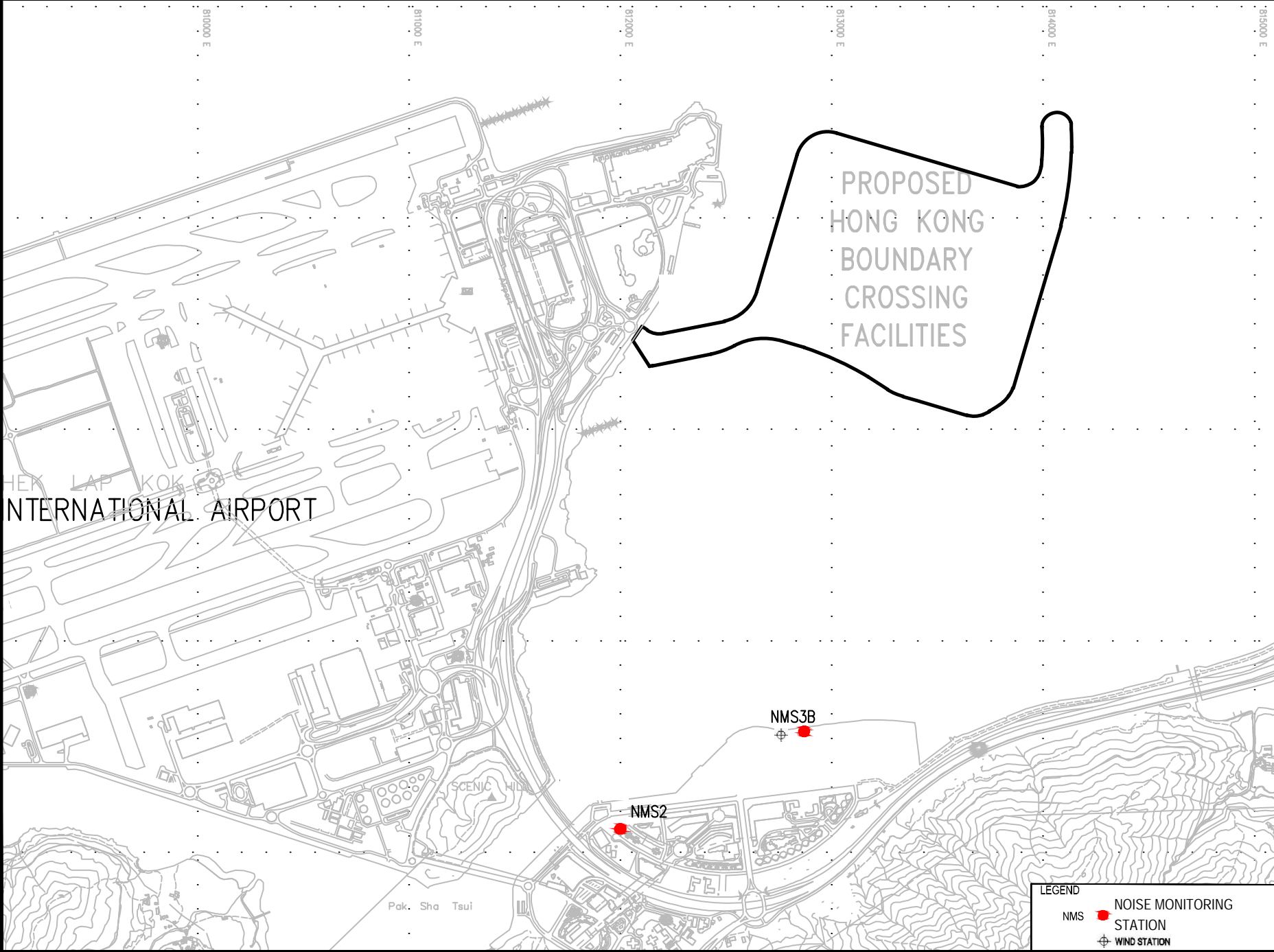
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Figure 2

Noise Monitoring Stations



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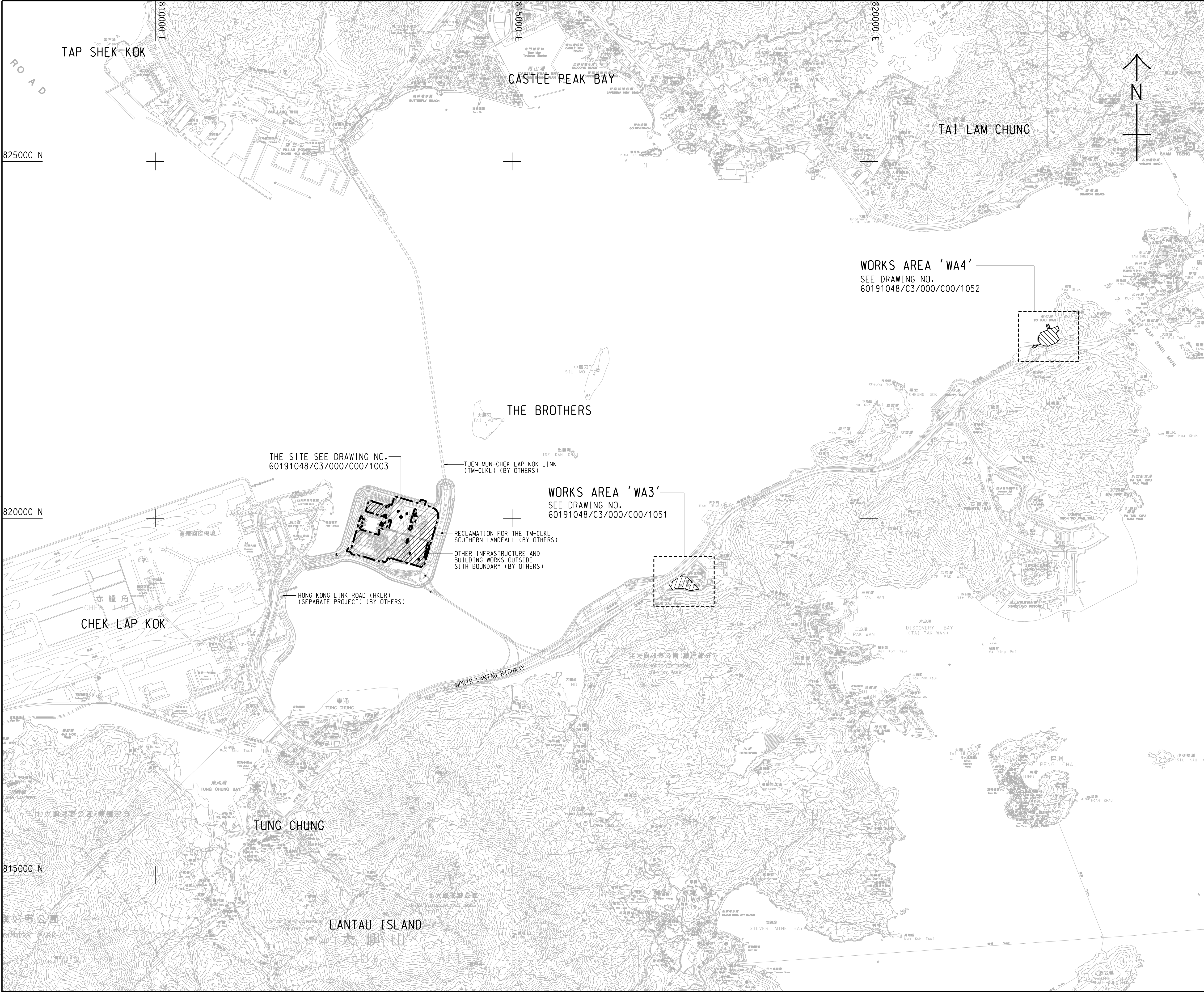
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Appendix A

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.

LEGEND:

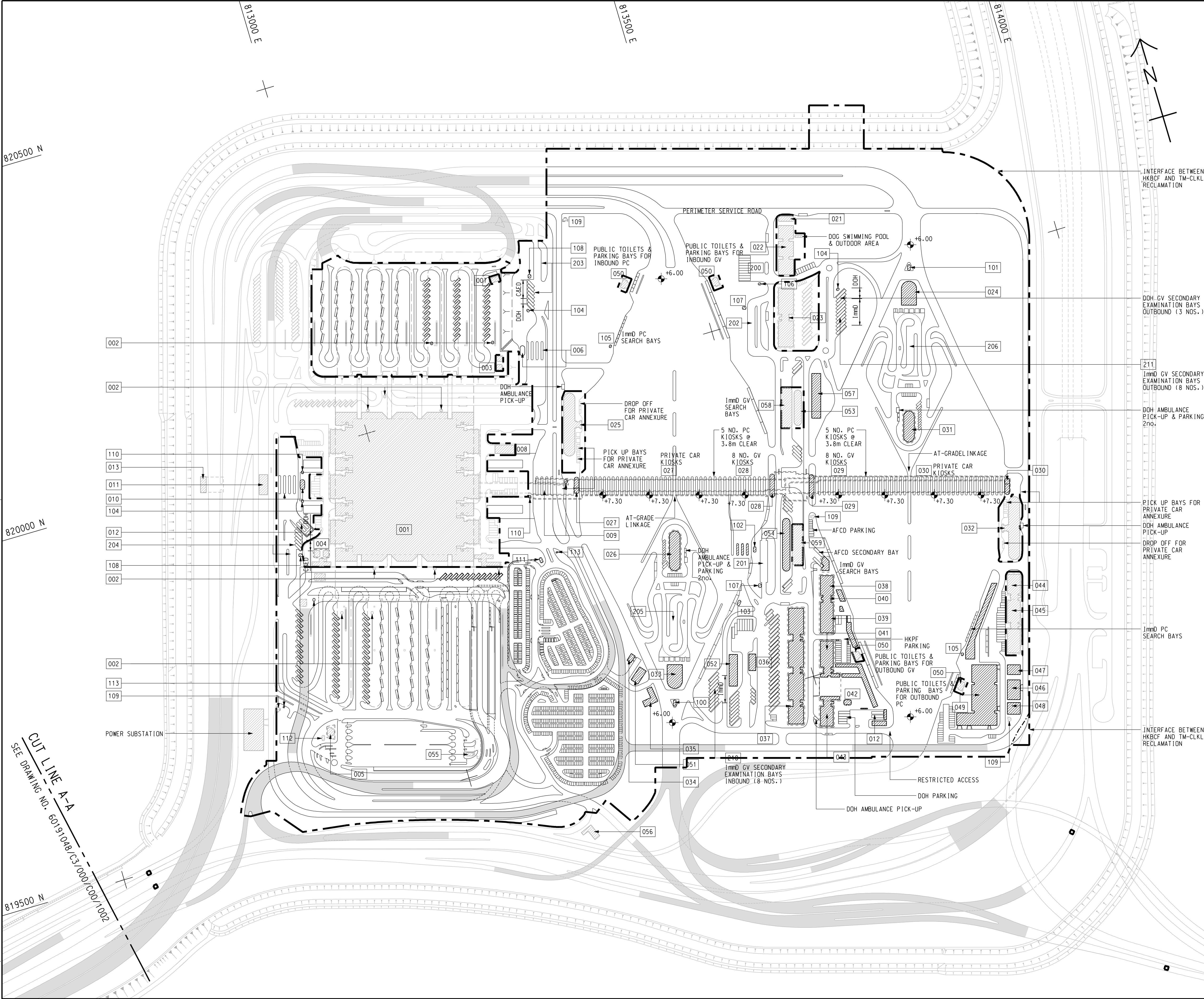
- SITE BOUNDARY
- WORKS AREA

- TENDER DRAWING		BWCW SCI	MAR. 14
REV.	DESCRIPTION	CHECKED	DATE
01	ISSUED FOR TENDER	01	01

HIGHWAYS DEPARTMENT
路政署
香港大橋工程管理局
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

SITE LOCATION PLAN

AECOM		Aedas	
Rogers Stirk Harbour + Partners			
BURO HAPPOLD		ATKINS ADI	
DRG.NO. 60191048/C3/000/C00/1000			
圖紙編號			
DESIGNED BY 設計		CONTRACT NO. 合約編號	
BWCW		HY/2013/03	
DRAWN BY 繪圖		P. Dir. APPROVED 批准人	
WSY		TKH	
SCALE 比例		STATUS 階段	
A1 1 : 25000			
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METRES		版 權 所 有	



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
Imm 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

Imm PC
SEARCH BAYS

INTERFACE BETWEEN
HKBCF AND TM-CLKL
RECLAMATION

TENDER DRAWING		BWCW SCI	MAR. 14
REV.	DESCRIPTION	DATE	
01	ISSUED FOR TENDER	01/03/14	

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理局
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

Figure 1- 1
Current Layout Plan

SHEET 1 OF 2

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI

Aedas

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		
SCALE 比例	A1 1 : 2500	
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CUT LINE A-A
SEE DRAWING NO. 60191048/C3/000/C00/1002

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Appendix B

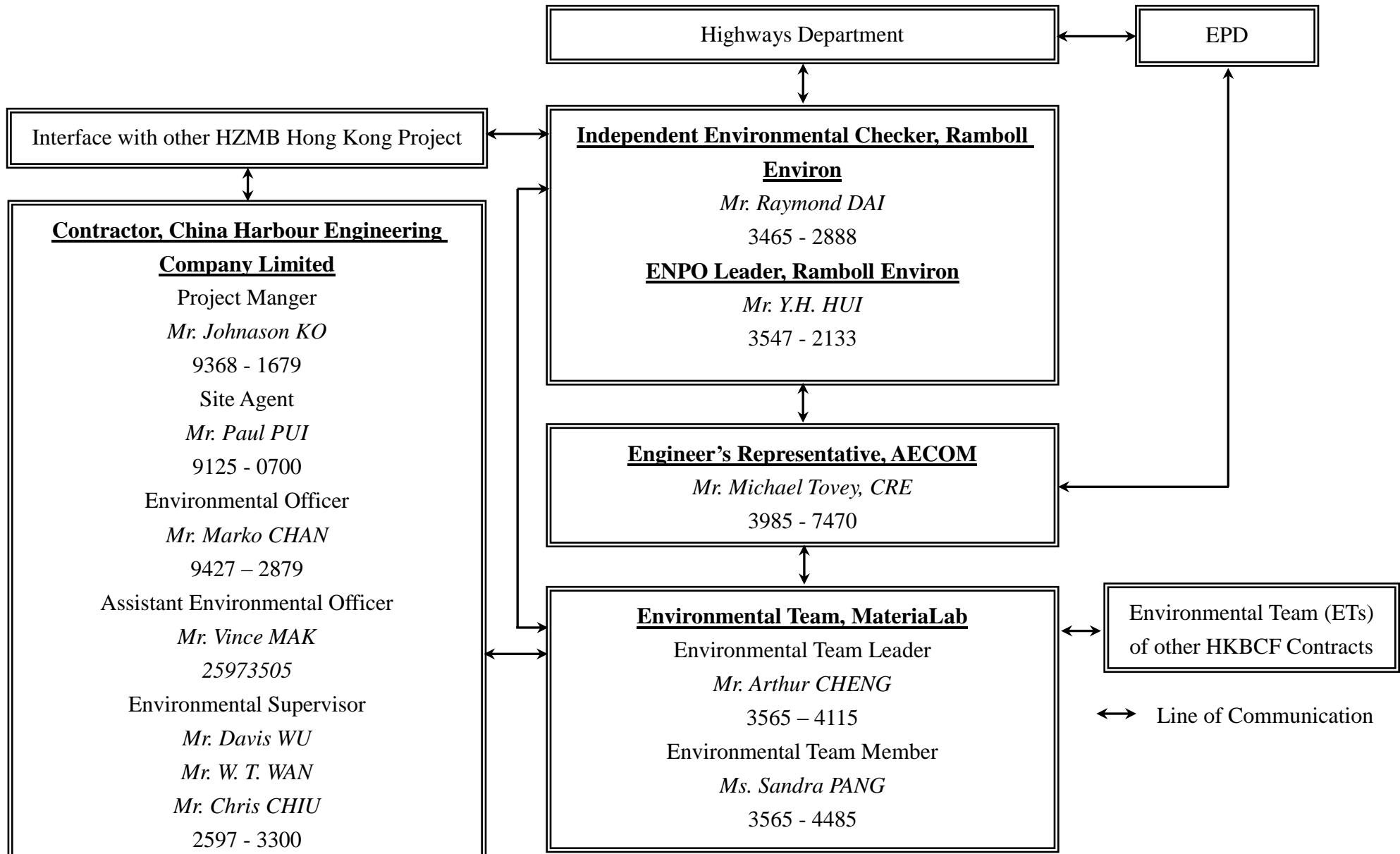
Project Organization for Environmental Works

CHINA HARBOUR ENGINEERING COMPANY LIMITED



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

Projects Organization for Environmental Works



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Appendix C

Construction Programme

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities								31-Mar-16				
Activity ID	Activity Name	Original Duration	Remaining Duration	% Complete	Start	Finish	Total Float	2016				
								Mar	Apr	May	Jun	Jul
036 - Weigh Station												
A03640	Finishing	120	72	40%	13-Jan-16 A	28-Jun-16	190					
A03670	BS for Office Accomodation (Stage 8)	90	63	30%	13-Jan-16 A	17-Jun-16	127					
A03680	BS + E&M for Office Accomodation (Stage 9)	90	90	0%	18-Jun-16	04-Oct-16	127					
A03690	Other BS + E&M Instaalation	180	126	30%	02-Nov-15 A	31-Aug-16	224					
037 C&ED Tower Cum Inbound Cargo Examination Building (Portion A1 & B)												
A03730	Super Structure	110	28	75%	02-Jan-16 A	05-May-16	-85					
A03740	Steel Frame Structure	90	90	0%	05-May-16	22-Aug-16	233					
A03750	Finishing	200	200	0%	05-May-16	04-Jan-17	123					
A03760	BS for Office Accomodation (Stage 8)	88	88	0%	05-May-16	19-Aug-16	-85					
A03790	Other BS + E&M Installation	235	212	10%	15-Dec-15 A	08-Feb-17	95					
041 Fire Station Cum Ambulance Deport												
A04100	Excavation + Blinding	14	14	0%	01-Apr-16	18-Apr-16	-144					
A04110	Substructure	84	84	0%	19-Apr-16	29-Jul-16	-144					
042 Drill Tower												
A04210	Driven Piles 16 Nr.	15	0	100%	02-Mar-16 A	19-Mar-16 A						
A04220	Piling Test	10	3	75%	29-Mar-16 A	05-Apr-16	-48					
A04230	Excavation	14	14	0%	05-Apr-16	21-Apr-16	-48					
A04240	Substructure	35	35	0%	21-Apr-16	03-Jun-16	-48					
A04250	Super Structure	69	69	0%	03-Jun-16	25-Aug-16	-48					
043 DOH Office												
A04320	Excavation + Blinding	7	7	0%	29-Mar-16 A	13-Jul-16	-34					
052 - Transforms (Zone 4)												
A05235	Energisation by CLP	50	25	50%	24-Feb-16 A	29-Apr-16	272					
A05240	BS Installation (KD9)	66	17	75%	02-Nov-15 A	20-Apr-16	194					
A05250	Finishing (KD10)	87	22	75%	14-Dec-15 A	26-Apr-16	194					
A05260	Completion of remaining works	66	66	0%	26-Apr-16	16-Jul-16	263					
External Works for Portion A1												
Drainage Works												
B00010	Initial Survey	6	6	0%	17-Aug-15 A	08-Apr-16	-231					
SG0020	Drainage Works (4210m & 76MHs)	250	246	1.5%	16-Sep-15 A	26-May-17	-132					
SG0030	Sewerage (1063m & 30MHs)	250	250	0%	01-Apr-16	02-Feb-17	-41					
PORTION A2												
External Works for Portion A2												
Drainage Works												
B00020	Initial Survey	6	6	0%	01-Apr-16	08-Apr-16	-199					
PORTION B												
<div><div></div> Actual Work</div> <div><div></div> Remaining Work</div> <div><div></div> Critical</div> <div><div></div> Milestone</div>		THREE MONTH ROLLING PROGRAMME VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES Page 2 of 7						Date	Revision		Checked	Approved
								29-Feb-16	DRMs updated as of 31 Feb. 2016, 3MRP		ZJ	
								31-Mar-16	DRMs updatd as of 31 Mar. 2016, 3MRP		ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities								31-Mar-16				
Activity ID	Activity Name	Original Duration	Remaining Duration	% Complete	Start	Finish	Total Float	2016				
								Mar	Apr	May	Jun	Jul
A03920	Substructure	70	70	0%	16-Apr-16	11-Jul-16	-197					
040 Incident Control Tower												
A04010	Excavation + Blinding	10	10	0%	16-Apr-16	27-Apr-16	-137					
Glass Wall												
C04010	Shop Drawing Submission and Approval	30	30	0%	07-Jun-16	13-Jul-16	-116					
102 HKPF UVSS Monitor Room												
A10200	Excavation + Blinding	7	7	0%	16-Apr-16	23-Apr-16	11					
103 Police Inspection Post												
A10310	Excavation + Blinding	5	5	0%	11-Apr-16	15-Apr-16	-54					
HPL Composite Panel Cladding System												
B10310	Shop Drawing Submission and Approval	30	30	0%	25-May-16	29-Jun-16	12					
057 Transformers (Zone 2)												
A05710	Excavation + Blinding	10	10	0%	01-Apr-16	13-Apr-16	-207					
A05720	Raft Foundation	52	52	0%	14-Apr-16	16-Jun-16	-207					
A05730	Supersturcture	65	65	0%	17-Jun-16	01-Sep-16	-207					
107 - C&ED Mobile X-ray Operation Office (Cargo), Portion B												
C10710	Excavation + Blinding	7	7	0%	01-Apr-16	09-Apr-16	-143					
C10720	Raft Foundation	32	32	0%	11-Apr-16	19-May-16	-143					
C10730	Superstructure (Roof Slabs)	62	62	0%	20-May-16	02-Aug-16	-143					
113 - Field Kiosk for Access Control, Portion B												
B11310	Excavation + Blinding	7	7	0%	16-Apr-16	23-Apr-16	-53					
B11320	Raft Foundation	32	32	0%	25-Apr-16	02-Jun-16	-53					
B11330	Superstructure (Roof Beams & Slabs)	60	60	0%	03-Jun-16	13-Aug-16	-53					
External Works for Portion B												
Drainage Works												
SG1540	Drainage Works (7812m & 168MHs)	300	261	13%	17-Dec-15 A	15-Feb-17	-82					
SG3580	Sewerage (1175m & 32MHs)	300	252	16%	02-Jan-16 A	04-Feb-17	-82					
Waterpipe Laying												
SW1550	Fresh Water Main Laying (1972m)	300	300	0%	01-Apr-16	01-Apr-17	-82					
SW1560	Flushing Water Main Laying (1851m)	300	300	0%	01-Apr-16	01-Apr-17	-82					
Duct Laying for Utilities/Telecom Cabling, TCSS & Lighting												
SU5300	Duct Laying for Utilities/Telecom Cabling	300	300	0%	01-Apr-16	01-Apr-17	-82					
Roadworks												
SR1640	Subbase (43152 ton)	342	342	0%	09-Apr-16	05-Jun-17	-82					
SR3590	Bitumen Pavement (61126 ton)	342	342	0%	09-May-16	04-Jul-17	-82					
SR3600	Rigid Pavement (594 m3), Footpath & EVA	342	342	0%	09-May-16	04-Jul-17	-82					
Sign Gantry ADS 306A & ADS 306B												
SS0090	Sign Gantry ADS 306B Pre-bored H Piling, 8 Nr.	30	30	0%	11-Mar-16 A	14-Jul-16	55					
SS0120	Sign Gantry ADS 306A Pre-bored H Piling, 8 Nr. (7 Nr. grouted)	30	3	90%	18-Feb-16 A	07-Jun-16	55					
SS5230	Submission and approval for Sign Gantry	100	100	0%	01-Apr-16	01-Aug-16	-100					
PORTION C												
Portion C Buildings												
010 - Inbound Coach Kiosk & Staff Subway Entrance												
A01010	Substructure and Staircase Construction	60	60	0%	31-Mar-16	13-Jun-16	-162					

Actual Work

Remaining Work

Critical

Milestone

THREE MONTH ROLLING PROGRAMME

VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

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Date	Revision	Checked	Approved
29-Feb-16	DRMs updated as of 31 Feb. 2016, 3MRP	ZJ	
31-Mar-16	DRMs upfated as of 31 Mar. 2016, 3MRP	ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities								31-Mar-16				
Activity ID	Activity Name	Original Duration	Remaining Duration	% Complete	Start	Finish	Total Float	2016				
								Mar	Apr	May	Jun	Jul
A01020	Kiosk Superstructure	100	100	0%	14-Jun-16	12-Oct-16	-162					
009 - Shuttle Bus Kiosk & Staff Subway Entrance												
A00910	ELS + Blinding (Bay 0-3) (4 bay)	42	42	0%	01-Apr-16	23-May-16	-179					
A00920	Constructing Base Slab of Bay 0-3	28	28	0%	19-May-16	21-Jun-16	-179					
A00930	Constructing Wall + Top Slab of Bay 0-3	37	37	0%	13-Jun-16	26-Jul-16	-179					
External Works for Portion C												
Works in Location 1.2, 1.8 & 011 - Emergency Generator Building												
BB1440	Works in Location 1.2	90	90	0%	19-May-16	02-Sep-16	132					
PORTION D												
External Works for Portion D												
Drainage Works												
B00050	Initial Survey	6	6	0%	01-Jun-16	07-Jun-16	-27					
SG3640	Drainage Works (555m & 13MHs)	90	90	0%	08-Jun-16	23-Sep-16	-27					
SG3760	Sewerage (121m & 6MHs)	100	100	0%	08-Jun-16	06-Oct-16	-27					
PORTION E												
External Works for Portion E												
Drainage Works												
B00060	Initial Survey	6	6	0%	02-Apr-16	09-Apr-16	-27					
PORTION G, H1 & H2												
Portion G Structures												
Box Culvert C												
Steel H Pile												
SC5130	Box C - 164 nos. of driven H pile	60	60	0%	31-May-16	10-Aug-16	-91					
Bridge A1												
Bored Pile												
S10120	Bore pile, 10 nos. (1 No. cast)	58	52	10%	01-Mar-16 A	03-Jun-16	14					
S10140	Pile Testing	7	7	0%	16-Jun-16	24-Jun-16	14					
Pile Cap												
S10510	Cap - Pier A106	30	30	0%	24-Jun-16	30-Jul-16	14					
S10520	Cap - Pier P103, P104	30	30	0%	24-Jun-16	30-Jul-16	14					
Bridge A2												
Bored Pile												
S21410	Bore pile + P301 + P601, (6 + 4) Nr., 9 no. cast	73	7	90%	26-Nov-15 A	09-Apr-16	-96					
S21820	Pile Testing	7	7	0%	20-Apr-16	28-Apr-16	73					
Pile Cap												
S21850	Cap - Pier P205	30	30	0%	28-Apr-16	04-Jun-16	73					
S21870	Cap - Pier P202, P204 (cast)	30	15	50%	23-Feb-16 A	23-Jun-16	73					
Pier & Abutment												
S21420	Pier P205	25	25	0%	04-Jun-16	06-Jul-16	88					
S21440	Pier P202, P204	25	25	0%	30-Mar-16 A	23-Jul-16	73					
Bridge A3												
Bored Pile												
S31660	Pile Testing for P301	7	0	100%	15-Mar-16 A	21-Mar-16 A						

Actual Work

 Remaining Work

Critical

Milestone

THREE MONTH ROLLING PROGRAMME

VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

Page 5 of 7

Date	Revision	Checked	Approved
29-Feb-16	DRMs updated as of 31 Feb. 2016, 3MRP	ZJ	
31-Mar-16	DRMs upated as of 31 Mar. 2016, 3MRP	ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities								31-Mar-16				
Activity ID	Activity Name	Original Duration	Remaining Duration	% Complete	Start	Finish	Total Float	2016				
								Mar	Apr	May	Jun	Jul
Pile Cap												
S32020	Cap - P301	30	7	76.67%	22-Mar-16 A	08-Apr-16	154					
Pier & Abutment												
S32110	Pier P301	25	25	0%	09-Apr-16	09-May-16	154					
Bridge A4												
Bored Pile												
S42320	Bore pile 4 Nr.	33	33	0%	31-May-16	09-Jul-16	-197					
Bridge A5												
Bored Pile												
S52630	Bore piling for 19 Nr.	60	60	0%	31-May-16	10-Aug-16	-153					
Bridge A6												
Bored Pile												
S63510	Bore pile for P606, A607/A711, 6 Nr. (5 Nr. cast)	46	7	85%	02-Feb-16 A	08-Apr-16	-133					
S63520	Bore pile for other 8 Nr. (4 Nr. cast)	58	29	50%	11-Jan-16 A	13-May-16	-133					
S63720	Pile Testing for 606, A607/A711	7	7	0%	19-Apr-16	27-Apr-16	-131					
S63730	Pile Testing for P604, P605	7	7	0%	28-May-16	06-Jun-16	-133					
S63740	Pile Testing for 602, P603	7	7	0%	28-May-16	06-Jun-16	-103					
Pile Cap												
S63410	Cap - P606, P607/711	40	40	0%	27-Apr-16	16-Jun-16	-131					
S63420	Cap - P601	30	0	100%	24-Feb-16 A	18-Mar-16 A						
S63430	Cap - P604, P605	30	30	0%	06-Jun-16	13-Jul-16	-133					
Pier & Abutment												
S63350	Pier P601, P606	25	25	0%	16-Jun-16	16-Jul-16	-131					
S63380	Abutment A607	30	30	0%	16-Jun-16	22-Jul-16	-86					
Bridge A7a, A7b, A7c												
Bored Pile												
S74160	Bore Piling for P706, P707, P712, 6 Nr. (3 Nr. cast)	44	22	50%	14-Dec-15 A	06-Sep-16	-122					
S74170	Bore Piling for A701, P702 - P705, 10 Nr. (1 Nr. done)	42	38	10%	20-Nov-15 A	24-Sep-16	-116					
S74180	Bore Piling for P708, P709, P710, 6 Nr. (6 Nr. cast)	44	0	100%	21-Jan-16 A	19-Mar-16 A						
Bridge A8												
Bored Pile												
S86130	Bore pile P802, P803, A804, 6 Nr. (1 Nr. cast)	87	70	20%	27-Jan-16 A	16-Jul-16	-13					
Portion G Buildings												
033 Inbound Private Car Exam Building												
A03300	Excavation + Blinding (PL Test 20 - 23/1/16)	10	9	10%	25-Jan-16 A	21-Jun-16	-46					
034 Satellite RCP South												
A03400	Excavation + Blinding	5	5	0%	29-Mar-16 A	12-Sep-16	-56					
035 - Sewage Pumping Station, Portion G												
A03530	Bored piling (5 nr.) (3 Nr. cast)	46	18	60%	26-Jan-16 A	22-Apr-16	-30					
<div><div></div> Actual Work</div> <div><div></div> Remaining Work</div> <div><div></div> Critical</div> <div><div></div> Milestone</div>		THREE MONTH ROLLING PROGRAMME VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES Page 6 of 7						Date	Revision		Checked	Approved
								29-Feb-16	DRMs updated as of 31 Feb. 2016, 3MRP		ZJ	
								31-Mar-16	DRMs upated as of 31 Mar. 2016, 3MRP		ZJ	

HZMB HK Boundary Crossing Facilities - Vehicle Clearance Plazas and Ancillary Buildings and Facilities								31-Mar-16				
Activity ID	Activity Name	Original Duration	Remaining Duration	% Complete	Start	Finish	Total Float	2016				
								Mar	Apr	May	Jun	Jul
A03540	Sheet Piling as ELS for Wet Well	12	12	0%	22-Apr-16	07-May-16	-30					
A03550	Pile Testing, 5 Nr.	7	7	0%	07-May-16	17-May-16	-30					
A03560	ELS + Blinding for Wet Well	10	10	0%	17-May-16	28-May-16	-30					
A03570	Constructing of Base Slab of Wet Well	20	20	0%	28-May-16	22-Jun-16	-30					
A03580	Constructing of Wall Stem of Wet Well	25	25	0%	22-Jun-16	22-Jul-16	-30					
051 Transformers (Zone 5)												
A05140	Super Structure	35	28	20%	24-Feb-16 A	04-Jul-16	-125					
A05190	Other BS + E & M Installation	150	147	2%	22-Feb-16 A	11-Mar-17	68					
100 Inbound Traffic Control Kiosk												
A10000	Excavation + Blinding (PL test commenced on 26/1/16)	5	5	0%	04-Jun-16	10-Jun-16*	-106					
A10010	Raft Foundation	15	15	0%	11-Jun-16	28-Jun-16	-106					
A10040	Super Structure (Roof Beams & Slabs)	30	30	0%	29-Jun-16	03-Aug-16	-106					
HPL Composite Panel Cladding System												
B10010	Shop Drawing Submission and Approval	30	30	0%	31-May-16	06-Jul-16	97					
External Works for Portion G, H1 & H2												
Drainage Works												
B00080	Initial Survey	12	12	0%	31-May-16	14-Jun-16	-152					
Sign Gantry DS40, DS41 & DS75												
SS0170	Submission and approval for Sign Gantry	90	90	0%	31-Mar-16	19-Jul-16	-89					
PORTION J												
Portion J Structure												
030 Outbound Private Car & GV Kiosks												
A03010	Submission & Approval for Steel Works	60	60	0%	31-Mar-16	13-Jun-16	-78					
A03020	Pre-fabrication for the Steel Kiosks	84	84	0%	14-Jun-16	21-Sep-16	-78					
030 Outbound Kiosks, Section IX, Subject to Excision												
C03010	Submission & Approval for Steel Works	100	100	0%	31-Mar-16	30-Jul-16	-69					
Landscape Works												
A5170	Design and Procurement for Irrigation System	274	274	0%	19-Jun-16	19-Mar-17	0					

Actual Work

Remaining Work

Critical

Milestone

THREE MONTH ROLLING PROGRAMME

VEHICLE CLEARANCE PLAZAS AND ANCILLARY BUILDINGS AND FACILITIES

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Date

29-Feb-16

31-Mar-16

Revision

DRMs updated as of 31 Feb. 2016, 3MRP

DRMs upated as of 31 Mar. 2016, 3MRP

Checked

ZJ

ZJ

Approved

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

Event	Action			
	ET	IEC	ER	Contractor
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the 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. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

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

Event / Action Plan for Construction Noise Monitoring

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

Event	Action			
	ET	IEC	ER	Contractor
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

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Appendix E

Waste Flow Table



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 ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m ³)
Jan	0.000	0	0	0	0.000	0	0	0.992	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	0	0	0.200
Apr										
May										
Jun										
Jul										
Aug										
Sept										
Oct										
Nov										
Dec										
Total	0.087	0.000	0.000	0.000	0.087	0.000	0.000	0.992	0.000	0.366

Notes:

(1) Broken concrete for recycling into aggregates.

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

Monthly Summary of Excavated Marine Sediment for 2016 (year)

Month	Total Quantity of Excavated Marine Sediment Generated in '000m ³	Reused in this contract in '000m ³	Reused in other Projects in '000m ³	Disposed of at CMP in '000m ³
Jan	1.950	0	0	1.950
Feb	2.328	0	0	2.328
Mar	2.464	0	0	2.464
Apr				
May				
Jun				
Jul				
Aug				
Sep				
Oct				
Nov				
Dec				
Total	6.742	0.000	0.000	6.742

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Appendix F

Environmental Licenses and Permits

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

(update: 31/03/2016)

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/J	HKBCF	18-Feb-16	25-Feb-16	25-Feb-16	Nil	Valid	
2	Notification Pursuant to Section 3(1) of The Air Pollution Control (Construction Dust) Regulation	Ref No. 387703	Main Site Area	02-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	02-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	14-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	24-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	24-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	28-Apr-15	04-Aug-15	03-Aug-15	31-Aug-20	Valid	
8	Water Discharge License Pursuant to Water Pollution Control Ordinance (Cap 358)	WT00022391-2015	Main Site Area	05-May-15	04-Sept-15	04-Sept-15	30-Sept-20	Valid	
9	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0029-15	Drill Tower	27-Nov-15	11-Dec-15	14-Dec-15	13-Apr-16	Valid	
10	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS1388-15	Main Site Area	02-Dec-15	16-Dec-15	21-Dec-15	18-Mar-16	Superseded by GW-RS0249-16	
11	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0035-16	Main Site Area	31-Dec-15	14-Jan-16	18-Jan-16	17-Mar-16	Superseded by GW-RS0249-16	
12	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	PP-RS0009-16	Portion G	02-Mar-16	16-Mar-16	21-Mar-16	20-Jul-16	Valid	
13	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0244-16	Main Site Area	03-Mar-16	17-Mar-16	18-Mar-16	18-Jun-16	Valid	
14	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0249-16	Main Site Area	03-Mar-16	17-Mar-16	19-Mar-16	18-Jun-16	Valid	

Item	Permit/Licence Registration	Permit No.	Work Area	Application Date	Issue Date	Valid Date		Status	Remark
						From	To		
15	Construction Noise Permit Pursuant to Section 8(6) of the Noise Control Ordinance	GW-RS0269-16	Floating Concrete Batching Plant	03-Mar-16	17-Mar-16	19-Mar-16	18-Jun-16	Valid	
16	Permit issued Under the Dumping at Sea Ordinance	EP/MD/16-177	South of Brothers (CMP2)	27-Jan-16	11-Feb-16	20-Feb-16	19-Mar-16	Valid until 19-Mar-16	
17	Permit issued Under the Dumping at Sea Ordinance	EP/MD/16-202	East of Sha Chau (CMP Vd)	09-Mar-16	18-Mar-16	24-Mar-16	23-Apr-16	Valid	

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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
Air Quality				
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"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; A stockpile of dusty material should not extend beyond the pedestrian barriers, fencing or traffic cones. The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; 	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials, Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; Any skip hoist for material transport should be totally enclosed by impervious sheeting; Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top 	All construction sites	V
S5.5.6.2	A2	<ul style="list-style-type: none"> 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; Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally 	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"> 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 or part of the construction site where the exposed earth lies 		
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	V
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	V
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected Representative dust monitoring station	V
S5.5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant; <ul style="list-style-type: none"> Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; The materials which may generate airborne dusty emissions should be wetted by water spray system; All receiving hoppers should be enclosed on three sides up to 3m above unloading point; All conveyor transfer points should be totally enclosed; All access and route roads within the premises should be paved and wetted; and Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body 	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"> All road surface within the barging facilities will be paved; Dust enclosures will be provided for the loading ramp; Vehicles will be required to pass through designated wheels wash facilities; and Continuous water spray at the loading points 	All construction sites	V
Construction Noise (Air borne)				
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: <ul style="list-style-type: none"> only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; 	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<ul style="list-style-type: none"> mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
S6.4.11	N2	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
Sediment				
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
Waste Management (Construction Waste)				
S8.3.8	WM1	Construction and Demolition Material The following mitigation measures should be implemented in handling the waste: <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 - "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. In addition, disposal of the C&D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final 	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&D Waste</u> <ul style="list-style-type: none"> Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage. The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage. 	All construction sites	V
S8.2.12-S8.3.15	WM3	<u>Chemical Waste</u> <ul style="list-style-type: none"> Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. The storage area for chemical wastes should be clearly labeled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD. 	All construction sites	V
S8.3.16	WM4	<u>Sewage</u> <ul style="list-style-type: none"> Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly. 	All construction sites	V
S8.3.17	WM5	<u>General Refuse</u> <ul style="list-style-type: none"> General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by 	All construction sites	V

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<p>law.</p> <ul style="list-style-type: none"> Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. 		
Water Quality (Construction Phase)				
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"> wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; temporary access roads should be surfaced with crushed stone or gravel; rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms; manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers; discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system; 	Land-based works area	V
S9.11.1.7	W2	<ul style="list-style-type: none"> 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; wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; the section of construction road between the wheel 	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"> wastewater generated from concreting, plastering, Internal decoration, cleaning work and other similar activities, shall be screened to remove large objects; vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal; the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance; all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system. 		
Ecology (Construction Phase)				
S10.7	E4	<ul style="list-style-type: none"> 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 	Land-based works areas	V
S10.7	E5	<ul style="list-style-type: none"> Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time 	Land-based works areas	V
S10.7	E8	<ul style="list-style-type: none"> Control vessel speed Skipper training Predefined and regular routes for working vessels; avoid Brother Islands. 	Marine Traffic	V
Fisheries				
S11.7	F4	<ul style="list-style-type: none"> Maritime Oil Spill Response Plan (MOSRP); Contingency plan. 	HKBCF	V
Landscape & Visual (Detailed Design Phase)				
S14.3.3.1	LV1	<p>General design measures include:</p> <ul style="list-style-type: none"> Roadside planting and planting along the edge of the HKBCF Island is proposed; Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting; Protection measures for the trees to be retained during construction activities; Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations; Providing planting area around peripheral of HKBCF for tree planting screening effect; Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and 	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"> • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF. 		
Landscape & Visual (Construction Phase)				
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts G1. Grass-hydroseed bare soil surface and stock pile areas. G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. G3. Not applicable as this is for HKLR. G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF G5. Vegetation reinstatement and upgrading to disturbed areas G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed G7. Providing planting area around peripheral of HKBCF for tree planting screening effect; G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. G9. Reserve of loose natural granite rocks for re-use, Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline.	HKBCF	N/A
S14.3.3.3	LV3	<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
EM&A				
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 "Material" part is in a lighter weight, and the "Lab" part is in a bolder weight. The logo is set against a background of two thick horizontal black bars, one above and one below the text.

Report No.: 0165/15/ED/0381

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of construction to end of reporting month	1	0	0

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Appendix I

Environmental Site Inspection Schedule

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MaterialLab

Report No.: 0165/15/ED/0381

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

Environmental Site Inspection Schedule for March 2016

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

Tentative Environmental Site Inspection Schedule for April 2016

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