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2nd CONSOLIDATED QUARTERLY **EM&A REPORT**

April 2017 – June 2017

Client	:	Civil Engineering and Development Department, HKSAR
EP No.	:	EP-337/2009 – New Distributor Roads Serving the Planned Kai Tak Development Area
Contract No.	:	KLN/2016/05 – Independent Environmental Checker for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area
Report No.	:	0087/16/ED/0613

Prepared by	:	Wingo So
Reviewed by	:	Calvin Leung
Certified by	:	\mathcal{A}

Colin Yung Independent Environmental Checker Fugro Technical Services Limited

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EXECUTIVE SUMMARY

i. This is the 2nd Consolidated Quarterly EM&A Report which summaries the quarterly EM&A works undertaken by respective contracts under the EP-337/2009 within the reporting period between April and June 2017.

Construction Activities for the Reporting Period

ii. The major construction activities undertaken are summarized as follow:

Contract No. KL/2010/03:

• NA (The works has been completed and no further EM&A submission is required.)

Contract No. KL/2012/02:

- Site Clearance;
- RC works for VT1 at Portion G;
- Drainage works for connection to box culvert (KTOB);
- Hard landscaping works for Portion F1;
- Earthwork at Portion E3;
- Cross road duct at Choi Hung Road;
- Road and drainage works at Sze Mei Street and Luk Hop Street;
- Condition survey and monitoring survey;
- Footpath construction at Sam Chuk Street and Tsat Po Street; and
- ELS works for SW3 at San Po Kong.

Contract No. KL/2012/03:

- Daily Cleaning;
- Finishing works, E&M work in PS2;
- Water test, backfill and sheet-pile removal in Heading 7A, DCS pipe installation;
- Segment tunneling, backfill and sheet-pile removed chamber construction in Heading 7B;
- Road widening works (excavation and UU works) at Sung Wong Toi Road;
- Maintenance & Servicing Engineer's Office at Portion 9;
- Install fitting inside chamber in Pit 1 and Pit 5;
- Rising Main installation in Pit 2, Pit 4, Pit6/7 and Pit 9;
- Pipe Jacking from Pit 10 to Pit 9;
- Installation of drainage, UU laying works and Road works at Road D2;
- Finishing works and E&M works at NPS;
- UU works and Road works at Road L19 & Bailey St;
- Refer construction works of NPS in Portion 4 sewerage; and
- Removal of excavated material at Portion 6.

Contract No. KL/2014/01:

- Watermain works;
- Construction of boundary wall at EPD recycling centre;
- TTA implementation, Tree Transplant, Tree Pruning and Junction Improvement Works at Shing Fung Road and Wang Chiu Road / Sheung Yee Road;
- Open excavation for box culvert, piles caps and underpass;
- ELS installation for box culvert and underpass; and
- Construction of pile caps, box culvert, noise barrier footings, columns, sewer and manholes.

Contract No. KL/2014/03:

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March 2017

- Temporary utility diversion;
- Implementation of Temporary Traffic Arragement (TTA);
- Construction of Tunnel structure;
- Construction of Socket Hpiles;
- Construction of drainage works;
- Construction of guide walls and D-walls; and
- Construction of District Cooling System Works

April and May 2017

- Temporary utility diversion;
- Implementation of Temporary Traffic Arragement (TTA);
- Construction of Tunnel structure;
- Construction of Socket Hpiles;
- Construction of drainage works;
- Construction of guide walls and D-walls; and
- Construction of District Cooling System Works
- Installation of temporary cutoff wall.

Contract No. KL/2015/02:

April 2017

- Bored piling works at abutment A02;
- Driving sheet piles at Subway SW6 between Staircases ST2 and ST3;
- Carry out protection works to CLP' s cables for sheet piling works
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Excavation and Construction Works for Box Culvert B2
- ELS Construction for Sewerage Works near SCL Tunnel; and
- Installation of DCS Pipe in Road L7.
- •

May 2017

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Construction of Box Culvert B2 (Base slab)
- DCS Pipe Laying Works in Portion 6 (Road D1)
- DCS Pipe Laying Works in Portion 1 (Road L7)
- Trench Excavation Works in Portion 2 for Sewerage Pipe Laying Works

June 2017

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Tree felling works at Shek Ku Lung Road Playground
- Excavation for retaining wall at slip road S15

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- Construction of Box Culvert B2 and B4 (Base slab and Top slab)
- Excavation and Construction Works for Box Culvert B5
- ELS Construction for Sewerage Works near SCL Tunnel
- DCS pipe laying in Road L7
- Backfilling of DCS pipe trench in Portion 6, Road D1
- •

Breaches of Action and Limit Levels for Air Quality

- iii. No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- iv. No Action or Limit Level Exceedance of 24hr TSP monitoring was recorded in the reporting period.

Breaches of Action and Limit Levels for Noise

v. 3 non-projects related Exceedances of noise monitoring was recorded in the reporting period.

Complaint, Notifications of Summons and Successful Prosecutions

vi. No notification of summons or prosecution was received and two complaints received in the reporting period.

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1. INTRODUCTION

1.1 Background

- 1.1.1 The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.
- 1.1.2 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 March 2009.
- 1.1.3 The EP-337/2009 was issued on 23 April 2009 for the new distributor roads serving the planned Kai Tak Development to the following scale and slope:
 - a) Road D1 a dual 2-lane carriageway of approximately 1.3 km long.
 - b) Road D2 a dual 3-lane carriageway of approximately 1.1 km long.
 - c) Road D3 a dual 2-lane carriageway of approximately 2.3 km long.
 - d) Road D4 a dual 2-lane carriageway of approximately 0.9 km long.
- 1.1.4 The Civil Engineering and Development Department HKSAR (CEDD) has appointed Fugro Technical Services Limited (FTS) to undertake the role of Independent Environmental Checker (IEC) for the Contract No. KL/2015/02.
- 1.1.5 This is the 2nd Consolidated Quarterly EM&A Report which summaries the quarterly EM&A works undertaken by respective contracts under the EP-337/2009 within the reporting period between April and June 2017.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.
 Tel
 : +852 2450 8233

 Fax
 : +852 2450 6138

 E-mail
 : matlab@fugro.com

 Website
 : www.fugro.com



1.2 Summary of relevant Contract Information of Key Personnel

Party	Position	Name	Telephone	Fax
Contract No. KL/2012/02:				
Project Proponent CEDD)	Engineer	Mr. Mike Cho Mr. Kelvin Chow	3579 2450 3579 2453	2369 4980
Engineer's Representative (ARUP)	SRE RE	Mr. Gary Cheung Ms. Edith Fung	2210 6100	2210 6110
IEC (ANewR)	IEC ET Leader	Mr. Adi Lee Dr. Priscilla Choy	2618 2836 2151 2089	3007 8648
ET (Cinotech)	Project Coordinator and Audit Team Leader	Ms. Ivy Tam	2151 2090	3107 1388
Main Contractor (Build King)	Project Manager EO	Mr. Joe Yip Mr. Edmond Wong	2639 6290	2639 6208
Contract No. KL/2012/0	3:			
Project Proponent (CEDD)	Senior Engineer	Mr. C. K. Choi	2301 1174	2301 1277
Engineer's Representative (AECOM)	SRE RE	Mr. John Yam Mr. Jacky Pun	2798 0771	3013 8864
IEC (Arcadis)	IEC ET Leader	Mr. Wong Fu Nam Dr. Priscilla Choy	2911 2744 2151 2089	2805 5028
ET (Cinotech)	Project Coordinator and Audit Team Leader	Ms. Ivy Tam	2151 2090	3107 1388
Main Contractor (Kwan On)	Site Agent	Mr. Albert Ng	3689 7752 6146 6761 (H	3689 7726 Iotline)
Contract No. KL/2014/0	1:			
Project Proponent (CEDD)	Senior Engineer Engineer	Mr. Ronald Siu Mr. Bernard Chan	2301 1453 2301 1207	2301 1277
Engineer's Representative (AECOM)	CRE	Mr. Clive Cheng	3746 1801	2798 0783
IEC (KSMC)	IEC	Dr. C. F. Ng	2618 2166	2120 7752
ET (Cinotech)	ET Leader Audit Team Leader	Dr. Priscilla Choy Ms. Ivy Tam	2151 2089 2151 2090	3107 1388
Main Contractor (CCJV)	EO	Mr. Dennis Ho	2960 1398	2960 1399
Contract No. KL/2014/0				
Project Proponent (CEDD)	Co-ordinator	Ms. Amy Chu	3106 3172	2369 4980
Engineer's Representative (HMJV)	CRE	Mr. Chris Wong	3742 3803	3742 3899
IEC (Ramboll Environ)	IEC	Mr. F. C. Tsang	3465 2851	3465 2899
ET (MCL)	ET Leader	Mr. Colin Yung	3565 4114	3565 4160
Main Contractor (CRBC)	Site Agent EO	Mr. Arnold Chan Mr. Jacky Lai	9380 4110 9028 8975	2283 1689
Contract No. KL/2015/0	2:			
Project Proponent (CEDD)	Senior Engineer	Ms. K. Pong	2301 1466	2369 4980
Engineer's Representative (AECOM)	SRE	Mr. John Yam	2798 0771	2798 0783
IEC (MCL)	IEC	Mr. Colin Yung	3565 4114	2450 8032
ET (Cinotech)	ET Leader Audit Team Leader	Dr. Priscilla Choy Ms. Ivy Tam	2151 2089 2151 2090	3107 1388
Main Contractor (PWHJV)	Site Agent	Mr. W. M. Wong	6386 3535	2398 8301

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1.3 Summary of Construction Programme and Activities

1.3.1 The construction programme of each Contract is summarized in the appendices of the corresponding Quarterly EM&A.

1.4 Works undertaken in reporting period

1.4.1 The major construction activities undertaken are summarized as follow:

Contract No. KL/2010/03:

• NA (The works has been completed and no further EM&A submission is required.)

Contract No. KL/2012/02:

- Site Clearance;
- RC works for VT1 at Portion G;
- Drainage works for connection to box culvert (KTOB);
- Hard landscaping works for Portion F1;
- Earthwork at Portion E3;
- Cross road duct at Choi Hung Road;
- Road and drainage works at Sze Mei Street and Luk Hop Street;
- Condition survey and monitoring survey;
- Footpath construction at Sam Chuk Street and Tsat Po Street; and
- ELS works for SW3 at San Po Kong.

Contract No. KL/2012/03:

- Daily Cleaning;
- Finishing works, E&M work in PS2;
- Water test, backfill and sheet-pile removal in Heading 7A, DCS pipe installation;
- Segment tunneling, backfill and sheet-pile removed chamber construction in Heading 7B;
- Road widening works (excavation and UU works) at Sung Wong Toi Road;
- Maintenance & Servicing Engineer's Office at Portion 9;
- Install fitting inside chamber in Pit 1 and Pit 5;
- Rising Main installation in Pit 2, Pit 4, Pit6/7 and Pit 9;
- Pipe Jacking from Pit 10 to Pit 9;
- Installation of drainage, UU laying works and Road works at Road D2;
- Finishing works and E&M works at NPS;
- UU works and Road works at Road L19 & Bailey St;
- Refer construction works of NPS in Portion 4 sewerage; and
- Removal of excavated material at Portion 6.

Contract No. KL/2014/01:

- Watermain works;
- Construction of boundary wall at EPD recycling centre;
- TTA implementation, Tree Transplant, Tree Pruning and Junction Improvement Works at Shing Fung Road and Wang Chiu Road / Sheung Yee Road;
- Open excavation for box culvert, piles caps and underpass;
- ELS installation for box culvert and underpass; and
- Construction of pile caps, box culvert, noise barrier footings, columns, sewer and manholes.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.
 Tel
 : +852 2450 8233

 Fax
 : +852 2450 6138

 E-mail
 : matlab@fugro.com

 Website
 : www.fugro.com



Contract No. KL/2014/03:

March 2017

- Temporary utility diversion;
- Implementation of Temporary Traffic Arragement (TTA);
- Construction of Tunnel structure;
- Construction of Socket Hpiles;
- Construction of drainage works;
- Construction of guide walls and D-walls; and
- Construction of District Cooling System Works

April and May 2017

- Temporary utility diversion;
- Implementation of Temporary Traffic Arragement (TTA);
- Construction of Tunnel structure;
- Construction of Socket Hpiles;
- Construction of drainage works;
- Construction of guide walls and D-walls; and
- Construction of District Cooling System Works
- Installation of temporary cutoff wall.

Contract No. KL/2015/02:

April 2017

- Bored piling works at abutment A02;
- Driving sheet piles at Subway SW6 between Staircases ST2 and ST3;
- Carry out protection works to CLP' s cables for sheet piling works
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Excavation and Construction Works for Box Culvert B2
- ELS Construction for Sewerage Works near SCL Tunnel; and
- Installation of DCS Pipe in Road L7.
- •

May 2017

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Construction of Box Culvert B2 (Base slab)
- DCS Pipe Laying Works in Portion 6 (Road D1)
- DCS Pipe Laying Works in Portion 1 (Road L7)
- Trench Excavation Works in Portion 2 for Sewerage Pipe Laying Works

June 2017

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Tree felling works at Shek Ku Lung Road Playground
- Excavation for retaining wall at slip road S15

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- Construction of Box Culvert B2 and B4 (Base slab and Top slab)
- Excavation and Construction Works for Box Culvert B5
- ELS Construction for Sewerage Works near SCL Tunnel
- DCS pipe laying in Road L7
- Backfilling of DCS pipe trench in Portion 6, Road D1

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2. ENVIRONMENTAL MONITORING & AUDIT

2.1 Results and Observations

- 2.1.1 Contract No. KL/2010/03:
 - NA (The works has been completed and no further EM&A submission is required.)
- 2.1.2 Contract No. KL/2012/02:

Air Quality

• No Action/ Limit Level exceedance was recorded in the reporting period.

Construction Noise

• 2 non-project related Limit Level exceedance was recorded in the reporting period.

Landscape and Visual

- No non-compliance of the landscape and visual impact was recorded in the reporting period.
- 2.1.3 Contract No. KL/2012/03:

Air Quality

1-hour TSP Monitoring

• Most 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

• Most 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

Construction Noise

• All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action and Limit Level exceedance was recorded.

Landscape and Visual

- Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures of this project. No noncompliance of the landscape and visual impact was recorded in the reporting quarter.
- 2.1.4 Contract No. KL/2014/01:

Air Quality and Construction Noise

 No monitoring for air quality and construction noise is required for the Project. No Action/Limit Level exceedance was recorded.

Landscape and Visual

 No non-compliance of the landscape and visual impact was recorded in the reporting quarter
 Tel
 : +852 2450 8233

 Fax
 : +852 2450 6138

 E-mail
 : matlab@fugro.com

 Website
 : www.fugro.com



2.1.5 Contract No. KL/2014/03:

- No Action and Limit Level exceedance for 24-hr TSP was recorded in the reporting period at all monitoring stations.
- No Action / Limit Level exceedance for construction noise was recorded in the reporting period at all monitoring stations.
- 2.1.6 Contract No. KL/2015/02:

Air Quality

• No Action/ Limit Level exceedance was recorded in the reporting period.

Construction Noise

• One non-project related Limit Level exceedance was recorded in the reporting period.

Landscape and Visual

- No non-compliance of the landscape and visual impact was recorded in the reporting period.
- 2.1.7 Summary of exceedances and graphical presentations are presented in the appendices of the corresponding Quarterly EM&A reports.

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3. ENVIRONMENTAL SITE INSPECTION AND AUDIT

3.1 Site Inspection

3.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The site inspection of each Contract are summarized as follow:

Contract No. KL/2012/02:

During site inspections in the reporting period, no non-conformance was identified.

Contract No. KL/2012/03:

During site inspections in the reporting period, no non-conformance was identified.

Contract No. KL/2014/01:

During site inspections in the reporting period, no non-conformance was identified.

Contract No. KL/2014/03:

No outstanding issues were reported during the reporting period.

Contract No. KL/2015/02:

During site inspections in the reporting period, no non-conformance was identified.

3.1.2 Detailed of observation, recommendation of site inspections and summary of the mitigation measures implementation schedule is provided in the appendices of the corresponding Quarterly EM&A Reports.

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4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 Complaints, Notification of Summons and Prosecution

4.1.1 The summary of complaints, notification of summons and prosecution in the reporting month is shown as **Table 4.1**.

Table 4.1 Summary of Complaints, Notification of Summons and Prosecution

Event	No. of Event(s) This Reporting Period	Remark
Contract No. KL/2012/02:		
Complaint received	1	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. KL/2012/03:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. KL/2014/01:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. KL/2014/03:		
Complaint received	1	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. KL/2015/02:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA

4.1.2 Detailed records are presented in the appendices of the corresponding Quarterly EM&A Reports.

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5. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

5.1 Implementation Status

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month are presented in the appendices of the corresponding Quarterly EM&A Reports.

5.2 Waste Management

The amount of wastes generated of relevant Contracts is shown in the appendices of the corresponding Quarterly EM&A Reports.



6. CONCLUSIONS

- 6.1.1 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- 6.1.2 No Action or Limit Level Exceedance of 24hr TSP monitoring was recorded in the reporting period.
- 6.1.3 3 non-projects related Exceedances of noise monitoring was recorded in the reporting period.
- 6.1.4 No notification of summons or prosecution was received and two complaints received in the reporting period.

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Appendix A

Monthly EM&A Report For Contract No. KL/2012/02 Kai Tak Development - Stage 3A Infrastructure at North Apron Area

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Civil Engineering and Development Department

EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KL/2012/02 Kai Tak Development –Stage 3A Infrastructure at Former North Apron Area

Quarterly EM&A Report

February 2017 to April 2017

(version 1.0)

Approved By	(Environmental Team Leader)
DEMADYC]

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

CINOTECH CONSULTANTS LTD Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk



Ove Arup & Partners Hong Kong Limited L5 Festival Walk 80 Tat Chee Avenue Kowloon Tong Hong Kong Your reference:

Our reference:

HKCEDD04/50/104449

Date: 18 July 2017

Attention: Mr Gary Cheung / Mr Chris Lee

BY POST

Dear Sirs

Contract No.: KLN/2013/01 Independent Environmental Checker for "Contract No. KL/2012/02 Kai Tak Development – Stage 3A Infrastructure at Former North Apron Area" Verification of Quarterly EM&A Report (February 2017 to April 2017)

We refer to the emails of 11 and 17 July 2017 attaching a Quarterly EM&A Report (February 2017 to April 2017) prepared by the ET.

We have no further comment and hereby verify the Report in accordance with Clause 3.3 of the Environmental Permits no. EP-337/2009.

Please do not hesitate to contact the undersigned or our Mr Adi Lee at 2618 2836 should you have any queries.

Yours faithfully ANEWR CONSULTING LIMITED

James Choi Independent Environmental Checker

CPSJ/LYMA/LHHN/lhmh





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EXECUTIVE SUMMARY

Introduction

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- This is the 14th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Contract No. KL/2012/02 - Kai Tak Development – Stage 3A Infrastructure at Former North Apron Area" (hereinafter called "the Project"). This contract comprises one Schedule 2 designated project (DP), namely the new distributor Road D1 serving the planned KTD. The DP is part of the designated project under Environmental Permit (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This summary report presents the EM&A works performed in the period between 1st February 2016 and 30th April 2017.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in Table I (see **Figure 2** and **3** for their locations).

Locations	Monitoring Stations In accordance with EM&A Manual	Alternative Monitoring Stations	
Air Quality Monitoring Stations			
AM1 - Rhythm Garden	No	AM1(B) - Contractor Site Office (KL/2012/02)	
AM2 - Lee Kau Yan Memorial School	Yes	N/A	
AM6 – Site 1B4 (Planned)	N/A		
Noise Monitoring Stations			
M3 - Cognitio College	Yes	N/A	
M4 - Lee Kau Yan Memorial School	Yes	N/A	
M9 – Tak Long Estate	Yes	N/A	
M10 – Site 1B4 (Planned)		N/A	

- 3. The construction activities undertaken in the reporting period were:
 - Site Clearance;
 - RC works for VT1 at Portion G;
 - Drainage works for connection to box culvert (KTOB);
 - Hard landscaping works for Portion F1;
 - Earthwork at Portion E3;
 - Cross road duct at Choi Hung Road;
 - Road and drainage works at Sze Mei Street and Luk Hop Street;
 - Condition survey and monitoring survey;
 - Footpath construction at Sam Chuk Street and Tsat Po Street; and
 - ELS works for SW3 at San Po Kong.

Environmental Monitoring Works

4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

Summary of the non-compliance in the reporting period for the Project is tabulated in Table II.
 Table II Non-compliance Record for the Project in the Reporting Period

Demonster	No. of Exceedance		
Parameter	Action Level	Limit Level	Taken
February 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A
March 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A
April 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A

1-hour & 24-hour TSP Monitoring

6. All 1-hour & 24-hour TSP monitoring was conducted as scheduled in the reporting period. No Action/Limit Level exceedance was recorded.

Construction Noise

7. All construction noise monitoring was conducted as scheduled in the reporting period. Two non project related Limit Level exceedance was recorded.

Environmental Licenses and Permits

- 8. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, EP-337/2009 issued on 23 April 2009.
- 9. Registration of Chemical Waste Producer (License: 5213-286-K3022-04).
- 10. Water Discharge License (License No.: WT00016873-2013 and WT00016723-2013).
- 11. Construction Noise Permit (License No.: GW-RE0646-16, GW-RE1041-16, GW-RE1054-16, GW-RE1197-16, GW-RE0069-17, GW-RE0070-17 & GW-RE0351-17).

Key Information in the Reporting Period

12. Summary of key information in the reporting period is tabulated in Table III.

Fact F	Event Details			States -	D
Event	Number	Nature	- Action Taken	Status	Remark
Complaint received	1	Dust impact	The Contractor had ensured vehicles and plants were wheel washed to be cleaned of mud and debris before leaving the construction site area besides Concorde Road to minimize the dust impart arise from the vehicles leaving the construction site. Regular spraying was also provided to the Concorde Road to reduce the dust impact arise from the construction site to the vicinity of this Project. The Contractor has also taken follow-up actions to minimize dust impact to Concorde Road arise from this Project including: - Proper clear up the accumulated dust at the Concorde Road such as sweeping the accumulated dust along the Concorde Road; - Providing regular water spraying to the Concorde Road and haul road; and - Ensure the vehicles and plants were wheel washed before leaving the site to avoid the formation of dusty trail on the Concorde Road.	Closed	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

Table III	Summary Table for K	ev Information	in the Re	norting Period
I abic III	Summary rabic for h	cy mormation	In the Ke	porting renou

13. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

1. INTRODUCTION

Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 3A Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains one Schedule 2 DP including new distributor roads serving the planned KTD. The general layout of the Project is shown in **Figure 1.**
- 1.2 One Environmental Permit (EP) No. EP-337/2009 was also issued on 23 April 2009 for new distributor roads serving the planned KTD to Civil Engineering and Development Department as the Permit Holder.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Kaden Construction Ltd. (the Contractor) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2012/02 Stage 3A Infrastructure at Former North Apron Area. The construction work under KL/2012/02 comprises the construction of part of the Road D1 under the EP (EP-337/2009).
- 1.5 Cinotech Consultants Limited was commissioned by Kaden Construction Ltd. to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract was on 24th October 2013 for Road D1. This summary report presents the EM&A works performed in the period between 1st February 2017 and 30th April 2017.

Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Engineer and the Engineer's Representative (ER) Ove Arup & Partners (ARUP).
 - Environmental Team (ET) Cinotech Consultants Limited (CCL).
 - Independent Environmental Checker (IEC) ANewR Consulting Limited (ANewR).
 - Contractor Build King Construction Ltd. (Build King).

1.7 The key contacts of the Project are shown in **Table 1.1**.

Party	Role	Contact Person	Position	Phone No.	Fax No.	
CEDD	Project Proponent	Mr. Mike Cho / Mr. Kelvin Chow	Engineer	3579 2450 / 3579 2453	2369 4980	
ARUP	Engineer's	Mr. Gary Cheung	SRE	2210 6100	2210 6110	
AKUF	Representative	Ms. Edith Fung	RE	2210 0100		
	Environmental	Dr. Priscilla Choy	Environmental Team Leader	2151 2089		
Cinotech	Team	Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	3107 1388	
ANewR	Independent Environmental Checker	Mr. Adi Lee	Independent Environmental Checker	2618 2836	3007 8648	
		Mr. Joe Yip	Project Manager			
Build King	Contractor	Mr. Edmond Wong	Environmental Officer	2639 6290	2639 6208	

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. The Project area and monitoring locations are depicted in Figures 2 and 3. Appendix A gives details of monitoring requirements.

Monitoring Methodology and Calibration Details

2.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

2.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix B**.

Implementation Status of Environmental Mitigation Measures

2.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix E**.

Site Audit Summary

2.5 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix F**.

Status of Waste Management

2.6 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.

3. Monitoring Results

Weather Conditions

3.1 The weather during monitoring sessions was summarized in Table 3.1.

Table 3.1 Summary of Weather Conditions in the Reporting Period

Reporting Month	General Weather Conditions
February 2017	Sunny and Cloudy
March 2017	Sunny and Cloudy
April 2017	Sunny and Cloudy

3.2 The detail of weather conditions for each individual monitoring session was presented in monthly EM&A report.

Air Quality

1-hour TSP Monitoring

3.3 1-hour TSP monitoring at 2 monitoring stations, AM1(B) – Contractor Site Office and AM2
 - Lee Kau Yan Memorial School, was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting period.

24-hour TSP Monitoring

- 3.4 24-hr TSP monitoring at 2 monitoring stations, AM1(B) and AM2, was also conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting period.
- 3.5 The graphical presentations of the air quality monitoring results are shown in **Appendix C**.

Construction Noise

- 3.6 Noise monitoring at 3 monitoring stations, M3 Cognitio College, M4 Lee Kau Yan Memorial College and M9 Tak Long Estate, was conducted as schedule in the reporting period.
- 3.7 Limit Level exceedance were recorded at M4 on 15 March 2017 and at M3 on 11 April 2017. According to the investigation, the exceedance were considered as non-project related.
- 3.8 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

Landscape and Visual

3.9 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within KTD. No non-compliance of the landscape and visual impact was recorded in the reporting period.

Influencing Factors on the Monitoring Results

3.10 During the reporting period, the major dust and noise source identified at the designated monitoring stations are as follows:

Monitoring Stations	Major Dust Source
AM1(B) – Contractor Site Office (KL/2012/02)	Road Traffic Dust Exposed site area and open stockpiles Site vehicle movement
AM2 – Lee Kau Yan Memorial School	Road Traffic Dust Exposed site area and open stockpiles Excavation works Site vehicle movement

Table 3.2	Major Dust S	Sources during the Mo	nitoring in the	Reporting Period
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Monitoring Stations Locations		Major Noise Source	
M3	Cognitio College	Traffic Noise	
1V15	Cognitio Conege	Daily school activities	
M4		Traffic Noise	
		Site vehicle movement	
	Lee Kau Yan Memorial School	Excavation works	
		Piling works	
		Daily school activities	
M9	Taly Long Estate Traffic Noise		
	Tak Long Estate	Construction works	

Comparison of EM&A results with EIA predictions

- 3.11 The EM&A data was compared with the EIA predictions and summarized in Annex I.
- 3.12 The 1-hour and 24-hour average TSP concentration in the reporting period were well below and within the prediction in the approved Environmental Impact Assessment (EIA) Report and no Action/Limit Level exceedance was recorded.
- 3.13 Mitigated construction noise levels at M9 were not predicted in EIA Report. The noise data at M3 were not within the range of predicted mitigated construction noise levels in the EIA report, M3 exceeded the prediction of mitigated scenario in EIA report but did not exceed the baseline level.
- 3.14 The noise data at M4 was slightly higher than those predicted mitigated construction noise level in the EIA report and the discrepancy was considered to be contributed from the major noise sources during the monitoring; i.e. the road traffic noise.
- 3.15 Noise Limit Level exceedance was recorded at M4 on 15 March 2017 and at M3 on 11 April 2017. According to the investigations, the exceedance were considered as non-project related.

4. Non-compliance (exceedances) of the Environmental Quality Performance Limits (Action and Limit Levels)

Summary of Exceedances

4.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix H**. The details of each exceedance were attached in the Monthly EM&A Reports.

Air Quality

4.2 No Action/ Limit Level exceedance was recorded in the reporting period.

Construction Noise

4.3 2 non-project related Limit Level exceedance was recorded in the reporting period.

Landscape and Visual

4.4 No non-compliance of the landscape and visual impact was recorded in the reporting period.

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

4.5 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 attached in the **Appendix F**.

Summary of Environmental Complaints and Prosecutions

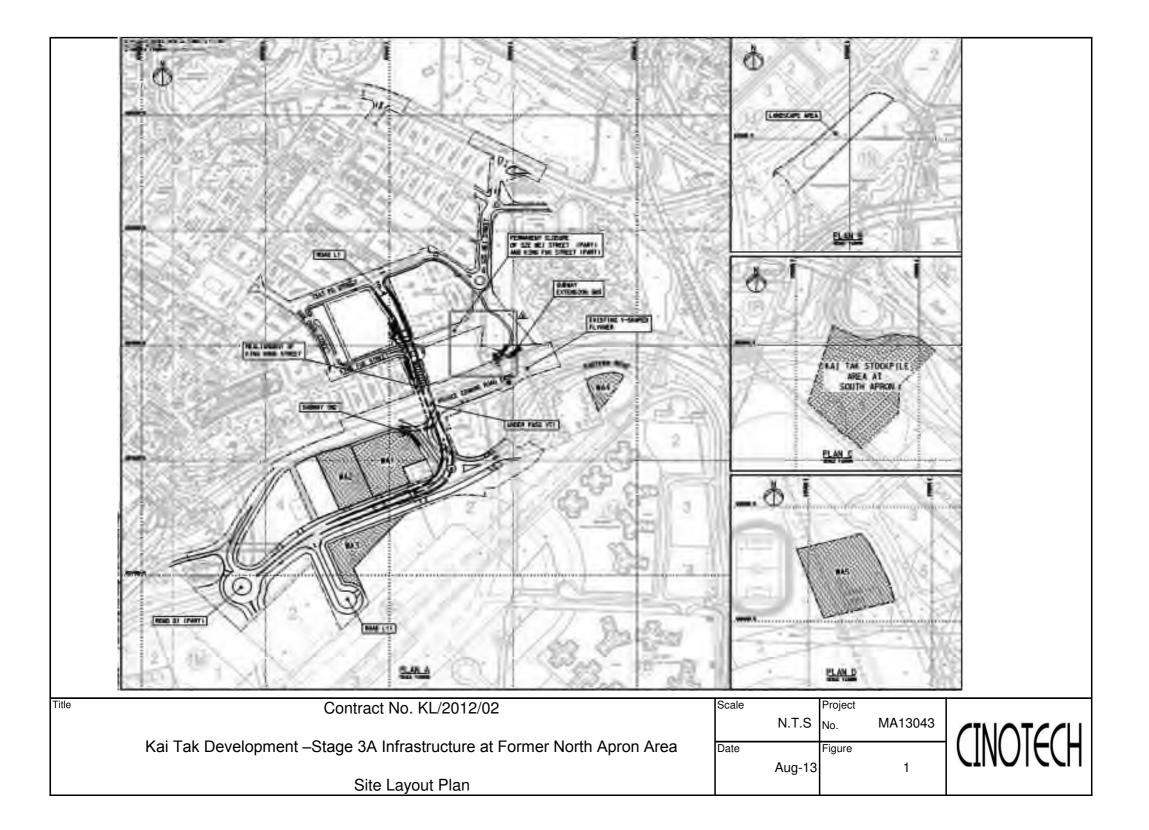
- 4.6 One environmental complaint was received and no environmental prosecution were received during the reporting period.
- 4.7 No warning, summon and notification of successful prosecution was received in the reporting period.
- 4.8 There were no warnings, summons and successful prosecutions received since the commencement of the Project.

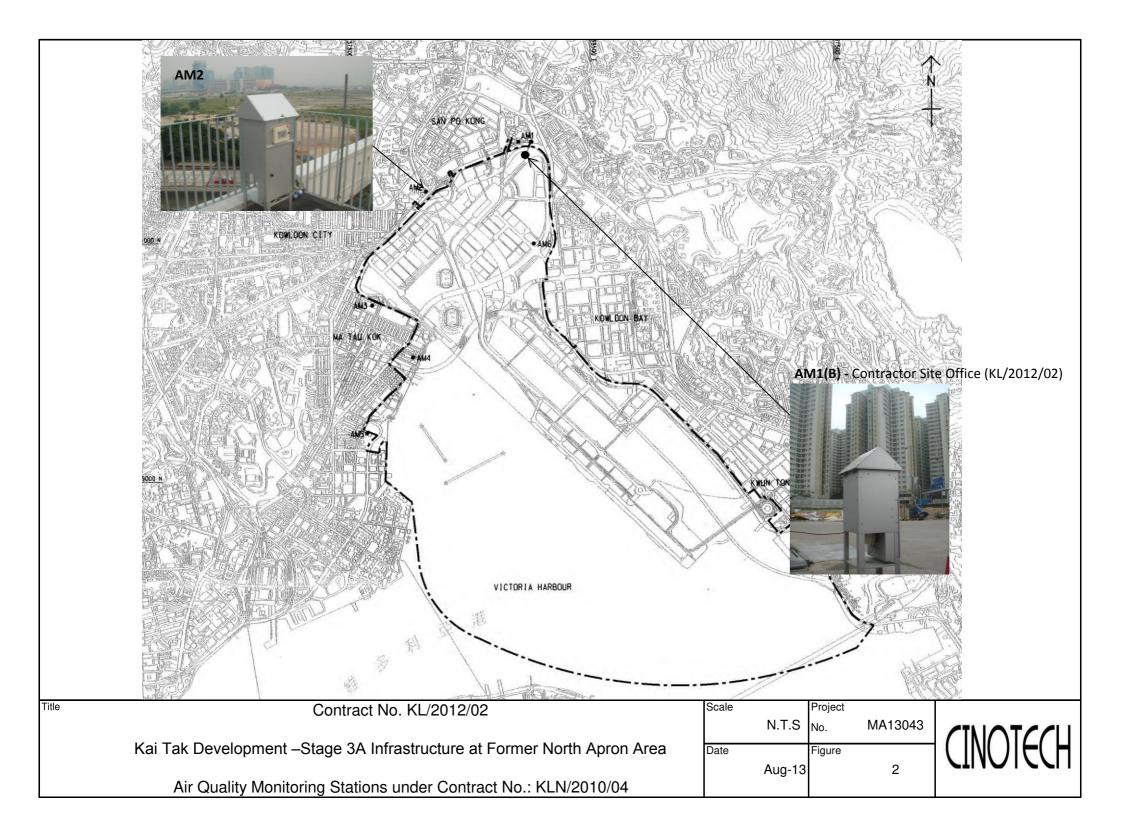
5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

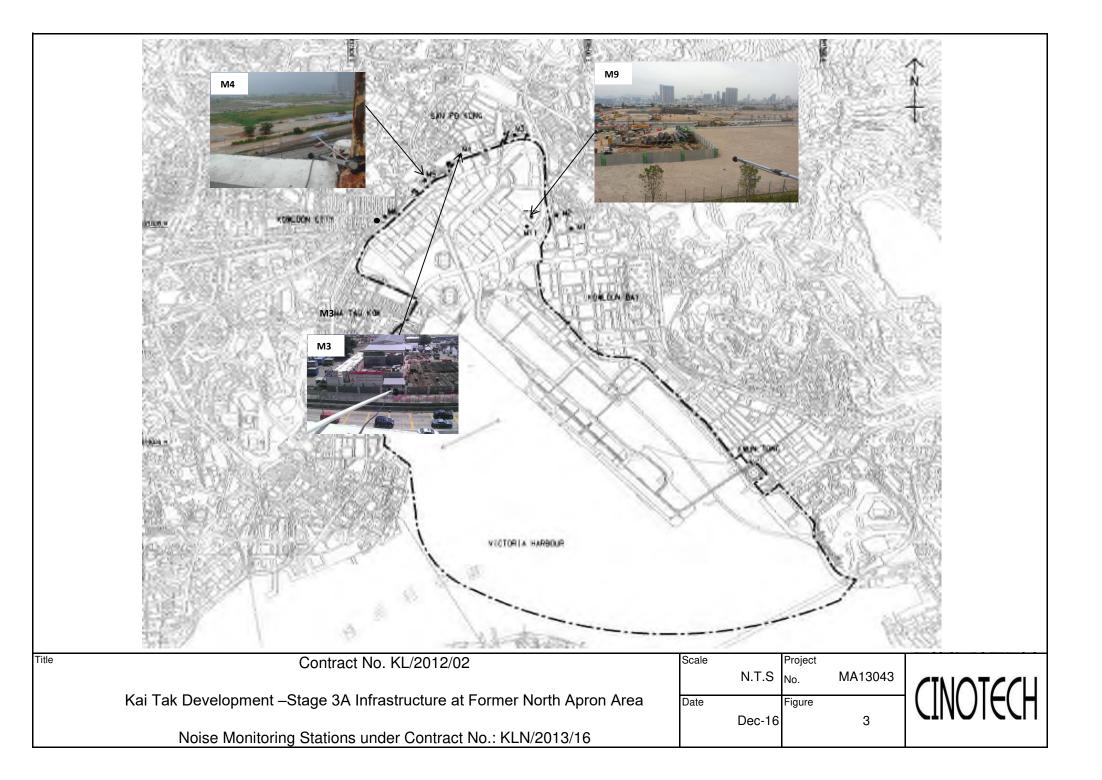
Effectiveness of Mitigation Measures

- 5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 5.3 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. No non-compliance (project related exceedances) of Action/Limit Level was recorded.
- 5.4 One environmental complaint was received in the reporting period.
- 5.5 No environmental prosecution was received in the reporting period.

FIGURES







APPENDIX A MONITORING REQUIREMENTS

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
	1 hour TSP	Three times / 6 days		
Air Quality	24 hour TSP	Once / 6 days	 AM1(B) – Contractor site office (KL/2012/02) AM2 – Lee Kau Yan Memorial School #AM6 – PA 15 	 AM1(B) – Ground Floor Area AM2 – Rooftop (about 8/F) Area #AM6 – Site 1B4 (Planned)

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L _{eq} , L ₉₀ & L ₁₀ at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	 M3 (Cognitio College) M4 (Lee Kau Yan Memorial School) M9 (Tak Long Estate) #M10 (Site 1B4 (Planned)) 	 M3 - Facade measurement at Rooftop (about 6/F) Area M4 - Facade measurement at Rooftop (about 7/F) Area M9 - Facade measurement at Car Park Building (about 2/F)

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

APPENDIX B ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

Appendix B - Action and Limit Levels

Location	Action Level, µg/m ³	Limit Level, µg/m ³
AM1(B)	342	500
AM2	346	500

Table B-1Action and Limit Levels for 1-Hour TSP

Table B-2Action and Limit Levels for 24-Hour TSP

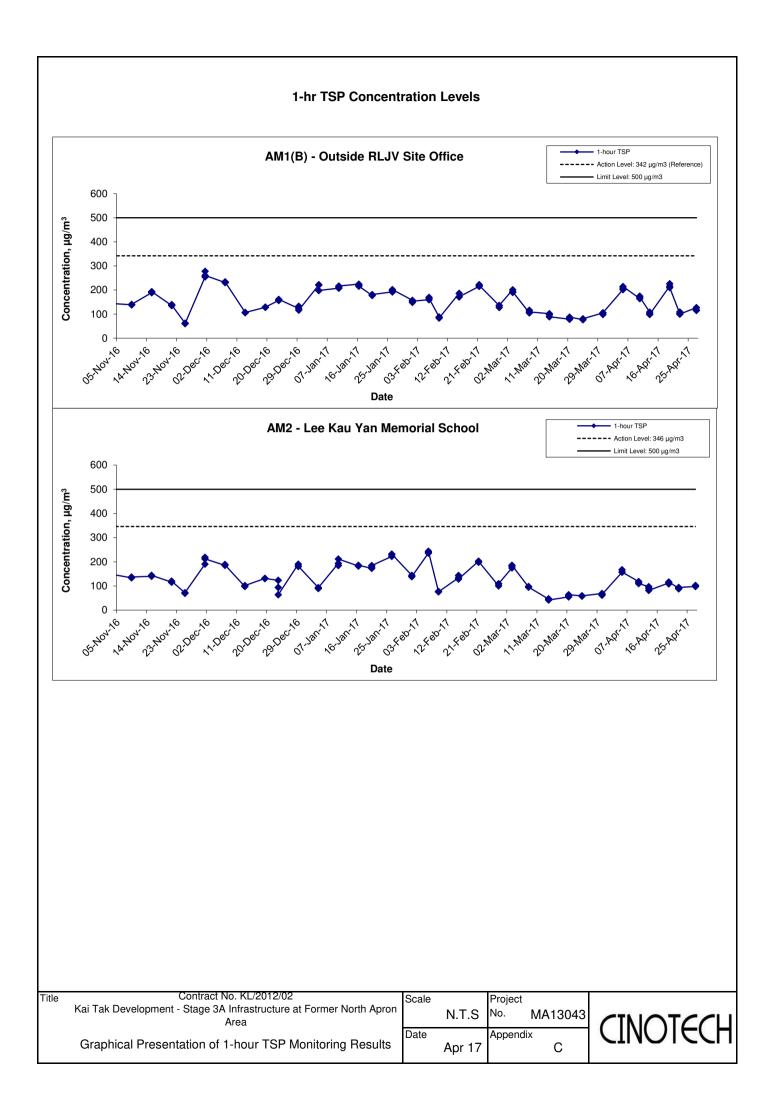
Location	Action Level, µg/m ³	Limit Level, µg/m ³	
AM1(B)	159	260	
AM2	157	260	

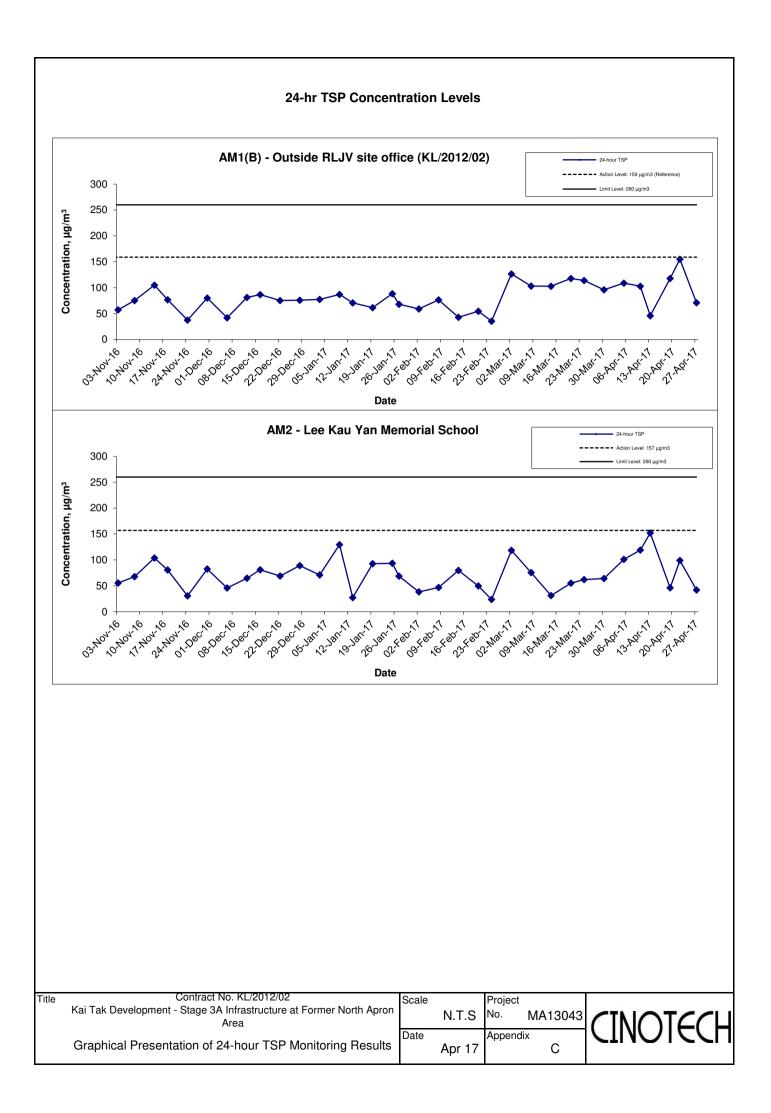
Table B-3 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

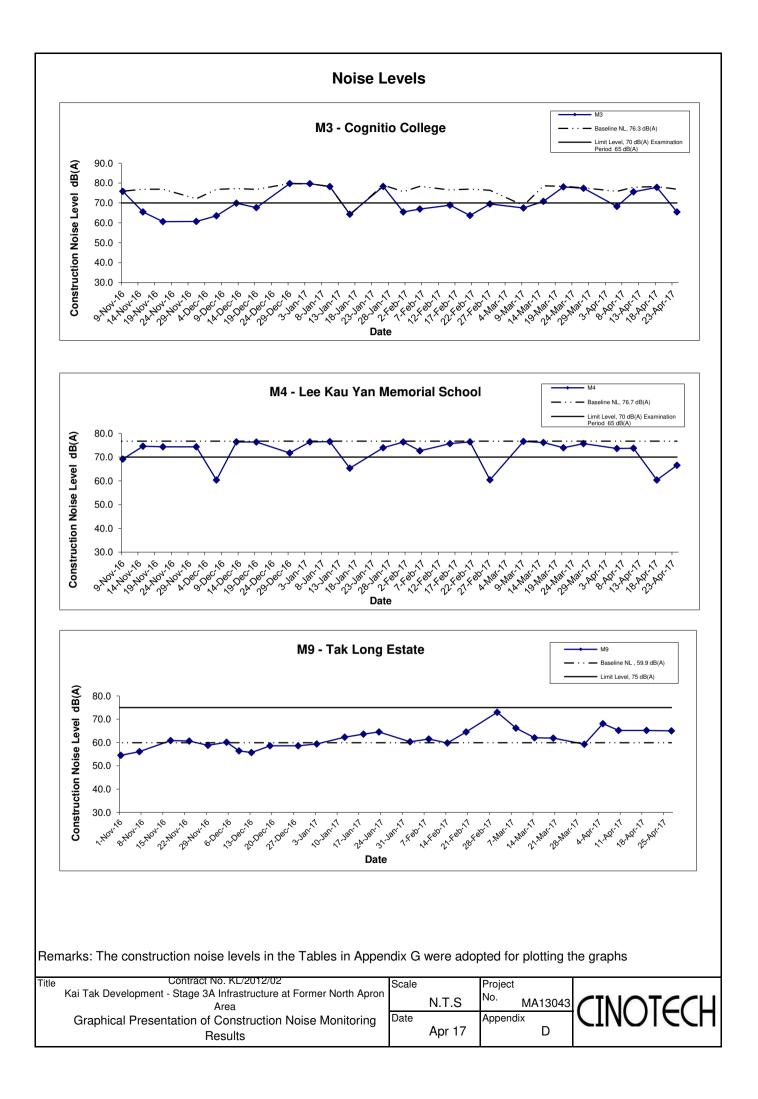
Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX C GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS





APPENDIX D GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS



APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	Recommended Mitigation Measures	Implementation
LIA NCI.	Teconinicited initigation incastres	Status
Construc	ction Air Quality	
S6.5	8 times daily watering of the work site with active dust emitting activities.	۸
S6.8	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 minimize cumulative	
	dust impacts.	
	• Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable	*
	sheeting to reduce dust emission.	
	• Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying	٨
	area should have properly fitted side and tail boards.	
	• Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be	٨
	dampened and covered by a clean tarpaulin.	
	• The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The	٨
	material should also be dampened if necessary before transportation.	
	• The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated	٨
	roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.	
	Vehicle washing facilities should be provided at every vehicle exit point.	٨
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should	٨
	be paved with concrete, bituminous materials or hardcores.	
	• Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain	٨
	the entire road surface wet.	
	• Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on	٨
	the top and the three sides.	
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	*

S6.8	•	DWFI compound for JVBC:	N/A
		A DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS	
		by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of	
		the compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the	
		potential odour emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations	
		within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high efficiency	
		deodorizers before discharge to the atmosphere.	
	•	Desilting compound for KTN:	N/A
		Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the	
		KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities	
		will form part of the compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully	
		mitigate the potential odour emissions from the headspace of KTN near the existing discharge locations. The odour generating	
		operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high	
		efficiency deodorizers before discharge to the atmosphere.	
	•	Decking or reconstruction of KTN within apron area:	N/A
		It is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1	
		to the north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with	
		nonodorous fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water	
		surface of not more than 16m.	
		Localised maintenance dredging:	N/A
		Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and	
		KTTS. With reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of	
		KTAC (i.e. to the north of taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of	
		KTAC, and the area near the JVC discharge have water depths shallower than 3.5m. The area involved would be about 40% of	
		the northern KTAC and the dredging depth required would be from about 2.7m to less than 1m. The maintenance dredging to be	
		carried out prior to the occupation of any new development in the immediate vicinity of KTAC to avoid potential localized odour	

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	impacts at the future ASRs during the maintenance dredging operation.	
	Improvement of water circulation in KTAC and KTTS:	N/A
	600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be	
	substantially improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be	
	increased.	
	In-situ sediment treatment by bioremediation:	N/A
	Bioremediation would be applied to the entire KTAC and KTTS.	
Constru	uction Noise	L
S7.8	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air	٨
	Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	
S7.9	Good Site Practice:	
	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	۸
	Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction	۸
	program.	
	Mobile plant, if any, should be sited as far away from NSRs as possible.	۸
	Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be	۸
	throttled down to a minimum.	
	Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away	۸
	from the nearby NSRs.	
	Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site	۸
	construction activities.	
S7.9	Scheduling of Construction Works during School Examination Period	٨
S7.8	(i) Provision of low noise surfacing in a section of Road L2; and	N/A
	(ii) Provision of structural fins	N/A
S7.8	(i) Avoid the sensitive façade of class room facing Road L2 and L4; and	N/A
	 Provision of low noise surfacing in a section of Road L2 & L4 	N/A
1	(,	

S7.8	(i)	Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and	N/A
	(ii)	Setback of building about 5m from site boundary.	N/A
S7.8	Setba	ck of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
S7.8	(i)	avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and Avoid the sensitive	N/A
		façade of class room facing Road L2 and L4; and	
	(ii)	for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or	N/A
		do not provide the facades with openable window.	
S7.8	(i)	avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or	N/A
	(ii)	provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s)	N/A
		located at less than 55m away from To Kwa Wan Road to no more than 25m above ground	
S7.8	(i)	avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po	۸
		Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to	
		minimise the potential traffic noise impacts from the slip road	
S7.8	All the	ventilation fans installed in the below will be provided with silencers or acoustics treatment.	
	(i)	SPS	N/A
	(ii)	ESS	N/A
	(iii)	Tunnel Ventilation Shaft	N/A
	(iv)	EFTS depot	N/A
S7.8	Installa	ation of retractable roof or other equivalent measures	N/A
Constr	uction V	Vater Quality	
S8.8	The fo	llowing mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:	
	•	Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply;	N/A
	•	Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty	N/A
		pumps;	
	•	An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and	N/A

For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should	N/A
be provided so that swift actions could be taken in case of malfunction of unmanned facilities	
Construction Phase	
Marine-based Construction	
Capital and Maintenance Dredging for Cruise Terminal	
Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT	N/A
Dredging.	
Fireboat Berth, Runway Opening and Road T2	
Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any	N/A
dredging and filling activities in open water.	
Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a	N/A
maximum production rate of 1,000m ³ per day using one grab dredger.	
The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be	N/A
removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of	
the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works	
area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after	
completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of	
2,000m ³ per day using one grab dredger.	
Dredging for Road T2 should be conducted at a maximum rate of 8,000m ³ per day (using four grab dredgers) whereas the sand filling	N/A
should be conducted at a maximum rate of 2,000m3 per day (using two grab dredgers).	
Silt screens shall be applied to seawater intakes at WSD seawater intake.	N/A
	Construction Phase Marine-based Construction Capital and Maintenance Dredging for Cruise Terminal Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging. Fireboat Berth, Runway Opening and Road T2 Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling activities in open water. Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a maximum production rate of 1,000m ³ per day using one grab dredger. The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000m ³ per day using one grab dredger. Dredging for Road T2 should be conducted at a maximum rate of 8,000m ³ per day (using four grab dredgers) whereas the sand filling should be conducted at a maximum rate of 2,000m ³ per day (using four grab dredgers).

S8.8	Land-based Construction	
	Construction Runoff	
	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion.	
	Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of	
	appropriate mitigation measures which include:	
	use of sediment traps	۸
	adequate maintenance of drainage systems to prevent flooding and overflow	۸
S8.8	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September).	۸
	All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days	
	of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year	
	when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	
S8.8	Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance.	٨
	The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection.	
	Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond.	
	Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of	
	efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	
S8.8	Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are	٨
	recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is	
	flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	
S8.8	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with	٨
	tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt	
	or debris into any drainage system.	
S8.8	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt,	٨
	construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	
S8.8	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and	۸
	actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid	
		l

Appendix K – Summary o	f Implementation Schedule	of Mitigation Measures f	or Construction Phase
	I		

	-	
	to the control of silty surface runoff during storm events.	
S8.8	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm	N/A(1)
	water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	
S8.8	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by	۸
	them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should	
	have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of	
	access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the	
	wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	
S8.8	Drainage	
	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities.	٨
	Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There	
	should be no direct discharge of effluent from the site into the sea	
S8.8	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the	٨
	controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and	
	efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original	
	condition when the construction work has finished or the temporary diversion is no longer required.	
S8.8	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110%	٨
	of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	
S8.8	Sewage Effluent	
	Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment	٨
	facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer	
	system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction	
	workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	

S8.8	Stormwater Discharges	
50.0	Stornwater Discharges	
	Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned	٨
	seawater intakes	
S8.8	Debris and Litter	
	In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under	٨
	conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine	
	waters does not occur	
S8.8	Construction Works at or in Close Proximity of Storm Culvert or Seafront	
	The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah	۸
	is low.	
S8.8	The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage	٨
	channel /storm culvert / nullah.	
S8.8	Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials	٨
	should be located well away from any water courses during carrying out of the construction works	
S8.8	Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	٨
S8.8	Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water	٨
	receivers.	
S8.8	Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where	۸
	practicable.	
S8.8	Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality	۸
	impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	
S8.8	Construction effluent, site run-off and sewage should be properly collected and/or treated.	٨
S8.8	Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead	N/A
		•

	edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	
S8.8	Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage	N/A
	of construction materials.	
S8.8	Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	N/A
S8.8	Supervisory staff should be assigned to station on site to closely supervise and monitor the works	۸
S8.8	Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.	N/A
Constr	uction Waste Management	
S9.5	Good Site Practices	
	It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to.	
	Recommendations for good site practices during the dredging activities include:	
	Nomination of an approved person, such as a site manager, be responsible for good site practices, arrangements for collection	۸
	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.	٨
	Provision of sufficient waste disposal points and regular collection for disposal.	٨
	Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by	٨
	transporting wastes in enclosed containers.	
	A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	٨
S9.5	Waste Reduction Measures	
	Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the	
	planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste	
	reduction include:	
	Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals	٨
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of	٨
	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	٨
	segregated from other general refuse generated by the work force	

	Any unused chemicals or those with remaining functional capacity should be recycled	٨
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials	٨
S9.5	Dredged Marine Sediment	
	The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management	N/A
	of the dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is required under the	
	Dumping at Sea Ordinance and is the responsibility of the Director of Environmental Protection (DEP)	
S9.5	The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC	N/A
	depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal.	
	Contaminated sediment would require either Type 1 - Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or	
	Type 3 – Special Treatment / Disposal and must be dredged and transported with great care in accordance with ETWB TCW No.	
	34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated	
	from the environment and disposed properly at the designated disposal site	
S9.5	It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to	
	be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal	
	Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply	
	for allocation of marine disposal sites and all necessary permits from relevant authorities for the disposal of dredged sediment. During	
	transportation and disposal of the dredged marine sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures	
	should be taken to minimise potential impacts on water quality:	
	• Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be	N/A
	cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved	
	• Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation.	N/A
	Transport barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea	
	Ordinance and as specified by the DEP	
	• Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during	N/A
	loading or transportation	

S9.5	Construction and Demolition Material	
	Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact	
	from handling and transportation of C&D material. The mitigation measures include:	
	• Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal,	۸
	the transient stockpiles should be located away from waterfront or storm drains as far as possible	
	Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric	۸
	Skip hoist for material transport should be totally enclosed by impervious sheeting	۸
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site	۸
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should	۸
	be paved with concrete, bituminous materials or hardcores	
	• The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting	۸
	to ensure dust materials do not leak from the vehicle	
	All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty	٨
	materials wet	
	• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust	٨
	generation from unloading	
	When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of	٨
	size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the	
	surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB	
	TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the	
	contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An	
	Independent Environmental Checker should be responsible for auditing the results of the system.	

00.5			
S9.5	Chemical	Waste	
	After use	chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of	٨
	Practice of	on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should 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	
S9.5	General F	Refuse	
	General r	efuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be	*
	employed	by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage	
	methods	(including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by	
	wind, was	stewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem	
Constru	ction Lan	dscape and Visual	
S13.9	CM1	All existing trees should be carefully protected during construction.	*
	CM2	Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be	٨
		submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations	
		of transplanted trees should be agreed prior to commencement of the work.	
	СМЗ	Control of night-time lighting.	N/A(1)
	CM4	Erection of decorative screen hoarding.	۸

Remarks:

- ^ Compliance of mitigation measure
- * Recommendation was made during site audit but improved/rectified by the Contractor
- Non-compliance but rectified by the Contractor
- X Non-compliance of mitigation measure
- N/A Not Applicable at this stage
- N/A(1) Not observed

APPENDIX F SITE AUDIT SUMMARY

Appendix F Summary of Observation and Recommendation Made during Site Inspection

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	21 February 2017	<u>Reminder:</u> To remove dusty material from near site boundary at VT1.	Follow-up action will be reported in the next reporting month.
	24 January 2017	<u>Observation:</u> Dusty stockpile placed at SW3 should be properly covered to suppress dust generation.	Rectification/improvement was observed during the follow-up audit session.
	8 February 2017	<u>Observation:</u> Dusty stockpile placed at SW3 and near CLP should be properly covered to suppress dust generation.	Rectification/improvement was observed during the follow-up audit session.
	8 February 2017	<u>Reminder:</u> The dusty trail at the haul road near Sze Mei Street should be cleared.	Rectification/improvement was observed during the follow-up audit session.
Air Quality	17 February 2017	Observation: The dusty trail at the haul road near carpark should be cleared.	Rectification/improvement was observed during the follow-up audit session.
	2017 To cover the stockpile of dusty material by		Follow-up action will be reported in the next reporting month.
	21 February 2017	<u>Reminder:</u> To remove the used cement bags from Portion SW3 to prevent dust emission.	Follow-up action will be reported in the next reporting month.
	21 February 2017	<u>Reminder:</u> To provide valid NRMM label for generator at Portion SW3.	Follow-up action will be reported in the next reporting month.
Noise			
	24 January 2017	Observation: Wastes and construction materials at VT1 and near Tsat Po Street should be removed to prevent accumulation.	Rectification/improvement was observed during the follow-up audit session.
Waste/ Chemical	24 January 2017	<u>Reminder:</u> Chemical containers placed in SW3 should be properly removed or stored at appropriate storage area.	Rectification/improvement was observed during the follow-up audit session.
Management	8 February 2017	<u>Reminder:</u> The oil stain near the entrance of SW3 should be cleared.	Rectification/improvement was observed during the follow-up audit session.
	17 February 2017	Reminder: The oil stain near the access road of VT1 should be cleared.	Rectification/improvement was observed during the follow-up audit session.
Landscape and Visual			
Permits/ Licenses			

Summary of Observation and Recommendation Made during Site Inspection in February 2017

Parameters	Date	Observations and Recommendations	Follow-up		
Water Quality	21 February 2017	<u>Reminder:</u> To remove dusty material from near site boundary at VT1.	Rectification/improvement was observed during the follow-up audit session.		
	21 February 2017	<u>Reminder:</u> To cover the stockpile of dusty material by impervious sheet after work at VT1.	This item was remarked on 1 March 2017.		
	21 February 2017	<u>Reminder:</u> To remove the used cement bags from Portion SW3 to prevent dust emission.	Rectification/improvement was observed during the follow-up audit session.		
	21 February 2017	<u>Reminder:</u> To provide valid NRMM label for generator at Portion SW3.	Rectification/improvement was observed during the follow-up audit session.		
Air Quality	1 March 2017	<u>Reminder:</u> Stockpile of dusty materials near Concorde Road, Prince Edward Road East and EMSD should be properly covered after work.	Rectification/improvement was observed during the follow-up audit session.		
	15 March 2017	<u>Reminder:</u> Stockpile of dusty material placed at near TI Tower and former KTOB should be properly covered to avoid dust generation.	Rectification/improvement was observed during the follow-up audit session.		
	21 March 2017	<u>Observation:</u> Dusty stockpile placed at near CLP substation should be properly covered for dust suppression.	Rectification/improvement was observed during the follow-up audit session.		
	21 March 2017	<u>Reminder:</u> Opened cement bags should be properly covered for dust suppression.	Rectification/improvement was observed during the follow-up audit session.		
Noise					
	8 March 2017	<u>Reminder:</u> To contain the oil drum into the drip tray. (SW3).	Rectification/improvement was observed during the follow-up audit session.		
Waste/ Chemical Management	8 March 2017	<u>Reminder:</u> To sort the general refuse and C&D wastes into appropriate waste disposal area.	Rectification/improvement was observed during the follow-up audit session.		
	21 March 2017	<u>Reminder:</u> Drip tray should be provided to the chemical containers stored in SW3.	Rectification/improvement was observed during the follow-up audit session.		
Landscape	15 March 2017	<u>Reminder:</u> The fencing of tree protection zone near King Fuk Street should be properly erected.	Rectification/improvement was observed during the follow-up audit session.		
and Visual	31 March 2017	<u>Observation:</u> The construction material should be placed away from the tree protection zone at SW3.	Follow up action will be reported in the next reporting month.		
Permits/ Licenses					

Summary of Observation and Recommendation Made during Site Inspection in April 2017

Parameters Date		Observations and Recommendations	Follow-up	
Water Quality				
	7 April 2017	<u>Reminder:</u> The dusty track on the haul road near the Sze Mei Street should be cleared.	Rectification/improvement was observed during the follow-up audit session.	
Air Quality	13 April 2017	<u>Reminder:</u> Stockpile of dusty material placed at near Concorde Road should be properly covered.	Rectification/improvement was observed during the follow-up audit session	
	18 April 2017	<u>Reminder:</u> Clear the silty tyre marks near the site access of Tsat Po Street.	Rectification/improvement was observed during the follow-up audit session	
	26 April 2017	Reminder: Silty tyre marks near Sze Mei Street should be cleared.	Follow up action will be reported in the next reporting month.	
Noise				
Waste/ Chemical Management	26 April 2017	Reminder: Accumulated general refuse near former KTOB should be cleared.	Follow up action will be reported in the next reporting month.	
Landscape	31 March 2017	<u>Observation:</u> The construction material should be placed away from the tree protection zone at SW3.	This item was remarked on 7 April 2017.	
and Visual	7 April 2017	<u>Observation:</u> The construction material should be placed away from the tree protection zone at SW3.	Rectification/improvement was observed during the follow-up audit session.	
Permits/ Licenses				

APPENDIX G WASTE GENERATED QUANTITY

	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Borken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]
JAN	3.72310	0	0	0.15500	3.40455	0	0	0	0	0	0.16355
FEB	5.14235	0	0	0	4.92240	0	0	0	0	0	0.21995
MAR	17.63202	0	0	0	17.21112	0	0	0	0	0	0.42090
APR	0.44095	0	0	0	0	0	0	0	0	0	0.44095
MAY											
JUNE											
SUB- TOTAL	26.93841	0	0	0.15500	25.53806	0	0	0	0	0	1.24535
JULY											
AUG											
SEPT											
OCT											
NOV											
DEC											
TOTAL	26.93841	0	0	0.15500	25.53806	0	0	0	0	0	1.24535

Appendix B: MONTHLY SUMMARY WASTE FLOW TABLE FOR ______ (YEAR)

	Forecast of Total Quantities of C&D materials to be Generated from the Contracts *									
Total	Borken	Reused in the	Reused in	Disposal as	Import Fill	Metals	Paper /	Plastics (3)	Chemical	Other, e.g.
Quantity	Concrete (4)	Contract	other	Public Fill	ппрогі ғ ш	wietais	Cardboard	Plastics (3)	Waste	general
[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]
27.972	26.472	0	0	0	0	0	0.9	0	1.8	1.5

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the site.

(2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.

APPENDIX H SUMMARY OF EXCEEDANCES

Contract No. KL/2012/02 Kai Tak Development – Stage 3A Infrastructure at Former North Apron Area

Appendix H – Summary of Exceedance

Exceedance Report for Contract No. KL/2012/02

(A) Exceedance Report for Air Quality (NIL in the reporting period)

(B) Exceedance Report for Construction Noise (One non-project related Limit Level exceedance was rerecord at M4 on 15 March 2017)

Station	Date	Measured Noise Level, Leq(30min) dB (A)	Baseline Level dB (A)	Construction Noise Level: Leq(30min) dB (A)	Limit Level	Level exceeded
M4	15-Mar-17	79.4	76.7	76.1	70.0	Limit Level

According to the information provided by the Contractor, no construction works was conducted during the measurement period (12:30 - 13:00). The exceedance was considered as non-project related as the major noise sources were the traffic noise from Prince Edward Road East.

(One non-project related Limit Level exceedance was rerecord at M3 on 11 April 2017)

Station	Date	Measured Noise Level, Leq(30min) dB (A)	Baseline Level dB (A)	Construction Noise Level: Leq(30min) dB (A)	Limit Level	Level exceeded
M3	11-Apr-17	79.9	77.9	75.6	70.0	Limit Level

According to the information provided by the Contractor, the major site activities undertaken on 11 April 2017 included:

- Railing construction at VT1 near Tsat Po Street
- Paving block laying at Pedestrian Street adjoining TI tower
- Erection of bamboo scaffolding for install SW2- LTA glass panel
- Erection of formwork for pillar box
- Carry out Sand Replacement Testing at Prince Edward Road East
- Rebar fixing for SW2B top slab
- General house keeping work
- Kerb laying at Concorde road
- Apply joint sealant to the M. J. of SW3
- Reinstate concrete footpath at Tai Yau Street

The noise impact arose from the above construction works were expected to be minimal as no noisy PME were involved. The major noise source received at M3 were likely to be the traffic noise from Prince Edward Road East or from other construction sites. Therefore, the exceedance was considered to be non-project related.

(C) Exceedance Report for Landscape and Visual (NIL in the reporting period)

ANNEX I COMPARISON OF EM&A DATA AND EIA PREDICTIONS

Annex I – Comparison of EM&A Data and EIA Predictions

		Predi	cted 1-hr TSP	conc.	
Station	Scenario1 (Mid 2009 to Mid 2013), μg/m ³	Scenario2 (Mid 2013 to Late 2016), μg/m ³	Reporting Month (Feb 17), µg/m3	Reporting Month (Mar 17), µg/m3	Reporting Month (Apr 17), µg/m3
AM1(B) – Contractor Site Office of KL/2012/02	192	298	155.6	111.1	154
AM2 – Lee Kau Yan Memorial School	290	312	149.9	84.0	111

Comparison of 1-hr TSP data with EIA predictions

Comparison of 24-hr TSP data with EIA predictions

		Predic	ted 24-hr TSI	conc.	
Station	Scenario1 (Mid 2009 to Mid 2013), μg/m ³	Scenario2 (Mid 2013 to Late 2016), µg/m ³	Reporting Month (Feb 17), µg/m3	Reporting Month (Mar 16), µg/m3	Reporting Month (Apr 17), µg/m3
AM1(B) – Contractor Site Office of KL/2012/02	121	156	53.7	110.2	100
AM2 – Lee Kau Yan Memorial School	145	169	47.5	67.6	93

Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A))	Reporting Month (Feb 17), L _{eq (30min)} dB(A)	Reporting Month (Mar 17), L _{eq (30min)} dB(A)	Reporting Month (Apr 17), L _{eq (30min)} dB(A)
M3- Cognitio College	47 – 75	63.7 - 69.5	67.5 – 78.1 ⁽¹⁾	$65.4 - 77.8^{(1)(4)}$
M4 - Lee Kau Yan Memorial School	47 – 74	60.4 - 76.4 ⁽²⁾	73.9 - 76.6 ⁽³⁾	$60.4 - 73.7^{(2)}$
M9 – Tak Long Estate	Not Predicted in EIA Report	59.8 - 64.5	59.3 - 73.0	65.0 - 68.1

Comparison of Noise Monitoring Data with EIA predictions

Remark*:

- (1) Since the background noise level recorded during 12:00 to 13:00 was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.
- (2) Since the baseline noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.
- (3) The exceedance recorded on 15 March 2017 at monitoring station M4 was considered as non-project related exceedance.
- (4) The exceedance recorded on 11 April 2017 at monitoring station M3 was considered as non-project related exceedance.

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Appendix **B**

Monthly EM&A Report For Contract No. KL/2012/03 Kai Tak Development - Stage 4 Infrastructure at North Apron Area

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Civil Engineering and Development Department

EP-344/2009 – New Sewage Pumping Stations Serving KTD and EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KL/2012/03 Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area

Quarterly EM&A Summary Report

March 2017 - May 2017

(Version 1.0)

Approved By	Chyp
	(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

CINOTECH CONSULTANTS LTD Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk



Cinotech Consultants Limited Room 1710, Technology Park, 18 On Lai Street, Shatin, New Territories

For the attention of: Dr. Priscilla Choy

Subject: Contract No. KL/2012/03 Kai Tak Development – Stage 4 Infrastructure at Former North Apron Area <u>Verification for Quarterly EM&A Summary Report</u> (March - May 2017) (Ref. Draft Qrpt1703-1705 v1.0)

Our ref: EB001399-320/THW18-36756 Your ref: Date: 1 February 2018

Dear Dr. Choy,

We have no adverse comments on the captioned report and hereby verify the report.

Should you have any queries, please feel free to contact the undersigned on 2911 2744.

Yours faithfully, For and on behalf of Arcadis Design & Engineering Limited

F Nowong I Independent Environmental Checker

cc. Mr. John Yam (AECOM) (By-email)

FN/my

ARCADIS DESIGN & ENGINEERING LIMITED

20/F, AXA Tower, Landmark East 100 How Ming Street Kwun Tong, Kowloon Hong Kong

Tel +852 2911 2233 Fax +852 2805 5028 arcadis.com

By Email

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EXECUTIVE SUMMARY

Introduction

1. This is the 14th Quarterly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2012/03 - Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This summary report presents the EM&A works performed in the period between March 2017 and May 2017.

Environmental Monitoring Works

- 2. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 3. Summary of the non-compliance in the reporting quarter for the Project is tabulated in Table I.

Parameter	No. of Excee	edance	Action					
Parameter	Action Level	Limit Level	Taken					
March 2017	March 2017							
1-hr TSP	0	0	N/A					
24-hr TSP	0	0	N/A					
Noise	0	0	N/A					
April 2017								
1-hr TSP	0	0	N/A					
24-hr TSP	0	0	N/A					
Noise	0	0	N/A					
May 2017	May 2017							
1-hr TSP	0	0	N/A					
24-hr TSP	0	0	N/A					
Noise	0	0	N/A					

Table I Non-compliance Record for the Project in the Reporting Quarter

4. No exceedance was recorded at any air quality or noise monitoring station during the reporting period.

Key Information in the Reporting Quarter

5. Summary of key information in the reporting quarter is tabulated in Table II.

Table II	Summary	Table for H	Key Information	in the Re	porting Quarter
----------	---------	--------------------	-----------------	-----------	-----------------

Event	Event Details		Action Taken	Status	Remark	
	Number	Nature				
Complaint received	0		N/A	N/A		
Reporting Changes	0		N/A	N/A		
Notifications of any summons & prosecutions received	0		N/A	N/A		

6. Environmental monitoring works for the Project are considered effective and are generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

1. INTRODUCTION

Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 4 Infrastructure at Former North Apron Area is one of the construction stages of KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 The construction activities undertaken in the reporting quarter were:
 - Daily Cleaning;
 - Finishing works, E&M work in PS2;
 - Water test, backfill and sheet-pile removal in Heading 7A, DCS pipe installation;
 - Segment tunneling, backfill and sheet-pile removed chamber construction in Heading 7B;
 - Road widening works (excavation and UU works) at Sung Wong Toi Road;
 - Maintenance & Servicing Engineer's Office at Portion 9;
 - Install fitting inside chamber in Pit 1 and Pit 5;
 - Rising Main installation in Pit 2, Pit 4, Pit6/7 and Pit 9;
 - Pipe Jacking from Pit 10 to Pit 9;
 - Installation of drainage, UU laying works and Road works at Road D2;
 - Finishing works and E&M works at NPS;
 - UU works and Road works at Road L19 & Bailey St;
 - Refer construction works of NPS in Portion 4 sewerage; and
 - Removal of excavated material at Portion 6.
- 1.3 Cinotech Consultants Limited (Cinotech) was commissioned by Kwan On Construction Co., Ltd. (the Contractor) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2012/03 - Stage 4 Infrastructure at Former North Apron Area. The construction work under KL/2012/03 comprises the construction of Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two EPs (EP-337/2009 and EP-344/2009).
- 1.4 The construction commencement of this Contract was on 1st December 2013 for Road D2, Sewage Pumping Station PS2 and PS NPS. This summary report presents the EM&A works performed in the period between March 2017 and May 2017.

Project Organizations

- 1.5 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Engineer and the Engineer's Representative (ER) AECOM.
 - Environmental Team (ET) Cinotech Consultants Limited (CCL).
 - Independent Environmental Checker (IEC) Arcadis Design & Engineering Limited. (Arcadis).
 - Contractor –Kwan On Construction Co., Ltd. (Kwan On).

• Contractor – Kwan On Construction Co., Ltd. (Kwan On).

1.6 The key contacts of the Project are shown in **Table 1.1**.

Table 1.	.1 Ke	ey Project Contacts			
Party	Role	Contact Person	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. C. K. Choi	Senior Engineer	2301 1174	2301 1277
AECOM	Engineer's	Mr. John Yam	SRE	2798 0771	3013 8864
AECOM	Representative	Mr. Jacky Pun	RE	2798 0771	3013 8804
	Environmentel	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	
Cinotech	Environmental Team	Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	3107 1388
Arcadis	Independent Environmental Checker	Mr. Wong Fu Nam	Independent Environmental Checker	2911 2744	2805 5028
		Mr. Albert Ng	Site Agent	3689 7752	3689 7726
Kwan On	Contractor			6146 676 telephone nur	X

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. The Project area and monitoring locations are depicted in Figures 2 and 3. Appendix A gives details of monitoring requirements.

Environmental Quality Performance Limits (Action and Limit Levels)

2.2 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix B**.

Implementation Status of Environmental Mitigation Measures

2.3 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix E**.

Site Audit Summary

2.4 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix F**.

Status of Waste Management

2.5 The amount of wastes generated by the major site activities of this Project during the reporting quarter is shown in **Appendix G**.

3. MONITORING RESULTS AND NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

3.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix H**.

Weather Conditions

3.2 The detail of weather conditions for each individual monitoring session was presented in monthly EM&A report.

Air Quality

1-hour TSP Monitoring

- 3.3 Most 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.
- 3.4 1-hour TSP monitoring at AM4(A) EMSD Workshop was cancelled due to unsuccessful accessibility to the facility. 1-hr TSP monitoring was conducted at AM4(B) Ma Tau Kok Road (next to EMSD workshop) temporarily, and was subsequently shifted to and resumed at AM4(C) New Pumping Station starting from 19 May 2017.
- 3.5 1-hour TSP monitoring at AM5(A) Po Leung Kuk Ngan Po Ling College was shifted to AM5 CCC Kei To Secondary School on 12 April 2017 due to no permission was granted from the premise.
- 3.6 For 1-hr TSP monitoring, all results at AM2, AM3(A), AM4(C) and AM5 are adopted from Schedule 3 of KTD except for date 19, 25 and 31 May 2017 at AM4(C), which were conducted by ET under Contract No. KL/2012/03.

24-hour TSP Monitoring

- 3.7 Most 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.
- 3.8 24-hour TSP monitoring at AM4(A) EMSD Workshop was cancelled due to unsuccessful accessibility to the facility. The alternative monitoring location was shifted to AM4(C) New Pumping Station under Contract No. KL/2012/03 starting from 23 May 2017.
- 3.9 24-hour TSP monitoring at AM5(A) Po Leung Kuk Ngan Po Ling College was cancelled starting from 9 Mar 2017 due to no permission was granted from the premise.
- 3.10 For 24-hr TSP monitoring, all results at AM2, AM3(A), AM4(C) and AM5 are adopted from Schedule 3 of KTD except for date 23 and 29 May 2017 at AM4(C), which were conducted by ET under Contract No. KL/2012/03.
- 3.11 The graphical presentations of the air quality monitoring results are shown in Appendix C.

Construction Noise

- 3.12 All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action and Limit Level exceedance was recorded.
- 3.13 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

Landscape and Visual

3.14 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures of this project. No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

Influencing Factors on the Monitoring Results

3.15 During the reporting period, the major dust and noise sources identified at the designated monitoring stations are as follows:

Station	Major Dust Source
AM2 – Lee Kau Yan Memorial School	Road traffic dust
	Exposed site area and open stockpiles
	Site vehicle movement
AM3(A) – Holy Trinity Bradbury	Road traffic dust
Centre	Exposed site area
	Excavation works
	Site vehicle movement
AM4(A) – EMSD Workshops	Site vehicle movement
AM4(B) – Ma Tau Kok Road (next to	Site vehicle movement
EMSD workshops)(Temporary)	
AM4(C) – New Pumping Station under	Site vehicle movement
Contract No. KL/2012/03	
AM5(A) – Po Leung Kuk Ngan Po	Road traffic dust
Ling College	Excavation works at the site (Contract No.:
	1/WSD/14(K)) facing Po Leung Kuk Ngan Po
	Ling College

Table 3.1 Major Dust Sources in the Reporting Period

Table 3.2	Major Noise	Sources d	luring the	Monitoring	g in the	Reporting Period
				· · · · ·		· · · · · · · · · · · · · · · · · · ·

Monitoring Stations	Locations	Major Noise Source	
M6(A)	Oblate Primary School	Road and marine traffic noise	
M7	CCC Kei To Secondary School	Road and marine traffic noise	
M8	Po Leung Kuk Ngan Po Ling College	Excavation works at the site (Contract No.: 1/WSD/14(K)) facing Po Leung Kuk Ngan Po Ling College	
M9	Tak Long Estate	Road paving and asphalt paving works	

Comparison of EM&A results with EIA predictions

- 3.16 According to Section 16.7.1 (viii) of the EM&A Manual, the EM&A data are compared with the EIA predictions and summarized in **Annex I**.
- 3.17 The average 1-hour and 24-hour TSP concentrations in the reporting period were generally well below the prediction in the approved Environmental Impact Assessment (EIA) Report. No Action/Limit Level exceedance was recorded.
- 3.18 The noise monitoring results in most of the reporting month were within the range of predicted mitigated construction noise levels in the EIA report. No Action/Limit Level exceedance was recorded.

4. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

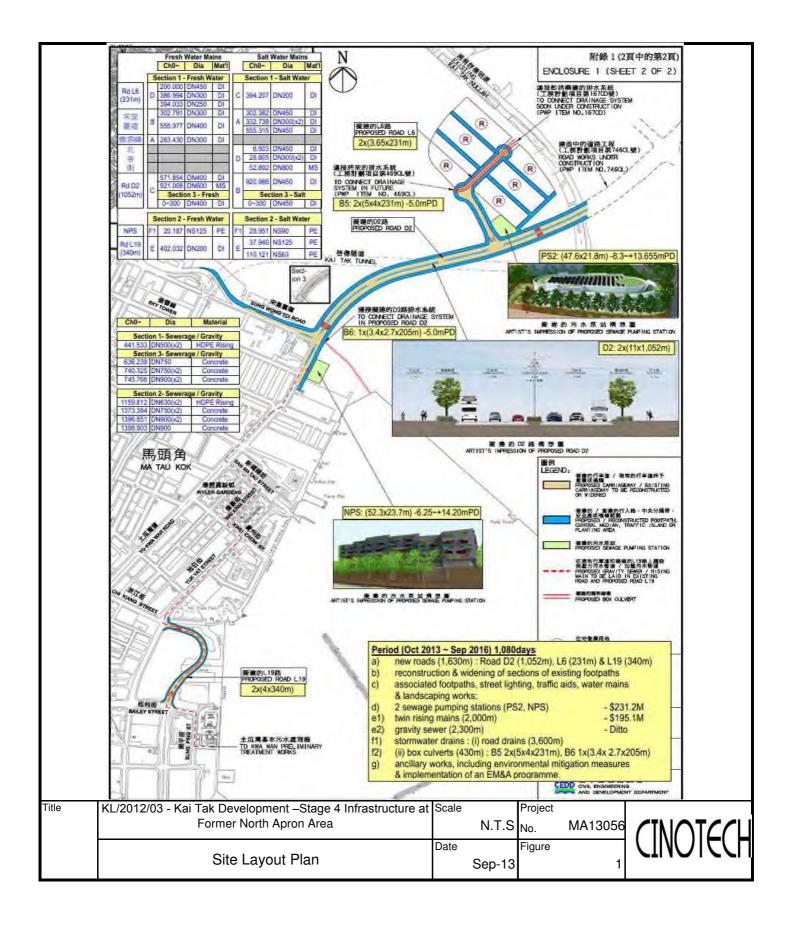
Review of the Reasons for and the Implications of Non-compliance

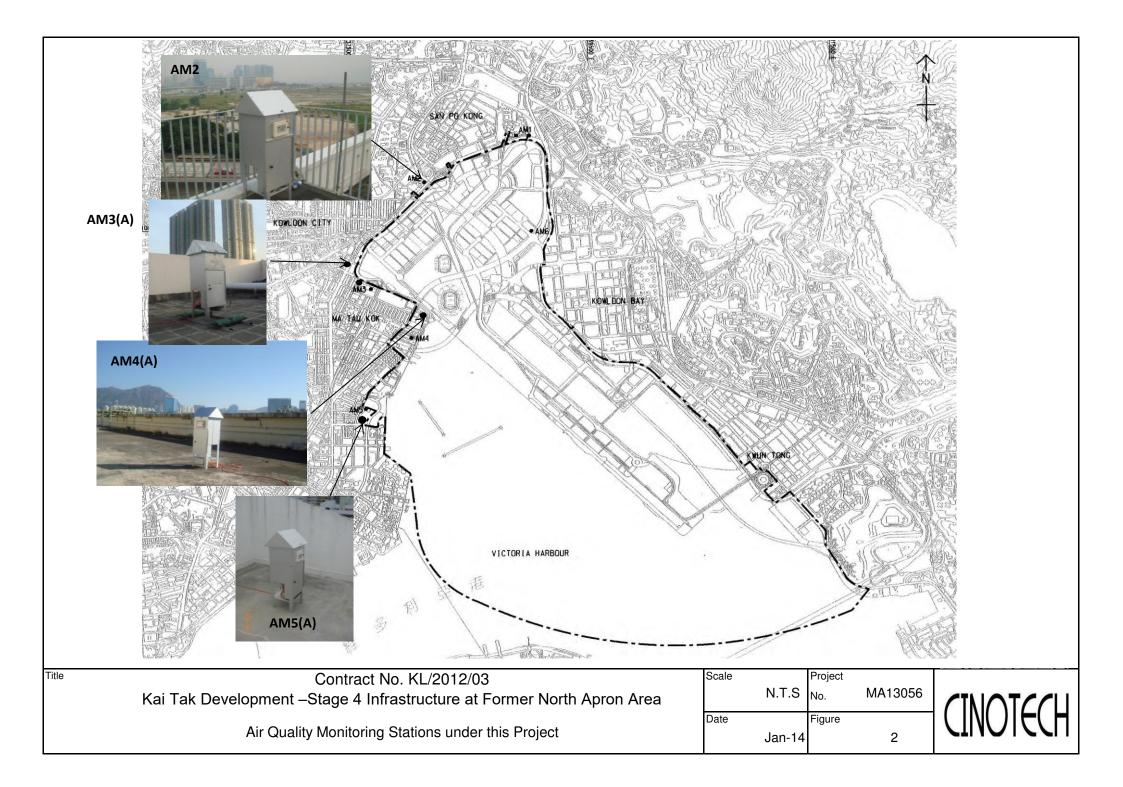
4.1 No Action/Limit Level exceedance was recorded at all air quality and noise monitoring stations in the reporting quarter.

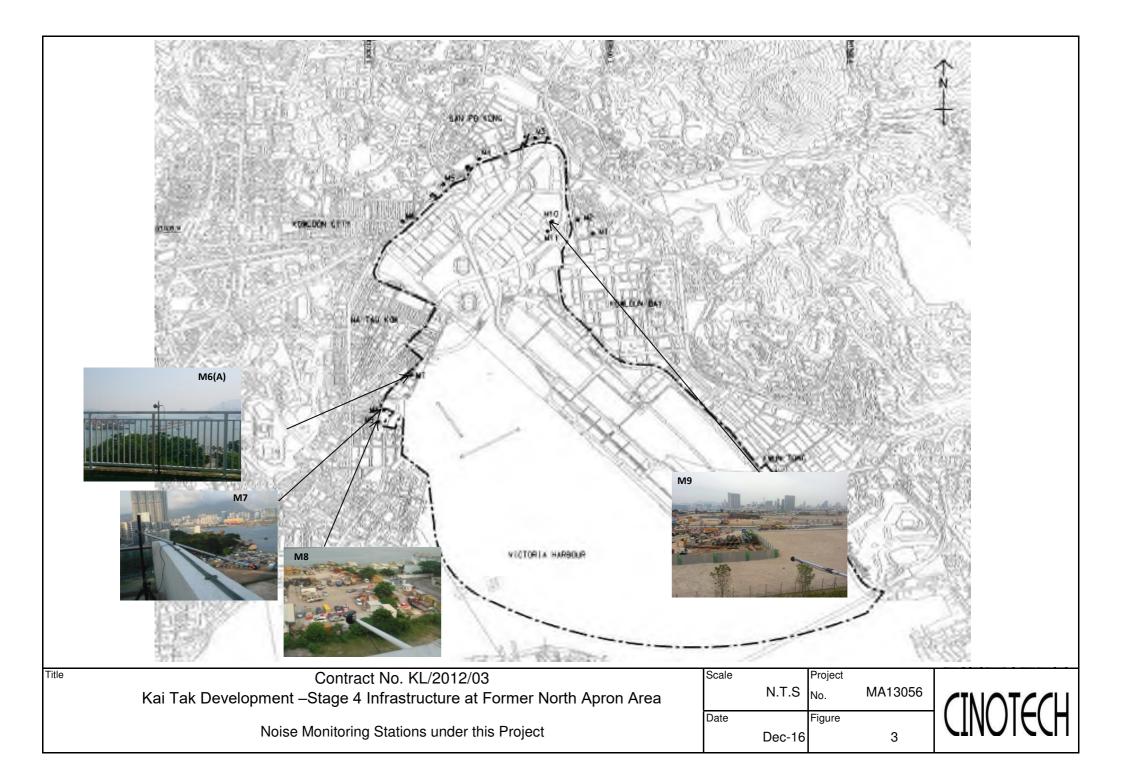
Effectiveness of Mitigation Measures

- 4.2 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 4.3 The Contractor has implemented the recommended mitigation measures.
- 4.4 Environmental monitoring works performed in the reporting quarter and all monitoring results were checked and reviewed. No non-compliance (exceedances) of Action/Limit Level was recorded.
- 4.5 No environmental complaints and environmental prosecution were received in the reporting quarter.
- 4.6 The effectiveness of environmental management is satisfactory given that the recommendations given in the site inspections performed in the reporting period (as shown in **Appendix F**) are met.

FIGURES







APPENDIX A MONITORING REQUIREMENTS

Appendix A - Environmental Impact Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
	1 hour TSP	Three times / 6 days		
Air Quality	24 hour TSP	Once / 6 days	 AM2 – Lee Kau Yan Memorial School AM3(A) – Holy Trinity Bradbury Centre AM4(A) – EMSD Workshop AM5(A) – Po Leung Kuk Ngan Po Ling College #AM6 – PA 15 	 AM2 – Rooftop (about 8/F) Area AM3(A) - Rooftop (about 8/F) Area AM4(A) - Rooftop (about 6/F) Area AM5(A) - Rooftop (about 10/F) Area #AM6 – Site 1B4 (Planned)

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L _{eq} , L ₉₀ & L ₁₀ at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	 M6 – Holy Carpenter Primary School M6(A) - Oblate Primary School M7 – CCC Kei To Secondary School M8 – Po Leung Kuk Ngan Po Ling College M9 – Tak Long Estate (from April 2014 onward) #M10 (Site 1B4 (Planned)) 	 M6 - Facade measurement at Rooftop (about 7/F) Area M6(A) – Free-field measurement at Rooftop (about 7/F) Area M7 - Facade measurement at Rooftop (about 8/F) Area M8 - Facade measurement at Staircase Area (about 9/F) M9 – Façade measurement at 2/F Podium #M10 (Site 1B4 (Planned))

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

APPENDIX B ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

Appendix B - Action and Limit Levels

Location	Action Level, µg/m ³	Limit Level, µg/m ³
AM2	346	
AM3(A)	351	500
AM4(A)	371	500
AM5(A)	345	

Table B-1 Action and Limit Levels for 1-Hour TSP

Table B-2	Action and Limit Levels for 24-Hour TSP
Table D-2	Action and Linni Levels for 24-mout 15F

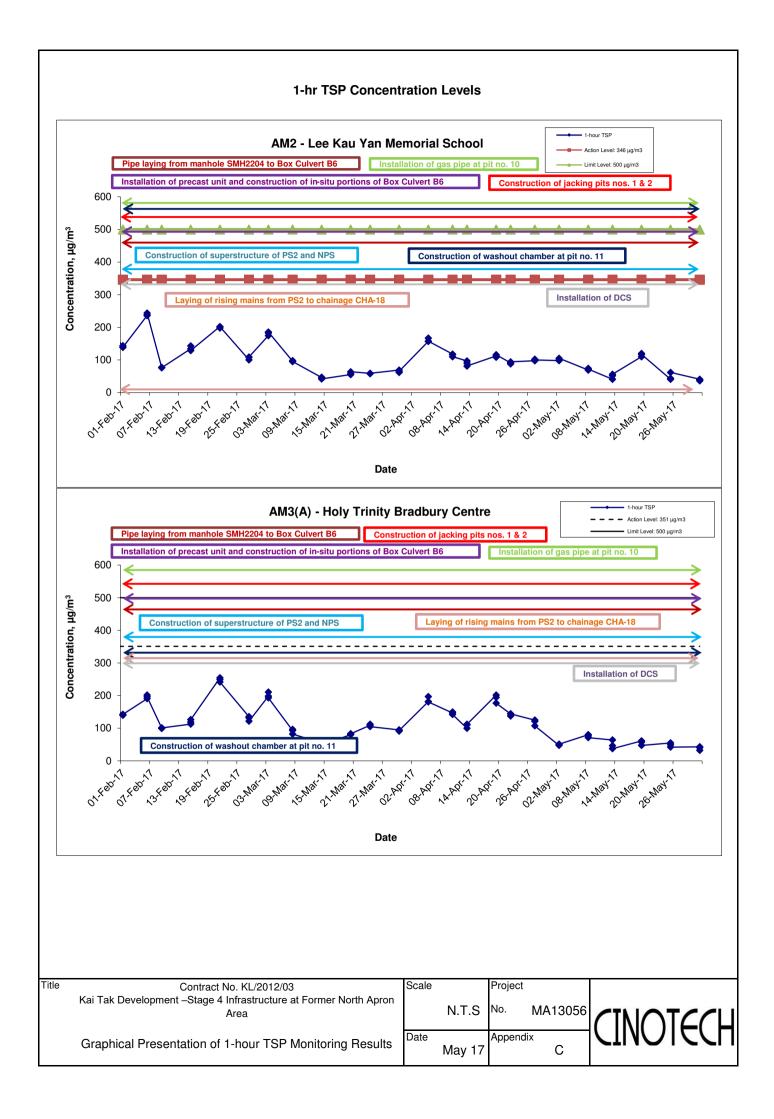
Location	Action Level, μg/m ³	Limit Level, µg/m ³
AM2	157	
AM3(A)	167	260
AM4(A)	187	260
AM5(A)	156	

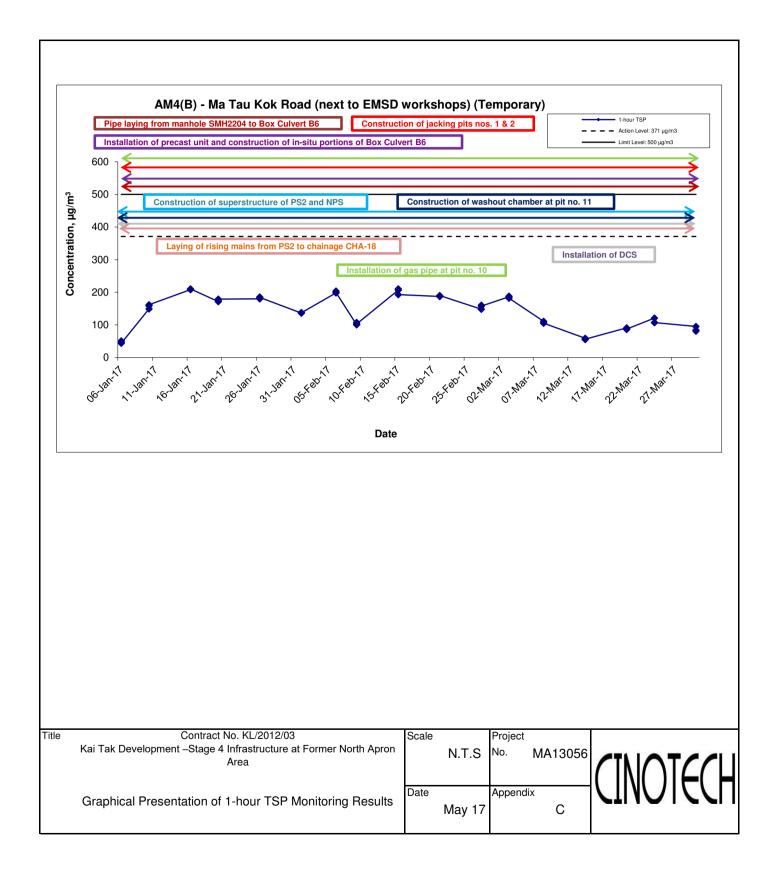
Table B-3 Action and Limit Levels for Construction Noise

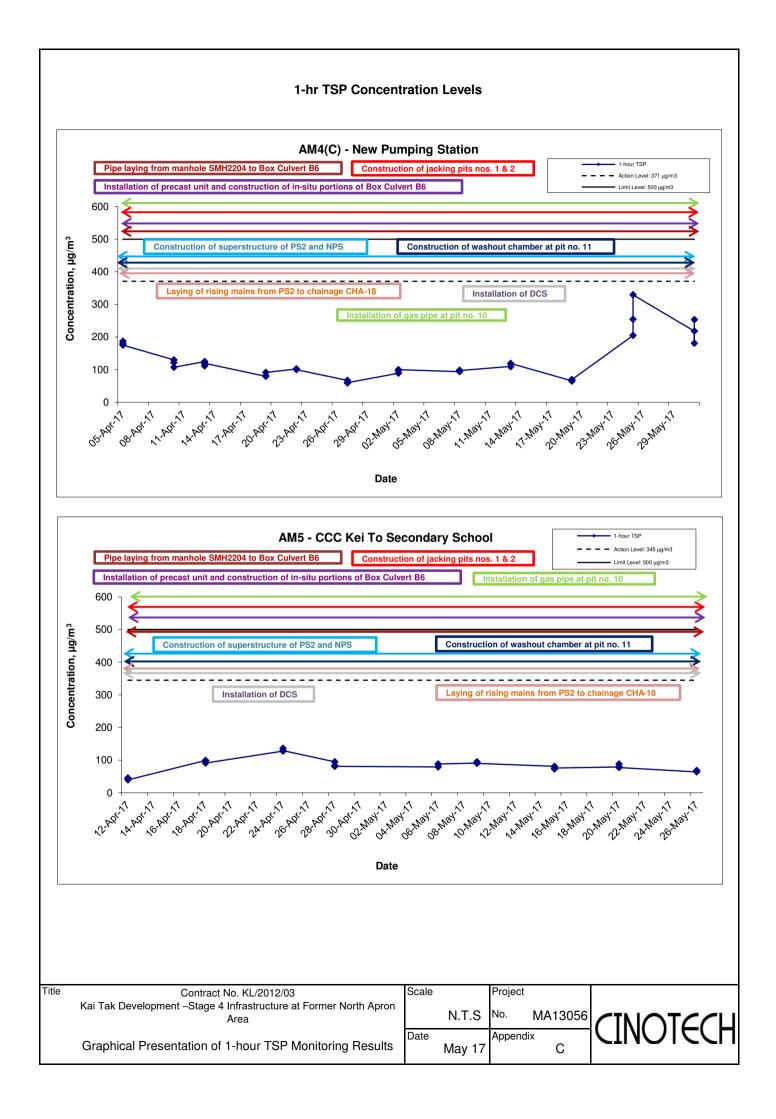
Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

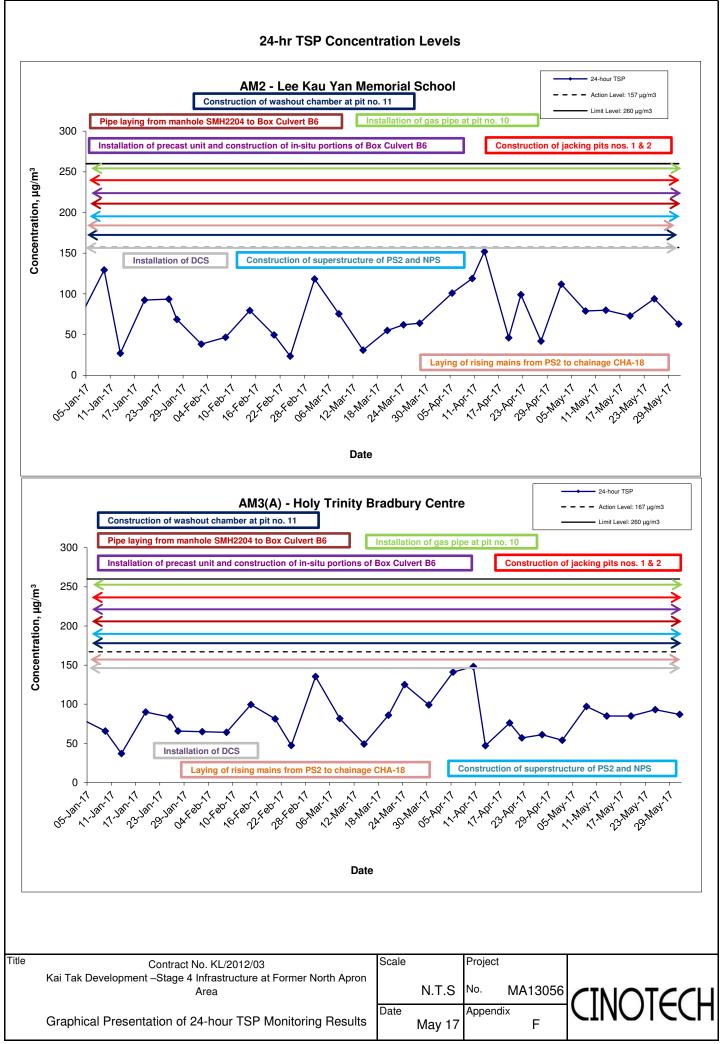
Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

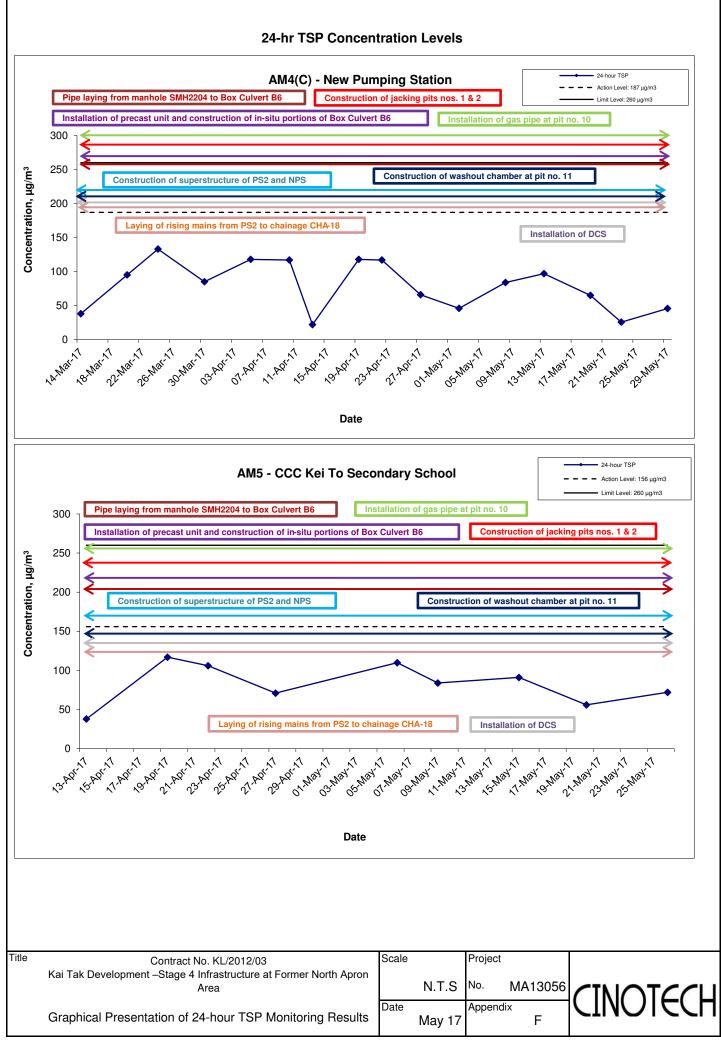
APPENDIX C GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS



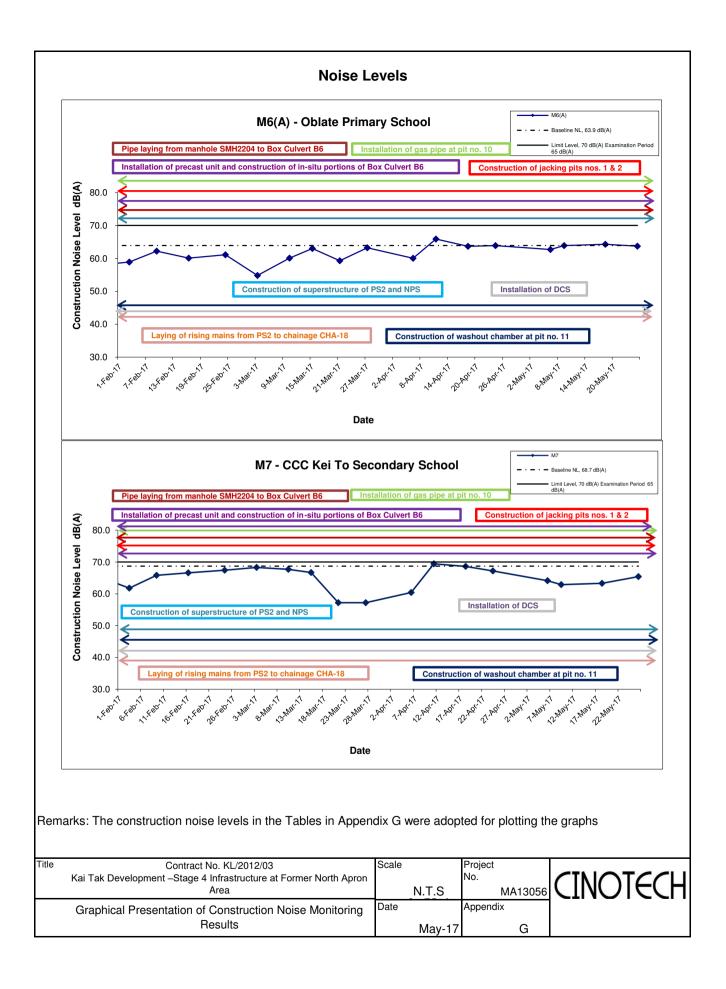


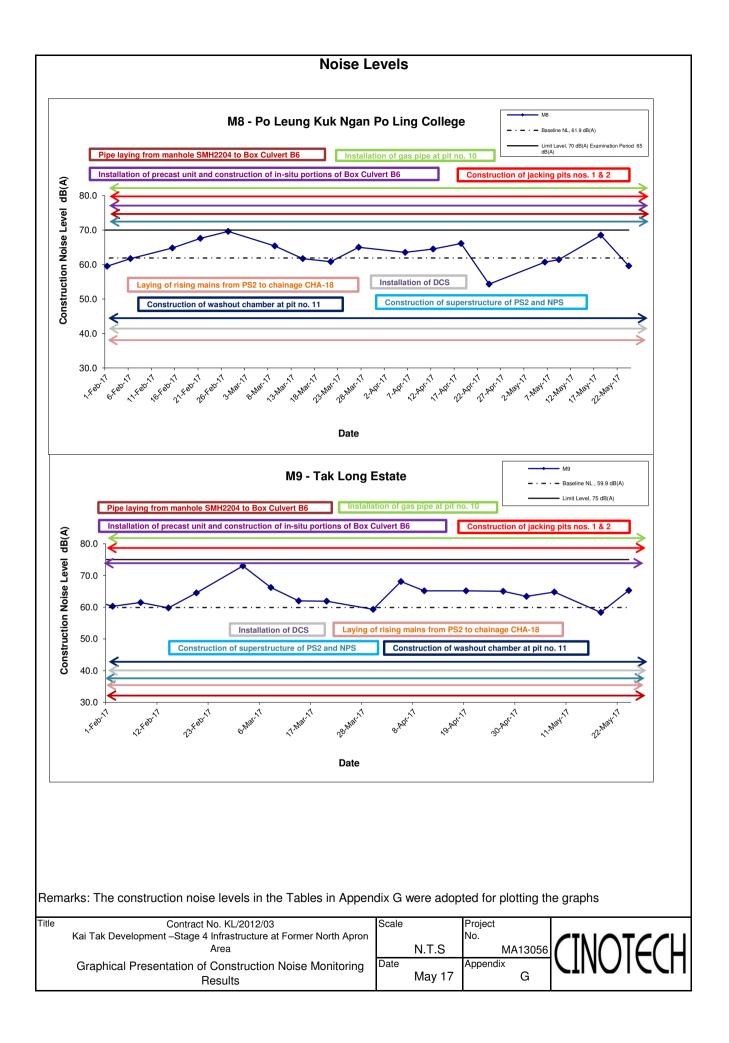






APPENDIX D GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS





APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix K - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

Types of Impacts	Mitigation Measures	Status
Inpacts	8 times daily watering of the work site with active dust emitting activities. 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 minimize cumulative dust impacts.	
	 Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. 	٨
	 Misting for the dusty material should be carried out before being loaded into the vehicle. 	^
	 Any vehicle with an open load carrying area should have properly fitted side and tail boards. 	^
	 Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. 	^
	 The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation. 	٨
Construction Dust	 The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free of lose materials. 	٨
	 Vehicle washing facilities should be provided at every vehicle exit point. 	*
	 The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete. 	^
	 Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. 	^
	 Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides. 	^
	 Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. 	^

	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump	^
	 Good Site Practice: Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. Silencers or muttlers on construction equipment should be utilized and should be properly maintained during 	^ N/A(1)
	 the construction program. Mobile plant, if any, should be sited as far away from 	^
	NSRs as possible.	
	 Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. 	^
	 Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. 	^
	 Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	^
	Scheduling of Construction Works during School Examination Period	^
Construction Noise	 (i) Provision of low noise surfacing in a section of Road L2; and 	N/A
	(ii) Provision of structural fins	N/A
	(i) Avoid the sensitive façade of class room facing Road L2 and L4; and	N/A
	(ii) Provision of low noise surfacing in a section of Road L2 & L4	N/A
	 (i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and 	N/A
	(ii) Setback of building about 5m from site boundary.	N/A
	Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
	 avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and 	N/A
	(ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window.	N/A

	 avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or 	N/A
	(ii) provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s) located at less than 55m away from To Kwa Wan Road to no more than	N/A
	 (i) 25m above ground. avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic noise impacts from the slip road 	N/A
	All the ventilation fans installed in the below will be provided with silencers or acoustics treatment.	N/A
	(i) SPS	N/A
	(ii) ESS (iii) Tunnel Ventilation Shaft	N/A
	(iv) EFTS depot	N/A
	Installation of retractable roof or other equivalent measures	N/A
Construction Water Quality	 The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including: Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply; Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps; An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided so that swift actions could be taken in case of malfunction of unmanned facilities. Land-based Construction 	N/A N/A N/A N/A
	Exposed soil areas should be minimised to reduce the potential for increased silitation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities	Λ

Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	۸
ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	۸
Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	^
Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	^
Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	^
Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	٨
Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	^

All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.

It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.

All temporary and permanent drainage pipes and culverts provided to facilitate runolf discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.

All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.

Sewage Effluent

Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical tollets prior to the commission of the on-site sewer system. Appropriate numbers of portable tollets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.

Stormwater Discharges

Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes

N/A

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Λ

Debris and Litter	Λ
In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials. litter or wastes to marine waters does not occur	
Construction Works at or in Close Proximity of Storm Culvert or Seafront	
The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low.	^
The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah.	^
Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.	^
Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	^
Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.	^
Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.	^
Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	^
Construction effluent, site run-off and sewage should be properly collected and/or treated.	^
Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	^
Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials.	^
Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	^

	closely supervise and monitor the works Marine water quality monitoring and audit programme shall be implemented for the proposed sediment	A
8	shall be implemented for the proposed sediment	^
1	treatment operation.	
	Good Site Practices	
	It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during 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 	۸
	 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 	^
	 A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) 	^
	Waste Reduction Measures Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste	
	 Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals 	٨
	 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 	٨
	 other general refuse generated by the work force Any unused chemicals or those with remaining 	^
	 functional capacity should be recycled Proper storage and site practices to minimise the potential for damage or contamination of construction materials 	^

Construction and Demolition Material	
 Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles should be located away from waterfront or storm drains as far as possible 	^
 Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric 	^
 Skip hoist for material transport should be totally 	^
 enclosed by impervious sheeting Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site 	٨
 The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores 	^
 The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle 	^
 All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet 	^
 The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading 	Λ
When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.	^
Chemical Waste	
After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should 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	^
 E-8	I

	General Refuse			
	General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem			
	CM1 All existing trees should be carefully protected during construction.	^		
Landscape and Visual	CM2 Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	N/A		
	CM3 Control of night-time lighting.	٨		
	CM4 Erection of decorative screen hoarding.	^		

Remarks:	 Compliance of mitigation measure; 			
	X Non-compliance of mitigation measure;			
	N/A Not Applicable at this stage;			
	N/A(1) Not observed;			
	• Non-compliance but rectified by the contractor;			
	* Recommendation was made during site audit but improved/rectified by the contractor.			

APPENDIX F SITE AUDIT SUMMARY

Appendix F Summary of Observation and Recommendation Made during Site Inspection

Summary of Observation and Recommendation Made during Site Inspection in March 2017

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	3 March 2017	<u>Observation:</u> Muddy sewage should be treated before discharge at Pit 2.	Sewage treatment facility was provided. Discharge was cleaned.
Air Quality	10 March 2017	<u>Reminder:</u> Stockpile of dusty material should be properly covered. (near PS2)	Item was remarked as 170317- R01.
Air Quanty	17 March 2017	<u>Reminder:</u> Stockpile of dusty material should be properly covered. (near PS2)	Stockpile of dusty material was covered.
Noise			
	10 March 2017	Reminder: Oil stain should be properly cleared as chemical waste.	Oil stain was cleared.
Waste/Chemical	17 March 2017	<u>Reminder:</u> General refuse should be disposed of regularly. (near Contractor's office)	General refuse was removed.
Management	22 March 2017	Reminder: Oil stain should be cleared.	Oil stain was cleared.
	31 March 2017	<u>Reminder:</u> Construction waste should be removed regularly. (next to PS2)	Construction waste was removed.
Landscape and Visual			
Permits /Licences			

Observations and Recommendations of Site Inspections for EP-337/2009

Observations and Recommendations of Site Inspections for EP-344/2009

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	31 March 2017	<u>Observation:</u> Muddy sewage should be treated before discharge and sedimentation tank should be well-maintained. (NPS)	Sewage was observed clean.
Air Quality			
Noise			
Waste/Chemical Management			
Landscape and Visual			

Parameters	Date	Observations and Recommendations	Follow-up
Permits /Licences			

Summary of Observation and Recommendation Made during Site Inspection in April 2017

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality			
Noise			
	7 April 2017	Observation: Oil stain should be cleared.	Oil stain was cleared.
Waste/Chemical	7 April 2017	Observation: Chemical should be stored at area with drip tray.	Drip trays were provided.
Management	7 April 2017	<u>Reminder:</u> Construction waste should be removed regularly.	Construction waste was cleared.
	19 April 2017	<u>Reminder:</u> Oil container should be provided with drip tray. (near Contractor's site office)	Oil container was removed.
Landscape and Visual			
Permits /Licences			

Observations and Recommendations of Site Inspections for EP-337/2009

Observations and Recommendations of Site Inspections for EP-344/2009

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality			
Noise			
Waste/Chemical Management			
Landscape and Visual			
Permits /Licences			

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	26 May 2017	<u>Reminder:</u> Sedimentation tank should be well- maintained and ensure that no muddy water was diverted to public drainage. (Heading)	Item was remarked on 2 Jun 2017. Follow-up action will be reported in next reporting month.
Air Quality	12 May 2017	<u>Reminder:</u> Water spraying should be provided to the haul road.	Haul road was observed wet.
Noise			
Waste/Chemical Management	17 May 2017	<u>Reminder:</u> Accumulated waste should be disposed of regularly. (near Contractor's site office)	Waste was cleared regularly.
Landscape and Visual			
Permits /Licences			

Observations and Recommendations of Site Inspections for EP-344/2009

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	26 May 2017	Sedimentation tank should be well- maintained and ensure that no muddy water was diverted to public drainage. (NPS)	Item was remarked on 2 Jun 17. Follow up action will be reported in next reporting month.
Air Quality			
Noise			
Waste/Chemical Management			
Landscape and Visual			
Permits /Licences			

APPENDIX G MONTHLY SUMMARY WASTE FLOW TABLE

APPENDIX IV Monthly Summary Waste Flow Table

(PS Clause 1.86)

Name of Department: CEDD

Contract No. : KL/2012/03

Monthly Summary Waste Flow Table for May 2017 (year) (in tons)

			Actual	Actual Quantities of Inert C&D Materials Generated Monthly			Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Disposal Loads	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemicals Waste	Others, e.g. general refuse
	(No.s)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)	(in tons)
2013 (Oct - Dec) Sub-Total	108	463.69	0	0	0	0	0	0	0	0	0	463.69
2014 (Jan – Dec) Sub-Total	24	16925.7	0	0	16798.93	83.66	1804.27	0	0	0	0	43.11
2015 (Jan – Dec) Sub-Total	284	81859.97	0	0	38291.91	43457.21	19920	0	0	0	0	310.26
2015 (Jan – Dec) Sub-Total	3369	50762.64	0	0	0	49894.67	4020	0	0	0	0	867.95
Jan-17	23	107.63	0	0	0	58.53	0	0	0	0	0	39.1
Feb-17	1227	18948.76	0	0	0	18898.13	0	0	0	0	0	50.63
Mar-17	307	4426.51	0	0	0	4379.15	0	0	0	0	0	157.74
Apr-17	124	1741.5	0	0	0	1703.61	0	0	0	0	0	37.89
May-17	111	1608.02	0	0	0	1590.33	0	0	0	0	0	17.69
Jun-17												
Jul-17												
Aug-17												
Sep-17												
Oct-17												
Nov-17												
Dec-17												
Total	5577	176844.42	0	0	55090.84	120065.3	25744.27	0	0	0	0	1988.06

APPENDIX H SUMMARY OF EXCEEDANCES

Contract No. KL/2012/03 Kai Tak Development – Stage 4 Infrastructure at Former North Apron Area

Appendix H – Summary of Exceedance

Exceedance Report for Contract No. KL/2012/03

- (A) Exceedance Report for Air Quality (NIL in the reporting period)
- (B) Exceedance Report for Construction Noise (NIL in the reporting period)
- (C) Exceedance Report for Landscape and Visual (NIL in the reporting period)

ANNEX I COMPARISON OF EM&A DATA AND EIA PREDICTIONS

Annex I – Comparison of EM&A Data and EIA Predictions

Comparison of 1-hr TSP data with EIA predictions

Station		Predicted 1-hr TSP conc.						
	Scenario1	Scenario2	Reporting N	Ionth (Mar	Reporting Mo	nth (Apr 17),	Reporting Mo	nth (May 17),
	(Mid	(Mid 2013	17),	μg/m ³	μg/	/m ³	μg	/m ³
	2009 to	to Late	Average	Range	Average	Range	Average	Range
	Mid	2016),						
	2013),	μg/m ³						
	μg/m ³							
AM2 – Lee Kau Yan	290	312	84.2	42.0 - 185.6	111.4	81.6 - 167.2	70.9	36.0 - 120.0
Memorial School								
AM3(A) - Holy Trinity	217	247	104.5	49.0 - 210.3	148.2	99.7 - 201.5	52.6	32.0 - 80.0
Bradbury Centre (Alternative								
station for Sky Tower)								
Location AM4(B) – Ma Tau	N/A	N/A	105.9	55.0 - 188.2	N/A	N/A	N/A	N/A
Kok Road (next to EMSD								
workshops) (Temporary)								
AM4(C) – New Pumping	N/A	N/A	N/A	N/A	111.0	58.9 - 187.1	141.9	64.8 - 329.3
Station								
AM5(A) – Po Leung	159	221	80.7	25.0 - 181.9	143.5	115.3 - 170.1	80.2	64.0-95.0
Kuk Ngan Po Ling College								
(Alternative station for CCC								
Kei To Secondary School)								

Station	Predicted 24-hr TSP conc.							
	Scenario1 Scenario2			Reporting Month (Mar 17),		Reporting Month (Apr		Month (May
	(Mid	(Mid 2013		⁴ /m ³		μg/m ³		μg/m ³
	2009 to	to Late	Average	Range	Average	Range	Average	Range
	Mid	2016),						
	2013),	μg/m ³						
	μg/m ³							
AM2 – Lee Kau Yan	145	169	67.6	31.0 - 118.2	93.2	42.0 - 152.0	83.5	63.0 - 112.0
Memorial School								
AM3(A) - Holy Trinity	106	138	96.0	49.0 - 135.3	88.3	47.0 - 148.0	83.5	54.0 - 97.0
Bradbury Centre (Alternative								
station for Sky Tower)								
AM4(C) – New Pumping	143	152	87.8	38.0 - 133.0	93.0	22.0-118.0	60.6	25.7 - 97.0
Station (Alternative station for								
Grand Waterfront)								
AM5(A) – Po Leung	103	128	51.8	43.2 - 60.3	83.0	38.0-117.0	82.6	56.0 - 110.0
Kuk Ngan Po Ling College								
(Alternative station for CCC								
Kei To Secondary School)								

Comparison of Noise Monitoring Data with EIA predictions

Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A))	Reporting Month (Mar 17), Leq (30min) dB(A)	Reporting Month (Apr 17), L _{eq} (30min) dB(A)	Reporting Month (May 17), Leq (30min) dB(A)
M6(A) - Oblate Primary School ^	N/A	54.8 - 63.2	60.1 - 65.9	62.7 - 64.3
M7 - CCC Kei To Secondary School	45 - 68	57.2 - 68.3	60.4 - 69.4	62.9 - 65.4
M8 - Po Leung Kuk Ngan Po Ling College	44 - 70	60.8 - 65.4	54.3 - 66.1	59.6 - 68.5
M9 - Tak Long Estate	Not predicted in EIA Report	59.3 - 73.0	65.0 - 68.1	58.3 - 65.3

(^) Construction noise monitoring at Station M6 – Holy Carpenter Primary School was carried out on 3^{rd} and 8^{th} October 2014 as it was rejected by the premise owner afterwards. An alternative noise monitoring station – M6(A) – Oblate Primary School replaced M6 – Holy Carpenter Primary School from 10th October 2014 onwards.

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Appendix C

Monthly EM&A Report For Contract No. KL/2014/01 Kai Tak Development - Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

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Civil Engineering and Development Department

EP-337/2009 & EP-445/2013/A

Contract No. KL/2014/01

Kai Tak Development – Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

Quarterly EM&A Report

April 2017 to June 2017

(Version 1.0)

Approved By	(Environmental Team Leader)
REMARKS:	

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: <u>info@cinotech.com.hk</u>







Ka Shing management consultant Limited

Our ref: 6-7-2017 6 th July 2017

By email: clive.cheng@aecom-ktd.com and By post

Supervising Officer Representative Aecom Asia Co Ltd. 8/F Grand Central Plaza Tower 2 138 Shatin Rural Committee Road Sha Tin, N.T. Hong Kong (Attn: Mr. Cheng Chi Hung)

Dear Mr. Cheng,

Re: Contract No. KL/2014/01 (Environmental Permit Nos. EP-337/2009 and EP-445/2013/A) Kai Tak Development –Stage 2 Infrastructure Works for Developments at Southern Part of the Former Runway Quarterly EM&A report for April 2017 to June 2017

Reference is made to the Environmental Team's submission of the draft Quarterly EM&A Report (version 1.0) for April 2017 to June 2017 provided to Independent Environmental Checker (IEC) via email dated on 4 th July 2017 for review and comment.

Please be informed that IEC has no adverse comment on the captioned submission. IEC writes to verify the captioned submission in accordance with Specific Condition 2.2 of the Environmental Permit No. 337/2009 and 445/2013/A.

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

Yours faithfully,

C.C.

For and on behalf of

Ka Shing Management Consultant Limited

Dr. C.F. Ng

Independent Environmental Checker

CEDD	Mr. Ronald Siu	(By email: ronaldsiu@cedd.gov.hk)
AECOM	Mr. Anthony Lok	(By email: anthony.lok@aecom-ktd.com)
CEC-CCC	Mr. Andrew Wong	(By email: andrew-wong@continental-engineering.com)
Cinotech	Dr. Priscilla Choy	(By email: priscilla.choy@cinotech.com.hk)
SFK	Ms Alice Leung	(By email: aliceleung@sfk.com.hk)

Unit 2, 13/F Kai Yue Commercial Building, 2C Argyle St, Mong Kok, Kowloon

九龍旺角亞皆老街 2C 號啟如商業大厦 13 樓 2 室 Tel: (852) 2618 2166 Fax: (852) 2120 7752 Wed Site: http://www.ka-shing.net 電話: (852) 2618 2166 傳真: (852) 2120 7752 網站: http://www.ka-shing.net



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EXECUTIVE SUMMARY

Introduction

- This is the 5th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Contract No. KL/2014/01 - Kai Tak Development – Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway" (Hereafter referred to as "the Project"). This contract work comprises two Schedule 2 designated project (DP), namely the new distributor road D4(part) and roads D3A & D4A serving the planned KTD. The DPs are part of the designated projects under Environmental Permits (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") and EP-445/2013/A ("Kai Tak Development – Roads D3A & D4A") respectively. This summary report presents the EM&A works performed in the period between 1 April 2017 and 30 June 2017.
- 2. With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500m and noise monitoring station within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, no relevant air quality and noise monitoring location are required for monitoring under the Project. The monitoring works for recommended monitoring stations in EM&A Manual of the DPs are conducted by Kai Tak Development (KTD) Schedule 3 Project, which is on-going starting from December 2010.
- 3. The construction activities undertaken in the reporting quarter were:
 - Watermain works;
 - Construction of boundary wall at EPD recycling centre;
 - TTA implementation, Tree Transplant, Tree Pruning and Junction Improvement Works at Shing Fung Road and Wang Chiu Road / Sheung Yee Road;
 - Open excavation for box culvert, piles caps and underpass;
 - ELS installation for box culvert and underpass; and
 - Construction of pile caps, box culvert, noise barrier footings, columns, sewer and manholes.

Environmental Monitoring Works

- 4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the non-compliance in the reporting quarter for the Project is tabulated in Table I.

Table I Non-compliance Record for the Project in the Reporting Quarter

Parameter	No. of Exc	eedance	Action
Parameter	Action Level	Limit Level	Taken
July 2016			
Noise	0	0	N/A
August 2016			
Noise	0	0	N/A
September 2016			
Noise	0	0	N/A

6. No monitoring for air quality and construction noise is required. No Action/Limit Level exceedance was recorded.

Environmental Licenses and Permits

- 7. Licenses/Permits granted to the Project include the Environmental Permits (EP) for the Project, EP-337/2009 issued on 23 April 2009 and EP-445/2013 issued on 3 May 2013 (Amended Environmental Permit (No.: EP-445/2013/A) issued on 13 August 2014).
- 8. Billing Account for Disposal of Construction Waste (A/C No. 7024073)
- 9. Registration of Chemical Waste Producer (License: 5213-247-C4004-01).
- 10. Water Discharge License (License No.: WT00023634-2016).
- 11. Construction Noise Permit (License No.: GW-RE1092-16, GW-RE 1251-16 and GW-RE0294-17).

Key Information in the Reporting Quarter

12. Summary of key information in the reporting quarter is tabulated in Table II.

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0		N/A	N/A	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

Table II Summary Table for Key Information in the Reporting Quarter

13. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

1. INTRODUCTION

Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 2 Infrastructure Works for Developments for Southern Part of the Former Runway is one of the construction stages of KTD. It contains two Schedule 2 DPs including new distributor roads serving the planned KTD and KTD Roads D3A & D4A. The general layout of the Project is shown in **Figure 1**.
- 1.2 One Environmental Permits (EP) No.: EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD and one Environmental Permit No.: EP-445/2013 was issued on 3 May 2013 for Kai Tak Development Roads D3A & D4A to Civil Engineering and Development Department (CEDD) as the Permit Holder. Pursuant to Section 13 of the EIAO, the Director of Environmental Protection amended the Environmental Permit No.: EP-445/2013 based on the Application No. VEP-449/2014 and the Environmental Permit (No.: EP-445/2013/A) was issued on 13 August 2014.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Reports (Register No. AEIAR-130/2009 and AEIAR-170/2013) were approved by the Environmental Protection Department (EPD) on 4 March 2009 and 3 May 2013 respectively.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2014/01 Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway. The construction work under KL/2014/01 comprises the construction of part of the Road D4 under the EP (EP-337/2009) and the construction of Roads D3A & D4A under the EP (EP-445/2013/A).
- 1.5 Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract is on 13 April 2016. This summary report presents the EM&A works performed in the period between 1 April to 30 June 2017.

Project Organizations

- 1.6 Different parties with different levels of involvement in the project organization include:
 - Project Proponent Civil Engineering and Development Department (CEDD).
 - The Supervising Officer and the Supervising Officer's Representative (SO) AECOM Asia Co. Ltd. (AECOM).
 - Environmental Team (ET) Cinotech Consultants Limited (CCL).
 - Independent Environmental Checker (IEC) Ka Shing Management Consultant Ltd. (KSMC).
 - Contractor Continental Engineering Corp. and Chit Cheung Construction Co. Ltd. Joint Venture (CCJV).
- 1.7 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1

Key	Project	Contacts
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Party	Role	Contact Person	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Ronald Siu	Senior Engineer	2301 1453	2301 1277
		Mr. Bernard Chan	Engineer	2301 1207	
AECOM	Supervising Officer	Mr. Clive Cheng	CRE	3746 1801	2798 0783
Cinotech	Environmental Team	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	3107 1388
		Ms. Ivy Tam	Audit Team Leader	2151 2090	
KSMC	Independent Environmental Checker	Dr. C. F. Ng	IEC	2618 2166	2120 7752
CCJV	Contractor	Mr. Dennis Ho	Environmental Officer	2960 1398	2960 1399

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. With reference to the same principle of EIA report of the Project, no air quality monitoring station within 500m and no construction noise monitoring station within 300m from the boundary of this Project are considered as relevant monitoring locations. No air quality and noise monitoring is required for the Project.

Monitoring Methodology

2.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual.

Environmental Quality Performance Limits (Action and Limit Levels)

2.3 Should the environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix A**.

Implementation Status of Environmental Mitigation Measures

2.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix B**.

Site Audit Summary

2.5 Site audits were carried out on a weekly basis. During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix C**.

Status of Waste Management

2.6 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix D**.

3. MONITORING RESULTS

Air Quality and Construction Noise

- 3.1 No monitoring for air quality and construction noise is required for the Project.
- 3.2 Site audits were carried out to monitor and audit the timely implementation of air quality and noise mitigation measures under the Project on a weekly basis. No non-compliance of the air quality impact and noise impact was recorded in the reporting quarter.

Landscape and Visual

3.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures under the Project. No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

4. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

4.1 A summary of exceedances is attached in **Appendix E**. The details of each exceedance were attached in the Monthly EM&A Reports.

Air Quality and Construction Noise

4.2 No monitoring for air quality and noise impact is required under the Project. No Action/ Limit Level exceedance was recorded in the reporting quarter.

Landscape and Visual

4.3 No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

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

4.4 There was no non-compliance from the site audits in the reporting quarter. The observations and recommendations made in each individual site audit session were attached in the **Appendix C**.

Summary of Environmental Complaints and Prosecutions

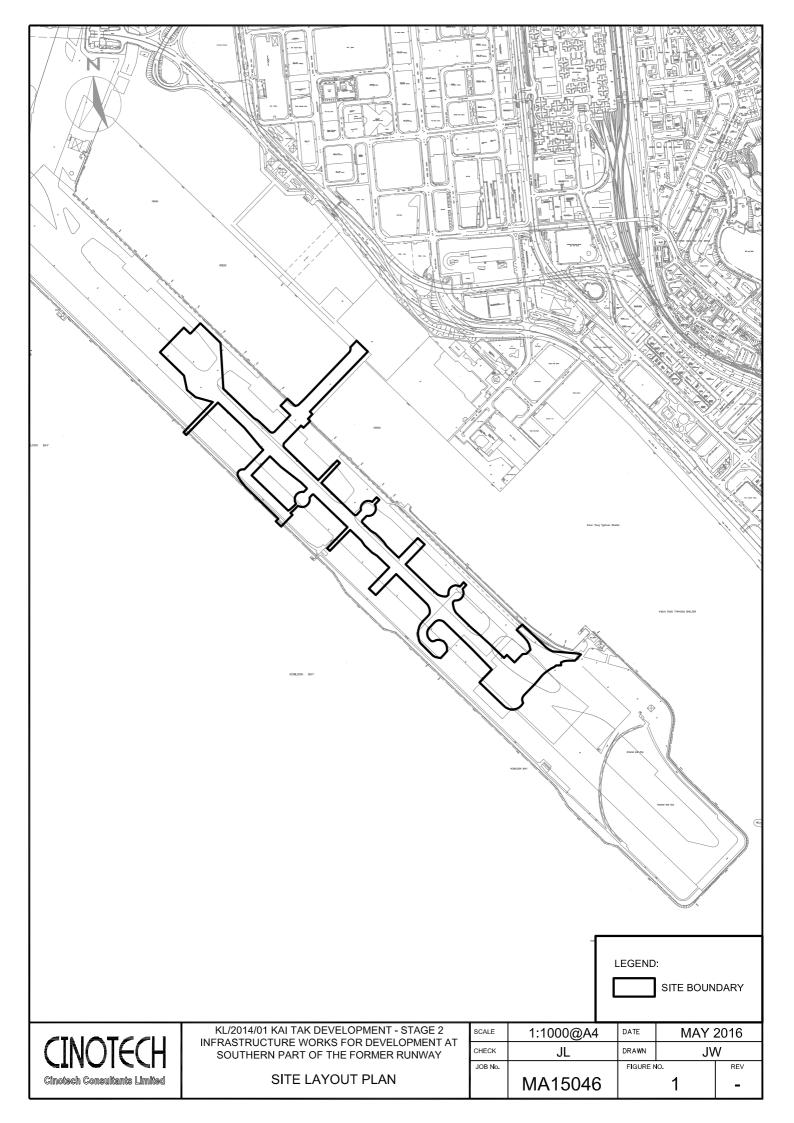
- 4.5 No environmental complaint was received during the reporting quarter.
- 4.6 No warning, summon and notification of successful prosecution was received in the reporting period.
- 4.7 There were no environmental complaints, warnings, summons and successful prosecutions received since the commencement of the Project.

5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

Effectiveness of Mitigation Measures

- 5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 5.3 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. No non-compliance (exceedances) of Action/Limit Level was recorded.
- 5.4 No environmental complaints and environmental prosecution were received in the reporting quarter.

FIGURE(S)



APPENDIX A ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

Time Period	Action Level	Limit Level ⁽¹⁾⁽²⁾
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Table A-1 Action and Limit Levels for Construction Noise

Remarks: (1) 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.

(2) No regular noise impact monitoring station for this Contract. It is subject to the noise sensitive receiver(s) and additional monitoring work.

(*) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX B ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	Mitigation Measures	Status			
Construction Air Quality					
S3.2 (AEIAR-130/2009)	8 times daily watering of the work site with active dust emitting activities.	٨			
(AEIAR-130/2003) S4.8 (AEIAR-170/2013)	Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed.	٨			
S3.2 (AEIAR-130/2009) and S4.8	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 minimize cumulative dust impacts.				
(AEIAR-170/2013)	• Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.	*			
	• Misting for the dusty material should be carried out before being loaded into the vehicle.	٨			
	• Any vehicle with an open load carrying area should have properly fitted side and tail boards.	٨			
	• Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.	Λ			
	• The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation.	^			
	• The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.	^			
	• Vehicle washing facilities should be provided at every vehicle exit point.	٨			

Appendix B - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

EIA Ref.	Mitigation Measures	Status
	 The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores. Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet. Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides; and Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. 	
Construction Noise		L
S3.3 (AEIAR-130/2009)	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	^
S3.3 (AEIAR-130/2009)	Good Site Practice:	
``````````````````````````````````````	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	٨
	• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.	N/A(1)
	• Mobile plant, if any, should be sited as far away from NSRs as possible.	Λ
	• Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.	٨
	<ul> <li>Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> </ul>	٨
	• Material stockpiles and other structures should be effectively utilized, wherever	^

EIA Ref.	Mitigation Measures	Status
	practicable, in screening noise from on-site construction activities.	
S3.3 (AEIAR-130/2009)	Scheduling of Construction Works during School Examination Period	N/A
S3.8 (AEIAR-170/2013)	Provision of a landscaped deck along Roads D3A & D4A.	N/A
\$3.8 (AEIAR-170/2013)	<ul> <li>Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A &amp; D4A;</li> <li>Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and</li> <li>Provision of staircases with noise barriers next to Sites 4A1 and 4B1</li> <li>It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage.</li> </ul>	N/A N/A N/A
S3.8 (AEIAR-170/2013)	Non-noise sensitive use areas within Sites 4A1 and 4B1.	N/A
S3.8 (AEIAR-170/2013)	Avoid sensitive façade with openable window facing Road D3A.	N/A
<b>Construction Water</b>	Quality	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	<ul> <li><u>Construction Runoff</u></li> <li>Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:         <ul> <li>use of sediment traps</li> <li>adequate maintenance of drainage systems to prevent flooding and overflow</li> </ul> </li> </ul>	∧ ∧

EIA Ref.	Mitigation Measures	Status
	Construction site should be provided with adequately designed perimeter channel and pre- treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	*
	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	٨
S5.8 (AEIAR-170/2013)	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	٨
	Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	^
S3.4 (AEIAR-130/2009)	Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a general mitigation measure	٨

EIA Ref.	Mitigation Measures	Status
	which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	^
(122111(170)2010)	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	Λ
S3.4 (AEIAR-130/2009)	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	^
	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Λ
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting	*

EIA Ref.	Mitigation Measures	Status
	from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	
S5.8 (AEIAR-170/2013)	Boring and Drilling WaterWater used in ground boring and drilling for site investigation or rock / soil anchoringshould as far as practicable be re-circulated after sedimentation. When there is a need forfinal disposal, the wastewater should be discharged into storm drains via silt removalfacilities.	^
	Acid Cleaning, Etching and Pickling Wastewater Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers	^
S3.4	Drainage	
(AEIAR-130/2009)	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	٨
S3.4 (AEIAR-130/2009)	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	^

EIA Ref.	Mitigation Measures	Status
S3.4 (AEIAR-130/2009)	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	Λ
S5.8 (AEIAR-170/2013)	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office (RO) of EPD.	Λ
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Sewage EffluentConstruction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	٨
S5.8	Notices should be posted at conspicuous locations to remind the workers not to discharge	^

EIA Ref.	Mitigation Measures	Status
(AEIAR-170/2013)	any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures.	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Stormwater Discharges Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	٨
	Debris and Litter In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur.	٨
S5.8 (AEIAR-170/2013)	Accidental Spillage Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	٨

EIA Ref.	Mitigation Measures	Status
	<ul> <li>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</li> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Λ Λ Λ
<b>Construction Waste</b>	Management	
S6.7 (AEIAR-170/2013)	Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC(W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites.	٨
S3.5 (AEIAR-130/2009) and S6.7 (AEIAR-170/2013)	<ul> <li>Good Site Practices</li> <li>It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include:</li> <li>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</li> </ul>	Λ
	Provision of sufficient waste disposal points and regular collection for disposal	٨

EIA Ref.	Mitigation Measures	Status
	• Appropriate measures to minimise windblown litter and dust during transportation of	^
	waste by either covering trucks or by transporting wastes in enclosed containers	
	<ul> <li>A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites)</li> </ul>	٨
	<ul> <li>Regular cleaning and maintenance systems, sumps and oil interceptors</li> </ul>	٨
	<ul> <li>Separation of chemical wastes for special handling and appropriate treatment</li> </ul>	٨
	Waste Reduction Measures	
	Good management and control can prevent the generation of a significant amount of	
	waste. Waste reduction is best achieved at the planning and design stage, as well as by	
	ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:	
	<ul> <li>Sort C&amp;D waste from demolition of the remaining structures to recover recyclable portions such as metals</li> </ul>	٨
	• 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	^
	<ul> <li>Any unused chemicals or those with remaining functional capacity should be recycled</li> </ul>	^
	<ul> <li>Proper storage and site practices to minimise the potential for damage or</li> </ul>	Λ
	contamination of construction materials	
	• Plan and stock construction materials carefully to minimize amount of waste	٨
	<ul> <li>generated and avoid unnecessary generation of waste</li> <li>Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul>	^

EIA Ref.	Mitigation Measures	Status
S3.5 (AEIAR-130/2009)	<ul> <li>Construction and Demolition Materials</li> <li>Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&amp;D material. The mitigation measures include:</li> <li>Where it is unavoidable to have transient stockpiles of C&amp;D material within the Project work site pending collection for disposal, the transient stockpiles shall be</li> </ul>	٨
	<ul> <li>Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.</li> <li>Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.</li> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting.</li> </ul>	*
	<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.</li> </ul>	٨
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	^
	• The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.	^
	• All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	٨
	• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	٨
	When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket	٨

EIA Ref.	Mitigation Measures	Status
	System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirement sand implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.	
S3.5 (AEIAR-130/2009)	General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem	٨
<b>Construction Lands</b>	cape and Visual	I
\$3.8.12	• Minimized construction area and contractor's temporary works areas.	٨
(AEIAR-130/2009)	• All existing trees should be carefully protected during construction.	^
and	• Trees unavoidably affected by the works should be transplanted where practical.	۸
S7.9 (AEIAR-170/2013)	Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	
	<ul> <li>Control of night-time lighting.</li> </ul>	N/A(1)
	<ul> <li>Erection of decorative screen hoarding.</li> </ul>	Λ
	<ul> <li>Reduction of construction period to practical minimum.</li> </ul>	٨
	<ul> <li>Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.</li> </ul>	^
	<ul> <li>Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open.</li> </ul>	N/A

Remarks:	EIA Report (AEIAR-130/2009) – Kai Tak Development EIA Report (AEIAR-170/2013) – Kai Tak Development – Roads D3A & D4A	
	<ul> <li>Compliance of mitigation measure;</li> <li>N/A Not Applicable at this stage;</li> <li>N/A(1) Not observed;</li> <li>* Recommendation was made during site audit but improved/rectified by the contractor.</li> </ul>	<ul> <li>X Non-compliance of mitigation measure;</li> <li>Non-compliance but rectified by the contractor;</li> </ul>

APPENDIX C SITE AUDIT SUMMARY

# Appendix C Summary of Observation and Recommendation Made during Site Inspection

Parameters	Date	<b>Observations and Recommendations</b>	Follow-up
Water Quality			
	5 Apr 2017	Stockpiles were found uncovered at the site area Section 1, the Contractor was reminded to cover stockpiles with impervious materials for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
Air Quality	19 Apr 2017	The haul roads and unpaved areas at Section 1 was found dry and dusty, the contractor was reminded to enhance dust suppression measures.	Rectification/improvement was observed during the follow-up audit session.
	26 Apr 2017	Stockpiles in Section 1 should be covered with impervious sheets for dust suppression.	Follow up actions will be reported in the next month.
Noise			
Waste/ Chemical Management			
Landscape and Visual			
Permits/ Licences			

Summary of Observation and Recommendation Made during Site Inspection in April 2017

# Summary of Observation and Recommendation Made during Site Inspection in May 2017

Parameters	Date	<b>Observations and Recommendations</b>	Follow-up
Water Quality	4 May 2017	Bund should be provided to prevent untreated wastewater entering the public area.	Rectification/improvement was observed during the follow-up audit session.
	16 May 2017	Dusty materials in Section 2 should be covered by impervious materials.	Rectification/improvement was observed during the follow-up audit session.
Air Quality 24 May 201		Impervious sheets for stockpiles coverage should be maintained or repaired after rain events.	Rectification/improvement was observed during the follow-up audit session.
Noise			
Waste/ Chemical Management			
Landscape and Visual			
Permits/ Licences			

# Summary of Observation and Recommendation Made during Site Inspection in June 2017

Parameters	Date	<b>Observations and Recommendations</b>	Follow-up	
21 June 2017		Ponding water should be cleared at Section 2 after rain events.	Rectification/improvement was observed during the follow-up audit session.	
Water Quality	30 June 2017	Designated area for manual wheel washing should be set up.	Follow up actions will be reported in the next reporting period.	
Air Quality				
Noise				
Waste/ Chemical Management				
Landscape and Visual				
Permits/ Licences				

APPENDIX D WASTE GENERATED QUANTITY

#### Name of Department: CEDD

#### Waste Flow Table for Year 2017

		Actual Qua	antities of Inert C&D M	Iaterials Generated N	Ionthly		Actual Quantities of C&D Wastes Generated Monthly				
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in tonne)
Jan	15,470.22	0	0	0	15470.22	0	0	0.301	0.019	0	53.3
Feb	23,173.51	0	0	0	23173.51	0	0	0	0	0	9.2
Mar	27,261.03	0	0	0	27261.03	0	0	0	0	0	69.65
Apr	5,637	0	0	0	5637.28	0	0	0	0	0	23.62
May	12,030.39	0	0	0	12030.39	0	0.0035	0.394	0.006	0	29.98
June	2733.74	0	0	0	2733.74	0	3.8000	0	0	0	47.08
Sub-total	86,306.17	0.00	0.00	0.00	86,306.17	0.00	3.80	0.695	0.025	0.00	232.83
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	86,306.17	0.00	0.00	0.00	86,306.17	0.00	3.80	0.695	0.025	0.00	232.83

#### Contract No. KL/2014/01

APPENDIX E SUMMARY OF EXCEEDANCES

## Contract No. KL/2014/01 Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

### **Appendix E – Summary of Exceedance**

### Exceedance Record for Contract No. KL/2014/01

Report period: April 2017 to June 2017

(A) Exceedance Record for Construction Noise

### (NIL in the reporting period)

(B) Exceedance Record for Landscape and Visual

(NIL in the reporting period)

### FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Appendix D

Monthly EM&A Report For Contract No. KL/2014/03 Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway

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Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com

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### **QUARTERLY EM&A REPORT**

March 2017 - May 2017

Client	:	Civil Engineering and Development Department, HKSAR
Contract No.	:	KLN/2015/07
Contract Name	:	Environmental Monitoring Works for Contract KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway
Report No.	:	0405/15/ED/0821A
EP-337/2009		Distributor Roads Serving the Planned Kai Tak elopment Area
EP-339/2009/A	Build	ommissioning of the Remaining Parts (Ex-GFS ding, Radar Station and Hong Kong Aviation Club) e former Kai Tak Airport
EP-451/2013	Trun	k Road T2

Prepared by	:	Alfred Y. S. Lam
Reviewed by	:	Cyrus C. Y. Lai
Certified by	:	Colin K. L. Yung Environmental Team Leader

MateriaLab Consultants Limited



Ref.: CEDKTDS3EM00_0_0212L.17

28 June 2017

By Post and Email

Hyder-Meinhardt Joint Venture 20/F., AXA Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong

Attention: Mr. Wong W K, Chris

Dear Mr. Wong,

### Re: Contract No. KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway <u>Quarterly EM&A Report for March to May 2017</u>

Reference is made to the Environmental Team's submission of the Quarterly EM&A Report for March 2017 to May 2017 (Report No. 0405_15_ED_0821A) we received by e-mail on 27 June 2017.

Please be informed that we have no adverse comment on the captioned report.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

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

Staffalleof

F. C. Tsang Independent Environmental Checker

c.c.

CEDD Attn.: Ms. Amy Chu MateriaLab Attn.: Mr. Colin K. L. Yung CRBC Attn.: Mr. Arnold Chan Fax: 2369 4980 Fax: 2450 8032 Fax: 2283 1689

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Ramboll Environ Hong Kong Limited 英環香港有限公司

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899 www.Ramboll-Environ.com

Room 723 & 725, 7/F, Block B,Profit Industrial Building,Tel1-15 Kwai Fung Crescent, Kwai Fong,FaxHong Kong..Ema

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



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Graphical Presentation of Monitoring Data
Waste Flow Table
Environmental Mitigation Implementation Schedule (EMIS)

Room 723 & 725, 7/F, Block B,	
Profit Industrial Building,	Tel
1-15 Kwai Fung Crescent, Kwai Fong,	Fax
Hong Kong	Email

: (852)-24508238 : (852)-24508032 : mcl@fugro.com

### EXECUTIVE SUMMARY

- i. The Civil Engineering and Development Department HKSAR has appointed MateriaLab Consultants Limited (MCL) to undertake the Environmental Team services for the Project and implement the EM&A works.
- ii. This is the fifth Quarterly EM&A Report presents the environmental monitoring and audit works for the period between 1 March 2017 and 31 May 2017. As informed by the Contractor, major activities in the reporting period included:

March 2017	April 2017	May 2017
<ul> <li>Temporary utility diversion;</li> </ul>	<ul> <li>Temporary utility diversion;</li> </ul>	<ul> <li>Temporary utility diversion;</li> </ul>
<ul> <li>Implementation of</li> </ul>	<ul> <li>Implementation of</li> </ul>	<ul> <li>Implementation of</li> </ul>
Temporary Traffic	Temporary Traffic	Temporary Traffic
Arragement (TTA);	Arragement (TTA);	Arragement (TTA);
<ul> <li>Construction of Tunnel structure;</li> </ul>	<ul> <li>Construction of Tunnel structure;</li> </ul>	<ul> <li>Construction of Tunnel structure;</li> </ul>
<ul> <li>Construction of Socket H- piles;</li> </ul>	<ul> <li>Construction of Socket H- piles;</li> </ul>	<ul> <li>Construction of Socket H- piles;</li> </ul>
<ul> <li>Construction of drainage works;</li> </ul>	<ul> <li>Construction of drainage works;</li> </ul>	<ul> <li>Construction of drainage works;</li> </ul>
<ul> <li>Construction of guide walls and D-walls; and</li> </ul>	<ul> <li>Construction of guide walls and D-walls;</li> </ul>	<ul> <li>Construction of guide walls and D-walls;</li> </ul>
<ul> <li>Construction of District Cooling System Works.</li> </ul>	<ul> <li>Construction of District Cooling System Works; and</li> <li>Installation of temporary cut-off wall.</li> </ul>	<ul> <li>Construction of District Cooling System Works; and</li> <li>Installation of temporary cut-off wall.</li> </ul>

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

iii. No Action and Limit Level exceedance for 24-hr TSP and noise was recorded in the reporting period at all monitoring stations.

#### Complaint, Notification of Summons and Successful Prosecution

- iv. A complaint received on 2 May 2017 was referred from CEDD and summarized as below:
  - The complainant complained that severe noise was generated from a construction site at Shing Cheong Road during piling.
  - The complainant would like to know whether a Construction Noise Permit (CNP) was granted for the piling works and the duration of piling works specified in the CNP.

The notification of complaint was received by ET on 4 May 2017.

v. No notification of summons and successful prosecution were received in the reporting period.

Tel

Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong ..

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com

#### 1. INTRODUCTION

#### 1.1 Background

- The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the 1.1.1 HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.
- 1.1.2 Contract No. KL/2014/03 is the works package to construct an approximately 420m long supporting underground structure (SUS) underneath Shing Cheong Road and Cheung Yip Street. The EM&A programme under this Contract is governed by three EPs (EP-337/2009, EP-339/2009/A and EP-451/2013) and two EM&A Manuals (AEIAR-130/2009 and AEIAR-174/2013). The Works to be executed under this Contract and corresponding EPs include but not be limited to the following main items:

#### EP-451/2013 – Trunk Road T2

(i) Construction of approximately 420m long supporting underground structure (SUS) including diaphragm walls, barrettes, piled foundation, top and bottom slabs, end wall and adits underneath Shing Cheong Road and Cheung Yip Street;

#### EP-337/2009 – New Distributor Roads Serving the Planned Kai Tak Development

- Widening and re-alignment of Cheung Yip Street of approximately 330m long and (ii) associated footpaths;
- Demolition, reconstruction and widening of Shing Cheong Road of approximately 410m (iii) long and associated footpaths;
- Construction of drainage outfall and modification of existing seawall; (iv)
- Construction of ancillary works including surface drainage, sewerage, water, fire (v) fighting, street lighting, street furniture, road marking, road signage, utilities and services, irrigation and landscape works.

### EP-339/2009/A – Decommissioning of the Remaining Parts (Ex-GFS Building, Radar Station and Hong Kong Aviation Club) of the former Kai Tak Airport

Demolition of RADAR Tower and guard house; (vi)

#### Other works not covered by any EP

- Construction of two subways between Phase II of New Acute Hospital (Site A) and (vii) Hong Kong Children's Hospital (Site C), and between Phase I of New Acute Hospital (Site B) and Site C:
- Construction of District Cooling System (DCS) along Cheung Yip Street and Shing (viii) Cheong Road
- 1.1.3 The location and boundary of the site is shown in **Figure 1**.
- 1.1.4 This Quarterly EM&A report is required under Section 16.1.2 and 16.7.1 of the EM&A Manual AEIAR-130/2009. It is to report the results and findings of the EM&A programme required in the EM&A Manual.
- 1.1.5 This is the fifth guarterly EM&A Report which summaries the impact monitoring results and audit findings for the Project within the period between 1 March 2017 and 31 May 2017.

Email

: mcl@fugro.com

#### 1.2 Project Organization

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- 1.2.1 The project proponent was the Civil Engineering and Development Department, HKSAR (CEDD). Hyder Meinhardt Joint Venture (HMJV) was commissioned by CEDD as the Engineer for the Project. Ramboll Environ Hong Kong Limited was commissioned as the Independent Environmental Checker (IEC). China Road and Bridge Corporation (Hong Kong) (CRBC) was appointed as the main contractor for the construction works under the contract KL/2014/03. MateriaLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by CEDD to implement the EM&A programme for the Project.
- 1.2.2 The organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarized in **Table 1.1**.

Party	Position	Name	Telephone	Fax
Project Proponent (CEDD)	Co-ordinator	Ms. Amy Chu	3106 3172	2369 4980
Engineer's Representative (HMJV)	Chief Resident Engineer	Mr. W. K., Chris Wong	3742 3803	3742 3899
IEC (Ramboll Environ Hong Kong Limited)	Independent Environmental Checker	Mr. F. C. Tsang	3465 2851	3465 2899
Main Contractor (CRBC)	Site Agent	Mr. Chan See Wai, Arnold	9380 4110	2283 1689
	Environmental Officer	Mr. Jacky Lai	9028 8975	2283 1689
ET (MCL)	Environmental Team Leader	Mr. Colin Yung	3565 4114	3565 4160

 Table 1.1
 Contact Information of Key Personnel

#### **1.3** Construction Programme and Activities

1.3.1 The construction of the Project commenced in February 2016 and is expected to complete in 2020. The construction programme is shown in **Appendix A**.

#### MATERIALAB CONSULTANTS LIMITED Deere 700 8 705 7/5 Dieek D

Tel Fax

ROOM 723 & 725, 7/F, BIOCK B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong
<b>3</b>

: (852)-24508238 : (852)-24508032 : mcl@fugro.com Email

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1.3.2 A summary of the major construction activities undertaken in the reporting period were:

March 2017	April 2017	May 2017
<ul> <li>Temporary utility diversion;</li> <li>Implementation of Temporary Traffic Arragement (TTA);</li> <li>Construction of Tunnel structure;</li> <li>Construction of Socket H- piles;</li> <li>Construction of drainage works;</li> <li>Construction of guide walls and D-walls; and</li> <li>Construction of District Cooling System Works.</li> </ul>	<ul> <li>Temporary utility diversion;</li> <li>Implementation of Temporary Traffic Arragement (TTA);</li> <li>Construction of Tunnel structure;</li> <li>Construction of Socket H- piles;</li> <li>Construction of drainage works;</li> <li>Construction of guide walls and D-walls;</li> <li>Construction of District Cooling System Works; and</li> <li>Installation of temporary cut- off wall.</li> </ul>	<ul> <li>Temporary utility diversion;</li> <li>Implementation of Temporary Traffic Arragement (TTA);</li> <li>Construction of Tunnel structure;</li> <li>Construction of Socket H- piles;</li> <li>Construction of drainage works;</li> <li>Construction of guide walls and D-walls;</li> <li>Construction of District Cooling System Works; and</li> <li>Installation of temporary cut- off wall.</li> </ul>

#### MATERIALAB CONSULTANTS LIMITED Room 723 & 725, 7/F, Block B,

Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.. Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



#### 2. SUMMARY OF EM&A REQUIREMENTS AND MONITORING RESULTS

#### 2.1 Monitoring Requirement

In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) level and Leq (30min) at the designated monitoring stations is required. Impact 24-hour TSP monitoring should be carried out at least once every 6 days. In case of complaints, 1-hour TSP monitoring should be carried out at least 3 times per 6 days when the highest dust impacts are likely to occur. Leq (30min) monitoring is conducted for at least once a week during the construction phase between 0700 and 1900 on normal weekdays. The Action and Limit Levels of the air quality monitoring and noise monitoring are given in **Appendix C** 

#### 2.2 Monitoring Locations

- 2.2.1 According to the EM&A Manual, three monitoring locations for air quality monitoring and noise monitoring, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two air quality monitoring locations and two noise monitoring locations which are identified in Cha Kwo Ling area, are farther than 500m and 300m away from the site boundary respectively and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.
- 2.2.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: EP2/K19/A/21 Pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1b), they are summarized in **Table 2.1** and shown in **Figure 2**.

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2a	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
KER1b	Site Boundary at Cheung Yip Street

 Table 2.1
 Location of Air Quality Monitoring and Noise Monitoring Station

#### 2.3 Results and Observations

- 2.3.1 No Action and Limit Level exceedance for 24-hr TSP was recorded in the reporting period at all monitoring stations.
- 2.3.2 No Action / Limit Level exceedance for construction noise was recorded in the reporting period at all monitoring stations.
- 2.3.3 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.
- 2.3.4 During the reporting period, major dust sources including loading and unloading of C&D wastes, vehicles movement were observed in the site. Major noise sources including noise emission from plant & PME and some other construction activities, travel of vehicles, loading and unloading of C&D waste were observed in the site. Non-project related construction activities at the nearby construction site and road traffic along Shing Cheong Road, Cheung Yip Street and the Kwun Tong By-pass were observed. The above factors may affect the monitoring results.

Room 723 & 725, 7/F, Block B,		
Profit Industrial Building,	Tel	: (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong,	Fax	: (852)-24508032
Hong Kong	Email	: mcl@fugro.com

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2.3.5 Graphical presentation of the monitoring data in the reporting period is presented in **Appendix D**.

#### 2.4 Comparison of Monitoring Results with EIA Predictions

2.4.1 The monitoring data was compared with the EIA predictions as summarized in **Table 2.4** and **Table 2.5**.

Monitoring Station	Receiver Reference	Predicted Maximum 24- hour TSP Concentration (μg/m ³ )	24-hour TSP concentration in Reporting Period (μg/ m³)			Average 24-hour TSP concentration in Reporting Period (µg/ m³)		
			Mar 2017	Apr 2017	May 2017	Mar 2017	Apr 2017	May 2017
KTD1a	KTD3	126	75 – 157	33 – 108	71 – 165	100	64	122
KTD2a	-	-	39 – 83	31 – 78	32 – 65	56	52	50
KER1b	KTD6	169	55 – 106	52 – 123	45 – 117	80	73	67

#### Table 2.4 Comparison of 24-hr TSP data with EIA predictions

Note:

For KTD2a, there was no receiver reference in the EIA report, EIAR-174/2013.

Predicted Maximum TSP Concentration extracted from Table 4.14 of EIA Report, EIAR-174/2013.

#### Table 2.5 Comparison of Noise Monitoring data with EIA predictions

Monitoring Station	Receiver	Maximum Predicted Mitigated	Leq _(30min) dB(A) in Reporting Period			
Monitoring Station	Reference	Construction Noise Level, dB(A)	Mar 2017	Apr 2017	May 2017	
KTD1a	KTD1	74	66 - 71	62 - 71	68 - 73	
KTD2a	KTD2	75	61 - 68	61 - 69	60 - 62	
KER1b	KER1	75	66 - 70	61 - 70	64 - 74	

Note:

Maximum Predicted Mitigated Construction Noise Level extracted from Table 5.13 of EIA Report, EIAR-174/2013.

- 2.4.2 The 24-hour TSP monitoring result of KTD 1a on 27 March 2017 exceeded the prediction in the approved EIA report. However, the result did not exceed the Action Level. Mitigation measures, including water spraying and covering of stockpiles of dusty materials were adopted and observed near the monitoring station KTD1a during the site inspections in March 2017. The discrepancy between the 24-hour TSP concentration and EIA Prediction in KTD1a is considered due to dust source from the non-project related construction activities near the monitoring station and the road travel along Shing Fung Road.
- 2.4.3 The 24-hour TSP monitoring result of KTD 1a on 5, 23 and 31 May 2017 exceeded the prediction in the approved EIA report. No project-related dust source was observed during the site monitoring. The discrepancy between the 24-hour TSP concentration and EIA Prediction in KTD1a is considered due to dust source from the non-project related construction activities near the monitoring station and the road travel along Shing Fung Road.
- 2.4.4 The noise monitoring results in the reporting months were below the Maximum Predicted Mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report and no Action / Limit Level exceedance was recorded in the reporting period.

Email

: mcl@fugro.com

#### 3. LANDSCAPE AND VISUAL

Hong Kong ..

#### 3.1 Results and Observations

- 3.1.1 To monitor and audit the implementation of landscape and visual mitigation measures, 13 weekly Landscape and Visual Site audits were carried out and 7 of them were carried out by a Registered Landscape Architect. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009).
- 3.1.2 Total 4 no. of non-compliance were recorded in the weekly Landscape and Visual Site audits in the reporting period.
- 3.1.3 Observations and recommendations during site audits are summarized in **Table 5.1**.

#### MATERIALAB CONSULTANTS LIMITED Room 723 & 725, 7/F, Block B,

Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.. Tel : (852)-24508032 Fax : (852)-24508032 Email : mcl@fugro.com

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#### 4. WASTE MANAGEMENT

#### 4.1 Results and Observations

- 4.1.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 4.1.2 The amount of wastes generated by the site activities in the reporting period is shown in **Appendix E**.
- 4.1.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 4.1.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Fax Hong Kong ..

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com



#### 5. SITE INSPECTION

#### 5.1 Site Inspection

- 5.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in Appendix F.
- 5.1.2 In the reporting month, 13 site inspections were carried out. 7 of them were the joint inspections with the IEC, ER, the Contractor and the ET.
- 5.1.3 No outstanding issues were reported during the reporting period.
- 5.1.4 All the follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during the reporting month.
- 5.1.5 Details of observations recorded during the site inspections are presented in **Table 5.1**.

Parameters	Date	Observations and Recommendations	Follow-up
	30 March 2017	Open stockpile shall be covered with impermeable sheeting to prevent dust emission. (Zone 3)	The item was rectified by the Contractor and inspected on 6 April 2017.
	2 March 2017	Main haul road shall be kept clear of muddy or dusty materials or sprayed with water regularly. (Zone 1)	The item was rectified by the Contractor and inspected on 9 March 2017.
Air Quality	6 April 2017	Site surface shall be kept clear of dusty materials. (Portion I)	The item was rectified by the Contractor and inspected on 13 April 2017.
	27 April 2017	Open stockpile shall be covered with impermeable sheeting to prevent dust emission. (Zone 3)	The item was rectified by the Contractor and inspected on 4 May 2017.
	17 May 2017	Open stockpile shall be covered with impermeable sheeting to prevent dust emission. (Zone 4)	The item was rectified by the Contractor and inspected on 1 June 2017.
	25 May 2017	Open stockpile shall be covered with impermeable sheeting to prevent dust emission. (Zone 4)	The item was rectified by the Contractor and inspected on 1 June 2017.
Noise	30 March 2017	The door of the air compressor shall be closed to reduce noise emission. (Zone 3)	The item was rectified by the Contractor and inspected on 6 April 2017.
Water Quality	6 April 2017	Water leakage was observed at the sedimentation tank. Maintenance of the sedimentation tank shall be provided. (Zone 4)	The item was rectified by the Contractor and inspected on 13 April 2017.
	13 April 2017	Excess surface water was found in the channel that entering the Wetsep due to pump failure. Water pump shall be repaired to prevent surface runoff. (Zone 1)	The item was rectified by the Contractor and inspected on 19 April 2017.

Table 5.1 **Observations and Recommendations of Site Audit** 

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



Parameters	Date	Observations and	Follow-up		
F al ameter 5	Date	Recommendations	10100-00		
	13 April 2017	The muddy water in the entrance gate of Zone 2 shall be bunded to prevent leakage of muddy water to the public haul road. Bunding shall be provided. (Zone 2)	The item was rectified by the Contractor and inspected on 19 April 2017.		
	4 May 2017	The muddy water in the entrance gate of Zone 2 shall be bunded to prevent leakage of muddy water to the public haul road. Bunding shall be provided. (Zone 2)	The item was rectified by the Contractor and inspected on 11 May 2017.		
	23 March 2017	The skip containing general refuse should be stored properly. (Zone 1)	The item was rectified by the Contractor and inspected on 30 March 2017.		
Chemical and Waste	30 March 2017	The empty fuel bottle shall be handled properly (Zone 3).	The item was rectified by the Contractor and inspected on 6 April 2017.		
Management	6 April 2017 Chemicals containers shall be stored on drip tray. (Zone 1)		The item was rectified by the Contractor and inspected on 13 April 2017.		
	25 May 2017	General refuse shall be stored in enclosed bin and removed regularly. (Zone 3)	The item was rectified by the Contractor and inspected on 1 June 2017.		
Land Contamination	19 April 2017	Breaker tips shall be placed on drip tray to avoid land contamination. (Zone 1 and Zone 4)	The item was rectified by the Contractor and inspected on 27 April 2017.		
Landscape and Visual Impact	30 March 2017	Open stockpiles shall be covered by unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. (Zone 3)	The item was rectified by the Contractor and inspected on 6 April 2017.		
	27 April 2017	Open stockpiles shall be covered by unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. (Zone 2)	The item was rectified by the Contractor and inspected on 4 May 2017.		
	17 May 2017	Open stockpiles shall be covered by unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. (Zone 4)	The item was rectified by the Contractor and inspected on 1 June 2017.		
	25 May 2017	Open stockpiles shall be covered by unobtrusive sheeting to prevent dust and	The item was rectified by the Contractor and inspected on 1 June 2017.		

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Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

 Tel
 : (852)-24508238

 Fax
 : (852)-24508032

 Email
 : mcl@fugro.com



Parameters	Date	Observations and Recommendations	Follow-up
		dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. (Zone 4)	
	2 March 2017	Proper wheel washing facilities in every vehicle exit point shall be provided or otherwise to ensure no vehicle would exit. (Zone 3)	The item was rectified by the Contractor and inspected on 9 March 2017.
	9 March 2017	Contractor was reminded to prevent flooding occurred at the sink. (Zone 4)	The item was rectified by the Contractor and inspected on 15 March 2017.
General	27 April 2017	Stagnant water shall be removed. (Portion I)	The item was rectified by the Contractor and inspected on 4 May 2017.
	11 May 2017	Stagnant water shall be removed. (Portion I and Zone1)	The item was rectified by the Contractor and inspected on 17 May 2017.
	25 May 2017	Stagnant water shall be removed. (Portion I and Zone1)	The item was rectified by the Contractor and inspected on 1 June 2017.

Tel	: (852)-24508238
Fax	: (852)-24508032
Email	: mcl@fugro.com
	Fax



#### 6. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

#### 6.1 Environmental Exceedance

6.1.1 No Action and Limit Level exceedance for 24-hr TSP and noise was recorded in the reporting period at all monitoring stations. Number of exceedance in the reporting period was summarized in **Table 6.1**.

		Number of exceedance in the reporting period						
Monitor		24hr TSP μg/m³			Lee			
Station		March 2017	April 2017	May 2017	March 2017	April 2017	May 2017	Total
	AL	0	0	0	0	0	0	0
KTD1a	LL	0	0	0	0	0	0	0
KTD2a	AL	0	0	0	0	0	0	0
KTD2a	LL	0	0	0	0	0	0	0
KER1b	AL	0	0	0	0	0	0	0
KEK ID	LL	0	0	0	0	0	0	0
Total	AL	0	0	0	0	0	0	0
rotai	LL	0	0	0	0	0	0	0

 Table 6.1
 Summary of Exceedance in Reporting Period

### 6.2 Complaints, Notification of Summons and Prosecution

6.2.1 No inspection notice, notification of summons or prosecution was received in this reporting period. Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Table 6.2, 6.3 and 6.4**.

Complaint Log No.	Date of Notification	Received From and Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply
1	15 December 2016	Andy Choy	Air	13 February 2017	Project- related	13 February 2017
2	21 February 2017	Andy Choy	Air	22 February 2017	Not Project- related	7 March 2017
3	2 May 2017	Andy Choy	Noise	4 May 2017	Not Valid	22 May 2017

Table 6.2 Environmental Complaints Log

#### Table 6.3Cumulative Statistics on Complaints

Environmental	Cumulative No. Brought	No. of Compla	Cumulative Project-to-		
Parameters	Forward	March 2017	April 2017	May 2017	Date
Air	2	0	0	0	2
Noise	0	0	0	1	1
Water	0	0	0	0	0
Waste	0	0	0	0	0
Total	0	0	0	0	0

Tel Fax

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong

: (852)-24508238 : (852)-24508032 : mcl@fugro.com Email



#### Table 6.4 **Cumulative Statistics on Successful Prosecutions**

Environmental	Cumulative No. Brought	No. of Compla	No. of Complaints This Reporting Period									
Parameters	Forward	March 2017	April 2017	May 2017	Project-to- Date							
Air	0	0	0	0	0							
Noise	0	0	0	0	0							
Water	0	0	0	0	0							
Waste	0	0	0	0	0							
Total	0	0	0	0	0							

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: (852)-24508032 Email : mcl@fugro.com



#### 7. **IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES**

#### 7.1 **Implementation Status**

The Contractor has implemented environmental mitigation measures and requirements as 7.1.1 stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting period is summarized in Appendix F.

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#### 8. CONCLUSIONS

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- 8.1.1 No Action and Limit Level exceedance for 24-hr TSP and noise was recorded in the reporting period at all monitoring stations.
- 8.1.2 13 weekly environmental site inspections were carried out in the reporting period. Recommendations on mitigation measures on air quality, water quality, noise, waste management, land contamination and landscape and visual impact were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 8.1.3 13 weekly Landscape and Visual Site audits were carried out on in the reporting period and 7 of them were carried out by a Registered Landscape Architect in the reporting period. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009). Total 4 no. of non-compliance were recorded in the weekly Landscape and Visual Site audits in the reporting period.
- 8.1.4 A complaint received on 2 May 2017 was referred from CEDD and summarized as below:
  - The complainant complained that severe noise was generated from a construction site at Shing Cheong Road during piling.
  - The complainant would like to know whether a Construction Noise Permit (CNP) was granted for the piling works and the duration of piling works specified in the CNP.

The notification of complaint was received by ET on 4 May 2017.

8.1.5 Referring to the Contractor's information, no notification of summons and successful prosecution was received in the reporting period.

#### 8.2 Comment and Recommendations

- 8.2.1 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.
- 8.2.2 According to the environmental audit performed in the reporting period, the following recommendations were made:

Air Quality Impact

- Open stockpile shall be covered with impermeable sheeting to prevent dust emission.
- Site surface shall be kept clear of dusty materials.

**Construction Noise Impact** 

• No specific observation was identified in the reporting month.

Water Quality Impact

- Water leakage was observed at the sedimentation tank. Maintenance of the sedimentation tank shall be provided.
- Excess surface water was found in the channel that entering the Wetsep due to pump failure. Water pump shall be repaired to prevent surface runoff.
- The muddy water in the entrance gate of Zone 2 shall be bunded to prevent leakage of muddy water to the public haul road. Bunding shall be provided.

Room 723 & 725, 7/F, Block B,	
Profit Industrial Building,	Tel
1-15 Kwai Fung Crescent, Kwai Fong,	Fax
Hong Kong.	Ema

el : (852)-24508238 ax : (852)-24508032 mail : mcl@fugro.com



Chemical and Waste Management

- Chemicals containers shall be stored on drip tray.
- General refuse shall be stored in enclosed bin and removed regularly.

Land Contamination

• Breaker tips shall be placed on drip tray to avoid land contamination.

Landscape and Visual Impact

• Open stockpiles shall be covered by unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.

**General Condition** 

- Proper wheel washing facilities in every vehicle exit point shall be provided or otherwise to ensure no vehicle would exit.
- Stagnant water shall be removed.

Permit / Licenses

• No specific observation was identified in the reporting month.

Tel

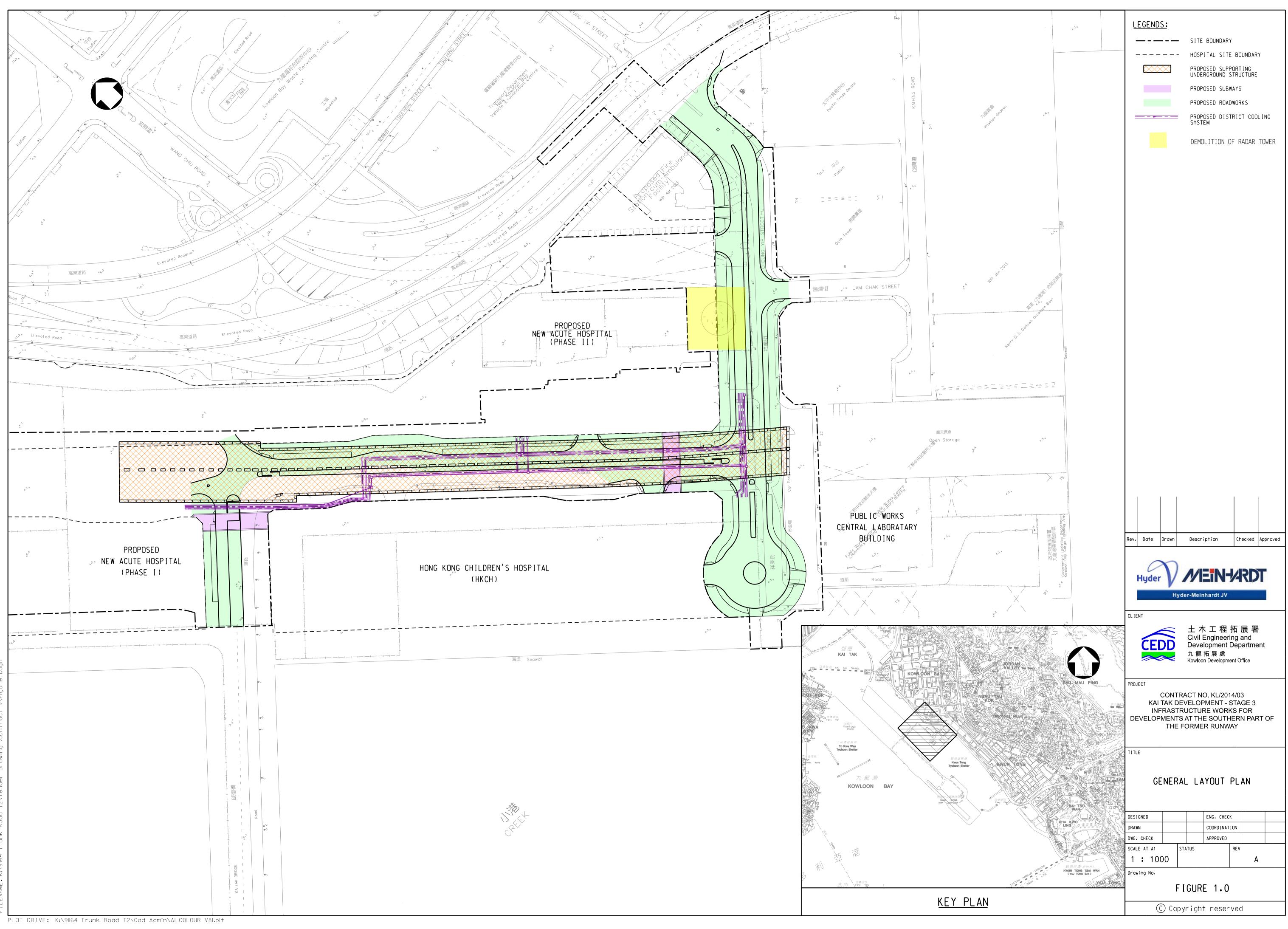
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: (852)-24508238 : (852)-24508032 : mcl@fugro.com Fax Email



Figure 1

**Project General Layout** 



INTED BY: kitchan 18/2/2015 13:00:43 .ENAME: K:\9||64 Trunk Road T2\Tender Drawing (Contract I)\

Tel

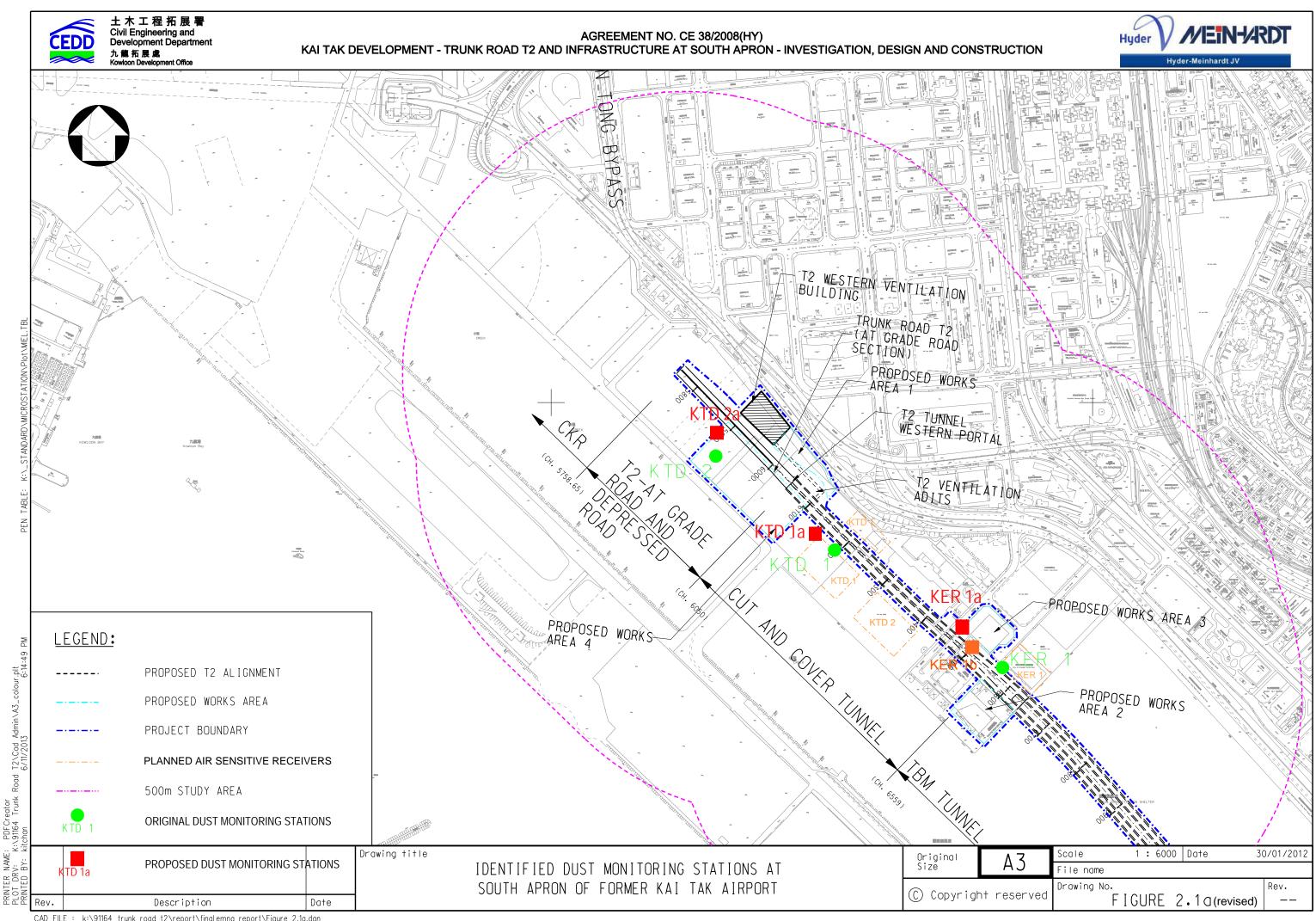
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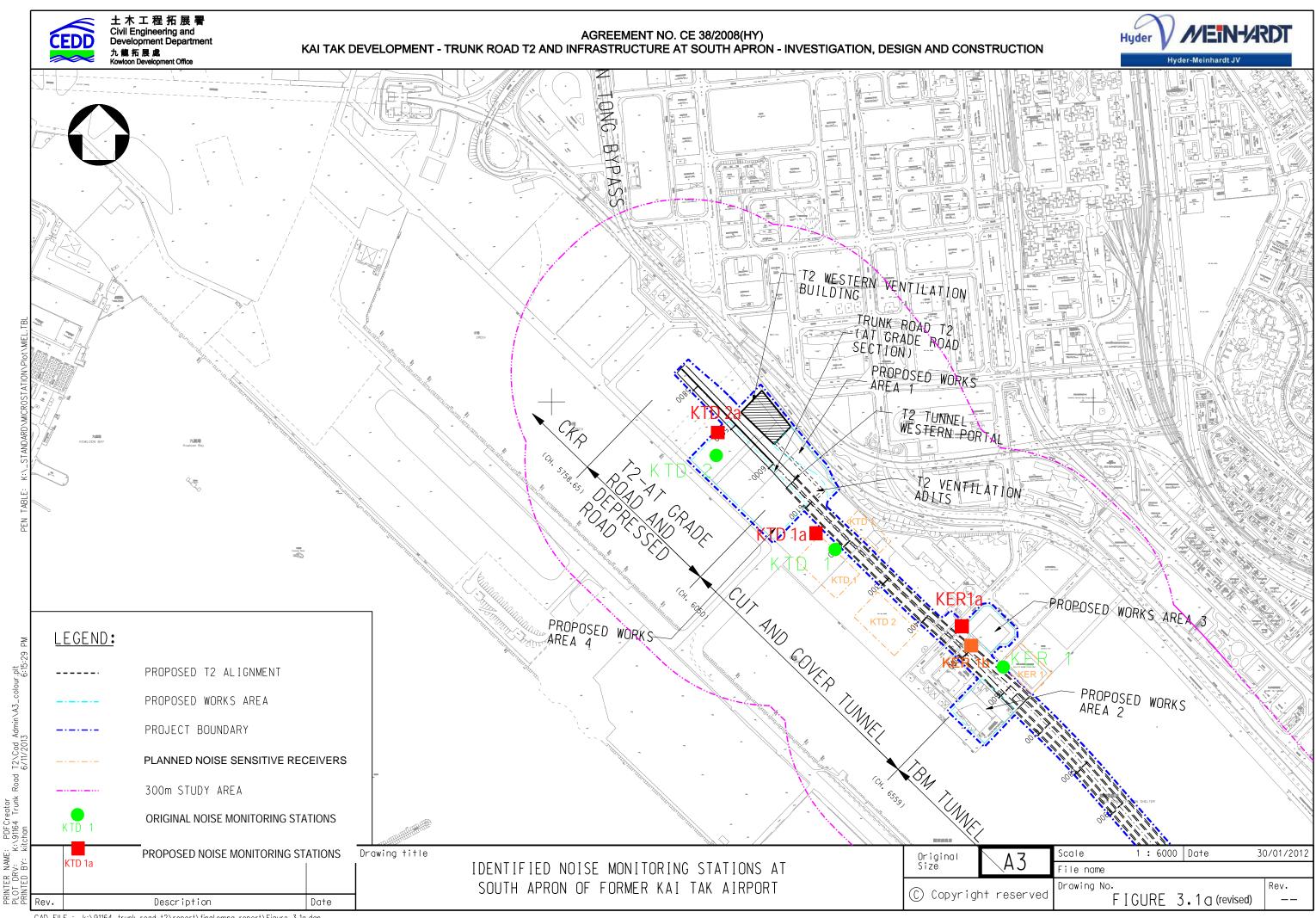


Figure 2

Air and Noise Monitoring Locations



CAD FILE : k:\91164 trunk road t2\report\finalemna report\Figure 2.1a.dgn



CAD FILE : k:\91164 trunk road t2\report\finalemna report\Figure 3.1a.dgn

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Appendix A

**Construction Programme** 

ity ID	Activity Name	Orig	Rem	Start	Finish	ebruary			March			
		Dur	Dur			20 12 19	2	6 05	21 12	19	26	02
XL/2014/03-St	age 3 Infrastructure Works for Developments at the Southern	1200	835	04-Jan-16 A	12-Jun-19	12 13		0 00	12	10	20	
Project Key Dat		1190	835	01-Feb-16 A	12-Jun-19							
Site Possession		0	0		01-Apr-17							
K-PK-SPD-1800	Portion I	0	0	+	01 1101 17						·	<ul> <li>Portion I</li> </ul>
			0	-								
Site Handover		0	0	28-Apr-17	28-Apr-17							
K-PK-SHD-1100	Portion B	0	0		28-Apr-17*							
General Submi	ssion	407	143	11-May-16 A	20-Jul-17							
<b>Programming</b>		28	28	09-Jun-16 A	27-Mar-17							
Works Program	ne	28	28	09-Jun-16 A	27-Mar-17							
K-PA-GSP-4300	Acceptance of the Works Programme	28	28	09-Jun-16 A	27-Mar-17						Accer	ptance of the W
Condition Surv	ey & Construction Impact Assessment	239	58	11-May-16 A	26-Apr-17							
K-DR-PRE-1190		7	7	15-Mar-17	21-Mar-17					Conditi	ion surve	ey at HKCH
										<u></u>		
K-DR-PRE-1195	Submission of condition survey report at HKCH	14	14	22-Mar-17	04-Apr-17							Submissi
K-DR-PRE-1320	Revise & Resubmit CIA Report for Zone 2 to 4	56	30	11-May-16 A	29-Mar-17						📕 Re	evise & Resubm
	-											
K-DR-PRE-1330	Approval of the CIA report submissions	28	28	30-Mar-17	26-Apr-17						-	
Alternative De	sign Submission and Approval	288	43	15-Feb-17 A	11-Apr-17							
	US D-wall from (CH6+291 to CH6+568)	288	43	15-Feb-17 A	11-Apr-17							
	5 Resubmission of DDA drawing (Rev.J SUS D-Wall Panels EM10 to EM14, WM12	28		15-Feb-17 A	25-Feb-17 A		Resul	omission of DD	A drawing (	Rev.J SUS I	D-Wall P	anels EM10 to
V DA ADO 1700	toWM16, WH01 toWH03 and SH05 to SH07)	20	16	25 5 1 17 4	15 16 17				En	inaar's ravia	w and a	pproval
K-PA-ADS-1580	Engineer's review and approval	28	16	25-Feb-17 A	15-Mar-17	-				gineer's revie		
K-PA-ADS-1590	Submission of DDA drawing (SUS D-Wall Panels at Westbound CH6+220 to	28	15	15-Feb-17 A	14-Mar-17				Subn	ission of DI	DA draw	ing (SUS D-Wa
	CH6+291 in Zone 2 )	• •	•						<u></u>			
K-PA-ADS-1600	Engineer's review and approval	28	28	15-Mar-17	11-Apr-17							
Major Tempor	ary Works Design	127	127	16-Mar-17	20-Jul-17							
	ELS design for construction of SUS from CH6+220 to CH6+291 in Zone 2 - horizontal	56	56	26-May-17	20-Jul-17							
K DA COD (925	members	5(	5(	26 Apr 17	20 Ive 17							
K-PA-GSP-6835	ELS design for construction of SUS from CH6+291 to CH6+568 in Zone 4 - horizontal members	56	56	26-Apr-17	20-Jun-17							
K-PA-GSP-8860	Submission of Pumping Test for SUS Cofferdam in Zone 4	14	14	16-Mar-17	29-Mar-17						💻 Su	ubmission of Pun
	Fusing and and an and an and a second	20	20	20 Mar 17	26 Apr 17							
K-PA-GSP-8803	Engineer's review and approval	28	28	30-Mar-17	26-Apr-17							
K-PA-GSP-8870	Submission of Pumping Test for SUS Cofferdam in Zone 2	14	14	12-Apr-17	25-Apr-17							
K DA COD 9990	Fusing and and an and an and a second	20	20	26 Apr 17	22 Mars 17							
K-PA-GSP-8880	Engineer's review and approval	28	28	26-Apr-17	23-May-17							
Major Constru	ction Works Method Statement	264	103	06-Sep-16 A	10-Jun-17							
K-PA-GSP-7145		28	8	06-Sep-16 A	07-Mar-17			Engi	neer's comm	nents and app	proval fe	or Method staten
K-PA-GSP-7150	SUS Construction for Zone 1 Method statement of Excavation and ELS for SUS Construction for Zone 3	28	28	17-Mar-17	13-Apr-17							
K-IA-03I-/150	We find statement of Excavation and EES for 505 Construction for Zone 5	20	20	1/-iviai-1/	13-Api-17							
K-PA-GSP-7155	Engineer's comments and approval	28	28	14-Apr-17	11-May-17							
K-PA-GSP-7160	Method statement of Excavation and ELS for SUS Construction for Zone 4	20	20	14 May 17	10-Jun-17							
A-FA-USP-/100	ivication statement of Excavation and ELS for SUS Construction for Zone 4	28	28	14-May-17	10-Juii-1/							
K-PA-GSP-7405	Engineer's comments and approval	28	12	29-Oct-16 A	11-Mar-17				Engineer's	s comments a	ind appr	oval
K DA COD 7400	Mathed atotement for Freedien and Demonstratifies to or second schedules at the terms	20	1.5	15 Dec 16 4	14 Mar 17				Moth	od statement	for Free	ction and Remov
K-PA-GSP-7490	Method statement for Erection and Removal of the temporary vehicular and pedestrian access for HKCH	28	15	15-Dec-16 A	14-Mar-17				ivicul	ou statement		



### 中國路德工程有限責任公司 ◆

Critical Activity Non-Critical Activity Remaining Level of Effort Actual Work

Milestone

### 3 MRP Mar 2017- May 2017

Project ID :15 3MPR Mar - May 17 Layout : KL201403 WP4 3MRP Page 1 of 9

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r Runway	CEDD	土木工程拓 Civil Engineering Development De 九龍拓展處 Kowloon Development	and partment
April		May	
22 09   16   23	20	23 07 14	21
09 16 23	30	07 14	21
	♦ Portion B		
/orks Programme			
ion of condition survey rep	port at HKCH		
CIA Dement 6 7	to 4		
nit CIA Report for Zone 2	10 <del>4</del>		
	Approval of the	CIA report subr	nissions
	Approval of the	CIA report subr	1115510/15
EM14, WM12 toWM16,	WH01 toWH03	and SH05 to SH	(07)
LIVI14, WIVI12 10 WIVI10,	W1101 10 W1105		107)
all Panels at Westbound C	H6+220 to CH6+	-291 in Zone 2	)
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Engineer's review and	approval		
mping Test for SUS Coffe	rdam in Zone 4		
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val of the temporary vehic	ular and pedestria	in access for HI	КСН
Engineer's comments a	nd approval		
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28-Feb-17	Mar 17 - May 17		I

Hyder - Meinh	ardt JV	KL/2014/03 Kai Tak Development	- Sta	ge 3	Infrastruc	ture Work	s for	Developr	ments	at the	South	ern Pa	rt of tl	ne Forn	ner
	Activity Name		Orig	Rem	Start	Finish	ebruary				March				
			Dur	Dur			20				21				
							12	19	26	05	12	19	26	02	(
PA_GSP_7500	Method statement for	Erection and Removal of the temporary support for the utilities	28	0	26 Nov 16 A	17_Feb_17 A		Method stateme	nt for Free	ction and	Removal o	f the tempo	rarv supp	ort for the u	tilitie

	Dui	Dui			12 19	26 05 12		
K-PA-GSP-7500 Method statement for Erection and Removal of the temporary support for the utilities	28	0	26-Nov-16 A	17-Feb-17 A	Method staten	nent for Erection and Remo	1 5 1	
K-PA-GSP-7505 Engineer's comments and approval	28	20	20-Feb-17 A	19-Mar-17			Engineer's comm	ents and approval
Temporary Utility Diversion Works	226	96	05-Sep-16 A	26-Jun-17				
Temporary Diversion for Watermain Works	0	0	-	22-Mar-17				
Laying Proposed (Fresh) Watermain	0	0	22-Mar-17	22-Mar-17			▲ DN/600 com	vected (X1 and X2)
K-PA-TUD-1150 DN600 connected (X1 and X2)	0	0		22-Mar-17				
K-PA-TUD-1170 DN100 connected (X3)	0	0		22-Mar-17			◆ DN100 conr	ected (X3)
K-PA-TUD-2050 DN450 DI connected (X4)	0	0		22-Mar-17			◆ DN450 DI c	onnected (X4)
Laying Proposed (Salt) Watermain	0	0	22-Mar-17	22-Mar-17				
K-PA-TUD-1250 Connection to DN300 DI (Y1)	0	0		22-Mar-17			<ul> <li>Connection t</li> </ul>	o DN300 DI (Y1)
K-PA-TUD-2250 Connection to DN300 DI (Y2 and Y3)	0	0		22-Mar-17			<ul> <li>Connection t</li> </ul>	o DN300 DI (Y2 and Y3)
Temporary Diversion for Drainage Works	226	96	05-Sep-16 A	26-Jun-17				
K-PA-TUD-2400 Diversion of 2100 storm drain at zone 4	60	15	05-Sep-16 A	16-Mar-17			Diversion of 2100 sto	im drain at zone 4
56 11	25	25	17-May-17	14-Jun-17				
connectionK-PA-TUD-2600Excavation and laying of DN300 MS pipe and manhole (FMH23-15D) at zone 4	70	70	30-Mar-17	26-Jun-17				
Temporary Diversion for CLP Cable at CH6+560	76	68	19-Jan-17 A	24-May-17				
K-PA-TUD-3555 Trench excavation area 3 for cable diversion by CLP at zone 4	27	15	19-Jan-17 A	16-Mar-17			<ul> <li>Trench excavation are</li> </ul>	a 3 for cable diversion by CLP at zone 4
K-PA-TUD-3560 Handover area 4 to CLP cable diversion at zone 4	0	0		29-Mar-17			◆ H	andover area 4 to CLP cable diversion at zone 4
K-PA-TUD-3700 Trench excavation area 4 for cable diversion and CLP cable slewing works by CLP	42	42	30-Mar-17	24-May-17				
K-PA-TUD-3750 Fabrication and Erection temporary support to utilities at zone 4	14	14		19-Apr-17				Fabrication and Ere
Temporary Diversion for Sewage Rising Main	88	88		16-Jun-17				
K-PA-TUD-1500 Construction of 3xDN350 sewage rising main and manhole	28	18	20-Feb-17 A	13-May-17				
K-PA-TUD-1600 Construction of DN750 sewage pipe and manhole - stage 1	20	20	29-Mar-17	25-Apr-17			_	Construct
K-PA-TUD-1700 Construction of DN750 sewage pipe - stage 2 (crossing tunnel box structure)	10	10	22-Apr-17	05-May-17				
K-PA-TUD-1800 Connection to existing rising main	0	0		22-May-17				
K-PA-TUD-2750 Construction of DN450 sewerage pipe at zone 2 - stage 1	48	48	23-Feb-17 A	28-Apr-17				Cons
K-PA-TUD-2800 Construction of DN450 sewerage pipe at zone 2 - stage 2	16	16	,	16-Jun-17				
Temporary Diversion for Telecommunication Cable         K-PA-TUD-4000       Diversion of Fibre cable at Zone 2 (PCCW)	68 18		24-Feb-17 A 24-Feb-17 A	24-May-17 02-Mar-17		Diversion of Fibre	cable at Zone 2 (PCCW)	
K-PA-TUD-4050     Diversion of Fibre cable at Zone 4 (PCCW)	18	18		24-May-17				
				-				
K-PA-TUD-4060 Diversion of Fibre optical cable (HGC) Temporary Traffic Management	18 304	18 92	5	24-May-17 30-May-17				
	302	70		08-May-17				
K-PA-TTA-8100 Submission and approval of TTA schemes-TTA stage 2 for D-wall W/B at Zone 2	90	28	31-Jul-16 A	27-Mar-17			Subr	hission and approval of TTA schemes-TTA stage 2
K-PA-TTA-8900 Submission and approval of TTA schemes-TTA stage 3 for re-construction of Cheung	90		11-Feb-17 A	08-May-17				
Implementation of Temporary Traffic Arrangement           K-PA-TTA-3000         TTA stage 2 - Road diversion at Shing Cheong Road for D-wall W/B at Zone 2	18 0	18		30-May-17				
K-PA-TTA-4000       TTA stage 3 - Road diversion at Cheung Yip Street phase 1	0	0	-					
K-FA-TIA-4000 TTA stage 5 - Koau diversion at Cheung Tip Sueet phase T		U	07-1v1ay-1 /		L	1	Designat ID . 17 23 (DP )	far May 17 3 Month
中國路檔工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION			3 MR		2017- May 2 age 2 of 9	2017	Project ID :15 3MPR M Layout : KL201403 WF Page 2 of 9	Iai - May 17

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26	2	2 16 2	3 30	23 07 14	21				
emporary supp	port for the utilities								
ineer's comme	nts and approval								
DN600 conn	ected (X1 and X2)								
DN100 conn									
DN450 DI c	onnected (X4)								
	o DN300 DI (Y1)								
Connection to	o DN300 DI (Y2 and Y	3)							
n of 2100 stor	m drain at zone 4								
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ne 2 (PCCW)					Div				
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				TTA stage 3	- Road diversic				
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KL201403 WP		Date	Revision	Checked	Approved				
f 9		28-Feb-17	Mar 17 - May 17						

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vity ID	Activity Name	Orig	Rem	Start	Finish	ebruary				March				
		Dur	Dur			20 12	19	26	05	21	19	26	02	09
Construction of T	emporary Diversion Road for Shing Cheong Road (TTA stage 2)	23	23	04-May-17	30-May-17	12	19	20	05	12	19	20	02	09
K-PA-TTA-6000	Construction of concrete pavement (CH0 to CH100)	20	20	04-May-17	26-May-17									
K-PA-TTA-6050	Construction of footpath and U-channel (CH0 to CH100)	8	8	19-May-17	27-May-17									
K-PA-TTA-6100	Installation of street lighting and setup the TTA	5	5	24-May-17	29-May-17									
K-PA-TTA-6150	Road marking	1	1	30-May-17	30-May-17	+								
Interfacing Wo		60	60		15-May-17									
K-PA-INT-6030	Handover Area B1 to HKCH's Consttuction (CSSOJV) for Telecom Lead-in Works	14	14	17-Mar-17	30-Mar-17								Handover	Area B1
K-PA-INT-6070	Handover Area C2 to HKCH's Construction (CSSOJV) for Stormwater Drainage Cor	16	16	30-Apr-17	15-May-17	1								
<b>Materials Procu</b>	rement (Major Materials)	901	525	01-Feb-16 A	06-Aug-18									
ELS struct / wa	ling	360	240	10-Jun-16 A	25-Oct-17									
K-PA-MP-1150	Manufacturing & delivery to site	360	240	10-Jun-16 A	25-Oct-17									
Water Works		240	240	06-Apr-17	01-Dec-17									
K-PA-MP-1050	Manufacturing & delivery to site	240	240	06-Apr-17	01-Dec-17								•••••	
Steel H-Pile		420	100	-	07-Jun-17	[								
K-PA-MP-1250	Manufacturing & delivery to site	420	100	01-Feb-16 A	07-Jun-17								¦	
Chilled Water P		550	520	06-Feb-17 A	06-Aug-18	[								
K-PA-MP-1300	Order of chilled water pipes	0	0	05-Mar-17					♦ Order o	f chilled wa	ater pipes			
K-PA-MP-1350	Manufacturing & delivery to site	550	520	06-Feb-17 A	06-Aug-18			•						
Prelimiaries		1190	835	11-Mar-16 A	12-Jun-19									
K-DR-PRE-1800	Submission of time-lapsed photographs and video	1190	835	11-Mar-16 A	12-Jun-19								 !	
Barge Loading	Facilities	48	48	17-Mar-17	19-May-17									
K-DR-PRE-1450	Setup of temporary barging point	48	48	17-Mar-17	18-May-17								 	
K-DR-PRE-1480	Operation of the barging point	0	0	19-May-17										
Instrumentation	and Monitoring	363	182	03-Aug-16 A	28-Aug-17									
	umentation and Monitoring	25	25	15-Mar-17	13-Apr-17								1	
Inclinometer (IN	C)	25	25	15-Mar-17	13-Apr-17									
K-IM-INC-1330	Installation of INC at Zone 3	15	15	15-Mar-17	31-Mar-17	1							Installat	ion of INC
K-IM-INC-1340	Installation of INC at Zone 4	15	15	27-Mar-17	13-Apr-17	<b> </b>								
	rumentation and Monitoring	60	60		05-Jun-17		·····		·····					•••••
Extensomter (EX	<i>T</i> )	60	60	21-Mar-17	05-Jun-17									
K-IM-EXT-1370	Installation of EXT at Zone 3	15	15	21-Mar-17	07-Apr-17									<ul> <li>Installa</li> </ul>
K-IM-EXT-1380	Installation of EXT at Zone 4	15	15	19-May-17	05-Jun-17	1								
Piezometer/Stand	pipe (PZR)	38	38	01-Apr-17	22-May-17									
K-IM-PZR-1360	Installation of PZR at Zone 2	10	10	27-Apr-17	10-May-17	1								
K-IM-PZR-1370	Installation of Remaining PZR at Zone 3	3	3	01-Apr-17	05-Apr-17	1								Installation
K-IM-PZR-1380	Installation of Remaining PZR at Zone 4	15	15	05-May-17	22-May-17									
Inclinometer (IN		26	26		11-May-17									
	Installation of INC at Zone 3	10	10	06-Apr-17	20-Apr-17	+							······	



 Milestone Critical Activity Non-Critical Activity Remaining Level of Effort Actual Work



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a B1 to H	KCH's C	onsrtucti	on (CS	(sojv	) for 1	eleco	m Lea	ad-1n	Works	5
								Han	dover	Area C
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									Setup	of tem
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of INC at 2	Zone 3									
In In	stallation	of INC a	at Zon	e 4						
nstallation	ofEVT	t Zoro ?								
istallation	ULEAI									
						In	stalla	tion o	of PZF	R at Zon
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		Installati	on of I	NC at	Zone	3				
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	28-Feb-	ate		Revisio			ecke	u	Appr	oved
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y ID /	Activity Name	Orig	Rem	Start	Finish	ebruary					Ма					
		Dur	Dur			20 12	19	26		05	2		19	26	02	
K-IM-INC-1380	Installation of INC at Zone 4	10	10	28-Apr-17	11-May-17		 									
Crack Meters		10	10	22-Mar-17	31-Mar-17											
K-IM-CRM-1010	Installation of Crack Meters at HKCH	10	10	22-Mar-17	31-Mar-17		 								Installation	n of C
Filt Monitoring T		363	182	03-Aug-16 A	28-Aug-17		 									
K-IM-TMT-1000	Filt Monitoring near PWCL	310	120	03-Aug-16 A	27-Jun-17		 	<mark></mark>								
K-IM-TMT-1020	Filt Monitoring near HKCH	160	160	22-Mar-17	28-Aug-17		 									
	orks-Remainder of the Works	82		27-Feb-17 A	21-Jun-17		 									
Roadwork and D		82	92	27-Feb-17 A	21-Jun-17		 									
Road D4-4 (Cheu		82		27-Feb-17 A	21-Jun-17		 	••••								
Drainage Works (C.		67	77	27-Feb-17 A	03-Jun-17		 									
K-01-RWS-2080	Trial Pit for Drainage Works (M101 to M102)	10	10	27-Feb-17 A	10-Mar-17		 				Trial Pi	t for D	rainage	Works (	4101 to M10	02)
K-01-RWS-2090	Installation of Sheet Pile for Drainage Works (M101 to M102)	10	10	11-Mar-17	22-Mar-17		 						Inst	allation	of Sheet Pile	for D
	Excavation of Drainage Pipe and Manhole (M101 to M102)	8	8	23-Mar-17	31-Mar-17		 								Excavation	
						ļ	 								Encuration	
K-01-RWS-2110	Laying Drainage Pipe and Construction Manhole (M101 to M102)	25	25	01-Apr-17	06-May-17											
K-01-RWS-2120	Backfilling of Drainage Pipe and Manhole (M101 to M102)	12	12	08-May-17	20-May-17											
K-01-RWS-9300	Installation of Sheet Pile for Drainage Works (M102h to M102e)	12	12	22-May-17	03-Jun-17	1	 									
Drainage Works (C		61	61	06-Apr-17	21-Jun-17		 									
K-01-RWS-1490	Excavation of Drainage Pipe and Manhole (M206 to M208)	8	8	06-Apr-17	18-Apr-17		 									
K-01-RWS-1492	Laying Drainage Pipe and Construction Manhole (M206 to M208)	30	30	19-Apr-17	25-May-17		 									
K-01-RWS-1495	Backfilling of Drainage Pipe and Manhole (M206 to M208)	12	12	26-May-17	08-Jun-17		 									
K-01-RWS-1500	Implementation of TTA stage 3 - phase 1	0	0	09-May-17			 									
		8	8	09-May-17	17 May 17		 									
	Excavation of Drainage Pipe and Manhole (M208 to M213)				17-May-17	ļ	 									
K-01-RWS-1610	Laying Drainage Pipe and Construction Manhole (M208 to M213)	30	30	18-May-17	21-Jun-17		 									
ection 1A of the	Works -Construction of Supporting Underground Structure (Alter	311	107	22-Sep-16 A	10-Jul-17		 									
SUS and Ventilati	ion Adits from CH6+150 to CH6+220 in Zone 1	122	76	19-Dec-16 A	02-Jun-17		 									
Construction of S		40	0	19-Dec-16 A	28-Feb-17		 									
K-1A-SV1-3400	Trimming Pilehead at Cut-off Level	40	0	19-Dec-16 A	28-Feb-17			T I	rimmin	ig Pilehe	ead at C	ut-off I	Level			
	unnel Box Structure	71		22-Feb-17 A	02-Jun-17		 									
SUS Bay 1 (Ch6150		70		22-Feb-17 A	02-Jun-17	<b> </b>	 - <u></u>			0		f D	01-1-0		10.0	
K-1A-SV1-8070	Construction of Base Slab for VA2 (-18.0mPD)	10	6	22-Feb-17 A	06-Mar-17										18.0mPD)	
K-1A-SV1-8100	Removal of Strut SV1A	6	6	07-Mar-17	13-Mar-17		 				Re	moval	of Strut S	SV1A		
K-1A-SV1-8140	Construction of Base Slab VA1 and VA3 (-13.9 mPD)	20	14	24-Feb-17 A	15-Mar-17	<u> </u>	 					Constr	uction of	f Base S	lab VA1 and	VA3
K-1A-SV1-8170	Removal of Strut S5	5	5	16-Mar-17	21-Mar-17		 						Remo	oval of S	trut S5	
K-1A-SV1-8190	Construction of Wall Struct for VA1 and VA3	10	10	22-Mar-17	01-Apr-17		 								Construc	tion o
					1	<b> </b>	 									Backfi
K-1A-SV1-8210	Backfilling with Sand to Formation Level of Service Adit	3	3	03-Apr-17	06-Apr-17		 									Jackfi
K-1A-SV1-8240 (	Construction of VA1 and VA3 Side Wall and base slab of SA	10	10	07-Apr-17	21-Apr-17		 									



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Critical Activity Non-Critical Activity Remaining Level of Effort Actual Work

Milestone



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r Runway	
April	Kowloon Development Office
April 22	May 23
09 16 23	
	Installation of INC at Zo
Crack Meters at HKCH	
Drainage Works (M101 to	o M102)
	,
Drainage Pipe and Manho	(M101 to M102)
Dramage Pipe and Manno	ore (191101 to 191102)
<u></u>	······································
	Laying Drainage Pipe and Cons
	Backfillin
Excavation	of Drainage Pipe and Manhole (M206 to M208)
	La
	_
	♦ Implementation of TTA stag
	■ Implementation of TTA stag
	Excavation of
2 ( 12 0 PD)	
3 (-13.9 mPD)	
3 (-13.9 mPD)	
3 (-13.9 mPD)	
	nd VA3
of Wall Struct for VA1 ar	
of Wall Struct for VA1 ar	
of Wall Struct for VA1 ar	nd VA3 ation Level of Service Adit
of Wall Struct for VA1 ar filling with Sand to Forma	ation Level of Service Adit
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of Wall Struct for VA1 ar filling with Sand to Forma	ation Level of Service Adit
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of Wall Struct for VA1 ar filling with Sand to Forma	ation Level of Service Adit
of Wall Struct for VA1 ar filling with Sand to Forma	ation Level of Service Adit uction of VA1 and VA3 Side Wall and base slab
of Wall Struct for VA1 ar filling with Sand to Form Constru-	ation Level of Service Adit uction of VA1 and VA3 Side Wall and base slab 3 Months Rolling Programme
Constru- Date	ation Level of Service Adit uction of VA1 and VA3 Side Wall and base slab 3 Months Rolling Programme Revision Checked Approved
of Wall Struct for VA1 ar filling with Sand to Form Constru-	ation Level of Service Adit uction of VA1 and VA3 Side Wall and base slab 3 Months Rolling Programme
of Wall Struct for VA1 ar filling with Sand to Form Constru- Date	ation Level of Service Adit uction of VA1 and VA3 Side Wall and base slab 3 Months Rolling Programme Revision Checked Approved

### Hyder MEIN-ARDT

### KL/2014/03 Kai Tak Development - Stage 3 Infrastructure Works for Developments at the Southern Part of the Former

Activity	ID	Activity Name	Orig	Rem	Start	Finish	ebruary						March				
			Dur	Dur			20	19	9	26		05	21 12	19	26		02
	K-1A-SV1-8250	Installation of Re-porp Struct inside VA1, VA2, VA3 and SA	4	4	22-Apr-17	26-Apr-17								10			<u>~</u>
	K-1A-SV1-8260	Backfilling with Sand and Casting Mass Concrete between VA1, VA2 and SA	5	5	22-Apr-17	27-Apr-17				••••••							
	K-1A-SV1-8270	Removal of Strut S4	4	4	28-Apr-17	04-May-17				••••••							
	K-1A-SV1-8290	Erection of Scaffold and Formwork for Base Slab Construction (inside VA1 and VA3)	7	7	05-May-17	12-May-17	+			••••••							
	K-1A-SV1-8300	Backfilling with Sand to Formation Level	6	6	13-May-17	19-May-17											
	K-1A-SV1-8320	Construction of Base Slab for SUS	12	12	20-May-17	02-Jun-17											
	SUS Bay 4 (Ch620	)2.5-Ch6220)	45	50	28-Feb-17 A	02-May-17				· · · · · ·							
		Removal of Strut S3	4	5	28-Feb-17 A	04-Mar-17					Ren	noval of	f Strut S3				
	K-1A-SV1-8580	Construction of Side Wall Structure	10	10	06-Mar-17	16-Mar-17							(	Construction	on of Side	Wall Str	ucture
	K-1A-SV1-8590	Installation of Re-prop Struct inside W/B and E/B	6	6	17-Mar-17	23-Mar-17											prop Struc
	K-1A-SV1-8600	Removal of Strut S2	4	4	24-Mar-17	28-Mar-17								I	R	emoval o	of Strut S2
	K-1A-SV1-8605	Erection of Scaffold for Top Slab	4	4	24-Mar-17	28-Mar-17								I	Ei	ection o	of Scaffold
	K-1A-SV1-8610	Construction of Top Slab	12	12	29-Mar-17	12-Apr-17									_		
	K-1A-SV1-8625	Waterproofing Works	5	5	13-Apr-17	21-Apr-17	1										
	K-1A-SV1-8640	Removal of Strut S1	5	5	18-Apr-17	22-Apr-17											
	K-1A-SV1-8650	Breaking and Removal of D-wall to +2.5mPD	10	10	20-Apr-17	02-May-17											
	SUS Bay 3 (Ch618	85-Ch6202.5)	45	45	28-Feb-17 A	04-May-17	1			·							
	K-1A-SV1-8720	Removal of Strut S3	4	3	28-Feb-17 A	10-Mar-17								of Strut S3			
	K-1A-SV1-8740	Construction of Side Wall Structure	10	10	07-Mar-17	17-Mar-17								Construc	tion of Sid	e Wall S	tructure
	K-1A-SV1-8750	Installation of Re-prop Struct inside W/B and E/B	6	6	18-Mar-17	24-Mar-17							l				e-prop Stru
	K-1A-SV1-8760	Removal of Strut S2	4	4	25-Mar-17	29-Mar-17										Removal	l of Strut S
	K-1A-SV1-8765	Erection of Scaffold for Top Slab	4	4	28-Mar-17	31-Mar-17										Erect	tion of Sca
	K-1A-SV1-8770	Construction of Top Slab	12	12	01-Apr-17	19-Apr-17											
	K-1A-SV1-8785	Waterproofing Works	5	5	20-Apr-17	25-Apr-17											
	K-1A-SV1-8800	Removal of Strut S1	4	4	20-Apr-17	24-Apr-17											
	K-1A-SV1-8810	Breaking and Removal of D-wall to +2.5mPD	10	10	21-Apr-17	04-May-17											
	SUS Bay 2 (Ch610	57.5-Ch6185)	60	60	16-Mar-17	31-May-17	1										
		Construction of Base Slab for VA2	12	12		29-Mar-17										Construc	ction of Ba
	K-1A-SV1-8860	Removal of Strut SV2	4	4	30-Mar-17	03-Apr-17										i i	Removal of
	K-1A-SV1-8870	Construction of VA2 Wall Structure	8	8	07-Apr-17	19-Apr-17	1										
	K-1A-SV1-8880	Strip Formwork and Remedial Works for Waterproofing	3	3	20-Apr-17	22-Apr-17	1										
	K-1A-SV1-8890	Backfilling with Sand and Removal part of SV1	4	4	25-Apr-17	28-Apr-17											
	K-1A-SV1-8900	Installation of Precast Concrete Slab for Base Slab Construction	2	2	29-Apr-17	02-May-17											



### 中國路橋工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

Milestone
 Critical Activity
 Non-Critical Activity
 Remaining Level of Effort
 Actual Work

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r Runway	
Asseil	九龍拓展處 Kowloon Development Office
April 22	23
09 16 23	30         07         14         21           Installation of Re-porp Struct inside VA1, VA2,
	Backfilling with Sand and Casting Mass Conci
	Removal of Strut S4
	Erection of Scaffold ar
	Backfilling
vot invide W/D and E/D	
act inside W/B and E/B	
d for Top Slab	
Construction of Top S	lab
-	roofing Works
Remo	val of Strut SI
	Breaking and Removal of D-wall to +2
ruct inside W/B and E/B	
S2	
affold for Top Slab	
Construtio	on of Top Slab
	Vaterproofing Works
Re	moval of Strut S1
	Breaking and Removal of D-wall to
ase Slab for VA2	
of Strut SV2	
	on of VA2 Wall Structure
Strip	Formwork and Remedial Works for Waterproofir Backfilling with Sand and Removal part of S
	Installation of Precast Concrete Slab for
	3 Months Rolling Programme

	3 Months Rolling P	rogramme	
Date	Revision	Checked	Approved
28-Feb-17	Mar 17 - May 17		
		Date Revision	

ty ID	Activity Name	Orig	Rem	Start	Finish	ebruary	/					N	Aarch				
		Dur	Dur			20 12		19	26	;	05	1	21	19	26	<b>-</b>	02 0
K-1A-SV1-8910	Casting Blinding Layer (No-Fine) and Laying Waterproofing Works	4	4	04-May-17	08-May-17												
K-1A-SV1-8920	Construction of Base Slab	6	6	09-May-17	15-May-17												
K-1A-SV1-8930	Removal of Strut S3	4	4	16-May-17	19-May-17												
K-1A-SV1-8950	Construction of Side Wall Construction	10	10	20-May-17	31-May-17												
Backfilling Work	s Backfilling (bay 3 to bay 4) ( to +3.7m)	20 20	20 20		20-May-17 20-May-17												
		20	20	1												ļ	
	ation Adits from CH6+220 to CH6+291 in Zone 2	291	87		15-Jun-17												
E/B Constructi K-1A-SV2-1205		281	77 6		03-Jun-17						Const	truction	1 of Gui	de Wall (	EH56-E	M57)	
K-1A-SV2-1205	Construction of Guide Wall (EH56-EM57)	10	6	25-Feb-17 A	06-Mar-17						Const	uction	1 OI Oui	ue wan (	ЕП50-Е		
K-1A-SV2-2500	Construction of D-wall Eastbound (CH6+220 to CH6+232) EH56	12	12	25-Mar-17	08-Apr-17												Cons
K-1A-SV2-2505	Construction of D-wall Eastbound (CH6+220 to CH6+232) EM57	10	10	10-Apr-17	24-Apr-17												
K-1A-SV2-2700	Construction of Guide Wall (EH53A)	5	5	30-May-17	03-Jun-17												
W/B Construct	ion of D-Wall in TTA Stage 1A	46	46	10-Apr-17	07-Jun-17												
K-1A-SV2-5000		15	15	10-Apr-17	29-Apr-17												_
K-1A-SV2-5500	Construction of D-wall Westbound (CH6+241 to CH6+291) WH48	12	12	21-Apr-17	06-May-17												
K-1A-SV2-5502	Construction of D-wall Westbound (CH6+241 to CH6+291) WM51	10	10	26-Apr-17	09-May-17												
K-1A-SV2-5504	Construction of D-wall Westbound (CH6+241 to CH6+291) WM53	10	10	02-May-17	13-May-17												
K-1A-SV2-5505	Construction of D-wall Westbound (CH6+241 to CH6+291) WM49	10	10	06-May-17	17-May-17												
K-1A-SV2-5506	Construction of D-wall Westbound (CH6+241 to CH6+291) WH51A	8	8	10-May-17	18-May-17												
K-1A-SV2-5507	Construction of D-wall Westbound (CH6+241 to CH6+291) WH54	12	12	13-May-17	26-May-17												
K-1A-SV2-5508	Construction of D-wall Westbound (CH6+241 to CH6+291) WH50	10	10	18-May-17	29-May-17												
K-1A-SV2-5510	Construction of D-wall Westbound (CH6+241 to CH6+291) WM52	10	10	22-May-17	01-Jun-17												
K-1A-SV2-5515	Construction of D-wall Westbound (CH6+241 to CH6+291) WH55	12	12	25-May-17	07-Jun-17												
W/B Construct	ion of D-Wall in TTA Stage 2	15	15	30-May-17	15-Jun-17												
K-1A-SV2-4300		0	0	30-May-17													
K-1A-SV2-4400	Construction of Guide Wall	15	15	30-May-17	15-Jun-17												
	6	104	81	22-Sep-16 A	08-Jun-17												
<b>E/B Constructure</b>	from CH6+291 to 6+467 in Zone 3	73	49	-	29-Apr-17	+											
K-1A-SV3-2400		30	20	-	29-Mar-17				····						T	esting	of D-wall (S
K-1A-SV3-7585	Drilling for Toe Grouting Works	50	44		24-Apr-17												
K-1A-SV3-7625	Commence and Completion of Toe Grout Dwall 20 to 26 WB	7	7	24-Mar-17	31-Mar-17											Com	mence and C
K-1A-SV3-7635	Commence and Completion of Toe Grout Dwall 28 to 30 WB	2	2		05-Apr-17												Commen
K-1A-SV3-7645	Commence and Completion of Toe Grout Dwall 39A to 45 WB	6	6		22-Apr-17												
					-										<u></u>	<u></u>	
K-1A-SV3-7655	Commence and Completion of Toe Grout Dwall 32 to 38 EB	10	10	25-Mar-17	06-Apr-17												Comme



### 有限責任公司

Milestone
 Critical Activity
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Ap	ril					May	Onide .
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09	16	23		30		07 14	21
						Casting Blind	ing Layer (No-l
					ſ	Co	nstruction of Ba
							Removal of
							· · · · · · · · · · · · · · · · · · ·
							Backfillin
Construct	ion of D-w	all East	bound	(CH6-	-220 t	o CH6+232) l	EH56
		Co	nstruc	tion of	D-wa	ll Eastbound (	CH6+220 to Cl
				Constru	ction c	of Guide Wall	(WH53-WM56
					Co	nstruction of I	D-wall Westbou
							of D-wall Wes
						Const	ruction of D-wa
							Construction of
							Construction
							(
all (Sonic t	est and IC	)					
		<b>D</b> r	illing	for Toe	Grout	ing Works	
and Compl							
nmence and	-						ut Dwall 39A t
ommence a							
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Hyder	MEINHARDT

	Hyder - Mein	hardt JV														
Activity ID		Activity Name			Orig Dur	Rem Dur	Start	Finish	ebruary 20				March 21			
									12	19	2	6 05	12	19	26	02
K-1A	A-SV3-7665	Commence and Co	mpletion of Toe Grout Dwall 39A to 43 El	3	6	6	24-Apr-17	29-Apr-17								
Cons	struction of	Socketed H-Pile			72	74	28-Feb-17 A	31-May-17								
	A-SV3-3008		cetted H-piles HPC89 coring		2	2	28-Feb-17 A	01-Mar-17				Installation	of Socketted	H-piles HP	C89 cori	ng
K-1A	A-SV3-3009	Installation of Sock	cetted H-piles HPC98 coring		2	2	02-Mar-17	03-Mar-17				Installati	on of Socket	ed H-piles	НРС98 с	oring
K-1A	A-SV3-3010	Installation of Sock	cetted H-piles HPC96 coring		2	2	07-Mar-17	08-Mar-17				I 🗖	nstallation of	Socketted 1	H-piles H	IPC96 coring
K-1A	A-SV3-3012	Installation of Sock	cetted H-piles HPC94 coring		2	2	09-Mar-17	10-Mar-17				-			-	s HPC94 coring
K-1A	A-SV3-3013	Installation of Sock	tetted H-piles HPC92 coring		2	2	11-Mar-17	13-Mar-17								piles HPC92 co
K-1A	A-SV3-3014	Installation of Sock	cetted H-piles HPC90 coring		2	2	14-Mar-17	15-Mar-17								d H-piles HPC90
K-1A	A-SV3-3016	Installation of Sock	cetted H-piles HPC88 coring		2	2	16-Mar-17	17-Mar-17								tted H-piles HPC
K-1A	A-SV3-3017	Installation of Sock	cetted H-piles HPC86 coring		2	2	18-Mar-17	20-Mar-17								ocketted H-piles
K-1A	A-SV3-3019	Installation of Sock	tetted H-piles HPC84 coring		2	2	21-Mar-17	22-Mar-17								of Socketted H-pi
K-1A	A-SV3-3021	Installation of Sock	cetted H-piles HPC87 coring		2	2	23-Mar-17	24-Mar-17								on of Socketted H
K-1A	A-SV3-3023	Installation of Sock	tetted H-piles HPC85 coring		2	2	25-Mar-17	27-Mar-17								llation of Sockett
K-1 <i>A</i>	A-SV3-3024	Grouting works for	98,96,94,92,90 to 85		18	18	14-Mar-17	03-Apr-17								Grouting w
K-1A	A-SV3-7430	Installation of Sock	cetted H-piles HPC83 coring		2	2	28-Mar-17	29-Mar-17								stallation of Socl
K-1 <i>A</i>	A-SV3-7440	Installation of Sock	tetted H-piles HPC81 coring		2	2	30-Mar-17	31-Mar-17								Installation of S
K-1 <i>A</i>	A-SV3-7450	Installation of Sock	tetted H-piles HPC79 coring		2	2	01-Apr-17	03-Apr-17								Installation
K-1 <i>A</i>	A-SV3-7455	Close No. 1 Gate a	and Open Gate No. 2		0	0	03-Apr-17*									◆ Close No.
K-1A	A-SV3-7460	Setting up for Zone	e 3 remaining piles		0	0	03-Apr-17									<ul> <li>Setting up f</li> <li>Instal</li> </ul>
K-1A	A-SV3-7470	Installation of Sock	tetted H-piles HPC77 coring		2	2	05-Apr-17	06-Apr-17								
K-1 <i>A</i>	A-SV3-7480	Installation of Sock	tetted H-piles HPC75 coring		2	2	07-Apr-17	08-Apr-17								🗖 Ins
K-1 <i>A</i>	A-SV3-7490	Installation of Sock	tetted H-piles HPC82 coring		2	2	10-Apr-17	11-Apr-17								
K-1 <i>A</i>	A-SV3-7500	Installation of Sock	tetted H-piles HPC80 coring		2	2	12-Apr-17	13-Apr-17								
K-1A	A-SV3-7510	Installation of Sock	tetted H-piles HPC78 coring		2	2	18-Apr-17	19-Apr-17								
K-1A	A-SV3-7520	Installation of Sock	tetted H-piles HPC76 coring		2	2	20-Apr-17	21-Apr-17								
K-1A	A-SV3-7530	Installation of Sock	tetted H-piles HPC74 coring (Tempo Bridg	ge No.1)	2	2	22-Apr-17	24-Apr-17								
K-1A	A-SV3-7540		tetted H-piles HPC72 coring (Tempo Brid		2	2	25-Apr-17	26-Apr-17								
K-1A	A-SV3-7550		tetted H-piles HPC70 coring (Tempo Brid		2	2	27-Apr-17	28-Apr-17								
K-1A	A-SV3-7560	Installation of Sock	tetted H-piles HPC68 coring (Tempo Brid	ge No.1)	2	2	29-Apr-17	02-May-17								
K-1A	A-SV3-7562	Installation of Sock	xetted H-piles HPC73 coring (Tempo Brid	ge No.1)	2	2	04-May-17	05-May-17								
K-1A	A-SV3-7564		tetted H-piles HPC71 coring (Tempo Brid		2	2	06-May-17	08-May-17								
K-1A	A-SV3-7566	Installation of Sock	tetted H-piles HPC69 coring (Tempo Brid	ge No.1)	2	2	09-May-17	10-May-17								
								1								•



中國路德工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

# Milestone Critical Activity Non-Critical Activity Remaining Level of Effort Actual Work



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er Runway	土木工程拓展署 Civil Engineering and Development Department 九龍拓展處
April	Kowloon Development Office May
22 09 16 23	
	Commence and Completion of Toe Grout D
oring	
0 coring	
C88 coring	
s HPC86 coring	
biles HPC84 coring	
H-piles HPC87 coring	
tted H-piles HPC85 corin	g
works for 98,96,94,92,90	1 to 85
cketted H-piles HPC83 co	ring
Socketted H-piles HPC81	coring
on of Socketted H-piles HI	PC79 coring
1 Gate and Open Gate N	0. 2
for Zone 3 remaining pile	'S
Illation of Socketted H-pile	es HPC77 coring
nstallation of Socketted H-	piles HPC75 coring
Installation of Sockette	d H-piles HPC82 coring
Installation of Sock	etted H-piles HPC80 coring
Installation	n of Socketted H-piles HPC78 coring
Installa	tion of Socketted H-piles HPC76 coring
In:	stallation of Socketted H-piles HPC74 coring (Te
	Installation of Socketted H-piles HPC72 coring
	Installation of Socketted H-piles HPC70 cor
	Installation of Socketted H-piles HPC
	Installation of Socketted H-piles I
	Installation of Socketted H-p
	Installation of Socketted F

Date	Revision	Checked	Approved
28-Feb-17	Mar 17 - May 17		

/ity ID	Activity Name	Orig	Rem	Start	Finish	ebruary			Marc	h		
		Dur	Dur			20 12	19	26	21 15   12	19	26	02
K-1A-SV3-7570	Grouting works for HPC68 to 83	30	30	07-Apr-17	17-May-17				-			
K-1A-SV3-7595	Setting Up for Pile Test (HPC138)	5	5	19-May-17	24-May-17				 			
K-1A-SV3-7605	Loading Test for Pile HPC138	6	6	25-May-17	31-May-17				 			
W/R Construct	ion of D-Wall in TTA Stage 1A	84	64	10-Jan-17 A	19-May-17			•••••	 			
K-1A-SV3-4250		12	10		10-Mar-17				 Construc	tion of D-v	vall Westbo	ound (CH6+291 to
K-1A-SV3-4252	Construction of D-wall Westbound (CH6+291 to CH6+344) WM41	8	8	11-Mar-17	20-Mar-17				 	Cor	struction of	f D-wall Westbour
K-1A-SV3-4254	Construction of D-wall Westbound (CH6+291 to CH6+344) WM43	8	8	21-Mar-17	29-Mar-17				 		(	Construction of D-
K-1A-SV3-4270	Testing of D-wall (Sonic test and IC)	30	10	10-Jan-17 A	19-Apr-17				 			
K-1A-SV3-4280	Drilling for Toe Grouting Works (WM20 to WM39A)	24	11	14-Feb-17 A	11-Mar-17				 Drilling	g for Toe G	routing Wo	rks (WM20 to WM
K-1A-SV3-4282	Drilling for Toe Grouting Works (WM47)	3	3	06-Mar-17	08-Mar-17				Drilling for	Toe Grouti	ng Works (	WM47)
K-1A-SV3-4284	Drilling for Toe Grouting Works (WM41 to WM45)	9	9	31-Mar-17	11-Apr-17				 			
K-1A-SV3-4286	Toe Grouting Works for WM20 to WM39A	10	10	10-Mar-17	21-Mar-17					To	be Grouting	Works for WM20
K-1A-SV3-4287	Toe Grouting Works for WM47	3	3	22-Mar-17	24-Mar-17				 		Toe Gro	uting Works for W
K-1A-SV3-4288	Toe Grouting Works for WM41 to WM45	6	6	12-Apr-17	21-Apr-17				 			
K-1A-SV3-4290	Construction of remaining temporary cut-off wall at CH6+291	32	32	22-Mar-17	04-May-17				 			
K-1A-SV3-4300	Construction of temporary cut-off wall at CH6+467	55	55	10-Mar-17	19-May-17				 			
<b>Pumping Test</b>		70	70	13-Mar-17	08-Jun-17				 			
K-1A-SV3-5100	Installation of Dewatering Well (DW15-20) in Zone 3	25	25	13-Mar-17	11-Apr-17							
K-1A-SV3-5102	Installation of Dewatering Well (DW07-10) in Zone 3	21	21	24-Mar-17	21-Apr-17				 			
K-1A-SV3-5104	Installation of Dewatering Well (DW01-02) in Zone 3	6	6	29-Apr-17	08-May-17				 			
K-1A-SV3-5106	Installation of Dewatering Well (DW21-22) in Zone 3	6	6	09-May-17	15-May-17				 			
K-1A-SV3-5108	Installation of Dewatering Well (DW03-06) in Zone 3	12	12	18-May-17	31-May-17				 			
K-1A-SV3-5115	Installation of Observation Well (OW03-06) in Zone 3	12	12	08-Apr-17	25-Apr-17				 			
K-1A-SV3-5120	Installation of Observation Well (OW08) in Zone 3	2	2	26-Apr-17	27-Apr-17				 			
K-1A-SV3-5125	Installation of Observation Well (OW17-19) in Zone 3	9	9	28-Apr-17	10-May-17				 			
K-1A-SV3-5130	Installation of Observation Well (OW10-11) in Zone 3	4	4	11-May-17	15-May-17				 			
K-1A-SV3-5135	Installation of Observation Well (OW12-15) in Zone 3	12	12	18-May-17	31-May-17				 			
K-1A-SV3-5140	Installation of Recharge Well (OW12-15) in Zone 3	16	16	22-May-17	08-Jun-17				 			
<b>SUS Structure</b>	from CH6+467 to 6+568 in Zone 4	153	107	06-Dec-16 A	10-Jul-17				 			
<b>E/B</b> Constructi		88	65		20-May-17				 	<u></u> ,	Comotoret	Curle W-11/2
K-1A-SV4-2120	· · · · ·	24	20	21-Jan-17 A	22-Mar-17						Construction	n of Guide Wall (C
K-1A-SV4-2172	Construction of D-wall Eastbound (CH6+480 to CH6+510)	40	40	17-Mar-17	09-May-17				 			
K-1A-SV4-2175	Construction of D-wall Eastbound (CH6+510 to CH6+555)	55	45	14-Jan-17 A	25-Apr-17				 			



#### ◆ ◆ Milestone 中國路德工程有限責任公司 Critical Act Non-Critical Act

Critical Activity Non-Critical Activity Remaining Level of Effort Actual Work



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r Rur	iway	CEDD	土木工程拓 Civil Engineering Development De 九龍拓展處	and partment
Ар	ril	~~~~	Kowloon Development May	Umce
22	2		23	
09	16 23	30	07 14	21 Grouting work
				Grouting work.
				Sett
to CH6+	344) WH42			
und (CU	5+291 to CH6+34	(4) WM41		
	)+291 to C110+34	(4) W W 41		
-wall We	stbound (CH6+2	91 to CH6+344) V	VM43	
	Testing of	D-wall (Sonic test	and IC)	
M39A)				
Drilli	ng for Toe Groutir	ng Works (WM41	to WM45)	
	-		- )	
0 to WN	139A			
VM47				
	Too Cr	outing Works for W	MAL to WMA	
		outing works for w	1V141 10 VV1V14	5
		Cons	truction of rem	aining tempora
				<ul> <li>Construction</li> </ul>
Instal	lation of Dewater	ing Well (DW15-2	(0) in Zone 3	
	Installa	tion of Dewatering	Well (DW07-	10) in Zone 3
	mstand	tion of Dewatering	, wen (D w 07	
			Installation of	Dewatering W
				-
			Ins	stallation of Dev
	Ti	nstallation of Obse	rvation Well (C	)W03-06) in 7
		Installation of O	bservation Wel	l (OW08) in Z
			Installation	of Observation
			Ture Ture	stallation of Obs
			Ins	stanation of Obs
CH6+51	0 to CH6+555)			
	<u></u>	<u></u>		
			Construction	n of D-wall Eas
		Construction of D-v	vall Fastbourd	(CH6+510 to (
		Jonsu action of D-V	van Lastoould	(010-510-00
		3 Months Rolling	Programme	
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3 Months Rolling Programme								
Date	Revision	Checked	Approved					
28-Feb-17	Mar 17 - May 17							

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vity ID	Activity Name	Orig	Rem	Start	Finish	ebruary			March			
		Dur	Dur			20 12 19	26	05	21	10	26	
K-1A-SV4-2180	Construction of D-wall Eastbound (CH6+555 to CH6+560) EH02	12	2	23-Feb-17 A	01-Mar-17	12 19		05 Construction	of D-wall H	Eastbound	26 (CH6+55:	5 to CH6+560) EF
11 111 5 2100				201001111	01100017							
K-1A-SV4-2430	Toe Grouting Works for CH6+467 to CH6+500	20	20	20-Apr-17	15-May-17							
K-1A-SV4-2450	Testing of D-wall for CH6+467 to CH6+500 (Sonic test and IC)	20	20	26-Apr-17	20-May-17							
K-1A-5V4-2450	resting of D-wall for CH0+407 to CH0+500 (Solid lest and IC)	20	20	20-Api-17	20-1v1ay-17							
W/B and End Co	onstruction of D-Wall in TTA Stage 1A	142	96	06-Dec-16 A	26-Jun-17							]
K-1A-SV4-3996	Construction of Guide Wall (CH6+510 to CH6+555)	24	22	06-Dec-16 A	07-Apr-17							Cons
K-1A-SV4-4040	Diversion of 132kV CLP cable across SUS at CH6+560 by CLP	0	0		24-May-17		•					
K-1A-SV4-4050	Construction of Guide Wall (End Wall)	28	28	25-May-17	26-Jun-17		••••••					
K-1A-SV4-4400	Construction of D-wall Westbound (CH6+480 to CH6+510)	35	50	06-Feb-17 A	02-May-17		-					
K-1A-SV4-4500	Construction of D-wall Westbound (CH6+510 to CH6+555)	35	72	27-Feb-17 A	10-Jun-17	•	•					
K-1A-SV4-4600	Construction of D-wall Westbound (CH6+555 to CH6+560)	12	12	16-Mar-17	29-Mar-17		•				(	Construction of D-
K-1A-SV4-4730	Toe Grouting Works for CH6+467 to CH6+500	20	20	20-Apr-17	15-May-17		·····					
<b>Pumping Test</b>		25	25	20-Apr-17	20-May-17							
K-1A-SV4-4950	Installation of Dewatering Well, Observation Well and Recharging Well at CH6+467 to CH6+500 in Zone 4	25	25	20-Apr-17	20-May-17							
	ELS Construction	42	42	22-May-17	10-Jul-17							
K-1A-SV4-5500	Construction of temporary vehicular access at CH6+482(approx.)	42	42	22-May-17	10-Jul-17							
Section 3 of the	Works- Construction of District Cooling System (Subject to Excision)	70	70	07-Feb-17 A	08-May-17							
<b>Preparation Wo</b>	rks	30	30	28-Feb-17	29-Mar-17							
K-03-DCS-0830	Engineer's review and Approval	30	30	28-Feb-17	29-Mar-17		-					Engineer's review
Construction of	District Cooling System	54	54	07-Feb-17 A	08-May-17		••••••					
	DCS Works at Zone 1	54		07-Feb-17 A	08-May-17							
	Excavation and Lateral Support works	14		07-Feb-17 A	01-Mar-17		E 📕	xcavation a	nd Lateral S	Support w	vorks	
								<u></u>		<u> </u>		
K-03-DCS-1200	Laying chilled water pipes from CHR5-000 to CHR5-024	14	14	06-Mar-17	21-Mar-17							d water pipes from
K-03-DCS-1300	Backfilling at Zone 1 (CHR5-000 to CHR5-024)	35	35	22-Mar-17	08-May-17		•					
Section 4B of the	e Works- Construction of Subway B (Subject to Excision)	31	31	28-Apr-17	30-May-17		•					
Bay 1 & 2	t works construction of 5 ab way b (Subject to Excision)	0	0	28-Apr-17	28-Apr-17		••••••					
K-4B-BAY-3100	Handover of Portion B	0	0	1	28-Apr-17*		••••••					
Bay 3 & 4		0	0	30-May-17	30-May-17							
K-4B-BAY-2480	Interface Connection Details for HKCN of subway B	0	0	30-May-17	50-wiay-17		••••••					
K-4D-D/11-2400	Interface connection beams for firefy of subway b	U	U	50-1v1ay-17								
Section 5 of the V	Works-Completion of All Landscape Softworks	90	90	28-Feb-17	28-May-17							
K-05-LCS-1000	Procurement of plant species	90	90	28-Feb-17	28-May-17							
Section 7 of the	Works-Preservation and Protection of Existing Trees	1200	826	04-Jan-16 A	03-Jun-19		••••••					
K-07-001-1000	Section 7 of the Works-Preservation and Protection of Existing Trees	1200		04-Jan-16 A	03-Jun-19		- <mark> </mark>					-;
							. <b>.</b>					
<b>Sections Comple</b>	tion Date	0	0	28-Feb-17	28-Feb-17		<b>.</b>					
K-PK-SCC-2100	Completion of Section 2-Demolition of Radar Tower and Guard House											Tower and Guard I



### 中國路德工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

Milestone
 Critical Activity
 Non-Critical Activity
 Remaining Level of Effort
 Actual Work

### 3 MRP Mar 2017- May 2017

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r Runway		土木工程拓展署 Civil Engineering and Development Department 九龍拓展處 Kowtoon Development Office May					
April 22			N	lay 23			
09 16	23	30	07	14	21		
EH02	23		0,		routing Wor Testing of		
nstruction of Guide W	′all (CH6⊣	+510 to CI	46+555)		♦ Div		
				D-wall We	stbound (CI		
-wall Westbound (CI		o CH6+56		Toe G	routing Wor		
					Installatio		
y and Approval							
m CHR5-000 to CH			Backfi	lling at Zoi	ne 1 (CHR5		
	♦ F		f Portion B				
House							

	3 Months Rolling Programme					
Date	Revision	Checked	Approved			
28-Feb-17	Mar 17 - May 17					

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 : mcl@fugro.com Fax Email



Appendix B

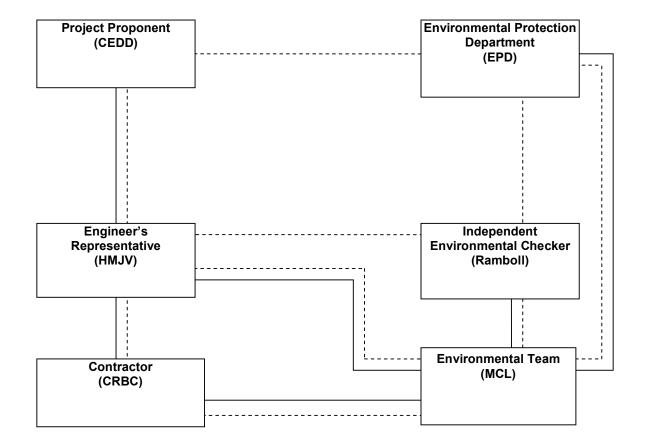
**Project Organization Chart** 

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong ..

: (852)-24508238 : (852)-24508032 Fax Email : mcl@fugro.com





Legend: Line of Reporting Line of Communication - - - -

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

: (852)-24508238 : (852)-24508032 : mcl@fugro.com Fax Email



**Appendix C** 

Action and Limit Levels for Air Quality and Noise

Tel Fax

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.

: (852)-24508238 : (852)-24508032 Email : mcl@fugro.com



#### Action and Limit Levels for 24-hr TSP and 1-hr TSP

Parameter	Monitoring Station	Action Level (µg/m³)	Limit Level (µg/ m³)
	KTD1a	177	
24-hr TSP (µg/m ³ )	KTD2a	157	260
(µg/m)	KER1b	172	
*1 6* TOD	KTD1a	285	
*1-hr TSP (µg/m ³ )	KTD2a	279	500
(µg/III )	KER1b	295	

Note:

1-hr TSP monitoring should be required in case of complaints.

#### Action and Limit Levels for Construction Noise, Leq (30min), dB(A)

Time Period	Location	Action	Limit
0700-1900 hrs on normal weekdays	KTD1a KTD2a KER1b	When one documented complaint is received	75 dB(A)

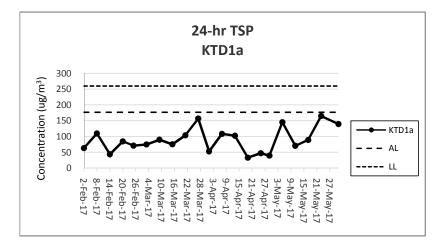
Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

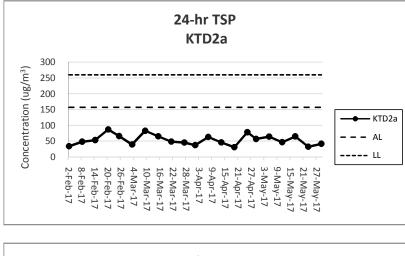
Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com

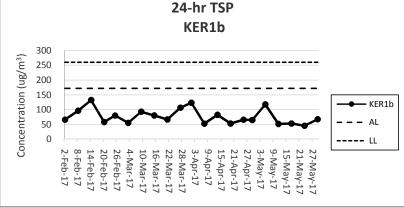


Appendix D

**Graphical Presentation of Monitoring Data** 





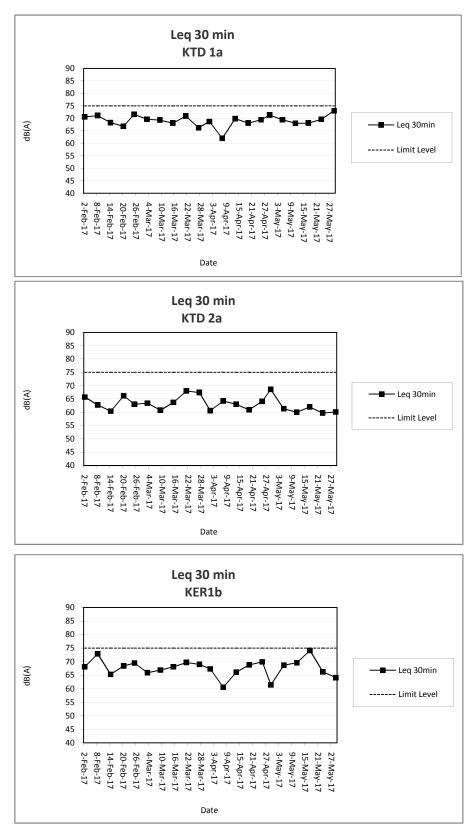


Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2.

2) The weather conditions during monitoring in the reporting period was range from hazy, cloudy, fine and sun

3) Any other factors which might affect the monitoing results can be referred to Section 2.3.4.



Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2.

2) The weather conditions during monitoring in the reporting period was ranged from cloudy, fine and sunny.

No raining or wind with speed over 5 m/s was observed during monitoring in the reporting period. 3) Any other factors which might affect the monitoing results can be referred to Section 2.3.4.

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



Appendix E

Waste Flow Table

#### MATERIALAB CONSULTANTS LIMITED Doom 722 & 725 7/E Blook B

ROOM 723 & 725, 7/F, BIOCK B,	
Profit Industrial Building, Tel	: (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong, Fax	k : (852)-24508032
Hong Kong Em	ail : mcl@fugro.com

### **MateriaLab**

Waste Flow	Table for Ye	ear 2016									
		Actual Quantities of Inert C&D Materials Generated Monthly						Quantities of Non-	inert C&D Wast	es Generated N	lonthly
Months	Total Quantity Generated (Inert C&D)	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³ )
2016 Jan	0.159	0.101	0.058	Nil	Nil	Nil	Nil	0.023	0.00002	0.0158	0.0335
2016 Feb	0.291	0.050	0.241	Nil	Nil	Nil	1.34	0.023	0.00002	0.0158	0.0335
2016 Mar	2.7389	0.0407	0.0662	Nil	2.632	Nil	5.92	0.023	0.00002	0.0158	0.0571
2016 Apr	4.1718	0.0578	0.462	Nil	3.652	Nil	12.5	0.023	0.00002	0.0158	0.0426
2016 May	3.592	Nil	0.299	Nil	3.293	Nil	5.23	0.023	0.00002	0.0158	0.0621
2016 June	4.6035	Nil	0.8555	Nil	3.748	Nil	Nil	0.023	0.00002	0.0158	0.0619
2016 July	6.155	0.153	0.015	Nil	5.987	Nil	7.84	0.023	0.00002	0.0158	0.0433
2016 Aug	5.1155	Nil	Nil	Nil	5.1155	Nil	19.93	0.023	Nil	Nil	0.0147
2016 Sept	7.2267	Nil	Nil	Nil	7.2267	Nil	33.65	0.023	Nil	Nil	0.0103
2016 Oct	4.6448	Nil	Nil	Nil	4.6448	Nil	13.30	0.023	Nil	Nil	0.0385
2016 Nov	6.1626	Nil	Nil	Nil	6.1626	Nil	27.06	0.023	Nil	Nil	0.0192
2016 Dec	6.3522	Nil	Nil	Nil	6.3522	Nil	13.30	0.023	Nil	Nil	0.0121
Total	51.213	0.4025	1.9967	Nil	48.8138	Nil	140.07	0.276	0.00014	0.1106	0.4288

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site. 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

#### MATERIALAB CONSULTANTS LIMITED Doom 722 & 725 7/E Blook B

Tel	: (852)-24508238
Fax	: (852)-24508032
Email	: mcl@fugro.com
	Fax

# **MateriaLab**

Waste Flow	Table for Ye	ar 2017									
		Actual Quant	tities of Inert C&I	D Materials Gene	erated Monthly		Actual	Quantities of Non-	inert C&D Wast	es Generated M	Ionthly
Months	Total Quantity Generated (Inert C&D)	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³ )
2017 Jan	4.2300	Nil	Nil	Nil	4.2300	Nil	0.015	0.023	Nil	Nil	0.0109
2017 Feb	3.2128	Nil	Nil	Nil	3.2128	Nil	0.015	0.023	Nil	Nil	0.0096
2017 Mar	9.4759	Nil	Nil	Nil	9.4759	Nil	0.034	0.023	Nil	Nil	0.0162
2017 Apr	4.8827	Nil	Nil	Nil	4.8827	Nil	0.016	0.023	Nil	Nil	0.0062
2017 May	3.0366	Nil	Nil	Nil	3.0366	Nil	0.022	0.023	Nil	Nil	0.0282
	-										
Total	24.838	Nil	Nil	Nil	24.838	Nil	0.102	0.115	Nil	Nil	0.0711

Note:

1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site. 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong..

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



Appendix F

**Environmental Mitigation Implementation Schedule (EMIS)** 

Room 723 & 725, 7/F, Block B,		
Profit Industrial Building,	Tel	: (852)-24508238
1-15 Kwai Fung Crescent, Kwai Fong,	Fax	: (852)-24508032
Hong Kong	Email	: mcl@fugro.com

# **MateriaLab**

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
Air Quality Measur					
	oads Serving the Pla				1
AEIAR-130/2009 \$3.2	EM&A Manual S2.2	8 times daily watering of the work site with active dust emitting activities.	Contractor	All relevant worksites	Implemented
Decommissioning	of the Radar Station	n of the former Kai Tak Airport			
AEIAR-130/2009 S5.2.19	AEIAR 130/2009 EM&A Manual S4.2.4	The excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work.	Contractor	All relevant worksites	Not Applicable
		The exposed excavated area should be covered by the tarpaulin during night time. The top layer soils should be sprayed with fine misting of water immediately before the excavation.			
Trunk Road T2					
AEIAR-174/2013 \$4.9.2.1	AEIAR-174/2013 EM&A Manual S2.3.1.1	Watering of the construction areas 12 times per day to reduce dust emissions by 91.7%, with reference to the "Control of Open Fugitive Dust Sources" (USEPA AP-42). The amount of water to be applied would be 0.91L/m2 for the respective watering frequency.	Contractor	All relevant worksites	Implemented
		Dust enclosures with watering would be provided along the loading ramps and conveyor belts for unloading the C&D materials to the barge for dust suppression.	Contractor	All relevant worksites	Not Applicable
		8 km per hour is the recommended limit of the speed for vehicles on unpaved site roads.	Contractor	All relevant worksites	Implemented
		Good Site Practices			
AEIAR-130/2009 S3.2, S5.2.19,	AEIAR 130/2009 EM&A Manual	Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.	Contractor	All relevant worksites	Partially Implemented
AEIAR-174/2013 S4.9.2.2	S2.2, S4.2, AEIAR 174/2013 EM&A Manual S2.3.1.2	Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. Use of frequent watering for particularly dusty construction areas and areas close to ASRs.	Contractor	All relevant worksites	Partially Implemented
		Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying area should have properly fitted side and tail boards.	Contractor	All relevant worksites	Implemented
		Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.	Contractor	All relevant worksites	Implemented

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 Room 723 & 725, 7/F, Block B,

 Profit Industrial Building,

 1-15 Kwai Fung Crescent, Kwai Fong,

 Hong Kong..

 Tel

 : (852)-24508238

 Fax

 : (852)-24508032

 Email

 : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation.	Contractor	All relevant worksites	Implemented
		The vehicles should be restricted to maximum speed of 10 km per hour. Confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.	Contractor	All relevant worksites	Implemented
		Vehicle washing facilities should be provided at every vehicle exit point. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	Contractor	All relevant worksites	Partially Implemented
		The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.			
		Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	Contractor	All relevant worksites	Partially Implemented
		Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	Contractor	All relevant worksites	Implemented
		Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.	Contractor	All relevant worksites	Implemented
		Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.	Contractor	All relevant worksites	Implemented
		Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.	Contractor	All relevant worksites	Partially Implemented
		Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs.	Contractor	All relevant worksites	Partially Implemented
		Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs.	Contractor	All relevant worksites	Implemented
		Dark smoke			
		Dark smoke emission shall be control in accordance with the Air Pollution Control (Smoke)	Contractor	All relevant	Partially

Tel	: (852)-24508238
Fax	: (852)-24508032
Email	: mcl@fugro.com
	Fax

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Regulation and ETWB TCW 19/2005.		worksites	Implemented
		Plant and equipment should be well maintained to prevent dark smoke emission.	Contractor	All relevant worksites	Partially Implemented
Noise Measures					
Trunk Road T2					
AEIAR-174/2013 AE	AEIAR-174/2013 EM&A Manual S3.4.1.1	for the list of equipment: • Concrete lorry mixer • Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne • Generator, Super Silenced, 70 dB(A) at 7m • Poker, vibratory, Hand-held (electric) • Water Pump, Submersible (Electric) • Mobile Crane - KOBELCO CKS900 • Excavator, wheeled/tracked - HYUNDAI R80CR-9	Contractor	All relevant worksites	Implemented
		Use of temporary or fixed noise barriers with a surface density of at least 10kg/m ² to screen noise from movable and stationary plant.	Contractor	All relevant worksites	Not Applicable
		Use of enclosures with covers at top and three sides and a surface density of at least 10kg/m ² to screen noise from generally static noisy plant such as air compressors.	Contractor	All relevant worksites	Not Applicable
		Use of acoustic fabric for the silent piling system, drill rigs, rock drills etc.	Contractor	All relevant worksites	Implemented
		Good Site Practices			
AEIAR-130/2009 S3.3, S5.3.10,	AEIAR 130/2009 EM&A Manual	Only well-maintained plant should be operated on-site and plant shall be serviced regularly during the construction/ decommissioning program.	Contractor	All relevant worksites	Implemented
AEIAR-174/2013 S5.9.2.1	S2.3, S4.3.2, AEIAR-174/2013 EM&A Manual S3.4.1.1	Silencers or mufflers on construction equipment should be utilized and shall be properly maintained during the construction/ decommissioning program.	Contractor	All relevant worksites	Not Applicable
		Mobile plant, if any, should be sited as far away from NSRs as possible.	Contractor	All relevant worksites	Implemented
		Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or should be throttled down to a minimum.	Contractor	All relevant worksites	Implemented
		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.	Contractor	All relevant worksites	Implemented
		Material stockpiles and other structures should be effectively utilized, wherever practicable, in	Contractor	All relevant	Implemented

 Room 723 & 725, 7/F, Block B,
 Tel
 : (852)-24508238

 Profit Industrial Building,
 Fax
 : (852)-24508032

 1-15 Kwai Fung Crescent, Kwai Fong,
 Fax
 : (852)-24508032

 Hong Kong.
 mail
 : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		screening noise from on-site construction/ decommissioning activities.		worksites	
		Use of site hoarding as a noise barrier to screen noise at low level NSRs.	Contractor	All relevant worksites	Implemented
		For the use of hand held percussive breakers (with mass of above 10kg) and portable air compressors (supply air at 500 kPa or above), the noise level of such PME shall comply with a stringent noise emission standard and a noise emission label shall be obtained from the DEP before use at any time in construction site.	Contractor	All relevant worksites	Implemented
		Quiet powered mechanical equipment (PME) shall be used for the construction of the Project.	Contractor	All relevant worksites	Implemented
		Full enclosures shall be used to screen noise from relatively static PMEs (including air compressor, bar bender, concrete pump, generator and water pump) from sensitive receiver(s).	Contractor	All relevant worksites	Not Applicable
		Movable cantilevered noise barriers shall be used to screen noise from mobile PMEs (including asphalt paver, breaker, excavator and hand-held breaker) from sensitive receiver(s). These movable cantilevered noise barriers shall be located close to the mobile PMEs and shall be moved/adjusted iteratively in step with each movement of the corresponding mobile PMEs in order to maximize their noise reduction effects.	Contractor	All relevant worksites	Not Applicable
		Only approved or exempted Non-road Mobile Machineries (NRMMs) including regulated machines and non-road vechicles with proper labels are allowed to be used in specified activities on-site.	Contractor	All relevant worksites	Implemented
Water Quality Mea	asures				
Trunk Road T2					
		Accidental Spillage			
AEIAR-174/2013 S6.4.8.5	AEIAR-174/2013 EM&A Manual S4.2.1.1	All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed; The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only.	Contractor	All relevant worksites	Implemented
		The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides.	Contractor	All relevant worksites	Implemented
		The storage container should be sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary). An emergency clean up kit shall be readily available where bentonite fluid will be stored or used.	Contractor	All relevant worksites	Implemented

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 Room 723 & 725, 7/F, Block B,

 Profit Industrial Building,
 Tel
 : (852)-24508238

 1-15 Kwai Fung Crescent, Kwai Fong,
 Fax
 : (852)-24508032

 Hong Kong..
 Email
 : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry, if mixed with inert fill material, to be disposed to a public filling area) and disposal at landfill should be the last resort.	Contractor	All relevant worksites	Implemented
AEIAR-174/2013 S6.4.8.8	AEIAR-174/2013 EM&A Manual S4.2.1.1	In order to protect against impacts to the surrounding marine waters of the KTTS and Victoria Harbour in the event of an accidental spillage of fuel or oil, the Contractor will be required to prepare a spill response plan to the satisfaction of AFCD, EPD, FSD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site.	Contractor	All relevant worksites	Implemented
		Dredging, Reclamation and Filling			
		No dredging, reclamation or filling in the marine environment shall be carried out.	Contractor	All relevant worksites	Implemented
Decommissioning	of the Radar Station	n of the former Kai Tak Airport			
		Building Demolition			
AEIAR-130/2009 S5.4	AEIAR 130/2009 EM&A Manual	The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion.	Contractor	All relevant worksites	Not Applicable
	S4.4	There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. It is anticipated that the wastewater generated from the works areas would be of small quantity. Monitoring of the treated effluent quality from the works areas should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.	Contractor	All relevant worksites	Implemented
		General Construction Works			
		Construction Runoff			
AEIAR- 130/2009 S3.4,	AEIAR 130/2009 EM&A Manual	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the	Contractor	All relevant worksites	Implemented

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Room 723 & 725, 7/F, Block B,Profit Industrial Building,Tel1-15 Kwai Fung Crescent, Kwai Fong,FaxHong Kong..Email

Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
S5.4/ AEIAR- 174/2013 S6.4.8.1	S2.4, S4.4/ AEIAR 174/2013 EM&A Manual S4.2.1.1	above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include the use of sediment traps and adequate maintenance of drainage systems to prevent flooding and overflow.			
		Construction site should be provided with adequately designed perimeter channel and pre- treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	Contractor	All relevant worksites	Implemented
		Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Contractor	All relevant worksites	Implemented
		Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Contractor	All relevant worksites	Partially Implemented
		Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	Contractor	All relevant worksites	Partially Implemented
		Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	Contractor	All relevant worksites	Implemented
		Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	Contractor	All relevant worksites	Partially Implemented

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Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Contractor	All relevant worksites	Implemented
		An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	Contractor	All relevant worksites	Implemented
		Drainage It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	Contractor	All relevant worksites	Implemented
		All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Contractor	All relevant worksites	Implemented
		Stormwater Discharges Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes. Sewage Effluent	Contractor	All relevant worksites	Implemented
		Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	Contractor	All relevant worksites	Implemented
		Debris and Litter In order to maintain water quality in acceptable conditions with regard to aesthetic quality,	Contractor	All relevant	Implemented

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 Room 723 & 725, 7/F, Block B,
 Tel
 : (852)-24508238

 Profit Industrial Building,
 Fax
 : (852)-24508032

 1-15 Kwai Fung Crescent, Kwai Fong,
 Fax
 : (852)-24508032

 Hong Kong.
 mail
 : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur. Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other construction materials should be kept covered when not being used.		worksites	
		Accidental Spillage Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby harbour waters, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. The bund should be drained of rainwater after a rain event.	Contractor	All relevant worksites	Implemented
		Waste Management Measures			
		Waste Management Plan			
AEIAR-174/2013 S11.4.8.1	AEIAR-174/2013 EM&A Manual S9.2.1.2	Contractor should be requested to submit an outline Waste Management Plan (WMP) prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction.	Contractor	All relevant worksites	Implemented
		Good Site Practices			
AEIAR-130/2009 S3.5, S5.5	AEIAR 130/2009 EM&A Manual S2.5, S4.5	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.	Contractor	All relevant worksites	Implemented
		Training of site personnel in proper waste management and chemical waste handling procedures.	Contractor	All relevant worksites	Implemented
		Provision of sufficient waste disposal points and regular collection for disposal.	Contractor	All relevant worksites	Partially Implemented
		Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	Contractor	All relevant worksites	Implemented
		A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	Contractor	All relevant worksites	Implemented
		Waste Reduction Measures			
		Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals.	Contractor	All relevant worksites	Implemented

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Tel : (852)-24508238 Fax : (852)-24508032 Email : mcl@fugro.com



EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		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.	Contractor	All relevant worksites	Implemented
		Encourage collection of aluminum 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.	Contractor	All relevant worksites	Implemented
		Any unused chemicals or those with remaining functional capacity should be recycled.	Contractor	All relevant worksites	Implemented
		Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	Contractor	All relevant worksites	Implemented
		<u>Construction and Demolition Materials</u> Where it is unavoidable to have transient stockpiles of C&D material within the work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.	Contractor	All relevant worksites	Implemented
		Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Contractor	All relevant worksites	Partially Implemented
		Skip hoist for material transport should be totally enclosed by impervious sheeting.	Contractor	All relevant worksites	Implemented
		Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	Contractor	All relevant worksites	Implemented
		The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	Contractor	All relevant worksites	Implemented
		The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.	Contractor	All relevant worksites	Implemented
		All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	Contractor	All relevant worksites	Implemented
		The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	Contractor	All relevant worksites	Implemented
		When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction	Contractor	All relevant worksites	Implemented

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 Room 723 & 725, 7/F, Block B,
 Tel
 : (852)-24508238

 Profit Industrial Building,
 Fax
 : (852)-24508032

 1-15 Kwai Fung Crescent, Kwai Fong,
 Fax
 : (852)-24508032

 Hong Kong.
 mail
 : mcl@fugro.com

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.			
		<u>Chemical Waste</u> After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should 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.	Contractor	All relevant worksites	Partially Implemented
		General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem.	Contractor	All relevant worksites	Partially Implemented
Land Contamination	on Measures				
AEIAR-130/2009 \$3.6.57	AEIAR 130/2009 EM&A Manual S4.6	For any excavation works conducted at Radar Station As the risk due to dermal contact with groundwater by site workers is uncertain, it is recommended that personnel protective equipment (PPE) be used by site workers as a mitigation measure.	Contractor	All relevant worksites	Not Applicable
Landscape and Vi					
New Distributor Ro	pads Serving the Pla				
		Construction Phase			
AEIAR-130/2009 S3.8.12	AEIAR 130/2009 EM&A Manual	All existing trees should be carefully protected during construction.	Contractor	All relevant worksites	Not Applicable
	S2.8	Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	Contractor	All relevant worksites	Not Applicable
		Control of night-time lighting.	Contractor	All relevant	Not Applicable

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Tel	: (852)-24508238
Fax	: (852)-24508032
Email	: mcl@fugro.com
	Fax

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EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
				worksites	
		Erection of decorative screen hoarding.	Contractor	All relevant	Implemented
Trunk Road T2				worksites	
TTUTIK ROđu TZ		Construction Phase			
AEIAR-174/2013 S9.9.1.1	AEIAR-174/2013 EM&A Manual	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	Contractor	All relevant worksites	Not Applicable
	S7.2.1.2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	Contractor	All relevant worksites	Not Applicable
		Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	Contractor	All relevant worksites	Partially Implemented
		Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.	Contractor	All relevant worksites	Implemented
		Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.	Contractor	All relevant worksites	Implemented
		All lighting in construction site shall be carefully controlled to minimize light pollution and night- time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.	Contractor	All relevant worksites	Not Applicable
General Condition					
		The Permit Holder shall display conspicuously a copy of this Permit on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public's information at all times. The Permit Holder shall ensure that the most updated information about the Permit, including any amended Permit, is displayed at such locations. If the Permit Holder surrenders a part or the whole of the Permit, the notice he sends to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s).	Contractor	All relevant worksites	Implemented

Implementation status: Implemented / Partially Implemented / Not Implemented / Not Applicable

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#### FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Appendix E

Monthly EM&A Report For Contract No. KL/2015/02 Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area

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# **Civil Engineering and Development Department**

#### Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area

Quarterly EM&A Report

April to June 2017

(version 1.0)

Approved By	(Environmental Team Leader)
REMARKS:	

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

#### CINOTECH CONSULTANTS LTD Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk



Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong Tel :+852-2450 8238 Fax :+852-2450 8032 E-mail : mcl@fugro.com.hk Website : www.materialab-consultant.com

Cinotech Consultants Limited Rm 1710, Technology Park, 18 On Lai Street, Shatin, New Territories, Hong Kong Date 4 August 2017 Our Ref. MCL/ED/0570/2017/C

**BY EMAIL** 

Attn.: Dr. Priscilla Choy

Dear Madam,

#### Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Verification of Quarterly EM&A Report - April 2017 to June 2017

We refer to your emails dated 2 August 2017 regarding the Quarterly EM&A Report (April 2017 to June 2017) for the captioned project prepared by the ET.

We have no further comment and hereby verify the Quarterly EM&A Report (April 2017 to June 2017).

Should you require further information, please do not hesitate to contact Mr. Wingo So at 3565 4374 or the undersigned on 3565 4114.

Assuring you of our best attention at all times.

Yours faithfully, For and on behalf of MATERIALAB CONSULTANTS LIMITED

Colin K. L. Yung Independent Environmental Checker

CY/ws

c.c. CEDD -

AECOM -

Attn.: Ms. K. Pong Attn.: Mr. Keith Chu Attn.: Mr. John Yam Attn.: Mr. Stanley Chan



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## **EXECUTIVE SUMMARY**

#### Introduction

- This is the 2nd Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Contract No. KL/2015/02 - Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area" (hereinafter called "the Project"). This contract comprises one Schedule 2 designated project (DP), namely the new distributor Road D1 serving the planned KTD. The DP is part of the designated project under Environmental Permit (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This summary report presents the EM&A works performed in the period between 1 April 2017 and 30 June 2017.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in Table I (see **Figure 2** and **3** for their locations).

Locations	Monitoring Stations In accordance with EM&A Manual	Alternative Monitoring Stations				
Air Quality Monitoring Stations						
AM2 - Lee Kau Yan Memorial School	Yes	N/A				
Noise Monitoring Stations						
M3 - Cognitio College	Yes	N/A				
M4 - Lee Kau Yan Memorial School	Yes	N/A				
M5 – Nam Yuen	No	M5(C) – Mercy Grace's Home				

#### Table I – Air Quality and Noise Monitoring Stations for this Project

1

3. The construction activities undertaken in the reporting period were:

## April 2017

- Bored piling works at abutment A02;
- Driving sheet piles at Subway SW6 between Staircases ST2 and ST3;
- Carry out protection works to CLP's cables for sheet piling works
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Excavation and Construction Works for Box Culvert B2
- ELS Construction for Sewerage Works near SCL Tunnel; and
- Installation of DCS Pipe in Road L7.

# <u>May 2017</u>

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Construction of Box Culvert B3 (Top slab)
- Excavation and Construction Works for Box Culvert B4
- ELS Installation and Excavation Works at Box Culvert B5
- Construction of Box Culvert B2 (Base slab)
- DCS Pipe Laying Works in Portion 6 (Road D1)
- DCS Pipe Laying Works in Portion 1 (Road L7)
- Trench Excavation Works in Portion 2 for Sewerage Pipe Laying Works

# June 2017

- Bored piling works at Abutment A02 and Pier S15;
- Excavation with installation of ELS at Staircase ST3
- Construction of temporary slip road and decking for TTA next to PERE
- Tree felling works at Shek Ku Lung Road Playground
- Excavation for retaining wall at slip road S15
- Construction of Box Culvert B2 and B4 (Base slab and Top slab)
- Excavation and Construction Works for Box Culvert B5
- ELS Construction for Sewerage Works near SCL Tunnel
- DCS pipe laying in Road L7
- Backfilling of DCS pipe trench in Portion 6, Road D1

# **Environmental Monitoring Works**

4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

Summary of the non-compliance in the reporting period for the Project is tabulated in Table II.
 Table II Non-compliance Record for the Project in the Reporting Period

<b>D</b> (	No. of Exceedance		Action
Parameter	Action Level	Limit Level	Taken
April 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A
May 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A
June 2017			
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A

1-hour & 24-hour TSP Monitoring

6. All 1-hour & 24-hour TSP monitoring was conducted as scheduled in the reporting period. No Action/Limit Level exceedance was recorded.

## Construction Noise

7. All construction noise monitoring was conducted as scheduled in the reporting period. One nonproject related Limit Level exceedance was record.

## **Environmental Licenses and Permits**

8. All permit/licenses obtained for the Project are summarized in Table III.

#### Table III Summary of Environmental Licensing and Permit Status

Donmit No	Valid Period		Status		
Permit No.	From	То	Status		
<b>Environmental Permit (EP)</b>					
EP-337/2009	23/04/09	N/A	Valid		
Effluent Discharge License					
WT00027495-2017	28/03/17	31/03/22	Valid		
Billing Account for Construction Waste Disposal					
A/C# 7026164	20/10/16	N/A	Valid		
Construction Noise Permit (CNP)					
GW-RE0033-17	24/01/17	05/07/17	Valid		
GW-RE1236-16	05/01/17	29/06/17	Valid till 29/06/17		

# Key Information in the Reporting Period

9. Summary of key information in the reporting period is tabulated in Table IV.

Table IV	Summary	v Table for Ke	y Information in	1 the Repo	orting Period
		,	J	P	

Event	Event Details		Action Taken	Status	Remark
Event	Number	Nature	Action Taken	Status	Kellial K
Complaint received	0		N/A	N/A	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

10. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

## 1. INTRODUCTION

#### Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 5A Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains one Schedule 2 DP including new distributor roads serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 One Environmental Permit (EP) No. EP-337/2009 was also issued on 23 April 2009 for new distributor roads serving the planned KTD to Civil Engineering and Development Department as the Permit Holder.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2015/02 Stage 5A Infrastructure at Former North Apron Area. The construction work under KL/2015/02 comprises the construction of part of the Road D1 under the EP (EP-337/2009).
- 1.5 Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The commencement date of construction of Road D1 (part) under this Contract was on 16 January 2017. This summary report presents the EM&A works performed in the period between 1 April 2017 and 30 June 2017.

## **Project Organizations**

- 1.5 Different parties with different levels of involvement in the project organization include:
  - Project Proponent Civil Engineering and Development Department (CEDD).
  - The Engineer and the Engineer's Representative (ER) AECOM Asia Co. Ltd (AECOM).
  - Environmental Team (ET) Cinotech Consultants Limited (CCL).
  - Independent Environmental Checker (IEC) MateriaLab Consultants Limited (MCL).
  - Contractor Peako Wo Hing Joint Venture (PWHJV).

# 1.6 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1

#### **Key Project Contacts**

Party	Role	<b>Contact Person</b>	Position	Phone No.	Fax No.
CEDD	Project Proponent	Ms. K. Pong	Senior Engineer	2301 1466	2369 4980
AECOM	Engineer's Representative	Mr. John Yam	SRE	2798 0771	2210 6110
	Environmental	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	2107 1200
Cinotech	Team	Ms. Ivy Tam	Audit Team Leader	2151 2090 3107 13	
MCL	Independent Environmental Checker	Mr. Colin Yung	Independent Environmental Checker	3565 4114	2450 8032
PWHJV	Contractor	Mr. W.M. Wong	Site Agent	6386 3535	2398 8301

## 2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

## **Monitoring Parameters and Monitoring Locations**

2.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, landscape and visual due to the Project. The Project area and monitoring locations are depicted in Figures 2 and 3. Appendix A gives details of monitoring requirements.

## Monitoring Methodology and Calibration Details

2.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

## **Environmental Quality Performance Limits (Action and Limit Levels)**

2.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix B**.

## **Implementation Status of Environmental Mitigation Measures**

2.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix E**.

## Site Audit Summary

2.5 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made during the reporting period are summarized in **Appendix F**.

## Status of Waste Management

2.6 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.

# 3. Monitoring Results

## Weather Conditions

3.1 The weather during monitoring sessions was summarized in Table 3.1.

Table 3.1	Summarv	of Weather	<b>Conditions in</b>	the Reporting	ng Period
			00110110110110	the report	

Reporting Month	General Weather Conditions
April 2017	Sunny and Cloudy
May 2017	Sunny and Cloudy
June 2017	Sunny and Cloudy

3.2 The detail of weather conditions for each individual monitoring session was presented in monthly EM&A report.

# Air Quality

## 1-hour TSP Monitoring

3.3 1-hour TSP monitoring at monitoring station, AM2 - Lee Kau Yan Memorial School, was conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting period.

# 24-hour TSP Monitoring

- 3.4 24-hr TSP monitoring at monitoring station, AM2 Lee Kau Yan Memorial School, was also conducted as schedule in the reporting period. No Action/Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting period.
- 3.5 The graphical presentations of the air quality monitoring results are shown in **Appendix C**.

# **Construction Noise**

- 3.6 Noise monitoring at 3 monitoring stations, M3 Cognitio College, M4 Lee Kau Yan Memorial College and M5(C) Mercy Grace's Home, was conducted as schedule in the reporting period. One non-project related Limit Level exceedance was recorded for construction noise monitoring in the reporting period.
- 3.7 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

# Landscape and Visual

3.8 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within KTD. No non-compliance of the landscape and visual impact was recorded in the reporting period.

#### Influencing Factors on the Monitoring Results

3.9 During the reporting period, the major dust and noise source identified at the designated monitoring stations are as follows:

 Table 3.2
 Major Dust Sources during the Monitoring in the Reporting Period

Monitoring Stations	Major Dust Source
AM2 – Lee Kau Yan Memorial School	Road Traffic Dust
	Exposed site area and open stockpiles
	Excavation works
	Site vehicle movement

Table 3.3	Major Noise Sources during the Monitoring in the Reporting Period
-----------	-------------------------------------------------------------------

<b>Monitoring Stations</b>	Locations	Major Noise Source
M3	Cognitio Collogo	Traffic Noise
IVIS	Cognitio College	Daily school activities
		Traffic Noise
M4		Site vehicle movement
	Lee Kau Yan Memorial School	Excavation works
		Piling works
		Daily school activities
M5(C)	Maray Graza's Homa	Traffic Noise
MI3(C)	Mercy Grace's Home	Site vehicle movement

## Comparison of EM&A results with EIA predictions

- 3.10 The EM&A data was compared with the EIA predictions and summarized in Annex I.
- 3.11 The 1-hour and 24-hour average TSP concentration in the reporting period were well below and within the prediction in the approved Environmental Impact Assessment (EIA) Report and no Action/Limit Level exceedance was recorded.
- 3.12 Mitigated construction noise levels at M5(C) were not predicted in EIA Report. The noise monitoring results in the reporting period at M3 were not within the range of predicted mitigated construction noise levels in the EIA report in the reporting period. The noise monitoring results in the reporting period at M4 were not within the range of predicted mitigated construction noise levels in the EIA report in the reporting period. The noise data at M3 and M4 exceeds the prediction of mitigated scenario in EIA report but did not exceed the baseline level.
- 3.13 The discrepancy between the EM&A data and EIA predictions is considered due to road traffic noise from Prince Edward Road East which is the major noise source during the monitoring.

# 4. Non-compliance (exceedances) of the Environmental Quality Performance Limits (Action and Limit Levels)

#### Summary of Exceedances

4.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix H**. The details of each exceedance were attached in the Monthly EM&A Reports.

#### Air Quality

4.2 No Action/ Limit Level exceedance was recorded in the reporting period.

Construction Noise

4.3 One non-project related Limit Level exceedance was recorded in the reporting period.

Landscape and Visual

4.4 No non-compliance of the landscape and visual impact was recorded in the reporting period.

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

4.5 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 attached in the **Appendix F**.

#### Summary of Environmental Complaints and Prosecutions

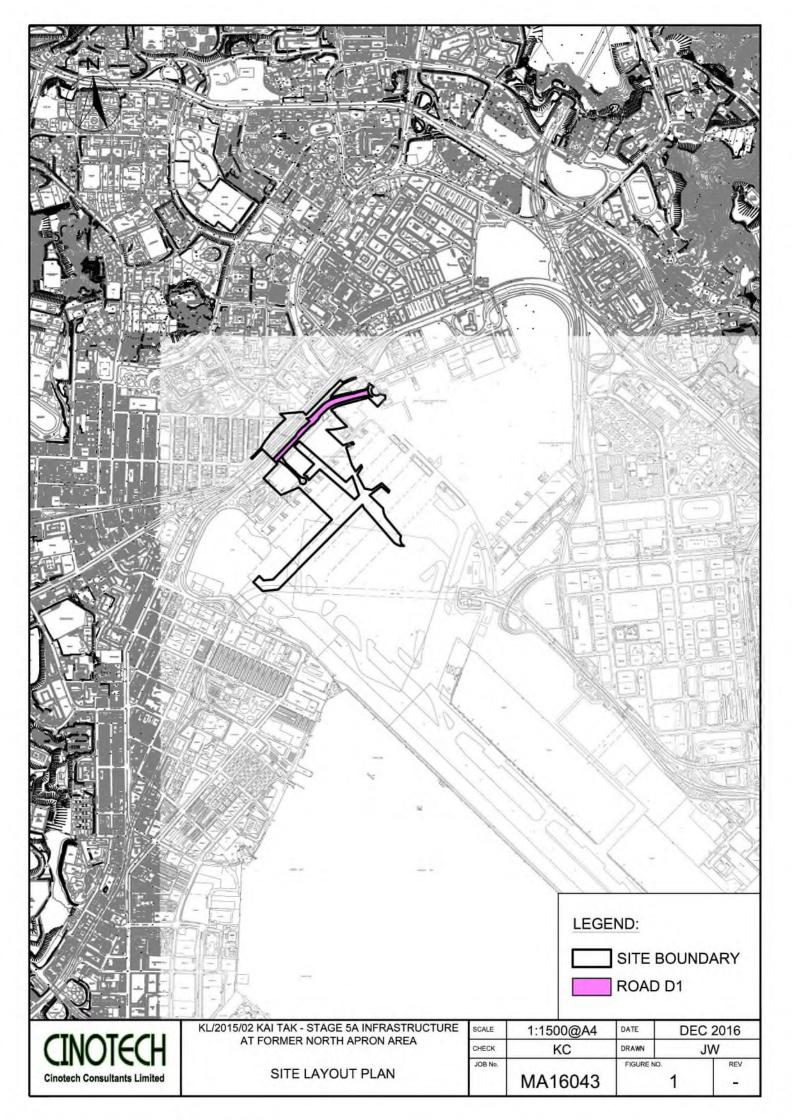
- 4.6 No environmental complaints and environmental prosecution were received during the reporting period.
- 4.7 No warning, summon and notification of successful prosecution was received in the reporting period.
- 4.8 There were no warnings, summons and successful prosecutions received since the commencement of the Project.

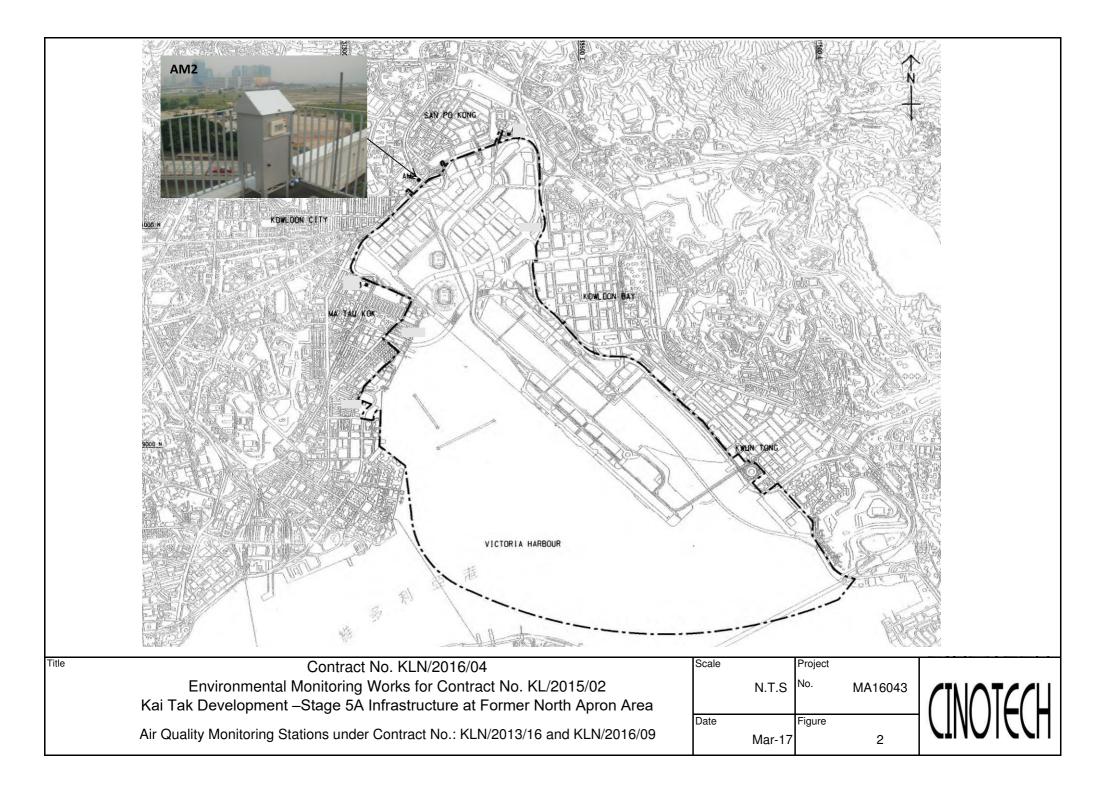
#### 5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

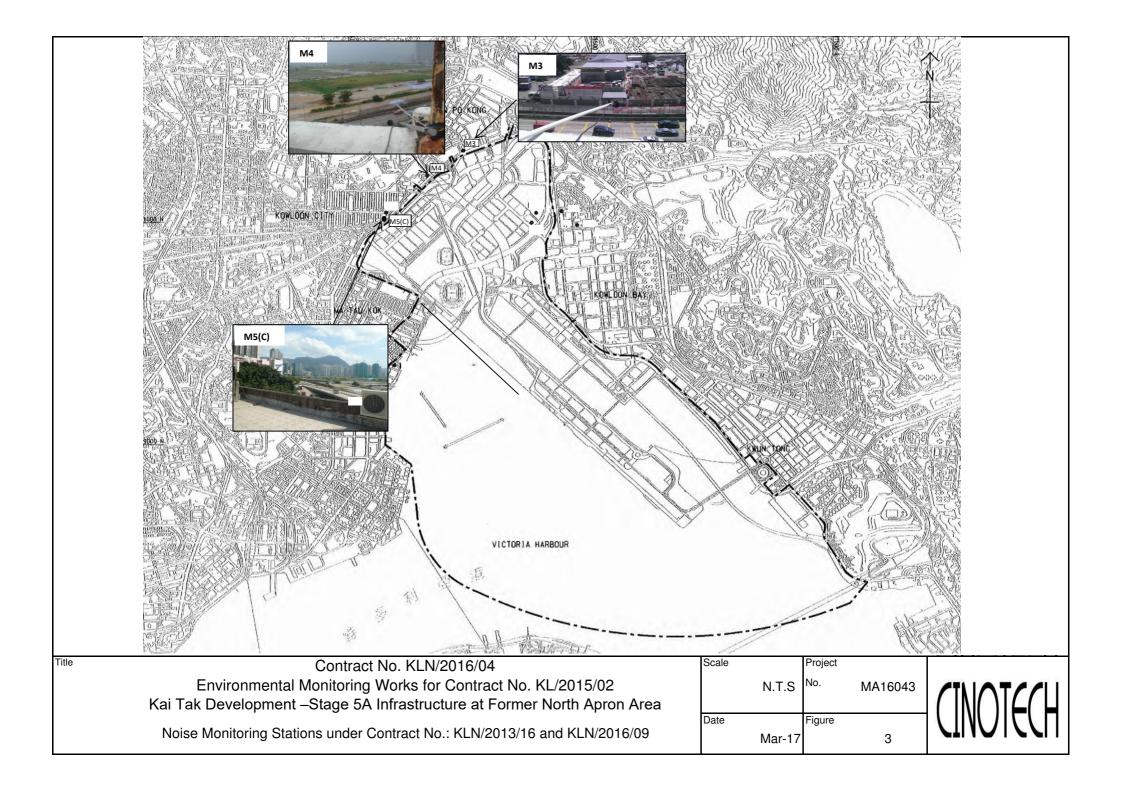
#### **Effectiveness of Mitigation Measures**

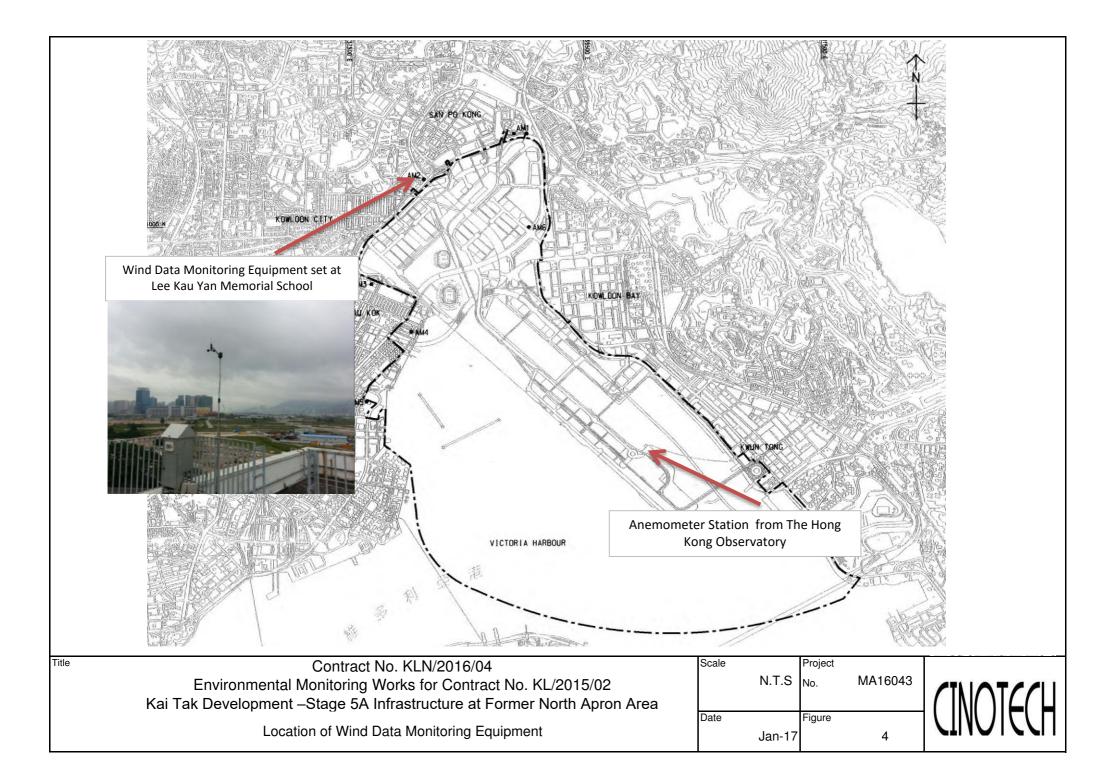
- 5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 5.3 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. No non-compliance (exceedances) of Action/Limit Level was recorded.
- 5.4 No environmental complaint was received in the reporting period.
- 5.5 No environmental prosecution was received in the reporting period.

FIGURES









APPENDIX A MONITORING REQUIREMENTS

<b>Appendix A - Environmental Impact Monitoring Requirements</b>
------------------------------------------------------------------

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
	1 hour TSP	Three times / 6 days		
Air Quality	24 hour TSP	Once / 6 days	• AM2 – Lee Kau Yan Memorial School	• AM2 – Rooftop (about 8/F) Area

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L _{eq} , L ₉₀ & L ₁₀ at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	<ul> <li>M3 (Cognitio College)</li> <li>M4 (Lee Kau Yan Memorial School)</li> <li>M5(C) (Mercy Grace's Home)</li> </ul>	<ul> <li>M3 - Facade measurement at Rooftop (about 6/F) Area</li> <li>M4 - Facade measurement at Rooftop (about 7/F) Area</li> <li>M5(C) - Façade measurement at Rooftop (about 5/F) Area</li> </ul>

APPENDIX B ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

# **Appendix B - Action and Limit Levels**

Location	Action Level, μg/m ³	Limit Level, µg/m ³
AM2	346	500

#### Table B-1Action and Limit Levels for 1-Hour TSP

#### Table B-2Action and Limit Levels for 24-Hour TSP

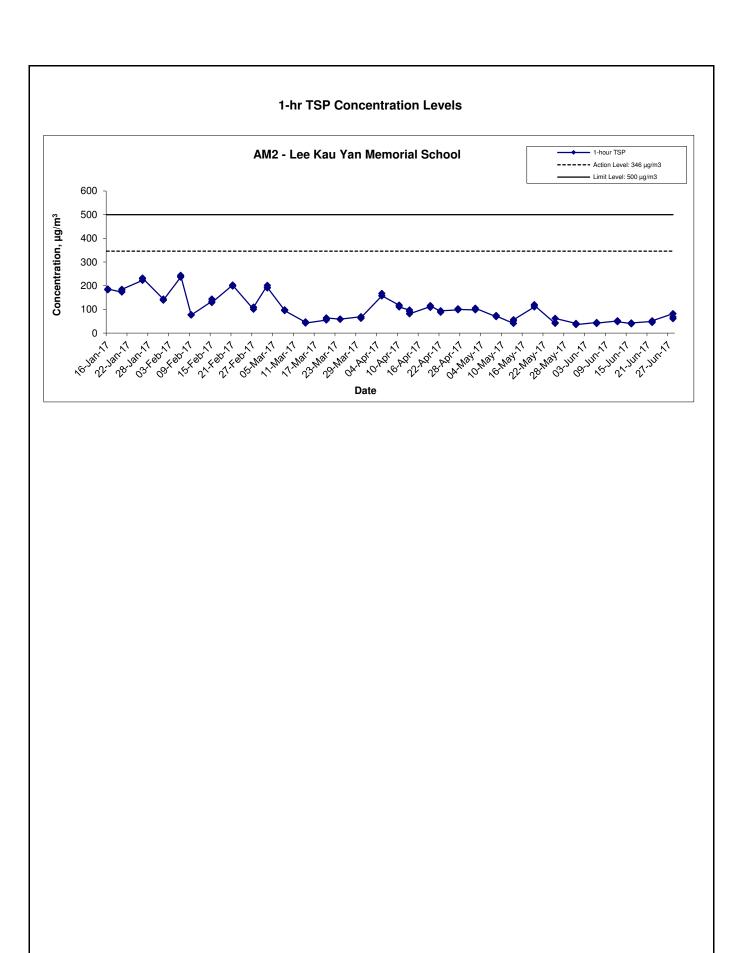
Location	Action Level, µg/m ³	Limit Level, µg/m ³
AM2	157	260

#### Table B-3 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

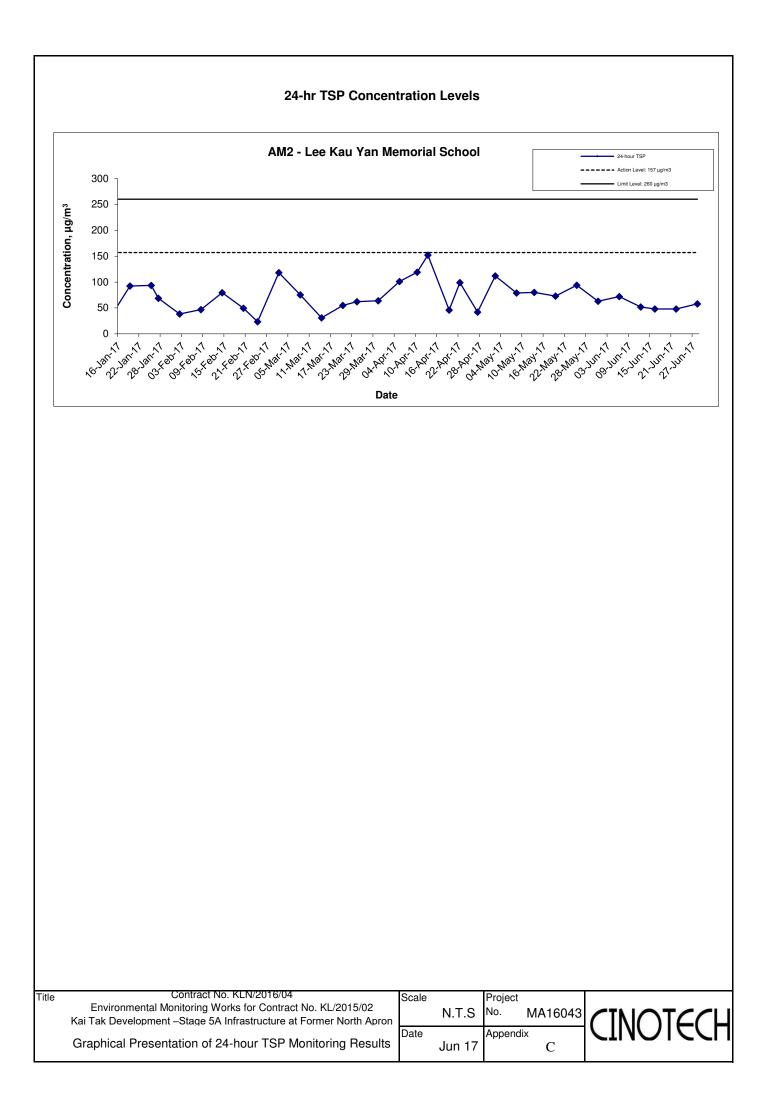
Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. *70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX C GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS

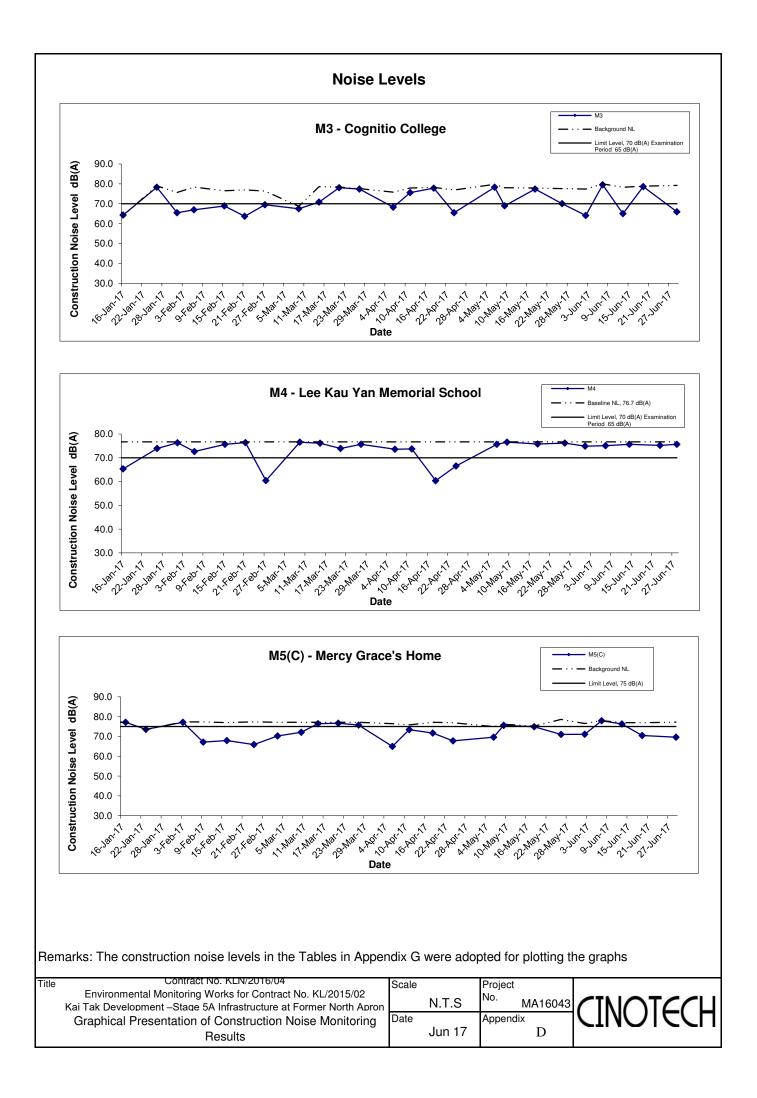


Title	Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron	Scale		Project No.	MA16043	
	Graphical Presentation of 1-hour TSP Monitoring Results	Date	Jun 17	Appendi	с С	C





APPENDIX D GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS



APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	Recommended Mitigation Measures	Implementation
	neconnicitude initigation incastres	Status
Construc	ction Air Quality	
S6.5	8 times daily watering of the work site with active dust emitting activities.	۸
S6.8	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 minimize cumulative	
	dust impacts.	
	• Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable	*
	sheeting to reduce dust emission.	
	• Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying	۸
	area should have properly fitted side and tail boards.	
	• Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be	۸
	dampened and covered by a clean tarpaulin.	
	• The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The	۸
	material should also be dampened if necessary before transportation.	
	• The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated	۸
	roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.	
	Vehicle washing facilities should be provided at every vehicle exit point.	۸
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should	۸
	be paved with concrete, bituminous materials or hardcores.	
	• Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain	۸
	the entire road surface wet.	
	• Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on	۸
	the top and the three sides.	
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	۸

S6.8	•	DWFI compound for JVBC:	N/A
		A DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS	
		by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of	
		the compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the	
		potential odour emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations	
		within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high efficiency	
		deodorizers before discharge to the atmosphere.	
	•	Desilting compound for KTN:	N/A
		Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the	
		KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities	
		will form part of the compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully	
		mitigate the potential odour emissions from the headspace of KTN near the existing discharge locations. The odour generating	
		operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high	
		efficiency deodorizers before discharge to the atmosphere.	
	•	Decking or reconstruction of KTN within apron area:	N/A
		It is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1	
		to the north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with	
		nonodorous fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water	
		surface of not more than 16m.	
	•	Localised maintenance dredging:	N/A
		Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and	
		KTTS. With reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of	
		KTAC (i.e. to the north of taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of	
		KTAC, and the area near the JVC discharge have water depths shallower than 3.5m. The area involved would be about 40% of	
		the northern KTAC and the dredging depth required would be from about 2.7m to less than 1m. The maintenance dredging to be	
		carried out prior to the occupation of any new development in the immediate vicinity of KTAC to avoid potential localized odour	

	impacts at the future ASRs during the maintenance dredging operation.	
	Improvement of water circulation in KTAC and KTTS:	N/A
	600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be	
	substantially improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be	
	increased.	
	In-situ sediment treatment by bioremediation:	N/A
	Bioremediation would be applied to the entire KTAC and KTTS.	
Constru	uction Noise	
S7.8	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air	٨
	Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	
S7.9	Good Site Practice:	
	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	٨
	• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction	۸
	program.	
	Mobile plant, if any, should be sited as far away from NSRs as possible.	٨
	• Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be	۸
	throttled down to a minimum.	
	• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away	۸
	from the nearby NSRs.	
	• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site	٨
	construction activities.	
S7.9	Scheduling of Construction Works during School Examination Period	٨
S7.8	(i) Provision of low noise surfacing in a section of Road L2; and	N/A
	(ii) Provision of structural fins	N/A
S7.8	(i) Avoid the sensitive façade of class room facing Road L2 and L4; and	N/A
	(ii) Provision of low noise surfacing in a section of Road L2 & L4	N/A

S7.8	(i)	Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and	N/A
	(ii)	Setback of building about 5m from site boundary.	N/A
S7.8	Setba	ck of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
S7.8	(i)	avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and Avoid the sensitive	N/A
		façade of class room facing Road L2 and L4; and	
	(ii)	for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or	N/A
		do not provide the facades with openable window.	
S7.8	(i)	avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or	N/A
	(ii)	provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s)	N/A
		located at less than 55m away from To Kwa Wan Road to no more than 25m above ground	
S7.8	(i)	avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po	٨
		Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to	
		minimise the potential traffic noise impacts from the slip road	
S7.8	All the	ventilation fans installed in the below will be provided with silencers or acoustics treatment.	
	(i)	SPS	N/A
	(ii)	ESS	N/A
	(iii)	Tunnel Ventilation Shaft	N/A
	(iv)	EFTS depot	N/A
S7.8	Installa	ation of retractable roof or other equivalent measures	N/A
Constr	uction V	Vater Quality	
S8.8	The fo	llowing mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:	
	•	Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply;	N/A
	•	Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty	N/A
		pumps;	
	•	An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and	N/A

	• For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should	N/A
	be provided so that swift actions could be taken in case of malfunction of unmanned facilities	
S8.8	Construction Phase	
	Marine-based Construction	
	Capital and Maintenance Dredging for Cruise Terminal	
	Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT	N/A
	Dredging.	
S8.8	Fireboat Berth, Runway Opening and Road T2	
	Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any	N/A
	dredging and filling activities in open water.	
S8.8	Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a	N/A
	maximum production rate of 1,000m ³ per day using one grab dredger.	
S8.8	The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be	N/A
	removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of	
	the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works	
	area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after	
	completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of	
	2,000m ³ per day using one grab dredger.	
8.8	Dredging for Road T2 should be conducted at a maximum rate of 8,000m ³ per day (using four grab dredgers) whereas the sand filling	N/A
	should be conducted at a maximum rate of 2,000m3 per day (using two grab dredgers).	
8.8	Silt screens shall be applied to seawater intakes at WSD seawater intake.	N/A

S8.8	Land-based Construction	
	Construction Runoff	
	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion.	
	Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of	
	appropriate mitigation measures which include:	
	use of sediment traps	٨
	adequate maintenance of drainage systems to prevent flooding and overflow	۸
S8.8	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September).	٨
	All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days	
	of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year	
	when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	
S8.8	Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance.	٨
	The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection.	
	Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond.	
	Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of	
	efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	
S8.8	Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m ³ capacity, are	٨
	recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is	
	flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	
S8.8	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ should be covered with	٨
	tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt	
	or debris into any drainage system.	
S8.8	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt,	٨
	construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	
S8.8	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and	٨
	actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid	
		1

	to the control of silty surface runoff during storm events.	
S8.8	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm	N/A(1)
	water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	
S8.8	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by	۸
	them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should	
	have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of	
	access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the	
	wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	
S8.8	Drainage	
	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities.	۸
	Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There	
	should be no direct discharge of effluent from the site into the sea	
S8.8	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the	۸
	controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and	
	efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original	
	condition when the construction work has finished or the temporary diversion is no longer required.	
S8.8	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110%	۸
	of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	
S8.8	Sewage Effluent	
	Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment	۸
	facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer	
	system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction	
	workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	

S8.8	Stormwater Discharges	
	Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned	٨
	seawater intakes	
S8.8	Debris and Litter	
	In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under	٨
	conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine	
	waters does not occur	
S8.8	Construction Works at or in Close Proximity of Storm Culvert or Seafront	
	The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah	٨
	is low.	
S8.8	The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage	٨
	channel /storm culvert / nullah.	
S8.8	Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials	٨
	should be located well away from any water courses during carrying out of the construction works	
S8.8	Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	۸
S8.8	Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water	٨
	receivers.	
S8.8	Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where	٨
	practicable.	
S8.8	Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality	۸
	impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	
S8.8	Construction effluent, site run-off and sewage should be properly collected and/or treated.	٨
S8.8	Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead	N/A

	edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	
S8.8	Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage	N/A
	of construction materials.	
S8.8	Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	N/A
S8.8	Supervisory staff should be assigned to station on site to closely supervise and monitor the works	٨
S8.8	Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.	N/A
Constru	ction Waste Management	
S9.5	Good Site Practices	
	It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to.	
	Recommendations for good site practices during the dredging activities include:	
	Nomination of an approved person, such as a site manager, be responsible for good site practices, arrangements for collection	٨
	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.	۸
	Provision of sufficient waste disposal points and regular collection for disposal.	۸
	Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by	۸
	transporting wastes in enclosed containers.	
	A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	۸
S9.5	Waste Reduction Measures	
	Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the	
	planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste	
	reduction include:	
	Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals	٨
	• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of	٨
	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	٨
	segregated from other general refuse generated by the work force	

	Any unused chemicals or those with remaining functional capacity should be recycled	٨
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials	٨
S9.5	Dredged Marine Sediment	
	The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management	N/A
	of the dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is required under the	
	Dumping at Sea Ordinance and is the responsibility of the Director of Environmental Protection (DEP)	
S9.5	The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC	N/A
	depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal.	
	Contaminated sediment would require either Type 1 - Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or	
	Type 3 – Special Treatment / Disposal and must be dredged and transported with great care in accordance with ETWB TCW No.	
	34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated	
	from the environment and disposed properly at the designated disposal site	
S9.5	It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to	
	be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal	
	Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply	
	for allocation of marine disposal sites and all necessary permits from relevant authorities for the disposal of dredged sediment. During	
	transportation and disposal of the dredged marine sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures	
	should be taken to minimise potential impacts on water quality:	
	• Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be	N/A
	cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved	
	• Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation.	N/A
	Transport barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea	
	Ordinance and as specified by the DEP	
	• Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during	N/A
	loading or transportation	

S9.5	Construction and Demolition Material	[ ]
39.5		
	Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact	
	from handling and transportation of C&D material. The mitigation measures include:	
	• Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal,	٨
	the transient stockpiles should be located away from waterfront or storm drains as far as possible	
	• Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric	۸
	Skip hoist for material transport should be totally enclosed by impervious sheeting	٨
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site	٨
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should	٨
	be paved with concrete, bituminous materials or hardcores	
	• The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting	٨
	to ensure dust materials do not leak from the vehicle	
	• All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty	٨
	materials wet	
	• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust	۸
	generation from unloading	
	When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of	۸
	size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the	
	surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB	
	TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the	
	contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An	
	Independent Environmental Checker should be responsible for auditing the results of the system.	

S9.5	Chemica	N/cete	
59.5	Chemica	a waste	
	After use	e, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of	*
	Practice	on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should 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	
S9.5	General	Refuse	
	General	refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be	Λ
	employe	d by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage	
	methods	(including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by	
	wind, wa	stewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem	
Constru	iction La	ndscape and Visual	
S13.9	CM1	All existing trees should be carefully protected during construction.	*
	CM2	Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be	٨
		submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations	
		of transplanted trees should be agreed prior to commencement of the work.	
	СМЗ	Control of night-time lighting.	N/A(1)
	CM4	Erection of decorative screen hoarding.	*

Remarks:

- ^ Compliance of mitigation measure
- * Recommendation was made during site audit but improved/rectified by the Contractor
- Non-compliance but rectified by the Contractor
- X Non-compliance of mitigation measure
- N/A Not Applicable at this stage
- N/A(1) Not observed

APPENDIX F SITE AUDIT SUMMARY

### Appendix F Summary of Observation and Recommendation Made during Site Inspection

Parameters	Date	<b>Observations and Recommendations</b>	Follow-up
Water Quality			
Air Quality			
Noise			
Waste/ Chemical Management	31 March 2017	<u>Reminder:</u> To clear the general refuse at the box culvert at Portion 2.	Rectification/improvement was observed during the follow-up audit session.
Landscape	31 March 2017	Observation: To properly maintain the hoarding at the site boundary of Portion 1.	Rectification/improvement was observed during the follow-up audit session.
and Visual	21 April 2017	Observation: Fencing should be provided to the tree protection zone at Portion 2.	Rectification/improvement was observed during the follow-up audit session.
Permits/ Licenses			

Summary of Observation and Recommendation Made during Site Inspection in April 2017

### Summary of Observation and Recommendation Made during Site Inspection in May 2017

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality	10 May 2017	Reminder: Dusty material placed at Portion L7 should be properly covered for dust suppression.	Rectification/improvement was observed during the follow-up audit session.
An Quany	19 May 2017	<u>Reminder:</u> Exposed slope at Portion B5 should be properly covered.	Follow up action will be reported in the next reporting month.
Noise			
Waste/ Chemical Management	19 May 2017	<u>Reminder:</u> Drip tray should be provided to the oil drum placed at Portion 2.	Rectification/improvement was observed during the follow-up audit session.
Landscape and Visual 26 May 2017		Observation: Appropriate hoarding should be provided at the site boundary of Portion 1.	Follow up action will be reported in the next reporting month.
Permits/ Licenses			

### Summary of Observation and Recommendation Made during Site Inspection in June 2017

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality	properly covered.		Rectification/improvement was observed during the follow-up audit session on 23 June 2017
Noise			
Waste/ Chemical	9 June 2017	<u>Reminder:</u> Drip tray should be provided to chemical containers within the Site.	Rectification/improvement was observed during the follow-up audit session on 14 June 2017.
Management	30 June 2017	<u>Reminder:</u> Chemical container should be provided by drip tray or stored at appropriate area (Portion 2).	Follow up action will be reported in the next reporting month.
	26 May 2017	Observation: Appropriate hoarding should be provided at the site boundary of Portion 1.	Rectification/improvement was observed during the follow-up audit session on 2 June 2017.
Landscape and Visual	9 June 2017	<u>Reminder:</u> Appropriate hoarding should be provided at the site boundary of Portion 1.	Rectification/improvement was observed during the
	14 June 2017	Reminder: Appropriate hoarding should be erected at the site boundary of Portion 1.	follow-up audit session on 23 June 2017.
Permits/ Licenses			

APPENDIX G WASTE GENERATED QUANTITY





#### Monthly Summary Waste Flow Table for 2017

					-				I	As at 3 July 201	.7
			es of Inert C &	D Materials Ger	Act	ual Quantities o	f C & D Wastes	Generated Moz	nthly		
Month	Total Quantity Generated	Hard Rock and Large Broken	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³ )
Jan	6651	0	0	0	6651	0	0	0	0	0	7
Feb	8100	0	0	0	8100	0	0	0	0	0	0
Mar	24534	0	0	0	24534	0	0	0	0	0	21
Apr	5445	0	0	0	5445	0	0	0	0	0	21
May	7470	0	0	0	7470	0	0	0	0	0	49
June	4905	0	0	0	4905	0	0	0	0	0	35
Sub-total	57105	0	0	0	57105	0	0	0	0	0	133
July Aug											
Sept											
Oct											
Nov Dec											
Total	57105	0	0	0	57105	0	0	0	0	0	133

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000m ³ )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³ )

Notes: (1) The performance targets are given in PS clause 6(14).

(2) The waste flow table shall also include C & D materials that are specified in the Contract to be imported for use at the Site.

(3) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging material.

(4) The Contractor shall also submit the latest forcast of the total amount of C&D materials exected to be generated from the Works, together with a

braskdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or excreeding 50,00 m³. (PS Cleuse 25.02A(7) refers).

APPENDIX H SUMMARY OF EXCEEDANCES

### Contract No. KLN/2016/04 Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development – Stage 5A Infrastructure at Former North Apron Area

#### **Appendix H – Summary of Exceedance**

#### Exceedance Report for Contract No. KL/2015/02

(A) Exceedance Report for Air Quality (NIL in the reporting period)

(B) Exceedance Report for Construction Noise (One non-project related Limit Level exceedance was rerecord at M3 on 11 April 2017)

Station	Date	Measured Noise Level, Leq(30min) dB (A)	Background Noise Level dB (A)	Construction Noise Level: Leq(30min) dB (A)	Limit Level	Level exceeded
M3 Cognitio College	11-Apr-17	79.9	77.9	75.6	70.0	Limit Level

According to the information provided by the Contractor, the major site activities undertaken on 11 April 2017 included:

- Bored piling works at Abutment A02
- Driving sheet piles at Subway SW6 between Staircases ST2 and ST3 by silent piler
- Carry out protection works to CLP's cables for sheet piling works

According to the noise monitoring works carried out at M4 – Lee Kau Yan Memorial School on the same date as shown the table below, no exceedance in Limit Level was recorded.

Station	Date	Measured Noise Level, Leq(30min) dB (A)	Baseline Level dB (A)	Construction Noise Level: Leq(30min) dB (A)	Limit Level
M4 Lee Kau Yan Memorial School	11-Apr-17	73.7	76.7	73.7 Measured $\leq$ Baseline	70.0

As the monitoring station M4 is closer to the construction site of the Project than M3 and no construction work were carried at the vicinity of M3 which is outside the site boundary of the Project, the exceedance was considered as non-project related as the major noise sources were the traffic noise from Prince Edward Road East or the construction sites near M3.

#### (C) Exceedance Report for Landscape and Visual (NIL in the reporting period)

ANNEX I COMPARISON OF EM&A DATA AND EIA PREDICTIONS

### Annex I – Comparison of EM&A Data and EIA Predictions

	Predicted 1-hr TSP conc.						
Station	Scenario1 (Mid 2009 to Mid 2013), µg/m ³	Scenario2 (Mid 2013 to Late 2016), µg/m ³	Reporting Month (Apr 17), µg/m3	Reporting Month (May 17), µg/m3	Reporting Month (Jun 17), µg/m3		
AM2 – Lee Kau Yan Memorial School	290	312	111	71	71		

### Comparison of 1-hr TSP data with EIA predictions

#### Comparison of 24-hr TSP data with EIA predictions

	Predicted 24-hr TSP conc.						
Station	Scenario1 (Mid 2009 to Mid 2013), µg/m ³	Scenario2 (Mid 2013 to Late 2016), µg/m ³	Reporting Month (Apr 17), µg/m3	Reporting Month (May 17), µg/m3	Reporting Month (Jun 17), µg/m3		
AM2 – Lee Kau Yan Memorial School	145	169	93	84	56		

Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A))	Reporting Month (Jan 17), L _{eq} (30min) dB(A)	Reporting Month (May 17), L _{eq (30min)} dB(A)	Reporting Month (June 17), L _{eq (30min)} dB(A)
M3- Cognitio College	47 – 75	$65.4 - 77.8^{(1)(3)}$	$69.0 - 78.3^{(1)}$	$64.1 - 79.5^{(1)}$
M4 - Lee Kau Yan Memorial School	47 – 74	$60.4 - 73.7^{(2)}$	$75.7 - 76.6^{(2)}$	$74.9 - 75.7^{(2)}$
M5(C) – Mercy Grace's Home	Not Predicted in EIA Report	64.9 - 73.4	$69.6 - 75.6^{(1)}$	69.6 – 77.9 ⁽¹⁾

Comparison of Noise Monitoring Data with EIA predictions

Remark*:

(1) Since the background noise level recorded during 12:00 to 13:00 was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

(2) Since the baseline noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

(3) The exceedance recorded on 11 April 2017 at monitoring station M3 was considered as non-project related exceedance.