CONTRACT NO: HY/2019/18

WANCHAI DEVELOPMENT PHASE II AND CENTRAL WANCHAI BYPASS SAMPLING, FIELD MEASUREMENT AND TESTING WORKS (STAGE 4)

ENVIRONMENTAL PERMIT NO. EP-376/2009 AND FURTHER ENVIRONMENTAL PERMIT NO. FEP-01/376/2009 AND FEP-02/376/2009

FINAL ENVIRONMENTAL MONITORING & AUDIT REVIEW REPORT

FOR WDII PROJECT WORKS FOR ROAD P2 UNDER CEDD

CLIENTS:

Civil Engineering and Development Department

and

Highways Department

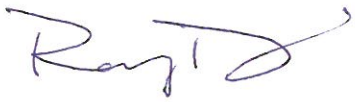
PREPARED BY:

Lam Geotechnics Limited

19/F, Remex Centre
42 Wong Chuk Hang Road,
H.K.

Telephone: (852) 2882-3939
Facsimile: (852) 2882-3331
E-mail: info@lamenviro.com
Website: http://www.lamenviro.com

CERTIFIED BY:



Raymond Dai
Environmental Team Leader

19 December 2023

Ref.: AACWBIECEM00_0_13240L.23

19 December 2023

AECOM Asia Company Limited
12/F Tower 2 Grand Central Plaza
138 Shatin Rural Committee Road
Shatin New Territories
Hong Kong

By Post and Fax (2691 2649)

Attention: Mr. Conrad Ng

Dear Mr. Ng,

Re: Wan Chai Development Phase II - Central-Wan Chai Bypass
Final Environmental Monitoring and Audit Report for EP-376/2009, FEP-01/376/2009 and FEP-02/376/2009

Reference is made to the Environmental Team's submission of the captioned Final Environmental Monitoring and Audit (EM&A) Report received by email on 19 December 2023 for our review and comment.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 10.5 of the EM&A Manual.

Thank you very much for your attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung
Independent Environmental Checker

c.c.	CEDD	Attn: Ms. Maggie Wong	by fax: 2301 1277
	AECOM	Attn: Mr. Samson Lo	by fax: 2587 1877
	AECOM	Attn: Mr. Francis Leong/ Stephen Lai	by fax: 2691 2649
	Lam	Attn: Mr. Raymond Dai	by fax: 2882 3331

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.Ramboll.com

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

i. This is the Final Environmental Monitoring and Audit (EM&A) Review Report prepared by Lam Geotechnics Limited for Wan Chai Development Phase II and Central-Wan Bypass – Sampling, Field Measurement and Testing work under EM&A manual for Environmental Permit no. EP-376/2009. This report presents the environmental monitoring and audit findings during the period of May 2015 to November 2023.

Major construction works under taken during construction phase monitoring programme

ii. The key purpose of the study area encompasses the Wan Chai harbourfront area. The area starts at the boundary of Central Reclamation Phase III (CRIII) at the west and connects to the existing Hung Hing Road at the east. The scope of the project includes:

- A dual 2-lane primary distributor road, Road P2, approximately 0.6km in length; and
- Other new primary and district distributor roads connecting to the slip roads of the Central-Wan Chai Bypass with a total length of approximately 0.7km.

iii. The project also contains Schedule 2 DP that, under the EIAO, require Environmental Permits (EPs) to be granted by the DEP before they may be either constructed or operated. Below table summarises the DP under this Project.

Item	Designated Project	EIAO Reference
DP2	Road P2 and other roads which are classified as primary/district distributor roads	Schedule 2, Part I, A.1

iv. The designated project work II (DP2) was awarded to China State – Build King Joint Venture HK/2012/08 (Contract Title: Wan Chai Development Phase II Central – Wan Chai Bypass at Wan Chai West) as part of the Project works by the Civil Engineering and Development Department (CEDD). The construction work under Contract no. HK/2012/08 was commenced on 13 May 2015.

Environmental Monitoring and Audit Works

v. Summary table of the impact monitoring activities is listed below:

Noise Monitoring Station	Commencement Date	Suspension Date
M1a – Harbour Road Sports Centre / Footbridge for Harbour Road Sports Centre	19 May 2015	23 March 2019

Air Quality Monitoring Station	Commencement Date	Suspension Date
CMA5a / CMA5b – Children Playgrounds opposite to Pedestrian Plaza / Pedestrian Plaza	18 May 2015	26 March 2019
CMA 6a-WDII PRE Office	18 May 2015	26 March 2019

Waste Management

vi. No waste generation were reported under EP-376/2009.

Complaints, Notifications of Summons and Successful Prosecutions

vii. No environmental complaints were received in the reporting period. No notification of summons and successful prosecutions were received in the reporting period.

Site Inspections and Audit

viii. The weekly site inspections were conducted according to EM&A manual requirement throughout the construction period. No non-compliance from the site audits was recorded throughout the reporting period.

Conclusion

ix. The EM&A programme were found to be effective in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers at the designated monitoring locations were brought about the Project.

x. In conclusion the Project was environmentally acceptable in terms of air quality and noise impact.

1 Introduction

1.1 Scope of the Report

1.1.1. Lam Geotechnics Limited (LGL) has been appointed under Contract HY/2019/18 – Wan Chai Development Phase II and Central Wan Chai Bypass – Sampling, Field Measurement and Testing works (Stage 4) to work as the Environmental Team (ET) under Environmental Permit nos. FEP-01/376/2009 and FEP-02/376/2009 of Environmental Permit no. EP-376/2009 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001).

1.1.2. SCL Contractor has been granted a further environmental permit (FEP-03/376/2009) on 02 June 2020 to undertake the construction of part of other part of the Road P2 and other roads which are classified as primary/district distributor roads which are implemented and reported by a separate ET/IEC of SCL Contractor.

1.1.3. This report presents the environmental monitoring and audit findings during the period of May 2015 to November 2023 covers the work areas FEP-01/376/2009 and FEP-02/376/2009 of EP-376/2009, as listed in **Section 1.1.1**.

1.2 Structure of the Report

Section 1 **Introduction** – details the scope and structure of the report.

Section 2 **Project Background** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.

Section 4 **Monitoring Results** – summarizes the monitoring results and exceedances recorded throughout the monitoring programme.

Section 5 **Environmental Site Audit** – summarizes the findings of site inspections undertaken during the construction period, with a review of any relevant follow-up actions during the construction period.

Section 6 **Complaints, Notification of summons and Prosecution** – summarizes the cumulative statistics on complaints, notification of summons and prosecution.

Section 7 **Conclusion**

2 Project Background

2.1 Background

2.1.1. Wan Chai Development phase II and Central-Wan Chai Bypass (hereafter called "the Project") are Designated Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) has been approved on 11 December 2008.

2.2 Scope of the Project and Site Description

2.2.1. The design and construction of Wan Chai Development Phase II and Central Wanchai Bypass involves the construction and operation of primary and district distributor roads is shown in ***Figure 2.1***.

2.2.2. The key purpose of the study area encompasses the Wan Chai harbourfront area. The area starts at the boundary of Central Reclamation Phase III (CRIII) at the west and connects to the existing Hung Hing Road at the east. The scope of the project includes:

- A dual 2-lane primary distributor road, Road P2, approximately 0.6km in length; and
- Other new primary and district distributor roads connecting to the slip roads of the Central-Wan Chai Bypass with a total length of approximately 0.7km.

2.2.3. The project also contains Schedule 2 DP that, under the EIAO, require Environmental Permits (EPs) to be granted by the DEP before they may be either constructed or operated. ***Table 2.1*** summarises the DP under this Project. ***Figure 2.1*** shows the locations of this Schedule 2 DP.

Table 2.1 Schedule 2 Designated Projects under this Project

Item	Designated Project	EIAO Reference
DP2	Road P2 and other roads which are classified as primary/district distributor roads	Schedule 2, Part I, A.1

2.2.4. The designated project work II (DP2) was awarded to China State – Build King Joint Venture HK/2012/08 (Contract Title: Wan Chai Development Phase II Central – Wan Chai Bypass at Wan Chai West) as part of the Project works by the Civil Engineering and Development Department (CEDD). The construction work under Contract no. HK/2012/08 was commenced on 13 May 2015.

2.3 Project Organization and Contact Personnel

2.3.1. Civil Engineering and Development Department and Highway Department are the overall project controllers for the Wan Chai Development Phase II and Central-Wan Chai Bypass respectively. For the construction phase of the Project, Project Engineer, Contractor(s),

Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2. The proposed project organization, key parties and roles are summarized in ***Table 2.2***:

Table 2.2 Contact Details of Key Parties and Roles

Party	Role
CEDD	Project Proponent / Permit Holder
AECOM	Engineer's Representative for WDII
China State - Build King JV	Contractor of Contract no. HK/2012/08 (the permit holder of FEP-01/376/2009 and FEP-02/376/2009)
Ramboll Hong Kong Limited	Independent Environmental Checker
Lam Geotechnics Limited	Environmental Team

2.3.3 Contract HK/2012/08 under CEDD is the main works contract to construct part of the Road P2 and other roads as indicated in Figure 2.1, has been granted FEP-01/376/2009 and FEP-02/376/2009 on 31 March 2015 and 01 August 2016 respectively. The construction works were commenced on 13 May 2015.

2.3.4 As confirmed by Engineer's Representative, Contract HK/2012/08 had completed construction works on 31 March 2020 and the corresponding FEP-01/376/2009 and FEP-02/376/2009 were surrendered on 06 April 2020.

3 Monitoring Requirements

3.1 Noise Monitoring

Noise Monitoring Stations

3.1.1 The noise monitoring stations for the Project are listed in ***Table 3.1*** and shown in ***Figure 3.1***. Corresponding noise sensitive receivers as identified in EIA can be referred to ***Appendix 3.0***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.1 Noise Monitoring Station

Station	Description
M1a*	Harbour Road Sports Centre / Footbridge for Harbour Road Sports Centre (M1a)* Rooftop of Wan Chai Ferry Pier (M1b, alternative to M1a due to Shatin Central Link construction)**

Remark*: With respect to the demolition of Ex-Harbour Road Sports Centre, the respective noise monitoring station M1a – Harbour Road Sports Centre were finely adjusted to the Footbridge for Harbour Road Sports after May 2017.
Remark**: The monitoring station M1a was relocated as M1b – Rooftop of Wan Chai Ferry Pier on 2 November 2020.

Noise Monitoring Parameters, Frequency and Duration

3.1.2 The construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ (30\ minutes)}$ was used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq\ (5\ minutes)}$ was employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 were also obtained for reference.

3.1.3 Noise monitoring was carried out at all the designated monitoring stations. The monitoring frequency depended on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities were underway:

- One set of measurements between 0700 and 1900 hours on normal weekdays.

3.1.4 If construction works were extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring was carried out during respective restricted hour's periods.

Monitoring Equipment

3.1.5 As referred to the Technical Memorandum ™ issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1)

and 804: 1985 (Type 1) specifications were used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

3.1.6 Noise measurements was not carried out in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed was checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.2 Air Quality Monitoring

Air Quality Monitoring Stations

3.2.1 The air monitoring stations for the Project are listed in ***Table 3.2*** and shown in ***Figure 3.1***. Corresponding air sensitive receivers as identified in EIA can be referred to ***Appendix 3.0***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.2 Air Monitoring Station

Station ID	Monitoring Location	Description
CMA5b	Pedestrian Plaza	Wan Chai
CMA6a	WDII PRE Office	Wan Chai

Air Monitoring Parameters, Frequency and Duration

3.2.2 One-hour and 24-hour TSP levels were measured to indicate the impacts of construction dust on air quality. The 24-hour TSP level was measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

3.2.3 All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., were recorded down in detail.

3.2.4 For regular impact monitoring, the sampling frequency of at least once in every six-days, was strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days was undertaken when the highest dust impact occurred.

Sampling Procedure and Monitoring Equipment

3.2.5 High volume samplers (HVSs) in compliance with the following specifications were used for carrying out the 1-hour and 24-hour TSP monitoring:

- 0.6 – 1.7 m3 per minute adjustable flow range;
- equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm2;
- flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;

- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easily changeable filter; and
- capable of operating continuously for a 24-hour period.

3.2.6 Initial calibration of dust monitoring equipment was conducted upon installation and thereafter at bi-monthly intervals. The transfer standard was traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC was properly document the calibration data for future reference. All the data was converted into standard temperature and pressure condition.

Laboratory Measurement / Analysis

3.2.7 A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, was available for sample analysis, and equipment calibration and maintenance. The laboratory was HOKLAS accredited.

3.2.8 An alternative non-HOKLAS accredited laboratory was set-up for carrying out the laboratory analysis, the laboratory equipment was approved by the ER on 8 February 2011 and the measurement procedures were witnessed by the IEC. Any measurement performed by the laboratory was demonstrated to the satisfaction of the ER and IEC. IEC was regularly audit to the measurement performed by the laboratory to ensure the accuracy of measurement results.

3.2.9 Filter paper of size 8” x 10” was labelled before sampling. It was a clean filter paper with no pinholes, and conditioned in a humidity-controlled chamber for over 24-hours and pre-weighed before used for the sampling.

3.2.10 After sampling, the filter paper loaded with dust was kept in a clean and tightly sealed plastic bag. The filter paper was then returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance was regularly calibrated against a traceable standard.

3.2.11 All the collected samples were kept in a good condition for 6 months before disposal.

4 Monitoring Results

4.0.1 The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 4.0***.

4.1 Noise Monitoring Results

4.1.1 The noise monitoring limit level exceedances in reporting period is summarized in ***Table 4.1*** below.

Table 4.1 Summary of noise limit level exceedances

Year	Limit level	M1a	Total
2015	Non-Project related	5	5
	Project related	0	
2016	Non-Project related	17	17
	Project related	0	
2017	Non-Project related	17	17
	Project related	0	
2018	Non-Project related	5	5
	Project related	0	
2019	Non-Project related	0	0
	Project related	0	

4.1.2 The major construction activities involved site preparation works, excavation, utilities and drainage works in 2015 (since May 2015). Total 5 limit level exceedance was recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related. No action level exceedance were confirmed from noise complaints received in 2015.

4.1.3 The major construction activities involved utilities and drainage works in 2016. Total 17 limit level exceedance was recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related. No action level exceedance were confirmed from noise complaints received in 2016.

4.1.4 The major construction activities involved drainage and road works in 2017. Total 17 limit level exceedances were recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related. No action level exceedance related to noise complaint was recorded in 2017.

4.1.5 The major construction activities involved drainage, road and asphalt paving works in 2018. Total 5 limit level exceedances were recorded in the reporting period. After the investigation,

the exceedances were concluded as non-project related. No action level exceedance related to noise complaint was recorded in 2018.

4.1.6 The major construction activities involved drainage, road and landscaping works in 2019. No limit level exceedance was recorded in scheduled noise monitoring in the reporting period. No action level exceedance were confirmed from noise complaints received in 2019.

4.1.7 Details of graphical presentation of noise monitoring result can refer to ***Appendix 4.1***. The complaint investigation shall refer to ***Appendix 4.1***.

4.2 Air Quality Monitoring Results

4.2.1 The air quality monitoring exceedances in reporting period is summarized in ***Table 4.2***.

Table 4.2 Summary of air quality exceedances

Year	Parameter	CMA 5b	CMA 6a	Total
2015	24hr TSP	0	0	0
	1hr TSP	0	0	
2016	24hr TSP	1LL	0	6
	1hr TSP	5AL	0	
2017	24hr TSP	3AL / 1LL	0	22
	1hr TSP	14AL / 4LL	0	
2018	24hr TSP	0	0	1
	1hr TSP	1AL	0	
2019	24hr TSP	0	0	1
	1hr TSP	1AL	0	

4.2.2 The major construction activities involved site preparation works, excavation, utilities and drainage works in 2015 (since May 2015). No exceedance was recorded in the reporting period.

4.2.3 The major construction activities involved utilities and drainage works in 2016. Total 1 limit level of 24hr TSP and 5 action level of 1hr TSP exceedances were recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related.

4.2.4 The major construction activities involved drainage and road works in 2017. Total 3 action level and 1 limit level of 24hr TSP whereas 14 action level and 4 limit level of 1hr TSP exceedances were recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related.

4.2.5 The major construction activities involved drainage, road and asphalt paving works in 2018. Total 1 action and no limit level of 1hr TSP was recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related.

4.2.6 The major construction activities involved drainage, road and landscaping works in 2019. Total 1 action level and no limit level of 1hr TSP exceedances was recorded in the reporting period. After the investigation, the exceedances were concluded as non-project related.

4.2.7 Details of graphical presentation of air monitoring result can referred to ***Appendix 4.2***.

4.3 Waste Monitoring Results

4.3.1 No waste generation were reported for FEP-01/376/2009 and FEP-02/376/2009 under EP-376/2009.

5 Environmental Site Audit

5.0.1 Site audit was carried out by representatives of the Contractor, Engineer and ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The representative of the IEC joined the site inspections once per month.

5.0.2 No non-compliance was recorded during the site inspections throughout the construction period. Observations and recommendations recorded during the site inspections were summarized in each of the EM&A reports.

5.0.3 According to EIA Study Report, Environmental Permit and EM&A Manual of the Project, the mitigation measures detailed in the documents were recommended to be implemented during the construction phase. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in ***Appendix 5.1*****.**

5.1 Landscape Monitoring

5.1.1 As confirmed by ER, all landscape works for FEP-01/376/2009 and FEP-02/376/2009 under EP-376/2009 were completed during constructions phase; 12-month Landscape Establishment Monitoring on planting works by ET in quarterly basis as per requirement under the EM&A manual has been completed.

5.1.2 The planting works for FEP-01/376/2009 and FEP-02/376/2009 associated with EP-376/2009 were monitored during the 12-month Establishment Landscape Monitoring period to ensure the compliance with the intended aims of the measures.

5.1.3 Shrubs planting, new trees, transplanted trees and compensatory trees planted were provided as per the design in the operation landscape plan submitted under EP-376/2009.

5.1.4 5-year Long-term Operation Landscape Monitoring for the part of project under WDII project works associated with EP-376/2009 has been carried out and the implementation are summarized in ***Table 5.1***.

Table 5.1 Summary Table of Landscape Monitoring Implementation

FEP No.	Contract No. & Title	Landscape Establishment Monitoring implementation	Long-term Landscape Operation Monitoring implementation[1]
FEP-01/376/2009, FEP-02/376/2009	Contract No. HK/2012/08: Wan Chai Development Phase II- Central-Wan Chai Bypass at Wan Chai West	January 2020 – January 2021 (completed by ET)	January 2020 – January 2024 (completed by ET) February 2024 (to be completed by LCSD)

6 Complaints, Notification of Summons and Prosecution

6.0.1 No complaints were recorded with respect to construction of Road P2 in the reporting period.

6.0.2 No summons nor successful prosecutions were recorded in the reporting period.

6.0.3 The details of cumulative complaint log and updated summary of complaints are presented in ***Appendix 6.1*****.**

6.0.4 Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 6.1*** and ***Table 6.2*** respectively.

Table 6.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
May 2015 (construction commencement) to Nov 2023	0
Total	**0**

Table 6.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	**0**	**0**	**0**

7 Conclusion

7.1 Construction of the Project

7.0.1 The Project was implemented in accordance with the conditions stipulated in the Environmental Permits.

7.0.2 Construction works of all the contracts under the Project were completed with FEP surrender application submitted. The details are summarized in ***Table 7.1***.

Table 7.1 Details of Individual Contracts under the Project

Contract No.	Associated DP(s)	Date of Work Completion Date (with FEP surrender) / Substantial Completion Date
HK/2012/08	DP2	Construction works was completed with FEP-01/376/2009 & FEP-02/376/2009 surrendered by contractor and found in order by EPD on 06 April 2020.

Remarks: SCL Contractor has granted FEP-03/376/2009 on 2 June 2020 to undertake the construction of part of the Road P2 under EP376/2009. EM&A works associated with FEP-03/376/2009 shall be implemented and reported by a separate ET/IEC of SCL Contractor.

7.2 EM&A Programme

Validity of EIA Predictions

7.2.1 It is predicted in the EIA reports that with the implementation of the recommended mitigation measures, there would be no unacceptable nor residual noise, air and water quality impacts arising from the Project-related construction works.

Comments on Overall EM&A programme

7.2.2 The mitigation measures detailed in the Environmental Permit, the EM&A Manual and the EIA report were implemented throughout the whole project period. With the environmental monitoring and site inspection to directly ensure the timely implementation of mitigation measures during the Project, the environmental performance of the Project was acceptable. Analysis of all EM&A data collected throughout the construction periods also demonstrated the environmental acceptability of the Project.

7.2.3 The overall performance of the monitoring methodology adopted and environmental management system in this Project was effective.

Overall EM&A Data

7.2.4 Baseline and impact air and noise monitoring were carried out according to the requirements in the EM&A Manual. The monitoring data analysis shown that the environmental conditions generally return to baseline condition.

Conclusions

7.2.5 The EM&A programme was found to be effective in monitoring impacts arising from the Project. The findings of the environmental monitoring programme suggest that no adverse impacts on sensitive receivers were brought about by the Project. In conclusion, the Project was environmentally acceptable in terms of noise, air quality and water discharge and waste disposal.

7.2.6 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.