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Your ref. 5126871/19.10/OC050/SO/EK

Date: 11 August 2015

By Post and e-mail (Donald.lp@lcwjv.com)

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

Attn: Mr. Donald Ip

Dear Mr. Ip,

#### Contract No. HY/2013/01 Hong Kong – Zhuhai – Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building Certification of Monthly EM&A Report No. 10

Atkins China Limited certifies, in the capacity of Environmental Team Leader, that the Monthly EM&A Report No. 10 for July 2015 (Revision 1), in principle, conforms the requirements provided in Condition 5.4 of the Environmental Permit No. EP-353/2009/I.

Yours faithfully, for and on behalf of Atkins China Limited

raifal

Sharifah OR Environmental Team Leader

CC.

- 1. AECOM Mr. Darrel Kingan (By Fax.: 3468 2076)
- 2. ENPO/IEC Mr. Raymond Dai & Mr. Y.H. Hui (By Fax.: 3465 2899)



Ref.: HYDHZMBEEM00\_0\_3265L.15

12 August 2015

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. Darrel Paul Kingan

Dear Sir,

Re: Agreement No. CE 48/2011 (EP) Environmental Project Office for the HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

#### Contract No. HY/2013/01 – HZMB HKBCF – Passenger Clearance Building Monthly Environmental Monitoring & Audit Report No. 10 for July 2015

Reference is made to the Environmental Team's submission of the Monthly Environmental Monitoring & Audit Report No. 10 for July 2015 (Revision 1) certified by the ET Leader (ET's ref.: "5126871/19.10/OC050/SO/EK" dated 11 August 2015) and provided to us via e-mail on 11 August 2015.

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

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

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

Ronger

Raymond Dai Independent Environmental Checker

c.c.

HyD HyD Atkins LCWJV Mr. Matthew Fung Ms. Lowell Chiu Ms. Sharifah Or Mr. Gary Wong (By Fax: 3188 6614) (By Fax: 3188 6614) (By Fax: 2890 6343) (By Fax: 3621 0180)

Internal: DY, YH, LP, CL, ENPO Site

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## Contract No. HY/2013/01

Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

# Monthly EM&A Report No. 10 (Covering the Period from 1 July 2015 to 31 July 2015)

11 August 2015

**Revision 1** 

Main Contractor



Leighton - Chun Wo Joint Venture **Environmental Team** 





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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

Contract No. HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building 10<sup>th</sup> Monthly EM&A Report

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- Appendix F Environmental Licenses and Permits
- Appendix G Implementation Schedule for Environmental Mitigation Measures (EMIS)
- Appendix H Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions
- Appendix I Environmental Site Inspection Schedule



#### Executive Summary

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) – Passenger Clearance Building (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). The Contract was awarded to Leighton – Chun Wo Joint Venture (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.

The Contract is part of Hong Kong – Zhuhai – Macao Bridge HKBCF 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/I for HKBCF was issued on 17 July 2015. These documents are available through the EIA Ordinance Register. Site preparation works of the Contract started on 26 September 2014 and the construction works of the Contract commenced on 6 October 2014.

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 tenth Monthly EM&A Report for the Contract which summarizes findings of the EM&A works during the reporting period from 1 July 2015 to 31 July 2015.

#### **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 the air quality and noise monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works and Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF. The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 and AMS7A 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/2010/02 and HY/2011/03. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

The dates of site inspection during the reporting period are listed below:

Environmental Site Inspection 8, 15, 22 and 29 July 2015

#### **Breaches of Action and Limit Levels**

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

There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7A by the Environmental Team of Contract No. HY/2010/02 during the reporting period.

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

#### Complaint Log

There was one complaint received in relation to the environmental impact during the reporting period. Based on the investigation results, it is found that the noise nuisance is not related to Contract No. HY/2013/01. No follow up action is required.

Environmental Complaint No.	Date of Complaint Received	Description of Environmental Complaints
002	13 July 2015	Noise



#### 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:

- Pile testing at WA1;
- Pile Cropping and Pile Capping Works at WA1;
- Tie Beams Works at WA1;
- Base Slab Construction at WA1;
- Waterproofing for pile cap and tie beams at WA1;
- Tower Crane Erection at WA1;
- Bulk Excavation Works at WA1 and WA1 Box Culvert; and
- Sheet Piling at WA1 Box culvert.



Introduction

#### **1.1 Basic Project Information**

- 1.1.1 This monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities Passenger Clearance Building (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region. The Contract was awarded to Leighton Chun Wo Joint Venture (hereafter referred to as "the Contractor") and Atkins China Limited was appointed as the Environmental Team (ET) by the Contractor.
- 1.1.2 The Contract is part of Hong Kong Zhuhai Macao Bridge Hong Kong Boundary Crossing Facilities (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/I for HKBCF was issued on 17 July 2015. These documents are available through the EIA Ordinance Register. Site preparation work of the Contract started on 26 September 2014 and the construction works of the Contract Appendix A.
- 1.1.3 The proposed works under this Contract comprise the following:
  - Construction of Passenger Clearance Building (PCB) including architectural and builders works, structural steel roof and reinforced concrete frames, basement, piled foundations, aluminium roof, curtain wall facades, building services and electrical and mechanical works;
  - Installation of district cooling system including seawater cooling intake pumping station, seawater intake and discharge water pipelines work; Installation of Chilled water cooling pipelines system, heat exchanger and chilled pumping system;
  - Construction of transport and associated facilities connecting to the PCB entailing the Emergency Vehicular Access, an at-grade mainland side drop-off area, an Hong Kong side elevated drop-off deck and 8 nos. of footbridge links;
  - Construction of a public toilet, 6 nos. of C&ED observation booths, a generator set building and a refuse storage & material recovery chamber;
  - Construction of a section of 70m common utilities enclosure and staff subway and civil provisions for associated electrical and mechanical works;
  - Construction of drainage, sewerage, fresh water & flushing water supply and utilities & service works;
  - Construction of civil provisions, including draw pits & ducting for Traffic Control and Surveillance System (TCSS) and Extra Low Voltage System (ELV);
  - Construction of box culvert A;
  - Construction of 2 nos. of vehicular bridge abutments at mainland side pickup area earthmound;
  - Construction of geotechnical works including top up the existing earth mound from +11.5mPD to the finished level as stated in the Contract, reinforced earth slope and fill slopes and special backdrop manhole at mainland side pick up area earthmound;
  - Landscape hardworks and softworks; and
  - Other works which are shown on the Drawings or specified in the Specification or which may be ordered in accordance with the Contract.
- 1.1.4 This is the tenth Monthly EM&A Report for the Contract which summarizes the audit findings of the EM&A programme during the reporting period from 1 July 2015 to 31 July 2015.





#### 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
Engineer or Engineer's Representative (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Darrel Kingan	3958 7339	3468 2076
Environmental Project Office / Independent Environmental Checker (Ramboll Environ	Environmental Project Office Leader	Y. H. Hui	3465 2888	3465 2899
Hong Kong Limited)	Independent Environmental Checker	Raymond Dai	3465 2888	3465 2899
Contractor	Project Manager	Gary Wong	3973 0488	3621 0180
(Leighton – Chun Wo Joint Venture)	Environmental Officer	Donald Ip	6461 8635	3621 0180
Environmental Team (Atkins China Limited)	Environmental Team Leader	Sharifah Or	2972 1802	2890 6343
24 hours complaint hotline			3958 7300	

#### **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:
  - Piling Works at WA1;
  - Pile Testing at WA1;
  - Bulk Excavation at WA1;
  - Pile Cropping and Pile Capping Works at WA1;
  - Tie Beam Works at WA1;
  - Base Slab Construction at WA1;
  - Sheet Piling at WA1;
  - Waterproofing for pile cap and tie beams at WA1; and
  - Cement Solidification/Stabilization Work for Excavated Marine Sediment at WA1.





#### 2 Air Quality Monitoring

#### 2.1 Monitoring Locations

- 2.1.1 The air quality monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works and Contract No. HY/2011/03 Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road – Section between Scenic Hill and HKBCF.
- 2.1.2 The permission to carry out impact air quality monitoring work at AMS7 (Hong Kong SkyCity Marriott Hotel) was not granted after 31 January 2015. The air quality monitoring location (AMS7) was relocated to a nearby air sensitive receiver, Chu Kong Air-Sea Union Transportation Co. Ltd., from 5 February 2015. The alternative location was approved by EPD on 5 February 2015. The baseline and action/limit level for air quality as derived from the baseline monitoring data recorded at Hong Kong SkyCity Marriott Hotel was adopted for the alternative air quality location.
- 2.1.3 The ET of the Contract or another ET of the HZMB project is required to conduct air quality monitoring at AMS6 and AMS7A as part of EM&A programme if these air quality monitoring stations are no longer covered under Contract Nos. HY/2010/02 and HY/2011/03. **Figure 2.1** shows the locations of the air monitoring stations.

ID	Location Description
AMS 6 <sup>(1)</sup>	Dragonair/CNAC (Group) Building
AMS 7A <sup>(1)</sup>	Chu Kong Air-Sea Union Transportation Co. Ltd. <sup>(2)</sup>

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) The original monitoring location was at Hong Kong SkyCity Marriott Hotel. As the permission to carry out air quality monitoring at Hong Kong SkyCity Marriott Hotel was not granted after 31 January 2015, the monitoring location has been relocated to Chu Kong Air-Sea Union Transportation Co. Ltd. since 5 February 2015. The alternative monitoring location was approved by EPD on 5 February 2015.

#### 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/2010/02 and HY/2011/03.
- 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-hour TSP

Monitoring Station	Action Level, µg/m <sup>3</sup>	Limit Level, µg/m³
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	360	
AMS 7A - Chu Kong Air-Sea Union Transportation Co. Ltd.	370	500





Table 2.3 Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level, µg/m <sup>3</sup>	Limit Level, µg/m³
AMS 6 – Dragonair / CNAC (Group) Building (HKIA)	173	
AMS 7A - Chu Kong Air-Sea Union Transportation Co. Ltd.	183	260

- 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 AMS7A are reported in the monthly EM&A Reports prepared for Contract Nos. HY/2011/03 and HY/2010/02, respectively.
- 2.3.2 Summary of Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 2.3.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7A recorded by the ET of Contract No. HY/2010/02 during the reporting period.



#### **3** Noise Monitoring

#### 3.1 Monitoring Locations

3.1.1 The noise monitoring works for the Contract are covered by Contract No. HY/2010/02 Hong Kong-Zhuhai-Macao Bridge HKBCF – Reclamation Works. The ET of the Contract or another ET of the HZMB project is required to conduct 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/2010/02. **Figure 3.1** shows the locations of noise monitoring stations.

#### Table 3.1 Construction Noise Monitoring Locations

ID	Location Description
NMS2 <sup>(1)</sup>	Seaview Crescent
NMS3B <sup>(1)(2)</sup>	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 Nos. HY/2010/02.
- 3.2.2 The Action and Limit Levels for construction noise are defined in **Table 3.2**.

#### Table 3.2 Action and Limit Level for Construction Noise

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(Å) for schools and 65 dB(Å) 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/2010/02. No noise exceedances were recorded at stations NMS2 and NMS3B by the ET of Contract No. HY/2010/02 during the reporting period.



#### 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 Project. During the reporting period, site inspections were carried out on 8, 15, 22 and 29 July 2015.
- 4.1.2 Particular observations during the site inspections and corrective actions undertaken by the Contractor are described below.

#### 8 July 2015

- (a) Chemicals were placed without drip tray and the chemicals were subsequently removed. This observation was found on 30 June 2015 and closed on 8 July 2015.
- (b) No particular environmental issue was recorded during the site inspection on 8 July 2015.

#### 15 July 2015

- (a) A stockpile of treated marine mud was not covered and the stockpile of treated marine mud was subsequently covered. This observation was found on 15 July 2015 and closed on 22 July 2015.
- (b) Two piles of waste were placed on the ground. The piles of waste were removed. This observation was found on 15 July 2015 and closed on 22 July 2015.
- (c) Some metal gears were stored inside the drip tray provided for a generator. The metal gears were removed from the drip tray of generator. This observation was found on 15 July 2015 and closed on 22 July 2015.
- (d) Oil stains were observed on the ground. The oil stains were removed. This observation was found on 15 July 2015 and closed on 22 July 2015.
- (e) Stagnant water pool was observed on the ground. The stagnant water pool was removed. This observation was found on 15 July 2015 and closed on 22 July 2015.

#### 22 July 2015

(a) No drip tray was provided for chemical containers. A drip tray was provided for the chemical container. This observation was found on 22 July 2015 and closed on 29 July 2015.

#### 29 July 2015

(a) Chemical containers were placed without drip trays. The Contractor is recommended to provide drip trays for the chemical containers.

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

#### 4.2 Advice on the Solid and Liquid Waste Management Status

- 4.2.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 4.2.2 Excavated marine sediment was generated and treated using cement solidification/stabilization (Cement S/S) techniques and is reused onsite for either backfilling or landscaping (e.g. berm material) during the reporting period.
- 4.2.3 The monthly summary of waste flow table is detailed in **Appendix E**.





4.2.4 The Contractor 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 Practise on the Packaging, Labelling and Storage of Chemical Wastes.

#### 4.3 Environmental Licenses and Permits

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

#### 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.
- 4.5.2 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7A by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 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/2010/02 during the reporting period.
- 4.6 Summary of Complaints, Notification of Summons and Successful Prosecution
- 4.6.1 There was one complaint received in relation to the environmental impact during the reporting period. A summary of environmental complaints is presented in **Table 4.1**. The details of cumulative statistics of Environmental Complaints are provided in **Appendix H**.

Environmental	Date of Complaint	Description of Environmental
Complaint No.	Received	Complaints
002	13 July 2015	

 Table 4.1 A Summary of Environmental Complaints for the Reporting Month

- 4.6.2 According to ENPO's email to Highways Department on 13 July 2015, it is noted that EPD received a complaint regarding the noise nuisance generated from the construction site near Tung Chung Development Ferry Pier and HKBCF construction site opposite to Seaview Crescent during night time period from 3 to 12 July 2015. Afterwards, EPD sent an email to Highways Department on 15 July 2015 to clarify that the noise complaint referred to the noise generated due to excavation with a grab dredger, transfer of excavated material using a derrick barge and a tug boat, and backfilling with a pelican barge at the Hong Kong Boundary Crossing Facilities Site near Hong Kong Skycity Marriott Hotel. Based on EPD's record, the above construction activities were covered by Construction Noise Permit (CNP) no. GW-RS0503-15.
- 4.6.3 The Contractor confirmed that CNP no. GW-RS0503-15 is not for Contract No. HY/2013/01. In addition, no barges, dredger and tug boats were used for Contract No. HY/2013/01. Based on the investigation results, it is found that the noise nuisance is not related to Contract No. HY/2013/01. No follow up action is required.





- 4.6.4 It is noted that the Contractor has Construction Noise Permit (CNP) No. GW-RS0685-15 to undertake construction works during restricted hours. The Contractor has been reminded to comply with CNP conditions for construction works undertaken during the restricted hours. To minimize the potential noise impact during restricted hours, the Contractor has implemented the following measures to minimize noise nuisance.
  - Minimize the quantities of plant used during restricted hours as far as practicable; and
  - Regular review of working duration for restricted hour works and switch off all unnecessary machinery and plant during restricted hours.
- 4.6.5 No notification of summons and prosecution was received during the reporting period.
- 4.6.6 Statistics on 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 August 2015 are summarized in **Table 5.1**.

Table 5.1	Construction	<b>Activities</b>	for August 2015
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Site Area	Description of Activities
WA1	Pile Testing
WA1	Pile Cropping and Pile Capping Works
WA1	Tie Beams Works
WA1	Base Slab Construction
WA1	Waterproofing for pile cap and tie beams
WA1	Tower Crane Erection
WA1 and WA1 Box culvert	Bulk Excavation Works
WA1 Box Culvert	Sheet Piling

5.2 Environmental Site Inspection Schedule for the Coming Month

5.2.1 The tentative schedule for weekly site inspections for August 2015 is provided in **Appendix I**.



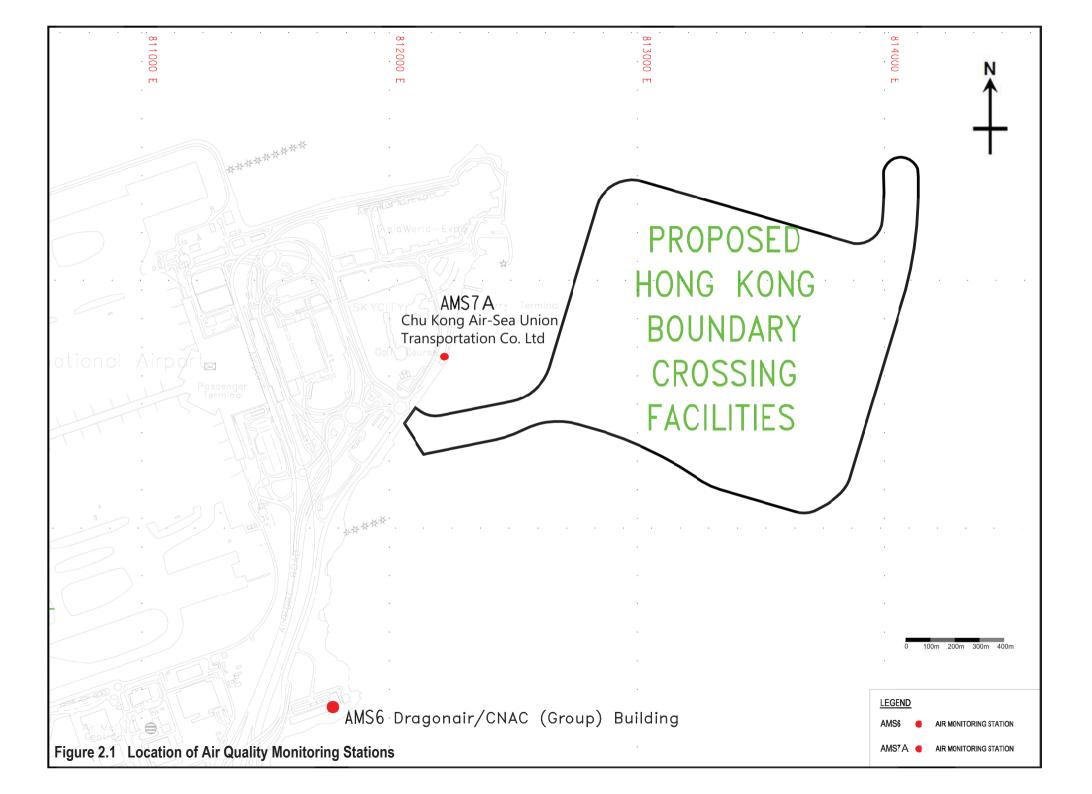
#### 6 Conclusions

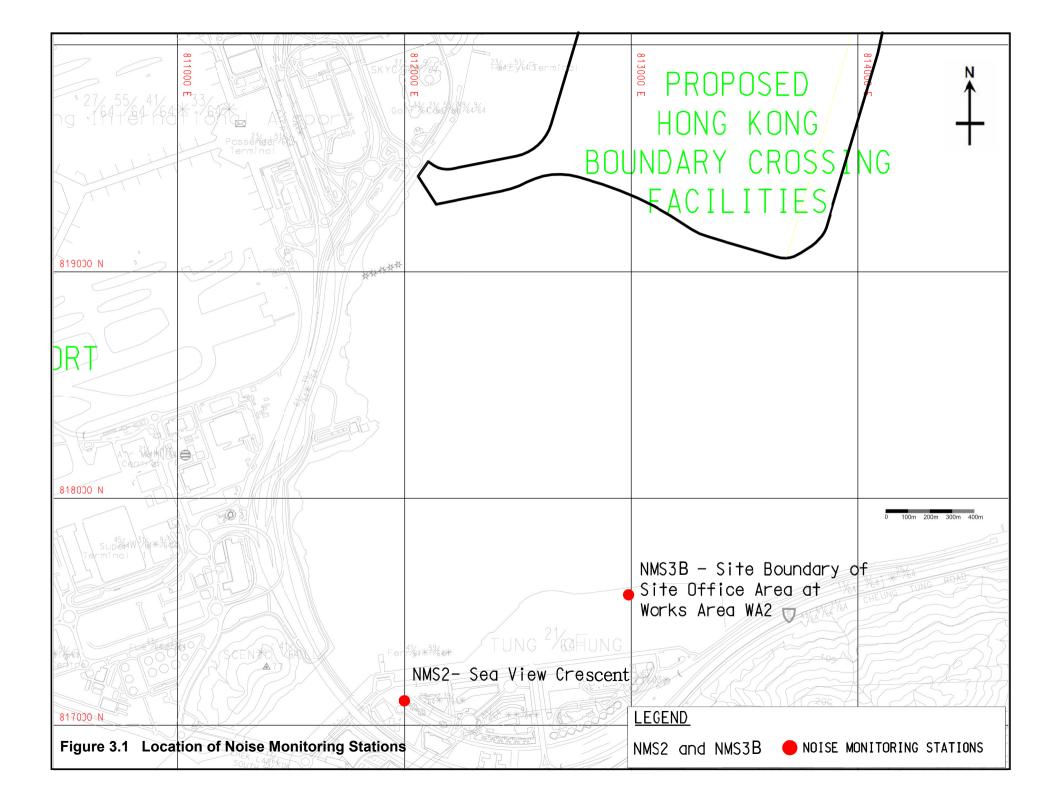
#### 6.1 Conclusions

- 6.1.1 The site preparation work of the Contract started on 26 September 2014 and the construction works of the Contract commenced on 6 October 2014. The tenth Monthly EM&A Report summarizes findings of the EM&A works during the reporting period from 1 July 2015 to 31 July 2015.
- 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.
- 6.1.3 There was no Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at AMS7A by the Environmental Team of Contract No. HY/2010/02 during the reporting period.
- 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/2010/02 during the reporting period.
- 6.1.5 An environmental site inspection was carried out on 8, 15, 22 and 29 July 2015. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site inspections.
- 6.1.6 There was one complaint received in relation to the environmental impact during the reporting period. Based on the investigation results, it is found that the noise nuisance is not related to Contract No. HY/2013/01. No follow up action is required.
- 6.1.7 No notification of summons and successful prosecution was received during the reporting period.



# **FIGURES**

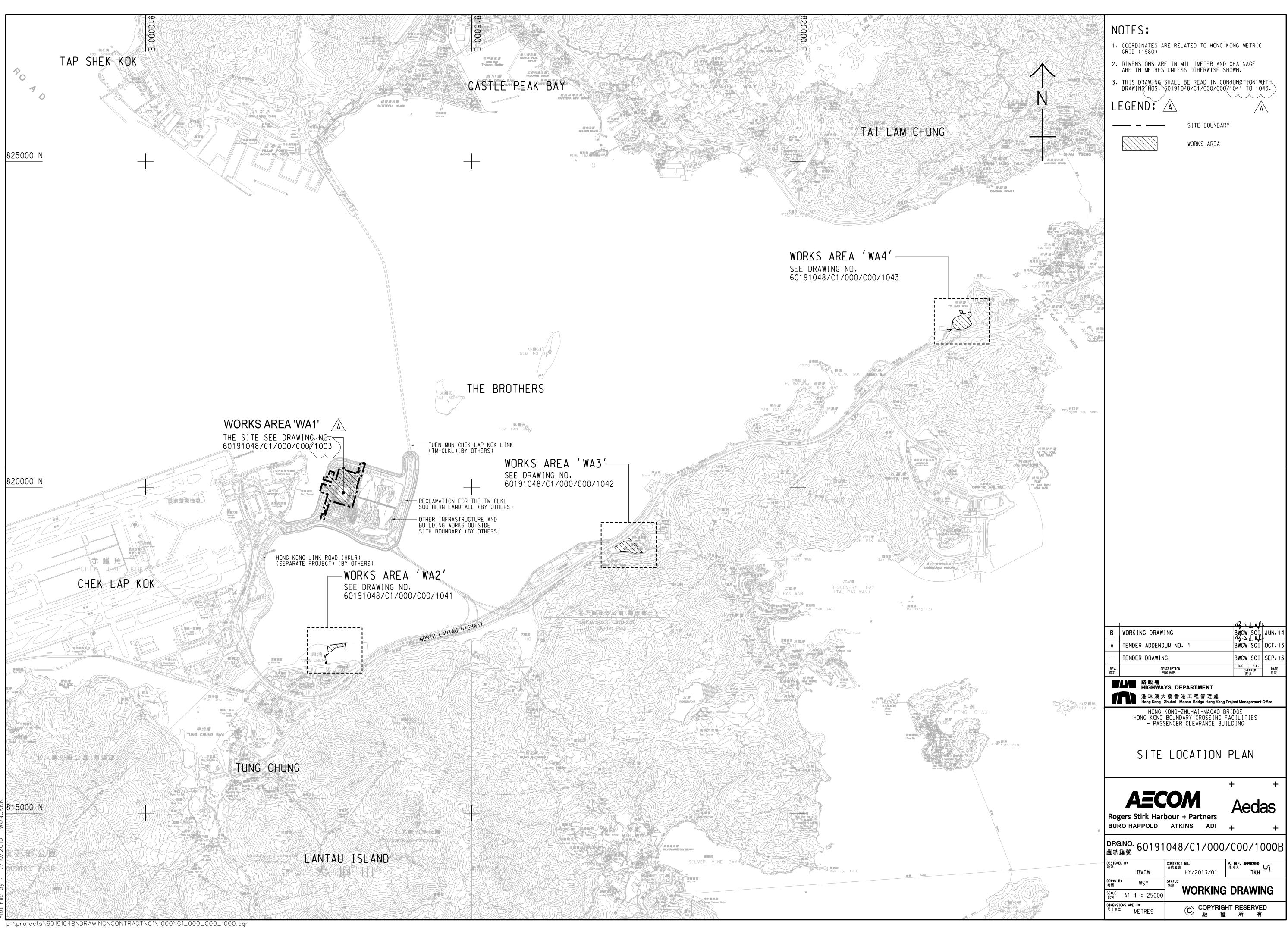


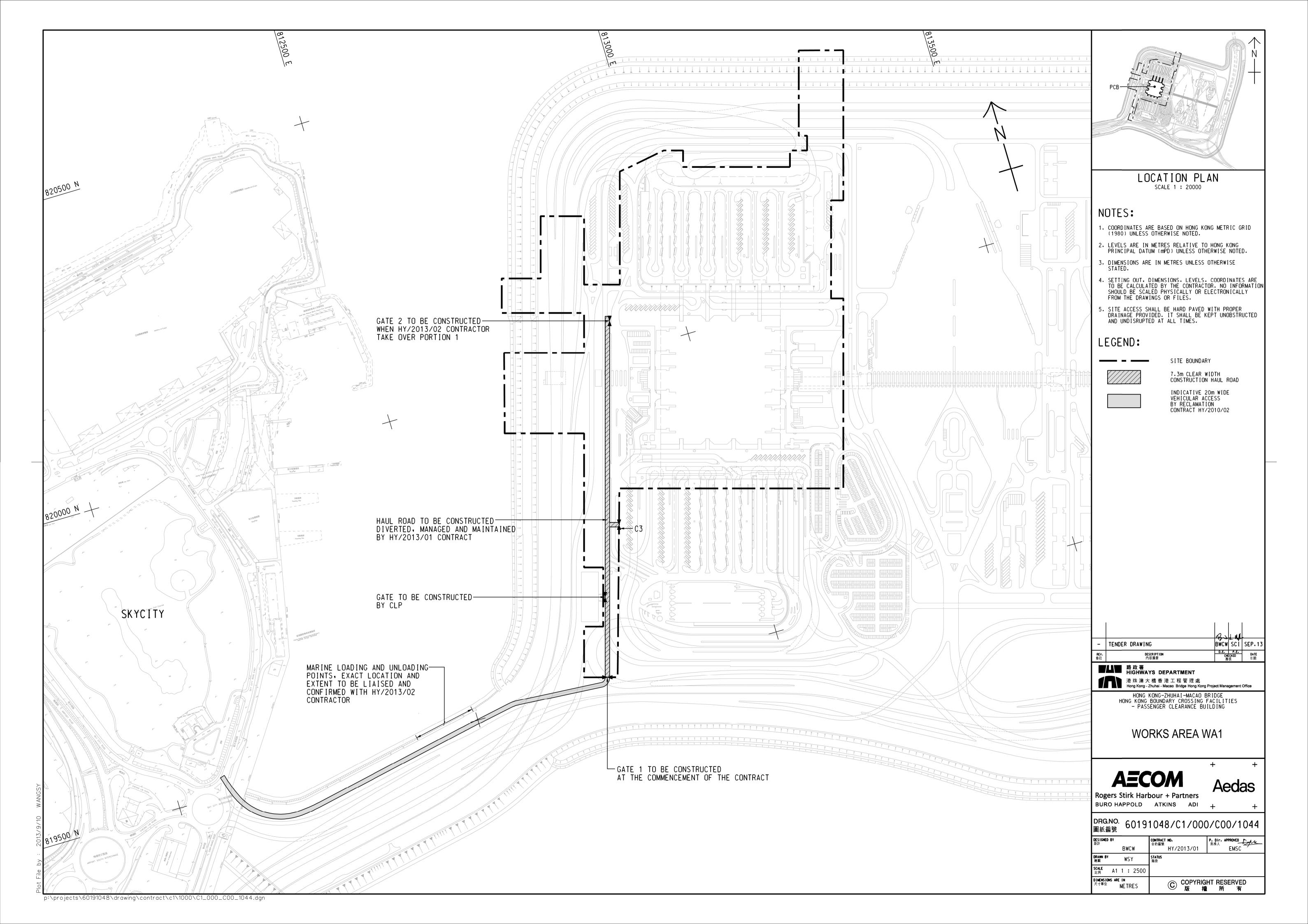


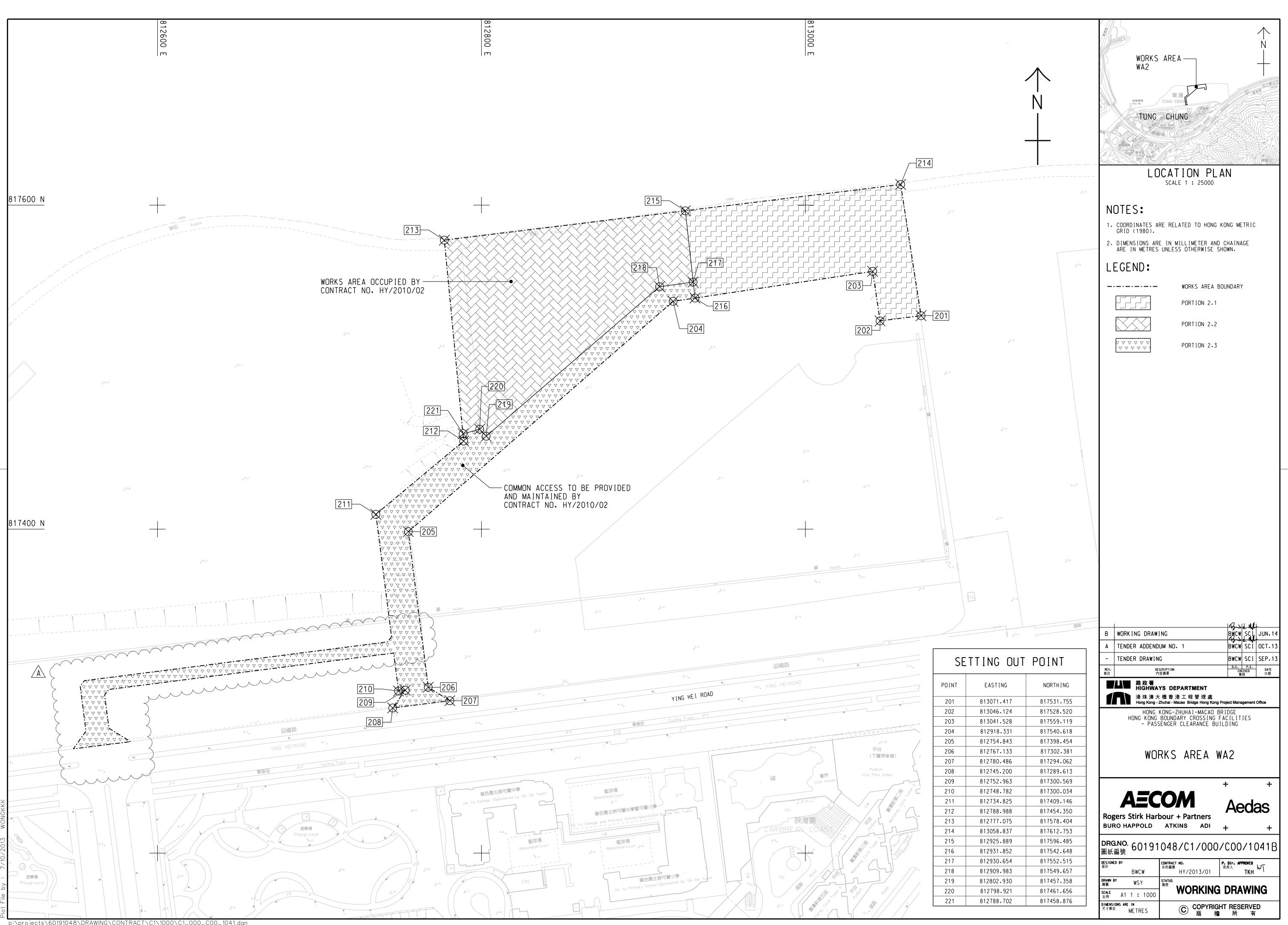




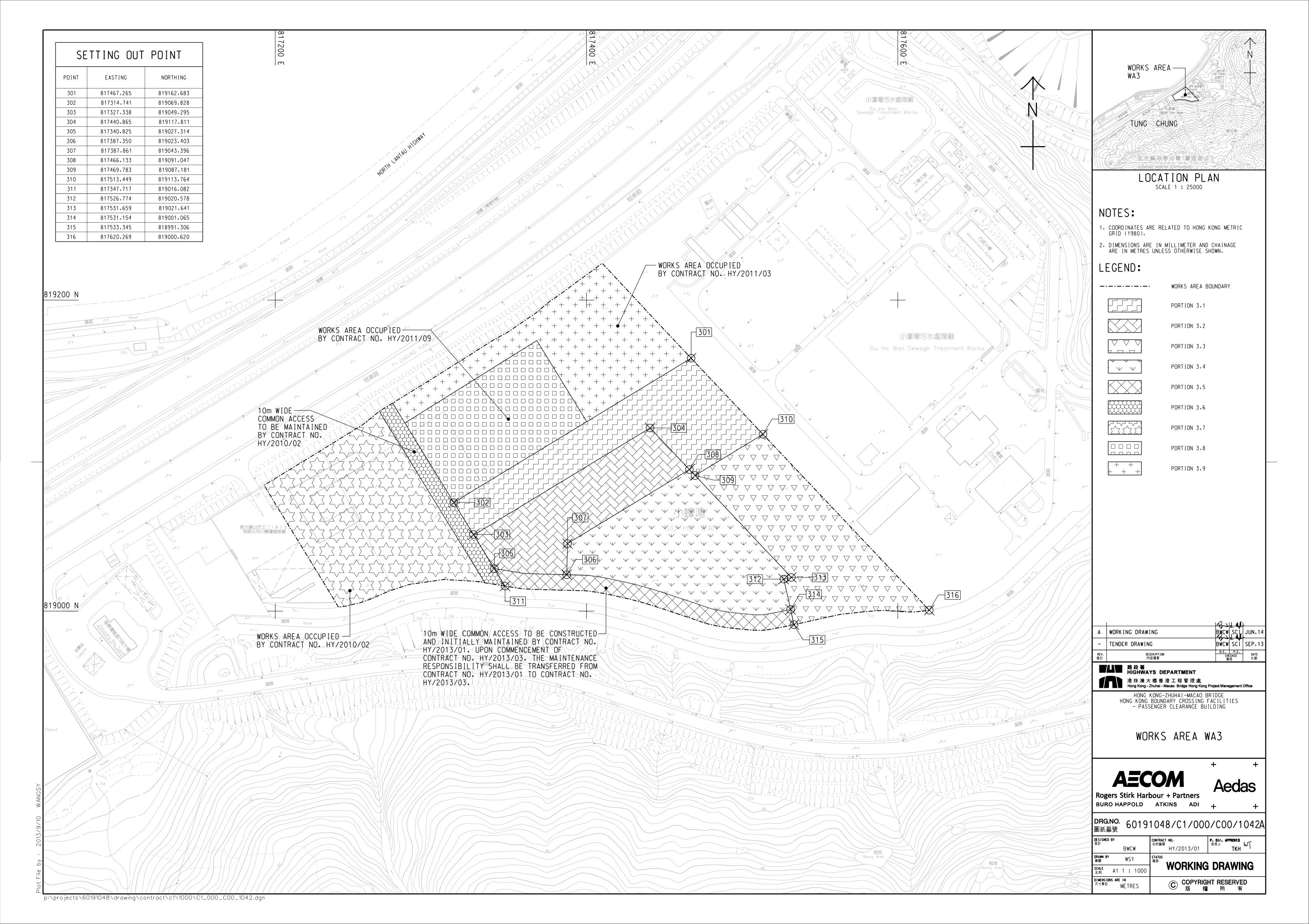
Location of Works Areas

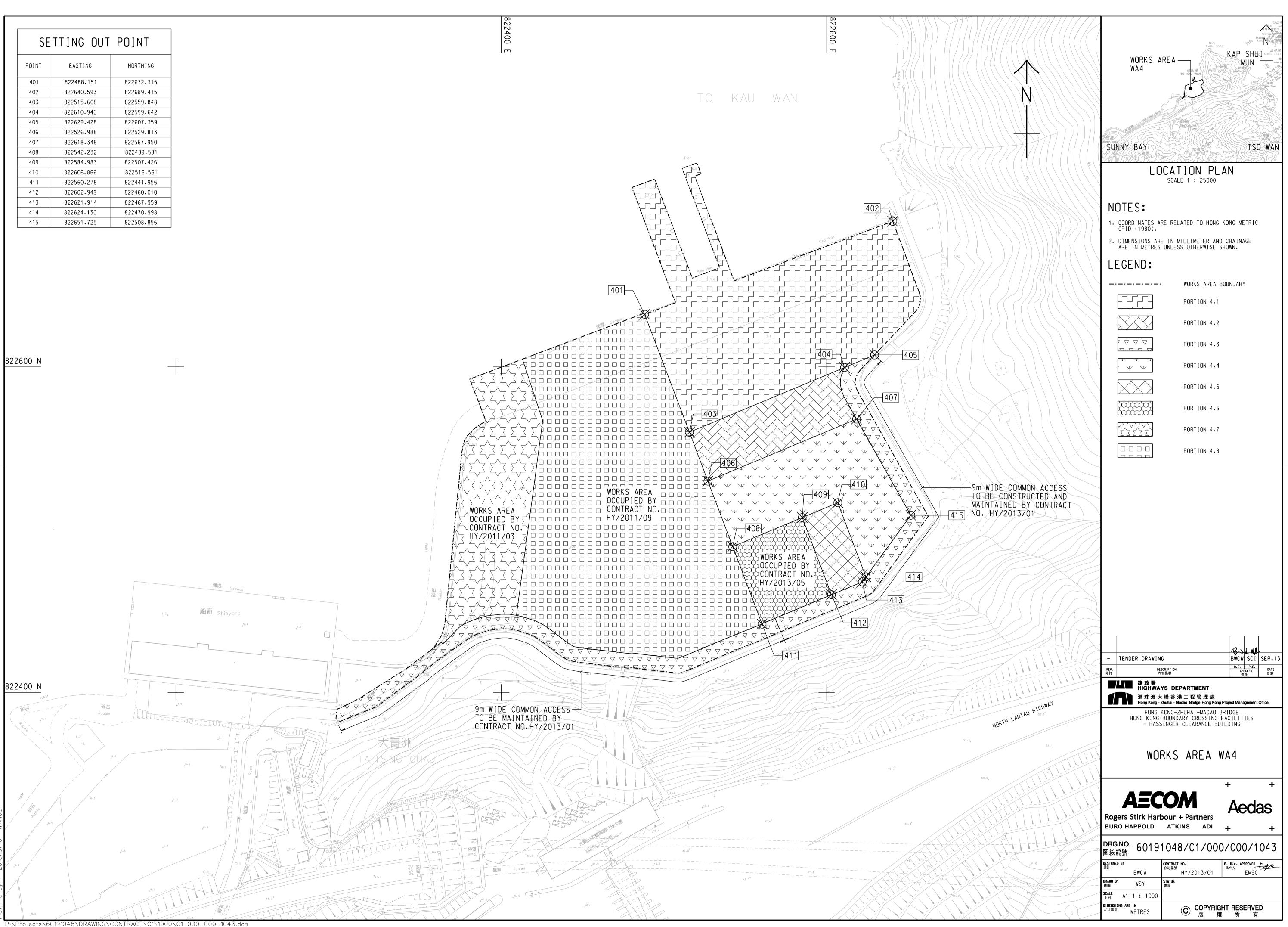






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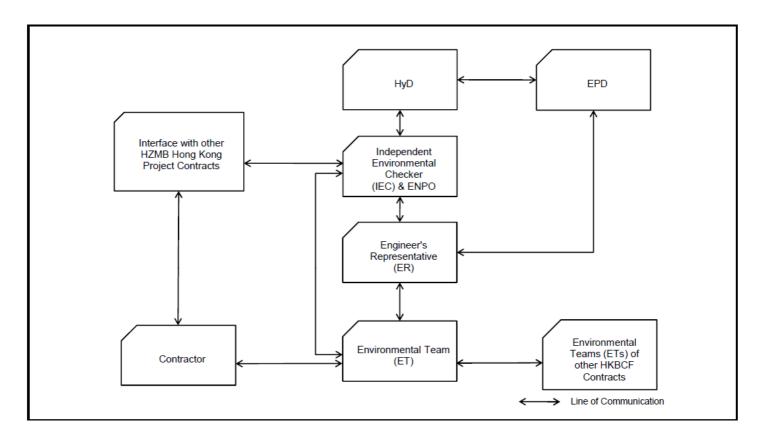
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# **APPENDIX B**

Project Organization for Environmental Works



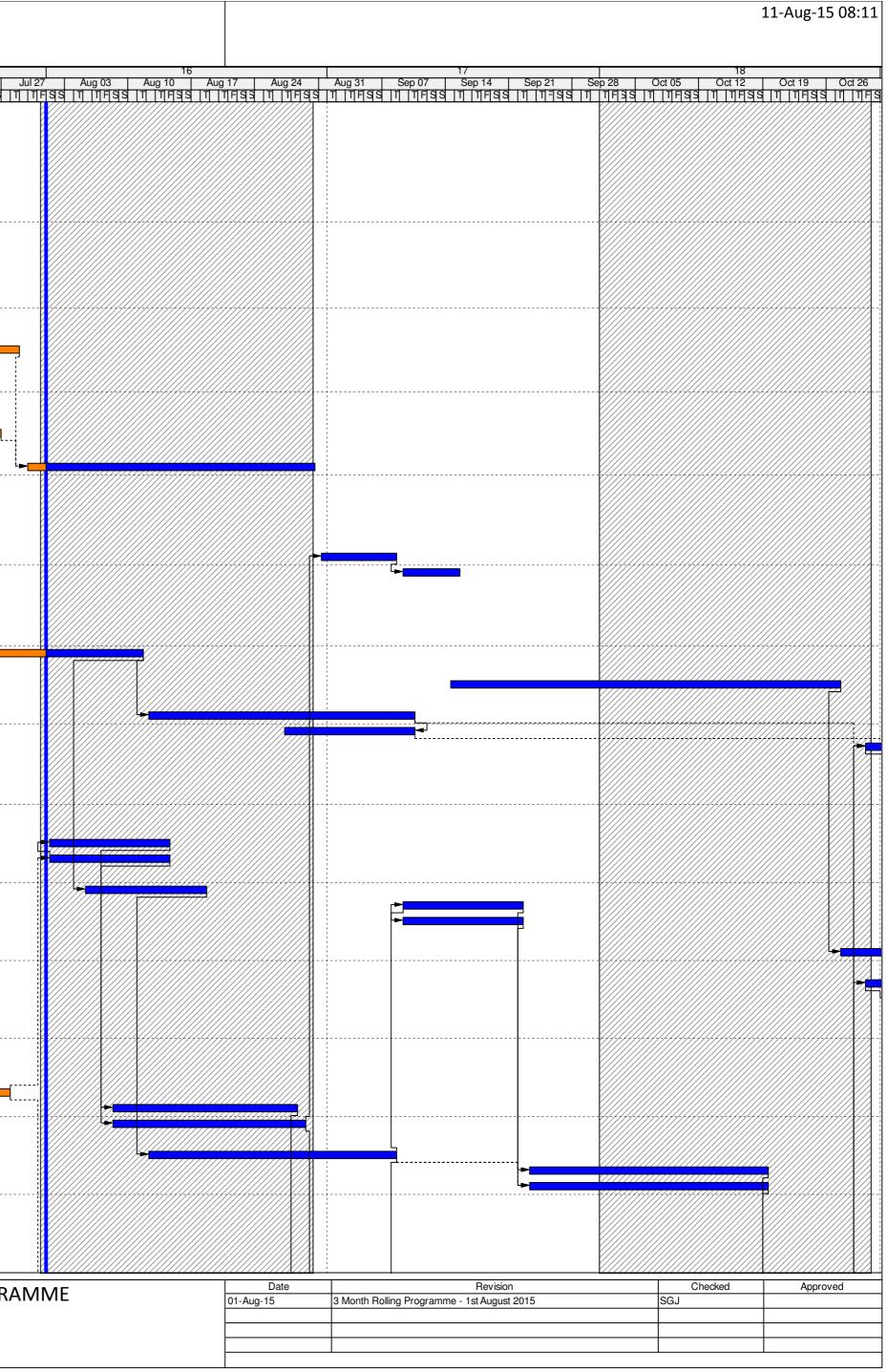




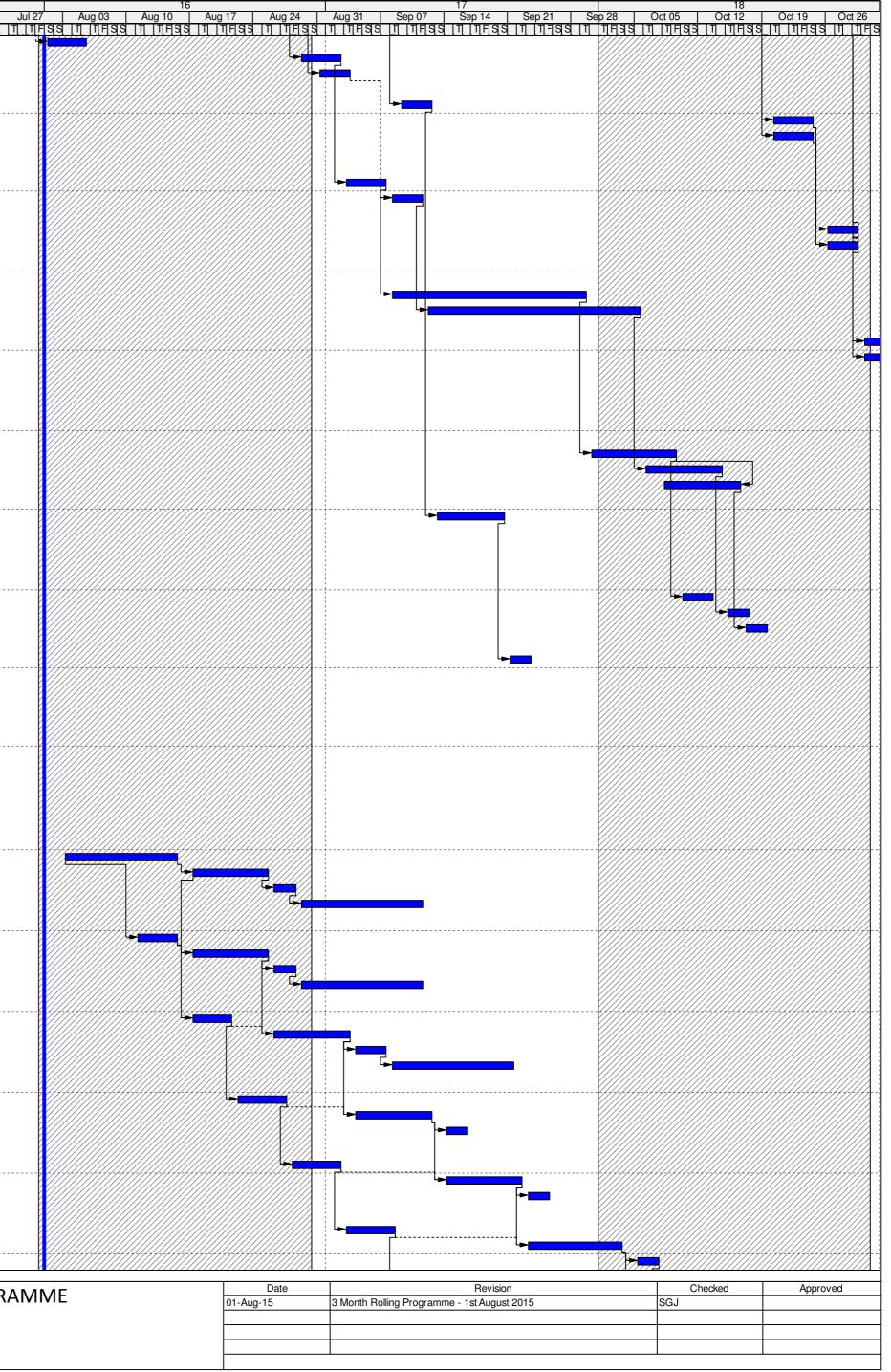


**Construction Programme** 

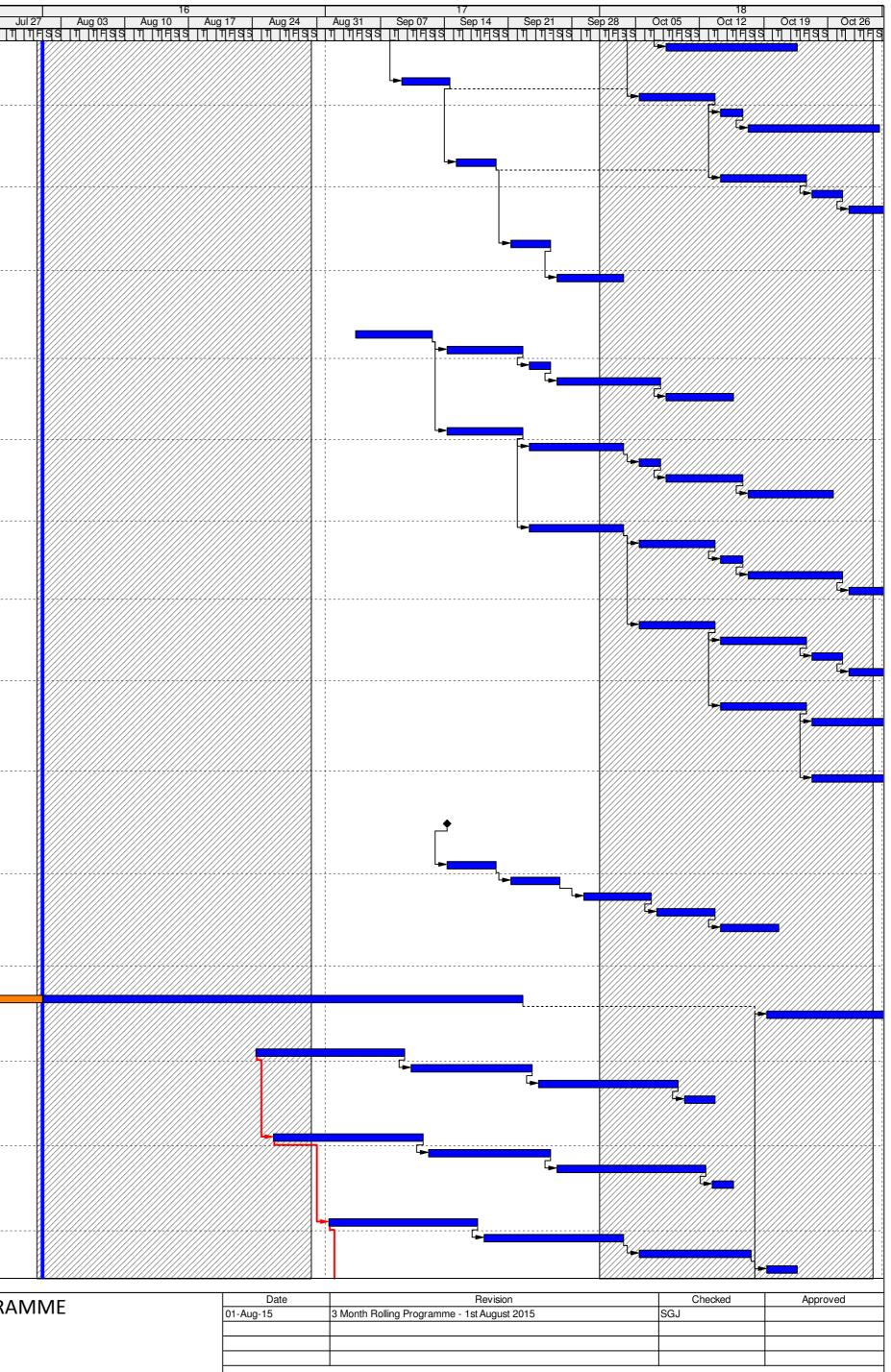
D	Activity Name	Original Duration	Start	Finish	H2620-T	un 29 Jul 06 Jul 13 Ju
//2013/01	HKZMB HKBCF - PCB - 3MRP - July 2015	198	14-Apr-15 A	28-Dec-15		
ONSTRU		198	14-Apr-15 A	28-Dec-15		
		198	18-May-15 A	28-Dec-15		
	Clearance Building					
Piling	ZMB HKBCF - TYSAN PILING UPDATE - JUN5	100	18-May-15 A 18-May-15 A	30-Aug-15 30-Aug-15		
1st Group	ZMB HKBCF - I YSAN PILING UPDATE - JUND	21	13-Jun-15 A	04-Jul-15 A		
PCB-TS-0420	Box Culvert (A1 area only) - BC37	21	13-Jun-15 A	04-Jul-15 A	TEMP	
3rd Group	Box Culvert (A1 Area only) - BC30	23	19-Jun-15 A	17-Jul-15 A 17-Jul-15 A	TEMP	
PCB-TS-0390 4th Group	Box Guivert (AT Area only) - BC30	23 21	19-Jun-15 A 17-Jun-15 A	10-Jul-15 A	IEMP	
PCB-TS-0310	Box Culvert (A1 area only) - BC33	21	17-Jun-15 A	10-Jul-15 A	TEMP	
6th Group PCB-TS-0400	Box Culvert (A1 Area only) - BC29	23 23	18-May-15 A 18-May-15 A	29-Jul-15 A 29-Jul-15 A	TEMP	
17th Group		39	03-Jun-15 A	15-Jul-15 A		
PCB-TS-1780	Box Culvert (A1 area only) - BC26	21	26-Jun-15 A	14-Jul-15 A	TEMP	
PCB-TS-1810 19th Group	Box Culvert (A1 area only) - BC23	18 27	03-Jun-15 A 03-Jun-15 A	15-Jul-15 A 27-Jul-15 A	TEMP	
PCB-TS-1460	Northern Footbridge (Portion A1) N3-2-1	27	03-Jun-15 A	27-Jul-15 A	TEMP	
Pile Testing PCB-PT-00010	Pile Testing	30 30	30-Jul-15 A 30-Jul-15 A	30-Aug-15 30-Aug-15	TEMP	
Sub-Structur		149	01-Jun-15 A	28-Dec-15		
Basement Leve		149	01-Jun-15 A	28-Dec-15		
Tower Cranes	_	14	31-Aug-15	15-Sep-15		
	D.6 - SOUTH EAST PCB(A1) - Construct Tower Crane Footings TC6	14 8	31-Aug-15 31-Aug-15	15-Sep-15 08-Sep-15	TEMP	
PCB-02-2095	PCB(A1) - Erect Tower Crane TC6	6	09-Sep-15	15-Sep-15	TEMP	
Bulk Excavation	on (to -3.845 -1.495mPD)	98	01-Jun-15 A 01-Jun-15 A	12-Nov-15 27-Oct-15		
South East - Z	one 1 & 1A	98 54	01-Jun-15 A 01-Jun-15 A	27-Oct-15 11-Aug-15		
	PCB - Excavation for Basement Zone E1 (South East) 76,000m <sup>3</sup>	17	01-Jun-15 A	07-Jul-15 A	TEMP TEMP	
South West - Z	PCB - Excavation for Basement Zone E2 (Middle East) 36,000m <sup>3</sup> Cone 2 & 2A	24 34	16-Jul-15 A 14-Sep-15	11-Aug-15 27-Oct-15		
	PCB - Excavation for Basement Zone W1 (South West) 40,030m <sup>3</sup>	34	14-Sep-15*	27-Oct-15	TEMP	
Middle - 120,090 PCB-02-1770	Dm <sup>3</sup> PCB - Excavation for Basement Stage C1 (Middle Centre) to -1.495mPD Only	77 26	12-Aug-15 12-Aug-15	12-Nov-15 10-Sep-15	TEMP	
PCB-02-1780	PCB - Excavation for Basement Stage C2 (Middle Centre) to -1.495mPD Only	13	27-Aug-15	10-Sep-15	TEMP	_
PCB-02-1810 PCB-02-1840	PCB - Excavation for Basement Stage C1 (Middle Centre) below -1.495 to -3.8mPD (for beams)         PCB - Excavation for Basement Stage C2 (Middle Centre) below -1.495 to -3.8mPD (for beams)	9	30-Oct-15 03-Nov-15	09-Nov-15 12-Nov-15	TEMP TEMP	_
	Tie Beam Construction	122	02-Jul-15 A	28-Nov-15		
Pile Cropping a Zone E1	nd Blinding	122 34	02-Jul-15 A 02-Jul-15 A	28-Nov-15 14-Aug-15		
PCB-02-26710	Pile Cropping and Blinding to BF05 (6 Number) Mega Pile Cap	12	02-Jul-15 A	07-Jul-15 A	TEMP	• <b>—</b>
	<ul> <li>Pile Cropping and Blinding to BF04 (7 Number)</li> <li>Pile Cropping and Blinding to BF06 (6 Number)</li> </ul>	12 12	01-Aug-15 01-Aug-15	14-Aug-15 14-Aug-15	TEMP TEMP	_
Zone E2		42	05-Aug-15	22-Sep-15		
	<ul> <li>Pile Cropping and Blinding to BF11 (6 Number) Mega Pile Cap</li> <li>Pile Cropping and Blinding to BF10 (7 Number)</li> </ul>	12 12	05-Aug-15 09-Sep-15	18-Aug-15 22-Sep-15	TEMP TEMP	
PCB-02-20280	<ul> <li>Pile Cropping and Blinding to BF12 (6 Number)</li> </ul>	12	09-Sep-15	22-Sep-15	TEMP	
Zone W1 PCB-02-26680	Pile Cropping and Blinding to BF02 (6 Number) Mega Pile Cap	12 12	27-Oct-15 27-Oct-15	08-Nov-15 08-Nov-15	TEMP	
Zone C1		14	30-Oct-15	14-Nov-15		
	<ul> <li>Pile Cropping and Blinding to BF17 (3 Number)</li> <li>Pile Cropping and Blinding to BF18 (2 Number)</li> </ul>	12 12	30-Oct-15 02-Nov-15	12-Nov-15 14-Nov-15	TEMP TEMP	_
Zone C2		12	15-Nov-15	28-Nov-15		
	<ul> <li>Pile Cropping and Blinding to BF15 (10 Number)</li> <li>Pile Cropping and Blinding to BF16 (8 Number)</li> </ul>	12 12	15-Nov-15 17-Nov-15	26-Nov-15 28-Nov-15	TEMP TEMP	
	Beams & Pile Caps	94	08-Jul-15 A	28-Nov-15 21-Nov-15		
Zone E1	Pile Caps to BF05 (6 Number) and Base Slab Mega Pile Cap Gridline H-G East	25 12	08-Jul-15 A	29-Aug-15	TEMP	
	<ul> <li>Pile Caps to BF05 (6 Number) and Base Slab Mega Pile Cap Gridline H-G East</li> <li>Pile Caps to BF06 (6 Number)</li> </ul>	12 18	08-Jul-15 A 08-Aug-15*	28-Jul-15 A 28-Aug-15	TEMP	
	Pile Caps to BF04 (7 Number)	19	08-Aug-15*	29-Aug-15	TEMP	
Zone E2 PCB-02-20440	Pile Caps to BF11 (6 Number) Mega Pile Cap Gridline E-F East	24	12-Aug-15 12-Aug-15	19-Oct-15 08-Sep-15	TEMP	-
	Pile Caps to BF12 (6 Number)	21	23-Sep-15	19-Oct-15	TEMP	
PCB-02-20550 Zone C1	Pile Caps to BF10 (7 Number)	21 14	23-Sep-15 06-Nov-15	19-Oct-15 21-Nov-15	TEMP	
PCB-02-20560	Pile Caps to BF17 (3 Number)	12	06-Nov-15	19-Nov-15	TEMP	
	Pile Caps to BF18 (2 Number) e Beam Waterproofing	12 70	09-Nov-15 01-Aug-15	21-Nov-15 24-Oct-15	TEMP	
Zone E1		29	01-Aug-15	03-Sep-15		
Actual Work					тир	EE MONTH ROLLING PR



		Duration			2	un 29 Jul 06 Jul 13 Jul 20   피루워S   피   피루워S   피   피루워S   피   피루워
	Waterproofing to BF05 (6 Number) Mega Pile Cap Gridline H-G East	4	01-Aug-15	05-Aug-15	TEMP	
	Waterproofing to BF06 (6 Number)	4	29-Aug-15	02-Sep-15	TEMP	
PCB-02-23750	Waterproofing to BF04 (7 Number)	4	31-Aug-15	03-Sep-15	TEMP	_
	Waterproofing to BF11 (6 Number) Mega Pile Cap Gridline E-F East	<u> </u>	09-Sep-15 09-Sep-15	24-Oct-15 12-Sep-15	TEMP	-
	Waterproofing to BF12 (6 Number)	4	20-Oct-15	24-Oct-15	TEMP	
	Waterproofing to BF10 (7 Number)	4	20-Oct-15	24-Oct-15	TEMP	_
ackfilling to To	p Level of Ground Beams (-1.5mPD Generally)	46	03-Sep-15	29-Oct-15		
Zone E1		8	03-Sep-15	11-Sep-15		
	Backfilling to Tie Beams to BF06	4	03-Sep-15	07-Sep-15	TEMP	
	Backfilling to Tie Beams to BF04	4	08-Sep-15	11-Sep-15	TEMP	
Zone E2	Backfilling to Tie Beams to BF10	4	26-Oct-15 26-Oct-15	29-Oct-15 29-Oct-15	TEMP	-
	Backfilling to Tie Beams to BF12	4	26-Oct-15	29-Oct-15	TEMP	_
asement Slab		84	08-Sep-15	17-Dec-15		
Zone E1		22	08-Sep-15	05-Oct-15		
	PCB - Base Slab (GL0.2 to 1.2) H-G - m <sup>3</sup> BS06	18	08-Sep-15	29-Sep-15	TEMP	-
PCB-02-2230	PCB - Base Slab (GL0.2 to 1.2) H-G - m <sup>3</sup> BS04	18	12-Sep-15	05-Oct-15	TEMP	
Zone E2		18	30-Oct-15	19-Nov-15		
PCB-02-2540	PCB - Base Slab (GL0.2 to 1.2) F-E.5 - m <sup>3</sup> Pour BS12	18	30-Oct-15	16-Nov-15	TEMP	
	PCB - Base Slab (GL2.2 to 3.2) F-E.5 - m <sup>3</sup> Pour BS10	18	30-Oct-15	19-Nov-15	TEMP	
Zone C1		20	28-Nov-15	17-Dec-15	TEMP	A
	PCB - Base Slab (GL3.2 to 4.2) F-E.5 - m <sup>3</sup> Pour BS17	18	28-Nov-15	15-Dec-15	TEMP	_
	PCB - Base Slab (GL1.2 to 2.2) F-E.5 - m <sup>3</sup> Pour BS18	18 62	30-Nov-15 13-Sep-15	17-Dec-15 27-Nov-15	TEMP	
	el External Walls and Columns		•			<b>-</b>
Zone E1 PCB-02-21300	PCB - Basement Ext Walls BS05	14	30-Sep-15 30-Sep-15	16-Oct-15 09-Oct-15	TEMP	-
	PCB - Basement Ext Walls BS05 PCB - Basement Ext Walls BS04	8	06-Oct-15	14-Oct-15	TEMP	-
	PCB - Basement Ext Walls BS04	8	08-Oct-15	16-Oct-15	TEMP	-
Zone E2		76	13-Sep-15	27-Nov-15		
PCB-02-21330	PCB - Basement Ext Walls BS11	8	13-Sep-15	20-Sep-15	TEMP	
PCB-02-21340	PCB - Basement Ext Walls BS12	8	17-Nov-15	24-Nov-15	TEMP	
	PCB - Basement Ext Walls BS10	8	20-Nov-15	27-Nov-15	TEMP	_
asement Back	kfill to Perimeter Wall	80	21-Sep-15	28-Dec-15		
Zone E1		8	10-Oct-15	19-Oct-15		
	PCB - Backfilling to Ground Level at Basement Ext Walls BS05	3	10-Oct-15	13-Oct-15	TEMP	
	PCB - Backfilling to Ground Level at Basement Ext Walls BS04	3	15-Oct-15	17-Oct-15	TEMP	
	PCB - Backfilling to Ground Level at Basement Ext Walls BS06	3	17-Oct-15	19-Oct-15	TEMP	-
Zone E2 PCB-02-21550	PCB - Backfilling to Ground Level at Basement Ext Walls BS11	71	21-Sep-15 21-Sep-15	30-Nov-15 23-Sep-15	TEMP	-
	PCB - Backfilling to Ground Level at Basement Ext Walls BS11 PCB - Backfilling to Ground Level at Basement Ext Walls BS12	3	21-Sep-15 25-Nov-15	23-Sep-15 27-Nov-15	TEMP	
	PCB - Backfilling to Ground Level at Basement Ext Walls BS12	3	28-Nov-15	30-Nov-15	TEMP	-
Zone C1		5	24-Dec-15	28-Dec-15		
	PCB - Backfilling to Ground Level at Basement Ext Walls BS17	3	24-Dec-15	26-Dec-15	TEMP	7
PCB-02-21590	PCB - Backfilling to Ground Level at Basement Ext Walls BS18	3	26-Dec-15	28-Dec-15	TEMP	
outhern D	rop Off Area	159	14-Apr-15 A	10-Nov-15		
cavation		32	14-Apr-15 A	02-Jun-15 A		
	DoA EAST Stripping Top Soil in DoA Foot				TEMP	-
CB-02-20070	DoA - EAST -Stripping Top Soil in DoA East	83	14-Apr-15 A 03-Aug-15	02-Jun-15 A 10-Nov-15	TEMP	-
C Works						
	area (Group 1 - Bay 11 : DC11, DC26, DC41)	35	03-Aug-15	11-Sep-15		<b>_</b>
MRP-A0010	Excavate to Formation Level & Pile Breaking	12	03-Aug-15*	15-Aug-15	TEMP	
MRP-A0020	Construction of Pile Caps	8	17-Aug-15	25-Aug-15	TEMP	_
MRP-A0030	Backfill to +4mPD	3	26-Aug-15	28-Aug-15	TEMP	
MRP-A0040	Construction of Columns	12	29-Aug-15	11-Sep-15 11-Sep-15	TEMP	
ast Drop Off A MRP-A40	Irea (Group 2 - Bay 11 : DC12, DC27, DC42)		11-Aug-15	· · ·	TEMP	
MRP-A40 MRP-A50	Excavate to Formation Level & Pile Breaking Construction of Pile Caps	5	11-Aug-15 17-Aug-15	15-Aug-15 25-Aug-15	TEMP TEMP	-
MRP-A60	Backfill to +4mPD	3	26-Aug-15	25-Aug-15 28-Aug-15	TEMP	-
VIRP-A70	Construction of Columns	12	29-Aug-15	11-Sep-15	TEMP	-
	urea (Group 3 - Bay 13 : DC13, DC28, DC43)	31	17-Aug-15	21-Sep-15		
VRP-A80	Excavate to Formation Level & Pile Breaking	5	17-Aug-15	21-Aug-15	TEMP	
MRP-A90	Construction of Pile Caps	8	26-Aug-15	03-Sep-15	TEMP	
MRP-A100	Backfill to +4mPD	3	04-Sep-15	07-Sep-15	TEMP	
VRP-A110	Construction of Columns	12	08-Sep-15	21-Sep-15	TEMP	
ist Drop Off A	rea (Group 4 - Bay 14 : DC15, DC30, DC45)	22	22-Aug-15	16-Sep-15		
VRP-A120	Excavate to Formation Level & Pile Breaking	5	22-Aug-15	27-Aug-15	TEMP	_
MRP-A130	Construction of Pile Caps	8	04-Sep-15	12-Sep-15	TEMP	_
MRP-A140	Backfill to +4mPD	3	14-Sep-15	16-Sep-15	TEMP	_
	rea (Group 5 - Bay 15 : DC14, DC29, DC44)	25	28-Aug-15	25-Sep-15	TELE	<b>–</b>
MRP-A160	Excavate to Formation Level & Pile Breaking	5	28-Aug-15	02-Sep-15	TEMP	
MRP-A170	Construction of Pile Caps	8	14-Sep-15	22-Sep-15	TEMP	_
MRP-A180	Backfill to +4mPD	3 40	23-Sep-15 03-Sep-15	25-Sep-15 22-Oct-15	TEMP	
•	Irea (Group 6 - Bay 9 : DC10, DC25, DC40)				TEMP	-
MRP-A200	Excavate to Formation Level & Pile Breaking Construction of Pile Caps	5 8	03-Sep-15 23-Sep-15	08-Sep-15 03-Oct-15	TEMP TEMP	_
\ARP_4210	Backfill to +4mPD	3	23-Sep-15 05-Oct-15	03-Oct-15 07-Oct-15	TEMP	
/IRP-A210 /IRP-A220			30 00-10	0, 00-10		
/RP-A210 /RP-A220						
/IRP-A220					ТНР	
	'n				THR	EE MONTH ROLLING PRO

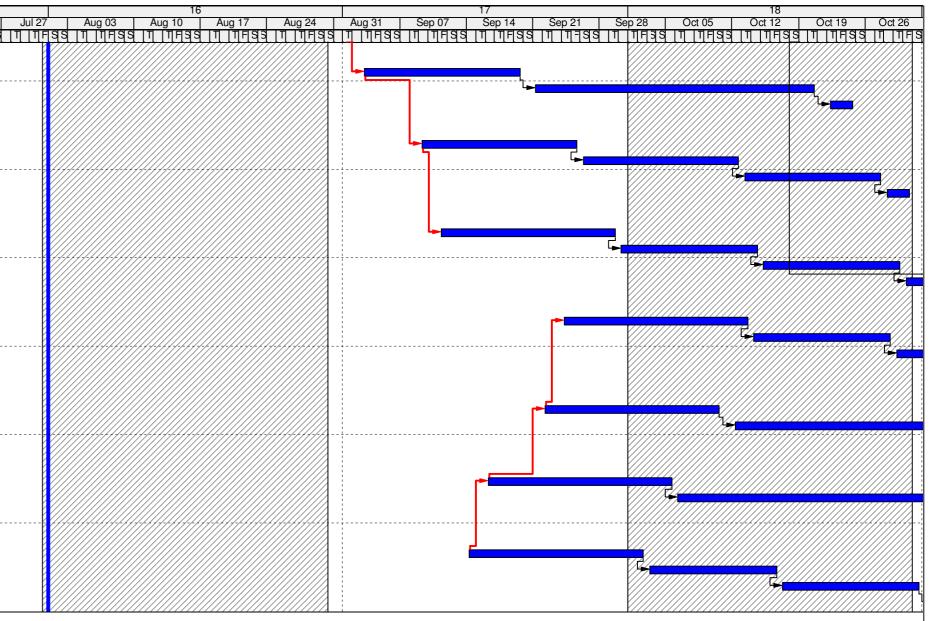


	Activity Name	Original Duration	Start	Finish	H2620-TE 2	EI 15 un 29 Jul 06 Jul 13 Jul 20 _ [파티워S ] 파   파티워S   파   파티워S - 파
3MRP-A230	Construction of Columns	12	08-Oct-15	22-Oct-15	TEMP	
	urea (Group 7 - Bay 9 : DC9, DC24, DC39)	43	09-Sep-15	31-Oct-15		
3MRP-A240 3MRP-A250	Excavate to Formation Level & Pile Breaking Construction of Pile Caps	5	09-Sep-15 05-Oct-15	14-Sep-15 13-Oct-15	TEMP TEMP	_
3MRP-A260	Backfill to +4mPD	3	14-Oct-15	16-Oct-15	TEMP	
3MRP-A270	Construction of Columns	12	17-Oct-15	31-Oct-15	TEMP	
	urea (Group 8 - Bay 7 : DC8, DC23, DC38)	46	15-Sep-15	10-Nov-15		
3MRP-A280 3MRP-A290	Excavate to Formation Level & Pile Breaking Construction of Pile Caps	5	15-Sep-15 14-Oct-15	19-Sep-15 23-Oct-15	TEMP TEMP	_
3MRP-A300	Backfill to +4mPD	3	24-Oct-15	23-Oct-15	TEMP	
3MRP-A310	Construction of Columns	12	28-Oct-15	10-Nov-15	TEMP	
•	Area (Group 9 - Bay 7 : DC7, DC22, DC37)	5	21-Sep-15	25-Sep-15		
3MRP-A320	Excavate to Formation Level & Pile Breaking	5	21-Sep-15	25-Sep-15	TEMP	
West Drop Off A 3MRP-A360	Area (Group 10 - Bay 5 : DC6, DC21, DC36) Excavate to Formation Level & Pile Breaking	5	26-Sep-15	03-Oct-15	TEMP	
	C Works (5 Mega Columns)	5	26-Sep-15 04-Sep-15	03-Oct-15 05-Nov-15	I EIVIP	
K5 (to +19.0mP		34	04-Sep-15	15-Oct-15		
PCB-02-26620	Construct Pile Cap (Gridline K) - K5	8	04-Sep-15*	12-Sep-15	TEMP	
PCB-02-26630	Construct Column Head (1st Lift) - K5	8	14-Sep-15	22-Sep-15	TEMP	
PCB-02-26640	PCB - Backfilling up to Ground Level - K5	3	23-Sep-15	25-Sep-15	TEMP	
PCB-ZZ-4660 PCB-ZZ-4910	PCB - Mega Columns K 2nd Lift - K5	8	26-Sep-15 08-Oct-15	07-Oct-15	TEMP TEMP	_
K4 (to +19.0mP	Minimum Curing 7d	34	14-Sep-15	15-Oct-15 26-Oct-15	IEIVIP	
PCB-02-26580	Construct Pile Caps (Gridline K) - K4	8	14-Sep-15	22-Sep-15	TEMP	
PCB-02-26590	Construct Column Head (1st Lift) - K4	8	23-Sep-15	03-Oct-15	TEMP	
PCB-02-26600	PCB - Backfilling up to Ground Level - K4	3	05-Oct-15	07-Oct-15	TEMP	_
PCB-ZZ-4640 PCB-ZZ-4900	PCB - Mega Columns K 2nd Lift - K4 Minimum Curing 7d	8	08-Oct-15 17-Oct-15	16-Oct-15 26-Oct-15	TEMP TEMP	_
K3 (to +19.0mP		34	23-Sep-15	04-Nov-15	IEIVIP	
PCB-02-26540	Construct Pile Caps (Gridline K) - K3	8	23-Sep-15	03-Oct-15	TEMP	
PCB-02-26550	Construct Column Head (1st Lift) - K3	8	05-Oct-15	13-Oct-15	TEMP	
PCB-02-26560	PCB - Backfilling up to Ground Level - K3	3	14-Oct-15	16-Oct-15	TEMP	_
PCB-ZZ-4620 PCB-ZZ-4890	PCB - Mega Columns K 2nd Lift - K3 Minimum Curing 7d	8	17-Oct-15 28-Oct-15	27-Oct-15 04-Nov-15	TEMP TEMP	_
<pre>K2 (to +19.0mP</pre>		27	05-Oct-15	05-Nov-15		
PCB-02-26500	Construct Pile Caps (Gridline K) - K2	8	05-Oct-15	13-Oct-15	TEMP	
PCB-02-26510	Construct Column Head (1st Lift) - K2	8	14-Oct-15	23-Oct-15	TEMP	
PCB-02-26520	PCB - Backfilling up to Ground Level - K2	3	24-Oct-15	27-Oct-15	TEMP	_
PCB-ZZ-4600 K1 (to +19.0mP	PCB - Mega Columns K 2nd Lift - K2	8	28-Oct-15 14-Oct-15	05-Nov-15 02-Nov-15	TEMP	
PCB-02-2125	Construct Pile Caps (Gridline K) - K1	8	14 Oct 15	23-Oct-15	TEMP	
PCB-02-2185	Construct Column Head (1st Lift) - K1	8	24-Oct-15	02-Nov-15	TEMP	_
Gridline J - R	C Works (5 Mega Columns)	8	24-Oct-15	02-Nov-15		
J5 (to +19.0mPl	D)	8	24-Oct-15	02-Nov-15		
PCB-02-26460	Construct Pile Cap - J5	8	24-Oct-15	02-Nov-15	TEMP	
eawater P	Pump House	30	14-Sep-15	20-Oct-15		
CB-13A-0500	Possession of Portion B	0	14-Sep-15*		TEMP	
lling	1	30	14-Sep-15	20-Oct-15		
PCB-13A-110	SWP - Prebored socket H-piles (1 & 2) x 2 rigs	6	14-Sep-15	19-Sep-15	TEMP	
PCB-13A-740	SWP - Prebored socket H-piles (3 & 4) x 2 rigs	6	21-Sep-15	26-Sep-15	TEMP	
PCB-13A-750	SWP - Prebored socket H-piles (5 & 6) x 2 rigs	6	29-Sep-15	06-Oct-15	TEMP	
CB-13A-760 CB-13A-770	SWP - Prebored socket H-piles (7 & 8) x 2 rigs SWP - Prebored socket H-piles (9 & 10) x 2 rigs	6	07-Oct-15 14-Oct-15	13-Oct-15 20-Oct-15	TEMP TEMP	_
		89	27-Jul-15 A	16-Nov-15	I EIVIP	
ox Culver						
ast		89	27-Jul-15 A	16-Nov-15		
CB-09-1090	BCA Sheetpiling and ELS (Bays 1 to 10)	48	27-Jul-15 A	22-Sep-15	TEMP	
CB-09-1720	BCA Extract Sheetpiles (Bays 1 to 10)	24	19-Oct-15*	16-Nov-15	TEMP	
Bay 1		42	24-Aug-15	13-Oct-15		
3MRP-A490	Bay 1 - Blinding and RC works to Baseslab	15	24-Aug-15*	09-Sep-15	TEMP	
MRP-A500	Bay 1 - RC works to Top Slab	12	10-Sep-15	23-Sep-15	TEMP TEMP	_
3MRP-A720 3MRP-A510	Bay 1 - RC works to Top Slab Bay 1 - Curing and Stripping	12	24-Sep-15 10-Oct-15	09-Oct-15 13-Oct-15	TEMP	-
Bay 2	and and another a	42	26-Aug-15	15-Oct-15		
BMRP-A460	Bay 2 - Blinding and RC works to Baseslab	15	26-Aug-15*	11-Sep-15	TEMP	
BMRP-A470	Bay 2 - RC works to Top Slab	12	12-Sep-15	25-Sep-15	TEMP	
3MRP-A710	Bay 2 - RC works to Top Slab	12	26-Sep-15	12-Oct-15	TEMP	_
3MRP-A480	Bay 2 - Curing and Stripping	3	13-Oct-15	15-Oct-15	TEMP	
		42	01-Sep-15	22-Oct-15		
	Bay 3 - Blinding and RC works to Baseslab	15	01-Sep-15*	17-Sep-15	TEMP	
Bay 3 3MRP-A430	Ray 2 DC works to Tap Clab	12	18-Sep-15	03-Oct-15	TEMP TEMP	-
3MRP-A430 3MRP-A440	Bay 3 - RC works to Top Slab Bay 3 - RC works to Top Slab	12	05-Oct-15	1/-Oct-15		
3MRP-A430 3MRP-A440 3MRP-A700	Bay 3 - RC works to Top SlabBay 3 - RC works to Top SlabBay 3 - Curing and Stripping	12 3	05-Oct-15 19-Oct-15	17-Oct-15 22-Oct-15	TEMP	
	Bay 3 - RC works to Top Slab					
BMRP-A430 BMRP-A440 BMRP-A700 BMRP-A450 Actual Work	Bay 3 - RC works to Top Slab Bay 3 - Curing and Stripping				TEMP	EE MONTH ROLLING PROG
3MRP-A430 3MRP-A440 3MRP-A700 3MRP-A450	Bay 3 - RC works to Top Slab Bay 3 - Curing and Stripping				TEMP	EE MONTH ROLLING PROG



Activity ID	Activity Name	Original Duration	Start	Finish		un 29   Jul 06   Jul 13   Jul 20
						ागनवर्ष । ग । गनवर्ष । ग । गनवर्ष । ग । गनवर्ष । ग
Bay 4		42	03-Sep-15	24-Oct-15		
3MRP-A400	Bay 4 - Blinding and RC works to Baseslab	15	03-Sep-15*	19-Sep-15	TEMP	
3MRP-A410	Bay 4 - RC works to Top Slab	24	21-Sep-15	20-Oct-15	TEMP	
3MRP-A420	Bay 4 - Curing and Stripping	3	22-Oct-15	24-Oct-15	TEMP	
Bay 5		42	09-Sep-15	30-Oct-15		
3MRP-A610	Bay 5 - Blinding and RC works to Baseslab	15	09-Sep-15*	25-Sep-15	TEMP	
3MRP-A620	Bay 5 - RC works to Top Slab	12	26-Sep-15	12-Oct-15	TEMP	
3MRP-A750	Bay 5 - RC works to Top Slab	12	13-Oct-15	27-Oct-15	TEMP	
3MRP-A630	Bay 5 - Curing and Stripping	3	28-Oct-15	30-Oct-15	TEMP	
Bay 6		42	11-Sep-15	02-Nov-15		
3MRP-A580	Bay 6 - Blinding and RC works to Baseslab	15	11-Sep-15*	29-Sep-15	TEMP	
3MRP-A590	Bay 6 - RC works to Top Slab	12	30-Sep-15	14-Oct-15	TEMP	
3MRP-A740	Bay 6 - RC works to Top Slab	12	15-Oct-15	29-Oct-15	TEMP	
3MRP-A600	Bay 6 - Curing and Stripping	3	30-Oct-15	02-Nov-15	TEMP	
Bay 7		42	24-Sep-15	14-Nov-15		
3MRP-A550	Bay 7 - Blinding and RC works to Baseslab	15	24-Sep-15*	13-Oct-15	TEMP	
3MRP-A560	Bay 7 - RC works to Top Slab	12	14-Oct-15	28-Oct-15	TEMP	
3MRP-A730	Bay 7 - RC works to Top Slab	12	29-Oct-15	11-Nov-15	TEMP	
3MRP-A570	Bay 7 - Curing and Stripping	3	12-Nov-15	14-Nov-15	TEMP	
Bay 8		42	22-Sep-15	12-Nov-15		
3MRP-A520	Bay 8 - Blinding and RC works to Baseslab	15	22-Sep-15*	10-Oct-15	TEMP	
3MRP-A530	Bay 8 - RC works to Top Slab	24	12-Oct-15	09-Nov-15	TEMP	1
3MRP-A540	Bay 8 - Curing and Stripping	3	10-Nov-15	12-Nov-15	TEMP	
Bay 9		42	16-Sep-15	06-Nov-15		
3MRP-A640	Bay 9 - Blinding and RC works to Baseslab	15	16-Sep-15*	05-Oct-15	TEMP	
3MRP-A650	Bay 9 - RC works to Top Slab	24	06-Oct-15	03-Nov-15	TEMP	1
3MRP-A660	Bay 9 - Curing and Stripping	3	04-Nov-15	06-Nov-15	TEMP	1
Bay 10		42	14-Sep-15	04-Nov-15		
3MRP-A670	Bay 10 - Blinding and RC works to Baseslab	15	14-Sep-15*	02-Oct-15	TEMP	
3MRP-A680	Bay 10 - RC works to Top Slab	12	03-Oct-15	16-Oct-15	TEMP	
3MRP-A760	Bay 10 - RC works to Top Slab	12	17-Oct-15	31-Oct-15	TEMP	
3MRP-A690	Bay 10 - Curing and Stripping	3	02-Nov-15	04-Nov-15	TEMP	

Actual Work	THREE MONTH ROLLING PROGR
Remaining Work	
Critical Remaining Work	Dage 4 of 4
♦ ♦ Milestone	Page 4 of 4



RAMME	Date	Revision	Checked	Approved
RAIVIIVIE	01-Aug-15	3 Month Rolling Programme - 1st August 2015	SGJ	
		•		



# **APPENDIX D**

Event and Action Plan

## Event/Action Plan for Air Quality

	EVENT	ACTION				
		ET	IEC	ER	CONTRACTOR	
	CTION LEVEL					
1.	Exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC and ER;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	1. Notify Contractor.	<ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>	
2.	Exceedance for two or more consecutive samples	<ol> <li>Identify source;</li> <li>Inform IEC and ER;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurement s to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and ER;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Supervise Implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Submit proposals for remedial to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>	

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

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



# **APPENDIX E**

Waste Flow Table

Name of Department: Highways Department

#### Contract No.: HY/2013/01



#### Monthly Summary Waste Flow Table for 2015

	Actua	al Quantities	of Inert C&D	Materials G	enerated Mo	nthly	Actual (	Quantities of	C&D Wastes	Generated	Monthly
Month	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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	24.799	0.000	0.000	12.018	12.781	0.000	29.910	0.314	0.000	1.440	0.044
February	12.073	0.000	0.000	5.159	6.914	0.000	20.850	0.473	0.003	0.000	0.022
March	15.990	0.000	0.000	4.489	11.501	0.000	90.810	0.673	0.000	2.400	0.047
April	7.596	0.000	0.000	1.606	5.990	0.000	79.070	0.669	0.000	0.000	0.066
May	14.012	0.000	3.608	6.521	3.883	0.000	8.630	0.000	0.000	2.560	0.048
June	58.988	0.000	0.010	56.981	1.997	0.000	154.600	0.586	0.000	0.000	0.057
Sub-total	133.458	0.000	3.618	86.774	43.066	0.000	383.870	2.715	0.003	6.400	0.284
July	28.566	0.000	0.000	27.504	1.062	0.000	49.660	0.912	0.000	0.000	0.044
August											
September											
October											
November											
December											
Total	162.024	0.000	3.618	114.278	44.128	0.000	433.530	3.627	0.003	6.400	0.328

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

Name of Department: Highways Department

#### Contract No.: HY/2013/01



#### 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 50,000m<sup>3</sup>.
- (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/m<sup>3</sup>; soil = 2.0 tonnes/m<sup>3</sup>
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```
excavated: rock = 2.0 tonnes/m<sup>3</sup>; soil = 1.8 tonnes/m<sup>3</sup>; broken concrete and bitumen = 2.4 tonnes/m<sup>3</sup>
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```
C&D Waste = 0.9 tonnes/m<sup>3</sup>; bentonite slurry = 2.8 tonnes/m<sup>3</sup>
```

Diesel density: 0.8kg/l

- (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

page 2



# **APPENDIX F**

**Environmental Licenses and Permits** 

Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

				-			Date : July 2	015	
ltem No.	Perm	nit/License c Applica	r Registration ation	Permit/License/ Notification/ Registration	Permit/License/ Registration Number	lssue/Start Date	Expiry Date	Issuing Office	Remark
NO.	Area Date		Reference	Description	negistration number	Date	Date		
1.	All Areas	29 Jul 13	N/A	Environmental Permit to construct the Passenger Clearance Building and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/G	06 Aug 13	N/A	EPD	Superseded by EP-353/2009/H
2.	All Areas	16 Jan 15	N/A	Environmental Permit to construct the Passenger Clearance Building and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/H	19 Jan 15	N/A	EPD	Superseded by EP-353/2009/I
3.	All Areas	30 Jun 15	N/A	Environmental Permit to construct the Passenger Clearance Building and associated works of the Hong Kong Zhuhai and Macao Bridge Boundary Crossing Facilities	EP-353/2009/I	17 Jul 15	N/A	EPD	
4.	All Areas	29 Apr 14	H2620-LTR-EPD- AU-000006	Billing Account for disposal of construction waste	Billing Account No.: 7019944	16 May 14	N/A	EPD	



Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

							Date : July 2	015	
Item No.		nit/License or Registration Application		Permit/License/ Notification/ Registration	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Work Area	Date	Reference	Description	C C				
5.	РСВ	30 Apr 14	H2620-LTR- EPD- 000002	Notification that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373961	05 May 14	N/A	EPD	
6.	WA2	30 Apr 14	H2620-LTR- EPD- 000003	Notification that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373956	05 May 14	N/A	EPD	
7.	WA3	30 Apr 14	H2620-LTR-EPD- AU-000001	Notification that notifiable works are anticipated to commence (Form NA).	Acknowledge Receipt Ref. No. 373962	05 May 14	N/A	EPD	
8.	РСВ	30 May 14	H2620-LTR-EPD- AU-000020	Registration as Chemical Waste Producer for disposal of spent batteries, used lubrication oil and surplus paint at PCB area	WPN: 5213-951-L2846-01	08 Jul 14	N/A	EPD	

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Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

				1	1		Date : July 2	015	
ltem No.	Perm Work	nit/License c Applica Date	r Registration tion Permit/License/ Notification/ Reference Description		Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Area	Date	nelelelice	Description					
9.	РСВ	23 Jun 14	In H2620-LTR- EPD-000017	<b>CNP</b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS0683-14	03 Jul 14	29 Dec 14	EPD	Superseded by GW-RS0908-14
10.	WA2	02 Jul 14	H2620-LTR-LCJ- AU-000280	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out ER Office construction works from 19:00 to 23:00. (Non-designated area)	GW-RS0715-14	17 Jul 14	15 Jan 15	EPD	Superseded by GW-RS1034-14
11.	WA3	02 Jul 14	H2620-LTR-LCJ- AU-000324	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out construction of JV site office from 19:00 to 23:00. (Non-designated)	GW-RS0716-14	17 Jul 14	15 Jan 15	EPD	Expired

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Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

Date : July 2015									
ltem No.	Perm Work Area	nit/License o Applica Date	r Registration ation Reference	Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
12.	PCB	23 Jun 14	H2620-LTR- EPD- 000527	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS0908-14	03 Sep 14	22 Dec 14	EPD	Superseded by GW-RS1044-14
13.	PCB	15 Sep 14	H2620-LTR-EPD- AU-000034	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS1044-14	29 Sep 14	24 Dec 14	EPD	Superseded by GW-RS1300-14
14.	WA2	12 Sep 14	H2620-LTR-EPD- AU-000032	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out ER Office construction works from 19:00 to 23:00. (Non-designated area)	GW-RS1034-14	29 Sep 14	28 Mar 15	EPD	Expired
15.	WA4	17 Oct 14	H2620-LTR-EPD- AU-000036	<u>CNP</u> for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0814-14	20 Oct 14	19 Apr 15	EPD	Superseded by GW-RW0171-15

Environmental License/ Permits /Notification Register



Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

				-			Date : July 2	015	
ltem No.	Perm Work Area	nit/License o Applica Date	r Registration ation Reference	Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
16.	PCB	03 Nov 14	H2620-LTR-EPD- AU-000040	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS1300-14	17 Nov 14	16 Feb 15	EPD	Superseded by GW-RS0087-15
17.	PCB	12 Jan 15	H2620-LTR-EPD- AU-000046	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS0087-15	26 Jan 15	25 Apr 15	EPD	Superseded by GW-RS0308-15
18.	РСВ	12 Mar 15	H2620-LTR-EPD- AU-000051	<b><u>CNP</u></b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS0308-15	26 Mar 15	25 Jun 15	EPD	Superseded by GW-RS0476-15
19.	РСВ	31 Jul 14	H2620-LTR-EPD- AU-000038	Water Discharge License for construction works on PCB island	WT00020335-2014	13 Nov 14	30 Nov 19	EPD	

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Environmental License/ Permits /Notification Register

Contract No. HY/2013/01 – Hong Kong Zhuhai and Macao Bridge Hong Kong Boundary Crossing Facilities - Passenger Clearance Building

					-		Date : July 2	015	
ltem No.	Work	- Data Reference		Permit/License/ Notification/ Registration Description	Permit/License/ Registration Number	Issue/Start Date	Expiry Date	Issuing Office	Remark
	Area	Dale	neierence	Description					
20.	WA4	27 Mar 15	H2620-LTR-EPD- AU-000054	<b><u>CNP</u></b> for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0171-15	20 Apr 15	19 Oct 15	EPD	Superseded by GW-RW0351-15
21.	РСВ	15 Apr 15	H2620-LTR-EPD- AU-000057	<b>CNP</b> for the use of powered mechanical equipment for the purpose of carry out pre- drill and bore piling works from 19:00 to 23:00 and 23:00 to 07:00. (Non- designated area)	GW-RS0476-15	1 May 15	31 July 15	EPD	Superseded by GW-RS0685-15
22.	PCB	9 Jun 15	H2620-LTR-EPD- EN-000063	<b>CNP</b> 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-RS0685-15	1 Jul 15	30 Sep 15	EPD	
23.	WA4	29 Jun 15	H2620-LTR-EPD- AU-000066	<b><u>CNP</u></b> for the use of powered mechanical equipment from 19:00 to 23:00. (Non-designated area)	GW-RW0351-15	17 Jul 15	12 Jan 16	EPD	

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# **APPENDIX G**

Implementation Schedule for Environmental Mitigation Measures (EMIS)

## Environmental Mitigation Implementation Schedule – Hong Kong Boundary Crossing Facilities (Superstructures and Infrastructures)

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?
Air Quality	/						
S5.5.6.1	A1	<ol> <li>The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation</li> </ol>	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 <sup>-3</sup> and 260 µgm <sup>-3</sup> , respectively)
S5.5.6.2	A2	<ol> <li>Proper watering of exposed spoil should be undertaken throughout the construction phase:</li> <li>Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> </ol>	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 <sup>-3</sup> and 260 µgm <sup>-3</sup> , 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?
S5.5.6.2	Α2	<ul> <li>When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;</li> <li>The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>W here a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides</li> </ul>	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 <sup>3</sup> and 260 µgm <sup>3</sup> , 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?
S5.5.6.2	A2	<ul> <li>Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;</li> <li>Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and</li> <li>Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.</li> </ul>	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 <sup>-3</sup> and 260 µgm <sup>-3</sup> , respectively)
\$5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control construction dust	Contractor	All construction sites	Construction stage	To control the dust impact
S5.5.6.4	A4	4) Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Control construction dust	Engineer	All construction sites	Design Stage	Air Pollution Control (Construction Dust) Regulation
S5.5.6.4	A5	5) 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	• 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 µgm <sup>3</sup> and 260 µgm <sup>3</sup> , 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?
S5.5.7.1	A6	<ul> <li>The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant:</li> <li>Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system;</li> <li>All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP;</li> <li>Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;</li> <li>The materials which may generate airborne dusty emissions should be wetted by water spray system;</li> <li>All receiving hoppers should be enclosed on three sides up to 3m above unloading point;</li> <li>All access and route roads within the premises should be paved and wetted; and</li> <li>Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.</li> </ul>	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> <li>Air Pollution Control (Construction Dust) Regulation</li> <li>To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1- hr and 24hr TSP levels are 500 µgm<sup>-3</sup> and 260 µgm<sup>-3</sup>, respectively)</li> </ul>
S5.5.2.7	A7	<ul> <li>The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:</li> <li>All road surface within the barging facilities will be paved;</li> <li>Dust enclosures will be provided for the loading ramp;</li> <li>Vehicles will be required to pass through designated wheels wash facilities; and</li> <li>Continuous water spray at the loading points.</li> </ul>	Control construction dust	Contractor	All construction sites	Construction stage	Air Pollution Control (Construction Dust) Regulation

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?
		e (Air borne)			•	•	
S6.4.10	N1	<ol> <li>Use of good site practices to limit noise emissions by considering the following:</li> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ol>	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	Noise Control Ordinance     Annex 5, TM-EIA
\$6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m <sup>2</sup> ), 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	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 designed to achieve 10dB(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?
S6.4.13	N4	<ol> <li>Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.</li> </ol>	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	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	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	Noise Control Ordinance     Annex 5, TM-EIA     75dB(A) for     residential     premises
Sediment	•		•				
S7.3	S1	<ol> <li>The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.</li> </ol>	Develop sediment disposal arrangement	Engineer	All construction sites	Design stage	Waste Disposal Ordinance     ETWBTC 34/2002

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?
Waste Mar	nagement	t (Construction Waste)					
S8.3.8	WM1	<ul> <li>Construction and Demolition Material</li> <li>The following mitigation measures should be implemented in handling the waste:</li> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>Carry out on-site sorting;</li> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>Implement an enhanced W aste Management Plan similar to ETW BTC (W orks) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&amp;D materials and to minimize their generation during the course of construction.</li> <li>In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation.</li> </ul>	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	Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance ETW B TC 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?
\$8.3.9- \$8.3.11	WM2	<ul> <li><u>C&amp;D Waste</u></li> <li>Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</li> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.</li> </ul>	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> <li>Land (Miscellaneous Provisions) Ordinance</li> <li>Waste Disposal Ordinance</li> <li>ETWB TC 19/2005</li> </ul>
S8.2.12- S8.3.15	WM3	<ul> <li>Chemical Waste</li> <li>Chemical waste that is produced, as defined by Schedule 1 of the W aste Disposal (Chemical W aste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical W astes.</li> <li>Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes should be clearly 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.</li> </ul>	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	<ul> <li>Waste Disposal (Chemical Waste) General) Regulation</li> <li>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul>

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?
		<ul> <li>Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers 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.</li> </ul>					
S8.3.16	WM4	<ul> <li><u>Sewage</u></li> <li>Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.</li> </ul>	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	Waste Disposal Ordinance
S8.3.17	WM5	<ul> <li>General Refuse</li> <li>General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</li> <li>Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible.</li> <li>Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided.</li> <li>Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.</li> </ul>	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	Waste Dispos al 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?
Water Qua		struction Phase)					
S9.11.1.7	W2	Land Works	To control construction water	Contractor	Land-based works	Construction	TM-EIAO
		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:	quality		areas	stage	
		<ul> <li>wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;</li> </ul>					
		• 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;					
		<ul> <li>storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks;</li> </ul>					
		• 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;					
		<ul> <li>rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;</li> </ul>					
		measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system;					
		<ul> <li>open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;</li> </ul>					
		<ul> <li>manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers;</li> </ul>					
		<ul> <li>discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</li> </ul>					

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?
S9.11.1.7	W2	<ul> <li>all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit;</li> </ul>	To control construction water quality	Contractor	Land-based works areas	Construction stage	TM-EIAO
		<ul> <li>wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;</li> </ul>					
		<ul> <li>the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel;</li> </ul>					
		<ul> <li>wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;</li> </ul>					
		<ul> <li>vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal;</li> </ul>					
		<ul> <li>the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;</li> </ul>					
		<ul> <li>waste oil should be collected and stored for recycling or disposal, in accordance with the W aste Disposal Ordinance;</li> </ul>					
		<ul> <li>all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and</li> </ul>					
		<ul> <li>surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.</li> </ul>					

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?
Ecology (	Construction	Phase)					
S10.7	E4	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> <li>Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time</li> </ul>	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction	
S10.7	E8	<ul> <li>Control vessel speed</li> <li>Skipper training</li> <li>Predefined and regular routes for working vessels; avoid Brother Islands.</li> </ul>	Minimise marine traffic disturbance on dolphins	Contractor	Marine traffic	During construction	
Fisheries	1		L	•			L
S11.7	F4	<ul><li>Maritime Oil Spill Response Plan (MOSRP);</li><li>Contingency plan.</li></ul>	Minimise impacts on marine water quality impacts	Marine Department	HKBCF	During operation	

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?
Landscape	e & Visua	l (Detailed Design Phase)					
S14.3.3.1	-	<ul> <li>General design measures include:</li> <li>Roadside planting and planting along the edge of the HKBCF Island is proposed;</li> <li>Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting;</li> <li>Protection measures for the trees to be retained during construction activities;</li> <li>Optimizing the sizes and spacing of the bridge columns; Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;</li> <li>Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;</li> <li>Providing planting area around peripheral of HKBCF for tree planting screening effect;</li> <li>Providing salt-toler ant native trees along the planter strip at affected seawall and newly reclaimed coastline;</li> <li>For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings and so on), and the related infrastructure (e.g. parapet planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and ransparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF; and</li> <li>Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.</li> </ul>	Minimise visual & landscape impact	Detailed designer	HKBCF	Design Stage	

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?
-		I (Construction Phase)					
S14.3.3.3	LV2	Mitigate both Landscape and Visual Impacts	Minimise visual & landscape impact	Contractor	HKBCF	Construction stage	
		G1. Grass-hydroseed bare soil surface and stock pile areas.	landscape impact			Stage	
		G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge footbridge to screen bridge and traffic.					
		G3. Not applicable as this is for HKLR.					
		G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonious atmosphere of the HKBCF					
		G5. Vegetation reinstatement and upgrading to disturbed areas					
		G6. Maximizing new tree shrub and other vegetation planting to compensate tree felled and vegetation removed					
		G7. Providing planting area around peripheral of HKBCF for tree planting screening effect;					
		G8. Plant salt-tolerant native and shrubs etc along the planter strip at affected seawall.					
		G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enchance "natural-look" of the new coastline.					
S14.3.3.3	LV3	Mitigate Visual Impacts           V1.Minimize time for construction activities during construction period.           V2.Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKBCF construction.					

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?
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	Construction stage	EIAO Guidance Note No.4/2002     TM-EIAO
S15.5 - S15.6	EM2	<ol> <li>An Environmental Team needs to be employed as per the EM&amp;A Manual.</li> <li>Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.</li> <li>An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&amp;A Manual are fully complied with.</li> </ol>	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	• EIAO Guidance Note No.4/2002 • TM-EIAO



# **APPENDIX H**

Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions





Contract No. HY/2013/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Passenger Clearance Building 10<sup>th</sup> Monthly EM&A Report

#### **Complaint Register**

Complaint No.	Complaint Received Date	Category	Complaint Details	Follow up Action /Recommendation	Status
002	13 July 2015	Noise	According to ENPO's email to Highways Department on 13 July 2015, it is noted that EPD received a complaint regarding the noise nuisance generated from the construction site near Tung Chung Development Ferry Pier and HKBCF construction site opposite to Seaview Crescent during night time period from 3 to 12 July 2015. Afterwards, EPD sent an email to Highways Department on 15 July 2015 to clarify that the noise complaint referred to the noise generated due to excavated material using a derrick barge and a tug boat, and backfilling with a pelican barge at the Hong Kong Boundary Crossing Facilities Site near Hong Kong Skycity Marriott Hotel. Based on EPD's record, the above construction activities were covered by Construction Noise Permit (CNP) no. GW-RS0503-15.	<ul> <li>The Contractor confirmed that CNP no. GW-RS0503-15 is not for Contract No. HY/2013/01. In addition, no barges, dredger and tug boats were used for Contract No. HY/2013/01. Based on the investigation results, it is found that the noise nuisance is not related to Contract No. HY/2013/01. No follow up action is required.</li> <li>It is noted that the Contractor has Construction Noise Permit (CNP) No. GW-RS0685-15 to undertake construction works during restricted hours. The Contractor has been reminded to comply with CNP conditions for construction works undertaken during the restricted hours. To minimize the potential noise impact during restricted hours, the Contractor has implemented the following measures to minimize noise nuisance.</li> <li>Minimize the quantities of plant used during restricted hours as far as practicable; and</li> <li>Regular review of working duration for restricted hours.</li> </ul>	Closed.



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

Reporting Period	Cumulative Statistics					
hepotting renou	Complaints	Notifications of	Successful			
This reporting period	1	0	0			
From commencement date of contract to end of reporting month	2	0	0			



# **APPENDIX I**

Environmental Site Inspection Schedule



	Aug 2015									
	Monday	Tueday	Wednesday	Thursday	Friday	Saturday	Sunday			
Time						1-Aug	2-Aug			
Time	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug			
			Site Inspection							
Time	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug			
			Site Inspection							
Time	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug			
			Site Inspection							
Time	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug			
			Site Inspection							
Time	31-Aug									