CONTRACT NO: HK/2015/01

WANCHAI DEVELOPMENT PHASE II AND CENTRAL WANCHAI BYPASS SAMPLING, FIELD MEASUREMENT AND TESTING WORK (STAGE 3)

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

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- MARCH 2018 -

CLIENTS:

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CERTIFIED BY:

Raymond Dai
Environmental Team Leader

DATE:

13 April 2018

Ref.: AACWBIECEM00_0_10341L.18

13 April 2018

AECOM Asia Company Limited
11/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: Contract No. HK/2015/01
Wan Chai Development Phase II - Central-Wan Chai Bypass
Sampling, Field Measurement and Testing Works (Stage 3)

Monthly Environmental Monitoring and Audit Report (March 2018)
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 Monthly Environmental Monitoring and Audit (EM&A) Report for March 2018 received by e-mail on 13 April 2018 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 3.4 in the captioned Environmental Permit.

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: Mr. L K Tsang	by fax: 2577 5040
	Lam	Attn: Mr. Raymond Dai	by fax: 2882 3331
	AECOM	Attn: Mr. Francis Leong/ Stephen Lai	by fax: 2691 2649

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – March 2018 specific for Environmental Permit no. EP-376/2009 and Further Environmental Permits no. FEP-01/376/2009 and FEP-02/376/2009. The EM&A report is prepared by the Environmental Team (ET) employed under Contract No. HK/2015/01 – Wan Chai Development Phase II and Central Wanchai Bypass – Sampling, Field Measurement and Testing Works (Stage 3). This report presents the environmental monitoring findings and information recorded during the period of 27th February 2018 to 26th March 2018. The cut-off date of reporting is at 26th of each reporting month.

ii. In the reporting month, the principal work activities of the contract are included as follows:

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Drainage
- Roadworks

Noise Monitoring

iii. Noise monitoring was conducted at M1a – Harbour Road Sports Centre.

iv. With respect to the shift in major construction site portions at Wan Chai North, the noise monitoring station M1a – Harbour Road Sports Centre was finely adjusted from East of Harbour Road Sports Centre to West of Harbour Road Sports Centre on 21 June 2016.

v. With respect to the demolition of Ex-Harbour Road Sports Centre, the respective noise monitoring station M1a – Harbour Road Sports Centre were finely adjusted on 16 and 25 May 2017 and thereafter to the Footbridge for Harbour Road Sports for noise monitoring.

vi. No action or limit level exceedance was recorded in this reporting month.

Air Quality Monitoring

vii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted on every six days basis at CMA5b – Pedestrian Plaza and CMA6a – Contractor HK/2012/08 Site Office.

viii. No action or limit level exceedance was recorded in this reporting month.

Complaints, Notifications of Summons and Successful Prosecutions

ix. No environmental complaint was received in this reporting month.

Site Inspections and Audit

x. The Environmental Team (ET) conducted weekly site inspection for Contract no. HK/2012/08 in this reporting period. The Contractors rectified major observations and recommendations made during the audit sessions. No non-conformance was identified during the site inspections.

Future Key Issues

xi. In the coming reporting month, the principal work activities of the contract is anticipated as follows:

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Drainage
- Roadworks

1 INTRODUCTION

1.1 Scope of the Report

1.1.1. Lam Geotechnics Limited (LGL) has been appointed take up the role as the Environmental Team (ET) under Environmental Permit no. EP-376/2009 and Further Environmental Permits no. FEP-01/376/2009 and FEP-02/376/2009 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-458/2008).

This report documents the finding of EM&A works for Environmental Permit (EP) no. EP-376/2009 and Further Environmental Permits no. FEP-01/376/2009 and FEP-02/376/2009, during the period of 27th February 2018 to 26th March 2018. The cut-off date of reporting is the 26th of each reporting month.

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 ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.

Section 4 ***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 5 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 6 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 7 ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent activities of the concurrent Projects.

Section 8 ***Environmental Site Audit*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 9 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 10 ***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 that is shown at ***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 various 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 these Schedule 2 DP.

Table 2.1 Schedule 2 Designated Project 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-Leader 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 and lines of communication with respect to environmental protection works are shown in ***Figure 2.2***. Key personnel and contact particulars are summarized in ***Table 2.2***:

Table 2.2 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
AECOM	Engineer's Representative for WDII	Principal Resident Engineer	Mr. Frankie Fan	2587 1778	2587 1877
	Engineer's Representative for CWB	Principal Resident Engineer	Mr. Peter Poon	3922 3388	3912 3010
China State-Build King Joint Venture	Contractor under Contract no. HK/2012/08	Project Director	C. N. LAI	9106 5806	2877 1522
		Site Agent	Mr. George Cheung	9268 1918	
		Environmental Officer	Mr. James Ma	9130 9549	
		Environmental Supervisor	Mr. Y.L. Ho	9856 5669	
Ramboll Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3465 2888	3465 2899
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.3.3 In this reporting month, the principal work activities of the contract is included as follows:

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Drainage
- Roadworks

2.3.4 In coming reporting month, the principal work activities of the contract is anticipated as follows:

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Drainage
- Roadworks

3 STATUS OF REGULATORY COMPLIANCE

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in ***Table 3.1***.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	Reference No.	Issued Date	Status
Environmental Permit	EP-376/2009	13 Nov 2009	Valid
Further Environmental Permit	FEP-01/376/2009	31 Mar 2015	Valid
Further Environmental Permit	FEP-02/376/2009	1 Aug 2016	Valid

3.1.2. The current status on licences and/or permits on environmental protection pertinent for contract no. HK/2012/08 under FEP-02/376/2009 showed in ***Table 3.2.*** and ***Table 3.3***

Table 3.2 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2012/08

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-01/376/2009	31 Mar 2015	N/A	Valid
	FEP-02/376/2009	1 Aug 2016	N/A	Valid
Notification of Works Under APCO	355439	4 Feb 2013	N/A	Valid
Registration as a Chemical Waste Producer	5213-134-C3790-01	30 Jun 2016	N/A	Valid
Billing Account under Waste Disposal Ordinance	7016883	18 Feb 2013	N/A	Valid
Water Discharge Licence	WT00018470-2014	6 Mar 2014	31 Mar 2019	Valid
Construction Noise Permit	GW-RS1168-17	28 Dec 2017	13 Jan 2018 to 12 Jul 2018	Valid
	GW-RS0914-17	23 Oct 2017	5 Nov 2017 to 4 Apr 2018	Valid

Table 3.3 Summary of submission status under FEP-01/376/2009 Condition

EP Condition	Submission	Date of Submission
Condition 2.9	Noise Management Plan (Rev. 2)	Generally in order as commented by EPD on 27 Oct 2015
Condition 2.10	Landscape Plan (Rev. 0)	Generally in order as commented by EPD on 5 Aug 2015

3.1.3. Implementation status of the recommended mitigation measures during this reporting month is presented in ***Appendix 3.1***.

4 MONITORING REQUIREMENTS

4.1 Noise Monitoring

NOISE MONITORING STATION

4.1.1. The noise monitoring station for the Project is listed and shown in ***Table 4.1*** and ***Figure 4.1.*** ***Appendix 4.1*** shows the established Action/Limit Levels for the monitoring works.

Table 4.1 Noise Monitoring Station

District	Station	Description
Wan Chai	M1a	Footbridge for Ex-Harbour Road Sports Centre

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

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

4.1.3. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend 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 are underway:

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

MONITORING EQUIPMENT

4.1.4. As referred to in 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 shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.

4.1.5. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

4.2 Air Quality Monitoring

AIR QUALITY MONITORING STATIONS

4.2.1. The air quality monitoring stations for the Project are listed and shown in ***Table 4.2*** and ***Figure 4.1***. ***Appendix 4.1*** shows the established Action/Limit Levels for the monitoring works.

Table 4.2 Air Quality Monitoring Stations

Station ID	Description
CMA5b	Pedestrian Plaza
CMA6a	WDII PRE Site Office

AIR QUALITY MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be 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.

4.2.3. 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., shall be recorded down in detail.

4.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be 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 should be undertaken when the highest dust impact occurs.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

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

- 0.6 – 1.7 m^3 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.

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

LABORATORY MEASUREMENT / ANALYSIS

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

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

4.2.9. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be 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 shall be regularly calibrated against a traceable standard.

4.2.10. All the collected samples shall be kept in a good condition for 6 months before disposal.

4.2.11. Current calibration certificates of equipment are presented in ***Appendix 4.2***.

5 MONITORING RESULTS

5.0.1. The environmental monitoring will be implemented based on the division of works areas of the designated project managed under the contract with FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in ***Figure 2.1*** and ***Figure 4.1***. The monitoring results are presented in according to the Individual Contract(s).

5.0.2. In the reporting month, the concurrent contract is:

- Contract no. HK/2012/08 – Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West.

5.0.3. The environment monitoring schedules for reporting month and coming month are presented in ***Appendix 5.1***.

5.1 Noise Monitoring Results

5.1.1 The proposed division of noise monitoring station is summarized in ***Table 5.1*** below.

Table 5.1 Noise Monitoring Station for Contract no. HK/2012/08

Location ID	District	Description
M1a	Wan Chai	Footbridge for Ex-Harbour Road Sports Centre

5.1.2 No action or limit level exceedance was recorded in this reporting month.

5.1.3 The noise monitoring results measured in this reporting period are reviewed and summarized. Details of the noise monitoring results and graphical presentation can be referred to ***Appendix 5.2***.

5.2 Air Quality Monitoring Results

5.2.1 The proposed division of air quality monitoring stations are summarized in ***Table 5.2*** below.

Table 5.2 Air Quality Monitoring Station for Contract no. HK/2012/08

Station	Description
CMA5b	Pedestrian Plaza
CMA6a	WDII PRE Site Office

5.2.2 No action or limit level exceedance was recorded at CMA5b – Pedestrian Plaza and CMA6a – WDII PRE Site Office in this reporting month.

5.2.3 The air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air quality monitoring results and graphical presentation can be referred in ***Appendix 5.3***.

5.3 WASTE MONITORING RESULTS

5.3.1 No Inert and non-inert C&D wastes disposed in this reporting month. Details of the waste flow table are summarized in ***Table 5.3***.

Table 5.3 Details of Waste Disposal for Contract no. HK/2012/08

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m3	NIL	NIL	NIL
Inert C&D materials recycled, m3	NIL	NIL	NIL
Non-inert C&D materials disposed, m3	NIL	NIL	NIL
Non-inert C&D materials recycled, m3	NIL	NIL	NIL
Chemical waste disposed, kg	NIL	NIL	NIL

6 COMPLIANCE AUDIT

6.0.1. The Event Action Plan for construction noise and air quality are presented in ***Appendix 6.1***.

6.1 Noise Monitoring

6.1.1 No action or limit level exceedance was recorded in this reporting month.

6.2 Air Quality Monitoring

6.2.1 No action or limit level exceedance was recorded at CMA5b – Pedestrian Plaza and CMA6a – WDII PRE Site Office in this reporting month.

6.3 Review of the Reasons for and the Implications of Non-compliance

6.3.1 There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.

6.4 Summary of action taken in the event of and follow-up on non-compliance

6.4.1 There was no particular action taken since no non-compliance was recorded from the site audits in the reporting period.

7 CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS

7.0.1. According to the Condition 3.4 of the EP-376/2009, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WDII), Central-WanChai Bypass (CWB), Island Eastern Corridor Link projects (IECL) and Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East (CWB Tunnel).

7.0.2. According to the Final EM&A report of Central Reclamation Phase III (CRIII) for Contract HK 12/02, the major construction activities were completed by end of January 2014 and no construction activities were undertaken thereafter and the water quality monitoring was completed in October 2011. As such, it is considered that there were no cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) undertaken by contractor HK12/02 in the reporting month.

7.0.3. According to the construction programme of Central-Wanchai Bypass at Wanchai West at the Central Reclamation Phase III area include roadworks, back-filling, drainage and trimming of rock level were performed in March 2018 reporting period. As no project related exceedance were recorded during the reporting period, cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was considered as insignificant.

7.0.4. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activities under Wan Chai Development Phase II were road and drains construction and removal of preparation of temporary reclamation at Wan Chai West and Wan Chai East. The major construction activities under Central-Wan Chai Bypass and Island Eastern Corridor Link Projects were drainage works and ventilation building construction at Central; reinstatement works at Causeway Bay, road works at Victoria Park; bridge construction, approach ramp construction and building construction at North Point area in the reporting period. In addition, other non-Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects was observed undertaken at Wan Chai North and North Point area.

7.0.5. No significant air impact from construction activities was anticipated in the reporting month. Besides, no project related exceedance was recorded during the water, air and noise environmental monitoring events in the reporting month. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WDII), Central-WanChai Bypass (CWB), Island Eastern Corridor Link projects (IECL) was insignificant.

8 ENVIRONMENTAL SITE AUDIT

8.0.1. Four site inspections for Contract no. HK/2012/08 were carried out on 27 February, 06, 13 and 20 March 2018 in this reporting period. The results of inspection and outcome are summarized in ***Table 8.1.***

Table 8.1 Summary of Environmental Inspections for Contract no. HK/2012/08

Item	Date	Observations	Action taken by Contractor	Outcome
180227_01	27-Feb-18	Contractor shall provide valid NRMM label to rollers (Slip Road 1)	A valide and proper NRMM label was placed on the rollers	Completion as observed on 6 March 2018
1800306_01	06-Mar-18	Contractor shall provide valid NRMM label to breaker (Expo Dr)	A valide and proper NRMM label was placed on the breaker	Completion as observed on 13 March 2018
1800320_01	20-Mar-18	Dust mitigation measure shall be provided to breaking works to avoid dust emission (Expo. Dr)	Breaking works was observed suspended	Completion as observed on 27 March 2018

9 COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

9.0.1. No environmental complaint was received in the reporting period.

9.0.2. The details of cumulative complaint log and updated summary of complaints are presented in ***Appendix 9.1***

9.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 9.1*** and ***Table 9.2*** respectively.

Table 9.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
Commencement works (May 2015) to last reporting month	0
March 2018	0
Total	0

Table 9.2 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**

10 CONCLUSION

10.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

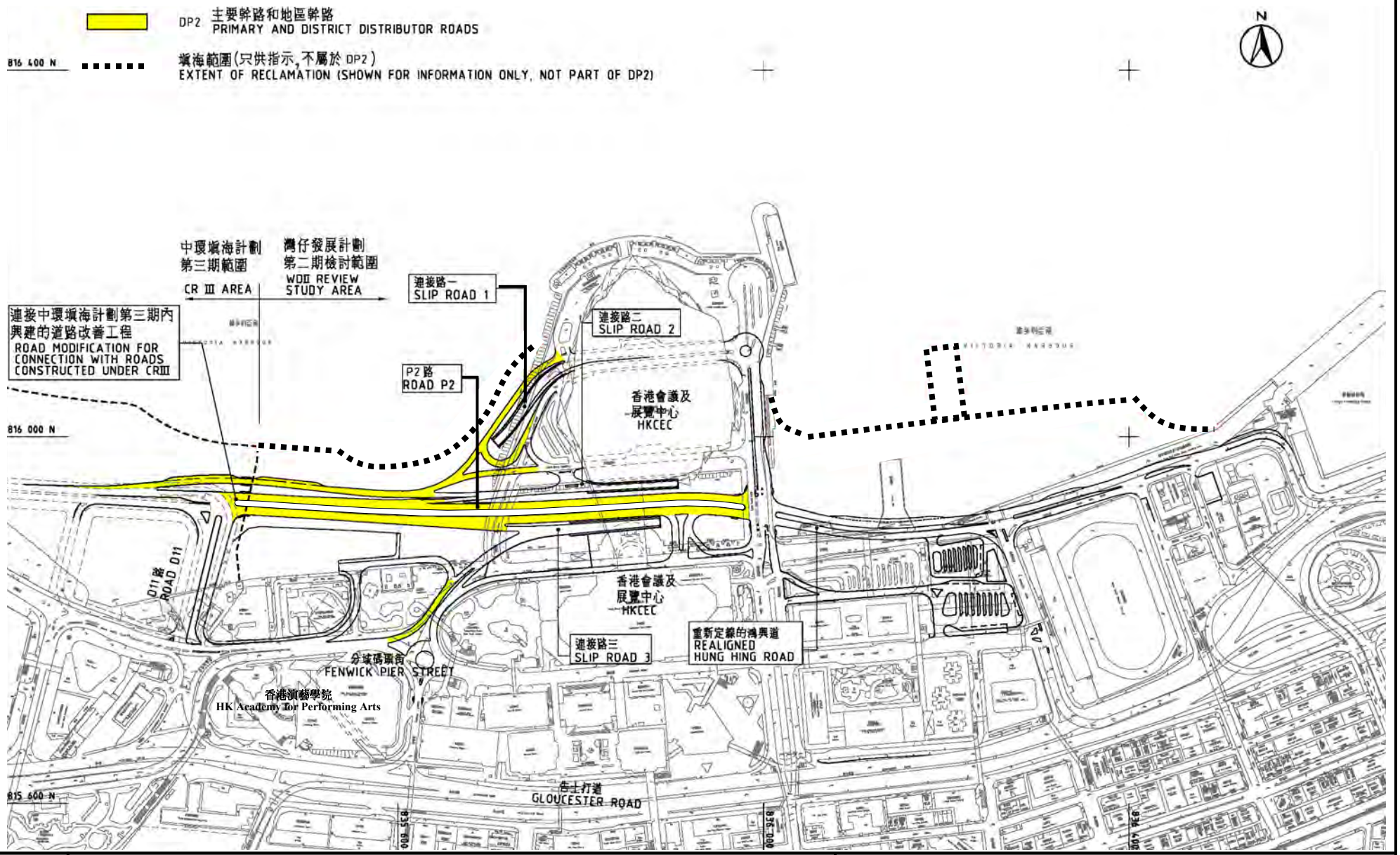
10.0.2. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in ***Table 10.1***. The construction programmes of individual contracts are provided in ***Appendix 10.1***.

Table 10.1 Summary of Key Construction Activities of Individual Contract(s) to be commenced in Coming Reporting Month

Contract No.	Key Construction Works	Recommended Mitigation Measures
HK/2012/08	• Drainage • Roadworks	• Dust control during dust generating works; • Implementation of proper noise pollution control; and • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system

Figure 2.1

Project Layout



Project Title : Road P2 and other roads which are classified as primary/district distributor roads (referred to as "DP2" in the WDII&CWB EIA Report)
工程項目名稱 : P2 路及其他分類爲主要幹路或地區幹路的道路(WDII&CWB 環評報告內稱"DP2")
Environmental Permit No. : EP-376/2009
環境許可證編號 : EP-376/2009

Figure 1: Location of the Project
圖 1: 工程項目位置圖

(This figure was prepared based on Figure 1.2b of the WDII&CWB EIA report (Register No.: AEIAR-125/2008))
(本圖是根據 WDII&CWB 環評報告(登記冊編號 AEIAR-125/2008)圖 1.2b 編制)

Figure 2.2

Project Organization Chart

Project Organization Chart

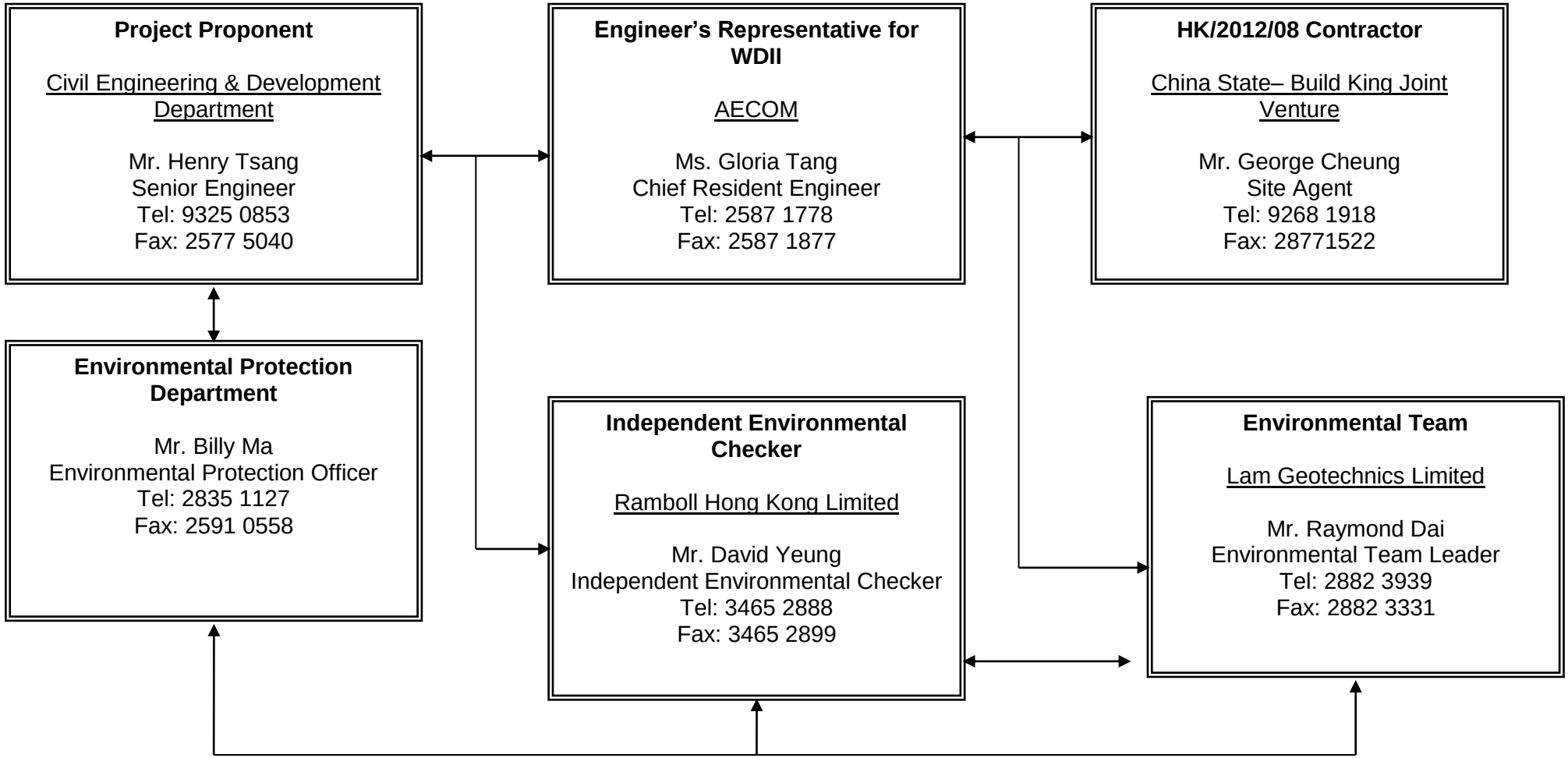
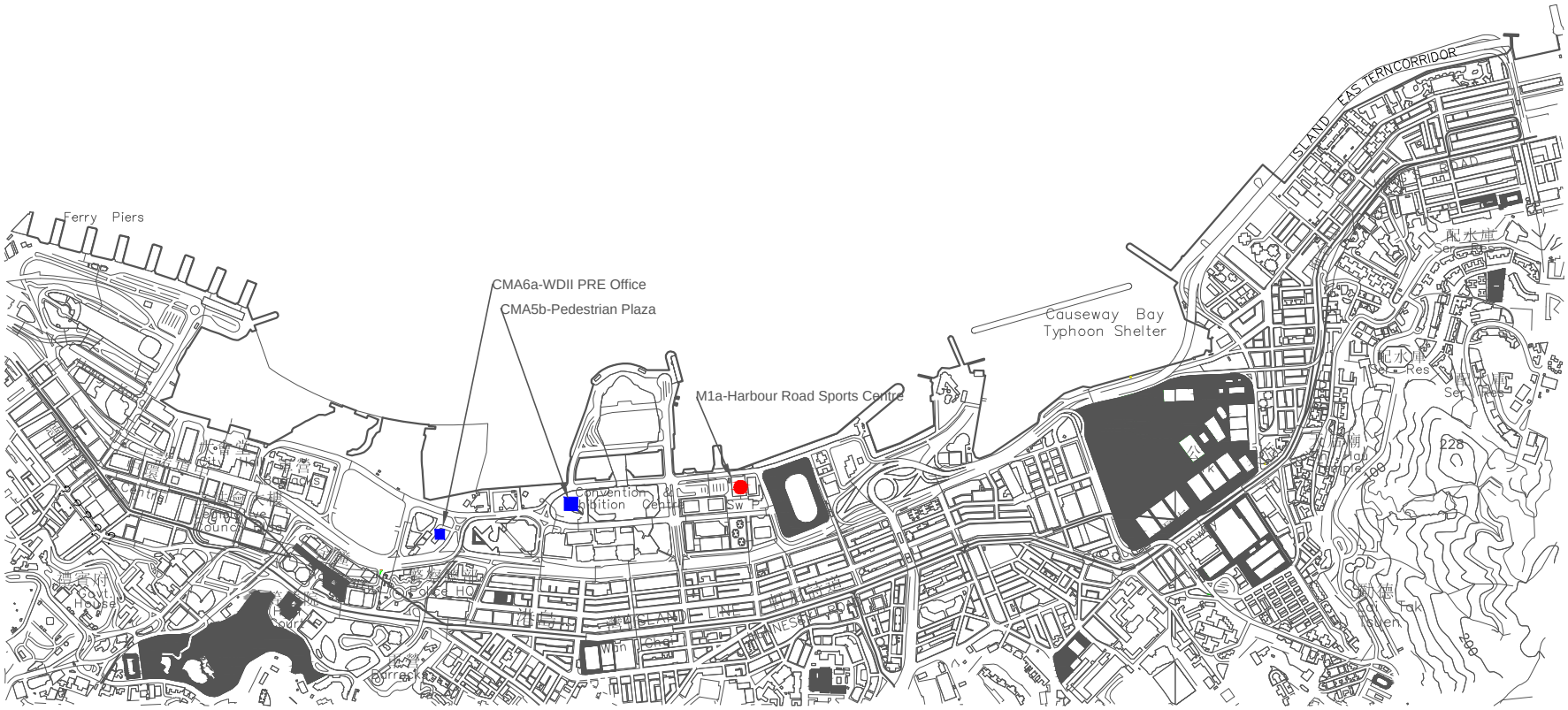


Figure 4.1

Locations of Monitoring Stations



LOCATIONS OF AIR QUALITY AND NOISE MONITORING STATIONS

Appendix 3.1

Environmental Mitigation Implementation Schedule

Appendix A

Table A13.1 Implementation Schedule for Air Quality Control
Table A13.2 Implementation Schedule for Noise Control
Table A13.3 Implementation Schedule for Water Quality Control
Table A13.4 Implementation Schedule for Waste Management
Table A13.7 Implementation Schedule for Landscape and Visual

IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

Table A13.1 Implementation Schedule for Air Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation stage				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S3.6.5	Four times a day watering of the work site with active operations.	Work site / during construction	Contractor		√			EIAO-TM
S3.8.1	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts. ▪ Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; ▪ Watering during excavation and material handling; ▪ Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and ▪ Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	Work site / during construction	Contractor		√			

▪ Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Table A13.2 Implementation Schedule for Noise Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation stage				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S4.9.4	Good Site Practice: ▪ Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. ▪ Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. ▪ Mobile plant, if any, shall be sited as far away from NSRs as possible. ▪ Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum. ▪ Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. ▪ Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from onsite construction activities.	Work site / during construction	Contractor		√			EIAO-TM, NCO
For DP2 – WDII Major Roads (Road P2)								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: ▪ Temporary road diversion ▪ Resurfacing ▪ At-grade roadwork	Work site / during construction	Contractor		√			EIAO-TM, NCO

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Table A13.3 Implementation Schedule for Water Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation stage				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S5.8	*Construction Runoff and Drainage* ▪ use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow; ▪ Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94; ▪ a sediment tank constructed from pre-formed individual cells of approximately 6 - 8 m3 capacity can be used for settling ground water prior to disposal; ▪ Oil interceptors shall be provided in the drainage system for the tunnels and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor shall have a bypass to prevent flushing during periods of heavy rain; precautions and actions to be taken when a rainstorm is imminent or forecast, and during or after rainstorms. Particular attention shall be paid to the control of any silty surface runoff during storm events; ▪ On-site drainage system shall be installed prior to the commencement of other construction activities. Sediment traps shall be	Work site / during construction	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

	installed in order to minimise the sediment loading of the effluent prior to discharge; ▪ All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge shall be adequately designed for the controlled release of storm flows. All sediment control measures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. ▪ The temporarily diverted drainage shall be reinstated to its original condition when the construction work is finished or the temporary diversion is no longer required. ▪ All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity. ▪ Minimum distances of 100 m shall be maintained between the storm water discharges and the existing or planned WSD flushing water intakes during construction phase.							
S5.8	*Sewage from Construction Work Force* Construction work force sewage discharges on site shall be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage shall be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Work site / during construction	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

S5.8	*Floating Debris and Refuse* Collection and removal of floating refuse shall be performed at regular intervals on a daily basis. The contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Work site and adjacent water / During the construction period.	Contractor		√			WPCO
S5.8	*Storm Water Discharges* Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.	Work site and adjacent water / During the design and construction period.	Contractor	√	√			WPCO

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Table A13.4 Implementation Schedule for Waste Management

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation stage				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S6.7.7	*Good Site Practices* Recommendations for good site practices during the construction activities include: ▪ nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; ▪ training of site personnel in proper waste management and chemical waste handling procedures; ▪ provision of sufficient waste disposal points and regular collection for disposal; ▪ appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; ▪ regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and ▪ a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	Work site / During planning and design stage, and construction stage	Contractor		√			
S.6.7.8	*Waste Reduction Measures* Recommendations to achieve waste reduction include: • Sort C&D waste from demolition of the existing waterfront structures to recover	Work site / During planning and design stage, and construction stage	Contractor	√	√			

	recyclable portions such as metals. • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. • Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force. • Any unused chemicals or those with remaining functional capacity shall be recycled. • Use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&D material. • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. • Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.							
S6.7.10	*General Refuse* General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material. A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.	Work site / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)

S6.7.11	*Chemical Wastes* After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During the construction period	Contractor		√			Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.7.12 – S6.7.13	*Construction and Demolition Material* C&D material shall be sorted on-site into inert C&D material (that is, public fill) and C&D waste. All the suitable inert C&D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials. In order to monitor the disposal of public fill and C&D waste at public fill reception facilities and landfills, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system.	Work site / During the construction period	Contractor and Independent Environmental Checker		√			DEVB TCW No.6/2010; ETWB TCW No. 33/2002; ETWB TCW No. 19/2005
S6.7.14	*Bentonite Slurry* The disposal of residual used bentonite slurry shall follow the good practice guidelines stated	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

	in ProPECC PN 1/94 "Construction Site Drainage" and listed as follows: ▪ If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis. ▪ If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. ▪ If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal.							

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Table A13.7 Implementation Schedule for Landscape and Visual

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation stage				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP2 – WDII Major Roads (Road P2)								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM

Operation Phase								
For DP2 – WDII Major Roads (Road P2)								
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Appendix 4.1

Action and Limit Level

Action and Limit Level

Action and Limit Level for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 - 19:00 hours on normal weekdays	When one documented complaint is received.	75 dB(A)

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.
**The Limit level shall be 70 dB(A) and 65 dB(A) for educational institute during normal teaching periods and school examination periods, respectively.*

Action and Limit Level for Air Monitoring

Monitoring Locations	1-hour TSP Level inμg/m3		24-hour TSP Level inμg/m3	
	Action Level	Limit Level	Action Level	Limit Level
CMA5b Pedestrian Plaza	339.7	500	209.9	260
CMA6a WDII PRE Site Office	333.0	500	207.1	260

Appendix 4.2

Copies of Calibration Certificates

TISCH Environmental

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE
VILLAGE OF CLEVES, OH
45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 20, 2017 Rootsmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 0005 Pa (mm) - 759.46

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3960	3.2	2.00
2	NA	NA	1.00	0.9970	6.4	4.00
3	NA	NA	1.00	0.8910	7.8	5.00
4	NA	NA	1.00	0.8500	8.7	5.50
5	NA	NA	1.00	0.6990	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0120	0.7249	1.4257		0.9958	0.7133	0.8784
1.0078	1.0108	2.0163		0.9916	0.9946	1.2423
1.0058	1.1288	2.2543		0.9896	1.1107	1.3889
1.0047	1.1820	2.3643		0.9885	1.1630	1.4567
0.9993	1.4296	2.8514		0.9832	1.4066	1.7568
Qstd slope (m) =		2.02533		Qa slope (m) =		1.26823
intercept (b) =		-0.03593		intercept (b) =		-0.02214
coefficient (r) =		0.99983		coefficient (r) =		0.99983
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	CMA5b	**Calibration Date**	:	16-Jan-18
Equipment no.	:	HVS010	**Calibration Due Date**	:	16-Mar-18

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	291	Kelvin	**Pressure, P_a**	1015	mmHg

Orifice Transfer Standard Information					
Equipment No.	**Ori001**	**Slope, m_c**	2.02533	**Intercept, bc**	-0.03593
Last Calibration Date	20-Mar-17	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	20-Mar-18	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.4	1.4	2.8	0.8545	40	40.5122
2	2.1	2.1	4.2	1.0426	46	46.5890
3	3.1	3.1	6.2	1.2629	53	53.6786
4	3.9	3.9	7.8	1.4144	58	58.7427
5	4.7	4.7	9.4	1.5509	63	63.8067

By Linear Regression of Y on X

Slope, m = 33.2153 Intercept, b = 11.9753

Correlation Coefficient* = 0.9997

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL222 to HVS010 with respect to the update in quality management system.

Calibrated by	:	Jackey MA	**Checked by**	:	Pauline Wong
Date	:	16-Jan-18	**Date**	:	16-Jan-18

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	CMA5b	**Calibration Date**	:	09-Mar-18
Equipment no.	:	HVS010	**Calibration Due Date**	:	09-May-18

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	288	Kelvin	**Pressure, P_a**	1023	mmHg

Orifice Transfer Standard Information					
Equipment No.	**Ori001**	**Slope, m_c**	2.02533	**Intercept, bc**	-0.03593
Last Calibration Date	20-Mar-17	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	20-Mar-18	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.5	1.5	3.0	0.8918	32	32.7062
2	2.5	2.5	5.0	1.1462	40	40.8828
3	3.9	3.9	7.8	1.4271	48	49.0594
4	5.1	5.1	10.2	1.6294	54	55.1918
5	5.9	5.9	11.8	1.7512	59	60.3021

By Linear Regression of Y on X

Slope, m	=	31.3759	Intercept, b	=	4.6699
Correlation Coefficient*	=	0.9989			
Calibration Accepted	=	Yes/~~No~~**			

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL222 to HVS010 with respect to the update in quality management system.

Calibrated by	:	Jackey MA	**Checked by**	:	Pauline Wong
Date	:	09-Mar-18	**Date**	:	09-Mar-18

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	CMA6a	**Calibration Date**	:	16-Jan-18
Equipment no.	:	HVS013	**Calibration Due Date**	:	16-Mar-18

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	291	Kelvin	**Pressure, P_a**	1015	mmHg

Orifice Transfer Standard Information					
Equipment No.	**Ori001**	**Slope, m_c**	2.02533	**Intercept, bc**	-0.03593
Last Calibration Date	20-Mar-17	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	20-Mar-18	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
1	1.5	1.5	3.0	0.8839	38	38.4866
2	2.3	2.3	4.6	1.0903	44	44.5634
3	3.5	3.5	7.0	1.3408	52	52.6658
4	4.5	4.5	9.0	1.5179	56	56.7171
5	5.7	5.7	11.4	1.7062	62	62.7939

By Linear Regression of Y on X

Slope, m	=	29.3743	Intercept, b	=	12.6292
Correlation Coefficient*	=	0.9991			
Calibration Accepted	=	Yes/~~No~~**			

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL551 to HVS013 with respect to the update in quality management system.

Calibrated by	:	Jackey MA	**Checked by**	:	Pauline Wong
Date	:	16-Jan-18	**Date**	:	16-Jan-18

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	CMA6a	**Calibration Date**	:	9-Mar-18
Equipment no.	:	HVS013	**Calibration Due Date**	:	9-May-18

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	288	Kelvin	**Pressure, P_a**	1023	mmHg

Orifice Transfer Standard Information					
Equipment No.	**Ori001**	**Slope, m_c**	2.02533	**Intercept, bc**	-0.03593
Last Calibration Date	20-Mar-17	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	20-Mar-18	$= m_c \times Q_{std} + b_c$			

Calibration of TSP

Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
1	1.6	1.6	3.2	0.9205	35	35.7725
2	2.5	2.5	5.0	1.1462	42	42.9269
3	3.9	3.9	7.8	1.4271	48	49.0594
4	5.1	5.1	10.2	1.6294	54	55.1918
5	6.6	6.6	13.2	1.8512	60	61.3242

By Linear Regression of Y on X

Slope, m	=	26.9656	Intercept, b	=	11.2411
Correlation Coefficient*	=	0.9986			
Calibration Accepted	=	Yes/~~No~~**			

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL551 to HVS013 with respect to the update in quality management system.

Calibrated by	:	Jackey MA	**Checked by**	:	Pauline Wong
Date	:	9-Mar-18	**Date**	:	9-Mar-18

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港黃竹坑道37號利達中心12樓
12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel: (852) 2873 6860
Fax: (852) 2555 7533

CERTIFICATE OF CALIBRATION

Certificate No.: 17CA0426 01-02 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	Larson Davis	,	PCB
Type/Model No.:	LxT1	,	377B02
Serial/Equipment No.:	0003737	,	171529
Adaptors used:	-	,	-

Item submitted by

Customer Name:	Lam Environmental Service Ltd.
Address of Customer:	-
Request No.:	-
Date of receipt:	26-Apr-2017

Date of test: 28-Apr-2017

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	18-Jun-2017	CIGISMEC
Signal generator	DS 360	61227	01-Apr-2018	CEPREI

Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	50 ± 10 %
Air pressure:	1010 ± 5 hPa

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 04-May-2017 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港黃竹坑道37號利達中心12樓
12/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel: (852) 2873 6860
Fax: (852) 2555 7533

CERTIFICATE OF CALIBRATION

(Continuation Page)

1, Electrical Tests

The electrical tests were perfomed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100μs rectangular pulse	N/A	N/A	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor $1/10^3$ at 4kHz	Pass	0.3	
	1 ms burst duty factor $1/10^4$ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Lai Sheng Jie Date: 28-Apr-2017

Checked by: Fung Chi Yip Date: 04-May-2017

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
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Tel: (852) 2873 6860
Fax: (852) 2555 7533

HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 17CA1110 02 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Rion Co., Ltd.
Type/Model No.:	NC-73
Serial/Equipment No.:	10707358
Adaptors used:	-

Item submitted by

Curstomer:	Lam Geotechnics Ltd.
Address of Customer:	-
Request No.:	-
Date of receipt:	10-Nov-2017

Date of test: 14-Nov-2017

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	11-Apr-2018	SCL
Preamplifier	B&K 2673	2239857	05-May-2018	CEPREI
Measuring amplifier	B&K 2610	2346941	03-May-2018	CEPREI
Signal generator	DS 360	61227	01-Apr-2018	CEPREI
Digital multi-meter	34401A	US36087050	25-Apr-2018	CEPREI
Audio analyzer	8903B	GB41300350	21-Apr-2018	CEPREI
Universal counter	53132A	MY40003662	22-Apr-2018	CEPREI

Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	50 ± 10 %
Air pressure:	1010 ± 5 hPa

Test specifications

1. The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
2. The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
3. The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 15-Nov-2017 **Company Chop:**

SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 17CA1110 02 **Page:** 2 **of** 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.93	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz **STF = 0.008 dB**

Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz **Actual Frequency = 991.5 Hz**

Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz **TND = 0.3 %**

Estimated expanded uncertainty 0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Lai Sheng Jie **Checked by:** Fung Chi Yip

Date: 14-Nov-2017 **Date:** 15-Nov-2017

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

Appendix 5.1

Monitoring Schedules for Reporting Month and Coming Reporting Month

Contract No. HK/2015/01
Wan Chai Development Phase II and Central-Wan Chai Bypass
Sampling, Field Measurement and Testing Works (Stage 3)
Environmental Monitoring Schedule
March 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		27-Feb	28-Feb Noise (daytime) (M1a) Impact WQM Mid-flood 16:50 Mid-ebb 23:40	01-Mar Noise (daytime) (M2b, M3a, M4b, M5b, M6)	02-Mar 24hr TSP Impact WQM Mid-ebb 12:48 Mid-flood 18:33	03-Mar 1hr TSP
04-Mar	05-Mar Impact WQM Mid-flood 08:38 Mid-ebb 14:37	06-Mar Noise (daytime) (M1a, M2b, M3a, M4b, M5b, M6)	07-Mar 24hr TSP Impact WQM Mid-flood 09:41 Mid-ebb 15:57	08-Mar 1hr TSP	09-Mar Impact WQM Mid-flood 10:50 Mid-ebb 18:15	10-Mar
11-Mar	12-Mar Noise (daytime) (M1a, M5b) Impact WQM Mid-flood 13:52 Mid-ebb 21:32	13-Mar 24hr TSP Noise (daytime) (M2b, M3a)	14-Mar 1hr TSP Noise (daytime) (M4b, M6) Impact WQM Mid-flood 16:00 Mid-ebb 22:57	15-Mar	16-Mar Impact WQM Mid-ebb 12:09 Mid-flood 17:36	17-Mar
18-Mar	19-Mar 24hr TSP Impact WQM Mid-flood 07:38 Mid-ebb 13:42	20-Mar 1hr TSP	21-Mar Noise (daytime) (M1a, M2b) Impact WQM Mid-flood 08:41 Mid-ebb 15:00	22-Mar Noise (daytime) (M3a, M4b, M5b, M6)	23-Mar 24hr TSP Impact WQM Mid-flood 09:49 Mid-ebb 16:35	24-Mar 1hr TSP
25-Mar	26-Mar Noise (daytime) (M2b) Impact WQM Mid-flood 12:57 Mid-ebb 20:36	27-Mar Noise (daytime) (M3a, M4b, M5b, M6)	28-Mar Noise (daytime) (M1a)			

Remark:
With respect to the completion of the removal of the temporary reclamation at TS3 area confirmed by the CWB RSS and the completion of the 4-weeks post construction water quality monitoring at the associated Enhanced DO monitoring stations, the respective Enhance DO monitoring at Monitoring Station C6 and C7 were temporarily suspended from 5 March 2017 ebb tide onwards.

Contract No. HK/2015/01
Wan Chai Development Phase II and Central-Wan Chai Bypass
Sampling, Field Measurement and Testing Works (Stage 3)
Tentative Environmental Monitoring Schedule
April 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			28-Mar 24hr TSP Impact WQM Mid-flood 15:48 Mid-ebb 22:34	29-Mar 1hr TSP	30-Mar Impact WQM Mid-ebb 11:48 Mid-flood 17:39	31-Mar
01-Apr	02-Apr	03-Apr 24hr TSP Noise (daytime) Impact WQM Mid-flood 07:54 Mid-ebb 14:08	04-Apr 1hr TSP	05-Apr Impact WQM Mid-flood 08:52 Mid-ebb 15:23	06-Apr Noise (daytime)	07-Apr Impact WQM Mid-flood 09:39 Mid-ebb 17:04
08-Apr	09-Apr 24hr TSP Noise (daytime)	10-Apr 1hr TSP Noise (daytime) Impact WQM Mid-flood 04:17 Mid-ebb 20:42	11-Apr	12-Apr Impact WQM Mid-flood 15:37 Mid-ebb 22:12	13-Apr	14-Apr 24hr TSP Impact WQM Mid-ebb 11:38 Mid-flood 17:23
15-Apr	16-Apr 1hr TSP Impact WQM Mid-ebb 12:41 Mid-flood 18:55	17-Apr Noise (daytime)	18-Apr Noise (daytime) Impact WQM Mid-ebb 13:58 Mid-flood 20:28	19-Apr	20-Apr 24hr TSP Impact WQM Mid-flood 08:41 Mid-ebb 15:27	21-Apr 1hr TSP
22-Apr	23-Apr Noise (daytime) Impact WQM Mid-flood 11:20 Mid-ebb 18:57	24-Apr Noise (daytime)	25-Apr Impact WQM Mid-flood 14:34 Mid-ebb 21:17	26-Apr 24hr TSP	27-Apr 1hr TSP	

Appendix 5.2

Noise Monitoring Results and Graphical Presentations

Noise Monitoring Result for EP-376/2009

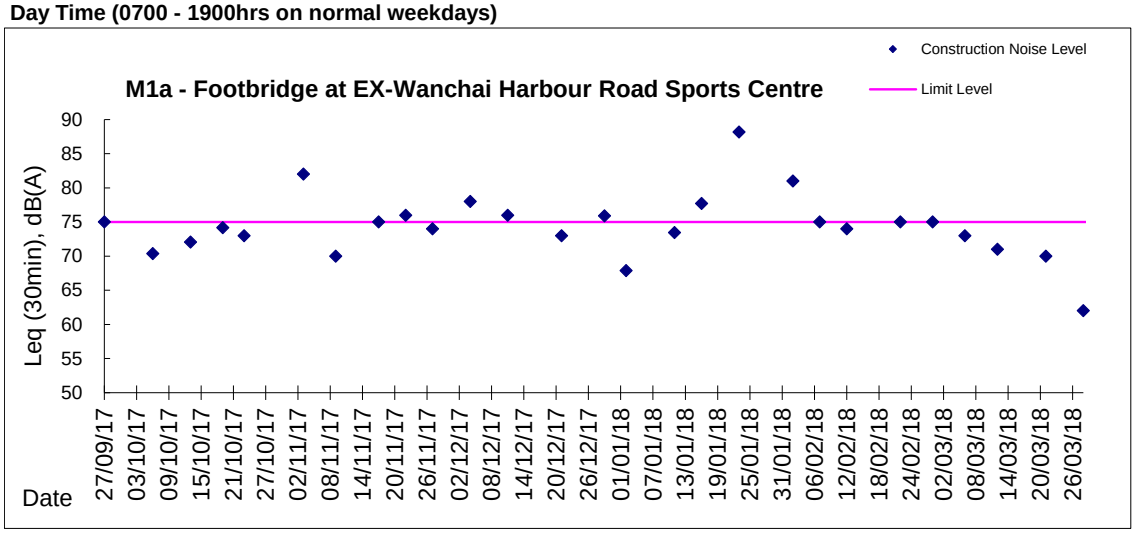
Day Time (0700 - 1900hrs on normal weekdays)

Location: M1a - Footbridge at EX-Wanchai Harbour Road Sports Centre

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
			Unit: dB(A), (30-min)					
28/02/2018	13:35	Fine	77.0	80.4	74.6	73	75	75
06/03/2018	14:00	Fine	75.9	78.0	69.7	73	73	75
12/03/2018	11:00	Fine	71.1	73.5	67.2	73	71	75
21/03/2018	09:00	Fine	74.2	75.9	71.6	72	70	75

Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)



Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations

Location: CMA5b - Pedestrian Plaza

Report on 24-hour TSP monitoring for EP-376/2009
Action Level - 209.9 µg/m3
Limit Level - 260 µg/m3

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu g/m^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
2-Mar-18	08:00	Cloudy	24406	2.6617	2.8501	9876.36	9900.36	24.00	0.86	0.86	0.86	1238	152.2
7-Mar-18	08:00	Cloudy	24527	2.6689	2.8177	9903.36	9927.36	24.00	0.87	0.88	0.87	1256	118.5
13-Mar-18	08:00	Cloudy	24621	2.6645	2.8145	9930.36	9954.36	24.00	0.75	0.75	0.75	1076	139.3
19-Mar-18	08:00	Cloudy	24408	2.6588	2.8051	9957.36	9981.36	24.00	1.02	1.02	1.02	1467	99.7
23-Mar-18	08:00	Sunny	24710	2.6685	2.9117	9984.36	10008.36	24.00	1.02	1.03	1.02	1476	164.8

Report on 1-hour TSP monitoring for EP-376/2009
Action Level - 339.7 µg/m3
Limit Level - 500 µg/m3

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu g/m^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
3-Mar-18	08:10	Cloudy	24581	2.6835	2.6905	9900.36	9901.36	1.00	0.74	0.74	0.74	45	157.2
3-Mar-18	09:13	Cloudy	24578	2.6902	2.6969	9901.36	9902.36	1.00	0.74	0.74	0.74	45	150.4
3-Mar-18	10:50	Cloudy	24571	2.6817	2.6860	9902.36	9903.36	1.00	0.74	0.74	0.74	45	96.6
8-Mar-18	08:30	Rainy	24537	2.6837	2.6860	9927.36	9928.36	1.00	0.88	0.88	0.88	53	43.7
8-Mar-18	13:00	Rainy	24613	2.6786	2.6871	9928.36	9929.36	1.00	0.76	0.76	0.76	46	186.7
8-Mar-18	14:20	Rainy	24648	2.6738	2.6781	9929.36	9930.36	1.00	0.76	0.76	0.76	46	94.4
14-Mar-18	08:20	Cloudy	24762	2.6503	2.6572	9954.36	9955.36	1.00	0.75	0.75	0.75	45	153.8
14-Mar-18	10:05	Cloudy	24757	2.6719	2.6763	9955.36	9956.36	1.00	0.75	0.75	0.75	45	98.1
14-Mar-18	13:00	Cloudy	24747	2.6739	2.6763	9956.36	9957.36	1.00	0.75	0.75	0.75	45	53.5
20-Mar-18	08:15	Cloudy	24731	2.6393	2.6461	9981.36	9982.36	1.00	1.02	1.02	1.02	61	111.1
20-Mar-18	09:30	Cloudy	24725	2.6484	2.6528	9982.36	9983.36	1.00	1.02	1.02	1.02	61	71.9
20-Mar-18	10:35	Cloudy	24718	2.6677	2.6755	9983.36	9984.36	1.00	1.02	1.02	1.02	61	127.5
24-Mar-18	08:35	Cloudy	23527	2.6024	2.6128	10008.36	10009.36	1.00	1.03	1.03	1.03	62	169.1
24-Mar-18	13:00	Cloudy	24857	2.6487	2.6628	10009.36	10010.36	1.00	1.03	1.03	1.03	62	229.3
24-Mar-18	14:24	Cloudy	24836	2.6564	2.6679	10010.36	10011.36	1.00	1.03	1.03	1.03	62	187.0

Location: CMA6a - WDII PRE Office

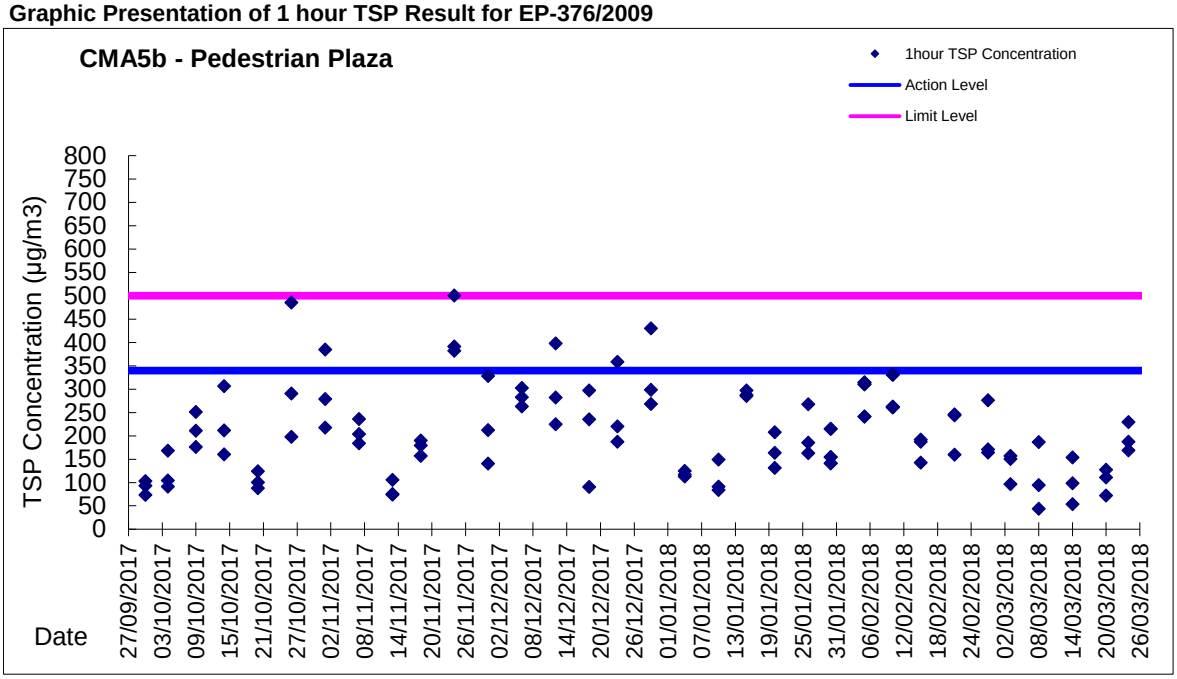
Report on 24-hour TSP monitoring for EP-376/2009
Action Level - 207.1 µg/m3
Limit Level - 260 µg/m3

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu g/m^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
2-Mar-18	08:00	Cloudy	24410	2.6468	2.7669	3580.29	3604.29	24.00	0.95	0.95	0.95	1368	87.8
7-Mar-18	08:00	Cloudy	24534	2.6832	2.7514	3607.29	3631.29	24.00	0.96	0.97	0.96	1388	49.1
13-Mar-18	08:00	Cloudy	24618	2.6708	2.7747	3634.29	3658.29	24.00	0.95	0.96	0.95	1375	75.6
19-Mar-18	08:00	Cloudy	24529	2.6779	2.7859	3661.29	3685.29	24.00	1.08	1.09	1.08	1562	69.2
23-Mar-18	08:00	Sunny	24851	2.6586	2.7989	3688.29	3712.29	24.00	1.09	1.09	1.09	1573	89.2

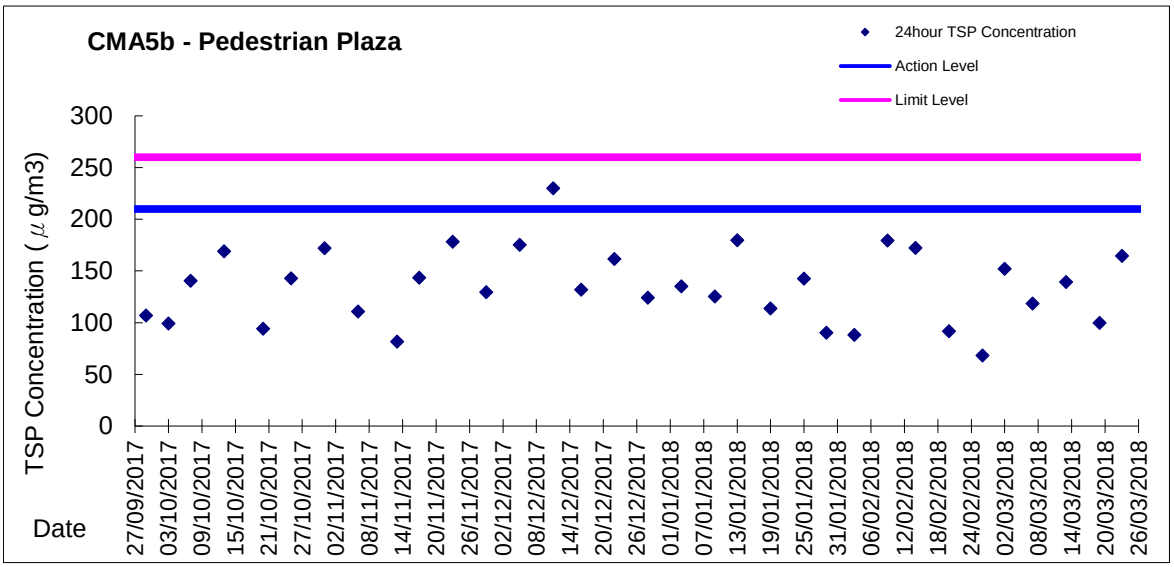
Report on 1-hour TSP monitoring for EP-376/2009
Action Level - 333 µg/m3
Limit Level - 500 µg/m3

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu g/m^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
3-Mar-18	08:03	Cloudy	24583	2.6848	2.6904	3604.29	3605.29	1.00	0.82	0.82	0.82	49	114.2
3-Mar-18	09:30	Cloudy	24577	2.6901	2.6934	3605.29	3606.29	1.00	0.82	0.82	0.82	49	67.3
3-Mar-18	11:00	Cloudy	24570	2.6999	2.7020	3606.29	3607.29	1.00	0.82	0.82	0.82	49	42.8
8-Mar-18	08:30	Rainy	24452	2.6858	2.6870	3631.29	3632.29	1.00	0.84	0.84	0.84	50	23.9
8-Mar-18	09:50	Rainy	24666	2.6513	2.6538	3632.29	3633.29	1.00	0.97	0.97	0.97	58	43.0
8-Mar-18	13:00	Rainy	24662	2.6827	2.6861	3633.29	3634.29	1.00	0.97	0.97	0.97	58	58.5
14-Mar-18	08:15	Cloudy	24748	2.6553	2.6601	3658.29	3659.29	1.00	0.96	0.96	0.96	57	83.7
14-Mar-18	10:05	Cloudy	24755	2.6647	2.6692	3659.29	3660.29	1.00	0.96	0.96	0.96	57	78.5
14-Mar-18	13:00	Cloudy	24745	2.6409	2.6437	3660.29	3661.29	1.00	0.82	0.82	0.82	49	56.7
20-Mar-18	08:10	Cloudy	24730	2.6400	2.6466	3685.29	3686.29	1.00	1.09	1.09	1.09	65	101.3
20-Mar-18	09:30	Cloudy	24853	2.6582	2.6626	3686.29	3687.29	1.00	1.09	1.09	1.09	65	67.5
20-Mar-18	10:35	Cloudy	24717	2.6670	2.6725	3687.29	3688.29	1.00	1.09	1.09	1.09	65	84.4
24-Mar-18	08:15	Cloudy	23528	2.6190	2.6265	3712.29	3713.29	1.00	1.09	1.09	1.09	66	114.4
24-Mar-18	13:00	Cloudy	24855	2.6554	2.6641	3713.29	3714.29	1.00	1.09	1.09	1.09	66	132.7
24-Mar-18	14:09	Cloudy	24838	2.6409	2.6491	3714.29	3715.29	1.00	1.09	1.09	1.09	66	125.1

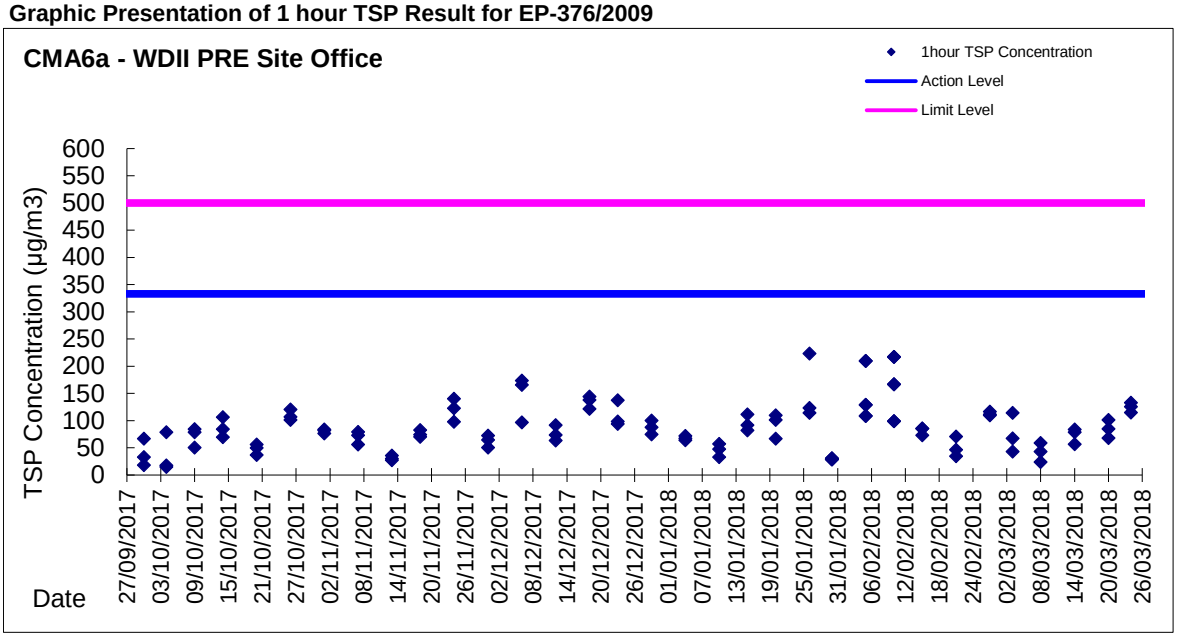
Graphic Presentation of 1 hour TSP Result for EP-376/2009



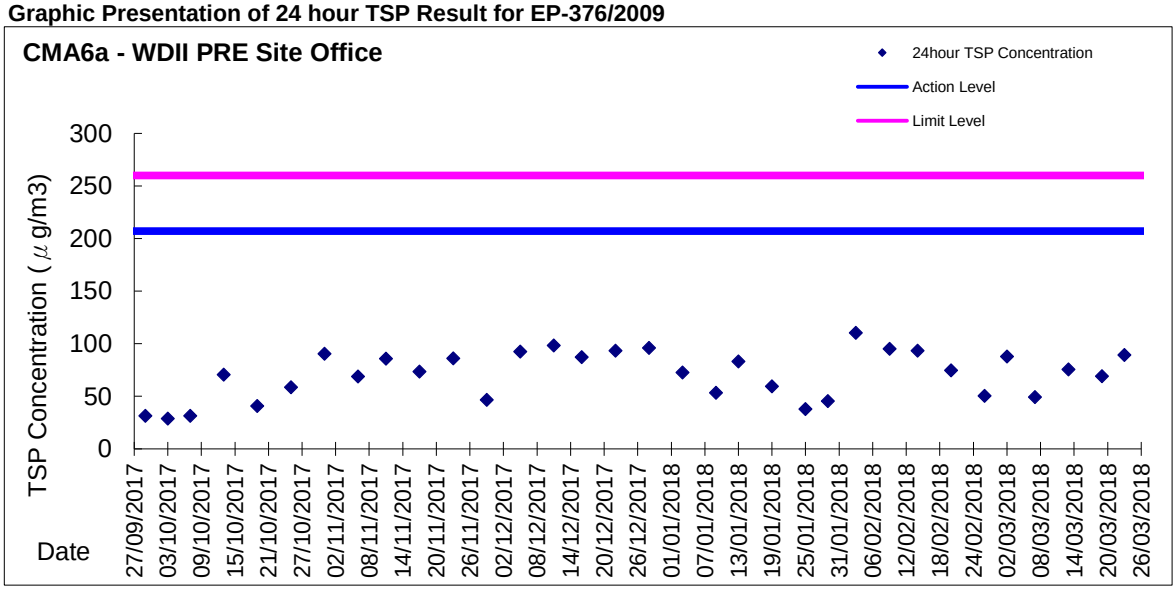
Graphic Presentation of 24 hour TSP Result for EP-376/2009



Graphic Presentation of 1 hour TSP Result for EP-376/2009



Graphic Presentation of 24 hour TSP Result for EP-376/2009



Appendix 6.1

Event Action Plans

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. 4. Identify source and investigate the cause of exceedance; 5. 5. Carry out analysis of Contractor's working procedures; 6. 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Event / Action Plan for Construction Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Notify Contractor. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Event and Action Plan for Marine Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Limit level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3working days; Implement the agreed mitigation measures; As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after the exceedance is identified)

Event and Action Plan for Odour Patrol

Event	ACTION	
	Person-in-charge of Odour Monitoring	**Implementation Agent Identified by CEDD**
Action Level		
Exceedance of Action Level	1. Identify source/reason of exceedance; 2. Repeat odour patrol to confirm finding.	1. Carry out investigation to identify the source/reason of exceedance; 2. Rectify any unacceptable practice 3. Implement more mitigation measures if necessary; 4. Inform EPD or MD if exceedance is considered to be caused by expedient connections or floating debris.
Limit Level		
Exceedance of Limit Level	1. Identify source / reason of exceedance; 2. Repeat odour patrol to confirm findings; 3. Increase odour patrol frequency; 4. If exceedance stops, cease additional odour patrol.	1. Carry out investigation to identify the source/reason of exceedance. Investigation shall be completed within 2 weeks; 2. Rectify any unacceptable practice; 3. Formulate remedial actions; 4. Ensure remedial actions properly implemented; 5. If exceedance continues, consider what more/enhanced mitigation measures shall be implemented; 6. Inform EPD or MD if exceedance is considered to be caused by expedient connections or floating debris.

Appendix 6.2

Summary for Notification of Exceedance

Lam Geotechnics Limited

Summary for Notification of Exceedance

Ref no.	Date	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action	
-	-	-	-	-	-	-	-	-

Appendix 9.1

Complaint Log

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
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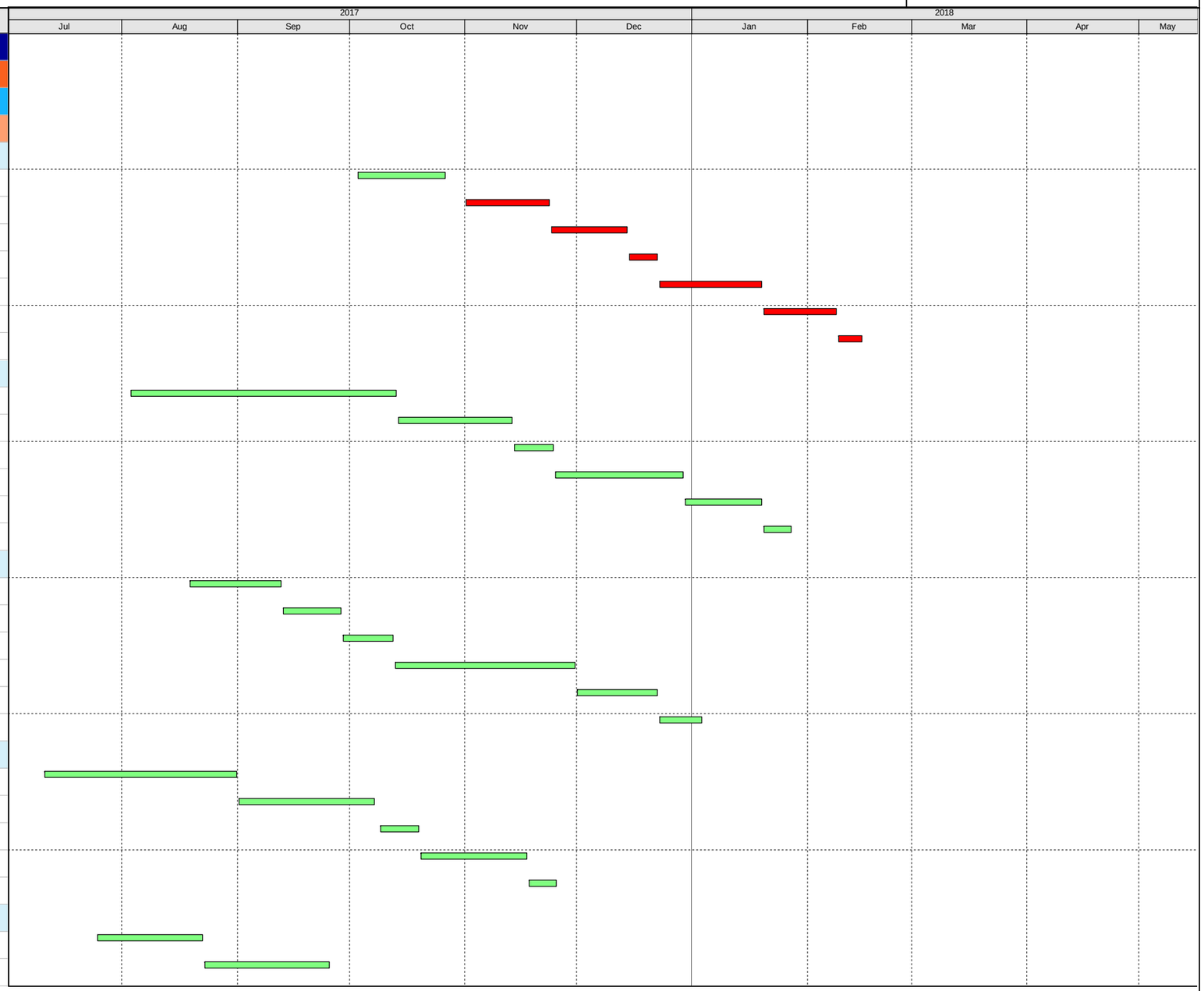
Appendix 10.1

Construction Programme of Individual Contracts

中國建築-利達聯營
CHINA STATE - LEADER JOINT VENTURE

CEDD Contract No. HK/2012/08
Wan Chai Development Phase II
Central - Wan Chai Bypass at Wan Chai West

Activity ID	Activity Name	Remaining Dur	Early Start	Early Finish
HK/2012/08 Revised Works Programme Rev.11.1(DD 30 Jun 2017)				
Works for Section Completion				
Construction				
Section III A - Road A2, A4 & A5				
Roadwork & Utilities - Section 1 (L1806 - L1801)				
SIIIA10300	Sec III A - roadwork and utlities section 1 carriageway - Drainage works (L2202-L2201)	21	03-Oct-17	26-Oct-17
SIIIA10301	Sec III A - roadwork and utlities section 1 carriageway - Drainage works (L1806 -L1801)	20	01-Nov-17	23-Nov-17
SIIIA10302	Sec III A - roadwork and utlities section 1 carriageway - gully pipe	18	24-Nov-17	14-Dec-17
SIIIA10320	Sec III A - roadwork and utlities section 1 carriageway - watermain	7	15-Dec-17	22-Dec-17
SIIIA10340	Sec III A - roadwork and utlities section 1 carriageway - utilities: HEC along carriageway	21	23-Dec-17	19-Jan-18
SIIIA10360	Sec III A - roadwork and utlities section 1 carriageway - road kerb & formation	17	20-Jan-18	08-Feb-18
SIIIA10400	Sec III A - roadwork and utlities section 1 carriageway - black top	6	09-Feb-18	15-Feb-18
Roadwork & Utilities - Section 2 (L1810 - L1806)				
SIIIA12490	Sec III A - roadwork and utlities section 2 carriageway - Drainage works (L1810 - L1806, L2202 - L2202A)	61	03-Aug-17	13-Oct-17
SIIIA12510	Sec III A - roadwork and utlities section 2 carriageway - gully pipe (L1801 - L1806)	25	14-Oct-17	13-Nov-17
SIIIA12530	Sec III A - roadwork and utlities section 2 carriageway - watermain	10	14-Nov-17	24-Nov-17
SIIIA12550	Sec III A - roadwork and utlities section 2 carriageway - Utilities: HEC along carriageway & Crossroad duct (HEC &	28	25-Nov-17	29-Dec-17
SIIIA12570	Sec III A - roadwork and utlities section 2 carriageway - road kerb & formation	17	30-Dec-17	19-Jan-18
SIIIA12590	Sec III A - roadwork and utlities section 2 carriageway - black top	7	20-Jan-18	27-Jan-18
Roadwork & Utilities - Section 3 (L1808 - L1102)				
SIIIA12710	Sec III A - roadwork and utlities section 3 carriageway - Drainage works (L1301 - L1102)	21	19-Aug-17	12-Sep-17
SIIIA12750	Sec III A - roadwork and utlities section 3 carriageway - gully pipe (L1808A - L1102)	14	13-Sep-17	28-Sep-17
SIIIA12762	Sec III A - roadwork and utlities section 3 carriageway - watermain	11	29-Sep-17	12-Oct-17
SIIIA12770	Sec III A - roadwork and utlities section 3 carriageway - utilities: HEC & crossroad duct (PCCW & HGC)	41	13-Oct-17	30-Nov-17
SIIIA12790	Sec III A - roadwork and utlities section 3 carriageway - road kerb & formation	19	01-Dec-17	22-Dec-17
SIIIA12810	Sec III A - roadwork and utlities section 3 carriageway - black top	7	23-Dec-17	03-Jan-18
Roadwork & Utilities - Section 4 (L1406 - L1401)				
SIIIA12935	Sec III A - roadwork and utlities section 4 carriageway - Drainage works (L1406-L1401)	45	11-Jul-17	31-Aug-17
SIIIA12950	Sec III A - roadwork and utlities section 4 carriageway - gully pipe (L1406 -L1401)	31	01-Sep-17	07-Oct-17
SIIIA12990	Sec III A - roadwork and utlities section 4 carriageway - watermain	10	09-Oct-17	19-Oct-17
SIIIA13010	Sec III A - roadwork and utlities section 4 carriageway - road formation: crossroad duct (HEC), road kerb & formation	24	20-Oct-17	17-Nov-17
SIIIA13030	Sec III A - roadwork and utlities section 4 carriageway - black top	7	18-Nov-17	25-Nov-17
Roadwork & Utilities - Section 5 (L1411 - L1406)				
SIIIA13210	Sec III A - roadwork and utlities section 5 carriageway - gully pipe (L1411 - L1406)	25	25-Jul-17	22-Aug-17
SIIIA13230	Sec III A - roadwork and utlities section 5 carriageway - road formation: Crossroad duct(HEC), road kerb & formation	29	23-Aug-17	25-Sep-17



Data Date:
30-Jun-17

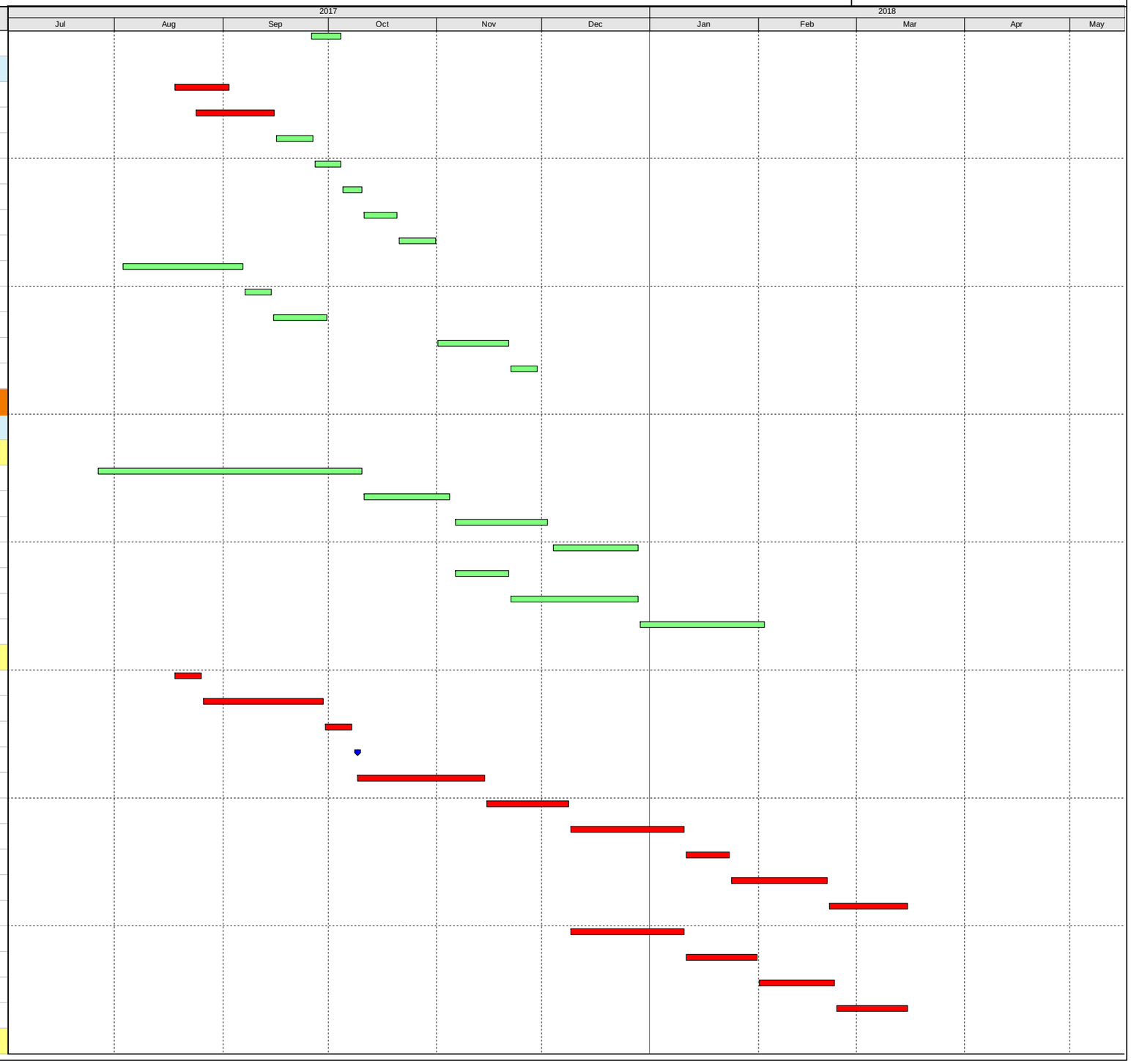
Current Milestone
Actual Work
Critical Remaining Work
Remaining Work
Remaining Level of Effort

Works Programme for Utilities & Roadworks

(Ref. to RWP Rev.11.1)

Date	Revision	Checked	Approved
05-Sep-17	11.1		

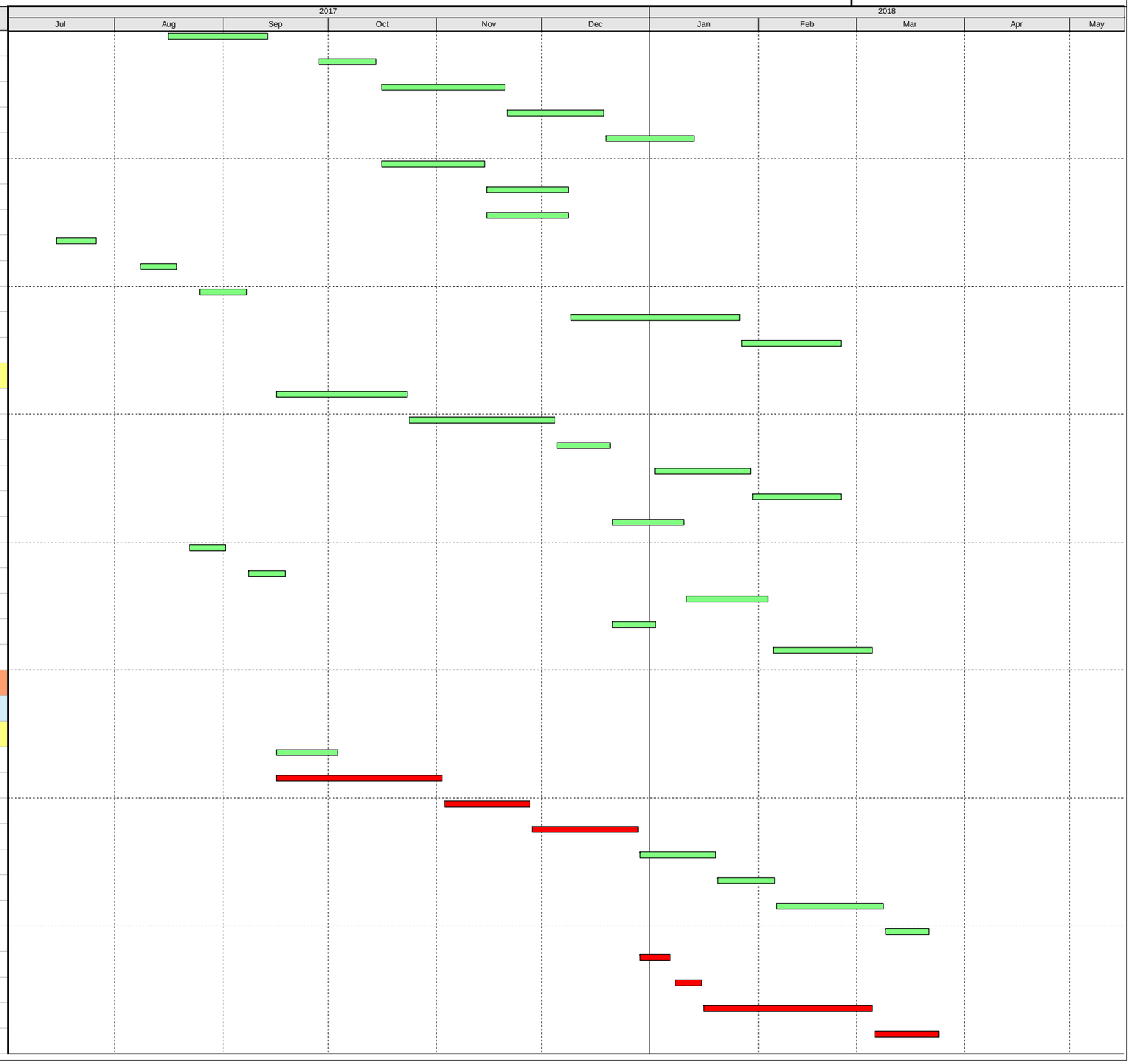
Activity ID	Activity Name	Remaining Dur	Early Start	Early Finish
SIIIA13250	Sec III A - roadwork and utlities section 5 carriageway - black top	7	26-Sep-17	04-Oct-17
Roadwork & Utilities - Section 6 (L1102 - L1411)				
SIIIA13372	Sec III A - roadwork and utlities section 6 carriageway - Backfilling of water channel adjacent culvert K bay 16	14	18-Aug-17	02-Sep-17
SIIIA13373	Sec III A - roadwork and utlities section 6 carriageway - Backfilling of water channel from culvert K bay 16 to 20B	20	24-Aug-17	15-Sep-17
SIIIA13380	Sec III A - roadwork and utlities section 6 carriageway - Removal of temporary water channel	9	16-Sep-17	26-Sep-17
SIIIA13385	Sec III A - roadwork and utlities section 6 carriageway - Waterproofing for tunnel roof slab	6	27-Sep-17	04-Oct-17
SIIIA13389	Sec III A - roadwork and utlities section 6 carriageway - Backfilling above tunnel roof slab	5	05-Oct-17	10-Oct-17
SIIIA13395	Sec III A - roadwork and utlities section 6 carriageway - Drainage works (L1101-L1102)	9	11-Oct-17	20-Oct-17
SIIIA13399	Sec III A - roadwork and utlities section 6 carriageway - gully pipe (L1101 -L1102)	8	21-Oct-17	31-Oct-17
SIIIA13430	Sec III A - roadwork and utlities section 6 carriageway - gully pipe (Culvert L - L1411)	30	03-Aug-17	06-Sep-17
SIIIA13444	Sec III A - roadwork and utlities section 6 carriageway - watermain	7	07-Sep-17	14-Sep-17
SIIIA13445	Sec III A - roadwork and utlities section 6 carriageway - utilities: HEC , HGC, PCCW	14	15-Sep-17	30-Sep-17
SIIIA13450	Sec III A - roadwork and utlities section 6 carriageway - road kerb & formation	18	01-Nov-17	21-Nov-17
SIIIA13470	Sec III A - roadwork and utlities section 6 carriageway - black top	7	22-Nov-17	29-Nov-17
Section V - Road P2				
Roadwork & Utilities				
Section 1 (L1504 - L1900)				
SV12450	Sec V - Roadwork & Utilities Section 1 Carriageway - Gully pipe (L1903 - L1906, L1501-L1504)	64	27-Jul-17	10-Oct-17
SV12460	Sec V - Roadwork & Utilities Section 1 Carriageway - Utilities (TCSS crossroad duct)	21	11-Oct-17	04-Nov-17
SV12490	Sec V - Roadwork & Utilities Section 1 Carriageway - Road kerb & formation	24	06-Nov-17	02-Dec-17
SV12520	Sec V - Roadwork & Utilities Section 1 Carriageway - Black top	20	04-Dec-17	28-Dec-17
SV12540	Sec V - Roadwork & Utilities Section 1 footpath - Watermain	14	06-Nov-17	21-Nov-17
SV12570	Sec V - Roadwork & Utilities Section 1 footpath - utilities:TCSS	30	22-Nov-17	28-Dec-17
SV12580	Sec V - Roadwork & Utilities Section 1 footpath - paving block	30	29-Dec-17	02-Feb-18
Section 2 (L1510 - L1504)				
SV12602	Sec V - Roadwork & Utilities Section 2 Carriageway : Backfilling	7	18-Aug-17	25-Aug-17
SV12603	Sec V - Roadwork & Utilities Section 2 Carriageway - Gully pipe (L1501 - L1507 & L1611 - L1609)	30	26-Aug-17	29-Sep-17
SV12604	Sec V - Roadwork & Utilities Section 2 Carriageway : formation for access diversion	6	30-Sep-17	07-Oct-17
SV12606	Sec V - Roadwork & Utilities Section 2 Carriageway: Divert access cross Zone B	0	09-Oct-17	
SV12610	Sec V - Roadwork & Utilities Section 2 Carriageway - Drainage Works L1507-L1504)	31	09-Oct-17	14-Nov-17
SV12630	Sec V - Roadwork & Utilities Section 2 Carriageway - Drainage Works L1406A - L1406B	21	15-Nov-17	08-Dec-17
SV12665	Sec V - Roadwork & Utilities Section 2 Carriageway - Gully pipe (L1507-L1504, L1406A)	25	09-Dec-17	10-Jan-18
SV12666	Sec V - Roadwork & Utilities Section 2 Carriageway - Utilities: HEC crossroad duct	11	11-Jan-18	23-Jan-18
SV12670	Sec V - Roadwork & Utilities Section 2 Carriageway - Road kerb & formation	21	24-Jan-18	20-Feb-18
SV12680	Sec V - Roadwork & Utilities Section 2 Carriageway - Black top	20	21-Feb-18	15-Mar-18
SV12690	Sec V - Roadwork & Utilities Section 2 footpath - Drainage Works (L2104 - L2105)	25	09-Dec-17	10-Jan-18
SV12695	Sec V - Roadwork & Utilities Section 2 footpath - Watermain	18	11-Jan-18	31-Jan-18
SV12700	Sec V - Roadwork & Utilities Section 2 footpath - utilities: TCSS	16	01-Feb-18	22-Feb-18
SV12740	Sec V - Roadwork & Utilities Section 2 footpath - paving block	18	23-Feb-18	15-Mar-18
Section 3 (Culvert L - L1510)				



中國建築-利達聯營
CHINA STATE - LEADER JOINT VENTURE

CEDD Contract No. HK/2012/08
Wan Chai Development Phase II
Central - Wan Chai Bypass at Wan Chai West

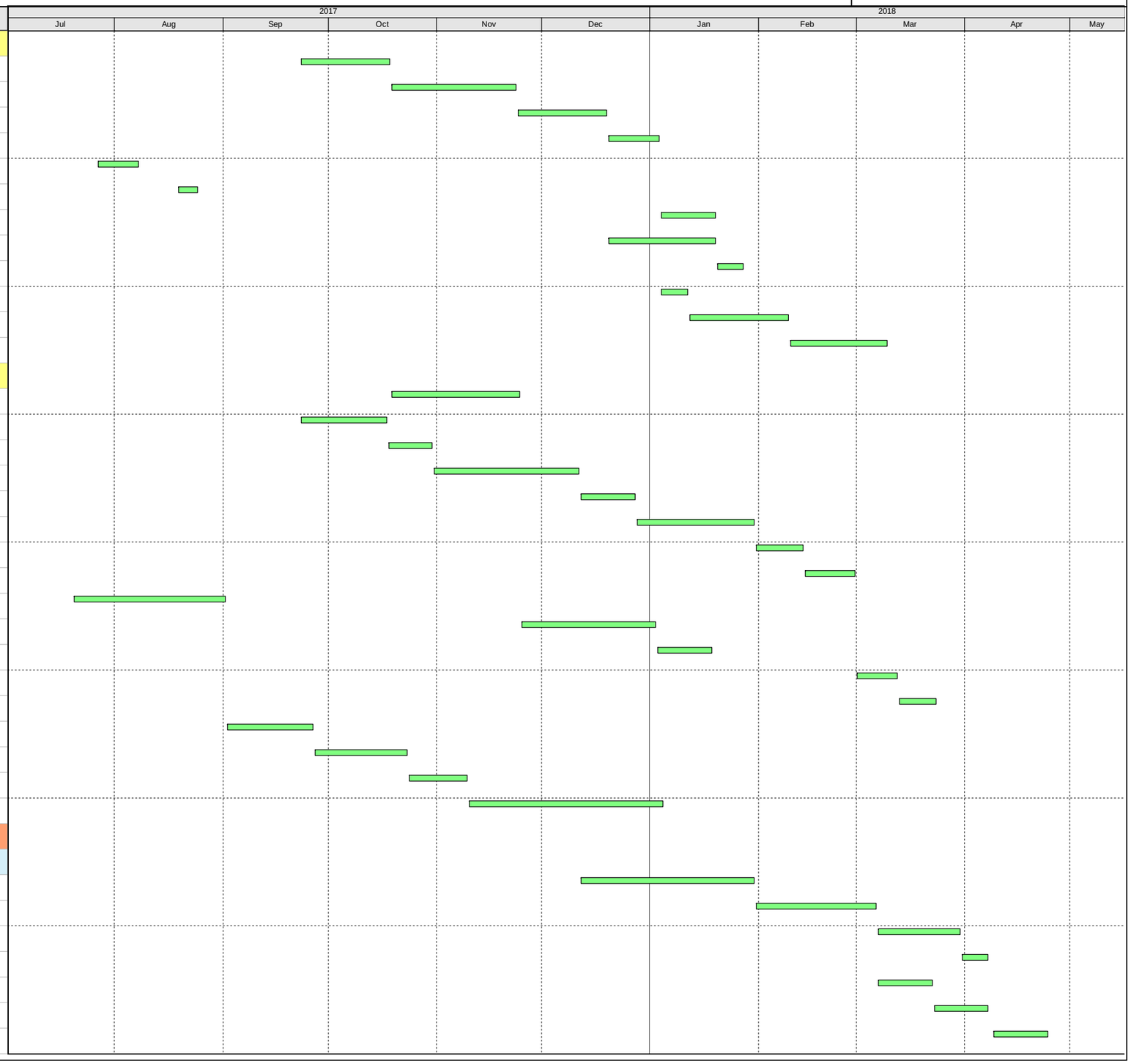
Activity ID	Activity Name	Remaining Dur	Early Start	Early Finish
SIV12765	Sec V - Roadwork & Utilities Section 3 Carriageway - Demolish D wall	25	16-Aug-17*	13-Sep-17
SIV12766	Sec V - Roadwork & Utilities Section 3 Carriageway - Drainage Works (Culvert L - L1611)	14	28-Sep-17	14-Oct-17
SIV12810	Sec V - Roadwork & Utilities Section 3 Carriageway - Gully pipe (Culvert L - L1611)	30	16-Oct-17	20-Nov-17
SIV12815	Sec V - Roadwork & Utilities Section 3 Carriageway - Road kerb & formation	24	21-Nov-17	18-Dec-17
SIV12820	Sec V - Roadwork & Utilities Section 3 Carriageway - Black top	20	19-Dec-17	13-Jan-18
SIV12840	Sec V - Roadwork & Utilities footpath - Drainage works (Culvert L - L2105)	25	16-Oct-17	14-Nov-17
SIV12844	Sec V - Roadwork & Utilities Section 3 footpath - U channel	21	15-Nov-17	08-Dec-17
SIV12850	Sec V - Roadwork & Utilities footpath - Watermain	21	15-Nov-17	08-Dec-17
SIV12855	Sec V - Utilities: HEC (80m at site access) to MVB Plant Room - 1st stage excavation	10	15-Jul-17*	26-Jul-17
SIV12857	Sec V - Utilities: HEC (80m at site access) to MVB Plant Room - 2nd stag excavation	10	08-Aug-17	18-Aug-17
SIV12859	Sec V - Utilities: HEC (80m at site access) to MVB Plant Room - cabling	12	25-Aug-17	07-Sep-17
SIV12860	Sec V - Roadwork & Utilities Section 3 footpath - Utilities: TCSS, HGC, PCCW)	39	09-Dec-17	26-Jan-18
SIV12880	Sec V - Roadwork & Utilities Section 3 footpath - Paving block	22	27-Jan-18	24-Feb-18
Section 4 (K1106 - Culvert L)				
SIV12282	Sec V - Roadwork & Utilities Section 4 Carriageway - Drainage Works (K1311 - Culvert K, L1201, L1301)	31	16-Sep-17	23-Oct-17
SIV12300	Sec V - Roadwork & Utilities Section 4 Carriageway - Gully pipe (K1106-Culvert K, K1201-Culvert K, L1201, L1301)	35	24-Oct-17	04-Dec-17
SIV12305	Sec V - Roadwork & Utilities Section 4 Carriageway - Utilities : crossroad duct	14	05-Dec-17	20-Dec-17
SIV12310	Sec V - Roadwork & Utilities Section 4 Carriageway - Road kerb & formation	24	02-Jan-18	29-Jan-18
SIV12320	Sec V - Roadwork & Utilities Section 4 Carriageway - Black top	20	30-Jan-18	24-Feb-18
SIV12360	Sec V - Roadwork & Utilities Section 4 Carriageway - watermain	15	21-Dec-17	10-Jan-18
SIV12380	Sec V - Utilities: HEC (50m at water channel) to MVB plant room - Excavation	10	22-Aug-17	01-Sep-17
SIV12400	Sec V - Utilities: HEC (50m at water channel) to MVB plant room - Cabling	9	08-Sep-17	18-Sep-17
SIV12420	Sec V - Roadwork & Utilities Section 4 footpath - Utilities : TCSS	21	11-Jan-18	03-Feb-18
SIV12440	Sec V - Roadwork & Utilities Section 4 footpath - Utilities : HGC & PCCW	8	21-Dec-17	02-Jan-18
SIV12460	Sec V - Roadwork & Utilities Section 4 footpath - Paving block	22	05-Feb-18	05-Mar-18
Section IV - Slip Road 3				
Roadwork & Utilities				
Section 1 (L16608 - L1601)				
SIV11750	Sec IV - Roadworks & Utilites at SR3 Section 1 Carriageway - Sewerage works	14	16-Sep-17	03-Oct-17
SIV11760	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Drainage Works (L1607-L1601, L2004-L2005)	39	16-Sep-17	02-Nov-17
SIV11762	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Drainage Works (L2103-L2101)	21	03-Nov-17	27-Nov-17
SIV11764	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Gully pipe (L1607-L1601, L2004-L2005)	25	28-Nov-17	28-Dec-17
SIV11780	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Watermain	18	29-Dec-17	19-Jan-18
SIV11800	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Utilities : TCSS crossroad duct	14	20-Jan-18	05-Feb-18
SIV11830	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Road kerb & formation	24	06-Feb-18	08-Mar-18
SIV11840	Sec IV - Roadwork & Utilities at SR3 Section 1 Carriageway - Black top	11	09-Mar-18	21-Mar-18
SIV11860	Sec IV - Roadwork & Utilities at SR3 Section 1 footpath - Drainage Works: future connection pipes	7	29-Dec-17	06-Jan-18
SIV11880	Sec IV - Roadwork & Utilities at SR3 Section 1 footpath - watermain	7	08-Jan-18	15-Jan-18
SIV11900	Sec IV - Roadwork & Utilities at SR3 Section 1 footpath - utilities: HEC & TCSS	39	16-Jan-18	05-Mar-18
SIV11920	Sec IV - Roadwork & Utilities at SR3 Section 1 footpath - paving block	17	06-Mar-18	24-Mar-18



中國建築-利達聯營
CHINA STATE - LEADER JOINT VENTURE

CEDD Contract No. HK/2012/08
Wan Chai Development Phase II
Central - Wan Chai Bypass at Wan Chai West

Activity ID	Activity Name	Remaining Dur	Early Start	Early Finish
	Section 2 (L2301 - L2103)			
SIV11940	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Drainage Works (L2301-L2103)	21	23-Sep-17	18-Oct-17
SIV11941	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Drainage Works (L608-L1609)	30	19-Oct-17	23-Nov-17
SIV11942	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Gully pipe (L2301-L2013, L1608-L1609)	22	24-Nov-17	19-Dec-17
SIV11960	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Watermain	10	20-Dec-17	03-Jan-18
SIV11970	Sec IV - Utilities: HEC (40m crossing) to MVB plant room - excavation	10	27-Jul-17	07-Aug-17
SIV11975	Sec IV - Utilities: HEC (40m crossing) to MVB plant room - cabling	5	19-Aug-17	24-Aug-17
SIV11980	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Utilities: TCSS crossroad duct)	14	04-Jan-18	19-Jan-18
SIV12010	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Road kerb & formation	24	20-Dec-17	19-Jan-18
SIV12020	Sec IV - Roadwork & Utilities at SR3 Section 2 Carriageway - Black top	7	20-Jan-18	27-Jan-18
SIV12040	Sec IV - Roadwork & Utilities at SR3 Section 2 footpath - Drainage Works: future connection pipes	7	04-Jan-18	11-Jan-18
SIV12060	Sec IV - Roadwork & Utilities at SR3 Section 2 footpath - utilities: TCSS	25	12-Jan-18	09-Feb-18
SIV12080	Sec IV - Roadwork & Utilities at SR3 Section 2 footpath - paving block	21	10-Feb-18	09-Mar-18
	Section 3 (M/H1.6 - L2301)			
SIV12100	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Drainage Works (M/H1.7 - L2301)	31	19-Oct-17	24-Nov-17
SIV12102	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - M1.7-M1.6: Demolish seawall	20	23-Sep-17	17-Oct-17
SIV12103	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - M1.7-M1.6: ELS	10	18-Oct-17	30-Oct-17
SIV12104	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - M1.7-M1.6: Construct manhole & pipes	36	31-Oct-17	11-Dec-17
SIV12105	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - M1.7-M1.6: backfilling & divert EVA	12	12-Dec-17	27-Dec-17
SIV12120	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Drainage Works (M1.6-C1.1-C1.2): Construct MH and pipes	28	28-Dec-17	30-Jan-18
SIV12121	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Drainage Works (M1.6-C1.1-C1.2): Backfilling & shift lane	12	31-Jan-18	13-Feb-18
SIV12122	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Drainage Works (M1.6-C1.1-C1.2): Construct MH C1.2	10	14-Feb-18	28-Feb-18
SIV12138	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway -Utilities: HEC to MVB Plant room - cabling	38	20-Jul-17*	01-Sep-17
SIV12140	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Gully pipe (M/H 1.7 - L2301)	30	25-Nov-17	02-Jan-18
SIV12150	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Road kerb	14	03-Jan-18	18-Jan-18
SIV12155	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - formation	10	01-Mar-18	12-Mar-18
SIV12160	Sec IV - Roadwork & Utilities at SR3 Section 3 Carriageway - Black top	10	13-Mar-18	23-Mar-18
SIV12165	Sec IV - Roadwork & Utilities at SR3 Section 3 footpath -Utilities: HEC to MVB Plant room - cabling	21	02-Sep-17	26-Sep-17
SIV12170	Sec IV - Roadwork & Utilities at SR3 Section 3 footpath - Utilities: TCSS	22	27-Sep-17	23-Oct-17
SIV12180	Sec IV - Roadwork & Utilities at SR3 Section 3 footpath - U channel	14	24-Oct-17	09-Nov-17
SIV12220	Sec IV - Roadwork & Utilities at SR3 Section 3 footpath - Paving block	45	10-Nov-17	04-Jan-18
	Section VII - Remainder Works			
	Road & Drainage Works (Culvert L - M/H1.7, Adjacent to SR3)			
SVII11600	Sec IV - Roadwork & Utilities at SR3 Section 4 Carriageway - Drainage Works (Culvert L -MH1.7)	40	12-Dec-17	30-Jan-18
SVII11640	Sec IV - Roadwork & Utilities at SR3 Section 4 Carriageway - Gully pipe (Culvert L -MH1.7)	27	31-Jan-18	06-Mar-18
SVII11650	Sec IV - Roadwork & Utilities at SR3 Section 4 Carriageway - TCSS duct , road kerb & formation	21	07-Mar-18	30-Mar-18
SVII11660	Sec IV - Roadwork & Utilities at SR3 Section 4 Carriageway - Black top	6	31-Mar-18	07-Apr-18
SVII11680	Sec IV - Roadwork & Utilities at SR3 Section 4 footpath - U channel	14	07-Mar-18	22-Mar-18
SVII11700	Sec IV - Roadwork & Utilities at SR3 Section 4 footpath - utilities	13	23-Mar-18	07-Apr-18
SVII11720	Sec IV - Roadwork & Utilities at SR3 Section 4 footpath - paving block	11	09-Apr-18	24-Apr-18



中國建築-利達聯營
CHINA STATE - LEADER JOINT VENTURE

CEDD Contract No. HK/2012/08
Wan Chai Development Phase II
Central - Wan Chai Bypass at Wan Chai West

Activity ID	Activity Name	Remaining Dur	Early Start	Early Finish
Promenade Seawall Parapet Construction				
Promenade Footpath and EVA Construction				
Section 2				
SVII12610	Sec VII - section 2 footpath - drainage works (L2203 - L2202A) & U-channel	49	14-Nov-17	12-Jan-18
SVII12615	Sec VII - section 2 footpath - utilities (TCSS)	25	13-Jan-18	10-Feb-18
SVII12630	Sec VII - section 2 footpath - watermain	17	12-Feb-18	06-Mar-18
SVII12670	Sec VII - section 2 footpath - paving block	29	08-Mar-18	11-Apr-18
Section 3				
SVII12850	Sec VII - section 3 footpath - watermain	18	13-Oct-17	03-Nov-17
SVII12870	Sec VII - section 3 footpath - utilities (HEC, TCSS, HGC, PCCW)	44	04-Nov-17	27-Dec-17
SVII12875	Sec VII - 3 footpath - drainage works :U chanel	14	28-Dec-17	13-Jan-18
SVII12890	Sec VII - section 3 footpath - paving block	30	15-Jan-18	21-Feb-18
Section 4				
SVII13050	Sec VII - section 4 footpath - drainage works (L2203 -L2203A)	21	20-Oct-17	14-Nov-17
SVII13052	Sec VII - section 4 footpath - watermain	21	15-Nov-17	08-Dec-17
SVII13054	Sec VII - section 4 footpath - U channel	14	09-Dec-17	27-Dec-17
SVII13055	Sec VII - section 4 footpath - utilities: HEC, TCSS, HEC & PCCW	56	09-Dec-17	15-Feb-18
SVII13110	Sec VII - section 4 footpath - paving block	20	20-Feb-18	14-Mar-18
Section 5				
SVII13270	Sec VII - section 5 footpath - drainage works (L2203 -L2204) & U channel	49	29-Aug-17	25-Oct-17
SVII13275	Sec VII - section 5 footpath - watermain	21	26-Oct-17	20-Nov-17
SVII13310	Sec VII - section 5 footpath - utilities: HEC, TCSS, HGC, PCCW	59	21-Nov-17	31-Jan-18
SVII13330	Sec VII - section 5 footpath - paving block	22	01-Feb-18	01-Mar-18
Section 6				
SVII13490	Sec VII - section 6 footpath - drainage works(Culvert L - L2204)	25	21-Oct-17	20-Nov-17
SVII13510	Sec VII - section 6 footpath - watermain	20	21-Nov-17	13-Dec-17
SVII13514	Sec VII - section 6 footpath - U channel	20	14-Dec-17	09-Jan-18
SVII13530	Sec VII - section 6 footpath - utilities: HEC, TCSS, HGC, PCCW	62	14-Dec-17	02-Mar-18
SVII13550	Sec III A - section 6 footpath - paving block	25	03-Mar-18	31-Mar-18