

Highways Department 5th Floor, Ho Man Tin Government Offices 88 Chung Hau Street Ho Man Tin Kowloon

#### Your reference:

Our reference:

HKHYD203/50/108432

Date: 5

5 December 2022

Attention: Mr Eric Wong

#### BY EMAIL & POST (email: se4.mwsd@hyd.gov.hk)

Dear Sirs

Agreement No. HMWSD 6/2022 (EP) Environmental Project Office for the Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road, Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities & Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2019/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works Quarterly EM&A Report (March 2022 – May 2022)

We refer to the email of 1 December 2022, attaching the Quarterly EM&A Report (March 2022 – May 2022), prepared by the Environmental Team (ET) of the captioned.

We have no comment and hereby verify the Proposal in accordance with Clause 5.4 of the Environmental Permit no. EP-353/2009/K.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Macavity Yau on 2618 2831.

Yours faithfully ANEWR CONSULTING LIMITED

am

James Choi Independent Environmental Checker

CPSJ/LCCR/YCFM/lsmt

 cc Highways Department – Mr Tony Wong (Fax no.: 3188 6614) Highways Department – Mr YF Lau (Fax no.: 3188 6614) AECOM Asia Co. Ltd. – Mr KP Wong (Fax no.: 2218 7399) Fugro Technical Services Limited – Mr Calvin Leung (Fax no.: 2450 6138)
 ANewR Consulting Limited Unit 517, 5/F, Tower A, Regent Centre
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Date 14 October 2022 Our Ref. MCL/ED/0401/2022/C

Ramboll Hong Kong Limited 21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong

BY EMAIL

Attn.: Mr. Brian Tam, Independent Environmental Checker

Dear Sir,

#### Quarterly EM&A Report for Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works (Contract No. HY/2019/01)

Pursuant to Section 16.4 of the updated EM&A Manual for Hong Kong Boundary Crossing Facilities covering the captioned project, we hereby submit the certified Quarterly EM&A Report for March 2022 to May 2022 for your verification.

Thank you for your attention, should there be any comments or queries, please contact our Mr. Cyrus Lai at 3565-4442 or the undersigned at 3565-4441.

Yours faithfully, for and on behalf of FUGRO TECHNICAL SERVICES LIMITED

Calvin Leung J Environmental Team Leader

c.c. AECOM Attn: Mr. Jason Yu, Mr. Gordon Kok Ramboll Attn: Mr. Y. H. Hui, Mr. K. C. Chan CHEC Attn: Mr. Marko Chan, Mr. Matthew Wu

With operating companies throughout the world.

China Harbour Engineering Co., Ltd. - Contract No. HY/2019/01



## Quarterly EM&A Report (March 2022 - May 2022)

0002/20/ED/0512 03 |

Contact No. HY/2019/01 Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works

## **Document Control**

## **Document Information**

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Document Title	Quarterly EM&A Report (March 2022 - May 2022)
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## **Client Information**

Client	China Harbour Engineering Co., Ltd Contract No. HY/2019/01
Client Address	China Harbour Building, 370-4 King's Road, North Point Hong Kong
Client Contact	Matthew Wu

## **Environmental Team**

Initials	Name	Role	Signature
MP	Calvin M.P. Leung	Environmental Team Leader	Cabin Leing
СҮ	Cyrus C.Y. Lai	Senior Environmental Consultant	J
КН	Toby K.H. Wan	Assistant Environmental Consultant	- Coky





## **EXECUTIVE SUMMARY**

This Quarterly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. HY/2019/01 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works" (hereafter referred to as "the Contract") for the Highways Department of Hong Kong Special Administrative Region (HKSAR). Contract No. HY/2019/01 was awarded to China Harbour Engineering Co. Limited and Fugro Technical Services Limited (FTS) was appointed as the Environmental Team (ET) by the Contractor.

Contract No. HY/2019/01 is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. Commencement of the Contract took place on 4 December 2019 and the construction site preparation works commenced in early February 2020.

Fugro Technical Services Limited (FTS) 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 is providing environmental team services for the Contract.

This is the 9th Quarterly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 March 2022 to 31 May 2022.

#### **Environmental Monitoring and Audit Progress**

The Quarterly 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, noise and the post-construction dolphin monitoring works for the Contract are covered by Contract No. HY/2019/01 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works". The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 as part of EM&A programme if the impact air quality monitoring work is no longer covered by Contract No. HY/2011/03 respectively. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.

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

No Action and Limit Level exceedance was recorded for air quality monitoring in the reporting period. Also, no Action and Limit Level exceedance was recorded for construction noise monitoring in the reporting period.

#### **Complaint Log**

No complaints were received in the reporting period.

#### Notifications of any Summons and Successful Prosecutions

No notifications of summons and prosecutions were received in the reporting period.



### **Reporting Change**

No reporting change in the reporting period.



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## 1. INTRODUCTION

## 1.1 Background

- 1.1.1 Fugro Technical Services Limited was commissioned by China Harbour Engineering Co. Limited (also referred to as "the Contractor") to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for Contract No. HY/2019/01 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Phase 2 and Other Works".
- 1.1.2 Contract No. HY/2019/01 is part of the "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities" (HZMB HKBCF) Project which is a "Designated Project" under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The current Environmental Permit (EP) for HKBCF, namely No. EP-353/2009/K, was issued on 11 April 2016. These documents are available through the EIA Ordinance Register. The general layout of the Project area is shown in Figure 1. Commencement of the Contract took place on 4 December 2019 and the construction site preparation works commenced in early February 2020.
- 1.1.3 This is the 9th Quarterly EM&A report to document the findings of site inspection activities and EM&A programme carried out by the Contractor of Contract No. HY/2019/01 from 1 March 2022 to 31 May 2022 (reporting period) and is submitted to fulfil Condition 5.4 of the EP.

## 1.2 Project Description

- 1.2.1 The works to be executed under Contract No. HY/2019/01 include the following major items:
  - · Landscaping and establishment works;
  - Irrigation system and associated drainage pumping system and facilities;
  - Erection and installation in the Passenger Clearance Building;
  - Public transport interchange (PTI) public toilet, satellite refuse collection point (RCP) and observation guard booths;
  - PTI cross boundary shuttle (CBS) / cross boundary coach (CBC) lanes and covered walkway;
  - Vehicle clearance plazas (VCP) vehicle kiosks and associate automatic vehicle clearance supporting system (AVCSS).



## 1.3 Project Organization

1.3.1 The Project Organization structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Party	Position	Name	Telephone
Engineer or Engineer's	Senior Resident Engineer	Mr. Jason Yu	3748 8903
Representative	Resident Engineer	Mr. Winston Wong	3748 8918
(AECOM Asia Co. Ltd.)	Resident Engineer	Mr. Gordon Kok	3748 8967
Environmental Project Office /	Environmental Project Office Leader	Mr. Y. H. Hui	3465 2888
Independent Environmental Checker	Independent Environmental Checker (IEC)	Mr. Brian Tam	9700 6767
(Ramboll Hong Kong Limited)	Environmental Site Supervisor	Mr. K. C. Chan	3465 2882
Contractor	Environmental Manager	Mr. Marko Chan	9427 2879
(China Harbour Engineering Co. Ltd)	Environmental Officer	Mr. Matthew Wu	6076 2675
Environmental Team (Fugro Technical Services Limited)	Environmental Team Leader (ETL)	Mr. Calvin Leung	3565 4441

 Table 1.1
 Contact Information of Key Personnel

## 1.4 Construction Programme and Activities

- 1.4.1 The site layout plan of the Contract is shown in **Figure 1**.
- 1.4.2 The construction programme of this Contract is shown in **Appendix A**.

## 1.5 Works undertaken during the report period

- 1.5.1 The main construction works carried out in the reporting period were as follow:
  - Excavation at Vehicle Clearance Plaza (VCP) (land-based);
  - Road & Drain works at South Public Transport Interchanges (SPTI), North Public Transport Interchanges (NPTI) and Vehicle Clearance Plaza (VCP) (land-based);
  - Covered Walkway at South Public Transport Interchanges (SPTI) and North Public Transport Interchanges (NPTI) (land-based);
  - Public Toilet at North Public Transport Interchanges (NPTI) (land-based);
  - Kiosks Construction at Vehicle Clearance Plaza (VCP) (land-based);
  - Landscape Works at G1 and G5 (land-based);
  - Conceal Conduits Works at Vehicle Clearance Plaza (VCP) (land-based);
  - E&M Works at South Public Transport Interchanges (SPTI) (land-based);
  - Irrigation System at G1 and G5 (land-based).



## 2. EM&A REQUIREMENTS

## 2.1 Summary of EM&A Requirement

- 2.1.1 The Quarterly 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, noise and the post-construction dolphin monitoring works for the Contract are covered by Contract No. HY/2019/01 "Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities Phase 2 and Other Works".
- 2.1.2 According to the Contract Specific EM&A Manual, air quality monitoring at station AMS2, AMS3C and AMS7B, and noise monitoring at station NMS2 and NMS3C are covered by Contract No. HY/2019/01. It should be noted that the air quality monitoring at station AMS6 is covered by Contract No. HY/2011/03. The ET of the Contract or another ET of the HZMB project is required to conduct impact air quality monitoring at AMS6 as part of EM&A programme if the impact air quality monitoring work is no longer covered by Contract No. HY/2011/03 respectively. However, this is subject to ENPO's final decision on which ET should carry out the monitoring work at these stations.
- 2.1.3 The most updated air and noise locations are summarized in **Table 2.1**. The locations of the air quality and noise monitoring stations shown in **Figure 2** and **Figure 3**, respectively.

Environmental Monitoring	Monitoring Station	Location
	AMS2	Tung Chung Development Pier
Air Quality	AMS3C	Ying Tung Estate Market Rooftop
Air Quality	AMS6	Dragonair / CNAC (Group) Building (HKIA)
	AMS7B	Third Runway Site Office
Noise	NMS2	Seaview Crescent
NOISe	NMS3	Ying Tung Estate Refuse Collection Point

 Table 2.1
 Air Quality and Noise Monitoring Location

Remarks:

- 1. The ET of this Contract should conduct impact air quality monitoring at station AMS6 listed in the table as part of EM&A programme according to latest notification from ENPO when the monitoring station is no longer covered by another ET of the HZMB project.
- 2. The Limit Levels for schools will be applied for NMS3C.



2.1.4 According to the Proposal on Post-construction Dolphin Monitoring (PCDM) prepared by Contract No. HY/2013/ 04 which has been verified by ENPO and approved by EPD on 8 March 2019 (EPD ref. () in Ax(5) to E771/E1/100) , the completion date of the PCDM is in February 2021. Therefore, the reporting of Chinese White Dolphins (CWD) monitoring works under this contract was completed on 1 March 2021.

## 2.2 Monitoring Requirement

- 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 report prepared for this Contract.
- 2.2.2 The air quality monitoring requirements, monitoring equipment, monitoring parameters, frequency and duration, monitoring methodology, monitoring schedule, meteorological information for AMS6 are detailed in the monthly EM&A report prepared for Contract No. HY/2011/03.

## 2.3 Action and Limit Levels

2.3.1 The Action and Limit Levels for noise impact monitoring have been set and are presented in **Appendix C**.

## 2.4 Event and Action Plans

2.4.1 The event and action plans for air quality and noise monitoring are presented in **Appendix D**.

## 2.5 Mitigation Measures

2.5.1 The Contractor had implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix E**.



## 3. ENVIRONMENTAL MONITORING AND AUDIT

## 3.1 Air Quality Monitoring Results

- 3.1.1 1-hour TSP and 24-hour TSP impact monitoring at AMS2, AMS3C and AMS7B were carried out in the reporting period, the monitoring results are reported in the monthly EM&A Report prepared for this Contract.
- 3.1.2 According to the EPD's reply email, EPD has no comment on the Proposal for Termination of Air quality and Noise Monitoring, the air quality monitoring for Contract No: HY/2019/01 will be terminated on 25 March 2022. The last monitoring was completed on 24 March 2022.
- 3.1.3 There was no Action / Limit Level exceedance of 1-hour TSP level and 24-hour TSP level at AMS2, AMS3C and AMS7B was recorded during the reporting period.
- 3.1.4 The monitoring results for AMS6 are reported in the monthly EM&A Reports prepared for Contract No. HY/2011/03.
- 3.1.5 Summary of Action and Limit Level exceedance of 1-hour TSP level and 24-hour TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.

### 3.2 Noise Monitoring Results

- 3.2.1 Construction noise monitoring were carried out in the reporting period, the monitoring results for NMS2 and NMS3C are reported in the monthly EM&A Reports prepared for this Contract.
- 3.2.2 According to the EPD's reply email, EPD has no comment on the Proposal for Termination of Air quality and Noise Monitoring, the noise monitoring for Contract No: HY/2019/01 will be terminated on 25 March 2022. The last monitoring was completed on 24 March 2022.
- 3.2.3 There was no Action / Limit Level exceedance for construction noise at NMS2 and NMS3C was recorded during the reporting period.
- 3.2.4 School calendar of Ho Yu College was checked against noise monitoring days at NMS3C.

## 3.3 Ecology Monitoring

3.3.1 According to the Proposal on Post-construction Dolphin Monitoring (PCDM) prepared by Contract No. HY/2013/04 which has been verified by ENPO and approved by EPD on 8 March 2019 (EPD ref. () in Ax(5) to E771/E1/100) , the completion date of the PCDM is in February 2021. Therefore, the reporting of Chinese White Dolphins monitoring works under this contract was suspended on 1 March 2021.

## 3.4 Site Inspection

3.4.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix E**.



3.4.2 13 weekly environmental site inspections were carried out in the reporting period. Details of observations recorded during the site inspections are presented in **Appendix F**.

## 3.5 Landscape and Visual Site Audit

- 3.5.1 As informed by AECOM, the commencement date of the 12-month establishment period for the landscape monitoring under this contract is 5 January 2022. Bi-monthly landscape and visual site audits will be conducted from 5 January 2022 to 4 January 2023.
- 3.5.2 A bi-monthly landscape and visual site audit was carried out on 25 April 2022 by a Registered Landscape Architect.



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

- 3.6.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 3.6.2 The summary of waste flow table is detailed in **Appendix G**.
- 3.6.3 If off-site disposal is required, the excavated marine mud from the land-based works shall be disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee or other locations as agreed by the Director. The Contractor shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.

The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.



## 4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

### 4.1 Environmental Exceedance

- 4.1.1 No Action and Limit Level exceedance of 1-hr TSP level and 24-hr TSP level recorded at station AMS2, AMS3C and AMS7B in March 2022.
- 4.1.2 Summary of Action and Limit Level exceedance of 1-hour TSP level and 24-hour TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 4.1.3 No Action / Limit Level exceedance for construction noise at NMS2 and NMS3C was recorded in March 2022.
- 4.1.4 According to the EPD's reply email, EPD has no comment on the Proposal for Termination of Air quality and Noise Monitoring, the air quality and noise monitoring for Contract No: HY/2019/01 have been terminated on 25 March 2022, no Action / Limit Level exceedance for air quality and noise monitoring was recorded in April and May 2022.

### 4.2 Complaints, Notification of Summons and Prosecution

- 4.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting period.
- 4.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix H**.



## 5. CONCLUSION AND RECOMMENDATION

## 5.1 Conclusions

- 5.1.1 1-hour TSP and 24-hour TSP impact monitoring at AMS2, AMS3C and AMS7B were carried out in the reporting period, no Action / Limit Level exceedance was recorded in March 2022.
- 5.1.2 Summary of Action and Limit Level exceedance of 1-hour TSP level and 24-hour TSP level at AMS6 shall be referred to the monthly EM&A report prepared by Contract No. HY/2011/03.
- 5.1.3 Construction noise monitoring were carried out in the reporting period, no Action / Limit Level exceedance was recorded in March 2022.
- 5.1.4 13 weekly environmental site inspections were carried out in the reporting period. Recommendations on mitigation measures for air quality impact, water quality impact and chemical and waste management were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 5.1.5 According to the EPD's reply email, EPD has no comment on the Proposal for Termination of Air quality and Noise Monitoring, the air quality and noise monitoring for Contract No: HY/2019/01 have been terminated on 25 March 2022, no Action / Limit Level exceedance for air quality and noise monitoring was recorded in April and May 2022.
- 5.1.6 As informed by AECOM, the commencement date of the 12-month establishment period for the landscape monitoring under this contract is 5 January 2022. Bi-monthly landscape and visual site audits will be conducted from 5 Jan 2022 to 4 Jan 2023.
- 5.1.7 A bi-monthly landscape and visual site audit was carried out on 25 April 2022 by a Registered Landscape Architect.
- 5.1.8 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting period.

## 5.2 Comment and Recommendations

5.2.1 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.



5.2.2 According to the environmental site inspections performed in the reporting period, the following recommendations were provided:

#### Air Quality Impact

• Cement material should be covered.

### Construction Noise Impact

• No specific observation was identified in the reporting period.

### Water Quality Impact

- Stagnant water should be cleared to prevent overflow from drip tray. Chemical and Waste Management
- Waste generated at the site should be cleared and collected.
- Waste generated at the site should be cleared to prevent over-dose.
- Excavated materials should be removed.
- Oil stain should be removed nearby Kiosk.
- Empty chemical containers should be cleared or removed off site.

### Landscape and Visual Impact

• No specific observation was identified in the reporting period.

### Permit/ Licenses

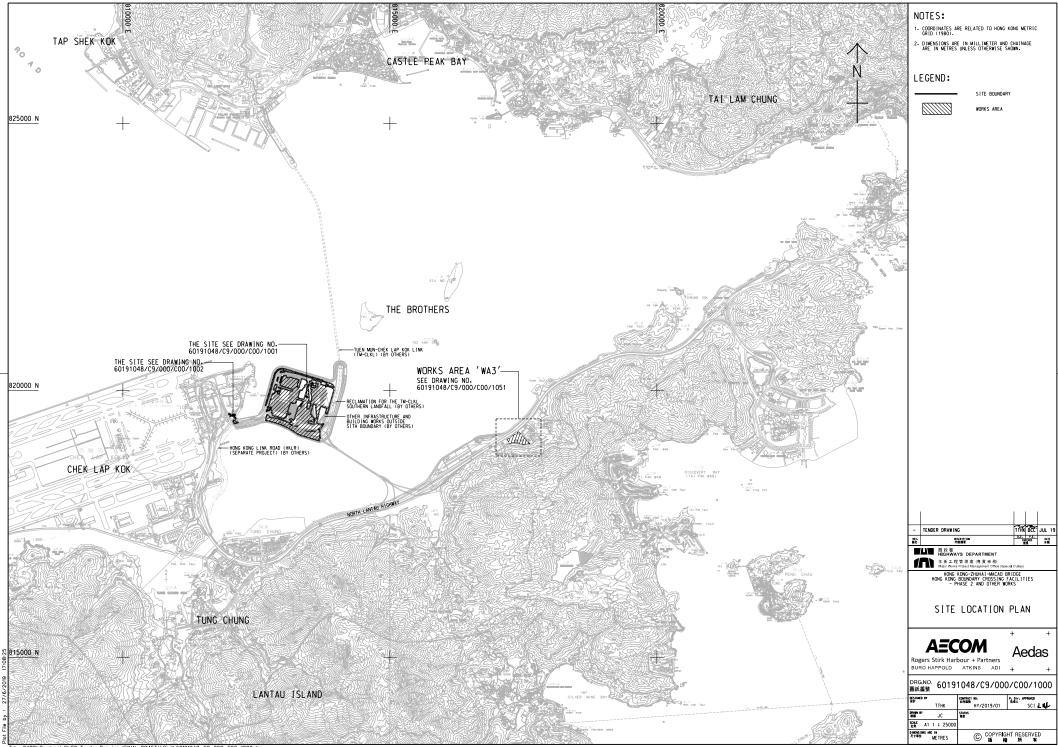
• No specific observation was identified in the reporting month.

#### <u>Others</u>

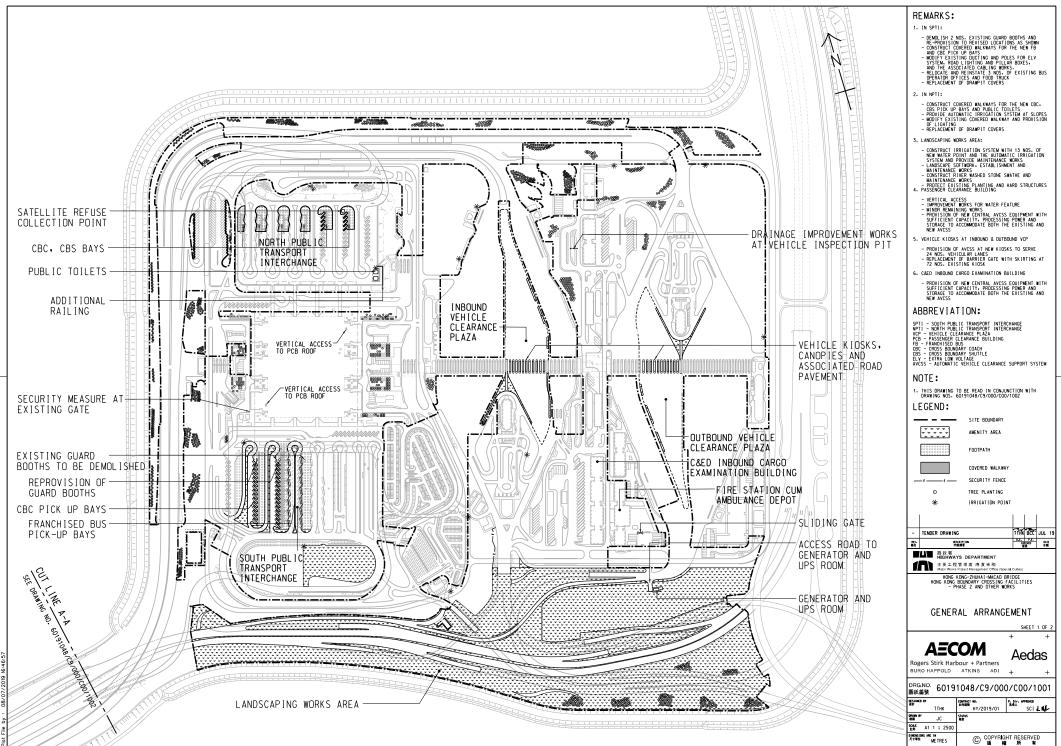
• No specific observation was identified in the reporting period.



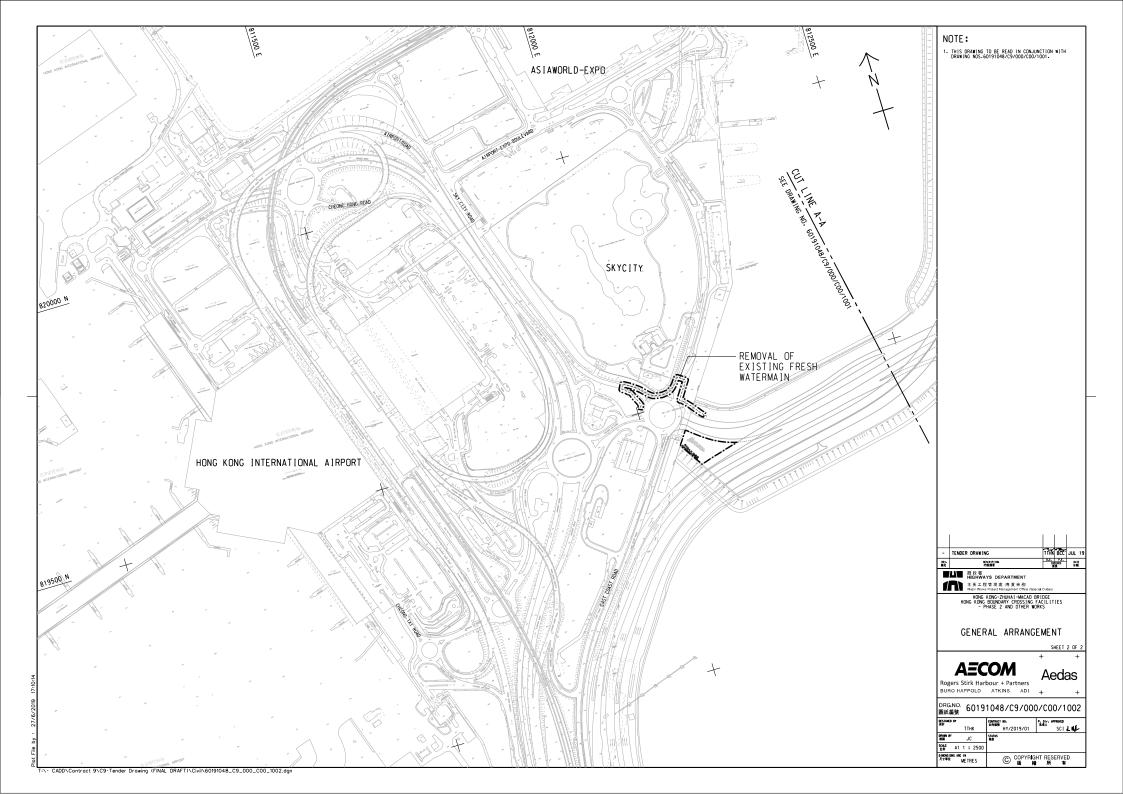
The Site Layout Plan of the Contract

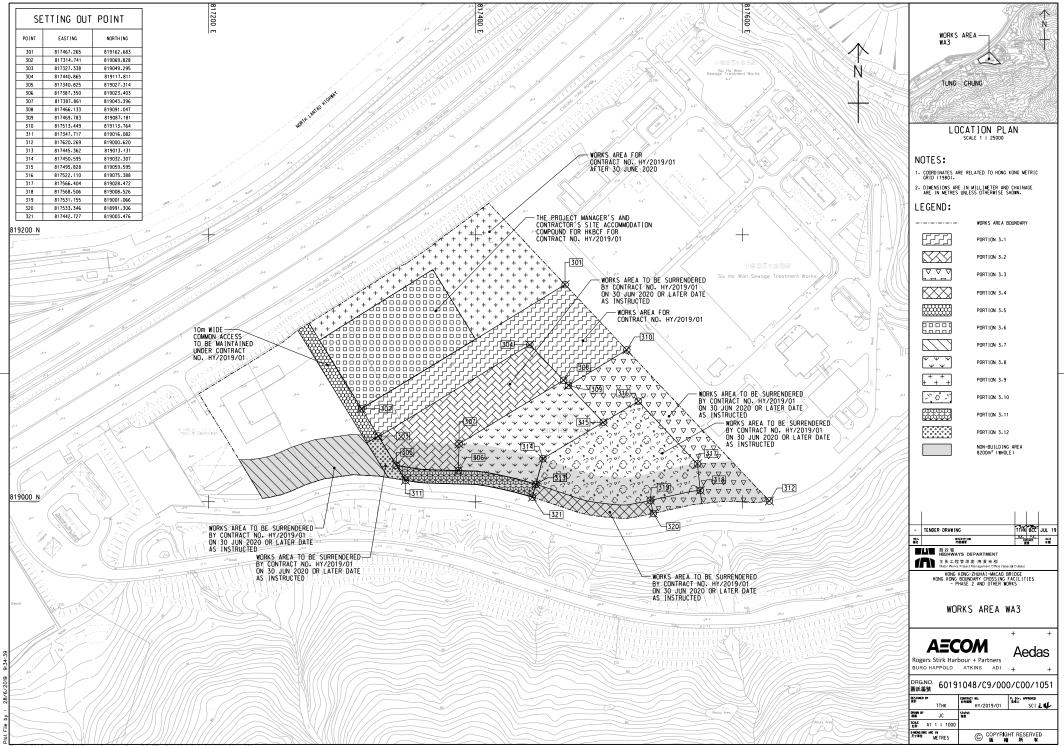


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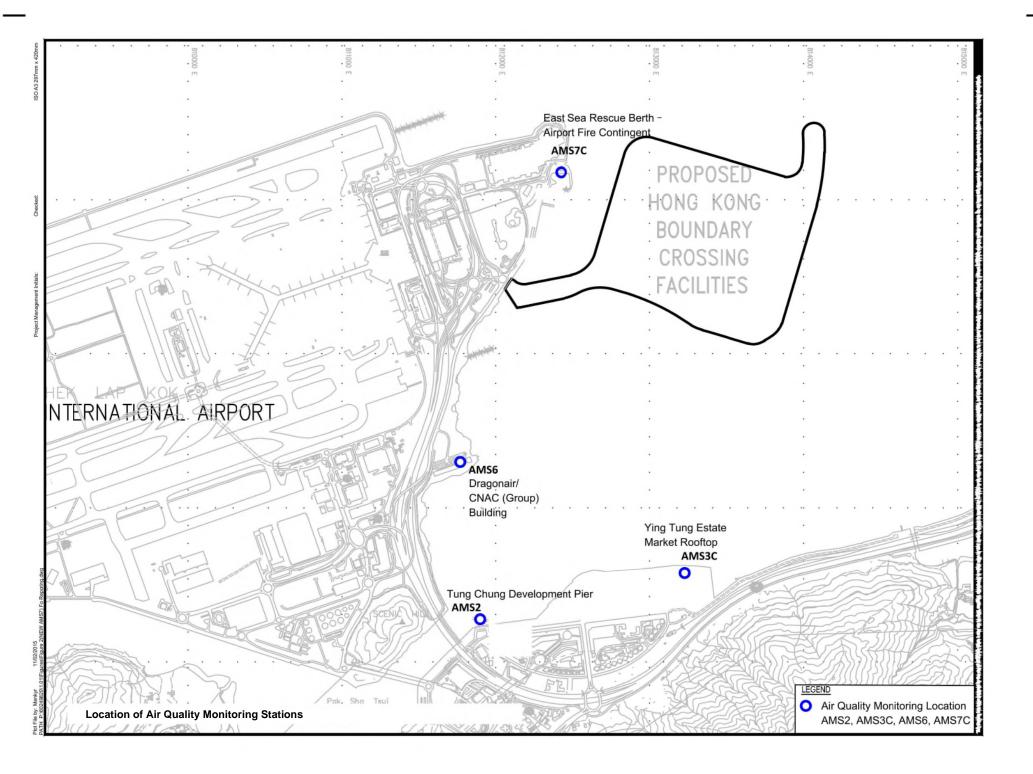
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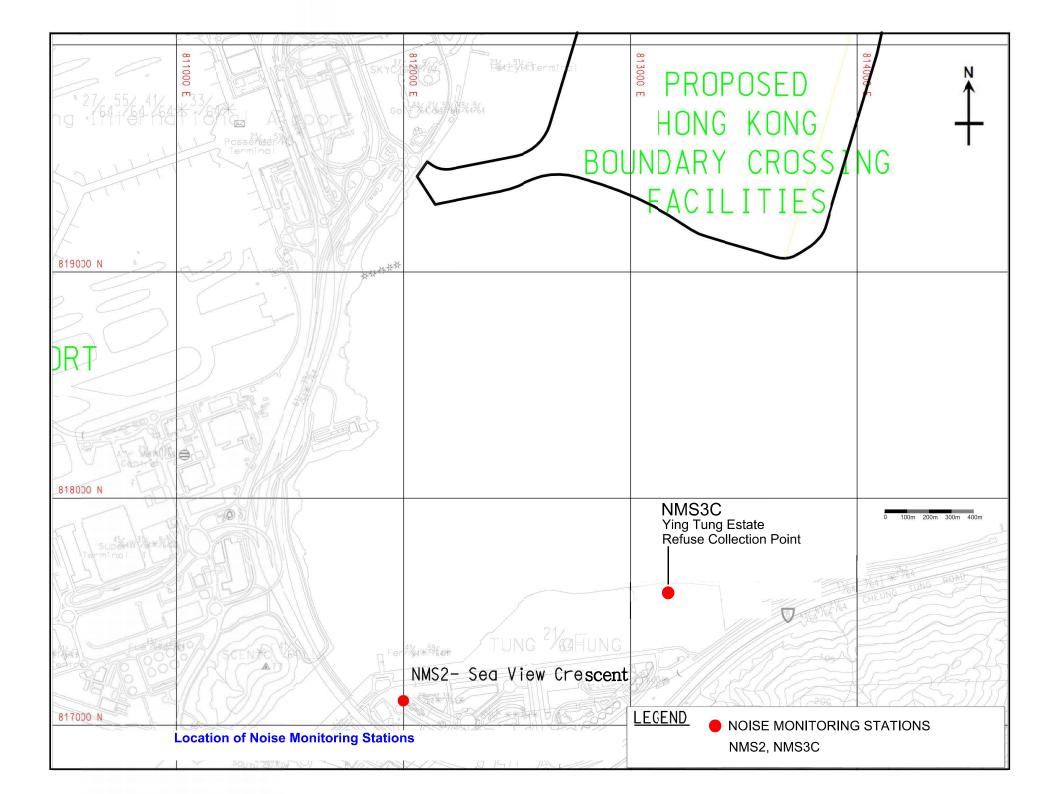


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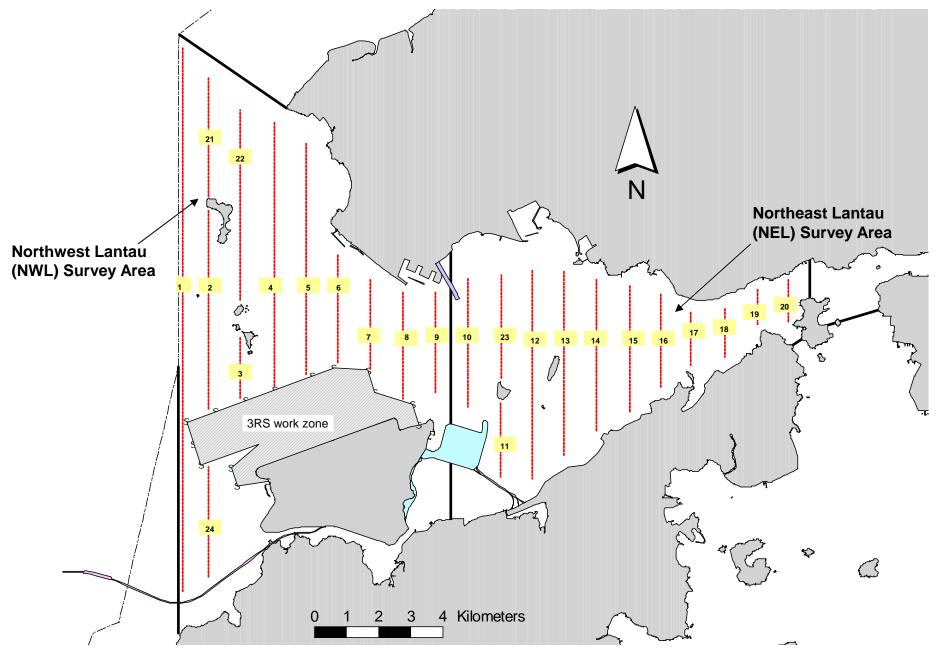
The Location of the Air Quality Monitoring Station



The Location of the Noise Monitoring Station



Post-Construction Dolphin Monitoring Line Transect Layout Map



Transect Line Layout in Northwest and Northeast Lantau Survey Areas

# **Appendix A**

Construction Programme



evised Worl CONTRACT I Starting Date A0090 C Sectional Com A0310 S A0320 S CUBMISSION A0460 A CONTRACTO	Completion Date (730 +19 days) npletion	Remaining Duration 019/01)	Start	Finish	2021 Dec	Jan	2022 Feb
CONTRACT I         Starting Date         A0090       C         Sectional Com         A0310       S         A0320       S         SUBMISSION         A0460       A         CONTRACTOR	DATES Completion Date (730 +19 days) npletion	019/01)				Jäll	Feb
CONTRACT I         Starting Date         A0090       C         Sectional Com         A0310       S         A0320       S         SUBMISSION         A0460       A         CONTRACTOR	DATES Completion Date (730 +19 days) npletion	013/01)					
Starting Date     A0090     C       A0090     C     Sectional Com       A0310     S       A0320     S       CONTRACTO	Completion Date (730 +19 days) npletion						
A0090CSectional ComA0310SA0320SUBMISSIONA0460ACONTRACTOR	Completion Date (730 +19 days) npletion						
Sectional ComA0310SA0320SSUBMISSIONA0460ACONTRACTOR	npletion	0		13-Jan-22*		Completion Date (730 +	
A0310         S           A0320         S <b>SUBMISSION</b> A0460         A <b>CONTRACTO</b>		U		13-Jaii-22	<b>♦</b>	Completion Date (730 +	19 days)
A0320 S SUBMISSION A0460 A CONTRACTO	Section 5: Remaining Works (730 +19 days) P.8 - P.12	0		13-Jan-22*		Section 5: Remaining W	orks (730 +19 days) P.8 - P.12
SUBMISSIONA0460ACONTRACTO	Section 6: Establishment Works (1095 + 19 days)	0		07-Dec-22*	◆	Section 5. Hernaming W	018 (750 +15 days) 1.0 -1.12
A0460 A		-					
	Acceptance of TTA	1	01-Jan-20 A	03-Jan-22		0	
۹7980 A	OR'S DESIGN						
	Acceptance of the Design for Pump House	5	16-Aug-20 A	07-Jan-22			
	IFORMATION MODELING						
A7580 C	Completion of BIM 3D Model	28	17-Feb-20 A	30-Jan-22			
A7590 A	As-built BIM Model	41	08-Jan-21 A	12-Feb-22			
17330 F		41	00-0a11-21 A	12-160-22			
REFINEMENT	T WORKS AT HKP (4A)		: 	, 			
	f Sliding Gate at Building No. 041 (4A.J)						-
	Installation of Security Fence and Sliding Gate (Fire Station cum Ambulance	22	06-Dec-21 A	27-Jan-22			
C	Depot 041)						
	T&C	3	28-Jan-22	31-Jan-22			■
	/olleyball Court						
	Pavement rectification	24	03-Jan-22*	29-Jan-22			
	Painting for Volleyball Ground, Part 2	6	31-Jan-22*	09-Feb-22			
	NPTI - PUBLIC TOILET, COVERED WALKWAY & PAVEMENT (6)						
	d Modification to Existing Covered Walkway, Area 1 - 6 (6.E)						
A6980 Ir	Installation of aluminum honey comb panels to the existing covered walkways	6	29-Dec-20 A	08-Jan-22			
A6990 T	T&C	6	07-Jul-21 A	08-Jan-22			
A0990 I	Tao	0	07-JUI-21 A	00-5411-22			
Additional & N	Modification of Covered Walkway adjacent to Building 003, Area 7 (6.C)						
	T&C	6	16-Aug-21 A	08-Jan-22			
	Type 1, Building 003 (6.B)						
A3390 T	TPIDC Authority Inspection & Approval	12	30-Aug-21 A	15-Jan-22			
A6100 A	ASD Approval, WWO Part V submission & Approval	12	30-Aug-21 A	15-Jan-22			
		12	oo nug 21 n	10 0411 22			
ECTION 5: I	REMAINING WORKS						
External Works	ks at Plaza						
A1540B P	Pavement Works (Roadbase and Base Course) at Outbound North	12	10-May-21 A	15-Jan-22			
A1540C F	Pavement Works (Roadbase and Base Course) at Inbound South	11	08-Jun-21 A	14-Jan-22			
A8770 F	Pavement Works (Wearing Course) at Outbound	22	08-Nov-21 A	27-Jan-22			
	a volicita monto (moaning oodise) at outbound	~~	00 NUV-21 A	21-0a11-22			
A8780 F	Pavement Works (Wearing Course) at Inbound	24	08-Nov-21 A	29-Jan-22			-
	Road Marking & Signs	73	03-Jan-22	31-Mar-22			
	lo. of Private Car Kiosks between 027/028						
Builder Works		-		10 1			
A1080C A	ABWF Works at 4th Group Kiosks (3 nos.)	9	27-Jul-21 A	12-Jan-22			
A1080D A	ABWF Works at Kiosks at Inbound VCP (miscellanous external railing, cladding	58	17-Aug-21 A	14-Mar-22			
	etc.)	00		i r wiai-22			
A1180A N	MJ, Fall Arrest System, Maintenance Access	25	01-Sep-21 A	31-Jan-22			
	Removal of all hoarding after OPT	12	14-Mar-22*	26-Mar-22			
	Removal of TTA	4	28-Mar-22	31-Mar-22			
E&M Works		07	00 1 00				
A1120-46.2 8	8.1.2.2-Termination & Installation Test of all ODB (027/028)	37	29-Jan-22	16-Mar-22		<u> </u>	
Baselin	ne Critical			UPD	ATED WORKS PROGRAMME		Date Revision
Actual \	Work $\diamond$ Baseline Milestone				SE 2 AND OTHER WORKS, HKZM		-Nov-21 Revised Works Programme for Ph
	ining Work   Milestone				Page 1 of 3	06	6-Jan-22 Revised Works Programme for Ph

		A	s of 03-J	an-22
2022 Feb	1	Mar		Apr
100		IVIGI		
9 days)				
rks (730 +19 days) P.8 - P.12				
			<b>—</b>	
Date Revision	<u> </u>	Checked	Approv	ved
Nov-21 Revised Works Programme Jan-22 Revised Works Programme	for Phase 2	ZJ ZJ		

tivity ID	Boundary Crossing Facilities - Phase 2 and Other Works	Remaining	Start	Finish			
vity i D		Duration	Otart	1 111011	2021	-	2022
A1120-46.4	8.1.2.2-Integrate all ODBs into Existing ODB network(027/028) (IB & OB together 24 kiosks)	28	17-Mar-22	22-Apr-22	Dec Ja	n	Feb
A1120-54	8.1.2A-Relocation of Inbound VID and VTS Equipment	11	04-Oct-21 A	14-Jan-22			
A1120-60	8.1.3 - System Configuration of AVCSS	27	15-Jan-22	18-Feb-22			
A1120-70	8.1.4-Complete Training, SAT (exclude ODB) (12 AVCSS Kiosks at 027/028)	53	19-Feb-22	26-Apr-22			
A1120-80	8.1.5-Preparation of O&M Manual and Spare Parts	60	19-Feb-22	05-May-22			
A1130-10	8.1.7-D1-TTA for OPT (027/028)	27	03-Jan-22	05-Feb-22			
A1130-20	8.1.7-OPT (027/028)	30	19-Feb-22	20-Mar-22			
A1130-30	8.1.7A - Migration/Integration with existing AVCSS (Existing 72 Kiosks + 24 Phase 2 Kiosks)	12	21-Mar-22	02-Apr-22			
A1130-40 A1190	8.1.6-T&C maintenance Services E&M Works at Roof	225 23	04-Apr-22 24-Jul-21 A	06-Jan-23 28-Jan-22			
A8370	Update and modification of District Cooling System (DCS) (incl. water balancing for new kiosks and calibration works)	63	01-Nov-21 A	19-Mar-22			
Outbound: 1	1 No. of Private Car Kiosks between 029/030						
Builder's Wo							
A1270D	ABWF Works at Kiosks at Outbound VCP (miscellanous external railing, cladding etc.)	51	25-May-21 A	05-Mar-22			
A1380A	MJ, Fall Arrest System, Maintenance Access	25	25-Aug-21 A	31-Jan-22			
A4670	Removal of all hoarding after OPT	12	14-Mar-22*	26-Mar-22			
A8810	Removal of TTA	4	28-Mar-22	31-Mar-22			
E&M Works							
	8.1.2.2-Termination & Installation Test of all ODB (029/030)	37	03-Jan-22	17-Feb-22			
	8.1.2.2-Integrate all ODBs into Existing ODB network(027/028) (IB & OB together 24 kiosks)	28	18-Feb-22	22-Mar-22			
A1310-54	8.1.2A-Relocation of Outbound VID and VTS Equipment	11	04-Oct-21 A	14-Jan-22			
A1310-60	8.1.3 - System Configuration of AVCSS	38	24-Dec-21 A	18-Feb-22			
A1310-70	8.1.4-Complete Training, SAT (exclude ODB) (12 AVCSS Kiosks at 029/030)	53	19-Feb-22	26-Apr-22			_
A1310-80	8.1.5-Preparation of O&M Manual and Spare Parts	60	19-Feb-22	05-May-22			
	8.1.7-D1-TTA for OPT (029/030) 8.1.7-OPT (029/030)	27	03-Jan-22 19-Feb-22	05-Feb-22 20-Mar-22			
A1320-20	8.1.17A - Migration/Integration with existing AVCSS (Existing 72 Kiosks+24 Phase 2 Kiosks)	12	21-Mar-22	02-Apr-22			
A1320-40	8.1.6-T&C maintenance Services	225	04-Apr-22	06-Jan-23			
A1390	E&M Works at Roof	17	03-Aug-21 A	21-Jan-22			
A8380	Update and modification of District Cooling System (DCS) (incl. water balancing for new kiosks and calibration works)	63	01-Nov-21 A	19-Mar-22			
SPTI Stage 3	3B						
A8660	Rigid Pavement Type A	12	17-Aug-21 A	15-Jan-22			
A8670	Kerb & Planter Barrier	12	18-Aug-21 A	15-Jan-22			
A8690	Flexible Pavement Type C (incl. SOL353)	12	18-Sep-21 A	15-Jan-22			
A8710	Footpath Paving Block	12	21-Sep-21 A	15-Jan-22			
A8720	Canopy Lighting and E&M Works	12	03-Nov-21 A	15-Jan-22			
Pump House	e for Landscape (2)						
A2910	Acceptance of the Design for Pump House	5	16-Aug-20 A	07-Jan-22			
A2990	Final Connection and T&C	12	01-Nov-21 A	15-Jan-22			
A6440	WSD Inspection & Approval, Final Connection	16	03-Jan-22	18-Jan-22			
Substation F	Paving Unit						
A8820	Substation: Modification of existing MH/drawpit covers, construct U-channel and catch pit and conncection	24	13-Nov-21 A	29-Jan-22			
Base	line Critical				DATED WORKS PROGRAMME	Date	F
	al Work $\diamond$ $\diamond$ Baseline Milestone					09-Nov-21	Revised Works Pro
				FUR PHA	ASE 2 AND OTHER WORKS, HKZMB		Revised Works Pro
Rem	aining Work   Milestone				Page 2 of 3		•

As of 03-Jan-2						
		Mar		Apr		
				, <del>(</del> ).		
		_				
Revision		Checked	Approv	ved		
ogramme I	for Phase 2	ZJ ZJ				
ogramme f	for Phase 2	ZJ				

tivity ID	Activity Name	Remaining Duration	Start	Finish	2021 2			
					Dec		Jan	202 Feb
A8830	Substation: Site formation for Pavement Works	24	20-Dec-21 A	29-Jan-22				
A8840	Substation: Pavement Works (KP1 & K1 ) (Paving Unit)	25	28-Dec-21 A	31-Jan-22				
Irrigation	System (Southern Portion)							
Irrigation	System at Southern Portion							
A7910	Irrigaton Pipe Laying (incl. install sprinklers and QCV)	10	02-Jan-21 A	13-Jan-22				
A7930	T&C	14	14-Jan-22	29-Jan-22				
Irrigation	System (Water Point)							
A7160	T&C	24	04-Oct-21 A	29-Jan-22				
Completio	on of Section 5							
A7490	Section 5: Remaining Works (730 + 12 days)	0		31-Mar-22*	<b>♦</b>			
SECTION	I 6: ESTABLISHMENT WORKS							
A3550	Establishment Works	339	08-Dec-21 A	07-Dec-22				1

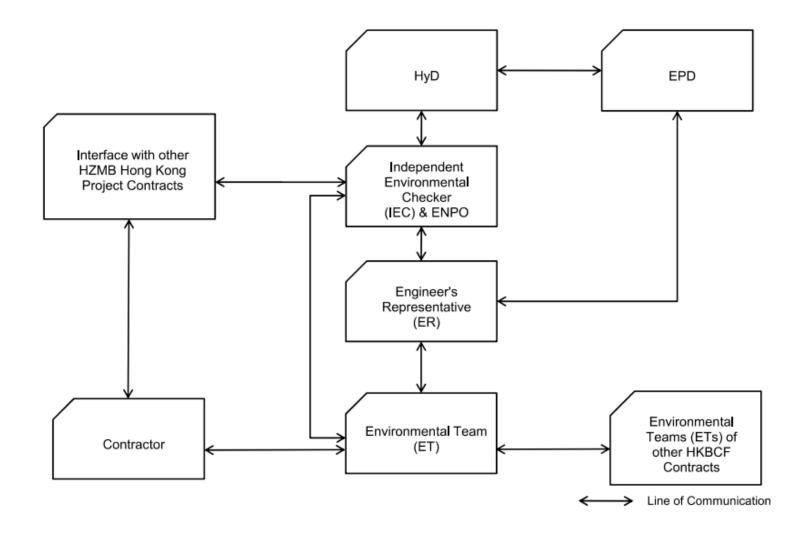
Baseline Critical	UPDATED WORKS PROGRAMME	Date	Revision	Checked	Approved
Actual Work $\diamond$ $\diamond$ Baseline Miles		09-Nov-21	Revised Works Programme for Phase 2	ZJ	1
		1B 06-Jan-22	Revised Works Programme for Phase 2	ZJ	
Remaining Work   Milestone	Page 3 of 3		-	••	

As of 03-Jan-22			
Mar	Apr		
	Section		

# **Appendix B**

Project Organization Chart





# **Appendix C**

Action and Limit Levels



#### Action / Limit Levels for Air Quality

Parameters	Action Level	Limit Level
24-hour TSP Level in μg/m³	<sup>1</sup> For baseline level ≤ 200 μg/m <sup>3</sup> , Action level = (baseline level * 1.3 + Limit level)/2; For baseline level > 200 μg/m <sup>3</sup> Action level = Limit level	260 μg/m³
1-hour TSP Level in μg/m <sup>3</sup>	<sup>2</sup> For baseline level $\leq$ 384 µg/m <sup>3</sup> , Action level = (baseline level * 1.3 + Limit level)/2; For baseline level > 384 µg/m <sup>3</sup> , Action level = Limit level	500 μg/m³

Notes:

1. The Action Level for 24-hour TSP Level:

<u>a) AMS 2 = (71.1\*1.3 + 260) / 2 = 176  $\mu$ g/m<sup>3</sup>; b) AMS 3C = (56.9\*1.3 + 260) / 2 = 167  $\mu$ g/m<sup>3</sup>;</u>

<u>c)</u> AMS 6 = (66.4\*1.3 + 260) / 2 = 173  $\mu$ g/m<sup>3</sup>; d) AMS 7B = (82.3\*1.3 + 260) / 2 = 183  $\mu$ g/m<sup>3</sup>;

2. The Action Level for 1-hour TSP Level:

<u>a) AMS 2 = (191.5\*1.3 + 500) / 2 = 374  $\mu$ g/m<sup>3</sup>; b) AMS 3C = (18.2.2\*1.3 + 500) / 2 = 368  $\mu$ g/m<sup>3</sup>;</u>

<u>c)</u> AMS 6 = (169.2\*1.3 + 500) / 2 = 360  $\mu$ g/m<sup>3</sup>; d) AMS 7B = (184.2\*1.3 + 500) / 2 = 370  $\mu$ g/m<sup>3</sup>;

#### Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level	
0700 - 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A) *	

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

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

# **Appendix D**

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Event and Action Plan

### Event / Action Plan for Air Quality

		ACT	ION	
EVENT	ET	IEC	ER	CONTRACTOR
		ACTION	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	1. Identify source;	<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 ET 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> </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		ACT	ION	
	ET	IEC	ER	CONTRACTOR
		LIMIT I	_EVEL	
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 Plan for Construction Noise**

		ACTI	ON	
EVENT	ET	IEC	ER	CONTRACTOR
Action Level	<ol> <li><u>Notify IEC and Contractor;</u></li> <li><u>Identify source, investigate</u> <u>the causes of exceedance</u> <u>and propose remedial</u> <u>measures;</u></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>	<ol> <li>Review the analysed results submitted by the ET;</li> <li>Review the proposed remedial measures by the Contractor 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>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures are properly implemented</li> </ol>	<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 <u>Contractor;</u></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>	<ol> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractors 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>Require Contractor to propose</li> <li>remedial</li> <li>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**

Implementation Status of Environment mitigation Measures (Construction Phase)

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	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status				
Air Quali								
S5.5.6.1	A1	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	All construction sites	Implemented				
S5.5.6.2	A2	<ul> <li>2) 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 takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> </ul>	All construction sites	Implemented				
S5.5.6.2	A2	<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>Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top.</li> </ul>	All construction sites	Implemented				

A Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
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 r part of the construction site where the exposed earth lies</li> </ul>	All construction sites	N/A
.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	All construction sites	Implemented
5.6.4	A4	4) Project Manager to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	All construction sites	Implemented
.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Selected representative dust monitoring station	Implemented
5.7.1	A6	The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant; •Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system; •All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; •Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system; •The materials which may generate airborne dusty emissions should be wetted by water spray system; •All receiving hoppers should be enclosed on three sides up to 3m above unloading point; •All conveyor transfer points should be totally enclosed; •All access and route roads within the premises should be paved and wetted; and •Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.	Selected representative dust monitoring station	Implemented
5.2.7	Α7	<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>	All construction sites	Implemented
Constru	iction Noise	(Air borne)		
4.10	N1	<ul> <li>1) 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> </ul>	All construction sites	Implemented

IA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
		<ul> <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> </ul>		
.4.11	N2	<ol> <li>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.</li> </ol>	All construction sites	Implemented
.4.12	N3	3) Install movable noise barriers (typically density@14kg/m acoustic mat or full enclosure close to noisy plants including compressor, generators, saw.	For plant items listed in Appendix 6D of the EIA report at all construction sites	N/A
4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	For plant items listed in Appendix 6D of the EIA report at all construction sites	Implemented
4.14	N5	5) Sequencing operation of construction plants where practicable	All construction sites where practicable	Implemented
1	N6	6) Implement a noise monitoring under EM&A programme.	Selected representative noise monitoring station	Implemented
Naste	Managemen	t (Construction Noise)		
	WM1	Construction and Demolition Material The following mitigation measures should be implemented in handling the waste: •Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; •Carry out on-site sorting;	All construction sites	N/A
3.8	WM2	<ul> <li>•Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>•Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>•Implement an enhanced Waste Management Plan similar to E7WBTC (Works) No. 19/2005 - "Environmental Management on Construction Sites" to encourage on-site sorting of C&amp;D materials and to minimize their generation during the course of construction.</li> <li>•In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation.</li> <li>C&amp;D Waste</li> </ul>	All construction sites	Implemented



EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Location of the measures	Implementation Status
\$8.2.12- \$8.3.15	WM3	<ul> <li>Chemical Waste</li> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes should be clearly 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> <li>Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.</li> </ul>	All construction sites	Implemented
S8.3.16	WM4	Sewage •Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	All construction sites	Implemented
58.3.17– 58.3.19	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.</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>	All construction sites	Partially Implemented

	EM&A Log			Implementation
IA Ref.	Ref.	Recommended Mitigation Measures	Location of the measures	Status
Water	Quality (Cons	struction Phase)		
	W2	Land Works 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: •wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters; •sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided; •storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; •silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; •temporary access roads should be surfaced with crushed stone or gravel; •rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; •measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system; •open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric	All land-based construction sites	Implemented
9.11.1.7		<ul> <li>during rainstorms;</li> <li>•manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers;</li> <li>•discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</li> <li>•all vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit;</li> <li>•wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;</li> <li>•the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel;</li> <li>•wastewater generated from concreting, plastering, Internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;</li> <li>•vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal;</li> <li>•the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;</li> </ul>		
		<ul> <li>waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance;</li> <li>all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and</li> <li>surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.</li> </ul>		

	EM&A Log			Implementation
EIA Ref.		Recommended Mitigation Measures	Location of the measures	Status
	y (Construction			
	E4	•Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the	Seawall, reclamation area	N/A
	LT	potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater		
510.7	E9	•Dolphin vessel monitoring	North Lantau and West	N/A
	L9		Lantau	Completed on 1 March 2021
Landso	ape & Visual	(Construction Phase)		
14.3.3.3	LV2	<ul> <li>Mitigate both Landscape and Visual Impacts</li> <li>G1. Grass-hydroseed bare soil surface and stock pile areas;</li> <li>G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge or footbridge to screen bridge and traffic.</li> <li>G3. Providing aesthetic architectural design on 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 harmonic atmosphere of the HKBCF.</li> <li>G4. Vegetation reinstatement and upgrading to disturbed areas;</li> <li>G5. Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;</li> <li>G6. Providing planting area around peripheral of HKBCF for tree planting screening effect;</li> <li>G7. Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline; and</li> <li>G8. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt</li> <li>"natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline.</li> </ul>	All construction site areas	G6, G8, G9 and V1 were Implemented
514.3.3.3	LV3	Mitigate Visual Impacts V1. Minimize time for construction activities during construction period.	All construction site areas	Implemented
515.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	All construction sites	Implemented
515.5 –	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual.	All construction sites	Implemented



	EM&A Log			Implementation
EIA Ref.	Ref.	Recommended Mitigation Measures	Location of the measures	Status
S15.6		<ol> <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>		

# **Appendix F**

Summary of Site Audit in the Reporting Period



### Summary of Site Audit in the Reporting Period

Parameters	Date	Observations and Recommendations	Follow-up				
Air Quality	10 March 2022	Observation 1: Cement material should be covered. (VCP)	11 March 2022				
Air Quality	8 Dec 2021	Observation: Cement materials should be covered. (NPTI)	8 Dec 2021				
Noise		NA					
Water Quality	24 March 2022	Observation 2: Stagnant water should be cleared to prevent overflow from drip tray. (NPTI)	24 March 2022				
Water Quality	30 March 2022	Reminder 1: Stagnant water should be cleared. (NPTI & SPTI)	NA				
	10 March 2022	Observation 2: Waste generated at the site should be cleared and collected.	11 March 2022				
	24 March 2022	Observation 1: Waste generated at the site should be cleared ASAP. (VCP & NPTI)	25 March 2022				
Chemical and	30 March 2022	Observation 1: Waste generated at the site should be cleared ASAP. (VCP & SPTI)	NA				
Waste Management	6 April 2022	Reminder: Waste generated at the site should be cleared. (VCP & SPTI)	NA				
	14 April 2022	Observation: Waste generated at the site should be cleared to prevent over-dose. (SPTI)	19 April 2022				
	20 April 2022	Observation: Excavated materials should be removed. (VCP)	22 April 2022				

	27 April 2022	Observation: Waste generated at the site should be cleared and collected. (VCP)	29 April 2022			
	12 May 2022	Observation: Oil stain should be removed nearby Kiosk. (Out Boundary)	18 May 2022			
	18 May 2022	Reminder: Empty chemical containers should be cleared or removed off site (Out Boundary nearby Kiosk).	25 May 2022			
Land Contamination		NA				
Landscape and Visual Impact		NA				
Permit / Licenses	NA					
Others	NA					

# **Appendix G**

Waste Flow Table

Waste Flov	v Table for Yea	r 2020								
	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
Monthly Ending	Total Quantity Generated (Inert C&D)	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)
2020 Jan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2020 Feb	720.34	Nil	720.34	Nil	Nil	Nil	0.335	Nil	Nil	2.23
2020 Mar	11344.57	Nil	10218.92	Nil	1125.65	Nil	0.669	Nil	Nil	8.05
2020 Apr	19649.37	Nil	18670.3	Nil	979.07	Nil	Nil	Nil	Nil	21.64
2020 May	26767.55	Nil	26692.04	Nil	75.51	Nil	2.42	Nil	Nil	196.64
2020 Jun	4628.13	Nil	4198.52	Nil	429.61	Nil	Nil	Nil	Nil	117.19
2020 Jul	4895.66	Nil	3398.41	Nil	1497.25	Nil	Nil	Nil	Nil	30.33
2020 Aug	4971.00	Nil	4774.49	Nil	196.51	Nil	0.418	Nil	Nil	36.91
2020 Sep	1175.26	Nil	736.1	Nil	439.16	Nil	Nil	Nil	Nil	36.16
2020 Oct	3433.83	Nil	Nil	2262.7	1171.13	Nil	Nil	Nil	Nil	32.25
2020 Nov	26481.72	Nil	Nil	24393.64	2088.08	Nil	Nil	Nil	Nil	40.09
2020 Dec	14361.90	Nil	Nil	13468.00	893.90	Nil	Nil	Nil	Nil	39.56
Total	118429.33	0	69409.12	40124.34	8895.87	0	3.842	0	0	561.05

Note:

The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
 Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

Waste Flow	w Table for Yea	r 2021								
	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
Monthly Ending	Total Quantity Generated (Inert C&D)	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)
2021 Jan	787.6	0	0	0	787.6	0	0	0	0	18.19
2021 Feb	254.95	0	0	0	254.95	0	0	0	0	154.94
2021 Mar	1899.61	0	0	1720.5	179.11	0	0	0	0	371.73
2021 Apr	4056.27	0	0	0	4056.27	2.13	8.17	0	0	144.08
2021 May	2738.81	0	0	0	2738.81	0.495	0	0	0	31.63
2021 Jun	1009.53	0	0	0	1009.53	0	0	0	0	90.91
2021 Jul	1384.29	0	0	0	1384.29	0	0	0	0	51.69
2021 Aug	340.46	0	0	0	340.46	5.85	0	0	0	42.99
2021 Sep	732.9	0	0	0	732.9	0	0	0	0	70.11
2021 Oct	1023.81	0	0	0	1023.81	0	0	0	0	74.68
2021 Nov	1155.56	0	0	0	1155.56	3.195	0	0	0	121.99
2021 Dec	271.67	0	0	0.00	271.67	0	0	0	0	70.97
Total	15655.46	0	0	1720.5	13934.96	11.665	8.17	0	0	1243.91

Note:

The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
 Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

Waste Flow	w Table for Yea	r 2022									
	Actua	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
Monthly Ending	Total Quantity Generated (Inert C&D)	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse	
	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	
2022 Jan	167.72	0	0	0	167.72	0	0	0	0	58.92	
2022 Feb	50.85	0	0	0	50.85	0	0	0	0	20.48	
2022 Mar	10.10	0	0	0	10.10	0	0	0	0	16.46	
2022 Apr	154.27	0	0	0	154.27	0	0	0	0	20.09	
2022 May	186.03	0	0	0	186.03	0	0	0	0	6.33	
2022 Jun											
2022 Jul											
2022 Aug											
2022 Sep											
2022 Oct											
2022 Nov											
2022 Dec											
Total	568.97	0	0	0	568.97	0	0	0	0	122.28	

Note:

The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
 Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

## **Appendix H**

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

UGRO

#### Environmental Complaints Log

Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply	

#### **Cumulative Statistics on Complaints**

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to- Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

#### Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Notification of Summons and Prosecutions This Month	Cumulative Project-to- Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0