

21 February 2018

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. Malcolm Sage

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/2014/05 – HZMB HKBCF – Remaining Ancillary Buildings and
Facilities
Monthly Environmental Monitoring & Audit Report for January 2018**

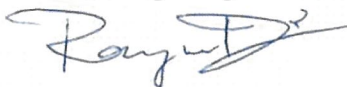
Reference is made to the Environmental Team's submission of Monthly Environmental Monitoring & Audit Report for January 2018 (Rev. 3) certified by the ET Leader (ET's ref.: "5140819/18.30/OC046/KC/RL" dated 21 February 2018) and provided to us via e-mail on 21 February 2018.

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

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

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 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)
	Atkins	Mr. Keith Chau	(By Fax: 2890 6343)
	LCWJV	Mr. Iain Hubert	(By Fax: 3621 0180)

Internal: DY, YH, PSC, ENPO Site

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Your ref.

Our ref. 5140819/18.30/OC046/KC/RL

Date: 21 February 2018

By Post and e-mail (Alfred.She@lcwjv.com)

Leighton – Chun Wo Joint Venture
39/F Sun Hung Kai Centre
30 Harbour Road
Hong Kong

Attn: Mr. Alfred She

Dear Mr. She,

**Contract No. HY/2014/05
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities –
Remaining Ancillary Buildings and Facilities
Certification of Monthly EM&A Report No. 23**

Atkins China Limited certifies, in the capacity of Environmental Team Leader, that the Monthly EM&A Report No. 23 for January 2018 (Revision 3) conforms the requirements provided in Condition 5.4 of the Environmental Permit No. EP-353/2009/K.

**Yours faithfully,
for and on behalf of
Atkins China Limited**



**Keith Chau
Environmental Team Leader**

cc.

1. AECOM – Mr. Malcolm Sage (By Fax.: 3468 2076)
2. IEC/ENPO – Mr. Raymond Dai & Mr. Y.H. Hui (By Fax.: 3465 2899)

Contract No. HY/2014/05

**Hong Kong-Zhuhai-Macao Bridge
Hong Kong Boundary Crossing Facilities – Remaining Ancillary
Buildings and Facilities**

**Monthly EM&A Report No. 23
(Covering the Period from 1 January 2018 to 31 January 2018)**

21 February 2018

Revision 3

Main Contractor



**Leighton - Chun Wo
Joint Venture**

Environmental Team

ATKINS

Member of the SNC-Lavalin Group

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Executive Summary

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) – Remaining 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 and Contract No. HY/2014/04 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System within Contract No. HY/2014/05 works area) (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2014/05 was awarded to Leighton – Chun Wo Joint Venture (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited and Contract No. HY/2014/04 was awarded to Rapiscan Systems Pte Ltd within Contract No. HY/2014/05 works area) (hereafter referred to as “the Contractor”) and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) is part of HZMB HKBCF Project which is a “Designated Project” under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499) and Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016 while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively.

Atkins China Limited 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 to the Contract.

This is the twenty-third monthly EM&A Report for the Contract No. HY/2014/05 which summarizes findings of the EM&A works during the reporting period from 1 to 31 January 2018 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).

Environmental Monitoring and Audit Progress

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 air quality and noise monitoring works for the Contract are covered by Contract No. HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) – Passenger Clearance Building 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 Nos. HY/2013/01 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 the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) during the reporting period are listed below:

Environmental Site Inspection: 3, 11, 15, 22 and 29 January 2018

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. No Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

One AL exceedance of 24-hr TSP at ASM3B and one AL exceedance of 24-hr TSP at ASM2 were recorded on 17 January 2018 by the Environmental Team of Contract No. HY/2013/01 during the reporting period, after investigation, the exceedance was not related to the Contract. Details of the

exceedance shall be referred to the monthly EM&A report prepared by Contract No. HY/2013/01. The IR was provided in **Appendix J**.

There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

Complaint Log

There was no complaint 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 Change

There was no reporting change during the reporting period.

Future Key Issues

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

For Contract No. HY/2014/05

- Architectural Builder's Work and Finishes (ABWF) & Mechanical, Electrical and Plumbing works (MEP) - Internal work of Buildings 022, 032, 044, 045, 050H1, 050H2, 050A1 and 050A2
- Architectural Builder's Work and Finishes (ABWF) - External work of Buildings 021, 022, 023, 025, 032, 044, 053 and 058
- ABWF works (roof) of Buildings 050A2
- Foot Path, Utilities and Drainage installation of Building 023, 032, 045, 050H1, 050H2, 050A1, 050A2, 053 and 058
- Green Roof of Buildings 023, 025, 032, 044 and 045

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

- Building 025 and 032 - Conduit Installation & Cabling

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

- Building 053 - Installation of field devices
- Building 054 - Installation of field devices
- Building 058 – Radiation Testing
- Building 059 – Radiation Testing

1 Introduction

1.1 Basic Project Information

1.1.1 This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HZMB HKBCF) – Remaining 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 and Contract No. HY/2014/04 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System within Contract No. HY/2014/05 works area) (hereafter referred to as “the Contract”) for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2014/05 was awarded to Leighton – Chun Wo Joint Venture (construction works of Contract No. HY/2013/06 was awarded to ATAL Technologies Limited and Contract No. HY/2014/04 was awarded to Rapiscan Systems Pte Ltd within Contract No. HY/2014/05 works area) (hereafter referred to as “the Contractor”) and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

1.1.2 Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) is part of HZMB HKBCF which is a “Designated Project” under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap 499). An Environmental Impact Assessment (EIA) Report (Register No. AEIAR-145/2009) was prepared for the Project. The current Environmental Permit (EP) No. EP-353/2009/K for HKBCF was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016 while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively. The works areas of the Contract are shown in **Appendix A**.

1.1.3 The proposed works under this Contract comprise the following:

For Contract No. HY/2014/05

(i) Construction of the following ancillary buildings and facilities including architectural and builder works, structural steel canopy, reinforced concrete frames, foundations, curtain wall facade, building services and electrical and mechanical works:

- Public Toilets at Vehicle Clearance Plaza (VCP);
- Customs and Excise Department (C&ED) Dangerous Good Store (Building 021);
- Customs Detective Dog Base Building (Building 022);
- C&ED Outbound Cargo Examination Building and Examination Platform (Building 023);
- Inbound Private Car Annexure (Building 025);
- Outbound Private Car Annexure (Building 032);
- E&M maintenance Building (Building 044);
- Highways Depot & Administration Building (Building 045);
- Outbound X-ray Building (Building 053);
- Outbound X-ray Scan Tunnel (Building 058); and
- Inbound X-ray Scan Tunnel (Building 059).

(ii) Construction of civil provisions, cable containment and power supply for the following systems:

- Automatic Vehicle Clearance Support System (AVCSS) installed by Contract No. HY/2013/06; and

- Gantry Type X-ray Vehicle Inspection System installed by Contract No. HY/2014/04.
- (iii) Supply and installation of Mobile X-ray Vehicle Inspection System and other standalone equipment;
- (iv) Construction of minor civil engineering works at the periphery of buildings;
- (v) Construction of minor Landscape hardworks and softworks; and
- (vi) Other works which are shown on Drawings or specified in the Specification or which may be ordered in accordance with the Contract.

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

- (i) The Automatic Vehicle Clearance Support System amid to increasing traffic flow for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities;
- (ii) Responsible for designs and develops a set of tailor-made computer monitoring and control systems to for daily security operation; and
- (iii) 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.

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

- (i) The Gantry Type X-ray Vehicle Inspection System (GXRVIS) aims to provide an integrated, innovative, efficient and effective vehicle inspection system at the inbound and outbound boundary control points of Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) for supporting the operations of Customs & Excise Department (C&ED);
- (ii) Design, supply, deliver to HKBCF, installation, test and commissioning and maintenance of two sets of Gantry Type X-ray Vehicle Inspection System and all related components necessary for the complete operation of the system; and
- (iii) Design, supply, install, test, commission and maintain of the Radioactive Threat Detection Systems integrated into the Gantry Type X-ray Vehicle Inspection Systems.

1.1.4 This is the twenty-third Monthly EM&A Report for the Contract No. HY/2014/05 which summarizes the findings of the EM&A programme during the reporting period from 1 to 31 January 2018. (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).

1.2 Project Organisation

1.2.1 The project organization structure and lines of communication with respect to the on-site environmental management structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1-1**.

Table 1-1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
<u>For Contract No. HY/2014/05</u>				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899

Party	Position	Name	Telephone	Fax
(Ramboll Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (Leighton – Chun Wo Joint Venture)	Site Agent	Albert Chan	3973 0514	3621 0180
	Environmental Officer	Alfred She	39730484	3621 0180
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343
24 hours complaint hotline	---	---	3958 7300	---
For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Hong Kong Limited)	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	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 (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343
24 hours complaint hotline	---	---	6509 0375	---
For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area				
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Registered Architect	Malcolm Sage	3958 7330	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Hong Kong Limited)	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor (Rapiscan Systems Pte Ltd)	Site Agent	Ringo Yau	9833 1402	2707 0816
	Environmental Officer	Clarie Tsang	6371 1362	---
Environmental Team (Atkins China Limited)	Environmental Team Leader	Keith Chau	2972 1721	2890 6343

Party	Position	Name	Telephone	Fax
24 hours complaint hotline	---	---	9833 1420	---

1.3 Construction Programme

1.3.1 A copy of the Contractor's construction programme is provided in **Appendix C**.

1.4 Construction Works Undertaken During the Reporting Period

1.4.1 A summary of the construction activities undertaken during this reporting period is shown below:

For Contract No. HY/2014/05

- ABWF & MEP works (Internal) of Buildings 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053 and 058
- Foot Path, Utilities and Drainage installation of Buildings 021, 022, 023, 032, 045, 050H1, 050H2, 050A1, 050A2, 053 and 058
- ABWF & MEP works (External) of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058 and 059
- ABWF & MEP works (roof) of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058 and 059
- Green Roof of Buildings 023, 025, 032, 044 and 045

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

- Conduit Installation and Cabling at Buildings 025 and 032

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

- Installation of field devices at Buildings 053 and 054
- Radiation Testing at Buildings 058 and 059

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/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF and Contract No. HY/2013/01 HZMB HKBCF – Passenger Clearance Building.
- 2.1.2 The ET of the Contract or another ET of the HZMB project is required to conduct 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 Nos. HY/2011/03 and HY/2013/01. **Figure 2.1** shows the locations of the air monitoring stations.

Table 2-1 Construction Dust Monitoring Locations

ID	Location Description
AMS 6 ⁽¹⁾	Dragonair/CNAC (Group) Building
AMS 7 ⁽¹⁾	Hong Kong SkyCity Marriott Hotel

Remark:

- (1) The ET of this Contract should conduct impact air quality monitoring at the AMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.

2.2 Monitoring Requirements

- 2.2.1 The monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information are detailed in the monthly EM&A Reports prepared for Contract Nos. HY/2011/03 and HY/2013/01.
- 2.2.2 The Action and Limit Levels for 1-hr TSP and 24-hr TSP are provided in **Table 2-2** and **Table 2-3**, respectively.

Table 2-2 Action and Limit Levels for 1-hr TSP

Monitoring Station	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	360	500
AMS 7 - Hong Kong SkyCity Marriott Hotel	370	

Table 2-3 Action and Limit Levels for 24-hr TSP

Monitoring Station	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	173	260
AMS 7 - Hong Kong SkyCity Marriott Hotel	183	

- 2.2.3 The event and action plan is provided in **Appendix D**.
- 2.2.4 If exceedance(s) at these station(s) 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 Nos. HY/2011/03 and HY/2013/01, 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. No Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.
- 2.3.3 One AL exceedance of 24-hr TSP at ASM3B and one AL exceedance of 24-hr TSP at ASM2 were recorded on 17 January 2018 by the Environmental Team of Contract No. HY/2013/01 during the reporting period, after investigation, the exceedance was not related to the Contract. Details of the exceedance shall be referred to the monthly EM&A report prepared by Contract No. HY/2013/01. The IR was provided in **Appendix J**.

3 Noise Monitoring

3.1 Monitoring Locations

3.1.1 The noise monitoring works for the Contract are covered by Contract No. HY/2013/01 HZMB HKBCF – Passenger Clearance Building. The ET of the Contract or another ET of the HZMB project is required to conduct impact noise monitoring at NMS2 and NMS3B as part of EM&A programme if these noise monitoring stations are no longer covered under Contract No. HY/2013/01. **Figure 3.1** shows the locations of noise monitoring stations.

Table 3-1 Construction Noise Monitoring Locations

ID	Location Description
NMS2 ⁽¹⁾	Seaview Crescent
NMS3B ⁽¹⁾⁽²⁾	Site Boundary of Site Office Area at Works Area WA2

Remarks:

- (1) The ET of this Contract should conduct impact noise monitoring at the NMS listed in the table as part of EM&A programme according to the latest notification from ENPO when the monitoring station(s) is/are no longer covered by another ET of the HZMB project.
- (2) The Action and Limit Levels for schools will be applied for this alternative monitoring location.

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/2013/01.

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

Parameter	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received	75 dB(A)*

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.

* Limit level is 70 dB(A) for schools and 65 dB(A) during school examination period.

3.2.3 The event and action plan is provided in **Appendix D**.

3.2.4 If exceedance(s) at these station(s) 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.

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/2013/01. No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2013/01 during the reporting period.

4 Environmental Site Inspection and Audit

4.1 Site Inspection

- 4.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area). During the reporting period, site inspections were carried out on 3, 11, 15, 22 and 29 January 2018.
- 4.1.2 Particular observations for Contract No. HY/2014/05 and Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area during the site inspections and corrective actions undertaken by the Contractor are described in **Tables 4-1, 4-2 and 4-3**.

Table 4-1 Summary of Environmental Site Inspections for Contract No. HY/2014/05

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
27 December 2017	1. Concrete breaking was observed without water spraying at Building 022.	1. Water spraying was provided for concrete breaking at Building 022.	3 January 2018
3 January 2018	1. The chemical container was found without label and drip tray at Building 032.	1. The chemical container was removed at Building 032.	11 January 2018
11 January 2018	1. The haul road was observed dry near Building 044 and Building 045. 2. Cement bags without proper cover were found at Building 044.	1. One water truck was in operation near Building 044 and 045 during the site inspection. 2. Cement bags were removed at Building 044	15 January 2018
15 January 2018	1. The general refuse was accumulated near waste skip near Building 044 and Building 045	1. The general refuse was removed near waste skip near Building 044 and Building 045	22 January 2018
22 January 2018	1. The general refuse was observed inside Building 045.	1. The general refuse was removed at Building 045.	29 January 2018
	2. The colour of the NRMM label for the lifting platform was observed faded at Building 032.	2. The Contractor was reminded to affix an appropriate NRMM label for the lifting platform at Building 032.	
29 January 2018	1. The colour of the NRMM label for the lifting platform was observed faded at Building 032. 2. General refuse was observed near staircase at Building 045. 3. Over 20 bags of dusty materials were not covered at rooftop of Building 045.	1. The Contractor was reminded to affix an appropriate NRMM label for the lifting platform at Building 032. 2. The Contractor was reminded to keep the site tidiness at Building 045. 3. The Contractor was reminded to cover the bags of dusty materials at the rooftop of Building 045.	Follow-up action undertaken by the Contractor will be inspected during the site inspection to be undertaken in February 2018.

Table 4-2 Summary of Environmental Site Inspections for Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
3 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
11 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
15 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
22 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
29 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.

Table 4-3 Summary of Environmental Site Inspections for Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
3 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
11 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
15 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
22 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
29 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.

4.1.3 Particular observations (Landscape works) for Contract No. HY/2014/05 during the site inspections and corrective actions undertaken by the Contractor are described in **Tables 4-4**. The landscape work of green roof for Contract No. HY/2014/05 was commenced on 11 December 2017. The implementation of mitigation measures for landscape and visual resources recommended in the EIA Report were monitored during the reporting period. Landscape and visual mitigation measures in accordance with the EP, EIA and EM&A Manual were implemented by the Contractor.

Table 4-4 Summary of Environmental Site Inspections (Landscape works) for Contract No. HY/2014/05 works area

Date of Audit	Observations	Actions Taken by Contractor / Recommendation	Date of Observations Closed
11 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.
22 January 2018	No particular environmental issue was recorded during the site inspection.	Nil.	Nil.

- 4.1.4 The Contractor has rectified most of the observations as identified during environmental site inspections during this reporting month. Follow-up actions for outstanding observations will be inspected in February 2018.

4.2 Advice on the Solid and Liquid Waste Management Status

- 4.2.1 The Contractor of Contract No. HY/2014/05 registered as a chemical waste producer. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 4.2.2 The Contractor of Contract No. HY/2014/05 was reminded that chemical waste should be properly treated and stored temporarily in designated chemical waste storage areas on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.
- 4.2.3 The monthly summary of waste flow table for Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) are detailed in **Appendix E**.

4.3 Environmental Licenses and Permits

- 4.3.1 The valid environmental licenses and permits for Contract No. HY/2014/05 during the reporting period (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area) are summarized in **Appendix F**.
- 4.3.2 The Contractors of Contract No. HY/2013/06 and Contract No. HY/2014/04 were advised to register as a chemical waste producer when chemical waste will be expected to generate for the foreseeable future from the operations (For Registration as Waste Producer Pursuant to Waste Disposal (Chemical Waste) (General) Regulation).

4.4 Implementation Status of Environmental Mitigation Measures

- 4.4.1 In response to the site audit findings, the Contractors carried out corrective actions.
- 4.4.2 The Contractor conducts watering on all exposed soil within the Contract site and associated works areas 8 times per day when construction activities are being undertaken.
- 4.4.3 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in **Appendix G**. Most of the necessary mitigation measures were implemented properly.

4.5 Summary of Exceedance of the Environmental Quality Performance Limit

- 4.5.1 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. No Action

and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

- 4.5.2 There was one AL exceedance of 24-hr TSP at ASM3B and one AL exceedance of 24-hr TSP at ASM2 was recorded on 17 January 2018 by the Environmental Team of Contract No. HY/2013/01 during the reporting period, after investigation, the exceedance was not related to the Contract. Details of the exceedance shall be referred to the monthly EM&A report prepared by Contract No. HY/2013/01. The IR was provided in **Appendix J**.
- 4.5.3 There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.

4.6 Summary of Complaints, Notification of Summons and Successful Prosecution

- 4.6.1 There was no complaint received in relation to the environmental impact during the reporting period.
- 4.6.2 Statistics on environmental complaints, notifications of summons and successful prosecutions are summarized in **Appendix H**.

5 Future Key Issues

5.1 Construction Programme for the Coming Months

5.1.1 As informed by the Contractor, the major construction activities for February 2018 are summarized in **Table 5-1**.

Table 5-1 Construction Activities for February 2018

Site Area	Description of Activities
<u>For Contract No. HY/2014/05</u>	
Buildings 022, 032, 044, 045, 050H1, 050H2, 050A1 and 050A2	ABWF & MEP works (Internal)
Buildings 021, 022, 023, 025, 032, 044, 045, 053 and 058	ABWF works (External)
Buildings 050A2	ABWF works (roof)
Buildings 023, 032, 045, 050H1, 050H2, 050A1, 050A2, 053 and 058	Foot Path, Utilities and Drainage Installation
Buildings 023, 025, 032, 044 and 045	Landscape works: greening roof
<u>For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area</u>	
Buildings 025 and 032	Conduit Installation & Cabling
<u>For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area</u>	
Buildings 053 and 054	Installation of field devices
Buildings 058 and 059	Radiation testing

5.2 Environmental Site Inspection Schedule for the Coming Month

5.2.1 The tentative schedule for weekly site inspections for February 2018 is provided in **Appendix I**.

6 Conclusions

6.1 Conclusions

- 6.1.1 The construction works of the Contract No. HY/2014/05 commenced on 29 February 2016, while the construction works of the Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area commenced on 3 January 2017 and 13 February 2017 respectively. The twenty-third Monthly EM&A Report for Contract No. HY/2014/05 summarizes findings of the EM&A works during the reporting period from 1 to 31 January 2018 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area).
- 6.1.2 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. No Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7 by the Environmental Team of Contract No. HY/2013/01 during the reporting period.
- 6.1.3 One AL exceedance of 24-hr TSP at ASM3B and one AL exceedance of 24-hr TSP at ASM2 were recorded on 17 January 2018 by the Environmental Team of Contract No. HY/2013/01 during the reporting period. After investigation, the exceedance was not related to the Contract. Details of the exceedance shall be referred to the monthly EM&A report prepared by Contract No. HY/2013/01. The IR was provided in **Appendix J**.
- 6.1.4 There was no Action and Limit Level exceedance for noise recorded at NMS2 and NMS3B by the Environmental Team of Contract No. HY/2013/01 during the reporting period.
- 6.1.5 Environmental site inspections were carried out on 3, 11, 15, 22 and 29 January 2018 for the Contract No. HY/2014/05 (includes the construction works of Contract No. HY/2013/06 and Contract No. HY/2014/04 within Contract No. HY/2014/05 works area). Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspection.
- 6.1.6 There was no complaint received in relation to the environmental impact during the reporting period.
- 6.1.7 No notification of summons and successful prosecution was received during the reporting period.



FIGURES

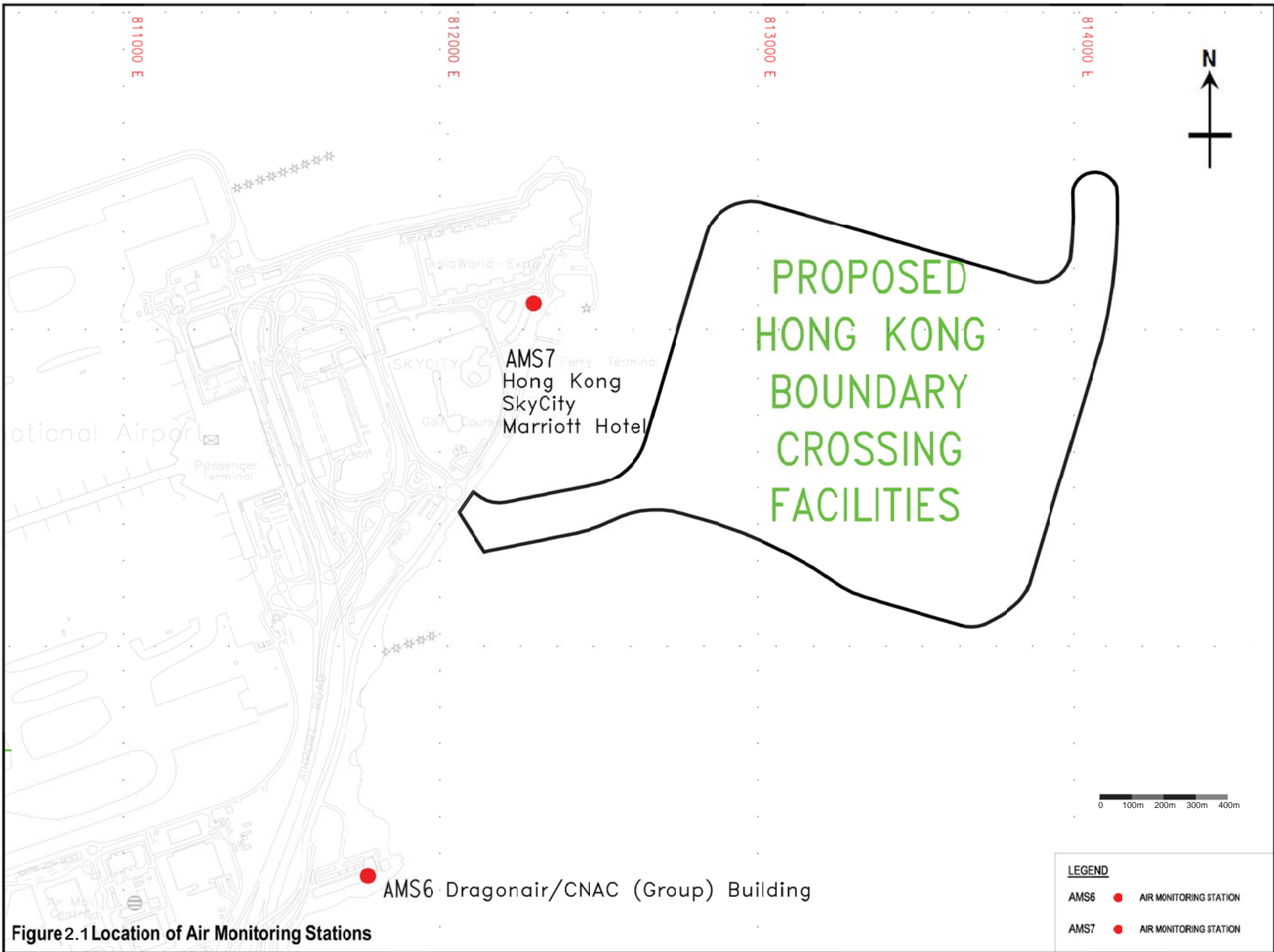


Figure 2.1 Location of Air Monitoring Stations

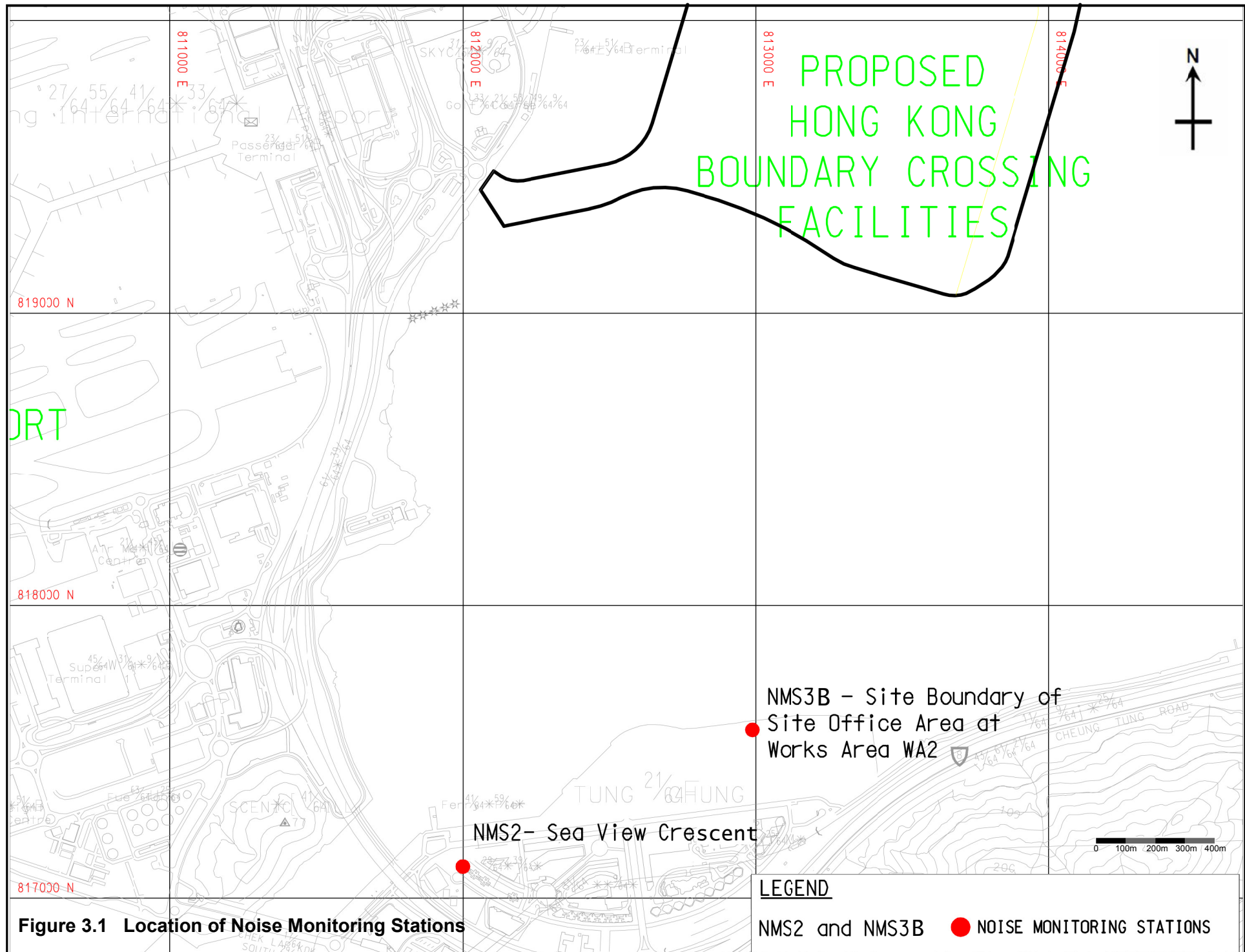


Figure 3.1 Location of Noise Monitoring Stations

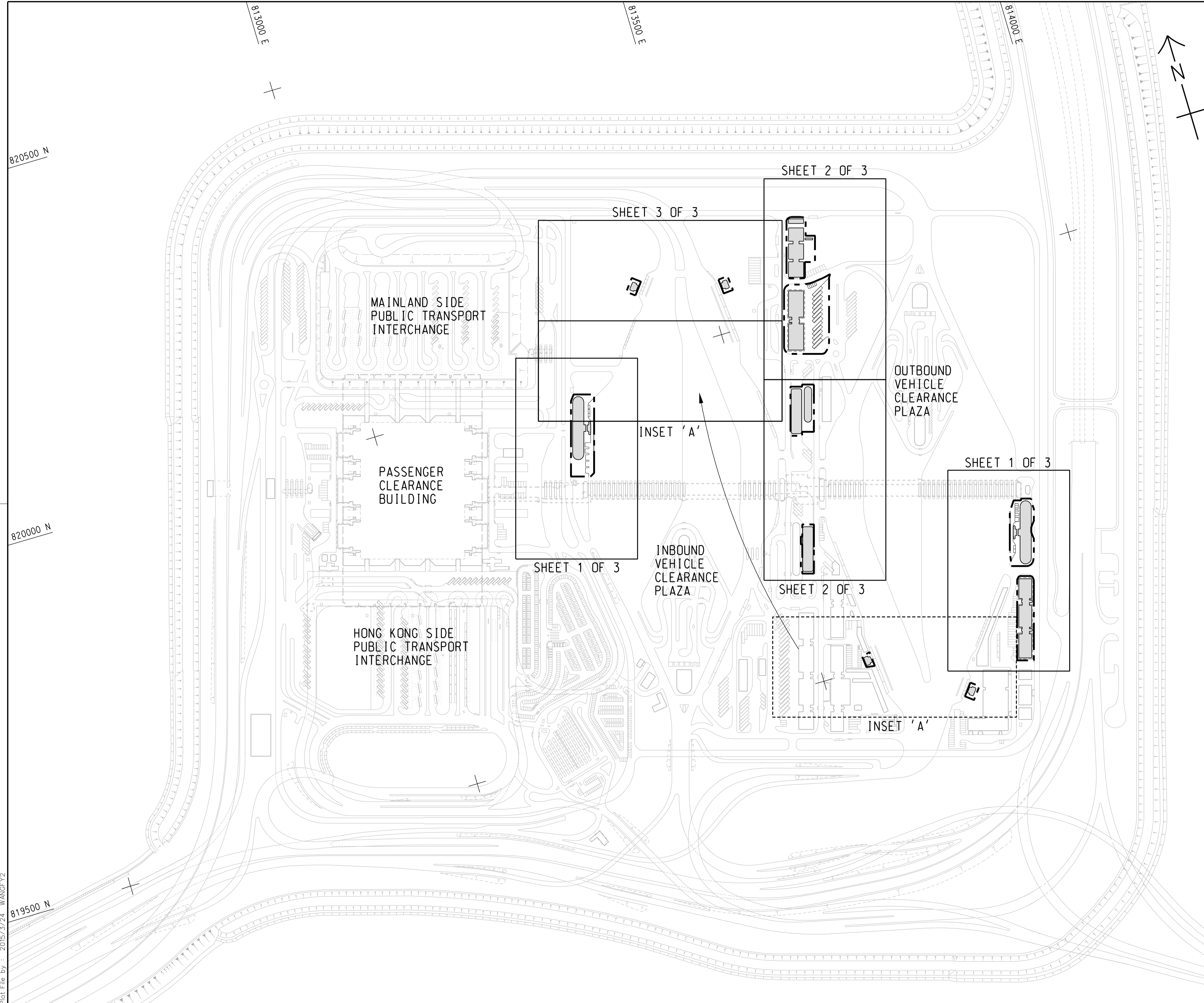
LEGEND

NMS2 and NMS3B ● NOISE MONITORING STATIONS



APPENDIX A

Location of Works Areas



- TENDER DRAWING		BWCW SCI	MAR. 15
REV. 修改	DESCRIPTION 內容摘要	D.C. 圖號	DATE 日期

HIGHWAYS DEPARTMENT
 路政署

 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
 - REMAINING ANCILLARY BUILDINGS AND FACILITIES

KEY PLAN

Rogers Stirk Harbour + Partners
 BURO HAPPOLD ATKINS ADI

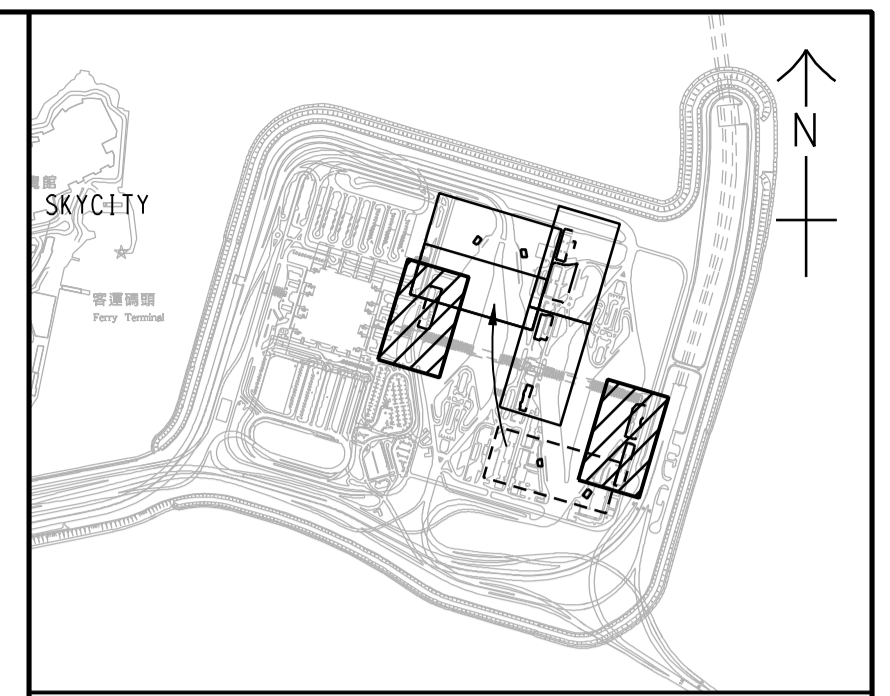
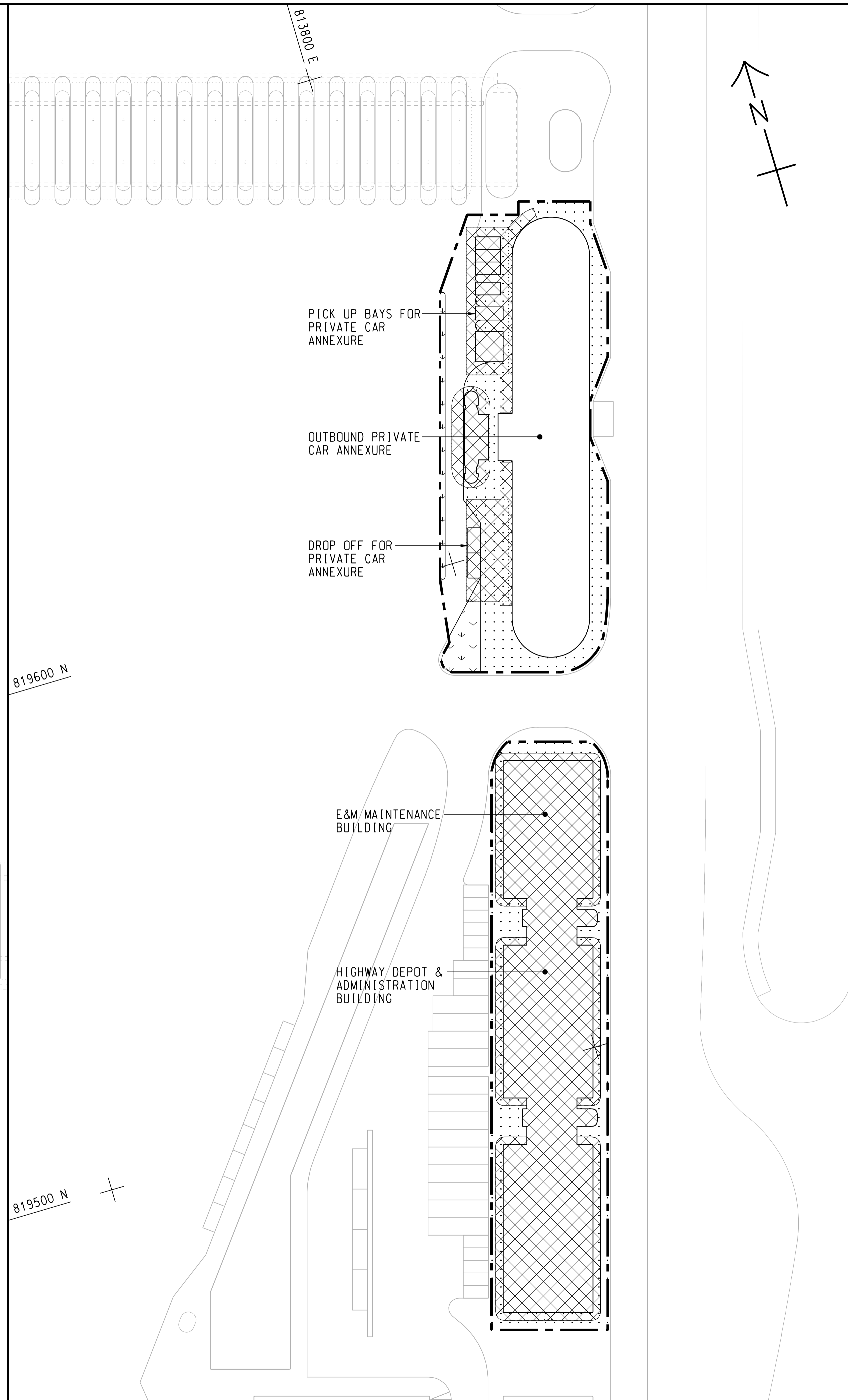
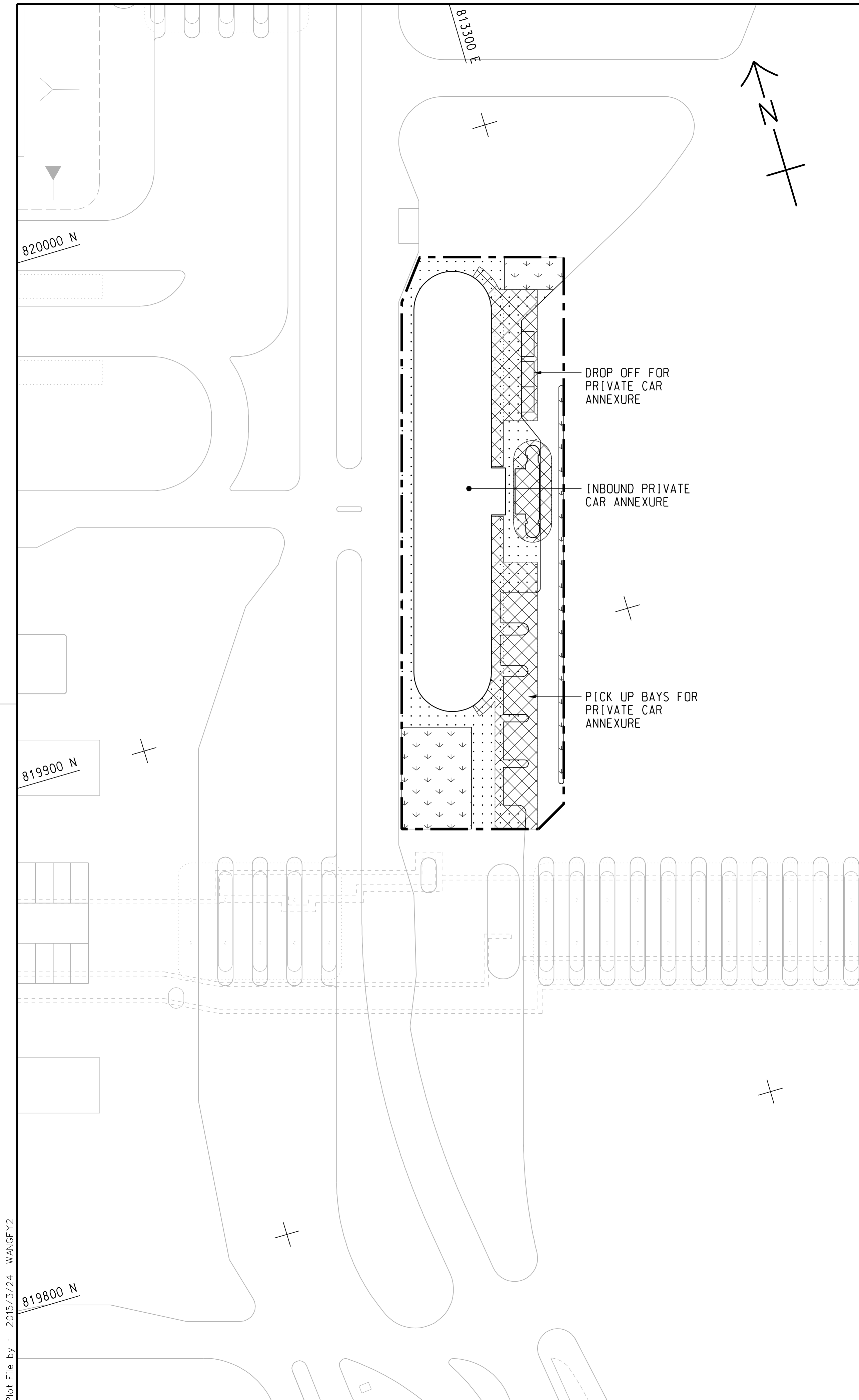
DRG.NO. 60191048/C8/000/C00/1010
 圖紙編號

DESIGNED BY 設計	BWCW	CONTRACT NO. 合約編號	HY/2014/05	P. Dir. APPROVED 批准人	TKH
DRAWN BY 繪圖	WSY	STATUS 階段			

SCALE 比例 A1 1 : 2500
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KEY PLAN
SCALE 1 : 20000

NOTE :
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C8/000/C00/1012 AND 1013.

LEGEND:

	SITE BOUNDARY
	FOOTPATH (DETAILS REFER TO LANDSCAPE DETAIL DRAWINGS)
	CANOPY
	PLANTING AREA

REV. / 修改	DESCRIPTION / 內容摘要	DATE / 日期
-	TENDER DRAWING	MAR. 15

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
 - REMAINING ANCILLARY BUILDINGS AND FACILITIES

GENERAL LAYOUT PLAN

SHEET 1 OF 3

AECOM +
Rogers Stirk Harbour + Partners
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Aedas

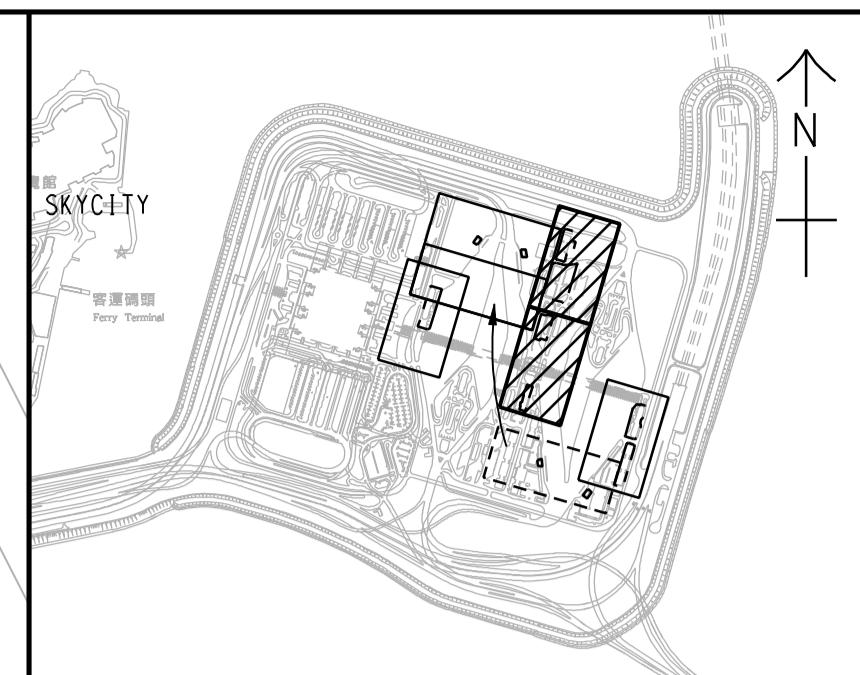
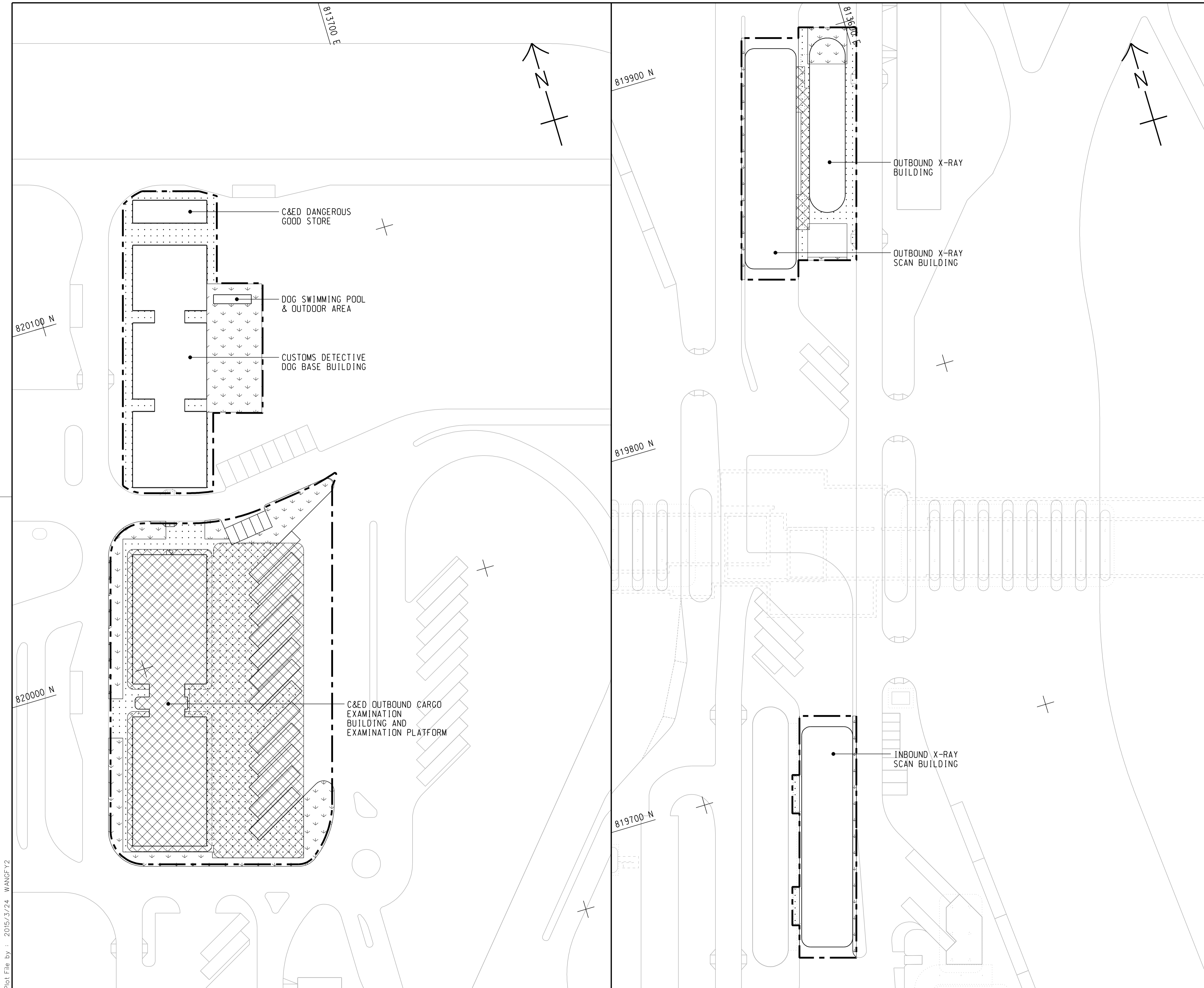
DRG.NO. / 圖紙編號: 60191048/C8/000/C00/1011

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BWCW	HY/2014/05	TKH

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 - THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60191048/C8/000/C00/1011 AND 1013.

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-	TENDER DRAWING	BWCW	SCI	MAR. 15

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GENERAL LAYOUT PLAN

SHEET 2 OF 3

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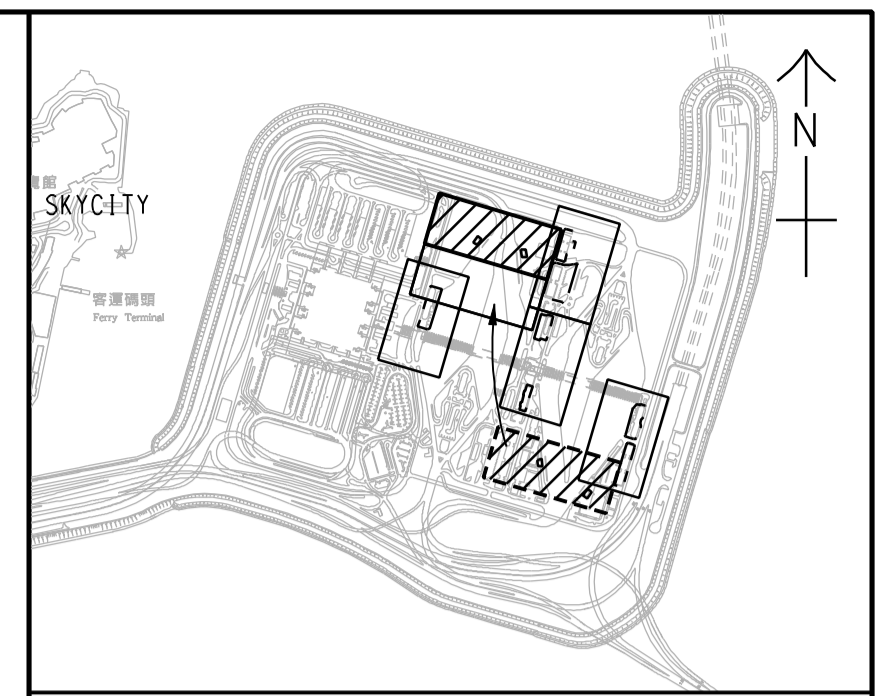
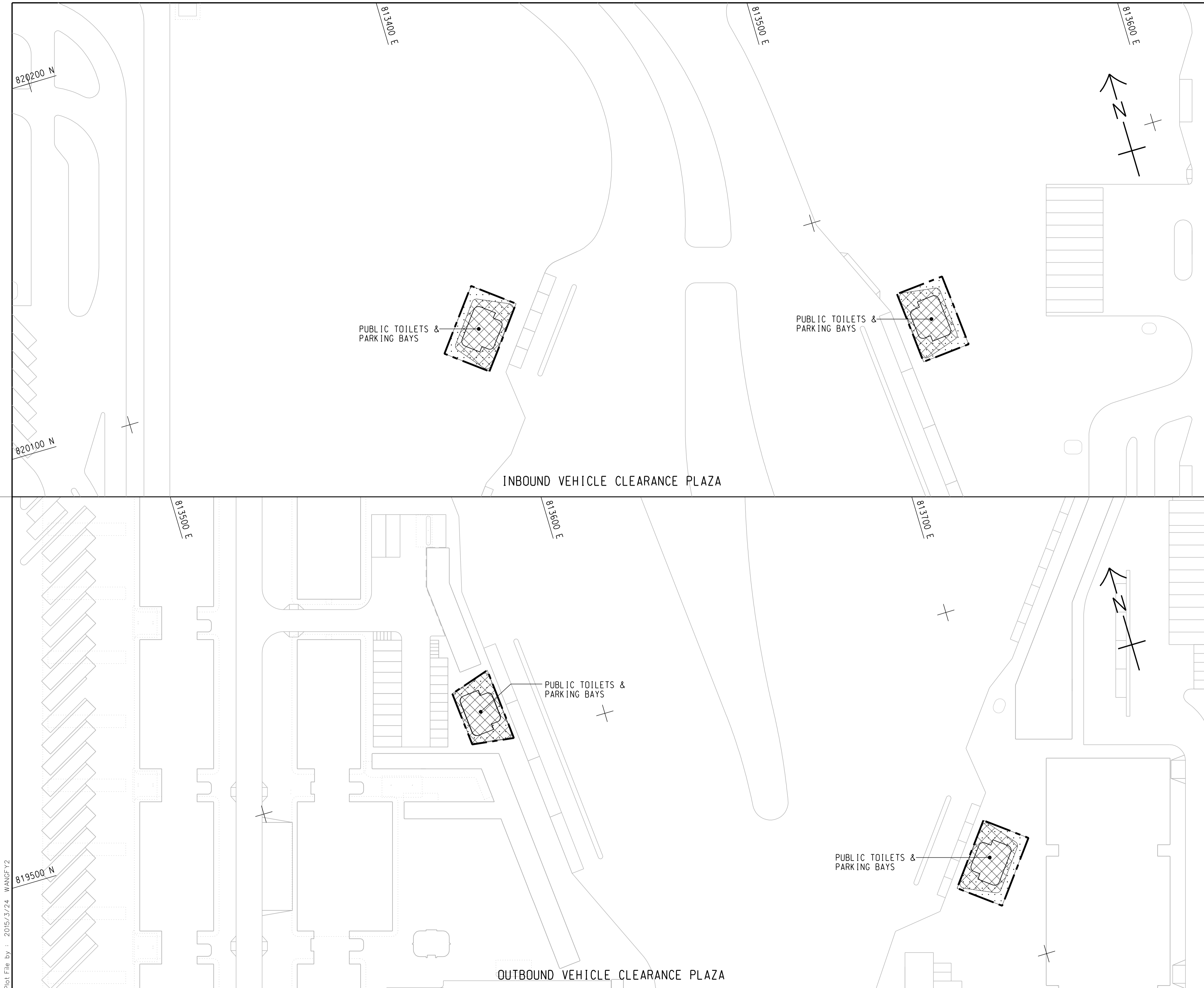
DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 批准人
BWCW	HY/2014/05	TKH

DRAWN BY 繪圖	STATUS 階段
WSY	初步

SCALE 比例 A1 1 : 500

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REV. 修改	DESCRIPTION 內容摘要	DATE 日期
-	TENDER DRAWING	MAR. 15



HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- REMAINING ANCILLARY BUILDINGS AND FACILITIES

GENERAL LAYOUT PLAN

SHEET 3 OF 3

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圖紙編號

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. Dir. APPROVED 批准人
BWCW	HY/2014/05	TKH

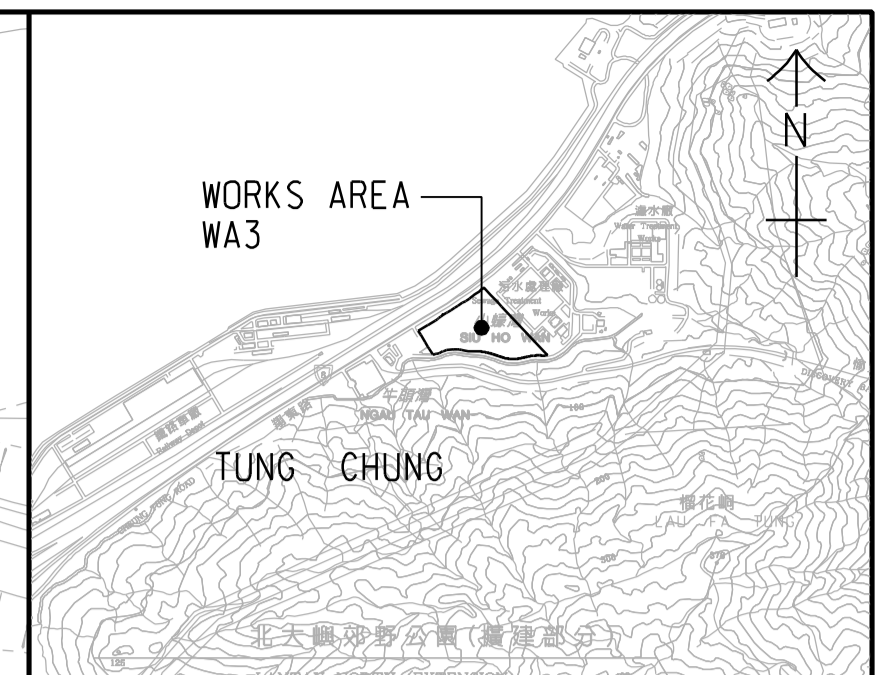
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WSY	初步

SCALE 比例 1 : 500
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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



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
	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 ² (WHOLE)

REV.	DESCRIPTION	DATE
-	TENDER DRAWING	MAR. 15

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- REMAINING ANCILLARY BUILDINGS AND FACILITIES

WORKS AREA WA3

AECOM **Aedas**
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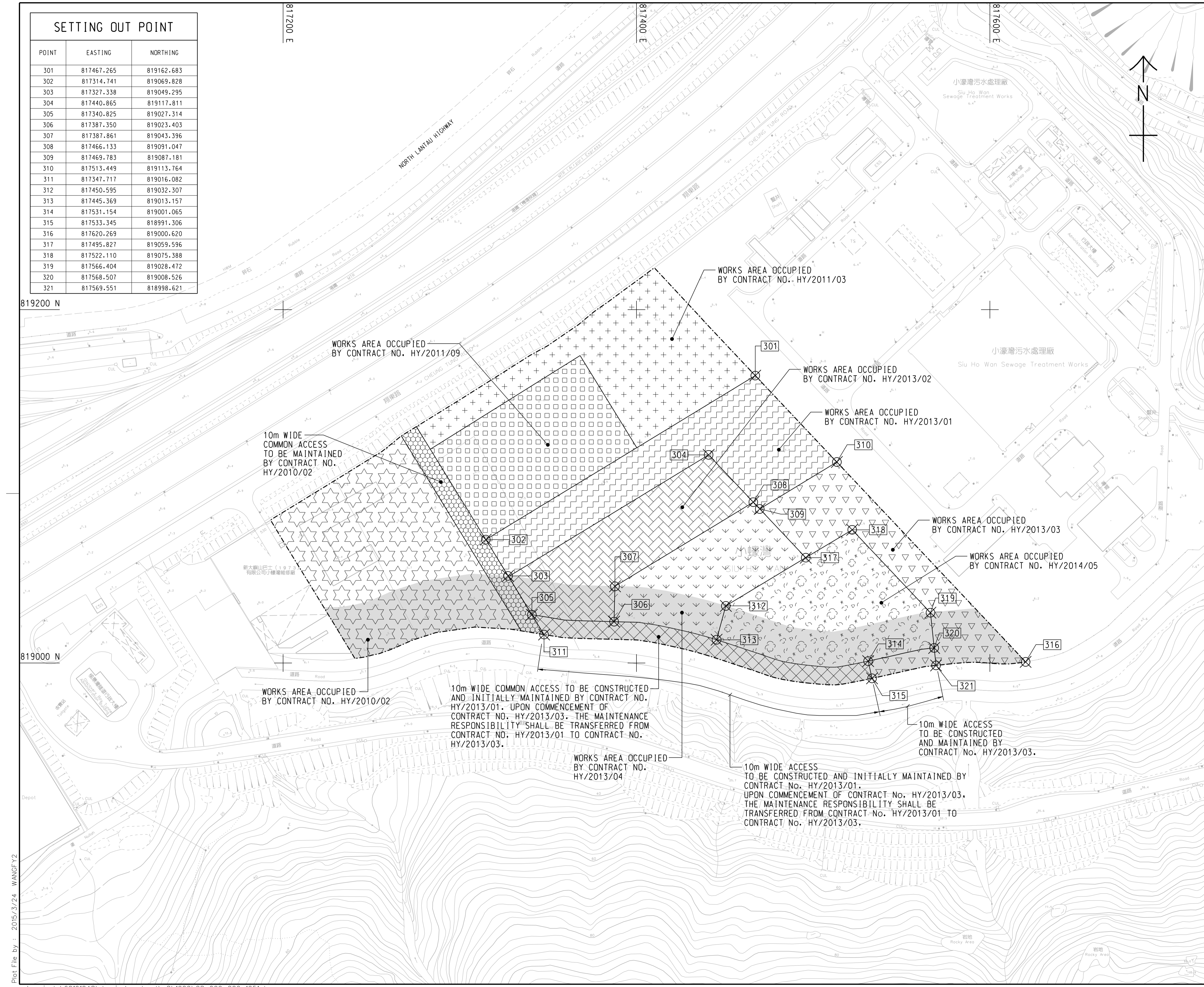
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圖紙編號

DESIGNED BY 設計	CONTRACT NO. 合約編號	P. DIR. 負責人
BWCW	HY/2014/05	TKH

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WSY	初步

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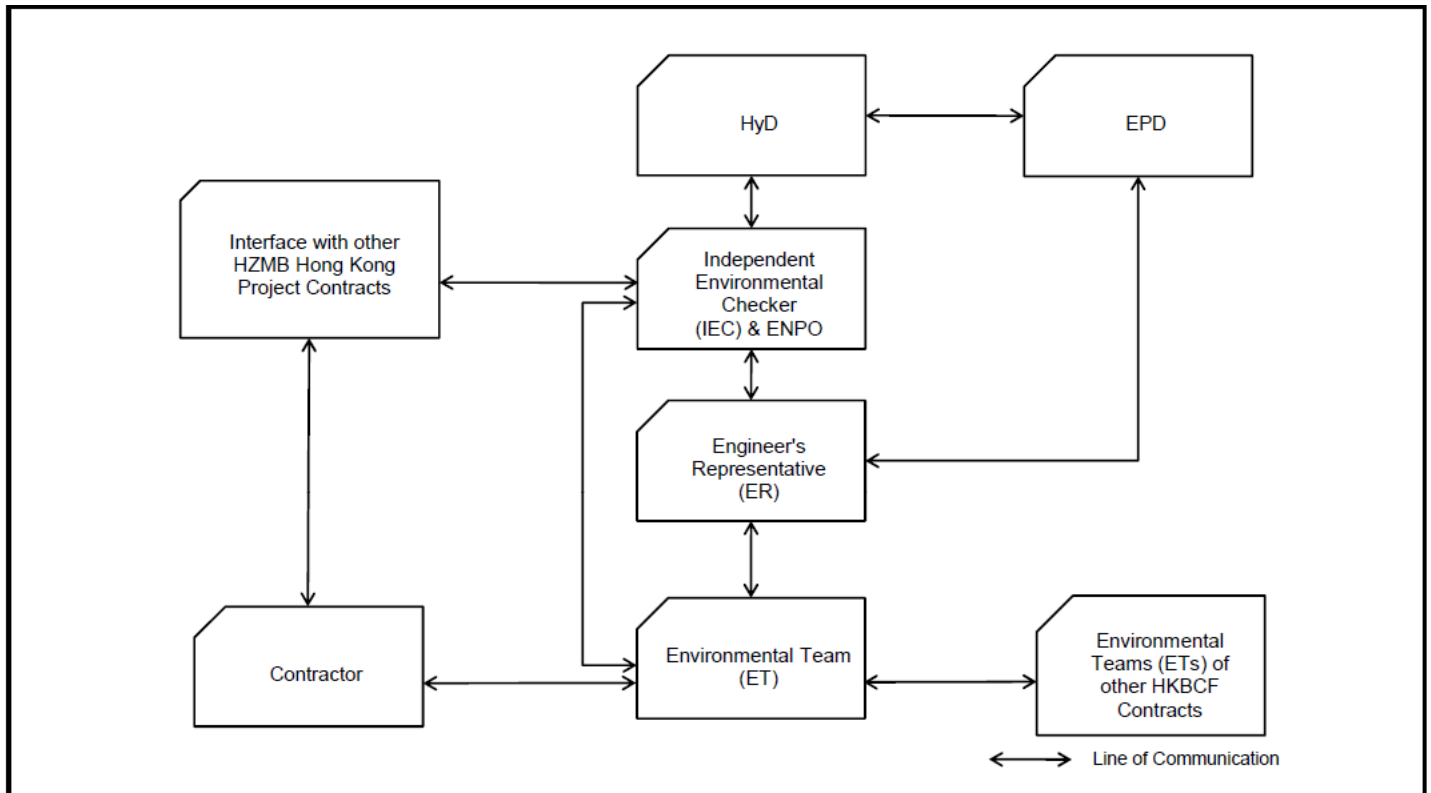
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APPENDIX B

Project Organization for Environmental Works

Project Organisation for Environmental Works





APPENDIX C

Construction Programme



Activity ID	Activity Name	November 2017		December 2017			January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04
C8 - 3 Month Rolling Programme, Stated 01 January 2018																	
PROGRAMME SUMMARY																	
Fire Service Inspection Schedule Summary																	
GENERAL/PRELIMINARIES																	
DESIGN AND ENGINEERING																	
PROCUREMENT, MANUFACTURING & DELIVERIES																	
CONSTRUCTION																	
Building 021 - C&ED Dangerous Goods Store																	
Raft																	
Structure																	
ABWF/E&M																	
Internal Finishes																	
Degree 1																	
Degree 2																	
RAB-21-0410	021 - Power On																
Degree 3																	
RAB-21-0345	KD4C - Projected achievement of Stage 4C of the Works																
RAB-KD4C10	021 - End Users and MoM handover inspection																
Roof Finishes																	
RAB-21-0270	021 - Install Railing 50m																
External Finishes																	
Facade																	
RAB-21-0320	021 - Snagging and Remedials (External)																
At Grade																	
RAB-21-380	021 - Prepare Sub Grade																
RAB-21-390	021 - Lay Granular Sub-Base																
RAB-21-360	021 - Concrete Block Paving																
Utilities and Drainage																	
Testing & Commissioning																	
Statutory Submissions & Approvals (Day 670 Completion)																	
Dangerous Goods Licence																	
RAB-21-0350	021 - DG Licence Iprocessing & Inspection																
RAB-21-0360	021 - Issue DG Licence																
Fire Services Department (VAC)																	
RAB-FSD-300	021 - FS Inspection Period																
RAB-FSD-310	021 - Fire Certificate Obtained (Form 172) Handover																
Engineer (AECOM)																	
RAB-21-2190	021 - Submit As-Built Drawings to the Engineer																
RAB-21-2200	021 - Engineer Inspection Period																
RAB-21-2210	021 - Engineer Issue Occupation Permit																
RAB-KD154	KD4 - Projected completion of Section IV of the Works (670 days) Building 0																
Building 022 - Customs Detective Dog Base Building																	
Excavation																	
Raft Foundations																	
Structure																	
Walls & Columns																	
Roof Slab																	
North Structure																	
Cure and Strip																	
Middle Structure																	

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 ◻ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018				March 2018					
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11			
Cure and Strip																					
South Structure																					
Cure and Strip																					
ABWF/E&M																					
Internal Finishes																					
North																					
Degree 1																					
Degree 2																					
RAB-22-0910	022 - Power On																	◆			
Degree 3																					
RAB-22-0865	022 - Ceiling Frame & Board Panel																	■			
RAB-22-8395	022 - Wall Tiling & Painting																	■			
RAB-22-8275	022 - MEP Final Fix																	■			
RAB-22-8365	022 - Floor Finish Other Than Early Handovr Rooms																	■			
RAB-22-8265	022 - Door Panel & Ironmongery																	■			
RAB-22-8295	022 - Snagging and Remedials (Bldg. Internal)																	■			
RAB-22-0870	022 - MEP Balance of Works																	■			
RAB-22-0980	022 - End Users and MOM Handover Inspection																	◆			
RAB-22-0950	022 - ABWF and MEP works to Degree 3 (KD5C)																	◆			
External Finishes																					
Facade																					
RAB-22-0470	022 - External Painting, Tiling & Cladding																	■			
RAB-22-0710	Snag Listing - Bldg. External & External Works																	■			
At Grade																					
RAB-22-2100	022 - Prepare Sub Grade																	■			
RAB-22-2120	022 - Lay Granular Sub-Base																	■			
RAB-22-2140	022 - Concrete Block Paving																	■			
RAB-22-2170	022 - Landscaping for Outdoor Excise Lawn																	■			
Roof Finishes - North																					
RAB-22-0720	022 - Make good external surfaces																	■			
Specialist Installations																					
Window Wall																					
Dog Swimming Pool																					
RAB-22-0600	022 - Tiling to Dog Swimming Pool																	■			
RAB-22-0490	022 - Backfill to ground level at Dog Swimming Pool																	■			
RAB-22-0640	022 - Plumbing and filtration systems																	■			
RAB-22-0630	022 - Metalworks and Railings																	■			
RAB-22-0700	022 - Snagging and Remedials - Dog Pool																	■			
Utilities and Drainage																					
Testing & Commissioning																					
RAB-TC22-1000	022 - T&C (HVAC, FS, P&D, OTHERS)																	■			
Statutory Submissions & Approvals (Day 670 Completion)																					
BEE0																					
RAB-BEE-120	022 - Registered Energy Assessor Inspection & Certification																	■			
RAB-BEE-130	022 - Submit REA Certification to EDMS																	◆			
RAB-BEE-140	022 - EDMS Issue of Cert of Compliance Registration (COCR)																	■			
Water Supplies Department (WSD)																					
Commencement																					
Completion																					
RAB-WSD-804	022 - Submit WWO 46 Pt. IV																	◆			
RAB-WSD-254	022 - WSD's Processing/Inspection/Meter Connection																	■			
RAB-WSD-264	022 - Permanent Water ON/WSD Issue WWO 46 Part V Cert & Water Cor																	◆			

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 ◊ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018				March 2018		
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Fire Services Department (VAC)																		
Fire Services Water (FS)																		
RAB-FSD-330	022 - FS Inspection Period, FS																	
RAB-FSD-590	022 - Issuance of FS 172, FS Certificate of Compliance, FS																	
Engineer (AECOM)																		
RAB-22-2220	022 - Submit Building 022 As Built Drawings to Engineer																	
RAB-22-2230	022 - Engineer Inspection Period																	
RAB-22-2240	022 - Engineer Issue Occupation Permit																	
RAB-KD144	KD5 - Projected completion of Section V of the Works (670 days) Building 2:																	
Building 023 - C&ED Outbound Cargo Examination Building and Examination Platform																		
Excavation																		
Raft Foundations - Inspection Platform																		
Raft Foundations - Main Building																		
Structure																		
Ground Floor																		
Planters																		
RAB-23-6230	023 - Construct South Planter Box and Ramp																	
Supporting Walls and Columns to +12.85mPD																		
First Floor																		
Cure and Strip																		
Supporting Walls and Columns to +17.1mPD																		
Roof																		
Cure and Strip																		
Supporting Walls and Columns to +19.1mPD																		
Lift Doghouse																		
Cure and Strip																		
ABWF/E&M																		
Internal Finishes																		
Ground Floor																		
Degree 1																		
Degree 2																		
RAB-23-5610	023 - Frame for Wall Panel & Cladding + Louver, G/F																	
Degree 3																		
RAB-23-5930	023 - Wall Finish - Paint & Tile, G/F																	
RAB-23-6220	023 - Floor Finish Other Than Carpet, G/F																	
RAB-23-5760	023 - Ceiling Frame, G/F																	
RAB-23-6380	023 - MEP Final Fix, G/F																	
RAB-23-5660	023 - Door Frame/Panel & Ironmongery, G/F																	
RAB-23-6410	023 - Ceiling Plaster Board, G/F																	
RAB-23-6180	023 - Floor Carpet Finish, G/F																	
RAB-23-6190	023 - Access to End Users, KD3C' - C3, C6 & C7																	
First Floor																		
Degree 1																		
Degree 2																		
RAB-23-8085	023 - Frame for Wall Panel & Cladding + Louver, 1/F																	
Degree 3																		
RAB-23-8175	023 - Wall Finish - Paint & Tile, 1/F																	
RAB-23-8105	023 - Ceiling Frame, 1/F																	
RAB-23-8205	023 - Floor Finish Other Than Carpet, 1/F																	
RAB-23-8145	023 - Glazing, 1/F																	
RAB-23-8155	023 - Door Panel/Ironmongery & Glass Baluster, 1/F																	
RAB-23-8185	023 - Ceiling Plaster Board, 1/F																	

█ Remaining Level of Effort
 █ Actual Work
 █ Critical Remaining ...
█ Actual Level of Effort
 █ Remaining Work
 ◻ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

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Activity ID	Activity Name	November 2017		December 2017			January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04
RAB-23-8195	023 - Floor Carpet Finish, 1/F	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-8265	023 - MEP Balance of Works	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-2290	023 - Snag Listing & Remedial Works - Building Internal	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-8225	023 - Handover Rooms Ready to End Users***, KD3C Target to Achieve	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5970	023 - ABWF and MEP works to Degree 3 (KD3E)	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6040	023 - End Users and MOM Handover Inspection	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-8255	023 - ABWF and MEP works to Degree 3 - Remaining Area- 1/F	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Roof Level Dog House		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6280	023 - ABWF and MEP works to Degree 2 R/F	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6340	023 - ABWF and MEP works to Degree 3 R/F	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
External Finishes		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Facade		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
At Grade		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5740	023 - Prepare Sub Grade	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5820	023 - Laying Geo Textile	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5910	023 - Lay Granular Sub-Base	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5940	023 - Laying Course	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6050	023 - Concrete Block Paving	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6160	023 - Make good external surfaces	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Curtain Wall		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
East		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6810	023 - Install Primary Steelwork for Curtain Wall (Bracket Support) - E	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6820	023 - Install Secondary Steelwork for Curtain Wall (Mullion, etc) - E	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6830	023 - Glazing to Window Wall - E	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
West		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6840	023 - Install Primary Steelwork for Window Wall (Bracket Support) - W	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6850	023 - Install Secondary Steelwork for Window Wall (Mullion, etc) - W	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6860	023 - Glazing to Window Wall - W	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Roof Finishes		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-5920	023 - Install Railing	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Green Roof		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Specialist Installations		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
PV Installation		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6360	023 - Cable containment and grid cable wiring	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6390	023 - Sub-array junction box installation & Connection	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6400	023 - DC cable wiring from PV panel to EL room	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Steel Canopy		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6290	023 - Install Metal Cladding Panels	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-6310	023 - Install Misc Metalworks	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Utilities and Drainage		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-7975	023 - Construct Permanent Drainage, Manholes & Draw Pits	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-23-7985	023 - Utilities and Common Telecom Ducting	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Testing & Commissioning		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-TC23-1000	023 - T&C (HVAC, FS, P&D, OTHERS)	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-TC23-1015	023 - PV Self-test with Engineer	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-TC23-1020	023 - PV On-Grid inspection with CLP	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Statutory Submissions & Approvals (Day 610 Completion)		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
BEE0		[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-BEE-150	023 - Registered Energy Assessor Inspection & Certification	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-BEE-160	023 - Submit REA Certification to EDMS	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
RAB-BEE-170	023 - EDMS Issue of Cert of Compliance Registration (COCR)																	
EMSD - Building 023 Lift Inspection																		
RAB-FSD-190	023 - EMSD Lift Inspection																	
RAB-FSD-106	023 - EMSD Lift Certificate Issued - Building 023																	
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-774	023 - Submit WWO 46 Pt. IV for Building 023																	
RAB-WSD-107	023 - WSD Inspection/Meter Connection																	
RAB-WSD-109	023 - Permanent Water ON/WSD Issue WWO 46 Part V - Water Certificate																	
Fire Services Department (VAC)																		
RAB-FSD-110	023 - FS Inspection Period For Building 023																	
RAB-FSD-290	023 - Issuance of FS 172, FS Certificate of Compliance																	
Engineer (AECOM)																		
RAB-23-2250	023 - Submit Building 023 As Built Drawings to Engineer																	
RAB-23-2260	023 - Engineer Inspection Period																	
RAB-23-2270	023 - Engineer Issue Occupation Permit																	
RAB-KD134	KD3 - Projected completion of Section III of the Works (610 days)																	
Building 025 - Inbound Private Car Annexure																		
Excavation																		
Raft Foundations																		
Structure																		
Walls & Columns																		
Roof Slab																		
Cure and Strip																		
ABWF/E&M INTERNAL FINISHES																		
INTERNAL FINISHING WORKS																		
Degree 1																		
Degree 2																		
Degree 3																		
RAB-25-7620	025 - Ceiling Panel																	
RAB-25-7580	025 - Floor Painting																	
RAB-25-7590	025 - Floor Carpet																	
RAB-25-7550	025 - MEP Balance of Works																	
RAB-25-7370	025 - Snagging and Remedials																	
RAB-25-7375	KD6C - Projected achievement of Stage 6C of the Works																	
RAB-KD6C10	025 - End Users and MoM handover inspection																	
RAB-25-7630	025 - Early Handover Rooms Ready to End Users***, Target to Achieve KDI																	
External Finishes																		
Facade																		
RAB-25-0580	025 - Make good external surfaces																	
At Grade																		
RAB-25-6400	025 - Prepare Sub Grade																	
RAB-25-6390	025 - Laying Geo Textile																	
RAB-25-6410	025 - Lay Granular Sub-Base																	
RAB-25-6420	025 - Laying Course																	
RAB-25-6380	025 - Concrete Block Paving																	
RAB-25-0600	025 - Snagging and Remedials																	
Roof Finishes																		
RAB-25-0550	025 - Install Railing (222m)																	
Green Roof																		
Specialist Installations																		

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
		RAB-25-620	025 - Construct Health Department Screening Station x 1															
RAB-25-610	025 - Construct Immigration Counters x 3																	
Glazed Canopy																		
RAB-25-0520	025 - Install Glazed Panels																	
IMMD Kiosk																		
RAB-25-0380	025 - Internal ABWF and MEP of IMMD Kiosk																	
RAB-25-0350	025 - External Finishes to IMMD Kiosk																	
RAB-25-0430	025 - Erect Kiosk Canopy @ +10.17mPD																	
Utilities and Drainage																		
RAB-25-7250	025 - Construct Permanent Drainage, Manholes & Draw Pits																	
RAB-25-7270	025 - Install Flushing Water Mains																	
RAB-25-7280	025 - Install Fresh Water Mains																	
RAB-25-7290	025 - Install FS Water Main																	
Testing & Commissioning																		
RAB-TC25-1000	025 - T&C (HVAC, FS, P&D, OTHERS)																	
Statutory Submissions & Approvals (Day 670 Completion)																		
BEE0																		
RAB-BEE-180	025 - Registered Energy Assessor Inspection & Certification																	
RAB-BEE-190	025 - Submit REA Certification to EDMS																	
RAB-BEE-200	025 - EDMS Issue of Cert of Compliance Registration (COCR)																	
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-744	025 - Submit WWO 46 Pt. IV																	
RAB-WSD-374	025 - WSD Inspection/Meter Connection																	
RAB-WSD-384	025 - WSD Issue Water Certificate WWO 46 Part V																	
Fire Services Department (VAC)																		
Fire Service Water (FS)																		
RAB-FSD-360	025 - FS Inspection Period, FS																	
RAB-FSD-894	025 - Issuance of Fform 172, FS Certificate of Compliance																	
Engineer (AECOM)																		
RAB-25-7220	025 - Submit Building 025 As Built Drawings to Engineer																	
RAB-25-7230	025 - Engineer Inspection Period																	
Building 032 - Outbound Private Car Annexure																		
Excavation																		
Raft Foundations																		
Structure																		
Walls & Columns																		
Roof Slab																		
Cure and Strip																		
ABWF/E&M																		
Internal Finishes																		
Degree 1																		
Degree 2																		
RAB-32-0660	032 - Power On																	
Degree 3																		
RAB-32-0830	032 - Wall Painting																	
RAB-32-0745	032 - Raised Floor																	
RAB-32-0870	032 - Ceiling Panel																	
RAB-32-0860	032 - Floor Painting & Remaining Floor Tiling																	
RAB-32-0590	032 - MEP Final Fix																	
RAB-32-0800	032 - Door Panel & Ironmongery																	

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04
RAB-32-0790	032 - Glazing	[Blue bar from Nov 19 to Dec 24]															
RAB-32-0850	032 - Early Handover Rooms Ready to End Users***	[Red bar from Dec 31 to Jan 14]															
RAB-32-0680	32 - Snagging and Remedials	[Red bar from Dec 31 to Jan 28]															
RAB-32-0740	032 - MEP Balance of Work	[Red bar from Dec 31 to Feb 11]															
RAB-32-0670	032 - End Users and MoM handover inspection	[Red bar from Dec 31 to Feb 11]															
RAB-KD7C10	KD7C - Projected achievement of Stage 7C of the Works	[Red bar from Dec 31 to Feb 11]															
Roof Finishes																	
RAB-32-0540	032 - Install Cat Ladders and Roof Hatch	[Blue bar from Dec 10 to Dec 24]															
RAB-32-0550	032 - Install Railing	[Blue bar from Dec 17 to Dec 24]															
Green Roof																	
External Finishes																	
Facade																	
RAB-32-0580	032 - Make good external surfaces	[Red bar from Dec 31 to Jan 14]															
At Grade																	
RAB-32-6460	032 - Prepare Sub Grade	[Blue bar from Nov 19 to Dec 24]															
RAB-32-6450	032 - Laying Geo Textile	[Red bar from Dec 31 to Jan 21]															
RAB-32-6470	032 - Lay Granular Sub-Base	[Red bar from Dec 31 to Jan 28]															
RAB-32-6480	032 - Laying Course	[Red bar from Dec 31 to Feb 4]															
RAB-32-6440	032 - Concrete Block Paving	[Red bar from Dec 31 to Feb 11]															
RAB-32-0600	032 - Snagging and Remedials (KD7)	[Red bar from Dec 31 to Feb 18]															
Specialist Installations																	
RAB-32-630	032 - Construct Immigration Counters x 3	[Blue bar from Dec 10 to Dec 24]															
RAB-32-640	032 - Construct Health Department Screening Station X 1	[Blue bar from Dec 10 to Dec 24]															
IMMD Kiosk																	
RAB-32-0380	032 - Internal ABWF and MEP of IMMD Kiosk	[Blue bar from Nov 19 to Dec 24]															
RAB-32-0350	032 - External Finishes to IMMD Kiosk	[Red bar from Dec 31 to Jan 14]															
RAB-32-0430	032 - Erect Kiosk Canopy @ +10.17mPD	[Red bar from Dec 31 to Feb 4]															
Glazed Canopy																	
RAB-32-0520	032 - Install Glazed Panels	[Red bar from Dec 31 to Feb 11]															
Utilities and Drainage																	
RAB-32-7310	032 - Install Flushing Water Mains	[Green bar from Dec 31 to Jan 14]															
RAB-32-7320	032 - Install Fresh Water Mains	[Green bar from Dec 31 to Jan 21]															
RAB-32-7330	032 - Install FS Water Main	[Green bar from Dec 31 to Jan 28]															
Testing & Commissioning																	
RAB-TC32-1000	032 - T&C (HVAC, FS, P&D, OTHERS)	[Red bar from Dec 31 to Feb 11]															
Statutory Submissions & Approvals (Day 670 Completion)																	
BEE0																	
RAB-BEE-210	032 - Registered Energy Assessor Inspection & Certification	[Red bar from Dec 31 to Jan 21]															
RAB-BEE-220	032 - Submit REA Certification to EDMS	[Red bar from Dec 31 to Feb 4]															
RAB-BEE-230	032 - EDMS Issue of Cert of Compliance Registration (COCR)	[Red bar from Dec 31 to Feb 11]															
Water Supplies Department (WSD)																	
Commencement																	
Completion																	
RAB-WSD-714	032 - Submit WWO 46 Pt. IV	[Red bar from Dec 31 to Jan 14]															
RAB-WSD-354	032 - WSD Issue WWO 46 Part V - Completion Cert of Plumbing & Water ([Red bar from Dec 31 to Feb 11]															
RAB-WSD-344	032 - WSD Inspection/Meter Connection	[Red bar from Dec 31 to Feb 18]															
Fire Services Department (HVAC)																	
Fire Water Service (FS)																	
RAB-FSD-390	032 - FS Inspection Period, FS	[Red bar from Dec 31 to Feb 11]															
RAB-FSD-400	032 - Issuance of Form 172, FS Cert. of Compliance.	[Red bar from Dec 31 to Feb 18]															
Engineer (AECOM)																	

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
RAB-32-7250	032 - Submit Building 032 As Built Drawings to Engineer																	
Building 044 - E&M Maintenance Building																		
Excavation																		
Raft																		
Structure																		
Walls & Columns																		
Ground to First Floor																		
First Floor																		
Cure and Strip																		
First Floor to Second Floor																		
Second Floor																		
Cure and Strip																		
Second Floor to Roof																		
Roof Level																		
Cure and Strip																		
ABWF/E&M																		
Ground Floor																		
Degree 1																		
Degree 2																		
RAB-44-9175	044 - MEP 2nd Fix - G/F																	
RAB-44-0760	044 - Door & Window Frame + Louver - G/F																	
Degree 3																		
RAB-44-9285	044 - Wall Finish, Paint & Tile - G/F																	
RAB-44-9255	044 - Ceiling Paint - G/F																	
RAB-44-9185	044 - MEP Final Fix - G/F																	
RAB-44-9265	044 - Floor Tile Finish - G/F																	
RAB-44-9235	044 - Ceiling Panel Frame - G/F																	
RAB-44-9275	044 - Glazing - G/F																	
RAB-44-9345	044 - Ceiling Panel - G/F																	
RAB-44-9245	044 - Ceiling Plaster Board Frame																	
RAB-44-9295	044 - Door Panel & Ironmongery - G/F																	
RAB-44-9355	044 - Floor Paint Finish - G/F																	
RAB-44-9395	044 - Ceiling Plaster Board																	
First Floor																		
Degree 1																		
Degree 2																		
RAB-44-9365	044 - MEP 2nd Fix - 1/F																	
RAB-44-9455	044 - Door & Window Frame + Louver - 1/F																	
Degree 3																		
RAB-44-9555	044 - Wall Finish, Paint & Tile - 1/F																	
RAB-44-9465	044 - Ceiling Paint Finish - 1/F																	
RAB-44-9565	044 - Floor Tile Finish - 1/F																	
RAB-44-9375	044 - MEP Final Fix - 1/F																	
RAB-44-9385	044 - Ceiling Panel Frame - 1/F																	
RAB-44-9485	044 - Glazing - 1/F																	
RAB-44-9505	044 - Door Panel & Ironmongery - 1/F																	
RAB-44-9695	044 - Ceiling Plaster Board Frame																	
RAB-44-9495	044 - Ceiling Panel - 1/F																	
RAB-44-9705	044 - Ceiling Plaster Board																	
RAB-44-9475	044 - Floor Paint Finish - 1/F																	
Second Floor																		
Degree 1																		

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Degree 2																		
RAB-44-9575	044 - MEP 2nd Fix - 2/F																	
RAB-44-9665	044 - Door & Window Frame + Louver - 2/F																	
RAB-44-9605	044 - Power On - 2/F																	
RAB-44-0610	KD8B - Projected achievement of Stage 8B of the Works - 2/F																	
Degree 3																		
RAB-44-9635	044 - Ceiling Paint Finish - 2/F																	
RAB-44-9595	044 - Wall Finish, Paint & Tile - 2/F																	
RAB-44-9585	044 - MEP Final Fix - 2/F																	
RAB-44-9675	044 - Glazing - 2/F																	
RAB-44-9685	044 - Floor Tile Finish & Floor Finish to Early handover Rooms - 2/F																	
RAB-44-9715	044 - Door Panel & Ironmongery - 2/F																	
RAB-44-9725	044 - Ceiling Plaster Board Frame - 2/F																	
RAB-44-9645	044 - Ceiling Panel Frame - 2/F																	
RAB-44-9735	044 - Ceiling Plaster Board																	
RAB-44-9795	044 - MEP Balance of Works																	
RAB-44-9745	044 - Ceiling Panel - 2/F																	
RAB-44-9625	044 - Snagging and Remedials																	
RAB-44-9655	044 - Floor Finish Other Than Early Handover at 1/F																	
RAB-44-9615	044 - End Users and MoM handover inspection																	
RAB-KD8C20	KD8C - Projected achievement of Stage 8C of the Works, 044																	
Roof Finishes																		
RAB-44-0550	044 - Install Cat Ladder and Roof Hatch																	
RAB-44-0540	044 - Install Railing																	
Green Roof																		
RAB-44-0400	044 - Install Green Roof Irrigation Systems																	
RAB-44-0500	044 - Complete Green Roofing Works																	
External Finishes																		
Facade																		
RAB-44-0430	044 - Install External Louvers /Windows/Doors																	
RAB-44-0590	044 - Make good external surfaces																	
At Grade																		
RAB-44-6520	044 - Prepare Sub Grade																	
RAB-44-6510	044 - Laying Geo Textile																	
RAB-44-6530	044 - Lay Granular Sub-Base																	
RAB-44-6540	044 - Laying Course																	
RAB-44-6500	044 - Concrete Block Paving																	
RAB-44-0630	044 - Snagging and Remedials																	
Specialist Installations																		
Curtain Wall																		
East																		
RAB-44-6880	044 - Install Primary Steelwork for Window Wall - East																	
RAB-44-6890	044 - Install Secondary Steelwork for Window Wall - East																	
RAB-44-6900	044 - Glazing to Window Wall - East																	
West																		
RAB-44-6920	044 - Install Primary Steelwork for Window Wall - West																	
RAB-44-6930	044 - Install Secondary Steelwork for Window Wall - West																	
RAB-44-6940	044 - Glazing to Window Wall - West																	
Utilities and Drainage																		
Testing & Commissioning																		
RAB-TC44-1000	044 - T&C (HVAC, FS, P&D, OTHERS)																	

■ Remaining Level of Effort
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Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018				March 2018		
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Statutory Submissions & Approvals																		
BEE0																		
RAB-BEE-240	044 - Registered Energy Assessor Inspection & Certification																	
RAB-BEE-250	044 - Submit REA Certification to EDMS																	
RAB-BEE-260	044 - EDMS Issue of Cert of Compliance Registration (COCR)																	
EMSD - Building 044 Lift Inspection																		
RAB-FSD-220	044 - EMSD Lift Inspection																	
RAB-FSD-114	044 - EMSD Lift Certificate Issued - Building 044																	
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-684	044 - Submit WWO 46 Pt. IV																	
RAB-WSD-314	044 WSD Inspection/Meter Connection																	
Fire Services Department (HVAC)																		
RAB-FSD-1040	044 - Submit Form 501 to FSD, HVAC																	
Fire Water Services (FS)																		
RAB-FSD-128	044 - Submit Form 501, FS																	
RAB-FSD-126	044 - Submit Form 314 to FSD, FS																	
RAB-FSD-118	044 FS Inspection Period, FS																	
RAB-FSD-148	044 - Issuance of Form 172																	
Engineer (AECOM)																		
RAB-44-7280	044 - Submit Building 044 As Built Drawings to Engineer																	
Building 045 - Highways Depot & Administration Building																		
Raft Foundation																		
Diesel Fuel Chamber																		
Structure G/F to R/F																		
G/F to 1/F Walls & Columns																		
1/F Slab																		
Cure and Strip																		
1/F to 2/F Walls & Columns																		
2/F Slab																		
Cure and Strip																		
2/f to R/F Walls & Columns																		
Roof Level Slab																		
Cure and Strip																		
ABWF/E&M																		
Ground Floor, South - G/F																		
Degree 1, G/F																		
Degree 2, G/F																		
RAB-45-9895	045 - Door & Window Frame + Louver - G/F																	
RAB-45-9905	045 - Access for C3 to Install Equipment																	
Degree 3, G/F																		
RAB-45-9935	045 - Wall Finish, Paint & Tile - G/F																	
RAB-45-9915	045 - Floor Finish (Paint & Tile) - G/F																	
RAB-45-10035	045 - Ceiling Plaster Board Frame & Ceiling Panel Frame - G/F																	
RAB-45-9815	045 - MEP Final Fix - G/F																	
RAB-45-9925	045 - Glazing - G/F																	
RAB-45-9945	045 - Door Panel & Ironmongery - G/F																	
RAB-45-10055	045 - Ceiling Plaster Board & Ceiling Panel - G/F																	
First Floor, 1/F																		
Degree 1, 1/F																		
Degree 2, 1/F																		

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
RAB-45-10015	045 - MEP 2nd Fix - 1/F																	
RAB-45-10105	045 - Door & Window Frame + Louver - 1/F																	
Degree 3, 1/F																		
RAB-45-10145	045 - Wall Finish, Paint & Tile - 1/F																	
RAB-45-10125	045 - Floor Finish (Paint & Tile) - 1/F																	
RAB-45-10205	045 - Ceiling Plaster Board Frame Ceiling Panel Frame- 1/F																	
RAB-45-10025	045 - MEP Final Fix - 1/F																	
RAB-45-10155	045 - Door Panel & Ironmongery - 1/F																	
RAB-45-10285	045 - Glazing - 1/F																	
RAB-45-10245	045 - Ceiling Plaster Board & Ceiling Panel - 1/F																	
RAB-45-10275	045 - Handover to End users***																	
Second Floor, 2/F																		
Degree 1, 2/F																		
Degree 2, 2/F																		
RAB-45-10225	045 - MEP 2nd Fix - 2/F																	
RAB-45-10315	045 - Door & Window Frame + Louver - 2/F																	
RAB-45-10295	045 - Access for C3 Equip. Installation, 2/F***																	
RAB-45-0950	KD8B - Projected achievement of Stage 8B of the Works - 2/F, 045																	
RAB-45-10255	045 - Power On - 2/F																	
Degree 3, 2/F																		
RAB-45-10355	045 - Wall Finish, Paint & Tile - 2/F																	
RAB-45-10235	045 - MEP Final Fix - 2/F																	
RAB-45-10345	045 - Glazing - 2/F																	
RAB-45-10335	045 - Floor Finish (Paint & Tile) - 2/F																	
RAB-45-10365	045 - Door Panel & Ironmongery - 2/F																	
RAB-45-10375	045 - Ceiling Plaster Board Frame & Ceiling Panel Frame - 2/F																	
RAB-45-10385	045 - Ceiling Plaster Board & Ceiling Panel - 2/F																	
RAB-45-0980	045 - Snagging and Remedials - 2/F																	
RAB-45-10305	045 - MEP Balance of Works																	
RAB-45-10265	045 - End Users and MoM handover inspection																	
RAB-45-0970	KD8C - Projected achievement of Stage 8C of the Works - 2/F, 045																	
External Finishes																		
Bldg. External Finishes																		
Facade																		
RAB-45-0620	045 - Install External Louvers /Windows/Doors																	
RAB-45-0760	045 - Make good external surfaces																	
At Grade																		
RAB-45-6580	045 - Prepare Sub Grade																	
RAB-45-6570	045 - Laying Geo Textile																	
RAB-45-6590	045 - Lay Granular Sub-Base																	
RAB-45-6600	045 - Laying Course																	
RAB-45-6560	045 - Concrete Block Paving																	
RAB-45-6620	045 - Snag Listing, External																	
Roof Finishes -																		
RAB-45-0910	045 - Install Roof Tiles																	
RAB-45-0930	045 - Install Cat Ladder and Roof Hatch																	
RAB-45-0920	045 - Install Railing																	
Green Roof - Noth Side, 2/F Level																		
RAB-45-0680	045 - Install green Roof Irrigation Systems																	
RAB-45-0740	045 - Complete Green Roofing Works																	

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Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Window Wall																		
East																		
RAB-45-6960	045 - Install Primary Steelwork for Window Wall	[Gantt bar: Nov 19-26, Dec 03-10, Jan 14-21]																
RAB-45-6970	045 - Install Secondary Steelwork for Window Wall	[Gantt bar: Dec 10-17, Jan 14-21]																
RAB-45-6980	045 - Glazing to Window Wall	[Gantt bar: Dec 17-24, Jan 21-28]																
West																		
RAB-45-6990	045 - Install Primary Steelwork for Window Wall	[Gantt bar: Nov 19-26, Dec 03-10, Jan 14-21]																
RAB-45-7000	045 - Install Secondary Steelwork for Window Wall	[Gantt bar: Dec 10-17, Jan 14-21]																
RAB-45-7010	045 - Glazing to Window Wall	[Gantt bar: Dec 17-24, Jan 21-28]																
Utilities and Drainage																		
RAB-45-7945	045 - Utilites and Common Telecom Ducting	[Gantt bar: Nov 19-26, Dec 03-10]																
RAB-45-7955	045 - Install Flushing Water Mains	[Gantt bar: Jan 14-21, Feb 04-11]																
RAB-45-7965	045 - Install Fresh Water Mains	[Gantt bar: Jan 14-21, Feb 04-11]																
RAB-45-7975	045 - Install FS Water Main	[Gantt bar: Jan 14-21, Feb 04-11]																
Testing & Commissioning																		
RAB-TC45-1020	045 - T&C (HVAC, FS, P&D, OTHERS)	[Gantt bar: Jan 21-28, Feb 04-11]																
Statutory Submissions & Approvals (Day 670 Completion)																		
BEE0																		
RAB-BEE-270	045 - Registered Energy Assessor Inspection & Certification	[Gantt bar: Jan 14-21]																
RAB-BEE-280	045 - Submit REA Certification to EDMS	[Gantt bar: Jan 21-28]																
RAB-BEE-290	045 - EDMS Issue of Cert of Compliance Registration (COCR)	[Gantt bar: Jan 21-28]																
EMSD - Building 045 Lift Inspection																		
RAB-FSD-250	045 - EMSD Lift Inspection	[Gantt bar: Jan 14-21]																
RAB-FSD-130	045 - EMSD Lift Certificate Issued - Building 045	[Gantt bar: Jan 21-28]																
Fuel Tank - DG License																		
RAB-FSD-680	045 - FSD Issue License	[Gantt bar: Jan 21-28]																
Generator Set - EPD Permit																		
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-654	045 - Submit WWO 46 Pt. IV	[Gantt bar: Jan 21-28]																
RAB-WSD-284	045 - WSD's Processing/Inspection/Meter Connection	[Gantt bar: Jan 21-28]																
RAB-WSD-294	045 - WSD Issue WWO 046 Part V, Plumbing Inst'n Cert & Connect Water	[Gantt bar: Jan 21-28]																
HVAC																		
RAB-FSD-1000	045 - Submit Form 501	[Gantt bar: Feb 04-11]																
FSD																		
RAB-FSD-630	045 - Submit Form 501 - FS	[Gantt bar: Jan 21-28]																
RAB-FSD-830	045 - Submit Form 314 - FS	[Gantt bar: Jan 21-28]																
RAB-FSD-450	045 - FS Inspection Period - FS	[Gantt bar: Feb 04-11]																
Engineer (AECOM)																		
RAB-45-7310	045 - Submit Building 045 As Built Drawings to Engineer	[Gantt bar: Jan 21-28]																
Building 050 - Public Toilets Type 2																		
Public Toilet (Portion H1)																		
Excavation																		
Raft																		
Structure																		
ABWF/E&M																		
Internal Finishes																		
Degree 1																		
RAB-50-1170	050 H1 - MEP 1st Fix	[Gantt bar: Nov 19-26, Dec 03-10, Jan 14-21]																
RAB-KD9A40	050 H1 - Access for C3 Cabling Works	[Gantt bar: Dec 10-17, Jan 14-21]																
RAB-KD9A10	KD9A - Projected achievement of Stage 9A of the Works	[Gantt bar: Dec 17-24, Jan 21-28]																

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Degree 2																		
RAB-50-1270	050 H1 - MEP 2nd Fix	[Actual Work]						[Critical Remaining]										
RAB-50-1360	050 H1 - Louver / Door Frame	[Actual Work]						[Critical Remaining]										
RAB-50-1380	050 H1 - Access for C3 Equip. Installation												[Critical Remaining]					
RAB-KD9B10	KD9B - Projected achievement of Stage 9B of the Works												[Critical Remaining]					
RAB-50-1300	050 H1 - Power On												[Critical Remaining]					
Degree 3																		
RAB-50-1370	050 H1 - Floor Finish	[Actual Work]						[Critical Remaining]										
RAB-50-1390	050 H1 - Door panel & Ironmongery	[Actual Work]						[Critical Remaining]										
RAB-50-1350	050 H1 - Wall Finish	[Actual Work]						[Critical Remaining]										
RAB-50-1310	050 H1 - Ceiling Frame & Ceiling Board	[Actual Work]						[Critical Remaining]										
RAB-50-1280	050 H1 - MEP Final Fix							[Critical Remaining]										
RAB-50-1290	050 H1 - Snagging and Remedials							[Critical Remaining]										
RAB-KD9C10	KD9C - Projected achievement of Stage 9C of the Works												[Critical Remaining]					
RAB-50-7460	050 H1 - End Users and MoM handover inspection												[Critical Remaining]					
Specialist installation																		
RAB-50-1240	050 H1 - Installation of Sanitaryware and Fixtures												[Remaining Work]					
Roof Finishes																		
RAB-50-1210	050 H1 - Install Cat Ladder and Roof Access Hatch	[Actual Work]						[Critical Remaining]										
RAB-50-1200	050 H1 - Install Railing - 49m	[Actual Work]						[Critical Remaining]										
RAB-50-4470	050 H1 - Installation of Aluminium Canopy							[Critical Remaining]										
RAB-50-4320	050 H1 - Install Aluminium Cladding							[Critical Remaining]										
RAB-50-1100	050 H1 - Install Skylights (8No)							[Critical Remaining]										
External Finishes																		
RAB-50-1120	050 H1 - Install External Louvers /Windows/Doors	[Actual Work]						[Critical Remaining]										
RAB-50-1260	050 H1 - Make good external surfaces							[Critical Remaining]										
Utilities and Drainage																		
RAB-50-8035	050 H1 - Install Flushing Water Mains							[Critical Remaining]										
RAB-50-8045	050 H1 - Install Fresh Water Mains							[Critical Remaining]										
Testing & Commissioning																		
RAB-TC50-1000	050 H1 - T&C (HVAC, FS, P&D, OTHERS)							[Critical Remaining]										
Statutory Submissions & Approvals (Day 670 Completion)																		
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-454	050 H1 - Submit WWO 46 Pt. IV							[Critical Remaining]										
RAB-WSD-464	050 H1 - WSD Inspection/Meter Connection for Building 050							[Critical Remaining]										
RAB-WSD-474	050 H1 - WSD Issue WWO 046 Part V, Cert Plumbing Inst'n Compl & Conr							[Critical Remaining]										
Fire Services Department (VAC)																		
RAB-FSD-1080	050 H1 - Submit Form 314							[Critical Remaining]										
RAB-FSD-1090	050 H1 - Submit Form 501							[Critical Remaining]										
RAB-FSD-1130	050 H1 - FS Inspection							[Critical Remaining]										
RAB-FSD-1100	050 H1 - Issuance of Form 172							[Critical Remaining]										
Engineer (AECOM)																		
RAB-50-7340	050 H1 - Submit Building 050 H1 As Built Drawings to Engineer							[Critical Remaining]										
Public Toilet (Portion H2)																		
Excavation																		
Raft																		
Structure																		
ABWF/E&M																		
Internal Finishes																		

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Degree 1																		
RAB-50-2170	050 H2 - MEP 1st Fix																	
RAB-50-2390	050 H2 - Access for C3 Cabling Works																	
RAB-KD10A10	050 H2 - Projected achievement of Stage 10A of the Works																	
Degree 2																		
RAB-50-2270	050 H2 - MEP 2nd Fix																	
RAB-50-2360	050 H2 - Louver / Door Frame																	
RAB-KD10B40	050 H2 - Access for C3 Equip. Installation																	
RAB-KD10B10	050 H2 - Projected achievement of Stage 10B of the Works																	
RAB-50-2300	050 H2 - Power On																	
Degree 3																		
RAB-50-2370	050 H2 - Floor Finish																	
RAB-50-2380	050 H2 - Door panel & Ironmongery																	
RAB-50-2350	050 H2 - Wall Finish																	
RAB-50-2340	050 H2 - Ceiling Frame & Ceiling Board																	
RAB-50-2280	050 H2 - MEP Final Fix																	
RAB-50-2290	050 H2 - Snagging and Remedials																	
RAB-KD10C10	050 H2 - Projected achievement of Stage 10C of the Works																	
RAB-50-7470	050 H2 - End Users and MoM handover inspection																	
Specialist installation																		
RAB-50-2240	050 H2 - Installation of Sanitaryware and Fixtures																	
Roof Finishes																		
RAB-50-2210	050 H2 - Install Cat Ladder and Roof Access Hatch																	
RAB-50-2100	050 H2 - Install Skylights (8No)																	
RAB-50-2200	050 H2 - Install Railing - 49m																	
RAB-50-2230	050 H2 - Installation of Aluminium Canopy																	
RAB-50-4360	050 H2 - Install Aluminium Cladding																	
External Finishes																		
RAB-50-2120	050 H2 - Install External Louvers /Windows/Doors																	
RAB-50-2260	050 H2 - Make good external surfaces																	
Utilities and Drainage																		
RAB-50-7915	050 H2 - Install Flushing Water Mains																	
RAB-50-7925	050 H2 - Install Fresh Water Mains																	
Testing & Commissioning																		
RAB-TC50-1010	050 H2 - T&C (HVAC, FS, P&D, OTHERS)																	
Statutory Submissions & Approvals (Day 670 Completion)																		
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-594	050 H2 - Submit WWO 46 Pt. IV																	
RAB-WSD-434	050 H2 - WSD Inspection/Meter Connection for Building 050																	
RAB-WSD-444	050 H2 - SD Issue WWO 046 Part V, Cert Plumbing Inst'n Compl & Conner																	
Fire Services Department (VAC)																		
RAB-FSD-1110	050 H2 - Submit Form 314																	
RAB-FSD-1120	050 H2 - Submit Form 501																	
RAB-FSD-1160	050 H2 - FS Inspection																	
Engineer (AECOM)																		
RAB-50-7370	050 H2 - Submit Building 050 H1 As Built Drawings to Engineer																	
Public Toilet (Portion A1)																		
Excavation																		
Raft																		

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		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04
Structure																	
ABWF/E&M																	
Internal Finishes																	
Degree 1																	
RAB-50-3310	050 A1 - Plastering/Rendering & Undercoat	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3170	050 A1 - MEP 1st Fix	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3320	050 A1 - Screeding	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3330	050 A1 - Access for C3 for Cabling Works	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-KD11A10	KD11A - Projected achievement of Stage 11A of the Works	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Degree 2																	
RAB-50-3270	050 A1 - MEP 2nd Fix	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3360	050 A1 - Louver / Door Frame	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3390	050 A1 - Access for C3 for Equip. Installation	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-KD11B10	KD11B - Projected achievement of Stage 11B of the Works	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3300	050 A1 - Power On	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Degree 3																	
RAB-50-3350	050 A1 - Wall Finish	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3370	050 A1 - Floor Finish	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3380	050 A1 - Door panel & Ironmongery	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3340	050 A1 - Ceiling Frame	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3280	050 A1 - MEP Final Fix	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-KD11C10	KD11C - Projected achievement of Stage 11C of the Works	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3290	050 A1 - Snagging and Remedials	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Specialist installation																	
RAB-50-3240	050 A1 - Installation of Sanitaryware and Fixtures	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Roof Finishes																	
RAB-50-3210	050 A1 - Install Cat Ladder and Roof Access Hatch	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3200	050 A1 - Install Railing - 49m	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3230	050 A1 - Installation of Aluminium Canopy	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-4370	050 A1 - Install Aluminium Cladding	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3100	050 A1 - Install Skylights (8No)	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
External Finishes																	
RAB-50-3120	050 A1 - Install External Louvers /Windows/Doors	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3190	050 A1 - External Tiling	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-3260	050 A1 - Make good external surfaces	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Utilities and Drainage																	
RAB-50-7955	050 A1 - Install Flushing Water Mains	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-50-7965	050 A1 - Install Fresh Water Mains	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Testing & Commissioning																	
RAB-TC50-1020	050 A1 - T&C (HVAC, FS, P&D, OTHERS)	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Statutory Submissions & Approvals (Day 670 Completion)																	
Water Supplies Department (WSD)																	
Commencement																	
Completion																	
RAB-WSD-394	050 A1 - Submit WWO 46 Pt. IV	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-WSD-404	050 A1 - WSD Inspection/Meter Connection	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-WSD-414	050 A1 - WSD Issue WWO 046 Part V, Plumbing Inst'n Compl & Water Cor	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
Fire Services Department (VAC)																	
RAB-FSD-1050	050 A1 - Submit Form 314	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-FSD-1060	050 A1 - Submit Form 501	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			
RAB-FSD-1180	050 A1 - FS Inspection	[Actual Work]		[Actual Work]			[Critical Remaining]				[Critical Remaining]			[Critical Remaining]			

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 ◻ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Engineer (Aecom)																		
RAB-50-7400	050 A1 - Submit Building 050 A1 As Built Drawings to Engineer																	
Public Toilet (Portion A2)																		
Excavation																		
Raft																		
Structure																		
ABWF/E&M																		
Internal Finishes																		
Degree 1																		
RAB-50-4170	050 A2 - MEP 1st Fix																	
RAB-50-4410	050 A2 - Access for C3 Cabling Works																	
RAB-KD12A10	KD12A - Projected achievement of Stage 12A of the Works																	
Degree 2																		
RAB-50-4270	050 A2 - MEP 2nd Fix																	
RAB-50-4440	050 A2 - Louver / Door Frame																	
RAB-50-4480	050 A2 - Access for C3 Equip. Installation																	
RAB-KD12B10	KD12B - Projected achievement of Stage 12B of the Works																	
RAB-50-4300	050 A2 - Power On																	
Degree 3																		
RAB-50-4430	050 A2 - Wall Finish																	
RAB-50-4450	050 A2 - Floor Finish																	
RAB-50-4460	050 A2 - Door panel & Ironmongery																	
RAB-50-4390	050 A2 - Ceiling Frame																	
RAB-50-4280	050 A2 - MEP Final Fix																	
RAB-50-4290	050 A2 - Snagging and Remedials																	
RAB-KD12C10	KD12C - Projected achievement of Stage 12C of the Works																	
RAB-50-7490	050 A2 - End Users and MoM handover inspection																	
Specialist installation																		
RAB-50-4240	050 A2 - Installation of Sanitaryware and Fixtures																	
Roof Finishes																		
RAB-50-4180	050 A2 - Install Roof Tiles - 140m ²																	
RAB-50-4210	050 A2 - Install Cat Ladder and Roof Access Hatch																	
RAB-50-4200	050 A2 - Install Railing - 49m																	
RAB-50-4230	050 A2 - Installation of Aluminium Canopy																	
RAB-50-4380	050 A2 - Install Aluminium Cladding																	
RAB-50-4100	050 A2 - Install Skylights (8No)																	
External Finishes																		
RAB-50-4190	050 A2 - External Tiling																	
RAB-50-4120	050 A2 - Install External Louvers /Windows/Doors																	
RAB-50-4260	050 A2 - Make good external surfaces																	
Utilities and Drainage																		
RAB-50-7995	050 A2 - Install Flushing Water Mains																	
RAB-50-8005	050 A2 - Install Fresh Water Mains																	
Testing & Commissioning																		
RAB-TC50-1030	050 A2 - T&C (HVAC, FS, P&D, OTHERS)																	
Statutory Submissions & Approvals (Day 670 Completion)																		
Water Supplies Department (WSD)																		
Commencement																		
Completion																		
RAB-WSD-124	050 A2 - Submit WWO 46 Pt. IV																	
RAB-WSD-134	050 A2 - WSD Inspection/Meter Connection for Building 050																	

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 ◻ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
RAB-WSD-144	050 A2 - WSD Issue WWO 046 Part V, Cert Plumbing Instl'n Compl & Contr																	
Fire Servives Department (VAC)																		
RAB-FSD-260	050 A2 - Submit Form 314																	
RAB-FSD-270	050 A2 - Submit Form 501																	
RAB-FSD-1200	050 A2 - FS Inspection																	
Engineer (AECOM)																		
RAB-50-7430	050 A2 - Submit Building 050 H1 As Built Drawings to Engineer																	
Building 053 - Outbound X-Ray Building																		
Excavation																		
Raft																		
Structure																		
External Walls																		
To First Floor Level																		
Internal Structures																		
First Floor																		
Slabs																		
Cure and Strip																		
1/F - Roof Level																		
Staircases																		
Roof Floor																		
Slabs																		
Cure and Strip																		
ABWF/E&M																		
Ground Floor																		
Degree 1 - G/F																		
Degree 2 - G/F																		
Degree 3 - G/F																		
RAB-53-8205	053 - Floor Painting & Tiling, G/F																	
RAB-53-7915	053 - Ceiling Plaster Board, G/F																	
RAB-53-0710	053 - Door Panel & Ironmongery, G/F																	
First Floor																		
Degree 1 - 1/F																		
Degree 2 - 1/F																		
Degree 3 - 1/F																		
RAB-53-8215	053 - Floor Painting & Tiling, 1/F																	
RAB-53-8195	053 - MEP Balance of Works																	
RAB-53-8125	053 - Snagging and Remedials, 1/F																	
RAB-53-8095	053 - Projected Achievement of Stage 1C, 1/F																	
External Finishes																		
External Facade																		
RAB-53-0500	053 - External Painting																	
RAB-53-0640	053 - Make good external surfaces																	
At Grade																		
RAB-53-7615	053 - Prepare Sub Grade																	
RAB-53-7885	053 - Laying Geo Textile																	
RAB-53-7625	053 - Lay Granular Sub-Base																	
RAB-53-7635	053 - Laying Course																	
RAB-53-7695	053 - Concrete Block Paving																	
RAB-53-7705	053 - Snag Listing																	
Roof Finishes																		
RAB-53-0530	053 - Install Railing - 105m																	
Spacialist Installations																		
Glazed Canopy																		

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 △ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018				March 2018	
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04
RAB-53-0620	053 - Construct high level Canopy at +9.95mPD	[Gantt bar: Nov 19-26, Dec 3-10, Jan 14-21, Feb 4-11]															
Utilities and Drainage																	
Testing & Commissioning																	
RAB-TC53-1050	053 - T&C, Lift	[Gantt bar: Nov 19-26, Dec 3-10, Jan 14-21]															
Statutory Submissions & Approvals (Day 470 Completion)																	
BEE0																	
RAB-BEE-420	053 - Registered Energy Assessor Inspection & Certification	[Gantt bar: Jan 14-21]															
RAB-BEE-430	053 - Submit REA Certification to EDMS	[Milestone: Jan 14]															
RAB-BEE-440	053 - EDMS Issue of Cert of Compliance Registration (COCR)	[Gantt bar: Jan 21-28]															
EMSD - Building 053 Lift Inspection																	
RAB-FSD-160	053 - EMSD Lift Inspection	[Gantt bar: Jan 14-21]															
RAB-FSD-090	053 - EMSD Lift Certificate Issued (Fire Lift)	[Milestone: Jan 14]															
Water Supplies Department (WSD)																	
Commencement																	
Completion																	
RAB-WSD-100	053 - Submit WWO 46 Pt. IV	[Milestone: Dec 17]															
RAB-WSD-102	053 - WSD's Processing/Inspection/Meter Connection	[Gantt bar: Jan 14-21]															
RAB-WSD-104	053 - WSD Issue WWO 046 Part V, Plumbing Compl. Cert & Water Conner	[Milestone: Jan 21]															
VAC																	
FSD																	
RAB-FSD-430	053 - Issue Form 172, FS Compliance Cert.	[Milestone: Jan 14]															
Engineer (AECOM)																	
RAB-53-7460	053 - Submit Building 053 As Built Drawings to Engineer	[Milestone: Jan 14]															
RAB-53-7470	053 - Engineer Inspection Period	[Gantt bar: Jan 21-28]															
RAB-53-7480	053 - Engineer Issue Occupation Permit	[Milestone: Jan 28]															
RAB-53-KD1	KD1 - Projected Completion of Section I of the Works (470 days) Building 053	[Milestone: Jan 28]															
Building 058 - Outbound X-Ray Scan Tunnel																	
Excavation																	
Raft																	
Structure																	
Walls																	
South																	
North																	
Roof Slabs																	
Cure and Strip																	
ABWF/E&M																	
Internal Finishes																	
Degree 1																	
Degree 2																	
Degree 3																	
RAB-58-0700	058 - Floor Finish (Epoxy Paint)	[Gantt bar: Nov 19-26, Dec 3-10, Jan 14-21]															
RAB-58-0660	058 - Snagging and Remedials, Bldg. Internal	[Gantt bar: Jan 14-21]															
RAB-58-7520	058 - End Users and MoM handover inspection	[Milestone: Jan 14]															
Roof Finishes																	
RAB-58-0540	058 - Install Railing - 152m	[Gantt bar: Nov 19-26, Dec 3-10, Jan 14-21]															
External Finishes																	
Facade																	
RAB-58-0470	058 - External Painting	[Gantt bar: Nov 19-26, Dec 3-10, Jan 14-21]															
At Grade																	
RAB-58-6760	058 - Prepare Sub Grade	[Gantt bar: Dec 3-10, Jan 14-21]															
RAB-58-6750	058 - Laying Geo Textile	[Gantt bar: Jan 14-21]															
RAB-58-6770	058 - Lay Granular Sub-Base	[Gantt bar: Jan 21-28]															

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 ◻ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018			March 2018			
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
RAB-58-6780	058 - Laying Course																	
RAB-58-6740	058 - Concrete Block Paving																	
RAB-58-6800	058 - Snagging and Remedials																	
Glazed Canopy																		
RAB-58-0600	058 - Construct high level canopy at +13.231mPD																	
Utilities and Drainage																		
Testing & Commissioning																		
Statutory Submissions & Approvals (Day 470 Completion)																		
VAC (FSD)																		
RAB-FSD-104	058 - Fire Certificate Obtained (Form 172) Handover For Building 058																	
Engineer (AECOM)																		
RAB-58-7490	058 - Submit Building 058 As Built Drawings to Engineer																	
RAB-58-7500	058 - Engineer Inspection Period																	
RAB-58-7510	058 - Engineer Issue Occupation Permit																	
RAB-KD34	KD1 - Projected Completion of Section I of the Works (470 days) Building 058																	
Building 059 - Inbound X-Ray Scan Tunnel																		
Excavation																		
Raft Foundations																		
Structure																		
Walls																		
West																		
East																		
Roof Slabs																		
Cure and Strip																		
ABWF/E&M																		
Internal Finishes																		
Degree 1																		
Degree 2																		
Degree 3																		
RAB-59-7550	059 - End Users and MoM handover inspection																	
Roof Finishes																		
External Finishes																		
Facade																		
RAB-59-0480	059 - External Painting																	
RAB-59-0650	059 - Make good external surfaces																	
At Grade																		
RAB-59-6700	059 - Prepare Sub Grade																	
RAB-59-6690	059 - Laying Geo Textile																	
RAB-59-6710	059 - Lay Granular Sub-Base																	
RAB-59-6720	059 - Laying Course																	
RAB-59-6680	059 - Concrete Block Paving																	
RAB-59-0670	059 - Snagging and Remedials																	
Glazed Canopy																		
RAB-59-0610	059 - Construct high level glazed canopy at +13.406mPD North																	
Utilities and Drainage																		
Testing & Commissioning																		
Statutory Submissions & Approvals (Day 470 Completion)																		
VAC																		
Fire Services Department (FSD)																		
Commencement																		
Completion																		
Bldg. 059 Ready for FS Inspection (C8 Requirement)																		
RAB-FSD-750	059 - Fire Certificate Obtained (Form 172) Handover For Building 059																	

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 △ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		



Activity ID	Activity Name	November 2017		December 2017				January 2018				February 2018				March 2018		
		19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	04	11
Bldg. 059 for FS Inspection (Due to C3 Work Interface)								◆										
RAB-FSD-490	059 - Fire Certificate Obtained (Form 172) Handover For Building 059							◆										
Engineer (AECOM)																		
RAB-59-7520	059 - Submit Building 059 As Built Drawings to Engineer																	
Bldg. 059 Ready for Engineer Inspection (C8 Requirement)																		
RAB-59-7570	059 - Engineer Inspection Period																	
RAB-59-7580	059 - Engineer Issue Occupation Permit																	
RAB-59-7590	KD2 - Projected Completion of Section II of the Works (470 days) Building 0																	
Bldg. 059 Ready for Engineer Inspection (Due to C3 Work Interface)																		
RAB-59-7530	059 - Engineer Inspection Period																	
RAB-59-7540	059 - Engineer Issue Occupation Permit																	
RAB-KD24	KD2 - Projected Completion of Section II of the Works (470 days) Building 0																	

■ Remaining Level of Effort
 ■ Actual Work
 ■ Critical Remaining ...
■ Actual Level of Effort
 ■ Remaining Work
 △ Finish Constraint

3-Month Rolling Programme Update, 01 Jan. 2018

Date	Revision	Checked	Approved
01-Jan-18	3-Month Rolling Programme, 01 Jan-18 Update		

Activity ID	Activity Name	2015												2016				2017				2018				2019		
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3									
Hong Kong-Zhuhai_Macao Bridge Hong Kong Boundary Crossing F		<p>22-Oct-17, Hong Kong-Zhuhai_Macao Bridge</p> <p>23-Jun-17, Site and Facility Inspection</p> <p>24-Aug-17, Access Dates</p>																										
Key Dates																												
Interface Activities																												
Site and Facility Inspection																												
JS1200	Pre Site and Facility Inspection by Contractor at Location 4 - Deg2																											
JS1210	Joint Site and Facility Inspection with Interface Contractor at Location 4 - Deg2																											
JS1620	Pre Site and Facility Inspection by Contractor at Location 14 - Deg2																											
JS1630	Joint Site and Facility Inspection with Interface Contractor at Location 14 - Deg2																											
JS1760	Pre Site and Facility Inspection by Contractor at Location 18 - Deg1																											
JS1770	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg1																											
JS1780	Pre Site and Facility Inspection by Contractor at Location 18 - Deg2																											
JS1790	Joint Site and Facility Inspection with Interface Contractor at Location 18 - Deg2																											
Access Dates																												
AD1000	Location 1(PCB (001) Basement)-Deg1 (270d)																											
AD1010	Location 1(PCB (001) Basement)-Deg2 (380d)																											
AD1020	Location 1(PCB (001) ELV Room (Grid Line E3))-Deg1 (270d)																											
AD1030	Location 1(PCB (001) ELV Room (Grid Line E3))-Deg2 (380d)																											
AD1040	Location 2(PCB (001) First Floor Main Server Room)-Deg1 (330d)																											
AD1050	Location 2(PCB (001) First Floor Main Server Room)-Deg2 (380d)																											
AD1060	Location 2(PCB (001) First Floor Main Server Room) - For Server Installation - Deg2 (380d)																											
AD1070	Location 2(PCB (001) Ground Floor ELV Room (Grid Line E3)) - Deg1 (330d)																											
AD1080	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) - Deg1 (330d)																											
AD1090	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5)) - Deg2 (380d)																											
AD1130	Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)-Deg2 (500d)																											
AD1150	Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,14)																											
AD1170	Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Room)-Deg2 (480d)																											
AD1190	Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room)-Deg2 (480d)																											
AD1200	Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room) - For Server installation - Deg2 (480d)																											
AD1220	Location 4(Outbd Cargo Exam Bldg (023))-Deg2 (680d)																											
AD1240	Location 4a(Outbd Cargo Exam Bldg (023))-Deg2 (630d)																											
AD1270	Location 6(Common Utility Enclosure & Staff Subway)-Deg1 (400d)																											
AD1290	Location 7(Common Utility Enclosure & Staff Subway)-Deg1 (270d)																											
AD1300	Location 8(Inbd Private Car Annex (025))-Deg1 (430d)																											
AD1310	Location 8(Inbd Private Car Annex (025))-Deg2 (580d)																											
AD1320	Location 8(Inbd Private Car Annex (025) Canopy)-Deg1 (430d)																											
AD1330	Location 8(Inbd Private Car Annex (025) Canopy)-Deg2 (580d)																											
AD1340	Location 9(Outbd Private Car Annex (032))-Deg1 (520d)																											
AD1350	Location 9(Outbd Private Car Annex (032))-Deg2 (660d)																											
AD1360	Location 9(Outbd Private Car Annex (032) Canopy)-Deg1 (520d)																											
AD1370	Location 9(Outbd Private Car Annex (032) Canopy)-Deg2 (660d)																											
AD1501	Location 12(Inbd Private Car Kiosks(027))-Deg1 (400d) Phase 2																											
AD1510	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d) Phase 1																											
AD1511	Location 12(Inbd Private Car Kiosks(027))-Deg2 (480d) Phase 2																											
AD1521	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg1 (400d) Phase 2																											

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

- Actual Level of Effort
- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- Baseline Milestone
- Milestone

summary

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

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name	2015			2016				2017				2018				2019			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
AD1530	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 1																			
AD1531	Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 2																			
AD1540	Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 1																			
AD1541	Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 2																			
AD1550	Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 1																			
AD1551	Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 2																			
AD1560	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 1																			
AD1561	Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 2																			
AD1570	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 1																			
AD1571	Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 2																			
AD1580	Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 1																			
AD1581	Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 2																			
AD1590	Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 1																			
AD1591	Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 2																			
AD1600	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 1																			
AD1601	Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 2																			
AD1610	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 1																			
AD1611	Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 2																			
AD1620	Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d) Phase 1																			
AD1630	Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d) Phase 1																			
AD1640	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d) Phase 1																			
AD1650	Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d) Phase 1																			
AD1660	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d)																			
AD1670	Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg2 (680d)																			
AD1700	Location 16(Outbd Traffic Control Kiosk (101))-Deg1 (400d)																			
AD1710	Location 16(Outbd Traffic Control Kiosk (101))-Deg2 (480d)																			
AD1740	Location 18(Outbd Private Car Exam Bldg(024))-Deg1 (-)																			
AD1750	Location 18(Outbd Private Car Exam Bldg(024))-Deg2 (670d)																			
AD1780	(by C03) Underground Ducting (UUD1.1) between CUE and Inbd Cargo Exam Bldg (0																			
AD1790	(by C03) (UUD1.2) between Inbd Cargo Exam Bldg South (037[S]) and DOH Cargo C																			
AD1800	(by C03) (UUD2) between Inbd Cargo Exam Bldg North (037[N]) and Inbd Vehicle Cle																			
AD1810	(by C03) (UUD9.1) btw Inbd Cargo Exam Bldg S.(037[S]) & Inbd PC Exam Bldg(033) &																			
AD1820	(by C03) (UUD9.3) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear																			
AD1830	(by C03) (UUD9.2) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear																			
AD1840	(by C03) Underground Ducting (UUD3.1) between CUE to Outbd Cargo Exam Bldg (0																			
AD1850	(by C03) (UUD3.2) btw Outbd Car Exam Bldg (023) and Outbd PC Exam Bldg (024) a																			
AD1860	(byC03) (UUD4.1) between Outbd Private Car Exam Bldg (024) and Outbd Vehicle Cle																			
AD1870	(byC03) (UUD5) between Outbd Car Exam Bldg South (023[S]) and Outbd Vehicle Cle																			
AD1880	(by C03) Underground Ducting (UUD8) between CUE and Outbd PCA (032)																			
AD1910	(by C03) Inbound Vehicle Clearance Plaza																			
AD1920	(by C03) Outbound Vehicle Clearance Plaza																			
Interfaces Provisions Mobilization Provisions WA4 Site Erection & Servicing																				

Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 1

Location 12(Inbd Private Car Kiosks(027) Canopy)-Deg2 (480d) Phase 2

Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 1

Location 12(Inbd GV Kiosks (028))-Deg1 (400d) Phase 2

Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 1

Location 12(Inbd GV Kiosks (028))-Deg2 (480d) Phase 2

Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 1

Location 12(Inbd GV Kiosks (028) Canopy)-Deg1 (400d) Phase 2

Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 1

Location 12(Inbd GV Kiosks (028) Canopy)-Deg2 (480d) Phase 2

Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 1

Location 12(Outbd GV Kiosks (029))-Deg1 (400d) Phase 2

Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 1

Location 12(Outbd GV Kiosks (029))-Deg2 (480d) Phase 2

Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 1

Location 12(Outbd GV Kiosks (029) Canopy)-Deg1 (400d) Phase 2

Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 1

Location 12(Outbd GV Kiosks (029) Canopy)-Deg2 (480d) Phase 2

Location 13(Outbd Private Car Kiosks (030))-Deg1 (480d) Phase 1

Location 13(Outbd Private Car Kiosks (030))-Deg2 (550d) Phase 1

Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg1 (480d) Phase 1

Location 13(Outbd Private Car Kiosks (030) Canopy)-Deg2 (550d) Phase 1

Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg1 (610d)

Location 14(Future-Outbd/Inbd Private Car Kiosks)-Deg2 (680d)

Location 16(Outbd Traffic Control Kiosk (101))-Deg1 (400d)

Location 16(Outbd Traffic Control Kiosk (101))-Deg2 (480d)

Location 18(Outbd Private Car Exam Bldg(024))-Deg1 (-)

Location 18(Outbd Private Car Exam Bldg(024))-Deg2 (670d)

(by C03) Underground Ducting (UUD1.1) between CUE and Inbd Cargo Exam Bldg (0

(by C03) (UUD1.2) between Inbd Cargo Exam Bldg South (037[S]) and DOH Cargo C

(by C03) (UUD2) between Inbd Cargo Exam Bldg North (037[N]) and Inbd Vehicle Cle

(by C03) (UUD9.1) btw Inbd Cargo Exam Bldg S.(037[S]) & Inbd PC Exam Bldg(033) &

(by C03) (UUD9.3) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear

(by C03) (UUD9.2) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clear

(by C03) Underground Ducting (UUD3.1) between CUE to Outbd Cargo Exam Bldg (0

(by C03) (UUD3.2) btw Outbd Car Exam Bldg (023) and Outbd PC Exam Bldg (024) a

(byC03) (UUD4.1) between Outbd Private Car Exam Bldg (024) and Outbd Vehicle Cle

(byC03) (UUD5) between Outbd Car Exam Bldg South (023[S]) and Outbd Vehicle Cle

(by C03) Underground Ducting (UUD8) between CUE and Outbd PCA (032)








(by C03) Inbound Vehicle Clearance Plaza

(by C03) Outbound Vehicle Clearance Plaza

12-Aug-17, Interfaces Provisions

22-Oct-17, Mobilization Provisions

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

 Actual Level of Effort
 Primary Baseline
 Actual Work
 Remaining Work
 Critical Remaining Work
 Baseline Milestone
 Milestone

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

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name	2015		2016				2017				2018				2019			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Detailed Design Specification																		
	Construction Design and Management																		
	Supply/Manufacture Mock-up items																		
	Supply/Manufacture prototypes																		
	Software Design, Coding and Testing																		
	Coding																		
	Software System Integration																		
	Prototype & Software Simulation Tests																		
	Procurement - Phase 1 / Section I																		
	Supply/Manufacture products for FAT																		
	Factory Acceptance Test (FAT)																		
	Supply/Manufacture Equipment																		
	Delivery and Bench Acceptance Test for Phase 1/ Section I																		
	Installation - Phase 1 / Section I																		
	Location 1(PCB (001) Basement)																		
EM1920	L1(001)B/F - Cable Laying and termination at Location 1 and Location 2																		
	Location 1(PCB (001) ELV Room (Grid Line E3))																		
EM1940	L1(001)ELV Rm - Cable Laying and termination at Location 1 and Location 2																		
	Location 2(PCB (001) Ground Floor ELV Room (Grid Line E3))																		
EM1960	L2(001)ELV Rm - Cable Laying and termination at Location 1 and Location 2																		
	Location 2(PCB (001) Ground Floor DOH Port Health Control Room (Grid Line BD5))																		
EM1080	L2(001)Heath Ctrl Rm - Cable Laying and termination at Location 1 and Location 2																		
EM1100	L2(001)Heath Ctrl Rm - Cable Splicing and Testing and Labeling																		
EM1120	L2(001)Health Ctrl Rm - Intercom and PA system Installation																		
EM1140	L2(001)Heath Ctrl Rm - Intercom and PA system tuning																		
	Location 2(PCB (001) First Floor Main Server Room)																		
EM1000	L2(001)Main Server Rm - Cable Laying and termination at Location 1 and Location 2																		
EM1020	L2(001)Main Server Rm - Cable Splicing and Testing and Labeling																		
EM1040	L2(001)Main Server Rm - AVCSS Network and Server Installation																		
EM1060	L2(001)Main Server Rm - AVCSS Network and Server Tuning																		
	Location 3(Inbd Cargo Exam Bldg (037) MDF Room)																		
	Location 3(Inbd Cargo Exam Bldg (037) ELV Room)																		
	Location 3(Inbd Cargo Exam Bldg (037) Inspector Offices 128,129,130,131,128,129,141)																		
EM2020	L3(037)Inspec Offices - Cable Laying and termination in Location 3 and Location 3a																		
EM2040	L3(037)Inspec Offices - Cable Splicing and Testing and Labeling																		
EM2060	L3(037)Inspec Offices - AVCSS SURCON WS and 55" LCD Installation																		
EM2080	L3(037)Inspec Offices - VTS WS Installation																		
EM2100	L3(037)Inspec Offices - SURCON and WS Tuning																		
	Location 3(Inbd Cargo Exam Bldg (037) Platform Control Room)																		
EM1160	L3(037)PLF Ctrl Rm - Cable Laying and termination in Location 3 and Location 3a																		
EM1180	L3(037)PLF Ctrl Rm - Cable Splicing and Testing and Labeling																		
EM1200	L3(037)PLF Ctrl Rm - AVCSS SYSCON WS and 55" TV Wall Installation																		
EM1220	L3(037)PLF Ctrl Rm - AVCSS SYSCON WS Tuning																		

01-Sep-17; Installation - Phase 1 / Section I
 22-Jun-17; Location:1(PCB (001);Basement)
 L1(001)B/F - Cable Laying and termination at Location
 22-Jun-17; Location:1(PCB (001);ELV Room (Grid Line
 L1(001)ELV Rm - Cable Laying and termination at Loca
 22-Jun-17; Location:2(PCB (001);Ground Floor ELV R
 L2(001)ELV Rm - Cable Laying and termination at Loca
 18-Aug-17; Location:2(PCB (001);Ground Floor DO
 L2(001)Heath Ctrl Rm - Cable Laying and termination
 L2(001)Heath Ctrl Rm - Cable Splicing and Testing and
 L2(001)Heath Ctrl Rm - Intercom and PA system In
 L2(001)Heath Ctrl Rm - Intercom and PA system tu
 21-Aug-17; Location:2(PCB (001); First Floor Main
 L2(001)Main Server Rm - Cable Laying and terminatio
 L2(001)Main Server Rm - Cable Splicing and Testing
 L2(001)Main Server Rm - AVCSS Network and Ser
 L2(001)Main Server Rm - AVCSS Network and Se
 07-Aug-17; Location:3(Inbd Cargo Exam Bldg (037)
 L3(037)Inspec Offices - Cable Laying and termination in
 L3(037)Inspec Offices - Cable Splicing and Testing and
 L3(037)Inspec Offices - AVCSS SURCON WS and 5
 L3(037)Inspec Offices - VTS WS Installation
 L3(037)Inspec Offices - SURCON and WS Tuning
 07-Aug-17; Location:3(Inbd Cargo Exam Bldg (037)
 L3(037)PLF Ctrl Rm - Cable Laying and termination in
 L3(037)PLF Ctrl Rm - Cable Splicing and Testing and
 L3(037)PLF Ctrl Rm - AVCSS SYSCON WS and 55
 L3(037)PLF Ctrl Rm - AVCSS SYSCON WS Tuning

Programme No.: HZMB-DWP Data Date: 14-Aug-15		Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)	Date	Revision	Checked	Approved
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Activity ID	Activity Name	2015			2016				2017				2018				2019		
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Room)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM1240 L3a(037) ROCARS Rm - Cable Laying and termination in Location 3 and Location 3a EM1260 L3a(037) ROCARS Rm - Cable Splicing and Testing and Labeling EM1280 L3a(037) ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation EM1300 L3a(037) ROCARS Rm - VTS WS Installation EM1320 L3a(037) ROCARS Rm - VID WS Installation EM1340 L3a(037) ROCARS Rm - SURCON and SYSCON and WS Tuning </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 07-Aug-17, Location 3a(Inbd Cargo Exam Bldg (037) ROCARS Rm - Cable Laying and termination L3a(037) ROCARS Rm - Cable Splicing and Testing and Labeling L3a(037) ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation L3a(037) ROCARS Rm - VTS WS Installation L3a(037) ROCARS Rm - VID WS Installation L3a(037) ROCARS Rm - SURCON and SYSCON and WS Tuning </div> </div>																	
Location 3a(Inbd Cargo Exam Bldg (037) Main Server Room)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM2120 L3a(037)Main Server Rm - Cable Laying and termination in Location 3 and Location 3a EM2140 L3a(037)Main Server Rm - Cable Splicing and Testing and Labeling EM2160 L3a(037)Main Server Rm - AVCSS Server Installation EM2180 L3a(037)Main Server Rm - VTS Server Installation EM2200 L3a(037)Main Server Rm - Servers Tuning </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 07-Aug-17, Location 3a(Inbd Cargo Exam Bldg (037) Main Server Rm - Cable Laying and termination L3a(037)Main Server Rm - Cable Splicing and Testing and Labeling L3a(037)Main Server Rm - AVCSS Server Installation L3a(037)Main Server Rm - VTS Server Installation L3a(037)Main Server Rm - Servers Tuning </div> </div>																	
Location 4(Outbd Cargo Exam Bldg (023) MDF Room)																			
Location 4a(Outbd Cargo Exam Bldg (023) ROCARS Room)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM2240 L4a(023)ROCARS Rm - Cable Splicing and Testing and Labeling EM2260 L4a(023)ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation EM2280 L4a(023)ROCARS Rm - VTS WS Installation EM2300 L4a(023)ROCARS Rm - SYSCON and SURCON and WS Tuning </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 04-Aug-17, Location 4a(Outbd Cargo Exam Bldg (023) ROCARS Rm - Cable Splicing and Testing and Labeling L4a(023)ROCARS Rm - AVCSS SYSCON and SURCON and Intercom Installation L4a(023)ROCARS Rm - VTS WS Installation L4a(023)ROCARS Rm - SYSCON and SURCON and WS Tuning </div> </div>																	
Location 5(Common Utility Enclosure & Staff Subway)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM2341 L5(CUE) - Cable Laying between Location 5 and Location 6 EM2361 L5(CUE) - Cable Laying between Location 5 and Location 7 EM2380 L5(CUE) - Cable Splicing and Testing and Labeling </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 01-Sep-17, Location 5(Common Utility Enclosure & Staff Subway) - Cable Laying between Location 5 and Location 6 L5(CUE) - Cable Laying between Location 5 and Location 7 L5(CUE) - Cable Splicing and Testing and Labeling </div> </div>																	
Location 6(Common Utility Enclosure & Staff Subway)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM2400 L6(CUE) - Cable Laying between Location 5 and Location 6 EM2420 L6(CUE) - Cable Splicing and Testing and Labeling </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 26-Aug-17, Location 6(Common Utility Enclosure & Staff Subway) - Cable Laying between Location 5 and Location 6 L6(CUE) - Cable Splicing and Testing and Labeling </div> </div>																	
Location 7(Common Utility Enclosure & Staff Subway)		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> EM2440 L7(CUE) - Cable Laying between Location 5 and Location 7 EM2460 L7(CUE) - Cable Splicing and Testing and Labeling </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 01-Sep-17, Location 7(Common Utility Enclosure & Staff Subway) - Cable Laying between Location 5 and Location 7 L7(CUE) - Cable Splicing and Testing and Labeling </div> </div>																	
Location 12(Inbd Private Car Kiosks,GV Kiosks (027,028,029))		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> Inbd Private Car Kiosks(027) - 9 nos (Phase 1) EM1500 L12(027)(9nos P1) - Cable Splicing and Testing and Labeling EM1520 L12(027)(9nos P1) - AVCSS/MOM Kiosk Equipment Installation (9 nos) EM1541 L12(027)(9nos P1) - XDB installation (18 nos) EM1542 L12(027)(9nos P1) - ODB installation (5 nos) EM1543 L12(027)(9nos P1) - ODB installation (2 nos) EM1544 L12(027)(9nos P1) - ODB installation (2 nos) EM1560 L12(027)(9nos P1) - Loop installation (45 nos) Inbd Goods Vehicle Kiosks(028) - 5 nos (Phase 1) EM1620 L12(028)(5nos P1) - Cable Laying and termination EM1640 L12(028)(5nos P1) - Cable Splicing and Testing and Labeling EM1660 L12(028)(5nos P1) - AVCSS/MOM Kiosk Equipment Installation (5 nos) EM1681 L12(028)(5nos P1) - XDB installation (10 nos) EM1682 L12(028)(5nos P1) - ODB installation (3 nos) EM1683 L12(028)(5nos P1) - ODB installation (2 nos) </div> <div style="width: 45%;"> <ul style="list-style-type: none"> 30-Aug-17, Location 12(Inbd Private Car Kiosks,GV Kiosks(027,028,029)) - Cable Splicing and Testing and Labeling 24-Aug-17, Inbd Private Car Kiosks(027) - 9 nos (Phase 1) - Cable Splicing and Testing and Labeling L12(027)(9nos P1) - AVCSS/MOM Kiosk Equipment Installation (9 nos) L12(027)(9nos P1) - XDB installation (18 nos) L12(027)(9nos P1) - ODB installation (5 nos) L12(027)(9nos P1) - ODB installation (2 nos) L12(027)(9nos P1) - ODB installation (2 nos) L12(027)(9nos P1) - ODB installation (2 nos) L12(027)(9nos P1) - Loop installation (45 nos) 30-Aug-17, Inbd Goods Vehicle Kiosks(028) - 5 nos (Phase 1) - Cable Laying and termination L12(028)(5nos P1) - Cable Splicing and Testing and Labeling L12(028)(5nos P1) - AVCSS/MOM Kiosk Equipment Installation (5 nos) L12(028)(5nos P1) - XDB installation (10 nos) L12(028)(5nos P1) - ODB installation (3 nos) L12(028)(5nos P1) - ODB installation (2 nos) </div> </div>																	

Programme No.: HZMB-DWP Data Date: 14-Aug-15	<ul style="list-style-type: none"> Actual Level of Effort Primary Baseline Actual Work Remaining Work Critical Remaining Work Baseline Milestone Milestone 	Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> </thead> <tbody> <tr> <td>14-Nov-16</td> <td>Rev.: 0</td> <td>WC</td> <td>LC</td> </tr> <tr> <td>10-Mar-17</td> <td>Rev.: 1.0a</td> <td>WC</td> <td>LC</td> </tr> <tr> <td>5-May-17</td> <td>Rev.: 1.0b</td> <td>WC</td> <td>LC</td> </tr> </tbody> </table>	Date	Revision	Checked	Approved	14-Nov-16	Rev.: 0	WC	LC	10-Mar-17	Rev.: 1.0a	WC	LC	5-May-17	Rev.: 1.0b	WC	LC
Date	Revision	Checked	Approved																
14-Nov-16	Rev.: 0	WC	LC																
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Activity ID	Activity Name	2015			2016				2017				2018				2019		
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Outbd Vehicle Clearance Plaza - 8 nos VID, 6 nos VTS, 4 nos TLS		<ul style="list-style-type: none"> EM3160 Outbound VID cabling from pillar box to VID field equipment EM3180 Outbound VTS cabling from pillar box to VTS field equipment EM3200 Outbound TLS cabling from pillar box to TLS field equipment EM3220 Outbound VID field equipment installation (8 VID) EM3240 Outbound VTS field equipment installation (3 RFID + 3 Cameras) EM3260 Outbound TLS field equipment installation (4 TLS) EM3280 Outbound VID and VTS and TLS field equipment tuning 																	
Underground Ducting (UUD1.1) between CUE and Inbd Cargo Exam Bldg (037)		<ul style="list-style-type: none"> UD1000 (UUD1.1 [CUE-037]) - Cable laying and termination 																	
(UUD1.2) between Inbd Cargo Exam Bldg South (037[S]) and DOH Cargo Clearance Bldg (037[S])		<ul style="list-style-type: none"> UD1060 (UUD1.2 [037[S]-043]) - Cable laying and termination 																	
Underground Ducting (UUD6) between CUE and Shuttle Bus Kiosk (006) and Inbd Private Car Exam Bldg (033)		<ul style="list-style-type: none"> UD1040 (UUD9.1 [037[S]-033-100]) - Cable laying and termination 																	
(UUD9.1) btw IB Cargo Exam Bldg South(037[S]) & IB PC Exam Bldg(033) & IB Traffic Control Bldg (033)		<ul style="list-style-type: none"> UD1010 (UUD2 [037[N]-IB VCP]) - Cable laying and termination 																	
(UUD2) between Inbd Cargo Exam Bldg North (037[N]) to Inbd VCP		<ul style="list-style-type: none"> UD1070 (UUD9.3 [033-IB VCP[W]]) - Cable laying and termination 																	
(UUD9.3) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clearance Plaza		<ul style="list-style-type: none"> UD1020 (UUD9.2 [033-IB VCP[E]]) - Cable laying and termination 																	
(UUD9.2) between Inbd Private Car Exam Bldg (033) and Inbd Vehicle Clearance Plaza		<ul style="list-style-type: none"> UD1020 (UUD9.2 [033-IB VCP[E]]) - Cable laying and termination 																	
Underground Ducting (UUD7) between PCB(001) and Inbd Coach Kiosks(010)		<ul style="list-style-type: none"> UD1030 (UUD3.1 [CUE-023]) - Cable laying and termination 																	
Underground Ducting (UUD3.1) between CUE and Outbd Cargo Exam Bldg (023)		<ul style="list-style-type: none"> UD1050 (UUD3.2 [023-024-101]) - Cable laying and termination 																	
(UUD3.2) btw OB Car Exam Bldg(023) & OB PC Exam Bldg(024) & OB Traffic Control Bldg (023)		<ul style="list-style-type: none"> UD1100 (UUD8 [CUE-032]) - Cable laying and termination 																	
Underground Ducting (UUD8) between CUE and Outbd PCA (032)		<ul style="list-style-type: none"> UD1080 (UUD4.1 [024-OB VCP]) - Cable laying and termination 																	
(UUD4.1) between Outbd PC Exam Bldg (024) and Outbd Vehicle Clearance Plaza		<ul style="list-style-type: none"> UD1090 (UUD5 [023[S]-OB VCP]) - Cable laying and termination 																	
(UUD5) between Outbd Car Exam Bldg (023[S]) and Outbd Vehicle Clearance Plaza		<ul style="list-style-type: none"> UD1090 (UUD5 [023[S]-OB VCP]) - Cable laying and termination 																	
Initial On-Site Test and Commissioning / Pre-SAT (Phase 1 / Section I)																			
Site Acceptance Test (Phase 1 / Section I)																			
Security Risk Assessment and Audit																			
Operability Period Test (Phase 1 / Section I)																			
Completion (Phase 1 /Section I)																			
Training and Document (Phase 1 /Section I)																			
Operation (Phase 1 /Section I)																			
Engineering Support for Phase 1 / Section I																			
Procurement - Phase 2 / Section II																			
Delivery and Bench Acceptance Test for Phase 2/Section II																			
Installation - Phase 2 / Section II		<ul style="list-style-type: none"> 30-Aug-17: Installation -Phase 2/ Section II 																	

Programme No.: HZMB-DWP Data Date: 14-Aug-15		Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities - Automatic Vehicle Clearance Support System (AVCSS)	Date	Revision	Checked	Approved
			14-Nov-16	Rev.: 0	WC	LC
			10-Mar-17	Rev.: 1.0a	WC	LC
			5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name	2015			2016				2017				2018				2019		
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Location 8(Inbd Private Car Annex (025)) (Phase 2)		▼ 30-Aug-17; Location 8(Inbd Private Car Annex (025)) (Phase 2)																	
EM3370	L8(025) - Cable Containment in Kiosks	L8(025) - Cable Containment in Kiosks																	
EM3380	L8(025) - Cable Laying and termination	L8(025) - Cable Laying and termination																	
EM3400	L8(025) - Cable Splicing and Testing and Labeling	L8(025) - Cable Splicing and Testing and Labeling																	
Location 9(Outbd Private Car Annex (032)) (Phase 2)		▼ 30-Aug-17; Location 9(Outbd Private Car Annex (032)) (Phase 2)																	
EM3500	L9(032) - Cable Containment in Kiosks	L9(032) - Cable Containment in Kiosks																	
EM3520	L9(032) - Cable Laying and termination	L9(032) - Cable Laying and termination																	
Initial On-Site Test and Commissioning / Pre-SAT (Phase 2 / Section II)																			
Site Acceptance Test (Phase 2 / Section II)																			
Operability Period Test (Phase 2 / Section II)																			
Completion (Phase 2 / Section II)																			
Engineering Support for Phase 2 / Section II																			
Procurement for Phase2 / Section III																			
Delivery and Bench Acceptance Test for Phase2 / Section III																			
Installation - Phase 2 / Section III		▼ 09-Oct-17; Installation - Phase 2/ Section III																	
Location 10,11,12,13 (Vehicle Clearance Kiosks)		▼ 09-Oct-17; Location 10,11,12,13 (Vehicle Clearance Kiosks)																	
Location 12 Inbd Private Car Kiosks (027) - 12 nos (Phase 2)		▼ 09-Oct-17; Location 12 Inbd Private Car Kiosks																	
EM4440	L12(027)(12nos P2) - Cable Laying and termination	L12(027)(12nos P2) - Cable Laying and termination																	
EM4460	L12(027)(12nos P2) - Cable Splicing and Testing and Labeling	L12(027)(12nos P2) - Cable Splicing and Testing and Labeling																	
EM4480	L12(027)(12nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (12 nos)	L12(027)(12nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (12 nos)																	
Location 13 Outbd Private Car Kiosks (030) - 12 nos (Phase 2)		▼ 01-Sep-17; Location 13 Outbd Private Car Kiosks																	
EM4560	L13(030)(12nos P2) - Cable Containment in Kiosks	L13(030)(12nos P2) - Cable Containment in Kiosks																	
Location 12 Outbd Goods Vehicle Kiosks (029) - 3 nos (Phase 2)		▼ 31-Aug-17; Location 12 Outbd Goods Vehicle Kiosks																	
EM4880	L12(029)(3nos P2) - Cable Laying and termination	L12(029)(3nos P2) - Cable Laying and termination																	
EM4900	L12(029)(3nos P2) - Cable Splicing and Testing and Labeling	L12(029)(3nos P2) - Cable Splicing and Testing and Labeling																	
EM4920	L12(029)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)	L12(029)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)																	
EM4940	L12(029)(3nos P2) - ODB & XDB Installation (3 nos)	L12(029)(3nos P2) - ODB & XDB Installation (3 nos)																	
EM4960	L12(029)(3nos P2) - AIOP Installation (3 nos)	L12(029)(3nos P2) - AIOP Installation (3 nos)																	
EM4980	L12(029)(3nos P2) - Loop Installation (15 nos)	L12(029)(3nos P2) - Loop Installation (15 nos)																	
Location 11 Outbd Coach Kiosks (009) - 4 nos (Phase 2)																			
Location 12 Inbd Goods Vehicle Kiosks (028) - 3 nos (Phase 2)		▼ 24-Aug-17; Location 12 Inbd Goods Vehicle Kiosks																	
EM4720	L12(028)(3nos P2) - Cable Laying and termination	L12(028)(3nos P2) - Cable Laying and termination																	
EM4740	L12(028)(3nos P2) - Cable Splicing and Testing and Labeling	L12(028)(3nos P2) - Cable Splicing and Testing and Labeling																	
EM4760	L12(028)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)	L12(028)(3nos P2) - AVCSS/DOH/MOM Kiosk Equipment Installation (3 nos)																	
EM4780	L12(028)(3nos P2) - ODB & XDB Installation (3 nos)	L12(028)(3nos P2) - ODB & XDB Installation (3 nos)																	
EM4800	L12(028)(3nos P2) - AIOP Installation (3 nos)	L12(028)(3nos P2) - AIOP Installation (3 nos)																	
EM4820	L12(028)(3nos P2) - Loop Installation (15 nos)	L12(028)(3nos P2) - Loop Installation (15 nos)																	
EM4840	L12(028)(3nos P2) - Kiosk Equipment Configuration (3 nos)	L12(028)(3nos P2) - Kiosk Equipment Configuration (3 nos)																	
EM5120	L12(028)(3nos P2) - Inbd Goods Vehicle Kiosks Installation Complete	L12(028)(3nos P2) - Inbd Goods Vehicle Kiosks Installation Complete																	
Location 10 Shuttle Bus Kiosks (006) - 4 nos (Phase 2)		▼ 30-Aug-17; Location 10 Shuttle Bus Kiosks (006) -																	
EM4000	L10(006)(4nos P2) - Cable Containment in Kiosks	L10(006)(4nos P2) - Cable Containment in Kiosks																	
Location 11 Inbd Coach Kiosks (010) - 2 nos (Phase 2)-1																			
Location 11 Inbd Coach Kiosks (010) - 2 nos (Phase 2)-2																			
Initial On-Site Test and Commissioning / Pre-SAT (Phase 2 / Section III)																			

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

- Actual Level of Effort
- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- summary
- Baseline Milestone
- Milestone

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

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name	2015			2016				2017				2018				2019			
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
	<ul style="list-style-type: none"> Site Acceptance Test (Phase 2 / Section III) Operability Period Test (Phase 2 / Section III) Completion (Phase 2 / Section III) Operation (Phase 2 / Section III) Defect Liability Period (DLP) Document Submission (Phase 2 / Section III) 																			

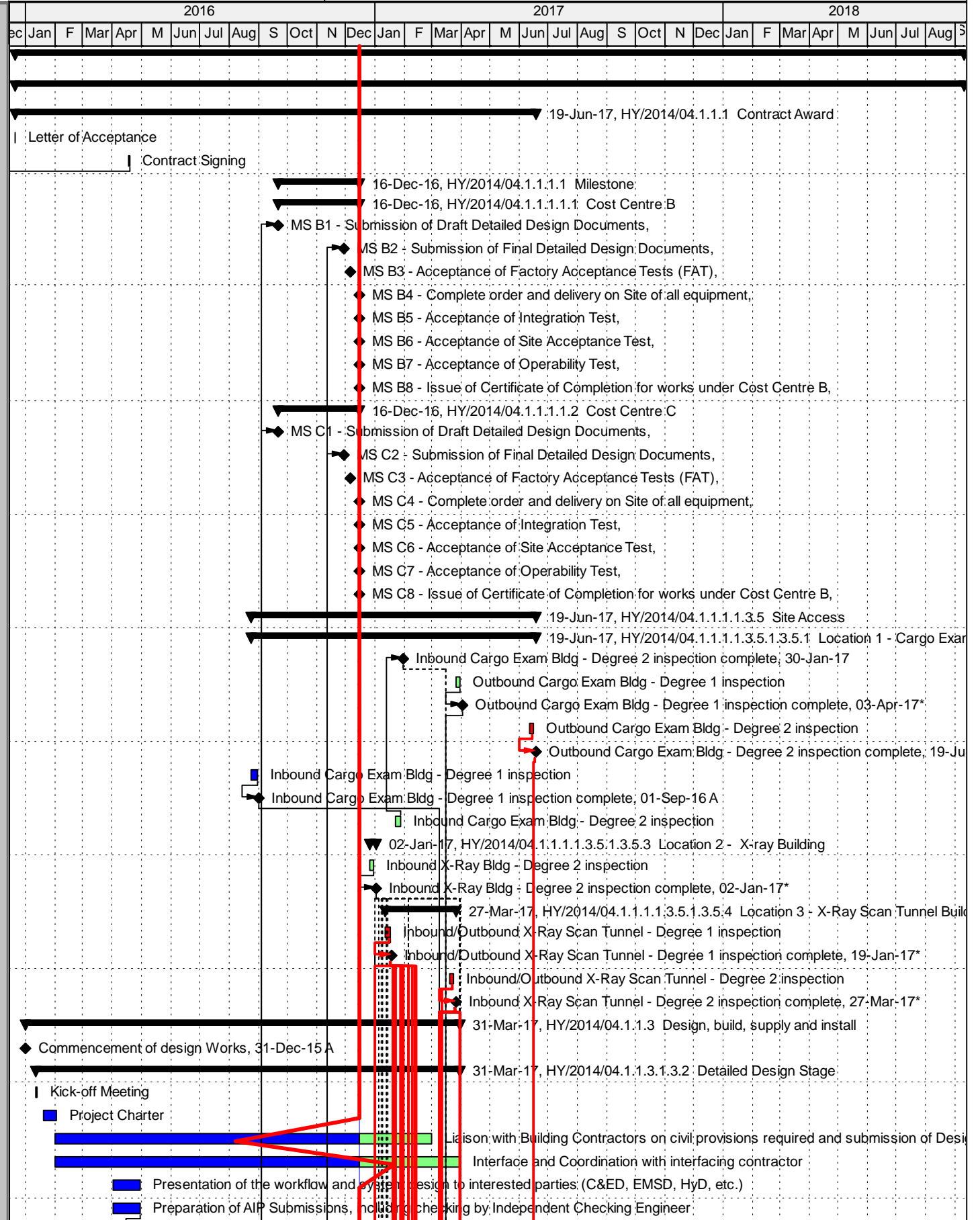
Programme No.: HZMB-DWP
Data Date: 14-Aug-15

- Actual Level of Effort
- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- Baseline Milestone
- Milestone

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

Date	Revision	Checked	Approved
14-Nov-16	Rev.: 0	WC	LC
10-Mar-17	Rev.: 1.0a	WC	LC
5-May-17	Rev.: 1.0b	WC	LC

Activity ID	Activity Name
HY/2014/04 Hong Kong-Zhuhai-Macao Bridge	
HY/2014/04.1 Contract No. HY/2014/04 Hong Kong-Zhuhai-Macao Bridge	
HY/2014/04.1.1.1 Contract Award	
3	Letter of Acceptance
4	Contract Signing
HY/2014/04.1.1.1.1 Milestone	
HY/2014/04.1.1.1.1.1 Cost Centre B	
A1C	MS B1 - Submission of Draft Detailed Design Documents
A1C	MS B2 - Submission of Final Detailed Design Documents
A1C	MS B3 - Acceptance of Factory Acceptance Tests (FAT)
A1C	MS B4 - Complete order and delivery on Site of all equipment
A1C	MS B5 - Acceptance of Integration Test
A1C	MS B6 - Acceptance of Site Acceptance Test
A1C	MS B7 - Acceptance of Operability Test
A1C	MS B8 - Issue of Certificate of Completion for works under Cost Centre B
HY/2014/04.1.1.1.1.2 Cost Centre C	
A1C	MS C1 - Submission of Draft Detailed Design Documents
A11	MS C2 - Submission of Final Detailed Design Documents
A11	MS C3 - Acceptance of Factory Acceptance Tests (FAT)
A11	MS C4 - Complete order and delivery on Site of all equipment
A11	MS C5 - Acceptance of Integration Test
A11	MS C6 - Acceptance of Site Acceptance Test
A11	MS C7 - Acceptance of Operability Test
A11	MS C8 - Issue of Certificate of Completion for works under Cost Centre C
HY/2014/04.1.1.1.3.5 Site Access	
HY/2014/04.1.1.1.3.5.1.3.5.1 Location 1 - Cargo Exam Bldg - Degree 2 inspection	
100	Inbound Cargo Exam Bldg - Degree 2 inspection
102	Outbound Cargo Exam Bldg - Degree 1 inspection
103	Outbound Cargo Exam Bldg - Degree 1 inspection
104	Outbound Cargo Exam Bldg - Degree 2 inspection
105	Outbound Cargo Exam Bldg - Degree 2 inspection
97	Inbound Cargo Exam Bldg - Degree 1 inspection
98	Inbound Cargo Exam Bldg - Degree 1 inspection
99	Inbound Cargo Exam Bldg - Degree 2 inspection
HY/2014/04.1.1.1.3.5.1.3.5.3 Location 2 - X-ray Building	
107	Inbound X-Ray Bldg - Degree 2 inspection
108	Inbound X-Ray Bldg - Degree 2 inspection complete
HY/2014/04.1.1.1.3.5.1.3.5.4 Location 3 - X-Ray Scan Tunnel	
110	Inbound/Outbound X-Ray Scan Tunnel - Degree 1 inspection
111	Inbound/Outbound X-Ray Scan Tunnel - Degree 1 inspection
112	Inbound/Outbound X-Ray Scan Tunnel - Degree 2 inspection
113	Inbound X-Ray Scan Tunnel - Degree 2 inspection
HY/2014/04.1.1.3 Design, build, supply and install	
28	Commencement of design Works
HY/2014/04.1.1.3.1.3.2 Detailed Design Stage	
30	Kick-off Meeting
31	Project Charter
32	Liaison with Building Contractors on civil provisions required and submission of Design
33	Interface and Coordination with interfacing contractor
35	Presentation of the workflow and system design to interested parties (C&ED, EMSD, HyD, etc.)
36	Preparation of AIP Submissions, including check by Independent Checking Engineer



Activity ID	Activity Name	2016												2017												2018																			
		Dec	Jan	F	Mar	Apr	M	Jun	Jul	Aug	S	Oct	N	Dec	Jan	F	Mar	Apr	M	Jun	Jul	Aug	S	Oct	N	Dec	Jan	F	Mar	Apr	M	Jun	Jul	Aug	S										
	330																													Deployment of SAT Independent Competent Adviser															
	331																													Submission of complete set of sample and associated supporting structure for testing of X															
	332																													Submission of radiation source with protective enclosure to Government															
	333																													SAT carried out by an Independent Competent Advisor															
	334																													Preparation, submission and acceptance of SAT report															
	334.5																													Complete SAT (MS B.6 - 14 Apr 17)															
	HY/2014/04.1.1.3.9.1.3.9.5 Training																														05-Sep-17, HY/2014/04.1.1.3.9.1.3.9.5 Training														
	338																													Submission of Training Syllabus for approval															
	339																													Liaison with Engineer to confirm training schedule															
	340																													Operator Training															
	341																													Trainer training															
	342																													Preventive maintenance training															
	343																													Comprehensive maintenance training															
	344																													Training Complete															
	HY/2014/04.1.1.3.9.1.3.9.7 Other Documentation																														Submission of WR1/WR1 (A) for all electrical installations														
	347																													Submission of draft O&M Manuals, Driver's Handbook, Catalog for Gantry and Recorder															
	348																													Submission of finalized O&M Manuals, Driver's Handbook, Catalog for Gantry and Recorder															
	349																													Submission of CD-ROM/DVD-ROM of O&M Manuals, Driver's Handbook, Catalog for Gantry and Recorder															
	350																													Submission of As-built Drawings															
	351																													Submission of Spare Parts and Special Tools Requirements															
	352																													Submission of Operator's Operating Instructions															
	353																													Submission of System Operation Instructions															
	354																													Submission of Software Manuals and Instruction Manuals															
	355																													Submission of Equipment and Hardware Maintenance															
	356																													Submission of Equipment and Hardware Maintenance															
	357																													Submission of Software License Installation Disk															

█ Actual Level of Effort
 █ Remaining Work
 ◆◆ Milestone
█ Actual Work
 █ Critical Remaining Work
 ▼ summary



APPENDIX D

Event and Action Plan

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / 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.
Limit Level	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<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 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. 	<ol style="list-style-type: none"> 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.



APPENDIX E

Waste Flow Table

Monthly Summary Waste Flow Table for 2018



Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete (see Note 9)	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill (see Note 10)	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
January	0.053	0.053	0.000	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.515
February											
March											
April											
May											
June											
Sub-total	0.053	0.053	0.000	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.515
July											
August											
September											
October											
November											
December											
Total	0.053	0.053	0.000	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.515

Total C&D waste generated = a+b+f+g+h+i+j+k

Total C&D waste generated (excluded excavated material) = g+h+i+j+k

Total C&D waste recycled = c+d+g+h+i

% of recycled C&D waste = (Total C&D waste generated - Total C&D waste recycled) / Total C&D waste generated

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete (see Note 9)	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill (see Note 10)	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)

- Notes: (1) The performance target are given in PS Clause 6(14)
- (2) The waste flow table shall also include C&D materials that are not specified in the Contract to be imported for use at the Site
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
- (4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³.
- (5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.
- (6) Conversion factors for reporting purpose:
 in-situ: rock = 2.5 tonnes/m³; soil = 2.0 tonnes/m³
 excavated: rock = 2.0 tonnes/m³; soil = 1.8 tonnes/m³; broken concrete and bitumen = 2.4 tonnes/m³
 C&D Waste = 0.9 tonnes/m³; bentonite slurry = 2.8 tonnes/m³
- (7) Numbers are rounded off to the nearest three decimal places
- (8) The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"
- (9) The "Hard Rock and Large Broken Concrete" were disposed as public fill
- (10) The amount in "Disposed as Public Fill" included the "Hard Rock and Large Broken Concrete" disposed as public fill



ATAL Technologies Ltd.

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

Location: Artificial Island of HKBCF (C8 Area)

Ver: 1st
Date: Jan 2017

Monthly Summary Waste Flow Table for 2018

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, 磚, 瓦, 填土等)		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. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量	Est. Qty. 估計數量	Act. Qty. 實際數量
January	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020
February																		
March																		
April																		
May																		
June																		
July																		
August																		
September																		
October																		
November																		
December																		
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020

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⁻³.



APPENDIX F

Environmental Licenses and Permits

Environmental License/ Permits /Notification Register

LCAL H2642

Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
1	All Areas	30 Jun 2015	N/A	Environmental Permit to construct the Remaining Ancillary Buildings and Facilities and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/I	17 Jul 15	N/A	EPD	Superseded by EP-353/2009/J
2	All Areas	18 Feb 2016	N/A	Environmental Permit to construct the Remaining Ancillary Buildings and Facilities and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/J	25 Feb 2016	N/A	EPD	Superseded by EP-353/2009/K
3	All Areas	24 Mar 2016	N/A	Environmental Permit to construct the Remaining Ancillary Buildings and Facilities and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/K	11 Apr 2016	N/A	EPD	-
4	All Areas	30 Dec 15	N/A	Billing Account for disposal of construction waste	7024342	16 Feb 16	N/A	EPD	-

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Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

								Date: January 2018		
Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark	
	Work Area	Date	Reference							
5	All Areas	30 Dec 15	RABF-LTR- EPD-000001	Notification that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 397571	06 Jan 16	N/A	EPD	-	
6	All Areas	04 Jan 16	RABF-LTR- EPD-000002	Registration as Chemical Waste Producer for disposal of spent batteries, used lubrication oil and surplus paint at RABF area	WPN 5213-951-L2846-02	19 Feb 16	N/A	EPD	-	
7	All Areas	25 Jan 16	RABF-LTR- EPD-000003	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0106-16	11 Feb 16	10 Aug 16	EPD	Superseded by GW-RS0476-16	
8	All Areas	08 May 16	RABF-LTR- EPD-000012	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0476-16	19 May 16	18 Nov 16	EPD	Superseded by GW-RS0666-16	

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								Date: January 2018		
Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark	
	Work Area	Date	Reference							
9	All Areas	16 Jun 16	RABF-LTR- EPD-000015	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0666-16	04 Jul 16	03 Jan 17	EPD	Superseded by GW-RS0907-16	
10	All Areas	18 Aug 16	RABF-LTR- EPD-000018	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0907-16	01 Sep 16	28 Feb 17	EPD	Superseded by GW-RS1195-16	
11	All Areas	16 Nov 16	RABF-LTR-EPD-000020	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1195-16	30 Nov 16	29 May 17	EPD	Superseded by GW-RS1315-16	
12	All Areas	08 Dec 16	RABF-LTR-EPD-000023	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS1315-16	22 Dec 16	21 Jun 17	EPD	Superseded by GW-RS0131-17	

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Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
13	WA3	13 Jan 17	RABF-LTR-EPD-000026	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00. (Non-designated area)	GW-RS0070-17	27 Jan 17	26 Jul 17	EPD	Superseded by GW-RS0626-17
14	All areas	03 Feb 17	RABF-LTR-EPD-000028	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0131-17	17 Feb 17	16 Aug 17	EPD	Superseded by GW-RS0306-17
15	All areas	20 Mar 17	RABF-LTR-EPD-000035	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0306-17	05 Apr 17	02 Oct 17	EPD	Superseded by GW-RS0435-17
16	All areas	05 May 17	RABF-LTR-EPD-000036	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0435-17	20 May 17	16 Nov 17	EPD	Superseded by GW-RS0710-17

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Contract No. HY/2014/05 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference						
17	WA3	28 Jun 17	RABF-LTR-EPD-000041	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00. (Non-designated area)	GW-RS0626-17	27 Jul 17	26 Jan 18	EPD	Expired
18	All areas	03 Aug 17	RABF-LTR-EPD-000042	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00 and 23:00 to 07:00. (Non-designated area)	GW-RS0710-17	21 Aug 17	16 Feb 18	EPD	-
19	WA3	11 Jan 18	RABF-LTR-EPD-000046	CNP for the use of powered mechanical equipment for the purpose of carry out works from 19:00 to 23:00. (Non-designated area)	GW-RS0050-18	27 Jan 18	26 Jul 18	EPD	-

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Contract No. HY/2013/06 – Hong Kong Zhuhai and Macao Bridge - HKBCF – Automatic Vehicle Clearance Support System

Date: 31 Jan 2018									Remark
Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	
	Work Area	Date	Reference						
1	HZMB-HK Boundary Crossing Facilities	31 July 2015	WFG14980	Disposal of Construction Waste Billing Account	7023015	20 August 2015	--	EPD	
2	HZMB-HK Boundary Crossing Facilities	14 Nov 2017	EP831/N09/R S1037-17	Construction Noise Permit	GW-RS1037-17	1 Dec 2017	30 May 2018	EPD	

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Contract No. HY/2014/04 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System

Date: January 2018									Remark
Item No.	Permit/License or Registration Application			Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	
	Work Area	Date	Reference						
1	All Areas	23 Aug 2016	N/A	<u>Billing Account</u> for disposal of construction waste	7025930	20 Sep 2016	N/A	EPD	
2	Building 058,059	27 Jul 2017	N/A	Construction Noise Permit(CNP)	GW-RS0640-17	6 Aug 2017	4 Feb 2018	EPD	



APPENDIX G

Implementation Schedule for Environmental Mitigation Measures (EMIS)

**Contract No. HY/2014/05 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities
Implementation Schedule for Environmental Mitigation Measures**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	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	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 µgm ⁻³ and 260 µgm ⁻³ , respectively)	√
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 be extend beyond the pedestrian barriers, fencing or trafficcones. • 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; 	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 µgm ⁻³ and 260 µgm ⁻³ , respectively)	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
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 and the 3 sides; 	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 $\mu\text{g}\text{m}^{-3}$ and 260 $\mu\text{g}\text{m}^{-3}$, respectively)	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
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 enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 $\mu\text{g}\text{m}^{-3}$ and 260 $\mu\text{g}\text{m}^{-3}$, respectively)	√
S5.5.6.4	A3	The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control construction dust	Contractor	All construction sites	Construction stage	To control the dust impact	√
S5.5.6.5	A4	Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Control construction dust	Engineer	All construction sites	Design Stage	Air Pollution Control (Construction Dust) Regulation	√
S5.5.6.5	A5	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	<ul style="list-style-type: none"> Air Pollution Control (Construction Dust) Regulation To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 $\mu\text{g}\text{m}^{-3}$ and 260 $\mu\text{g}\text{m}^{-3}$, respectively) 	√ (The dust monitoring at AMS6 under EM&A Programme for the Contract is covered by Contract No. HY/2011/03 while the dust monitoring at AMS7 under EM&A Programme for the Contract is covered by Contract No. HY/2013/01.)

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S5.5.7.1	A6	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant:</p> <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. 	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) Regulation • To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are $500 \mu\text{g}\text{m}^{-3}$ and $260 \mu\text{g}\text{m}^{-3}$, respectively) 	N/A
S5.5.2.7	A7	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:</p> <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. 	Control construction dust	Contractor	All construction sites	Construction stage	Air Pollution Control (Construction Dust) Regulation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Construction Noise (Air borne)								
S6.4.10	N1	<p>1) Use of good site practices to limit noise emissions by considering the following:</p> <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; mobile plant should be sited as far away from NSRs as possible and practicable; material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction stage	Noise Control Ordinance	√
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.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Noise Control Ordinance Annex 5, TM-EIA 	N/A
S6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m ²), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> Noise Control Ordinance Annex 5, TM-EIA 75dB(A) for residential premises The movable barrier should achieve at least 5dB(A) and the full enclosure should be 	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S6.4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> Noise Control Ordinance & its TM Annex 5, TM-EIA 	√
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> Noise Control Ordinance Annex 5, TM-EIA 	√
/	N6	6) Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	<ul style="list-style-type: none"> Noise Control Ordinance Annex 5, TM-EIA 75dB(A) for residential premises 	√ (The noise monitoring at NMS2 and NMS3B under EM&A programme for the Contract are covered by Contract No. HY/2013/01.)
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.	Develop sediment disposal arrangement	Engineer	All construction sites	Design stage	<ul style="list-style-type: none"> Waste Disposal Ordinance ETW B TC 34/2002 	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Waste Management (Construction Waste)								
S8.3.8	WM1	<p><u>Construction and Demolition Material</u></p> <p>The following mitigation measures should be implemented in handling the waste:</p> <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; • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • 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 ETW BTC (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 disposal sites to the Project Proponent and get its approval before implementation. 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETW BTC 19/2005 	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
S8.3.9-S8.3.11	WM2	<p><u>C&D Waste</u></p> <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. 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETWB TC 19/2005 	√
S8.2.12-S8.3.15	WM3	<p><u>Chemical Waste</u></p> <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 labelled 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. 	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Waste Disposal (Chemical Waste) General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Waste 	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
		<ul style="list-style-type: none"> 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 a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD. 						√
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. 	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Waste Disposal Ordinance 	√
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 law. Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Waste Disposal Ordinance 	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
Water Quality (Construction Phase)								
S.9.11.1.7	W2	<p><u>Land Works</u> 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 W PCO 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; 	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
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 washing bay and the public road should be surfaced with crushed stone or coarse gravel; • 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. 	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO	√

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
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 	Prevent Sedimentation from Land-based works areas	Contractor	Land-based works areas	During construction	TM-Water	√
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 	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction		√
S10.7	E8	<ul style="list-style-type: none"> Control vessel speed Skipper training Predefined and regular routes for working vessels; avoid Brother Islands. 	Minimise marine traffic disturbance on dolphins	Contractor	Marine Traffic	During construction		N/A
Fisheries								
S11.7	F4	<ul style="list-style-type: none"> Maritime Oil Spill Response Plan (MOSRP); Contingency plan. 	Minimise impacts on marine water quality impacts	Marine Department	HKBCF	During operation		N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
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; • Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed; • 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 transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and • Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF. 	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage		N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
<i>Landscape & Visual (Construction Phase)</i>								
S14.3.3.3	LV2	<p>Mitigate both Landscape and Visual Impacts</p> <p>G1. Grass-hydroseed bare soil surface and stock pile areas.</p> <p>G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic. (This mitigation measure is not applicable to the Contract.)</p> <p>G3. Not applicable as this is for HKLR.</p> <p>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.</p> <p>G5. Vegetation reinstatement and upgrading to disturbed areas.</p> <p>G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed.</p> <p>G7. Providing planting area around peripheral of HKBCF for tree planting screening effect. (This mitigation measure is not applicable to the Contract.)</p> <p>G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall. (This mitigation measure is not applicable to the Contract.)</p> <p>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. (This mitigation measure is not applicable to the Contract.)</p>	Minimise visual & landscape impact	Contractor	Buildings 023, 025, 032, 044 and 045	Construction stage		√ Construction phase
S14.3.3.3	LV3	<p><u>Mitigate Visual Impacts</u></p> <p>V1. Minimize time for construction activities during construction period.</p> <p>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.</p>						√ for V1. N/A for V2.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?	Implementation Status
EM&A								
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Project Proponent	All construction sites		<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2002 • TM-EIAO 	√
S15.5 - S15.6	EM2	<ol style="list-style-type: none"> 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. 	Perform environmental monitoring & auditing	Contractor	All construction sites		<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2002 • TM-EIAO 	√

Legends: √ = Implemented; X = Not implemented; N/A = Not applicable



APPENDIX H

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

For Contract No. HY/2014/05

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period	0	0	0
From commencement date of contract to end of reporting month	6	0	0

For Contract No. HY/2013/06 within Contract No. HY/2014/05 works area

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

For Contract No. HY/2014/04 within Contract No. HY/2014/05 works area

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



APPENDIX I

Environmental Site Inspection Schedule

Contract No. HY/2014/05 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities

Environmental Site Inspection Schedule for February 2018

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time				1-Feb	2-Feb	3-Feb	4-Feb
Time	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb
			Site Inspection				
Time	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	18-Feb
	Site Inspection						
Time	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb
		Site Inspection					
Time	26-Feb	27-Feb	28-Feb				
	Site Inspection						

Contract No. HY/2013/06 (within Contract No. HY/2014/05 works area) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Automatic Vehicle Clearance Support System

Environmental Site Inspection Schedule for February 2018

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time				1-Feb	2-Feb	3-Feb	4-Feb
Time	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb
			Site Inspection				
Time	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	18-Feb
	Site Inspection						
Time	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb
		Site Inspection					
Time	26-Feb	27-Feb	28-Feb				
	Site Inspection						

Contract No. HY/2014/04 (within Contract No. HY/2014/05 works area) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Gantry Type X-ray Vehicle Inspection System

Environmental Site Inspection Schedule for February 2018

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time				1-Feb	2-Feb	3-Feb	4-Feb
Time	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb
			Site Inspection				
Time	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	18-Feb
	Site Inspection						
Time	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb
		Site Inspection					
Time	26-Feb	27-Feb	28-Feb				
	Site Inspection						



APPENDIX J

Investigation Report

Contract No. HY/2014/05 - Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities Notifications of Environmental Quality Limits Exceedances Notification No.: 20180117_Air_24hr_v1				
Date of Investigation Report: 20 February 2018				
Date of Environmental Quality Limit Exceedance: 17 January 2018 and the results were issued on 29 January 2018				
Monitoring Location: AMS2 – Tung Chung Pier and : AMS3B – Site Boundary of Site Office Area at Works Area WA2 (The air quality monitoring stations for the Contract is covered by Contract No. HY/2013/01 HZMB HKBCF – Passenger Clearance Building)				
Monitoring Date: 17 January 2018 Start Time: 08:00				
Action & Limit Level (AL & LL) / Measured Level:				
PARAMETER	STATION	AL (µg/m ³)	LL (µg/m ³)	MEASURED LEVEL, µg/m ³
24-hr TSP	AMS2 – Tung Chung Pier	176	260	<i>184</i>
24-hr TSP	AMS3B – Site Boundary of Site Office Area at Works Area WA2	167	260	<i>183</i>
Notes: <i>Bold Italic</i> means AL exceedance <i><u>Bold Italic with underline</u></i> means LL exceedance				

Possible reason for Action / Limit Level Non-compliance:

On 17 January 2018, one AL exceedance of 24-hr TSP at AMS2 and one AL exceedance of 24-hr TSP at AMS3B were recorded.

Based on the information from the Contractor, the construction works undertaken on 17 and 18 January 2018 are shown as below:

- Architectural Builder's Work and Finishes (ABWF) & Mechanical, Electrical and Plumbing (MEP) works (Internal) of Buildings 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058
- ABWF works (external) of Buildings 021, 022, 023, 032, 044, 045, 050H1, 050H2, 050A1, 050A2
- ABWF works (roof) of Buildings 032, 044, 050H1, 050H2, 050A1, 050A2
- Foot Path, Utilities and Drainage installation of Buildings 021, 022, 023, 032, 045, 053, 058

The Contractor confirmed that the mitigation measures according to Water Spraying Plan in January 2018 (Appendix A) are implemented to avoid dust emission. Photos of haul road condition and dust suppression are included in Appendix A. The Contractor has provided the guideline to remind the site vehicles travel within speed limit of 8km/hr.

The Air Quality Health Index (AQHI) of Tung Chung station with the wind data from the on-site wind station are shown in Appendix B. The hourly AQHI of Tung Chung station ranged 3 to 10+ (Low to Serious) on 17 and 18 January 2018 during monitoring period. According to the wind data at on-site wind station, no prevailing wind direction was found in the monitoring period. The RABF site of HKBCF is far away from AMS2 and AMS3B (more than 1km). No potential dust source was observed near the monitoring station at AMS2 and AMS3B during the monitoring period.

Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

The Water Spraying Plan including the information of watering schedule, routing of trucks of for watering and the location of water filling, was prepared and submitted to RE and ENPO. The Contractor was also reminded to implement all necessary mitigation as specified in EIA (Section 5.5.6.3), EM&A Manual (EM&A Log Ref: A3), EMP, Method Statements, General and Particular Specifications of this Project to minimize the potential dust impact during construction activities.

Prepared by: Ruby Law Title: Environmental Team Representative

Signature:  Date: 20 February 2018

Checked by: Keith Chau Title: Environmental Team Leader

Signature:  Date: 20 February 2018

Copied to : Contractor, Engineer Representative and IEC/ENPO



Contract No. HY/2014/05
Hong Kong – Zhuhai – Macao – Bridge
Boundary Crossing Facility – Remaining Ancillary Buildings and Facilities

Watering Plan for January 2018

Water Truck License Plate Number: PJ9039, SE4312

Capacity of a Water Truck: 15000L

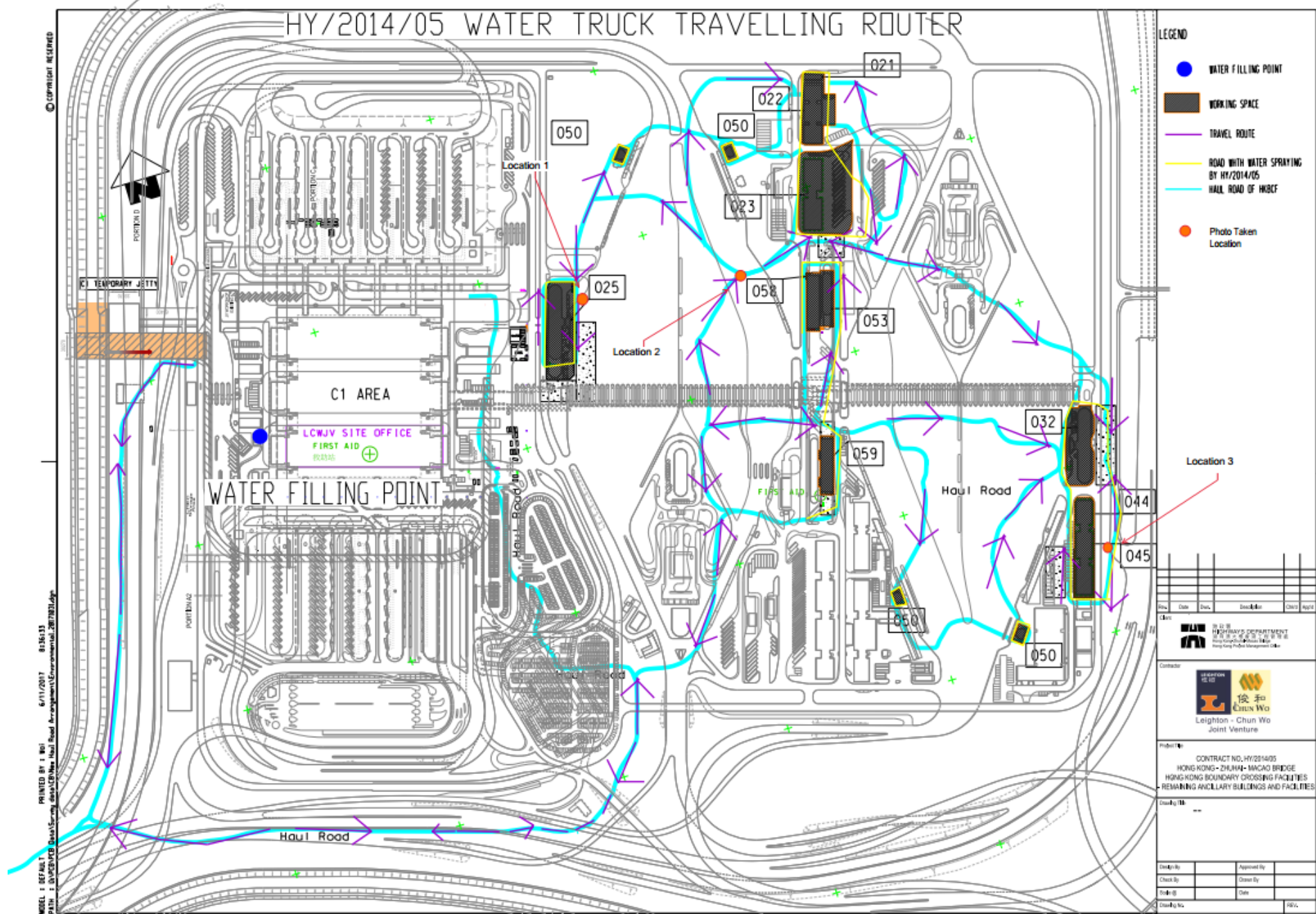
Volume of water/ distance needed to water spraying: = 7.3 L/m

Water Truck could spray 15000L in one 59 minutes trip.

Planned Schedule of Watering Spraying by Water Truck

Cycle	Truck No.	Time of water spraying
1	PJ9039	08:00 – 09:15
2	SE4312	09:15 – 10:30
3	PJ9039	10:30 – 11:45
4	SE4312	13:00 – 14:15
5	PJ9039	14:15 – 15:30
6	SE4312	15:30 – 16:45
7	PJ9039	16:45 – 18:00
8	SE4312	18:00 – 19:00

HY/2014/05 WATER TRUCK TRAVELLING ROUTER



- LEGEND**
- WATER FILLING POINT
 - WORKING SPACE
 - TRAVEL ROUTE
 - ROAD WITH WATER SPRAYING BY HY/2014/05
 - HAUL ROAD OF HBCF
 - Photo Taken Location

No.	Date	Desc.	Drawn/Rev.	Check	Appr.

Client: **HONG KONG POLICE DEPARTMENT**
 Hong Kong Police Management Centre



Contractor: **Leighton - Chun Wo Joint Venture**

Project No: **CONTRACT NO. HY/2014/05**
HONG KONG - ZHANJIANG MACAO BRIDGE
REMAINING ANCILLARY BUILDINGS AND FACILITIES

Drawn By	Approved By
Check By	Drawn By
Scale	Date
Drawn No.	REV.

PRINTED BY: I BOI
 DATE: 6/11/2017 08:36:33
 FILE: D:\PROJECTS\HY\2014\05\HY201405\Haul Road Arrangement\Environmental\20170314.dwg

Water spraying record during TSP 24-hr monitoring on 17 and 18 January 2018

Location 1	Location 2
 A close-up photograph of the rear of a yellow truck. The truck is parked on a dirt surface. A stream of water is being sprayed from the rear of the truck, creating a misty spray. In the background, there is a concrete structure with an open doorway and some construction equipment.	 A wide-angle photograph of a construction site. In the foreground, there is a large, flat, dirt-covered area. In the background, a yellow crane is visible, along with a white truck with a yellow container. The sky is clear and blue.
Location 3	
 A photograph of a yellow truck driving on a dirt road at a construction site. The truck is moving towards the camera, and there is a large puddle of water on the road in front of it. In the background, there are buildings under construction and other construction equipment.	

Appendix B

Date	Hour	AQHI at Tung Chung Station	Average Wind Speed (m/s) #	Average Wind Direction #
17/01/2018	08:00	6	0	SW
17/01/2018	09:00	6	0	SW
17/01/2018	10:00	6	0	SSW
17/01/2018	11:00	8	0	SSW
17/01/2018	12:00	10	0	W
17/01/2018	13:00	10+	0	---
17/01/2018	14:00	10+	0	W
17/01/2018	15:00	10+	0	W
17/01/2018	16:00	10+	0	W
17/01/2018	17:00	10+	0	W
17/01/2018	18:00	10+	0	E
17/01/2018	19:00	10+	0	---
17/01/2018	20:00	9	0	SSE
17/01/2018	21:00	6	0	SSE
17/01/2018	22:00	5	0	E
17/01/2018	23:00	5	0	SE
18/01/2018	00:00	5	0	SSE
18/01/2018	01:00	4	0	E
18/01/2018	02:00	4	0	SE
18/01/2018	03:00	4	0	SSE
18/01/2018	04:00	4	0	SE
18/01/2018	05:00	4	0	SSE
18/01/2018	06:00	3	0	SSW
18/01/2018	07:00	3	0	---
18/01/2018	08:00	3	0	---

Remark:

#- The related wind data is obtained from the on-site wind station.