

**Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link –
Northern Connection Tunnel
Buildings, Electrical and Mechanical
Works**

Fourth Quarterly EM&A Report

5 August 2019

Environmental Resources Management
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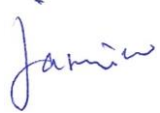


Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works

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Management**

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Fourth Quarterly EM&A Report

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Client: Gammon		Project No: 0463091			
Summary: This document presents the Fourth Quarterly EM&A Report for Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works.		Date: 5 August 2019			
		Approved by: 			
		<i>Mr Craig Reid</i> Partner			
		Certified by: 			
		<i>Dr Jasmine Ng</i> ET Leader			
	Fourth Quarterly Monthly EM&A Report	VAR	JN	CAR	5/8/19
Revision	Description	By	Checked	Approved	Date
<p>This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.</p> <p>We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.</p>		<p>Distribution</p> <p><input type="checkbox"/> Internal</p> <p><input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Confidential</p>			
		 			

AECOM Asia Company Limited
Supervising Officer's Representative Office
No. 8 Mong Fat Street, Tuen Mun, New Territories, Hong Kong

Attention: Mr. Desmond Fung

Dear Mr. Fung,

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

**Contract No. HY/2017/10
TM-CLKL – Northern Connection Tunnel Buildings, E&M Works
4th Quarterly EM&A Report for March - May 2019**

Reference is made to the Environmental Team's submission of the quarterly EM&A report for March - May 2019 (ET's ref.: "0463091_4th Quarterly EM&A_20190805.doc" dated 5 August 2019) certified by the ET Leader and provided to us via e-mail on 5 August 2019.

Please be informed that we have no adverse comments on the captioned submission.

Thank you for very much your attention. Please feel free to contact the undersigned or the ENPO Leader, Mr. Y H Hui, should you require further information.

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



F. C. Tsang
Independent Environmental Checker
Tuen Mun-Chek Lap Kok Link

c.c.

HyD	Mr. Patrick Ng	(By Fax: 3188 6614)
HyD	Mr. Cheng Pan	(By Fax: 3188 6614)
AECOM	Mr. Conrad Ng	(By Fax: 3922 9797)
ERM	Dr. Jasmine Ng	(By Fax: 2723 5660)
Gammon	Mr. Max Poon	(By Fax: 3520 0486)

Internal: DY, YH, RY, DF, HW, ENPO Site

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EXECUTIVE SUMMARY

Under *Contract No. HY/2017/10*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake Northern Connection Tunnel Buildings, Electrical and Mechanical Works of the Tuen Mun – Chek Lap Kok Link Project (TM-CLK Link Project) while AECOM Asia Company Limited was appointed by HyD as the Engineer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET) in accordance with *Environmental Permit No. EP-354/2009/A*. Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO). Subsequent applications for variation of environmental permits (VEP), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

The construction phase of the Contract commenced on 7 June 2018 and will tentatively be completed by 2021. The impact monitoring of the EM&A programme, including air quality and environmental site inspections, were commenced on 7 June 2018.

This is the Fourth Quarterly EM&A Report presenting the EM&A works carried out during the period from 1 March to 31 May 2019 for the *Contract No. HY/2017/10 Northern Connection Tunnel Buildings, Electrical and Mechanical Works* (the “Contract”) in accordance with the Updated EM&A Manual of the TM-CLK Link Project. As informed by the Contractor, major activities in the reporting period included:

March 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building Structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building; and
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2.

April 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building Structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building; and
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Underpass at C3 area;
- Electrical and Mechanical Works at the Tunnel; and
- Excavation and Building Structure at Satellite Control Building

May 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area; and
- Building Structure at Satellite Control Building.

A summary of monitoring and audit activities conducted in the reporting period is listed below ⁽¹⁾:

24-hour TSP Monitoring	30 sessions
1-hour TSP Monitoring	30 sessions
Landfill Gas Hazard Monitoring	59 days
Joint Environmental Site Inspection	14 sessions

Summary of Breaches of Action/Limit Levels

Breaches of Action and Limit Levels for Air Quality

Four (4) Action Level exceedances of 1-hour TSP and one (1) Action Level exceedance of 24-hour TSP were recorded by the Environmental Team of Contract No. HY/2012/08 during the reporting period.

Breaches of Action and Limit Levels for Landfill Gas Hazard Monitoring

No exceedance of Action and Limit Level exceedance was recorded for landfill gas hazard monitoring in the reporting period.

Environmental Complaints, Non-compliance & Summons

There was one (1) environmental complaint received from EPD about dust nuisance at Northern Landfall on 22 May 2019 in the reporting period. There was no notification of summons or successful prosecution recorded in the reporting period.

Reporting Change

There was no reporting change in the reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the coming quarter include the following:

June 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;

(1) ET justification on the Contract Specific Environmental Monitoring and Audit activities under this Contract was submitted to ENPO on 11 September 2018

- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area; and
- Building Structure at Satellite Control Building.

July 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work Finishes at underpass at C3 area; and
- Architectural Builders Work and Finishes at Satellite Control Building; and

- Electrical and Mechanical Works at North Ventilation Building;

August 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Maintenance Depot;
- Building structure and Architectural Builders Work and Finishes at Fire Services Department Building;
- Building Structure and Architectural Builders Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Satellite Control Building; and
- Electrical and Mechanical Works at North Ventilation Building.

Future Key Issues

Potential environmental impacts arising from the above upcoming construction activities in the coming quarterly period are mainly associated with dust and waste management issues.

BACKGROUND

According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated increase in cross boundary traffic, developments in the Northwest New Territories (NWNT), and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park (LLP) and the Hong Kong – Zhuhai – Macao Bridge (HZMB). In order to cope with the anticipated traffic demand, two new road sections between NWNT and North Lantau – Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) are proposed.

An Environmental Impact Assessment (EIA) of TM-CLKL (the Project) was prepared in accordance with the EIA Study Brief (No. ESB-175/2007) and the *Technical Memorandum of the Environmental Impact Assessment Process (EIAO-TM)*. The EIA Report was submitted under the Environmental Impact Assessment Ordinance (EIAO) in August 2009. Subsequent to the approval of the EIA Report (EIAO Register Number AEIAR-146/2009), an Environmental Permit (EP-354/2009) for TM-CLKL was granted by the Director of Environmental Protection (DEP) on 4 November 2009, and EP variation (VEP) (EP-354/2009/A) was issued on 8 December 2010. Subsequent applications for variation of environmental permits (VEPs), *EP-354/2009/B*, *EP-354/2009/C* and *EP-354/2009/D*, were granted on 28 January 2014, 10 December 2014 and 13 March 2015, respectively.

Under *Contract No. HY/2017/10*, Gammon Construction Limited (GCL) is commissioned by the Highways Department (HyD) to undertake the Northern Connection Tunnel Buildings, Electrical and Mechanical Works of TM-CLKL while AECOM Asia Company Limited was appointed by HyD as the Engineer. For implementation of the environmental monitoring and audit (EM&A) programme under the Contract, ERM-Hong Kong, Limited (ERM) has been appointed as the Environmental Team (ET). Ramboll Hong Kong Ltd. was employed by HyD as the Independent Environmental Checker (IEC) and Environmental Project Office (ENPO).

The construction phase of the Contract commenced on 7 June 2018 and will be tentatively completed by 2021. The impact monitoring phase of the EM&A programme, including air quality and environmental site inspections, commenced on 7 June 2018.

The general layout plan of the Contract components is presented in *Figures 1.1 & 1.2a to c*.

Project Management Initials: Designer: KATH Checked: SYLC Approved: CWN ISO A1 594mm x 841mm

Plot File by: jerrywong 23-Jan-18
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PROJECT
 TUEN MUN -
 CHEK LAP KOK LINK

CONTRACT TITLE
 TUEN MUN - CHEK LAP KOK LINK
 - NORTHERN CONNECTION TUNNEL
 BUILDINGS, ELECTRICAL AND
 MECHANICAL WORKS

CLIENT

 路政署 HIGHWAYS DEPARTMENT
 港珠澳大橋香港工程管理有限公司
 Hong Kong - Zhuhai - Macao Bridge
 Hong Kong Project Management Office

CONSULTANT
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Figure 1.1

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE
 A1 1:40000
DIMENSION UNIT
 MILLIMETRES

KEY PLAN

PROJECT NO. 60240249
CONTRACT NO. HY/2017/10

SHEET TITLE
 OVERALL SITE PLAN

SHEET NUMBER
 60240249/C4/7051A


Plot File by: Jerry Wong 23-Jan-18
 PATH: Y:\TOTO\RES\SUB\1\CA Drawings\CA Drawing (2018_01_02)\Architectural drawings - CGN\60240249 CA_7061.dgn
 Project Management Initials: Designer: WATH Chenweid SYLC Approved: CWN ISO 1194mm x 847mm
 01/7071 01/7072



AECOM

PROJECT
 1.3
TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
 TUEN MUN - CHEK LAP KOK LINK
 - NORTHERN CONNECTION TUNNEL
 BUILDINGS, ELECTRICAL AND
 MECHANICAL WORKS

CLIENT
 路政署
HIGHWAYS DEPARTMENT
 港珠澳大橋香港橋工程管理處
 Hong Kong - Zhuhai - Macao Bridge
 Hong Kong Project Management Office

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Figure 1.2a

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
-	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE 1:2500 DIMENSION UNIT MILLIMETRES

KEY PLAN

PROJECT NO. 60240249 CONTRACT NO. HY/2017/10

SHEET TITLE
 ZONING PLAN (SHEET 1)

SHEET NUMBER
 60240249/C4/7061A

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Project Management initials: Designer: KATH Checked: SYLC Approved: CWN ISO A1 394mm x 641mm
 CM3



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PROJECT
 TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
 TUEN MUN - CHEK LAP KOK LINK
 - NORTHERN CONNECTION TUNNEL
 BUILDINGS, ELECTRICAL AND
 MECHANICAL WORKS

CLIENT

 路政署 HIGHWAYS DEPARTMENT
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Figure 1.2b

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
A	JAN.18	TENDER ADDENDUM NO.1	SYLC
	DEC.17	TENDER DRAWING	SYLC

STATUS

SCALE: A1 1:2500
 DIMENSION UNIT: MILLIMETRES

KEY PLAN

PROJECT NO.: 60240249
 CONTRACT NO.: HY/2017/10

SHEET TITLE
 ZONING PLAN
 (SHEET 2)

SHEET NUMBER
 60240249/C4/7062A

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Project Management Initials: Designer: KATH; Checked: SYLC; Approved: CWN ISO A1 554mm x 841mm

Plot File by: Jerrywong 17-Jan-18
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PROJECT
 TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
 TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TUNNEL BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

CLIENT
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Figure 1.2c

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
A	JAN. 18	TENDER ADDENDUM NO. 1	SYLC
	DEC. 17	TENDER DRAWING	SYLC

STATUS

SCALE: A1 1:2500
 DIMENSION UNIT: MILLIMETRES

KEY PLAN

PROJECT NO. 60240249
 CONTRACT NO. HY/2017/10

SHEET TITLE
 ZONING PLAN (SHEET 3)

SHEET NUMBER
 60240249/C4/7063A

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1.2 SCOPE OF REPORT

This is the Fourth Quarterly EM&A Report under the *Contract No. HY/2017/10 Tuen Mun – Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works*. This report presents a summary of the environmental monitoring and audit works from 1 March to 31 May 2019.

1.3 ORGANIZATION STRUCTURE

The organization structure of the Contract is shown in *Appendix A*. The key personnel contact names and contact details are summarized in *Table 1.1* below.

Table 1.1 *Contact Information of Key Personnel*

Party	Position	Name	Telephone	Fax
HyD (Highways Department)	Project Coordinator	Joseph Lee	2762 4958	3188 6614
	Senior Engineer	Cheng Pan	2762 3383	3188 6614
ER (AECOM Asia Company Limited)	Principle Resident Engineer	S. W. Fok	2293 6200	2293 6300
	Resident Engineer	Desmond Fung	2293 6200	2293 6300
ENPO / IEC (Ramboll Hong Kong Ltd.)	ENPO Leader	Y.H. Hui	3465 2850	3465 2899
	IEC	Dr. F.C. Tsang	3465 2851	3465 2899
Contractor (Gammon Construction Limited)	Site Agent	Kenneth Tai	9039 4723	-
	Environmental Officer	Max Poon	9103 6303	-
ET (ERM-HK)	ET Leader	Dr. Jasmine Ng	2271 3311	2723 5660

1.4 SUMMARY OF CONSTRUCTION WORKS

The construction phase of the Contract commenced on 7 June 2018. The rolling construction programme for the period of March to May 2019 is shown in *Appendix B*.

As informed by the Contractor, details of the major works carried out in this reporting period are listed below:

March 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building;

- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building Structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building; and
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2.

April 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building Structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building; and
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Underpass at C3 area;
- Electrical and Mechanical Works at the Tunnel; and
- Excavation and Building Structure at Satellite Control Building

May 2019

Land-based Works

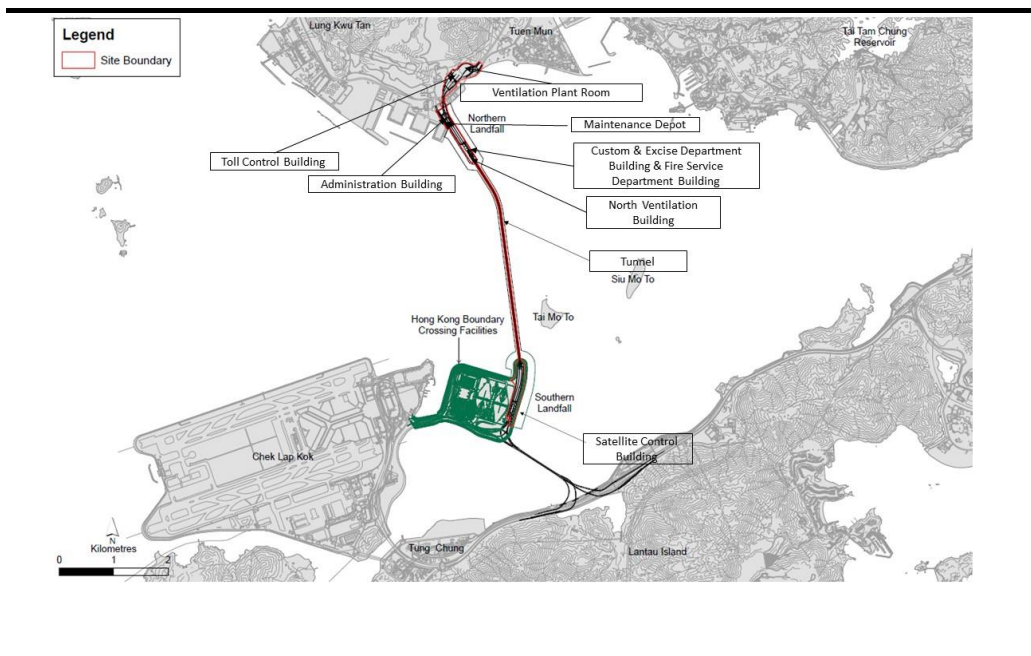
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;

- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area; and
- Building Structure at Satellite Control Building.

The locations of the construction activities are shown in *Figure 1.3*. The Environmental Sensitive Receivers in the vicinity of the Contract are shown in *Figure 1.4*.

The implementation schedule of environmental mitigation measures is presented in *Appendix C*.

Figure 1.3 *Locations of Major Construction Activities in the Reporting Period*



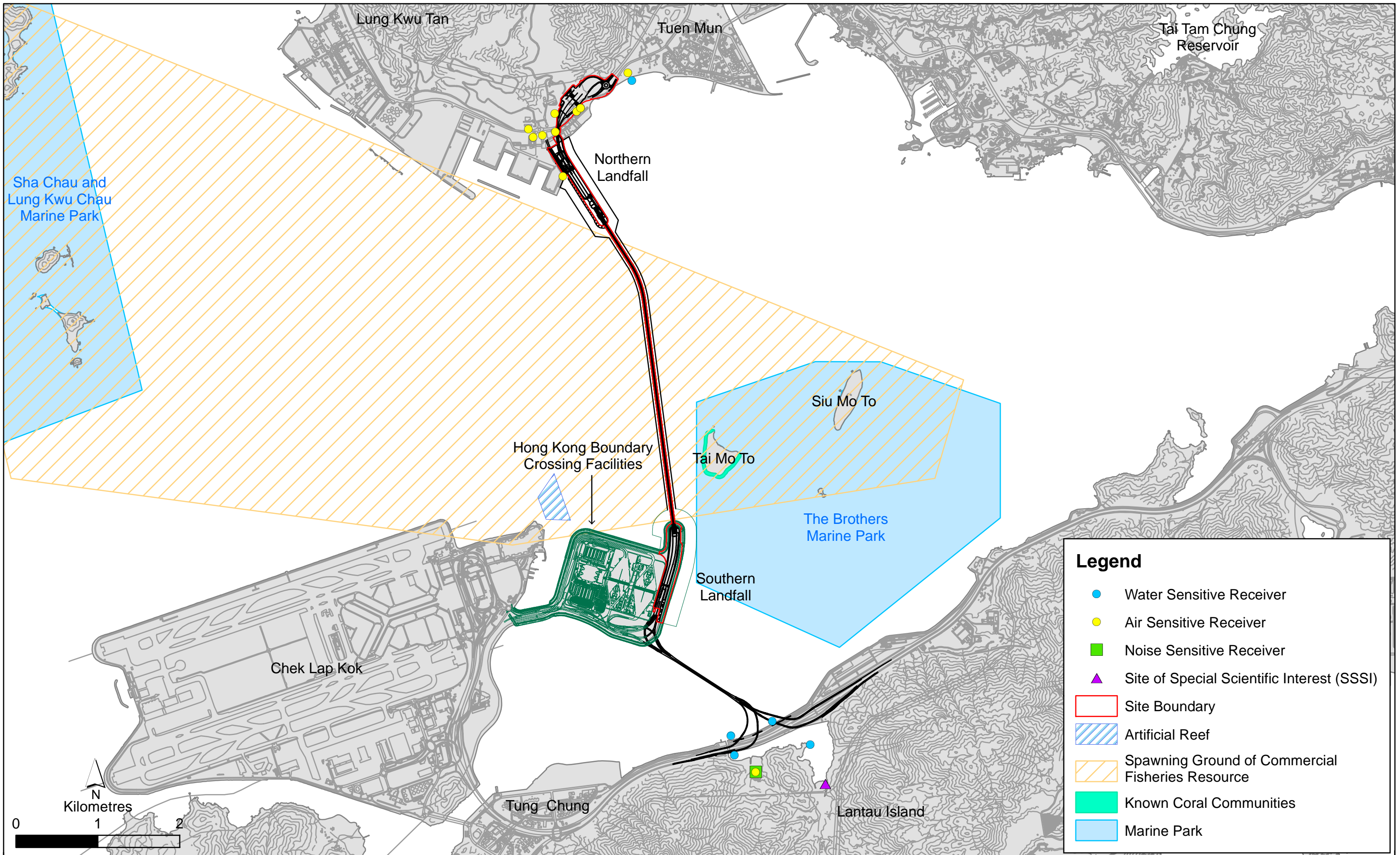


Figure 1.4

Environmental Sensitive Receivers in the Vicinity of the Project

The EM&A programme required environmental monitoring for air quality and environmental site inspections for air quality, water quality and waste management. The EM&A requirements and related findings for each component are summarized in the following sections

2.1 AIR QUALITY

2.1.1 Monitoring Requirements and Equipment

In accordance with the Updated EM&A Manual and the Enhanced TSP Monitoring Plan, impact 1-hour TSP monitoring was conducted three (3) times every six (6) days and impact 24-hour TSP monitoring was carried out once every six (6) days when the highest dust impact was expected. 1-hr and 24-hr TSP monitoring frequency was increased to three times per day every three days and daily every three days, respectively, as excavation works for launching shaft under *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* commenced on 24 October 2014.

Results of air quality monitoring were adopted from the published EM&A data of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* ⁽¹⁾.

The Action and Limit Levels of the air quality monitoring were adopted from the published EM&A reports of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* ⁽²⁾. The Action and Limit Levels are provided in *Appendix D*.

The locations of the monitoring stations overlapped with *Contract No. HY/2012/08* are shown in *Figure 2.1* and presented in *Table 2.1*.

(1) Published EM&A data for impact air quality monitoring by *Contract No. HY/2012/08* are available at: <http://www.hzmbenpo.com/>

(2) Published EM&A reports of *Contract No. HY/2012/08* are available at: <http://www.hzmbenpo.com/>

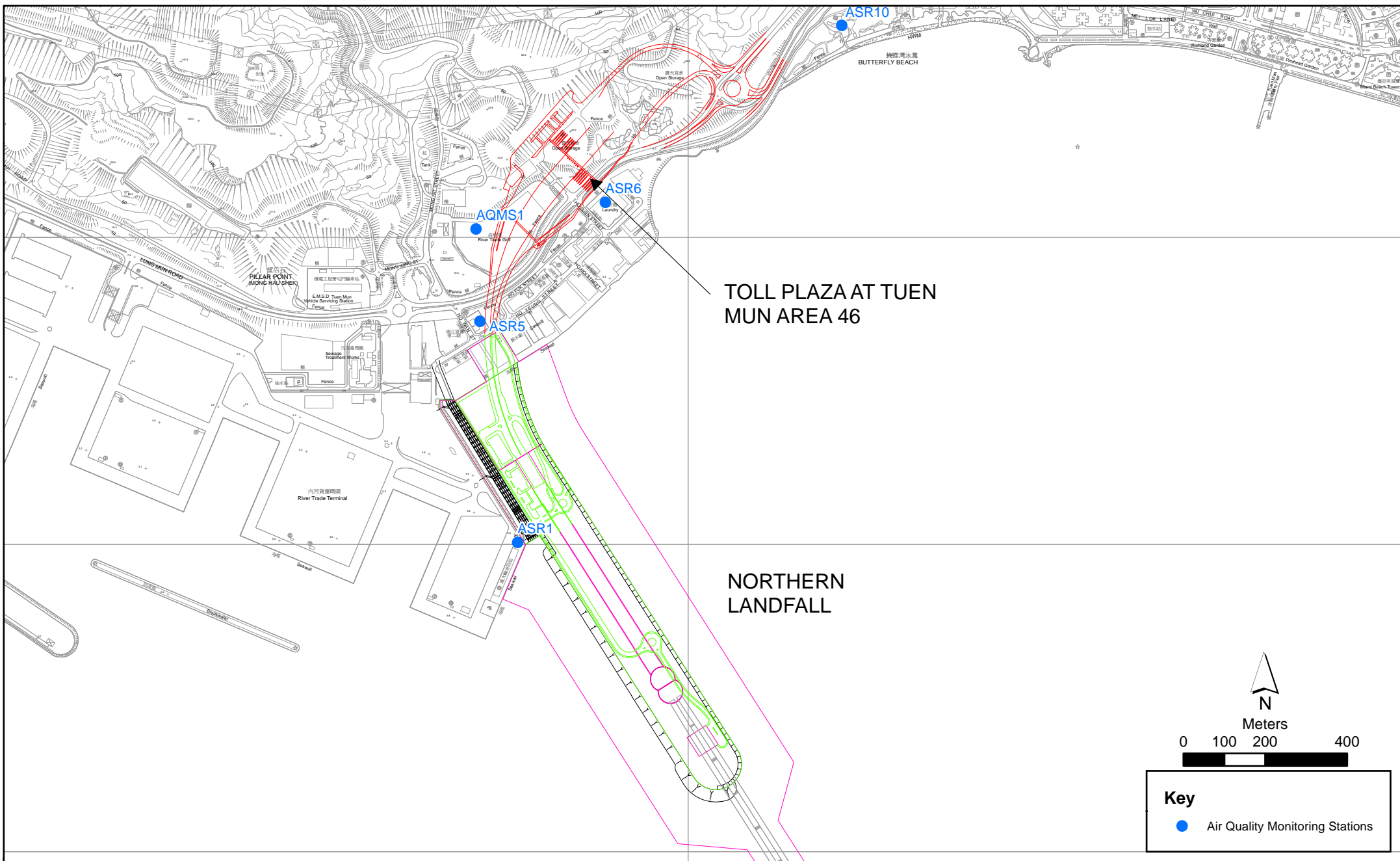


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
 (Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link -
 Northern Connection Sub-sea Tunnel Section)

Key

- Air Quality Monitoring Stations

N
 Meters
 0 100 200 400

Table 2.1 *Locations of Impact Air Quality Monitoring Stations and its Corresponding Monitoring Requirements*

Monitoring Station	Monitoring Dates	Location	Description	Parameters & Frequency
ASR1	3, 6, 9, 12, 15, 18, 21, 24, 27 and 30 March 2019	Tuen Mun Fireboat Station	Office	TSP monitoring <ul style="list-style-type: none"> 1-hour Total Suspended Particulates (1-hour TSP, $\mu\text{g}/\text{m}^3$), 3 times in every 6 days
ASR5	2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 April 2019	Pillar Point Fire Station	Office	<ul style="list-style-type: none"> 24-hour Total Suspended Particulates (24-hour TSP, $\mu\text{g}/\text{m}^3$), daily for 24-hour in every 6 days
AQMS1	2, 5, 8, 11, 14, 17, 20, 23, 26 and 29 May 2019	Previous River Trade Golf	Bare ground	Enhanced TSP monitoring (commenced on 24 October 2014 under <i>Contract No. HY/2012/08</i>) <ul style="list-style-type: none"> 1-hour Total Suspended Particulates (1-hour TSP, $\mu\text{g}/\text{m}^3$), 3 times in every 3 days 24-hour Total Suspended Particulates (24-hour TSP, $\mu\text{g}/\text{m}^3$), daily for 24-hour in every 3 days
ASR6		Butterfly Beach Laundry	Office	
ASR10		Butterfly Beach Park	Recreational uses	

2.1.2 *Results and Observations*

Results of air quality monitoring were adopted from the published EM&A data of *Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link – Northern Connection Sub-sea Tunnel Section* ⁽¹⁾.

Four (4) Action Level exceedances for 1-hour TSP on 27 and 30 March, 11 and 23 May 2019 and one (1) Action Level exceedance for 24-hour TSP were recorded on 23 May 2019 by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

2.2 *EM&A SITE INSPECTION*

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Fourteen (14) site inspections were carried out in the reporting period on 1, 8, 15, 22 and 29 March, 4, 12, 18, 26 April and 2, 10, 17, 24 and 31 May 2019.

Key observations and recommendations during the site inspections in this reporting period are summarized in *Table 2.2*.

(1) Published EM&A data for impact water quality monitoring by *Contract No. HY/2012/08* are available at: <http://www.hzmbenpo.com/>

Table 2.2 Specific Observations and Recommendations during the Weekly Site Inspection in this Reporting Period

Inspection Date	Observations	Recommendations/ Remarks
1 March 2019	Maintenance Depot <ul style="list-style-type: none"> Stagnant water was observed in drip tray. 	Maintenance Depot <ul style="list-style-type: none"> The Contractor was reminded to discharge stagnant water in the drip tray.
8 March 2019	Toll Control Building <ul style="list-style-type: none"> Different types of waste should be sorted for disposal. Good housekeeping should be maintained. Stagnant water in the drip tray should be cleared. 	Toll Control Building <ul style="list-style-type: none"> The Contractor are reminded to sort different waste or disposal The Contractor are reminded to maintain good housekeeping. The Contractor are reminded to clear the stagnant water in the drip tray.
15 March 2019	Toll Control Building <ul style="list-style-type: none"> Accumulated waste in refuse skip was observed. 	Toll Control Building <ul style="list-style-type: none"> The Contractor was reminded to clear accumulated waste in refuse skip.
22 March 2019	Fire Services Department Building and Customs and Excise Department Building <ul style="list-style-type: none"> Chemical containers should be placed in drip tray. Chemicals should be stored in proper containers General food waste should be disposed in capped rubbish bin. 	Fire Services Department Building and Customs and Excise Department Building <ul style="list-style-type: none"> The Contractor was reminded to place chemical containers in drip tray. The Contractor was reminded to store chemicals in proper containers. The Contractor was reminded to dispose general food waste in capped rubbish bin.
29 March 2019	Administration Building <ul style="list-style-type: none"> General refuse was observed in refuse skip and accumulated construction was observed. 	Administration Building <ul style="list-style-type: none"> The Contractor was reminded to dispose general refuse in capped rubbish bin and to sort construction waste prior to disposal.
4 April 2019	Toll Control Building <ul style="list-style-type: none"> Different types of waste should be sorted before disposal. Cement bags should be tally covered by tarpaulin sheets. 	Toll Control Building <ul style="list-style-type: none"> The Contractor was reminded to sort different type of waste before disposal. The contractor was reminded tally cover the cement bags with tarpaulin.
12 April 2019	Fire Services Department and Customs and Excise Department Building <ul style="list-style-type: none"> Damaged NRMM label was observed on the vibratory roller. 	Fire Services Department and Customs and Excise Department Building <ul style="list-style-type: none"> The Contractor was reminded to replace the damaged NRMM label on the vibratory roller.
18 April 2019	Tunnel <ul style="list-style-type: none"> The service gallery of the tunnel is dusty. 	Tunnel <ul style="list-style-type: none"> The Contractor was reminded to implement dust suppression measure to reduce dust generation.
26 April 2019	No observation.	No observation.
2 May 2019	Fire Services Department Building <ul style="list-style-type: none"> Drip tray should be provided for the chemicals Toll Control Building <ul style="list-style-type: none"> Accumulated waste should be removed regularly Drip tray should be provided for the chemicals. Cement bags should be covered by tarpaulin sheets. 	Fire Services Department Building <ul style="list-style-type: none"> The Contractor was reminded to provide drip tray for the chemicals. Toll Control Building <ul style="list-style-type: none"> The Contractor was reminded to remove the accumulated waste regularly The Contractor was reminded to provide drip tray for the chemicals. The Contractor was reminded to cover the cement bags by tarpaulin sheets.

Inspection Date	Observations	Recommendations/ Remarks
10 May 2019	Fire Services Department Building <ul style="list-style-type: none"> The NRMM label on the vibratory roller is damaged. North Ventilation Building <ul style="list-style-type: none"> Accumulated waste in the refuse skip should be cleared. 	Fire Services Department Building <ul style="list-style-type: none"> The Contractor was reminded to replace the damaged NRMM label on the vibratory roller is damaged. North Ventilation Building <ul style="list-style-type: none"> The Contractor was reminded to clear accumulated waste in the refuse skip.
17 May 2019	Customs and Excise Department Building <ul style="list-style-type: none"> Chemical container was observed without drip tray. Oil stain was observed on the ground near the excavator. 	Customs and Excise Department Building <ul style="list-style-type: none"> The Contractor was reminded to place chemical container in drip tray. The Contractor was reminded to clear the oil stain on the ground.
24 May 2019	Customs and Excise Department Building <ul style="list-style-type: none"> Chemical container was observed without drip tray. Maintenance Depot <ul style="list-style-type: none"> Chemical drums were observe without drip tray. 	Customs and Excise Department Building <ul style="list-style-type: none"> The Contractor was reminded to place chemical container in drip tray. Maintenance Depot <ul style="list-style-type: none"> The Contractor was reminded to place chemical drum in drip tray.
31 May 2019	Tunnel <ul style="list-style-type: none"> Some oil was observed in stagnant water in the tunnel. 	Tunnel <ul style="list-style-type: none"> The Contractor was reminded to treat the chemical contaminated water inside tunnel properly prior discharge.

The Contractor has rectified all of the observations as identified during environmental site inspections in the reporting period.

2.3 LANDFILL GAS HAZARD MONITORING

In accordance with the Updated EM&A Manual of the TM-CLK Link Project, landfill gas hazard monitoring should be perform to ensure that the works area at Pillar Point Valley (PPV) Landfill is free of landfill gas during any excavations works. A total of 59 days of landfill gas hazard monitoring was conducted at Toll Control Building prior to the excavation works during 1 March to 15 May 2019 during the reporting period (*Appendix F*).

The Action and Limit Levels of the landfill gas hazard monitoring were adopted from the Undated EM&A Manual of the TM-CLK Link Project and are provided in *Appendix D*.

2.3.1 Results and Observations

Results for landfill gas hazard monitoring are summarized in *Table 2.3* and the monitoring data is provided in *Appendix G*.

No exceedance of Action and Limit Levels for methane, oxygen and carbon dioxide was recorded in the reporting period.

Table 2.3 Summary of Landfill Gas Hazard Monitoring Results in the Reporting Period

	Average (%)	Range (%)	Action / Limit Level (%)
Methane	0	0	10 / 20
Oxygen	20.8	20.7-20.9	19 / 18

	Average (%)	Range (%)	Action / Limit Level (%)
Carbon Dioxide	0.08	0.07-0.08	0.5 / 1.5

2.4 WASTE MANAGEMENT STATUS

The Contractor had submitted application form for registration as chemical waste producer under the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

Wastes generated during this reporting period included mainly construction wastes (inert and non-inert). Reference has been made to the waste flow table prepared by the Contractor (*Appendix H*). The quantities of different types of wastes are summarized in *Table 2.4*.

Table 2.4 Quantities of Different Waste Generated in the Reporting Period

Month/Year	Inert C&D Materials ^(a) (m ³)	Inert Construction Waste Re-used (m ³)	Non-inert Construction Waste ^(b) (kg)	Imported Fill (m ³)	Recyclable Materials ^(c) (kg)	Chemical Wastes (kg)
March 2019	79	0	73,690	0	0	0
April 2019	13	0	56,730	0	0	0
May 2019	0	0	62,240	0	0	0

Notes:

- (a) Inert construction wastes include hard rock and large broken concrete disposed as public fill.
- (b) Non-inert construction wastes include general refuse disposed at landfill.
- (c) Recyclable materials include metals, paper, cardboard, plastics, timber and others.

The Contractor was advised to properly maintain on site C&D materials and waste collection, sorting and recording system, dispose of C&D materials and wastes at designated ground and maximize reuse/ recycle of C&D materials and wastes. The Contractor was also reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.

For chemical waste containers, the Contractor was reminded to treat properly and store 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*.

2.5 ENVIRONMENTAL LICENSES AND PERMITS

The status of environmental licensing and permit is summarized in *Table 2.5* below.

Table 2.5 Summary of Environmental Licensing and Permit Status

License/ Permit	License or Permit No.	Date of Issue	Date of Expiry	License/ Permit Holder	Remarks
Environmental Permit	EP-354/2009/D	13 March 2015	N/A	HyD	Tuen Mun- Chek Lap Kok Link
APCO Construction Dust Notification	433493	14 May 2018	N/A	GCL	For Tuen Mun working area
Construction Waste Billing Account	7030836	15 May 2018	N/A	GCL	N/A
Chemical Waste Producer Registration	5213-422-G2827-01	13 June 2018	N/A	GCL	N/A
Discharge License under WPCO for Buildings at C2 area	WT00031783-2018	22 October 2018	31 October 2023	GCL	Sampling Frequency: Bimonthly
Discharge License under WPCO for Buildings at C3 area	WT00032062-2018	30 October 2018	31 October 2023	GCL	Sampling Frequency: Quarterly
Construction Noise Permit	GW-RW0037-19	28 January 2019	23 July 2019	GCL	For Toll Control Building, Administration Building, Maintenance Depot and WA18
	GW-RW0135-19	27 March 2019	30 September 2019	GCL	For Toll Control Building, Administration Building, Maintenance Depot, FSD, C&ED, Boundary Wall and WA18
	GW-RS0202-19	4 March 2019	3 September 2019	GCL	For Kiosk S2
	GW-RS0340-19	18 April 2019	17 October 2019	GCL	For Kiosk S2

2.6 *IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES*

In response to the site audit findings, the Contractors carried out all corrective actions.

A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in *Appendix C*. The necessary mitigation measures relevant to this Contract were implemented properly.

2.7 *SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT*

Four (4) Action Level exceedances for 1-hour TSP and one (1) Action Level exceedance for 24-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

No exceedance of Action and Limit Levels for methane, oxygen and carbon dioxide was recorded landfill gas hazard monitoring in the reporting period.

Cumulative statistics are provided in *Appendix I*.

2.8 *SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS*

The Environmental Complaint Handling Procedure is provided in *Figure 2.2*.

There were one (1) complaint received from EPD on dust nuisance at Northern Landfall on 22 May 2019 in the reporting period. Upon investigation, there were no adequate evidences to conclude that the complaint cases were related to this Contract and the investigation report is presented in *Appendix I*.

There was no notification of summons or successful prosecution recorded in the reporting period.

Statistics on complaints, notifications of summons, successful prosecutions are summarized in *Appendix I*.

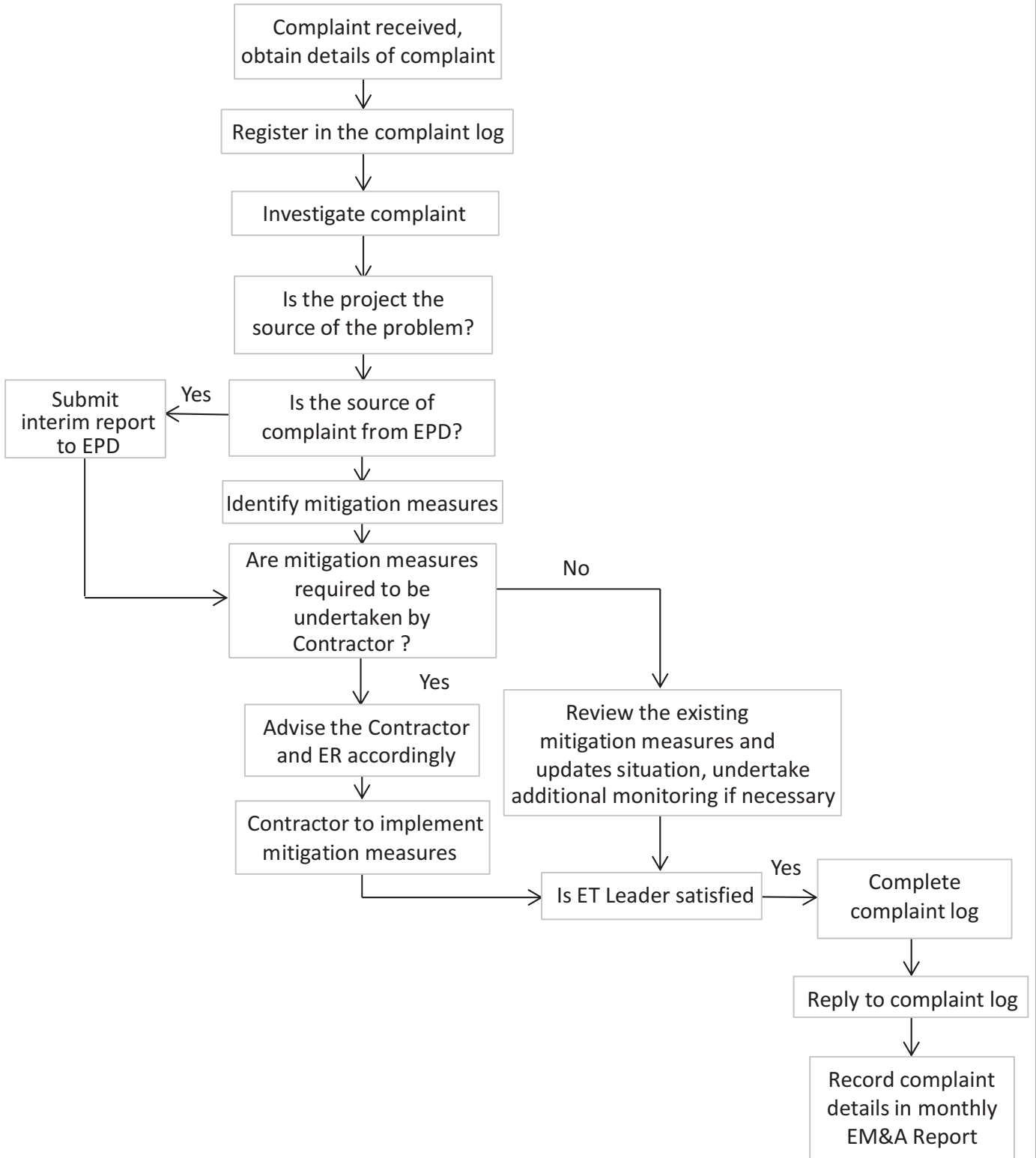


Figure 2.2

Environmental Complaint Handling Procedure

3.1 CONSTRUCTION ACTIVITIES FOR THE COMING QUARTER

As informed by the Contractor, the major works for the Contract in the coming quarter are summarized below:

June 2019***Land-based Works***

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Building Structure at Administration Building;
- Building Structure at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area; and
- Building Structure at Satellite Control Building.

July 2019***Land-based Works***

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Administration Building;

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Maintenance Depot;
- Building structure at Fire Services Department Building;
- Building Structure at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work Finishes at underpass at C3 area; and
- Architectural Builders Work and Finishes at Satellite Control Building; and
- Electrical and Mechanical Works at North Ventilation Building;

August 2019

Land-based Works

- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Toll Control Building;
- Electrical and Mechanical Works at Ventilation Plant Room;
- Electrical and Mechanical Works at North Ventilation Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Administration Building;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Maintenance Depot;
- Building structure and Architectural Builders Work and Finishes at Fire Services Department Building;
- Building Structure and Architectural Builders Work and Finishes at Customs and Excise Department Building;
- Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2; and
- Electrical and Mechanical Works at the Tunnel;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at underpass at C3 area;
- Electrical and Mechanical Works and Architectural Builders Work and Finishes at Satellite Control Building; and

- Electrical and Mechanical Works at North Ventilation Building.

3.2

KEY ISSUES FOR THE COMING QUARTER

Potential environmental impacts arising from the above upcoming construction activities are mainly associated with dust and waste management issues.

4.1 CONCLUSIONS

This Fourth Quarterly EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 March to 31 May 2019, in accordance with the Updated EM&A Manual and the requirements of EP-354/2009/D.

Air quality (including 1-hour TSP and 24-hour TSP) was carried out in this reporting period.

Four (4) Action Level exceedances for 1-hour TSP and one (1) Action Level exceedance for 24-hour TSP were recorded by the Environmental Team of Contract No. *HY/2012/08* during the reporting period. The exceedances were considered not related to this Contract upon further investigation and the investigation report is presented in *Appendix I*. No action is required to be undertaken in accordance with the Event Action Plan as presented in *Appendix E*.

No exceedance of Action and Limit Levels for methane, oxygen and carbon dioxide was recorded during landfill gas hazard monitoring in the reporting period.

Environmental site inspection was carried out fourteen (14) times in the reporting period. Remedial actions recommended for the deficiencies identified during the site audits were properly implemented by the Contractor.

There were one (1) complaint received from EPD on dust nuisance at Northern Landfall on 22 May 2019 in the reporting period. Upon investigation, there were no adequate evidences to conclude that the complaint cases were related to this Contract and the investigation report is presented in *Appendix I*.

There was no notification of summons or successful prosecution recorded in the reporting period.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

Project Organization for Environmental Works



↔ Line of Communication

Appendix B

Construction Programme

ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019					
							May	Jun	Jul	Aug		
HY2017/10 - Works Programme Three Month Rolling Programme 20-May-19												
Contract Dates												
Key Dates												
KD01	KD01 - Toll Control Bldg & TCSS Provision	0	0%	0	01-Jun-19*							
KD02	KD02 - Admin Bldg, Maintenance Depot, Kiosk N2, & TCSS Provision	0	0%	0	01-Aug-19*							
KD04	KD04 - Underpass/Roundabout Area & TCSS Provision	0	0%	0	30-Jul-19*							
Portion Access Dates												
P2010	Access to Portion VII SVB Basement BL1	0	0%	0	30-Jun-19							
P2020	Access to Portion VII SVB G/F	0	0%	0	31-Jul-19							
P320	Access to Portion III (Day 437)	0	0%	0	17-Jul-19							
Portion Possession Dates												
P245	Possession to Portion Vc - (2 May 2019)	0	100%	0	25-Apr-19 A							
P270	Possession to Portion XIX (Day 390)	0	0%	0	31-May-19							
P285	Possession to Portion XI (Day 390)	0	0%	0	31-May-19							
P290	Possession to Portion XX1a (Day 390)	0	0%	0	31-May-19							
P295	Possession to Portion IX (Day 390)	0	0%	0	31-May-19							
P300	Possession to Portion XX1b (Day 390)	0	0%	0	31-May-19							
P305	Possession to Portion X (Day 390)	0	0%	0	31-May-19							
P315	Possession to Portion XX1c (Day 390)	0	0%	0	31-May-19							
Major Design Submission & Approval												
Toll Control Building												
MVAC System												
TCB-EMD1095	Authorities Review and Comment of AHU/PAU Static Pressure Calculation	56	50%	28	23-Aug-18 A	21-Jun-19						
TCB-EMD1115	Authorities Review and Comment of MVAC Pump head calculation	56	50%	28	23-Aug-18 A	21-Jun-19						
Electrical System												
TCB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	28	22-Aug-18 A	21-Jun-19						
TCB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	28	15-Aug-18 A	21-Jun-19						
TCB-EMD1335	ER Review and Approval of System Design of PV System	13	50%	7	04-Apr-19 A	27-May-19						
TCB-EMD1345	Authorities Review and Comment of PV System	56	50%	28	05-Mar-19 A	21-Jun-19						
Fire Service System												
TCB-EMD1175	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	01-Aug-18 A	21-Jun-19						
TCB-EMD1195	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19						
TCB-EMD1215	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	13-Aug-18 A	21-Jun-19						
Plumbing & Drainage System												
TCB-EMD1235	Authorities Review and Comment of Pump Head Calculation	56	50%	28	07-Aug-18 A	21-Jun-19						
TCB-EMD1275	Authorities Review and Comment of Hot water system capacity calculation	56	50%	28	07-Aug-18 A	21-Jun-19						
TCB-EMD1395	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	28	23-Jul-18 A	21-Jun-19						
Administration Building												
MVAC System												
ADB-EMD1015	Authorities Review and Comment of AC Cooling Capacity Calculation	56	50%	28	17-Aug-18 A	21-Jun-19						
ADB-EMD1035	Authorities Review and Comment of AHU/PAU Static Pressure Calculation	56	50%	28	08-Oct-18 A	21-Jun-19						
ADB-EMD1055	Authorities Review and Comment of Pump head calculation	56	50%	28	07-Nov-18 A	21-Jun-19						
ADB-EMD1075	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	28	17-Aug-18 A	21-Jun-19						
Electrical System												
ADB-EMD1093	ER Review and Approval of UPS and Battery Capacity Calculations	13	50%	7	23-Feb-19 A	27-May-19						
ADB-EMD1115	Authorities Review and Comment of Electrical Loading Demand Calculation	56	25%	42	27-Aug-18 A	09-Jul-19						
ADB-EMD1135	Authorities Review and Comment of Generator Calculation	56	50%	28	09-Aug-18 A	21-Jun-19						
ADB-EMD1335	ER Review and Approval of System Design of PV System	13	50%	7	04-Apr-19 A	27-May-19						

CONTRACT NO. HY2017/10
NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS
THREE MONTHLY PROGRAMME AS OF 20 MAY 2019

Date	Revision	Checked	Approved
20-May-19			

ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
ADB-EMD1345	Authorities Review and Comment of System Design of PV System	56	50%	28	05-Mar-19 A	21-Jun-19				
Fire Service System										
ADB-EMD1155	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	13-Aug-18 A	21-Jun-19				
ADB-EMD1175	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	13-Aug-18 A	21-Jun-19				
ADB-EMD1195	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	13-Aug-18 A	21-Jun-19				
Plumbing & Drainage System										
ADB-EMD1215	Authorities Review and Comment of Pump Head Calculation	56	50%	28	25-Aug-18 A	21-Jun-19				
ADB-EMD1235	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	28	25-Aug-18 A	21-Jun-19				
ADB-EMD1255	Authorities Review and Comment of Hot water system capacity calculation	56	50%	28	25-Aug-18 A	21-Jun-19				
North Ventilation Building										
MVAC System										
NVB-EMD1035	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	28	26-Sep-18 A	21-Jun-19				
Electrical System										
NVB-EMD1055	Authorities Review and Comment of HV Electrical Loading Calculation	56	50%	28	26-Sep-18 A	21-Jun-19				
NVB-EMD1075	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	28	17-Aug-18 A	21-Jun-19				
NVB-EMD1095	Authorities Review and Comment of Electrical Loading Demand Calculation	56	50%	28	03-Sep-18 A	21-Jun-19				
NVB-EMD1115	Authorities Review and Comment of Generator Calculation	56	50%	28	17-Aug-18 A	21-Jun-19				
Fire Service System										
NVB-EMD1135	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	01-Aug-18 A	21-Jun-19				
NVB-EMD1155	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
NVB-EMD1175	Authorities Review and Comment of FM200 System Design Calculation	28	50%	14	13-Aug-18 A	04-Jun-19				
Plumbing & Drainage System										
NVB-EMD1305	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	28	07-Aug-18 A	21-Jun-19				
Maintenance Depot										
MVAC System										
MD-EMD1015	Authorities Review and Comment of AC Cooling Capacity Calculation	56	50%	28	17-Aug-18 A	21-Jun-19				
Electrical System										
MD-EMD1075	Authorities Review and Comment of Electrical Loading Demand Calculation	56	25%	42	27-Aug-18 A	09-Jul-19				
MD-EMD1095	Authorities Review and Comment of Generator Calculation	56	50%	28	06-Oct-18 A	21-Jun-19				
Fire Service System										
MD-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
MD-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
MD-EMD1155	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
Plumbing & Drainage System										
MD-EMD1175	Authorities Review and Comment of Pump Head Calculation	56	50%	28	13-Aug-18 A	21-Jun-19				
MD-EMD1195	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	28	13-Aug-18 A	21-Jun-19				
MD-EMD1215	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	28	27-Aug-18 A	21-Jun-19				
Satellite Control Building										
MVAC System										
SCB-EMD1015	Authorities Review and Comment of AC Cooling Capacity Calculation	56	50%	28	17-Aug-18 A	21-Jun-19				
Electrical System										
SCB-EMD1055	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	28	05-Sep-18 A	21-Jun-19				
SCB-EMD1075	Authorities Review and Comment of Electrical Loading Demand Calculation	56	25%	42	01-Nov-18 A	09-Jul-19				
SCB-EMD1095	Authorities Review and Comment of Generator Calculation	56	50%	28	27-Nov-18 A	21-Jun-19				
Fire Service System										
SCB-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
SCB-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				
SCB-EMD1155	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	14-Aug-18 A	21-Jun-19				

CONTRACT NO. HY2017/10
NORTHERN TUNNEL CONNECTION BUILDING E&M WORKS
THREE MONTHLY PROGRAMME AS OF 20 MAY 2019

P 2/24

Date	Revision	Checked	Approved
20-May-19			

ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019				
							May	Jun	Jul	Aug	
Plumbing & Drainage System											
SCB-EMD1285	Authorities Review and Comment of Pump Head Calculation	56	50%	28	27-Aug-18 A	21-Jun-19					
SCB-EMD1335	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	28	27-Aug-18 A	21-Jun-19					
Costom & Excise Department Building											
Electrical System											
CEDB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	28	01-Nov-18 A	21-Jun-19					
CEDB-EMD1035	Authorities Review and Comment of Electrical Loading Demand Calculation	56	25%	42	01-Nov-18 A	09-Jul-19					
CEDB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	28	27-Nov-18 A	21-Jun-19					
Fire Service System											
CEDB-EMD1075	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	21-Dec-18 A	21-Jun-19					
CEDB-EMD1095	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	08-Oct-18 A	21-Jun-19					
Plumbing & Drainage System											
CEDB-EMD1135	Authorities Review and Comment of Pump Head Calculation	56	50%	28	07-Sep-18 A	21-Jun-19					
CEDB-EMD1155	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	28	05-Sep-18 A	21-Jun-19					
Fire Services Department Building											
Electrical System											
FSDB-EMD1015	Authorities Review and Comment of UPS and Battery Capacity Calculations	56	50%	28	01-Nov-18 A	21-Jun-19					
FSDB-EMD1035	Authorities Review and Comment of Electrical Loading Demand Calculation	56	25%	42	01-Nov-18 A	09-Jul-19					
FSDB-EMD1055	Authorities Review and Comment of Generator Calculation	56	50%	28	27-Nov-18 A	21-Jun-19					
Fire Service System											
FSDB-EMD1075	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	07-Sep-18 A	21-Jun-19					
FSDB-EMD1095	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	07-Sep-18 A	21-Jun-19					
FSDB-EMD1205	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	07-Sep-18 A	21-Jun-19					
Plumbing & Drainage System											
FSDB-EMD1135	Authorities Review and Comment of Pump Head Calculation	56	50%	28	05-Sep-18 A	21-Jun-19					
FSDB-EMD1155	Authorities Review and Comment of Pressure Vessel Calculation	56	50%	28	05-Sep-18 A	21-Jun-19					
South Ventilation Building											
MVAC System											
SVB-EMD1015	Authorities Review and Comment of Staircase Pressurization System Calculation	56	50%	28	24-Jan-19 A	21-Jun-19					
SVB-EMD1035	Authorities Review and Comment of Mechanical Ventilation Capacity Calculation	56	50%	28	11-Sep-18 A	21-Jun-19					
Electrical System											
SVB-EMD1055	Authorities Review and Comment of HV Electrical Loading Calculation	56	50%	28	01-Nov-18 A	21-Jun-19					
SVB-EMD1095	Authorities Review and Comment of Electrical Loading Demand Calculation	56	0%	56	28-Nov-18 A	25-Jul-19					
SVB-EMD1115	Authorities Review and Comment of Generator Calculation	56	50%	28	07-Dec-18 A	21-Jun-19					
Fire Service System											
SVB-EMD1135	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	21-Dec-18 A	21-Jun-19					
SVB-EMD1155	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	21-Dec-18 A	21-Jun-19					
SVB-EMD1175	Authorities Review and Comment of FM200 System Design Calculation	56	50%	28	30-Nov-18 A	21-Jun-19					
Vehicular Underpass											
Fire Service System											
VU-EMD1025	Authorities Review and Comment of Foam system design calculation	56	50%	28	09-Aug-18 A	21-Jun-19					
Plumbing & Drainage System											
VU-EMD1045	Authorities Review and Comment of Pump Head Calculation	56	50%	28	27-Sep-18 A	21-Jun-19					
Tunnel Lighting System											
VU-EMD1145	Authorities Review and Comment of Design Proposal of Tunnel Lighting System (TLS)	56	50%	28	29-Aug-18 A	21-Jun-19					
VU-EMD1165	Authorities Review and Comment of Tunnel Lighting Lux Calculation	56	50%	28	31-Dec-18 A	21-Jun-19					
Tunnel											
Fire Service System											

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							May	Jun	Jul	Aug
TUN-EMD1035	Authorities Review and Comment of Foam system design calculation	56	50%	28	09-Aug-18 A	21-Jun-19				
TUN-EMD1115	Authorities Review and Comment of FS Pump Head Calculation	56	50%	28	11-Jan-19 A	21-Jun-19				
TUN-EMD1132	Preparation and Resubmission of Sprinkler Pump Head Calculation	26	50%	13	22-Mar-19 A	03-Jun-19				
TUN-EMD1133	ER Review and Approval of Sprinkler Pump Head Calculation	13	0%	13	04-Jun-19	19-Jun-19				
TUN-EMD1135	Authorities Review and Comment of Sprinkler Pump Head Calculation	56	50%	28	25-Jan-19 A	21-Jun-19				
Plumbing & Drainage System										
TUN-EMD1185	Authorities Review and Comment of Drainage Sump Pumps and Pump Pits Calculation	56	50%	28	27-Sep-18 A	21-Jun-19				
Tunnel Lighting System										
TUN-EMD1075	Authorities Review and Comment of Design Proposal of Tunnel Lighting System (TLS)	56	50%	28	29-Aug-18 A	21-Jun-19				
TUN-EMD1095	Authorities Review and Comment of Tunnel Lighting Lux Calculation	56	50%	28	31-Dec-18 A	21-Jun-19				
Approach Road										
Road Lighting System										
AR-EMD1015	HyD (LGT) Review and Approval of Design Proposal of Road Lighting System	28	0%	28	20-May-19	21-Jun-19				
CCMS, TCS and ELV System										
ELV-EMD1015	Authorities Review and Comment of System Design for Toll Control system	56	50%	28	27-Jul-18 A	21-Jun-19				
ELV-EMD1035	Authorities Review and Comment of System Design for CMCS	56	50%	28	26-Sep-18 A	21-Jun-19				
ELV-EMD1055	Authorities Review and Comment of System Design for other ELV systems	56	50%	28	02-Oct-18 A	21-Jun-19				
Major Material Submission & Approval										
GEN-EMM1020	Authorities Review and Comment of Technical Info. - Miscellaneous 1st fix Materials/ Equipment	28	50%	14	31-May-18 A	04-Jun-19				
GEN-EMM1050	Authorities Review and Comment of Technical Info. - Miscellaneous 2nd fix Materials/ Equipment	28	50%	14	20-May-18 A	04-Jun-19				
GEN-EMM1080	Authorities Review and Comment of Technical Info. - Miscellaneous final fix Materials/ Equipment	28	50%	14	02-Jul-18 A	04-Jun-19				
MVAC System										
MVAC-EMM1015	Authorities Review and Comment of Technical Info. - Chiller	56	50%	28	14-Jun-18 A	21-Jun-19				
MVAC-EMM1035	Authorities Review and Comment of Technical Info. - Chilled Water Pump	56	50%	28	12-Jun-18 A	21-Jun-19				
MVAC-EMM1055	Authorities Review and Comment of Technical Info. - Cooling Tower	56	50%	28	11-Jun-18 A	21-Jun-19				
MVAC-EMM1075	Authorities Review and Comment of Technical Info. - Computer Room AC (CRAC) Unit	56	50%	28	19-Jul-18 A	21-Jun-19				
MVAC-EMM1095	Authorities Review and Comment of Technical Info. - AHU & PAU	56	50%	28	10-Sep-18 A	21-Jun-19				
MVAC-EMM1115	Authorities Review and Comment of Technical Info. - Staircase Pressurization Fan	56	50%	28	17-Jul-18 A	21-Jun-19				
Electrical System										
ELE-EMM1075	Authorities Review and Comment of Technical Info. - HV Cables	56	50%	28	17-Sep-18 A	21-Jun-19				
ELE-EMM1155	Authorities Review and Comment of Technical Info. - UPS and Battery	28	50%	14	26-Nov-18 A	04-Jun-19				
ELE-EMM1175	Authorities Review and Comment of Technical Info. - MCB & MCCB & Distribution Board	28	50%	14	04-Dec-18 A	04-Jun-19				
ELE-EMM1215	ER Review and Approval of Technical Info. - PV System	13	50%	7	04-Apr-19 A	27-May-19				
ELE-EMM1225	Authorities Review and Comment of Technical Info. - PV System	56	50%	28	05-Mar-19 A	21-Jun-19				
Fire Service System										
FS-EMM1015	Authorities Review and Comment of Technical Info. - FM200	56	50%	28	20-Aug-18 A	21-Jun-19				
FS-EMM1095	Authorities Review and Comment of Technical Info. - FR/ HR system	56	50%	28	24-Sep-18 A	21-Jun-19				
FS-EMM1115	Authorities Review and Comment of Technical Info. - Gas detection	56	50%	28	05-Dec-18 A	21-Jun-19				
Plumbing & Drainage System										
PD-EMM1015	Authorities Review and Comment of Technical Info. - Sump Pump	56	50%	28	25-Oct-18 A	21-Jun-19				
PD-EMM1033	ER Review and Approval of Technical Info. - Hot Water System	13	50%	7	26-Mar-19 A	27-May-19				
PD-EMM1035	Authorities Review and Comment of Technical Info. - Hot Water System	56	50%	28	11-Nov-18 A	21-Jun-19				
PD-EMM1055	Authorities Review and Comment of Technical Info. - LMCP (PD)	56	50%	28	16-Jan-19 A	21-Jun-19				
Tunnel Ventilation System										
TVS-EMM1035	Authorities Review and Comment of Technical Info. - Pressurization Fan	56	50%	28	19-Jul-18 A	21-Jun-19				
TVS-EMM1105	Authorities Review and Comment of Technical Info. - AQMS Equipment	56	50%	28	29-Oct-18 A	21-Jun-19				
TVS-EMM1155	Authorities Review and Comment of Technical Info. - MFSD	56	50%	28	26-Jul-18 A	21-Jun-19				
Tunnel and Road Lighting System										

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							May	Jun	Jul	Aug
TRLS-EMM1035	Authorities Review and Comment of Technical Info. - Road Lighting Fitting	56	50%	28	09-Oct-18 A	21-Jun-19				
CCMS, TCS and ELV System										
ELV-EMM1013	ER Review and Approval of Technical Info. - CMCS Equipment	40	80%	8	22-Jan-19 A	28-May-19				
ELV-EMM1020	Authorities Review and Comment of Technical Info. - CMCS Equipment	56	50%	28	09-Oct-18 A	21-Jun-19				
ELV-EMM1040	ER Review and Approval of Technical Info. - TCS Equipment	40	80%	8	28-Dec-18 A	28-May-19				
ELV-EMM1050	Authorities Review and Comment of Technical Info. - TCS Equipment	56	50%	28	09-Oct-18 A	21-Jun-19				
ELV-EMM1073	ER Review and Approval of Technical Info. - other ELV Equipment	40	80%	8	19-Mar-19 A	28-May-19				
ELV-EMM1080	Authorities Review and Comment of Technical Info. - other ELV Equipment	56	50%	28	15-Oct-18 A	21-Jun-19				
Drawing Submission & Approval										
North Ventilation Building										
Individual Shop Drawing										
NVB-ISD1090	Authorities Review and Approval of NVB ISD - 2nd batch	28	50%	14	27-Sep-18 A	04-Jun-19				
Satellite Control Building										
Individual Shop Drawing										
SCB-ISD1010	ER Review and Comment of SCB ISD 1st batch	12	95%	1	11-Aug-18 A	20-May-19				
SCB-ISD1020	Preparation and Resubmission of SCB ISD 1st batch	12	95%	1	04-Jan-19 A	20-May-19				
SCB-ISD1030	ER Review and Approval of SCB ISD 1st batch	7	95%	0	04-Jan-19 A	20-May-19				
SCB-ISD1040	Authorities Review and Comment of SCB ISD 1st batch	28	50%	14	10-Aug-18 A	04-Jun-19				
SCB-ISD1060	ER Review and Comment of SCB ISD 2nd batch	12	95%	1	11-Aug-18 A	20-May-19				
SCB-ISD1070	Preparation and Resubmission of SCB ISD 2nd batch	12	95%	1	04-Jan-19 A	20-May-19				
SCB-ISD1080	ER Review and Approval of SCB ISD 2nd batch	7	95%	0	04-Jan-19 A	20-May-19				
SCB-ISD1090	Authorities Review and Comment of SCB ISD 2nd batch	28	50%	14	10-Aug-18 A	04-Jun-19				
Custom & Excise Department Building										
Structural, Electrical & Mechanical Drawing										
CEDB-SEM1020	Preparation and Resubmission of C&EDB SEM	12	50%	6	10-Apr-19 A	25-May-19				
CEDB-SEM1030	ER Review and Approval of C&EDB SEM	7	50%	4	10-Apr-19 A	23-May-19				
Individual Shop Drawing										
CEDB-ISD1040	Authorities Review and Comment of C&EDB ISD 1st batch	28	50%	14	06-Sep-18 A	04-Jun-19				
CEDB-ISD1090	Authorities Review and Comment of C&EDB ISD 2nd batch	28	50%	14	06-Sep-18 A	04-Jun-19				
South Ventilation Building										
Individual Shop Drawing										
SVB-ISD1000	Submission of SVB ISD 1st batch	15	50%	8	20-Sep-18 A	28-May-19				
SVB-ISD1010	ER Review and Comment of SVB ISD 1st batch	12	50%	6	21-Sep-18 A	25-May-19				
SVB-ISD1020	Preparation and Resubmission of SVB ISD 1st batch	12	0%	12	27-May-19	10-Jun-19				
SVB-ISD1030	ER Review and Approval of SVB ISD 1st batch	7	0%	7	11-Jun-19	18-Jun-19				
SVB-ISD1050	Submission of SVB ISD 2nd batch	15	50%	8	05-Sep-18 A	28-May-19				
SVB-ISD1060	ER Review and Comment of SVB ISD 2nd batch	12	50%	6	07-Dec-18 A	25-May-19				
SVB-ISD1070	Preparation and Resubmission of SVB ISD 2nd batch	12	0%	12	27-May-19	10-Jun-19				
SVB-ISD1080	ER Review and Approval of SVB ISD 2nd batch	7	0%	7	11-Jun-19	18-Jun-19				
Structural, Electrical & Mechanical Drawing										
SVB-SEM2020	Preparation and Resubmission of SVB SEM	12	50%	6	10-Apr-19 A	25-May-19				
SVB-SEM2030	ER Review and Approval of SVB SEM	7	0%	7	27-May-19	03-Jun-19				
Tunnel										
Individual Shop Drawing										
TUN-ISD1060	ER Review and Comment of Tunnel ISD 2nd batch	30	85%	5	16-Aug-18 A	24-May-19				
TUN-ISD1070	Preparation and Resubmission of Tunnel ISD 2nd batch	30	85%	5	16-Feb-19 A	24-May-19				
TUN-ISD1080	ER Review and Approval of Tunnel ISD 2nd batch	15	85%	2	29-Aug-18 A	22-May-19				
TUN-ISD1090	Authorities Review and Comment of Tunnel ISD 2nd batch	28	50%	14	16-Aug-18 A	04-Jun-19				

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							May	Jun	Jul	Aug
TUN-ISD1110	ER Review and Comment of Tunnel ISD 3rd batch	30	0%	30	20-May-19	24-Jun-19				
TUN-ISD1120	Preparation and Resubmission of Tunnel ISD 3rd batch	30	0%	30	25-Jun-19	30-Jul-19				
TUN-ISD1130	ER Review and Approval of Tunnel ISD 3rd batch	15	0%	15	31-Jul-19	16-Aug-19				
TUN-ISD1140	Authorities Review and Comment of Tunnel ISD 3rd batch	28	0%	28	10-Dec-18 A	21-Jun-19				
TUN-ISD1160	ER Review and Comment of Tunnel ISD 4th batch	30	0%	30	20-May-19	24-Jun-19				
TUN-ISD1170	Preparation and Resubmission of Tunnel ISD 4th batch	30	0%	30	25-Jun-19	30-Jul-19				
TUN-ISD1180	ER Review and Approval of Tunnel ISD 4th batch	15	0%	15	31-Jul-19	16-Aug-19				
TUN-ISD1190	Authorities Review and Comment of Tunnel ISD 4th batch	28	0%	28	31-Oct-18 A	21-Jun-19				
Fire Services Department Building										
<i>Individual Shop Drawing</i>										
FSDB-ISD1040	Authorities Review and Comment of FSDB ISD 1st batch	28	50%	14	05-Sep-18 A	04-Jun-19				
FSDB-ISD1090	Authorities Review and Comment of FSDB ISD 2nd batch	28	50%	14	05-Sep-18 A	04-Jun-19				
Vehicular Underpass										
<i>Individual Shop Drawing</i>										
VU-ISD1060	ER Review and Comment of Vehicular Underpass ISD 2nd batch	12	50%	6	03-Apr-19 A	25-May-19				
VU-ISD1070	Preparation and Resubmission of Vehicular Underpass ISD 2nd batch	12	0%	12	27-May-19	10-Jun-19				
VU-ISD1080	ER Review and Approval of Vehicular Underpass ISD 2nd batch	7	0%	7	11-Jun-19	18-Jun-19				
VU-ISD1090	Authorities Review and Comment of Vehicular Underpass ISD 2nd batch	28	50%	14	02-Apr-19 A	04-Jun-19				
E&M Procurement										
Design Related Procurement										
<i>Toll Control Building</i>										
<i>MVAC System</i>										
TCB-PO1040	Place Order - AHU & PAU	12	50%	6	16-Mar-19 A	25-May-19				
<i>Plumbing & Drainage System</i>										
TCB-PO1100	Place Order - Hot Water System	12	0%	12	22-Jun-19	06-Jul-19				
<i>CCMS, TCS and ELV System</i>										
TCB-PO1150	Place Order - TCS Equipment	12	0%	12	22-Jun-19	06-Jul-19				
<i>Administration Building</i>										
<i>MVAC System</i>										
ADB-PO1040	Place Order - AHU & PAU	12	50%	6	16-Mar-19 A	25-May-19				
<i>Plumbing & Drainage System</i>										
ADB-PO1100	Place Order - Hot Water System	12	0%	12	22-Jun-19	06-Jul-19				
<i>Maintenance Depot</i>										
<i>MVAC System</i>										
MD-PO1000	Place Order - AHU & PAU	12	50%	6	16-Mar-19 A	25-May-19				
<i>Custom & Excise Department Building</i>										
<i>MVAC System</i>										
CEDB-PO1000	Place Order - AHU & PAU	12	50%	6	16-Mar-19 A	25-May-19				
<i>Vehicular Underpass</i>										
<i>Fire Service System</i>										
VU-PO1040	Place Order - Gas detection	12	0%	12	22-Jun-19	06-Jul-19				
<i>Tunnel</i>										
<i>Fire Service System</i>										
TUN-PO1015	Place Order - Gas detection	12	0%	12	22-Jun-19	06-Jul-19				
TUN-PO1020	Place Order - FS Pump	12	0%	12	22-Jun-19	06-Jul-19				
E&M Manufacture & Delivery										
<i>Toll Control Building</i>										
TCB-MD1260	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	50%	23	17-Nov-18 A	11-Jun-19				

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TCB-MD1270	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	50%	23	02-Dec-18 A	11-Jun-19				
MVAC System										
TCB-MD1010	Manufacture & Delivery to HK - Chiller	150	65%	53	07-Mar-19 A	11-Jul-19				
TCB-MD1020	Manufacture & Delivery to HK - Chilled Water Pump	100	90%	10	06-Mar-19 A	29-May-19				
TCB-MD1030	Manufacture & Delivery to HK - Computer Room Air Conditioning (CRAC) Unit	120	55%	54	15-May-19 A	12-Jul-19				
TCB-MD1040	Manufacture & Delivery to HK - Cooling Tower (R/F)	100	75%	25	06-Mar-19 A	13-Jun-19				
TCB-MD1050	Manufacture & Delivery to HK - AHU & PAU	90	0%	90	26-May-19	23-Aug-19				
Electrical System										
TCB-MD1060	Manufacture - LV Switchboard	86	50%	43	02-Apr-19 A	01-Jul-19				
TCB-MD1062	FAT - LV Switchboard	10	0%	10	02-Jul-19	11-Jul-19				
TCB-MD1065	Shipping to HK - LV Switchboard	14	0%	14	12-Jul-19	25-Jul-19				
TCB-MD1070	Manufacture - Generator	118	35%	77	02-Apr-19 A	04-Aug-19				
TCB-MD1072	FAT - Generator	4	0%	4	04-Aug-19	08-Aug-19				
TCB-MD1075	Shipping to HK - Generator	28	0%	28	08-Aug-19	05-Sep-19				
TCB-MD1080	Manufacture - UPS and Battery	53	30%	37	19-Mar-19 A	26-Jun-19				
TCB-MD1082	FAT - UPS and Battery	10	0%	10	26-Jun-19	06-Jul-19				
TCB-MD1085	Shipping to HK - UPS and Battery	42	0%	42	06-Jul-19	17-Aug-19				
TCB-MD1090	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	60%	24	04-Mar-19 A	12-Jun-19				
TCB-MD1100	Manufacture & Delivery to HK - LV Cables	120	60%	48	20-Nov-18 A	06-Jul-19				
TCB-MD1280	Manufacture & Delivery to HK - PV System Equipment	60	0%	60	20-May-19	18-Jul-19				
Fire Service System										
TCB-MD1150	Manufacture & Delivery to HK - FM200	150	40%	90	24-Dec-18 A	17-Aug-19				
TCB-MD1160	Manufacture & Delivery to HK - AFA System	100	60%	40	02-Mar-19 A	28-Jun-19				
TCB-MD1170	Manufacture & Delivery to HK - FS Pump	120	85%	18	19-Mar-19 A	06-Jun-19				
TCB-MD1180	Manufacture & Delivery to HK - FR/ HR system	90	80%	18	02-Mar-19 A	06-Jun-19				
TCB-MD1190	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	20-May-19	18-Jul-19				
Plumbing & Drainage System										
TCB-MD1110	Manufacture & Delivery to HK - Sump Pump	120	60%	48	29-Mar-19 A	06-Jul-19				
TCB-MD1120	Manufacture & Delivery to HK - Hot Water System	120	0%	120	07-Jul-19	03-Nov-19				
TCB-MD1130	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	20-May-19	18-Jul-19				
TCB-MD1140	Manufacture & Delivery to HK - Water Pump	90	60%	36	29-Mar-19 A	24-Jun-19				
Lift System										
TCB-MD1000	Manufacture & Delivery to HK - Lift System	120	20%	96	03-Apr-19 A	23-Aug-19				
CCMS, TCS and ELV System										
TCB-MD1200	Manufacture - CMCS Equipment	62	10%	56	20-Apr-19 A	14-Jul-19				
TCB-MD1202	FAT - CMCS Equipment	7	0%	7	14-Jul-19	21-Jul-19				
TCB-MD1205	Shipping to HK - CMCS Equipment	14	0%	14	21-Jul-19	04-Aug-19				
TCB-MD1210	Manufacture - TCS Equipment	62	0%	62	07-Jul-19	06-Sep-19				
TCB-MD1220	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19				
Administration Building										
ADB-MD1280	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	80%	9	16-Jan-19 A	28-May-19				
ADB-MD1290	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	40%	27	26-Feb-19 A	15-Jun-19				
ADB-MD1300	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	40%	27	02-Mar-19 A	15-Jun-19				
Electrical System										
ADB-MD1060	Manufacture & Delivery to HK - Busduct	60	65%	21	15-Feb-19 A	09-Jun-19				
ADB-MD1070	Manufacture - LV Switchboard	86	50%	43	02-Apr-19 A	01-Jul-19				
ADB-MD1072	FAT - LV Switchboard	10	0%	10	02-Jul-19	11-Jul-19				
ADB-MD1075	Shipping to HK - LV Switchboard	14	0%	14	12-Jul-19	25-Jul-19				

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Date	Revision	Checked	Approved
20-May-19			

ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
ADB-MD1080	Manufacture - Generator	118	35%	77	02-Apr-19 A	04-Aug-19				
ADB-MD1082	FAT - Generator	4	0%	4	04-Aug-19	08-Aug-19				
ADB-MD1085	Shipping to HK - Generator	28	0%	28	08-Aug-19	05-Sep-19				
ADB-MD1090	Manufacture - UPS and Battery	53	0%	53	20-May-19	11-Jul-19				
ADB-MD1092	FAT - UPS and Battery	10	0%	10	12-Jul-19	21-Jul-19				
ADB-MD1095	Shipping to HK - UPS and Battery	42	0%	42	22-Jul-19	01-Sep-19				
ADB-MD1100	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	60%	24	04-Mar-19 A	12-Jun-19				
ADB-MD1110	Manufacture & Delivery to HK - LV Cables	120	60%	48	20-Nov-18 A	06-Jul-19				
ADB-MD1310	Manufacture & Delivery to HK - PV System Equipment	60	0%	60	20-May-19	18-Jul-19				
MVAC System										
ADB-MD1010	Manufacture & Delivery to HK - Chiller	150	65%	53	06-Mar-19 A	11-Jul-19				
ADB-MD1020	Manufacture & Delivery to HK - Chilled Water Pump	100	60%	40	06-Mar-19 A	28-Jun-19				
ADB-MD1030	Manufacture & Delivery to HK - Computer Room Air Conditioning (CRAC) Unit	120	25%	90	15-May-19 A	17-Aug-19				
ADB-MD1040	Manufacture & Delivery to HK - AHU & PAU	90	0%	90	26-May-19	23-Aug-19				
ADB-MD1050	Manufacture & Delivery to HK - Cooling Tower	100	50%	50	06-Mar-19 A	08-Jul-19				
Fire Service System										
ADB-MD1160	Manufacture & Delivery to HK - FM200	150	60%	60	24-Dec-18 A	18-Jul-19				
ADB-MD1170	Manufacture & Delivery to HK - AFA System	100	60%	40	02-Mar-19 A	28-Jun-19				
ADB-MD1180	Manufacture & Delivery to HK - FS Pump	120	70%	36	19-Mar-19 A	24-Jun-19				
ADB-MD1190	Manufacture & Delivery to HK - FR/ HR system	90	60%	36	02-Mar-19 A	24-Jun-19				
ADB-MD1200	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	20-May-19	18-Jul-19				
Plumbing & Drainage System										
ADB-MD1130	Manufacture & Delivery to HK - Hot Water System	120	0%	120	07-Jul-19	03-Nov-19				
ADB-MD1140	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	20-May-19	18-Jul-19				
ADB-MD1150	Manufacture & Delivery to HK - Water Pump	90	50%	45	29-Mar-19 A	03-Jul-19				
CCMS and ELV System										
ADB-MD1210	Manufacture - CMCS Equipment	62	10%	56	20-Apr-19 A	14-Jul-19				
ADB-MD1212	FAT - CMCS Equipment	7	0%	7	14-Jul-19	21-Jul-19				
ADB-MD1215	Shipping to HK - CMCS Equipment	14	0%	14	21-Jul-19	04-Aug-19				
ADB-MD1220	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19				
Lift System										
ADB-MD1000	Manufacture & Delivery to HK - Lift System	120	20%	96	03-Apr-19 A	23-Aug-19				
North Ventilation Building										
Electrical System										
NVB-MD1016	FAT - HV/LV Transformer	14	100%	0	09-May-19 A	10-May-19				
NVB-MD1018	Shipping to HK - HV/LV Transformer	14	50%	7	11-May-19 A	26-May-19				
NVB-MD1022	FAT - HV Switchboard	14	75%	4	29-Apr-19 A	23-May-19				
NVB-MD1025	Shipping to HK - HV Switchboard	14	0%	14	23-May-19	06-Jun-19				
NVB-MD1030	Manufacture - HV Cables	106	80%	21	05-Jan-19 A	10-Jun-19				
NVB-MD1035	Shipping to HK - HV Cables	14	0%	14	10-Jun-19	24-Jun-19				
NVB-MD1040	Manufacture - LV Switchboard	86	50%	43	02-Apr-19 A	01-Jul-19				
NVB-MD1042	FAT - LV Switchboard	10	0%	10	02-Jul-19	11-Jul-19				
NVB-MD1045	Shipping to HK - LV Switchboard	14	0%	14	12-Jul-19	25-Jul-19				
NVB-MD1050	Manufacture - Generator	118	35%	77	02-Apr-19 A	04-Aug-19				
NVB-MD1052	FAT - Generator	4	0%	4	04-Aug-19	08-Aug-19				
NVB-MD1055	Shipping to HK - Generator	28	0%	28	08-Aug-19	05-Sep-19				
NVB-MD1060	Manufacture - UPS and Battery	53	30%	37	19-Mar-19 A	26-Jun-19				
NVB-MD1062	FAT - UPS and Battery	10	0%	10	26-Jun-19	06-Jul-19				

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ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
NVB-MD1065	Shipping to HK - UPS and Battery	42	0%	42	06-Jul-19	17-Aug-19				
NVB-MD1070	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	60%	24	04-Mar-19 A	12-Jun-19				
NVB-MD1080	Manufacture & Delivery to HK - Busduct	60	60%	24	15-Feb-19 A	12-Jun-19				
NVB-MD1090	Manufacture - LV Cables	106	80%	21	20-Nov-18 A	10-Jun-19				
NVB-MD1095	Shipping to HK - LV Cables	14	0%	14	10-Jun-19	24-Jun-19				
MVAC System										
NVB-MD1180	Manufacture - Tunnel Ventilation Fan	180	85%	27	29-Nov-18 A	15-Jun-19				
NVB-MD1190	FAT - Tunnel Ventilation Fan	15	100%	0	06-May-19 A	09-May-19				
NVB-MD1200	Shipping to HK - Tunnel Ventilation Fan	45	0%	45	16-Jun-19	30-Jul-19				
NVB-MD1210	Manufacture & Delivery to HK - Staircase Pressurization Fan	60	0%	60	20-May-19	18-Jul-19				
Fire Service System										
NVB-MD1130	Manufacture & Delivery to HK - FM200	150	60%	60	24-Dec-18 A	18-Jul-19				
NVB-MD1140	Manufacture & Delivery to HK - AFA System	100	60%	40	02-Mar-19 A	28-Jun-19				
NVB-MD1150	Manufacture & Delivery to HK - FR/ HR system	90	60%	36	02-Mar-19 A	24-Jun-19				
NVB-MD1160	Manufacture & Delivery to HK - FS Pump	120	90%	12	19-Mar-19 A	31-May-19				
NVB-MD1170	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	20-May-19	18-Jul-19				
Plumbing & Drainage System										
NVB-MD1100	Manufacture & Delivery to HK - Sump Pump	120	60%	48	29-Mar-19 A	06-Jul-19				
NVB-MD1110	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	20-May-19	18-Jul-19				
NVB-MD1120	Manufacture & Delivery to HK - Water Pump	90	45%	50	29-Mar-19 A	08-Jul-19				
CCMS and ELV System										
NVB-MD1220	Manufacture - CMCS Equipment	62	10%	56	20-Apr-19 A	14-Jul-19				
NVB-MD1222	FAT - CMCS Equipment	7	0%	7	14-Jul-19	21-Jul-19				
NVB-MD1225	Shipping to HK - CMCS Equipment	14	0%	14	21-Jul-19	04-Aug-19				
NVB-MD1230	Manufacture - other ELV Equipment	62	0%	62	20-May-19	20-Jul-19				
NVB-MD1232	FAT - other ELV Equipment	7	0%	7	21-Jul-19	27-Jul-19				
NVB-MD1235	Shipping to HK - other ELV Equipment	14	0%	14	28-Jul-19	10-Aug-19				
Lift System										
NVB-MD1000	Manufacture & Delivery to HK - Lift System	120	20%	96	03-Apr-19 A	23-Aug-19				
Maintenance Depot										
MD-MD1155	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	80%	9	15-Feb-19 A	28-May-19				
MD-MD1165	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	40%	27	20-Mar-19 A	15-Jun-19				
MD-MD1175	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	40%	27	25-Mar-19 A	15-Jun-19				
Electrical System										
MD-MD1010	Manufacture - Generator	118	35%	77	02-Apr-19 A	04-Aug-19				
MD-MD1012	FAT - Generator	4	0%	4	04-Aug-19	08-Aug-19				
MD-MD1015	Shipping to HK - Generator	28	0%	28	08-Aug-19	05-Sep-19				
MD-MD1020	Manufacture - LV Switchboard	86	50%	43	02-Apr-19 A	01-Jul-19				
MD-MD1022	FAT - LV Switchboard	10	0%	10	02-Jul-19	11-Jul-19				
MD-MD1025	Shipping to HK - LV Switchboard	14	0%	14	12-Jul-19	25-Jul-19				
MD-MD1030	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	40%	36	04-Mar-19 A	24-Jun-19				
MD-MD1040	Manufacture & Delivery to HK - LV Cables	120	50%	60	20-Nov-18 A	18-Jul-19				
MVAC System										
MD-MD1000	Manufacture & Delivery to HK - AHU & PAU	90	0%	90	26-May-19	23-Aug-19				
Fire Service System										
MD-MD1080	Manufacture & Delivery to HK - FM200	150	60%	60	24-Dec-18 A	18-Jul-19				
MD-MD1090	Manufacture & Delivery to HK - FS Pump	120	70%	36	19-Mar-19 A	24-Jun-19				
MD-MD1100	Manufacture & Delivery to HK - AFA System	100	60%	40	02-Mar-19 A	28-Jun-19				

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ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
MD-MD1110	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	22-May-19	20-Jul-19				
MD-MD1120	Manufacture & Delivery to HK - FR/ HR system	90	60%	36	02-Mar-19 A	24-Jun-19				
CCMS and ELV System										
MD-MD1130	Manufacture - CMCS Equipment	62	0%	62	20-May-19	20-Jul-19				
MD-MD1132	FAT - CMCS Equipment	7	0%	7	21-Jul-19	27-Jul-19				
MD-MD1135	Shipping to HK - CMCS Equipment	14	0%	14	28-Jul-19	10-Aug-19				
MD-MD1140	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19				
Plumbing & Drainage System										
MD-MD1050	Manufacture & Delivery to HK - Sump Pump	120	60%	48	29-Mar-19 A	06-Jul-19				
MD-MD1060	Manufacture & Delivery to HK - Water Pump	90	45%	50	29-Mar-19 A	08-Jul-19				
MD-MD1070	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	20-May-19	18-Jul-19				
Satellite Control Building										
SCB-MD1175	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	0%	45	22-May-19	05-Jul-19				
SCB-MD1185	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	0%	45	03-Jul-19	16-Aug-19				
SCB-MD1195	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	0%	45	27-Jun-19	10-Aug-19				
Electrical System										
SCB-MD1020	Manufacture - Generator	118	5%	112	17-Apr-19 A	09-Sep-19				
SCB-MD1030	Manufacture - UPS and Battery	53	20%	42	26-Mar-19 A	01-Jul-19				
SCB-MD1032	FAT - UPS and Battery	10	0%	10	01-Jul-19	11-Jul-19				
SCB-MD1035	Shipping to HK - UPS and Battery	42	0%	42	11-Jul-19	22-Aug-19				
SCB-MD1040	Manufacture - LV Switchboard	86	5%	82	17-Apr-19 A	09-Aug-19				
SCB-MD1042	FAT - LV Switchboard	10	0%	10	09-Aug-19	19-Aug-19				
SCB-MD1045	Shipping to HK - LV Switchboard	14	0%	14	19-Aug-19	02-Sep-19				
SCB-MD1050	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	0%	60	28-Jul-19	25-Sep-19				
SCB-MD1060	Manufacture & Delivery to HK - LV Cables	120	10%	108	20-Nov-18 A	04-Sep-19				
MVAC System										
SCB-MD1010	Manufacture & Delivery to HK - Computer Room Air Conditioning (CRAC) Unit	120	0%	120	20-May-19	16-Sep-19				
Fire Service System										
SCB-MD1100	Manufacture & Delivery to HK - FM200	150	0%	150	20-May-19	16-Oct-19				
SCB-MD1110	Manufacture & Delivery to HK - FS Pump	120	0%	120	20-May-19	16-Sep-19				
SCB-MD1120	Manufacture & Delivery to HK - AFA System	100	0%	100	29-Jul-19	05-Nov-19				
Plumbing & Drainage System										
SCB-PO1130	Manufacture & Delivery to HK - Water Pump	90	0%	90	15-Aug-19	12-Nov-19				
CCMS and ELV System										
SCB-MD1150	Manufacture - CMCS Equipment	62	0%	62	08-Aug-19	08-Oct-19				
SCB-MD1160	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19				
Lift System										
SCB-MD1000	Manufacture & Delivery to HK - Lift System	120	20%	96	03-Apr-19 A	23-Aug-19				
Custom & Excise Department Building										
CEDB-MD1195	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	0%	45	26-Jun-19	09-Aug-19				
CEDB-MD1205	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	0%	45	28-Jun-19	11-Aug-19				
CEDB-MD1215	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	0%	45	02-Jul-19	15-Aug-19				
Electrical System										
CEDB-MD1020	Manufacture - Generator	118	20%	94	17-Apr-19 A	22-Aug-19				
CEDB-MD1030	Manufacture - UPS and Battery	53	20%	42	26-Mar-19 A	01-Jul-19				
CEDB-MD1032	FAT - UPS and Battery	10	0%	10	01-Jul-19	11-Jul-19				
CEDB-MD1035	Shipping to HK - UPS and Battery	42	0%	42	11-Jul-19	22-Aug-19				
CEDB-MD1040	Manufacture - LV Switchboard	86	5%	82	17-Apr-19 A	09-Aug-19				

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ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
CEDB-MD1042	FAT - LV Switchboard	10	0%	10	09-Aug-19	19-Aug-19				
CEDB-MD1045	Shipping to HK - LV Switchboard	14	0%	14	19-Aug-19	02-Sep-19				
CEDB-MD1050	Manufacture & Delivery to HK - LV Cables	120	10%	108	20-Nov-18 A	04-Sep-19				
CEDB-MD1060	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	0%	60	28-Jun-19	26-Aug-19				
MVAC System										
CEDB-MD1010	Manufacture & Delivery to HK - AHU & PAU	90	0%	90	25-Jun-19	22-Sep-19				
Fire Service System										
CEDB-MD1090	Manufacture & Delivery to HK - FM200	150	0%	150	20-May-19	16-Oct-19				
CEDB-MD1100	Manufacture & Delivery to HK - FS Pump	120	0%	120	20-May-19	16-Sep-19				
CEDB-MD1110	Manufacture & Delivery to HK - AFA System	100	0%	100	20-May-19	27-Aug-19				
CEDB-MD1120	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	11-Jul-19	08-Sep-19				
CEDB-MD1130	Manufacture & Delivery to HK - FR/ HR system	90	0%	90	23-Jul-19	20-Oct-19				
Plumbing & Drainage System										
CEDB-MD1070	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	21-Jun-19	19-Aug-19				
CEDB-MD1080	Manufacture & Delivery to HK - Water Pump	90	0%	90	05-Aug-19	02-Nov-19				
CCMS and ELV System										
CEDB-MD1170	Manufacture - CMCS Equipment	62	0%	62	19-Jul-19	18-Sep-19				
CEDB-MD1180	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	16-Jul-19	06-Oct-19				
Lift System										
CEDB-MD1000	Manufacture & Delivery to HK - Lift System	120	20%	96	03-Apr-19 A	23-Aug-19				
Fire Services Department Building										
FSDB-MD1155	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	0%	45	20-May-19	03-Jul-19				
FSDB-MD1165	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	0%	45	24-May-19	07-Jul-19				
FSDB-MD1175	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	0%	45	23-May-19	06-Jul-19				
Electrical System										
FSDB-MD1000	Manufacture - Generator	118	20%	94	17-Apr-19 A	22-Aug-19				
FSDB-MD1010	Manufacture - UPS and Battery	53	20%	42	26-Mar-19 A	01-Jul-19				
FSDB-MD1012	FAT - UPS and Battery	10	0%	10	01-Jul-19	11-Jul-19				
FSDB-MD1015	Shipping to HK - UPS and Battery	42	0%	42	11-Jul-19	22-Aug-19				
FSDB-MD1020	Manufacture - LV Switchboard	86	5%	82	17-Apr-19 A	09-Aug-19				
FSDB-MD1022	FAT - LV Switchboard	10	0%	10	09-Aug-19	19-Aug-19				
FSDB-MD1025	Shipping to HK - LV Switchboard	14	0%	14	19-Aug-19	02-Sep-19				
FSDB-MD1030	Manufacture & Delivery to HK - LV Cables	120	10%	108	20-Nov-18 A	04-Sep-19				
FSDB-MD1040	Manufacture & Delivery to HK - MCB & MCCB and Distribution Board	60	0%	60	28-Jul-19	25-Sep-19				
Fire Service System										
FSDB-MD1090	Manufacture & Delivery to HK - FS Pump	120	0%	120	01-Jun-19	28-Sep-19				
FSDB-MD1100	Manufacture & Delivery to HK - AFA System	100	0%	100	19-Jun-19	26-Sep-19				
FSDB-MD1185	Manufacture & Delivery to HK - FM200	150	0%	150	20-May-19	16-Oct-19				
Plumbing & Drainage System										
FSDB-MD1060	Manufacture & Delivery to HK - Water Pump	90	0%	90	05-Aug-19	02-Nov-19				
FSDB-MD1070	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	10-Aug-19	08-Oct-19				
CCMS and ELV System										
FSDB-MD1130	Manufacture - CMCS Equipment	62	0%	62	18-Aug-19	18-Oct-19				
South Ventilation Building										
SVB-MD1225	Manufacture & Delivery to HK - Miscellaneous 1st fix Materials/ Equipment	45	50%	23	21-Mar-19 A	11-Jun-19				
SVB-MD1235	Manufacture & Delivery to HK - Miscellaneous 2nd fix Materials/ Equipment	45	0%	45	20-May-19	03-Jul-19				
SVB-MD1245	Manufacture & Delivery to HK - Miscellaneous final fix Materials/ Equipment	45	0%	45	20-May-19	03-Jul-19				
Electrical System										

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							May	Jun	Jul	Aug
SVB-MD1000	Manufacture - Generator	118	3%	114	17-Apr-19 A	11-Sep-19				
SVB-MD1010	Manufacture - UPS and Battery	53	5%	50	26-Mar-19 A	09-Jul-19				
SVB-MD1012	FAT - UPS and Battery	10	0%	10	09-Jul-19	19-Jul-19				
SVB-MD1015	Shipping to HK - UPS and Battery	42	0%	42	19-Jul-19	30-Aug-19				
SVB-MD1020	Manufacture - HV/LV Transformer	92	5%	87	16-May-19 A	15-Aug-19				
SVB-MD1022	FAT - HV/LV Transformer	14	0%	14	15-Aug-19	29-Aug-19				
SVB-MD1030	Manufacture - LV Switchboard	86	3%	83	17-Apr-19 A	11-Aug-19				
SVB-MD1032	FAT - LV Switchboard	10	0%	10	11-Aug-19	21-Aug-19				
SVB-MD1040	Manufacture - HV Switchboard	92	5%	87	16-May-19 A	15-Aug-19				
SVB-MD1042	FAT - HV Switchboard	14	0%	14	15-Aug-19	29-Aug-19				
MVAC System										
SVB-MD1170	Manufacture - Tunnel Ventilation Fan	180	35%	117	17-May-19 A	13-Sep-19				
SVB-MD1180	Manufacture & Delivery to HK - Staircase Pressurization Fan	60	0%	60	20-May-19	18-Jul-19				
Fire Service System										
SVB-MD1120	Manufacture & Delivery to HK - FM200	150	0%	150	20-May-19	16-Oct-19				
SVB-MD1130	Manufacture & Delivery to HK - FS Pump	120	0%	120	19-Mar-19 A	16-Sep-19				
SVB-MD1140	Manufacture & Delivery to HK - AFA System	100	0%	100	20-May-19	27-Aug-19				
SVB-MD1150	Manufacture & Delivery to HK - FR/ HR system	90	0%	90	20-May-19	17-Aug-19				
SVB-MD1160	Manufacture & Delivery to HK - LMCP (FS)	60	0%	60	20-May-19	18-Jul-19				
Plumbing & Drainage System										
SVB-MD1100	Manufacture & Delivery to HK - Water Pump	90	0%	90	29-Mar-19 A	17-Aug-19				
SVB-MD1110	Manufacture & Delivery to HK - LMCP (PD)	60	0%	60	20-May-19	18-Jul-19				
SVB-MD1255	Manufacture & Delivery to HK - Sump Pump	120	0%	120	29-Mar-19 A	16-Sep-19				
CCMS and ELV System										
SVB-MD1200	Manufacture - CMCS Equipment	62	0%	62	20-May-19	20-Jul-19				
SVB-MD1202	FAT - CMCS Equipment	7	0%	7	21-Jul-19	27-Jul-19				
SVB-MD1205	Shipping to HK - CMCS Equipment	14	0%	14	28-Jul-19	10-Aug-19				
SVB-MD1210	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19				
Lift System										
SVB-MD1190	Manufacture & Delivery to HK - Lift System	120	0%	120	17-Jun-19	14-Oct-19				
Vehicular Underpass										
VU-MD1000	Manufacture & Delivery to HK - Pressurization Fan	90	0%	90	20-May-19	17-Aug-19				
VU-MD1010	Manufacture - Jet Fan	62	15%	53	19-Dec-18 A	11-Jul-19				
VU-MD1012	FAT - Jet Fan	14	0%	14	11-Jul-19	25-Jul-19				
VU-MD1015	Shipping to HK- Jet Fan	14	0%	14	25-Jul-19	08-Aug-19				
VU-MD1020	Manufacture & Delivery to HK - Tunnel Lighting System	100	90%	10	20-Dec-18 A	29-May-19				
VU-MD1030	Manufacture & Delivery to HK - Sump Pump	120	0%	120	20-May-19	16-Sep-19				
VU-MD1040	Manufacture & Delivery to HK - Water Pump	90	0%	90	20-May-19	17-Aug-19				
VU-MD1050	Manufacture & Delivery to HK - Gas detection	90	0%	90	07-Jul-19	04-Oct-19				
VU-MD1060	Manufacture - CMCS Equipment	62	0%	62	20-May-19	20-Jul-19				
VU-MD1062	FAT - CMCS Equipment	7	0%	7	21-Jul-19	27-Jul-19				
VU-MD1065	Shipping to HK - CMCS Equipment	21	0%	21	28-Jul-19	17-Aug-19				
VU-MD1070	Manufacture & Delivery to HK - other ELV Equipment	90	0%	90	20-May-19	17-Aug-19				
Tunnel										
TUN-MD1003	Manufacture - Tunnel Lighting System (2nd Batch)	66	70%	20	28-Jan-19 A	08-Jun-19				
TUN-MD1004	FAT - Tunnel Lighting System (2nd Batch)	10	0%	10	08-Jun-19	18-Jun-19				
TUN-MD1005	Shipping to HK - Tunnel Lighting System (2nd Batch)	14	0%	14	18-Jun-19	02-Jul-19				
TUN-MD1006	Manufacture - Tunnel Lighting System (3rd Batch)	66	0%	66	20-May-19	24-Jul-19				

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							May	Jun	Jul	Aug			
TUN-MD1007	FAT - Tunnel Lighting System (3rd Batch)	10	0%	10	25-Jul-19	03-Aug-19							
TUN-MD1008	Shipping to HK - Tunnel Lighting System (3rd Batch)	14	0%	14	04-Aug-19	17-Aug-19							
TUN-MD1009	Manufacture - Tunnel Lighting System (4th Batch)	66	0%	66	20-May-19	24-Jul-19							
TUN-MD1010	FAT - Tunnel Lighting System (4th Batch)	10	0%	10	25-Jul-19	03-Aug-19							
TUN-MD1011	Shipping to HK - Tunnel Lighting System (4th Batch)	14	0%	14	04-Aug-19	17-Aug-19							
TUN-MD1015	Manufacture & Delivery to HK - Gas detection	90	0%	90	07-Jul-19	04-Oct-19							
TUN-MD1020	Manufacture & Delivery to HK - LHD system	90	0%	90	20-May-19	17-Aug-19							
TUN-MD1030	Manufacture & Delivery to HK - FS Pump	60	0%	60	07-Jul-19	04-Sep-19							
TUN-MD1040	Manufacture - CMCS Equipment	62	0%	62	20-May-19	20-Jul-19							
TUN-MD1042	FAT - CMCS Equipment	21	0%	21	21-Jul-19	10-Aug-19							
TUN-MD1045	Shipping to HK - CMCS Equipment	7	0%	7	11-Aug-19	17-Aug-19							
TUN-MD1050	Manufacture & Delivery to HK - other ELV Equipment	90	0%	90	20-May-19	17-Aug-19							
TUN-MD1060	Manufacture & Delivery to HK - Sump Pump	120	0%	120	20-May-19	16-Sep-19							
TUN-MD1070	Manufacture - AQMS Equipment	69	0%	69	20-May-19	27-Jul-19							
TUN-MD1080	FAT - AQMS Equipment	14	0%	14	28-Jul-19	10-Aug-19							
TUN-MD1090	Shipping to HK - AQMS Equipment	7	0%	7	11-Aug-19	17-Aug-19							
TUN-MD1120	Shipping to HK - MFSD Equipment	28	100%	0	01-May-19 A	20-May-19							
Approach Road													
AR-MD1000	Manufacture & Delivery to HK - Road Lighting Fitting	90	30%	63	21-Mar-19 A	21-Jul-19							
AR-MD1010	Manufacture - CMCS Equipment	62	0%	62	20-May-19	20-Jul-19							
AR-MD1015	FAT - CMCS Equipment	7	0%	7	21-Jul-19	27-Jul-19							
AR-MD1018	Shipping to HK - CMCS Equipment	14	0%	14	28-Jul-19	10-Aug-19							
AR-MD1020	Manufacture & Delivery to HK - other ELV Equipment	83	0%	83	20-May-19	10-Aug-19							
Key Date 4A - FSD Building Substructure, Boundary Wall, and C&ED Building Substructure													
Remaining Works													
FSDCED100	Remaining Substructure	31	50%	16	01-Apr-19 A	06-Jun-19							
Key Date 1 - Toll Control Building (TCB) & TCSS Provision													
ABWF Works (for All)													
ATCB1000	Blockwork Walls	60	83.33%	10	28-Nov-18 A	31-May-19							
ATCB1010	Door and Window Frames	58	0%	58	20-May-19	27-Jul-19							
ATCB1020	ABWF Works to Plant Rooms G/F	81	80%	16	11-Dec-18 A	08-Jun-19							
ATCB1021	ABWF Works to Plant Rooms 1/F	81	60%	32	18-Dec-18 A	27-Jun-19							
ATCB1022	ABWF Works to Plant Rooms 2/F	81	50%	41	27-Dec-18 A	08-Jul-19							
ATCB1050	ABWF Works to Office and Corridors G/F	152	60%	61	11-Dec-18 A	31-Jul-19							
ATCB1051	ABWF Works to Office and Corridors 1/F	152	60%	61	27-Dec-18 A	31-Jul-19							
ATCB1052	ABWF Works to Office and Corridors 2/F	152	50%	76	11-Jan-19 A	17-Aug-19							
ATCB1080	ABWF Works to Toilets G/F	163	50%	82	18-Feb-19 A	24-Aug-19							
ATCB1081	ABWF Works to Toilets 1/F	163	50%	82	18-Feb-19 A	24-Aug-19							
ATCB1082	ABWF Works to Toilets 2/F	163	50%	82	18-Feb-19 A	07-Sep-19							
ATCB1110	Waterproofing and Roofing	47	0%	47	31-May-19	27-Jul-19							
ATCB1120	External Cladding and Wall Plastering	94	0%	94	31-May-19	21-Sep-19							
TCSS Provision													
TCB220	Cable Containment Installation to enable TCSS installation	90	87%	12	15-Feb-19 A	01-Jun-19							
TCB230	KD1 Achieved	0	0%	0		01-Jun-19							
Key Date 4 - E&M Works in Vehicular Underpass Area & TCSS Provision													
E&M Works													
VU110	Jet Fans installation	24	0%	24	08-Aug-19	05-Sep-19							
VU120	Cable containment Installation	24	90%	2	22-Mar-19 A	22-May-19							

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							May	Jun	Jul	Aug	
VU130	Post Drill and Bracket Fixing	18	0%	18	22-May-19	13-Jun-19					
VU140	Dampers installation	24	0%	24	22-May-19	20-Jun-19					
VU150	Cabling Works	36	0%	36	13-Jun-19	26-Jul-19					
VU160	Pressurization Fans Installation	24	0%	24	19-Aug-19	16-Sep-19					
VU170	High Level works - Tunnel Lighting	39	0%	39	26-Jul-19	10-Sep-19					
VU200	Possess Portion XI	0	0%	0	31-May-19						
Key Date 2 - Administration Building, Maintenance Depot, Kiosk N2, TCSS Provision											
Administration Building (ADB)											
Building Structure											
ADB200	Roof Slab	28	0%	28	20-May-19	21-Jun-19					
ADB210	Top Roof	11	0%	11	22-Jun-19	05-Jul-19					
ABWF Works (for All)											
AADB1130	Blockwork Walls	25	0%	25	01-Jun-19	02-Jul-19					
AADB1140	Door and Window Frames	19	0%	19	01-Jun-19	24-Jun-19					
AADB1150	ABWF Works to Plant Rooms G/F	52	0%	52	10-Jun-19	09-Aug-19					
AADB1151	ABWF Works to Plant Rooms 1/F	52	0%	52	24-Jun-19	23-Aug-19					
AADB1160	ABWF Works to Office and Corridors G/F	126	0%	126	10-Jun-19	07-Nov-19					
AADB1161	ABWF Works to Office and Corridors 1/F	126	0%	126	24-Jun-19	21-Nov-19					
AADB1170	ABWF Works to Toilets G/F	132	0%	132	10-Jun-19	14-Nov-19					
AADB1171	ABWF Works to Toilets 1/F	132	0%	132	24-Jun-19	28-Nov-19					
AADB1180	Waterproofing and Roofing	48	0%	48	22-Jun-19	17-Aug-19					
AADB1190	External Cladding and Wall Plastering	98	0%	98	22-Jun-19	18-Oct-19					
Provision for TCSS Installation											
ADB250	Cable Containment Installation to enable TCSS installation	74	0%	74	18-Jun-19	12-Sep-19					
Maintenance Depot											
Depot Structure											
MD180	Top Roof	16	5%	15	18-May-19 A	06-Jun-19					
ABWF Works (for All)											
AMD1000	Blockwork Walls	16	0%	16	06-Jun-19	26-Jun-19					
AMD1010	Door and Window Frames	10	0%	10	10-Jun-19	21-Jun-19					
AMD1020	ABWF Works to Plant Rooms	58	0%	58	21-Jun-19	29-Aug-19					
AMD1030	ABWF Works to Office and Corridors	132	0%	132	21-Jun-19	27-Nov-19					
AMD1040	ABWF Works to Toilets	144	0%	144	25-Jun-19	14-Dec-19					
AMD1050	Waterproofing and Roofing	51	0%	51	19-Jun-19	19-Aug-19					
AMD1060	External Cladding and Wall Plastering	98	0%	98	19-Jun-19	16-Oct-19					
Provision for TCSS Installation											
MD210	Cable Containment Installation to enable TCSS installation	62	0%	62	25-Jul-19	09-Oct-19					
Kiosk N2											
N2-130	ABWF Works to enable TCSS installation	18	0%	18	20-May-19	10-Jun-19					
N2-140	Cable Containment Installation to enable TCSS installation	19	0%	19	11-Jun-19	03-Jul-19					
Key Date 6 - E&M Works for Administration Building, Maintenance Depot, North Vent Building, Kiosk N2											
ABWF Works for Administration Building (Structure Completed under KD2)											
EADB110	ADB First Floor Completed with Scaffolding Removed	0	0%	0		31-May-19					
E&M Works for Administration Building											
Installation											
ADB-EMGF0001	E&M cast-in Installation	42	80%	8	31-Jan-19 A	29-May-19					
G/F											
ADB-EMGF1000	ABWF Works ready for E&M Mobilization to General Areas - G/F	0	0%	0	13-Jun-19						

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							May	Jun	Jul	Aug
ADB-EMGF1010	E&M Installation - 1st fix - G/F	46	0%	46	13-Jun-19	06-Aug-19				
ADB-EMGF1020	E&M Installation - 2nd fix - G/F	40	0%	40	19-Jul-19	03-Sep-19				
ADB-EMGF1030	E&M Installation - Final fix - G/F	40	0%	40	13-Aug-19	28-Sep-19				
ADB-EMGF1040	ABWF Works ready for E&M Mobilization to 11kV Swtich & Tx Room 1 - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1050	E&M Installation - 11kV Swtich & Tx Room 1 - G/F	46	0%	46	27-Jun-19	20-Aug-19				
ADB-EMGF1100	ABWF Works ready for E&M Mobilization to 11kV Swtich & Tx Room 2 - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1110	E&M Installation - 11kV Swtich & Tx Room 2 - G/F	46	0%	46	27-Jun-19	20-Aug-19				
ADB-EMGF1160	ABWF Works ready for E&M Mobilization to LV Switch Room - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1170	E&M Installation - LV Switch Room - G/F	34	0%	34	26-Jul-19	03-Sep-19				
ADB-EMGF1200	ABWF Works ready for E&M Mobilization to Generator Room & Fuel Tank Room - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1230	ABWF Works ready for E&M Mobilization to MVAC Plant Rooms - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1250	ABWF Works ready for E&M Mobilization to FS Plant Rooms - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1260	E&M Installation - FS Plant Rooms - G/F	60	0%	60	19-Jul-19	27-Sep-19				
ADB-EMGF1270	ABWF Works ready for E&M Mobilization to PD Plant Rooms - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1290	ABWF Works ready for E&M Mobilization to ELV Plant Rooms - G/F	0	0%	0	27-Jun-19					
ADB-EMGF1300	E&M Installation - ELV Plant Rooms - G/F	50	0%	50	12-Aug-19	11-Oct-19				
1/F										
ADB-EM1F1000	ABWF Works ready for E&M Mobilization to General Areas - 1/F	0	0%	0	09-Jul-19					
ADB-EM1F1010	E&M Installation - 1st fix - 1/F	40	0%	40	09-Jul-19	23-Aug-19				
ADB-EM1F1020	E&M Installation - 2nd fix - 1/F	40	0%	40	02-Aug-19	18-Sep-19				
ADB-EM1F1050	ABWF Works ready for E&M Mobilization to MVAC Plant Rooms - 1/F	0	0%	0	12-Jul-19					
ADB-EM1F1070	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - 1/F	0	0%	0	12-Jul-19					
ADB-EM1F1090	ABWF Works ready for E&M Mobilization to ELV Plant Rooms - 1/F	0	0%	0	12-Jul-19					
ADB-EM1F1100	E&M Installation - ELV Plant Rooms - 1/F	52	0%	52	12-Aug-19	14-Oct-19				
Roof										
ADB-EMRF1000	ABWF Works ready for E&M Mobilization to General Areas - Roof	0	0%	0	19-Aug-19					
ADB-EMRF1010	E&M Installation - 1st fix - Roof	25	0%	25	19-Aug-19	17-Sep-19				
ADB-EMRF1020	ABWF Works ready for E&M Mobilization to Cooling Tower Area - Roof	0	0%	0	19-Aug-19					
ADB-EMRF1030	E&M Installation - Cooling Tower Area - Roof	90	0%	90	19-Aug-19	04-Dec-19				
Lift Installation (L01)										
ADB-LF1010	Access to lift shaft and lift machine room	0	0%	0	19-Aug-19					
E&M Works for Maintenance Depot										
Installation										
MD-EMGF0001	E&M cast-in Installation	30	69%	9	14-Jan-19 A	30-May-19				
G/F										
MD-EMGF1000	ABWF Works ready for E&M Mobilization to General Areas - G/F	0	0%	0	10-Jul-19					
MD-EMGF1010	E&M Installation - 1st fix - G/F	40	0%	40	10-Jul-19	26-Aug-19				
MD-EMGF1020	E&M Installation - 2nd fix - G/F	40	0%	40	19-Aug-19	08-Oct-19				
MD-EMGF1040	ABWF Works ready for E&M Mobilization to LV Switch Room - G/F	0	0%	0	11-Jul-19					
MD-EMGF1050	E&M Installation - LV Switch Room - G/F	90	0%	90	26-Jul-19	11-Nov-19				
MD-EMGF1080	ABWF Works ready for E&M Mobilization to Generator & Fuel Tank Rooms - G/F	0	0%	0	27-Jul-19					
MD-EMGF1110	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - G/F	0	0%	0	27-Jul-19					
MD-EMGF1120	E&M Installation - Electrical Plant Rooms - G/F	70	0%	70	12-Aug-19	04-Nov-19				
MD-EMGF1130	ABWF Works ready for E&M Mobilization to MVAC Plant Rooms - G/F	0	0%	0	27-Jul-19					
MD-EMGF1150	ABWF Works ready for E&M Mobilization to FS Plant Rooms - G/F	0	0%	0	27-Jul-19					
MD-EMGF1160	E&M Installation - FS Plant Rooms - G/F	90	0%	90	27-Jul-19	13-Nov-19				
MD-EMGF1170	ABWF Works ready for E&M Mobilization to PD Plant Rooms - G/F	0	0%	0	27-Jul-19					
MD-EMGF1180	E&M Installation - PD Plant Rooms - G/F	85	0%	85	27-Jul-19	07-Nov-19				

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							May	Jun	Jul	Aug	
MD-EMGF1190	ABWF Works ready for E&M Mobilization to Elv Plant Rooms - G/F	0	0%	0	27-Jul-19						
MD-EMGF1200	E&M Installation - Elv Plant Rooms - G/F	60	0%	60	12-Aug-19						
R/F											
MD-EMRF1000	ABWF Works ready for E&M Mobilization to R/F	0	0%	0	19-Aug-19						
MD-EMRF1010	E&M Installation - 1st fix - R/F	30	0%	30	19-Aug-19						
E&M Works for North Ventilation Building											
Installation											
TVF Installation											
NB-NVB-TVF-1											
TVF-NVB1000	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	20-May-19	25-May-19					
TVF-NVB1010	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	18-Jun-19	25-Jun-19					
TVF-NVB1020	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	31-Jul-19	01-Aug-19					
TVF-NVB1030	Leakage test for TVF	8	0%	8	09-Aug-19	17-Aug-19					
NB-NVB-TVF-2											
TVF-NVB1040	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	27-May-19	01-Jun-19					
TVF-NVB1050	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	26-Jun-19	04-Jul-19					
TVF-NVB1060	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	02-Aug-19	03-Aug-19					
TVF-NVB1070	Leakage test for TVF	8	0%	8	19-Aug-19	27-Aug-19					
NB-NVB-TVF-3											
TVF-NVB1080	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	03-Jun-19	10-Jun-19					
TVF-NVB1090	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	05-Jul-19	12-Jul-19					
TVF-NVB1100	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	05-Aug-19	06-Aug-19					
NB-NVB-TVF-4											
TVF-NVB1120	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	11-Jun-19	17-Jun-19					
TVF-NVB1130	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	13-Jul-19	20-Jul-19					
TVF-NVB1140	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	07-Aug-19	08-Aug-19					
NB-NVB-TVF-5											
TVF-NVB1160	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	20-May-19	25-May-19					
TVF-NVB1170	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	03-Jul-19	10-Jul-19					
NB-NVB-TVF-6											
TVF-NVB1200	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	27-May-19	01-Jun-19					
TVF-NVB1210	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	11-Jul-19	18-Jul-19					
NB-NVB-TVF-7											
TVF-NVB1240	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	03-Jun-19	10-Jun-19					
TVF-NVB1250	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	19-Jul-19	26-Jul-19					
NB-NVB-TVF-8											
TVF-NVB1280	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	11-Jun-19	17-Jun-19					
TVF-NVB1290	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	27-Jul-19	03-Aug-19					
NB-NVB-TVF-9											
TVF-NVB1320	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	18-Jun-19	24-Jun-19					
TVF-NVB1330	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	05-Aug-19	12-Aug-19					
NB-NVB-TVF-10											
TVF-NVB1360	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	25-Jun-19	02-Jul-19					
TVF-NVB1370	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	13-Aug-19	20-Aug-19					
SB-NVB-TVF-1											
TVF-NVB1400	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	20-May-19	25-May-19					
TVF-NVB1410	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	18-Jun-19	25-Jun-19					
TVF-NVB1420	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	31-Jul-19	01-Aug-19					

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							May	Jun	Jul	Aug	
TVF-NVB1430	Leakage test for TVF	8	0%	8	09-Aug-19	17-Aug-19					
SB-NVB-TVF-2											
TVF-NVB1440	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	27-May-19	01-Jun-19					
TVF-NVB1450	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	26-Jun-19	04-Jul-19					
TVF-NVB1460	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	02-Aug-19	03-Aug-19					
TVF-NVB1470	Leakage test for TVF	8	0%	8	19-Aug-19	27-Aug-19					
SB-NVB-TVF-3											
TVF-NVB1480	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	03-Jun-19	10-Jun-19					
TVF-NVB1490	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	05-Jul-19	12-Jul-19					
TVF-NVB1500	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	05-Aug-19	06-Aug-19					
SB-NVB-TVF-4											
TVF-NVB1520	Silencer, splitter and duct installation - Upper Attenuator Room (1/F)	6	0%	6	11-Jun-19	17-Jun-19					
TVF-NVB1530	Damper/Silencer and duct installation - Lower Attenuator Room (B1/F)	7	0%	7	13-Jul-19	20-Jul-19					
TVF-NVB1540	Ventilation fan and duct installation - Fan Room (G/F)	2	0%	2	07-Aug-19	08-Aug-19					
B2/F											
NVB-EMB21010	E&M Installation - 1st fix - B2/F	50	78%	11	21-Nov-18 A	31-May-19					
NVB-EMB21020	E&M Installation - 2nd fix - B2/F	50	52%	24	28-Nov-18 A	17-Jun-19					
NVB-EMB21030	E&M Installation - Final fix - B2/F	50	5%	48	24-Jan-19 A	16-Jul-19					
NVB-EMB21060	E&M Installation - Electrical Plant Rooms - B2/F	90	0%	90	20-May-19	03-Sep-19					
NVB-EMB21080	E&M Installation - MVAC Plant Rooms - B2/F	60	0%	60	20-May-19	30-Jul-19					
NVB-EMB21100	E&M Installation - FS Plant Rooms - B2/F	45	0%	45	19-Jul-19	09-Sep-19					
NVB-EMB21120	E&M Installation - PD Plant Rooms - B2/F	60	0%	60	08-Jul-19	16-Sep-19					
NVB-EMB21140	E&M Installation - Elv Plant Rooms - B2/F	45	0%	45	12-Aug-19	04-Oct-19					
B1/F											
NVB-EMB11010	E&M Installation - 1st fix - B1/F	50	57%	22	19-Nov-18 A	14-Jun-19					
NVB-EMB11020	E&M Installation - 2nd fix - B1/F	50	53%	24	26-Nov-18 A	17-Jun-19					
NVB-EMB11030	E&M Installation - Final fix - B1/F	50	4%	48	24-Jan-19 A	16-Jul-19					
NVB-EMB11060	E&M Installation - Electrical Plant Rooms - B1/F	90	0%	90	20-May-19	03-Sep-19					
NVB-EMB11080	E&M Installation - MVAC Plant Rooms - B1/F	60	0%	60	20-May-19	30-Jul-19					
NVB-EMB11100	E&M Installation - Elv Plant Rooms - B1/F	45	0%	45	12-Aug-19	04-Oct-19					
G/F											
NVB-EMGF1010	E&M Installation - 1st fix - G/F	50	80%	10	01-Aug-18 A	30-May-19					
NVB-EMGF1020	E&M Installation - 2nd fix - G/F	50	48%	26	08-Aug-18 A	19-Jun-19					
NVB-EMGF1030	E&M Installation - Final fix - G/F	50	4%	48	24-Jan-19 A	16-Jul-19					
NVB-EMGF1070	Installation by CLP - CLPP HV Switch Room - G/F	82	20%	66	14-Feb-19 A	06-Aug-19					
NVB-EMGF1140	E&M Installation - Electrical Plant Rooms - G/F	50	0%	50	17-Aug-19	18-Oct-19					
NVB-EMGF1160	E&M Installation - MVAC Plant Rooms - G/F	52	0%	52	19-Jul-19	18-Sep-19					
NVB-EMGF1180	E&M Installation - FS Plant Rooms - G/F	90	0%	90	19-Jul-19	04-Nov-19					
NVB-EMGF1200	E&M Installation - PD Plant Rooms - G/F	90	0%	90	08-Jul-19	24-Oct-19					
1/F											
NVB-EM1F1010	E&M Installation - 1st fix - 1/F	50	54%	23	03-Sep-18 A	15-Jun-19					
NVB-EM1F1020	E&M Installation - 2nd fix - 1/F	50	44%	28	10-Sep-18 A	21-Jun-19					
NVB-EM1F1030	E&M Installation - Final fix - 1/F	50	5%	48	31-Jan-19 A	16-Jul-19					
NVB-EM1F1050	E&M Installation - LV Switch Room - 1/F	40	0%	40	26-Jul-19	10-Sep-19					
NVB-EM1F1090	E&M Installation - 11kV Switch & Tx Room 1 - 1/F	60	0%	60	24-Jun-19	03-Sep-19					
NVB-EM1F1150	E&M Installation - 11kV Switch & Tx Room 2 - 1/F	60	0%	60	24-Jun-19	03-Sep-19					
NVB-EM1F1220	E&M Installation - Electrical Plant Rooms - 1/F	50	0%	50	12-Aug-19	11-Oct-19					
NVB-EM1F1240	E&M Installation - MVAC Plant Rooms - 1/F	90	0%	90	20-May-19	03-Sep-19					

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							May	Jun	Jul	Aug
NVB-EM1F1260	E&M Installation - FS Plant Rooms - 1/F	90	0%	90	19-Jul-19	04-Nov-19				
2/F										
NVB-EM2F1010	E&M Installation - 1st fix - 2/F	50	48%	26	08-Oct-18 A	19-Jun-19				
NVB-EM2F1020	E&M Installation - 2nd fix - 2/F	50	38%	31	15-Oct-18 A	25-Jun-19				
NVB-EM2F1030	E&M Installation - Final fix - 2/F	50	3%	49	07-Feb-19 A	17-Jul-19				
NVB-EM2F1060	E&M Installation - Electrical Plant Rooms - 2/F	50	0%	50	12-Aug-19	11-Oct-19				
NVB-EM2F1080	E&M Installation - MVAC Plant Rooms - 2/F	60	0%	60	19-Jul-19	27-Sep-19				
NVB-EM2F1100	E&M Installation - Elv Plant Rooms - 2/F	45	0%	45	12-Aug-19	04-Oct-19				
Remaining E&M Works for Kiosk N2 (Structure Completed under KD2)										
EN2120	ABWF Works (Door, windows, tiles)	30	0%	30	20-May-19	24-Jun-19				
EN2130	E&M Works	31	0%	31	25-Jun-19	31-Jul-19				
EN2140	Testing & Commissioning	12	0%	12	01-Aug-19	14-Aug-19				
Key Date 3 - Satellite Control Building & TCSS Provision										
Building Structure										
SCB130	Ground Floor	12	100%	0	24-Apr-19 A	07-May-19				
SCB140	First Floor	12	10%	11	14-May-19 A	31-May-19				
SCB150	Lower Roof Slab	12	0%	12	31-May-19	15-Jun-19				
SCB160	Second Floor	12	0%	12	15-Jun-19	29-Jun-19				
SCB170	Upper Roof Slab	15	0%	15	29-Jun-19	18-Jul-19				
ABWF Works (for All)										
ASCB1000	Blockwork Walls	19	0%	19	15-Jun-19	09-Jul-19				
ASCB1010	Door and Window Frames	19	0%	19	15-Jun-19	09-Jul-19				
ASCB1020	ABWF Works to Plant Rooms G/F	60	0%	60	22-Jun-19	02-Sep-19				
ASCB1021	ABWF Works to Plant Rooms 1/F	60	0%	60	29-Jun-19	09-Sep-19				
ASCB1022	ABWF Works to Plant Rooms 2/F	60	0%	60	08-Jul-19	17-Sep-19				
ASCB1030	ABWF Works to Office and Corridors G/F	95	0%	95	22-Jun-19	16-Oct-19				
ASCB1031	ABWF Works to Office and Corridors 1/F	95	0%	95	08-Jul-19	30-Oct-19				
ASCB1040	ABWF Works to Toilets 1/F	103	0%	103	22-Jun-19	25-Oct-19				
ASCB1050	Waterproofing and Roofing	50	0%	50	22-Jun-19	21-Aug-19				
ASCB1060	External Cladding and Wall Plastering	101	0%	101	22-Jun-19	23-Oct-19				
Provision for TCSS Installation										
SCB210	Cable Containment Installation to enable TCSS installation	62	0%	62	06-Aug-19	21-Oct-19				
Key Date 5 - E&M Works for TCB, Toll Area, Kiosk N1, Underpass, Plant Rm, and Approach Roads										
Carpark Canopy										
ETCB150	Steelwork for Canopy Structure	90	0%	90	20-May-19	03-Sep-19				
E&M Works for TCB										
Installation										
Basement										
TCB-EM1000	ABWF Works ready for E&M Mobilization to Basement	0	0%	0	20-May-19					
TCB-EM1001	E&M Installation - 1st fix - Basement	60	2%	59	10-Apr-19 A	29-Jul-19				
TCB-EM1002	E&M Installation - 2nd fix - Basement	60	0%	60	29-Jul-19	10-Oct-19				
G/F										
TCB-EMGF1010	E&M Installation - 1st fix - G/F	60	48%	31	15-Feb-19 A	26-Jun-19				
TCB-EMGF1020	E&M Installation - 2nd fix - G/F	60	1%	59	15-May-19 A	30-Jul-19				
TCB-EMGF1070	Installation by CLP - CLP Tx Room - G/F	60	50%	30	14-Feb-19 A	24-Jun-19				
TCB-EMGF1100	ABWF Works ready for E&M Mobilization to LV Switch Room - G/F	0	0%	0	20-May-19					
TCB-EMGF1110	E&M Installation - LV Switch Room - G/F	70	0%	70	26-Jul-19	18-Oct-19				
TCB-EMGF1140	ABWF Works ready for E&M Mobilization to Generator & Fuel Tank Rooms - G/F	0	0%	0	20-May-19					

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TCB-EMGF1170	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - G/F	0	0%	0	20-May-19					
TCB-EMGF1190	ABWF Works ready for E&M Mobilization to MVAC Plant Rooms - G/F	0	0%	0	20-May-19					
TCB-EMGF1210	ABWF Works ready for E&M Mobilization to FS Plant Rooms - G/F	0	0%	0	20-May-19					
TCB-EMGF1220	E&M Installation - FS Plant Rooms - G/F	90	0%	90	19-Aug-19					
TCB-EMGF1230	ABWF Works ready for E&M Mobilization to PD Plant Rooms - G/F	0	0%	0	20-May-19					
TCB-EMGF1240	E&M Installation - PD Plant Rooms - G/F	60	0%	60	08-Jul-19					
1/F										
TCB-EM1F1010	E&M Installation - 1st fix - 1/F	60	55%	27	26-Mar-19 A	20-Jun-19				
TCB-EM1F1020	E&M Installation - 2nd fix - 1/F	60	0%	60	19-Jul-19	27-Sep-19				
TCB-EM1F1050	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - 1/F	0	0%	0	20-May-19					
TCB-EM1F1060	E&M Installation - Electrical Plant Rooms - 1/F	90	0%	90	17-Aug-19	04-Dec-19				
TCB-EM1F1070	ABWF Works ready for E&M Mobilization to FS Plant Rooms - 1/F	0	0%	0	20-May-19					
TCB-EM1F1080	E&M Installation - FS Plant Rooms - 1/F	90	0%	90	11-Jun-19	26-Sep-19				
TCB-EM1F1090	ABWF Works ready for E&M Mobilization to PD Plant Rooms - 1/F	0	0%	0	20-May-19					
2/F										
TCB-EM2F1000	ABWF Works ready for E&M Mobilization to General Areas - 2/F	0	0%	0	24-May-19					
TCB-EM2F1010	E&M Installation - 1st fix - 2/F	48	9%	44	04-Apr-19 A	11-Jul-19				
TCB-EM2F1020	E&M Installation - 2nd fix - 2/F	48	0%	48	11-Jul-19	05-Sep-19				
TCB-EM2F1050	ABWF Works ready for E&M Mobilization to Electrical Plant Rooms - 2/F	0	0%	0	20-May-19					
TCB-EM2F1070	ABWF Works ready for E&M Mobilization to MVAC Plant Rooms - 2/F	0	0%	0	20-May-19					
TCB-EM2F1080	E&M Installation - MVAC Plant Rooms - 2/F	90	0%	90	13-Jul-19	29-Oct-19				
TCB-EM2F1090	ABWF Works ready for E&M Mobilization to Elv Plant Rooms - 2/F	0	0%	0	20-May-19					
TCB-EM2F1100	E&M Installation - Elv Plant Rooms - 2/F	60	0%	60	12-Aug-19	23-Oct-19				
Roof										
TCB-EMRF1000	ABWF Works ready for E&M Mobilization to Roof	0	0%	0	27-Jul-19					
TCB-EMRF1010	E&M Installation - 1st fix - Roof	50	0%	50	27-Jul-19	25-Sep-19				
Lift Installation (L01)										
TCB-LF1000	Access to lift shaft and lift machine room	0	0%	0	27-Jul-19					
Toll Area										
South Bound										
ETA120	Possess Portions IX, XIX, XXIa, XXIb	0	0%	0	31-May-19					
ETA130	Installation of South Bound Toll Booths	30	0%	30	31-May-19	06-Jul-19				
ETA140	South Bound Toll Booths - E&M installation 1st fix	36	0%	36	08-Jul-19	17-Aug-19				
ETA150	Toll Booth Subway - E&M installation 1st fix	48	0%	48	19-Aug-19	16-Oct-19				
North Bound										
ETA190	Possess Portion XI	0	0%	0	31-May-19					
ETA200	Installation of North Bound Toll Booths	30	0%	30	31-May-19	06-Jul-19				
ETA210	North Bound Toll Booths - E&M installation 1st fix	36	0%	36	08-Jul-19	17-Aug-19				
ETA220	Toll Booth Subway - E&M installation 1st fix	48	0%	48	19-Aug-19	16-Oct-19				
Kiosk N1										
EN120	Possess Portion IX	0	0%	0	31-May-19					
EN130	Structure	48	0%	48	31-May-19	27-Jul-19				
EN140	ABWF Works (Door, windows, tiles)	30	0%	30	29-Jul-19	31-Aug-19				
Plant Room										
E&M Works										
EPR120	Blockwork Wall & ABWF Works	90	60%	36	02-Nov-18 A	02-Jul-19				
EPR130	E&M Installation	90	15%	77	03-Jan-19 A	23-Aug-19				
EPR140	External Works	82	0%	82	03-Jul-19	09-Oct-19				

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							May	Jun	Jul	Aug		
Deck Void												
TD1, TD2, RB_W												
DV180	Possess Portions X, IX and XI	0	0%	0	31-May-19							
Bridge H1, G1, G2												
DV110	Possess Portions IX	0	0%	0	31-May-19							
DV120	Electrical Installation - Bridge H1	28	0%	28	31-May-19	04-Jul-19						
DV130	Electrical Installation - Bridge G1	28	0%	28	05-Jul-19	06-Aug-19						
DV140	Electrical Installation - Bridge G2	28	0%	28	07-Aug-19	07-Sep-19						
Approach Roads												
Under Portions IX, XI, XX												
AR120	Possess Portions IX and XI	0	0%	0	31-May-19							
AR130	Cabling works - Portion IX	45	0%	45	20-May-19	12-Jul-19						
AR133	Cabling works - Portion XI	45	0%	45	13-Jul-19	03-Sep-19						
AR140	Road lighting installation & termination - Portion IX	25	0%	25	18-Jun-19	17-Jul-19						
AR145	Road lighting installation & termination - Portion XI	25	0%	25	10-Aug-19	07-Sep-19						
Under Portion X												
AR170	Possess Portions X	0	0%	0	31-May-19							
AR176	Underground Cable Duct Installation (by others)	61	0%	61	20-May-19	31-Jul-19						
AR180	Cabling works in portion X	90	0%	90	01-Aug-19	16-Nov-19						
AR190	Road lighting installation & termination in portion X	90	0%	90	15-Aug-19	30-Nov-19						
Key Date 6B - E&M Works for South Vent Duct, Tunnel, and Approach Roads												
E&M Works												
SVD120	Access to Portions III	0	0%	0	17-Jul-19							
Service Gallery												
Ch 7200 - 5000												
TNL-SG1000	Drilling works CH7200 - 5000	12	14%	10	16-Apr-19 A	31-May-19						
TNL-SG1010	Wall Mounted Pipe Module Installation CH7200 - 5000	30	14%	26	23-Apr-19 A	19-Jun-19						
TNL-SG1020	Ceiling Mounted Module Delivery CH7200 - 5000	30	14%	26	30-Apr-19 A	19-Jun-19						
TNL-SG1030	High Level 2nd Fix and Final Fix Installation CH7200 - 5000	46	0%	46	19-Aug-19	14-Oct-19						
TNL-SG1040	Cabling Works CH7200 - 5000	29	0%	29	19-Jun-19	24-Jul-19						
CH5000 - 3050												
TNL-SG1060	Drilling works CH5000 - 3050	12	0%	12	17-Jul-19	30-Jul-19						
TNL-SG1070	Wall Mounted Pipe Module Installation CH5000 - 3050	30	0%	30	31-Jul-19	03-Sep-19						
Road Level & OHVD												
Ch 7200 - 5000												
Ch 7200 - 6700												
TNU-RL1770	Bracket fixing on side wall - CH7200 to 6700	8	0%	8	20-May-19	28-May-19						
TNU-RL1775	Installation Works by Others (to be coordinated)	100	0%	100	29-May-19	25-Sep-19						
TNU-RL1790	Lighting in the middle of tunnels - CH7200 to 6700	8	0%	8	24-May-19	01-Jun-19						
TNU-RL1800	FH/ HR pipe installation - CH7200 to 6700	8	65%	3	02-Apr-19 A	22-May-19						
TNU-RL1830	Cabling Works on Brackets - CH7200 to 6700	14	33%	9	16-Apr-19 A	30-May-19						
TNU-RL1840	MSFD delivery in OHVD - CH7200 to 6700	9	0%	9	22-May-19	01-Jun-19						
TNU-RL1870	MSFD installation works in OHVD - CH7200 to 6700	9	0%	9	01-Jun-19	13-Jun-19						
TNU-RL1880	High level wiring works and remaining High level works in the middle of tunnels - CH7200 to 6700	20	0%	20	19-Aug-19	10-Sep-19						
Ch 6700 - 6100												
TNU-RL1000	Bracket fixing on side wall - CH6700 to 6100	10	0%	10	29-May-19	10-Jun-19						
TNU-RL1005	Installation Works by Others (to be coordinated)	114	0%	114	11-Jun-19	25-Oct-19						
TNU-RL1010	Lighting in the middle of tunnels - CH6700 to 6100	9	0%	9	19-Jun-19	29-Jun-19						

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TNU-RL1020	FH/ HR pipe installation - CH6700 to 6100	10	71%	3	16-Apr-19 A	22-May-19				
TNU-RL1030	Cabling Works on Brackets - CH6700 to 6100	17	7%	16	16-Apr-19 A	06-Jun-19				
TNU-RL1040	MSFD delivery in OHVD - CH6700 to 6100	11	2%	11	18-May-19 A	31-May-19				
TNU-RL1050	MSFD installation works in OHVD - CH6700 to 6100	11	2%	11	18-May-19 A	31-May-19				
Ch 6100 - 5600										
TNU-RL1110	Bracket fixing on side wall - CH6100 to 5600	8	0%	8	11-Jun-19	19-Jun-19				
TNU-RL1115	Installation Works by Others (to be coordinated)	126	0%	126	20-Jun-19	18-Nov-19				
TNU-RL1120	Lighting in the middle of tunnels - CH6100 to 5600	8	0%	8	29-Jun-19	10-Jul-19				
TNU-RL1130	FH/ HR pipe installation - CH6100 to 5600	8	78.01%	2	09-Apr-19 A	21-May-19				
TNU-RL1140	Cabling Works on Brackets - CH6100 to 5600	14	21.01%	11	23-Apr-19 A	01-Jun-19				
TNU-RL1150	MSFD delivery in OHVD - CH6100 to 5600	9	0%	9	31-May-19	12-Jun-19				
TNU-RL1160	MSFD installation works in OHVD - CH6100 to 5600	9	0%	9	12-Jun-19	22-Jun-19				
CH 5600 - 5000										
TNU-RL1220	Bracket fixing on side wall - CH5600 to 5000	10	0%	10	20-Jun-19	02-Jul-19				
TNU-RL1225	Installation Works by Others (to be coordinated)	140	0%	140	03-Jul-19	16-Dec-19				
TNU-RL1230	Lighting in the middle of tunnels - CH5600 to 5000	9	18%	7	11-Apr-19 A	28-May-19				
TNU-RL1240	FH/ HR pipe installation - CH5600 to 5000	10	68%	3	16-Apr-19 A	23-May-19				
TNU-RL1250	Cabling Works on Brackets - CH5600 to 5000	17	17%	14	23-Apr-19 A	05-Jun-19				
TNU-RL1260	MSFD delivery in OHVD - CH5600 to 5000	11	0%	11	12-Jun-19	25-Jun-19				
TNU-RL1270	MSFD installation works in OHVD - CH5600 to 5000	11	0%	11	25-Jun-19	09-Jul-19				
CH5000 - 3050										
CH5000 - 4500										
TNU-RL1780	Bracket fixing on side wall - CH5000 to 4500	8	0%	8	17-Jul-19	25-Jul-19				
TNU-RL1785	Installation Works by Others (to be coordinated)	140	0%	140	26-Jul-19	11-Jan-20				
TNU-RL1810	Lighting in the middle of tunnels - CH5000 to 4500	8	0%	8	19-Aug-19	27-Aug-19				
TNU-RL1820	FH/ HR pipe installation - CH5000 to 4500	8	50%	4	06-May-19 A	23-May-19				
TNU-RL1850	Cabling Works on Brackets - CH5000 to 4500	14	3.99%	13	14-May-19 A	04-Jun-19				
TNU-RL1860	MSFD delivery in OHVD - CH5000 to 4500	9	0%	9	25-Jun-19	06-Jul-19				
TNU-RL1890	MSFD installation works in OHVD - CH5000 to 4500	9	0%	9	09-Jul-19	19-Jul-19				
CH4500 - 4000										
TNU-RL1330	Bracket fixing on side wall - CH4500 to 4000	8	0%	8	26-Jul-19	03-Aug-19				
TNU-RL1335	Installation Works by Others (to be coordinated)	152	0%	152	05-Aug-19	07-Feb-20				
TNU-RL1350	FH/ HR pipe installation - CH4500 to 4000	8	30%	6	14-May-19 A	25-May-19				
TNU-RL1360	Cabling Works on Brackets - CH4500 to 4000	14	0%	14	04-Jun-19	21-Jun-19				
TNU-RL1370	MSFD delivery in OHVD - CH4500 to 4000	9	0%	9	06-Jul-19	17-Jul-19				
TNU-RL1380	MSFD installation works in OHVD - CH4500 to 4000	9	0%	9	19-Jul-19	30-Jul-19				
CH4000 - 3500										
TNU-RL1440	Bracket fixing on side wall - CH4000 to 3500	8	0%	8	05-Aug-19	13-Aug-19				
TNU-RL1445	Installation Works by Others (to be coordinated)	164	0%	164	14-Aug-19	02-Mar-20				
TNU-RL1460	FH/ HR pipe installation - CH4000 to 3500	8	30%	6	14-May-19 A	25-May-19				
TNU-RL1470	Cabling Works on Brackets - CH4000 to 3500	14	0%	14	21-Jun-19	09-Jul-19				
TNU-RL1480	MSFD delivery in OHVD - CH4000 to 3500	9	0%	9	17-Jul-19	27-Jul-19				
TNU-RL1490	MSFD installation works in OHVD - CH4000 to 3500	9	0%	9	30-Jul-19	09-Aug-19				
CH3500 - 3050										
TNU-RL1550	Bracket fixing on side wall - CH3500 to 3050	8	0%	8	14-Aug-19	22-Aug-19				
TNU-RL1590	MSFD delivery in OHVD - CH3500 to 3050	9	0%	9	27-Jul-19	07-Aug-19				
TNU-RL1600	MSFD installation works in OHVD - CH3500 to 3050	9	0%	9	09-Aug-19	20-Aug-19				

Key Date 7 - E&M Works for Satellite Control Building and Kiosks S1&S2

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							May	Jun	Jul	Aug		
E&M Works for Satellite Control Building												
E&M Works												
Installation												
SCB-EMGF1210	E&M cast-in Installation	18	30%	13	08-May-19 A	03-Jun-19						
G/F												
SCB-EMGF10	ABWF Works ready for E&M Mobilization to General Areas - G/F	0	0%	0	05-Aug-19							
SCB-EMGF10	E&M Installation - 1st fix - G/F	30	0%	30	05-Aug-19	09-Sep-19						
SCB-EMGF10	ABWF Works ready for E&M Mobilization to Generator Room & Fuel Tank Room - G/F	0	0%	0	05-Aug-19							
SCB-EMGF10	ABWF Works ready for E&M Mobilization to LV Switch Room - G/F	0	0%	0	30-Jul-19							
SCB-EMGF11	ABWF Works ready for E&M Mobilization to CLP Tx Room - G/F	0	0%	0	08-Jul-19							
SCB-EMGF11	E&M Installation - CLP Tx Room - G/F	18	0%	18	17-Aug-19	06-Sep-19						
SCB-EMGF11	ABWF Works ready for E&M Mobilization to FS Plant Rooms - G/F	0	0%	0	05-Aug-19							
SCB-EMGF11	ABWF Works ready for E&M Mobilization to PD Plant Rooms - G/F	0	0%	0	05-Aug-19							
1/F												
SCB-EM1F10	ABWF Works ready for E&M Mobilization to General Areas - 1/F	0	0%	0	19-Aug-19							
SCB-EM1F10	E&M Installation - 1st fix - 1/F	30	0%	30	19-Aug-19	24-Sep-19						
SCB-EM1F10	ABWF Works ready for E&M Mobilization to Computer Room (TCSS) - 1/F	0	0%	0	12-Aug-19							
SCB-EM1F10	ABWF Works ready for E&M Mobilization to EL Room - 1/F	0	0%	0	12-Aug-19							
SCB-EM1F10	ABWF Works ready for E&M Mobilization to FS Plant Rooms - 1/F	0	0%	0	12-Aug-19							
SCB-EM1F11	ABWF Works ready for E&M Mobilization to Elv Plant Room - 1/F	0	0%	0	12-Aug-19							
Key Date 6C - E&M Works for South Ventilation Building												
SVB-SEM1000	SEM Drawings ready for Structural Works for SVB	0	0%	0	04-Jun-19							
Installation												
B2/F												
SVB-EMB21010	E&M Installation - 1st fix - B2/F	25	0%	25	18-Mar-19 A	18-Jun-19						
SVB-EMB21020	E&M Installation - 2nd fix - B2/F	25	0%	25	10-Aug-19	07-Sep-19						
SVB-EMB21060	E&M Installation - Electrical Plant Rooms- B2/F	40	0%	40	04-Jul-19	19-Aug-19						
SVB-EMB21080	E&M Installation - MVAC Palnt Rooms - B2/F	60	0%	60	04-Jul-19	11-Sep-19						
B1/F												
SVB-EMB11000	E&M access to B1/F	0	0%	0	02-Jul-19							
SVB-EMB11010	E&M Installation - 1st fix - B1/F	25	0%	25	02-Jul-19	30-Jul-19						
SVB-EMB11020	E&M Installation - 2nd fix - B1/F	25	0%	25	31-Jul-19	28-Aug-19						
SVB-EMB11060	E&M Installation - Electrical Plant Rooms - B1/F	40	0%	40	04-Jul-19	19-Aug-19						
SVB-EMB11080	E&M Installation - MVAC Plant Rooms - B1/F	60	0%	60	04-Jul-19	11-Sep-19						
SVB-EMB11100	E&M Installation - FS Plant Rooms - B1/F	48	0%	48	04-Jul-19	28-Aug-19						
SVB-EMB11120	E&M Installation - Elv Plant Rooms - B1/F	48	0%	48	04-Jul-19	28-Aug-19						
G/F												
SVB-EMGF1000	E&M access to G/F	0	0%	0	31-Jul-19							
SVB-EMGF1010	E&M Installation - 1st fix - G/F	25	0%	25	31-Jul-19	28-Aug-19						
SVB-EMGF1050	E&M Installation - CLPP HV Switch Room - G/F	12	0%	12	31-Jul-19	13-Aug-19						
SVB-EMGF1060	Inspection & Handover to CLP	5	0%	5	14-Aug-19	19-Aug-19						
SVB-EMGF1160	E&M Installation - MVAC Plant Rooms - G/F	40	0%	40	31-Jul-19	16-Sep-19						
SVB-EMGF1180	E&M Installation - FS Plant Rooms - G/F	40	0%	40	31-Jul-19	16-Sep-19						
SVB-EMGF1200	E&M Installation - PD Plant Rooms - G/F	40	0%	40	31-Jul-19	16-Sep-19						
SVB-EMGF1220	E&M Installation - Elv Plant Rooms - G/F	48	0%	48	31-Jul-19	25-Sep-19						
Key Date 10 - FSD Building Structure & E&M Works												
Building Structure												
FSD210	Ground Floor	20	20%	16	11-May-19 A	06-Jun-19						

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ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019			
							May	Jun	Jul	Aug
FSD220	First Floor	25	0%	25	08-Jun-19	08-Jul-19				
FSD230	Roof Slab	25	0%	25	09-Jul-19	06-Aug-19				
FSD240	Top Roof	18	0%	18	07-Aug-19	27-Aug-19				
ABWF Works										
AFSD1000	Blockwork Walls	25	0%	25	23-Jul-19	20-Aug-19				
AFSD1010	Door and Window Frames	19	0%	19	30-Jul-19	20-Aug-19				
AFSD1020	ABWF Works to Plant Rooms G/F	56	0%	56	30-Jul-19	04-Oct-19				
AFSD1021	ABWF Works to Plant Rooms 1/F	56	0%	56	06-Aug-19	12-Oct-19				
AFSD1030	ABWF Works to Office and Corridors G/F	124	0%	124	30-Jul-19	24-Dec-19				
AFSD1031	ABWF Works to Office and Corridors 1/F	124	0%	124	06-Aug-19	03-Jan-20				
AFSD1040	ABWF Works to Toilets G/F	136	0%	136	30-Jul-19	10-Jan-20				
AFSD1050	Waterproofing and Roofing	52	0%	52	13-Aug-19	15-Oct-19				
AFSD1060	External Cladding and Wall Plastering	101	0%	101	13-Aug-19	11-Dec-19				
E&M Works										
Installation										
FSDB-EMGF0001	E&M cast-in Installation	80	0%	80	25-May-19	28-Aug-19				
Statutory Inspections and approvals										
FSDB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19					
FSDB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19				
Key Date 9 - C&ED Building & E&M Works										
Building Structure										
CED220	Ground Floor	20	10%	18	04-May-19 A	10-Jun-19				
CED230	First Floor	25	0%	25	11-Jun-19	10-Jul-19				
CED240	Second Floor	25	0%	25	11-Jul-19	08-Aug-19				
CED250	Third Floor	32	0%	32	09-Aug-19	16-Sep-19				
ABWF Works										
ACED1000	Blockwork Walls	54	0%	54	09-Aug-19	14-Oct-19				
ACED1010	Door and Window Frames	48	0%	48	16-Aug-19	14-Oct-19				
E&M Works										
Installation										
C&EDB-GF0001	E&M cast-in Installation	90	15%	77	18-May-19 A	19-Aug-19				
Statutory Inspections and approvals										
C&EDB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19					
C&EDB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19				
Key Date 11 - Landscape Soft Works & Trees Protection										
Trees Protection										
SL195	Protection Existing Trees & Submit Report with Photographic Record No.6	41	65.85%	14	13-Apr-19 A	04-Jun-19				
SL196	Protection Existing Trees & Submit Report with Photographic Record No.7	41	0%	41	05-Jun-19	24-Jul-19				
SL197	Protection Existing Trees & Submit Report with Photographic Record No.8	41	0%	41	25-Jul-19	10-Sep-19				
Key Date 8 - All Works for Tunnel Commissioning & Opening										
Petrol Filling Station										
Structure										
PS110	Possess Portion Vc	0	100%	0		25-Apr-19 A				
PS120	Excavation	20	0%	20	20-May-19	12-Jun-19				
PS130	Footing	20	0%	20	13-Jun-19	06-Jul-19				
PS140	Petrol Filling Station Roof	14	0%	14	08-Jul-19	23-Jul-19				
PS150	Structure for Petrol Filling Station	36	0%	36	08-Jul-19	17-Aug-19				
PS160	Underground Fuel Tank Structure	36	0%	36	08-Jul-19	17-Aug-19				

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ID	Activity	Duration (Days)	% Comp	Remaining Duration	Start	Finish	2019				
							May	Jun	Jul	Aug	
PS170	Backfilling	20	0%	20	19-Aug-19	10-Sep-19					
E&M Works											
EPS110	Miscellaneous ABWF Works	42	0%	42	19-Aug-19	09-Oct-19					
EPS120	Fuel Tank/Fuel Pipe System Installation	42	0%	42	19-Aug-19	09-Oct-19					
Statutory Inspections and approvals											
Administration Building											
ADB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19						
ADB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19					
Maintenance Depot											
MD-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19						
MD-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19					
North Ventilation Building											
NVB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19						
NVB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19					
Toll Control Building & Toll Collector Subway											
TCB-SI0010	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19						
TCB-SI0015	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19					
Satellite Control Building											
SCB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	22-Jun-19						
SCB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	22-Jun-19	17-Aug-19					
South Ventilation Building											
SVB-SI1000	Submission of Genset Exhaust Drawing to EPD	0	0%	0	19-Jun-19						
SVB-SI1005	Review and Approval of Genset Exhaust Drawing by EPD	48	0%	48	19-Jun-19	14-Aug-19					

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Appendix C

Environmental Mitigation and Enhancement Measure Implementation Schedules

(In reference to CINOTECH (2011) Agreement No.
CE35/2011 EP Baseline Environmental Monitoring for
Hong Kong-Zhuhai-Macao Bridge Tuen Mun-Chek Lap
Kok Link - Investigation. Updated EM&A Manual for
Tuen Mun-Chek Lap Kok Link)

Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
Air Quality									
4.8.1	3.8	Watering of the construction sites in Lantau for 8 times/day and in Tuen Mun for 12 times/day to reduce dust emissions by 87.5% and 91.7% respectively and shall be undertaken.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall, to the satisfaction of the Engineer, install effective dust suppression measures and take such other measures as may be necessary to ensure that at the Site boundary and any nearby sensitive receiver, dust levels are kept to acceptable levels.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	The Contractor shall not burn debris or other materials on the works areas.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	In hot, dry or windy weather, the watering programme shall maintain all exposed road surfaces and dust sources wet.	All unpaved haul roads / throughout construction period in hot, dry or windy weather	Contractor	TMEIA Avoid smoke impacts and disturbance		Y		✓
4.8.1	3.8	Where breaking of oversize rock/concrete is required, watering shall be implemented to control dust. Water spray shall be used during the handling of fill material at the site and at active cuts, excavation and fill sites where dust is likely to be created.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	Open dropping heights for excavated materials shall be controlled to a maximum height of 2m to minimise the fugitive dust arising from unloading.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.8.1	3.8	During transportation by truck, materials shall not be loaded to a level higher than the side and tail boards, and shall be dampened or covered before transport.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		N/A
4.8.1	3.8	Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		N/A
4.8.1	3.8	No earth, mud, debris, dust and the like shall be deposited on public roads. Wheel washing facility shall be usable prior to any earthworks excavation activity on the site.	All site exits / throughout construction period	Contractor	TMEIA Avoid dust		Y		✓
4.8.1	3.8	Areas of exposed soil shall be minimised to areas in which works	All exposed surfaces /	Contractor	TMEIA Avoid dust		Y		✓

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Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
		have been completed shall be restored as soon as is practicable.	throughout construction period		generation				
4.8.1	3.8	All stockpiles of aggregate or spoil shall be enclosed or covered and water applied in dry or windy condition.	All areas / throughout construction period	Contractor	TMEIA Avoid dust generation		Y		✓
4.11	Section 3	EM&A in the form of 1 hour and 24 hour dust monitoring and site audit.	All representative existing ASRs / throughout construction period	Contractor	EM&A Manual		Y		N/A (Results adopted from published EM&A data of Contract No. HY/2012/08)
WATER QUALITY (LAND WORKS)									
6.10	-	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Temporary access roads should be surfaced with crushed stone or gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.10	-	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	5.8	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		N/A
6.10	-	The Contractor shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	All areas/ throughout construction period	Contractor	TM-EIAO Waste Disposal Ordinance		Y		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
6.10	-	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		✓
6.10	-	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	All areas/ throughout construction period	Contractor	TM-EIAO		Y		<>
6.10	-	Roadside gullies to trap silt and grit shall be provided prior to discharging the stormwater into the marine environment. The sumps will be maintained and cleaned at regular intervals.	Roadside/ design and operation	Design Consultant/ Contractor	TM-EIAO	Y		Y	✓
6.10	Section 11	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	All areas/ throughout construction period	Contractor	EM&A Manual		Y		✓
WASTE									
12.6		The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		✓
12.6		The Contractor shall prepare and implement a Waste Management Plan which specifies procedures such as a ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of wastes does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposed. A recording system for the amount of waste generated, recycled and disposed (locations) should be established.	Contract mobilisation	Contractor	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		✓
12.6		The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.		Y		✓

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Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
12.6	8.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures including waste reduction, reuse and recycling.	Contract Mobilisation	Contractor	TMEIA		Y		✓
12.6	8.1	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	No waste shall be burnt on site.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	The Contractor shall be prohibited from disposing of C&D materials at any sensitive locations. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust/ surface run off.	All areas / throughout construction period	Contractor	TMEIA		Y		<>
12.6	8.1	Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage and dust generation.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent transfer of mud onto public roads.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork/plastic facing for construction works should be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should avoid over-ordering and wastage.	All areas / throughout construction period	Contractor	TMEIA		Y		✓

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EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
12.6	8.1	The Contractor should recycle as many C&D materials (this is a waste section) as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All falsework will be steel instead of wood.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows: <i>f</i> suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; <i>f</i> Having a capacity of <450L unless the specifications have been approved by the EPD; and <i>w</i> Chinese according to the instructions prescribed in Schedule 2 of the Regulations. <i>f</i> Clearly labelled and used solely for the storage of chemical wastes; <i>f</i> Enclosed with at least 3 sides; <i>f</i> Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest; <i>f</i> Adequate ventilation; <i>f</i> Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and <i>f</i> Incompatible materials are adequately	All areas / throughout construction period	Contractor	TMEIA		Y		✓

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

*Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule*

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
		separated.							
12.6	8.1	Waste oils, chemicals or solvents shall not be disposed of to drain,	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Night soil should be regularly collected by licensed collectors.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A
12.6	8.1	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared daily and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited.	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	All waste containers shall be in a secure area on hardstanding;	All areas / throughout construction period	Contractor	TMEIA		Y		✓
12.6	8.1	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	Site Offices/ throughout construction period	Contractor	TMEIA		Y		✓
12.6	Section 8	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas / throughout construction period	Contractor	EM&A Manual		Y		✓
LANDSCAPE AND VISUAL									

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

*Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule*

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
10.9	7.6	Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas (Tree protection measures will be detailed at Tree Removal Application Stage) (CM1)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
10.9	7.6	Trees unavoidably affected by the works shall be transplanted where practical. Trees will be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme (CM2)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hillside and roadside screen planting to proposed roads, associated structures and slope works (CM3)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material (in earth tone) (CM4)	All areas/detailed design/ during construction/post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Recycle/ Reuse all felled trees and vegetation, e.g. mulching (CM9)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006 (CM10)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/L CSD

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link
Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Environmental Mitigation and Enhancement Measure Implementation Schedule

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status *
						D	C	O	
10.9	7.6	Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during construction/ during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by AFCD/HyD/L CSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and minimise unnecessary light spill (OM3)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement (OM4)	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD/LCSD
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes	All areas/detailed design/ during construction / during operation	Design Consultant/ Contractor	TMEIA	Y	Y	Y	n/a. To be implemented by HyD

*** Remarks:**

- ✓ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Contractor
- △ Deficiency of Mitigation Measures but rectified by Contractor
- N/A Not Applicable in Reporting Period

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Appendix D

Summary of Action and Limit Levels

Table D1 *Action and Limit Levels for 1-hour and 24-hour TSP*

Parameters	Action	Limit
24 Hour TSP Level in $\mu\text{g}/\text{m}^3$	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214	260
1 Hour TSP Level in $\mu\text{g}/\text{m}^3$	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337	500

Table D2 *Actions in the Event of Landfill Gas being Detected in Excavation / Confined Area*

Parameter	Measurement	Action
Oxygen	< 19%	- Ventilate to restore oxygen to > 19%
	< 18%	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to > 19%
Methane	> 10% LEL (> 0.5% v/v)	- Prohibit hot work - Ventilate to restore methane to < 10% LEL
	> 20% LEL (>1% v/v)	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to < 10%
Carbon Dioxide	> 0.5%	- Ventilate to restore oxygen to < 0.5%
	> 1.5%	- Stop work - Evacuate personnel / prohibit entry - Increase ventilation to restore to < 0.5%

Appendix E

Event Action Plan

Appendix L1 Event/ Action Plan for Air Quality

EVENT	ET ⁽¹⁾	IEC ⁽¹⁾	ACTION	
			ER ⁽¹⁾	Contractor
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify the source. 2. Inform the IEC and the ER. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify the source. 2. Inform the IEC and the ER. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Discuss with the IEC and the Contractor on remedial actions required. 6. If exceedance continues, arrange meeting with the IEC and the ER. 7. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check the Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial actions to IEC within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate

EVENT	ACTION			
	ET ⁽¹⁾	IEC ⁽¹⁾	ER ⁽¹⁾	Contractor
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify the source. 2. Inform the ER and the DEP. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check Contractor's working method. 3. Discuss with the ET and the Contractor on possible remedial measures. 4. Advise the ER on the effectiveness of the proposed remedial measures. 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify the IEC, the ER, the DEP and the Contractor. 2. Identify the source. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with the IEC and the ER to discuss the remedial actions to be taken. 7. Assess effectiveness of the Contractor's remedial actions 	<ol style="list-style-type: none"> 1. Discuss amongst the ER, ET and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

and keep the IEC, the DEP and
the ER informed of the results.

8. If the exceedance stops, cease
additional monitoring.

Abbreviations: ET - Environmental Team, IEC - Independent Environmental Checker, SO - Supervising Office, DEP - Director of Environmental Protection

Appendix F

EM&A Monitoring Schedule

**HY/2017/10 Tuen Mun - Chek Lap Kok Link - Northern Tunnel Connection Buildings, E&M Works
Landfill Gas Monitoring Schedule (1 to 31 March 2019)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Mar	2-Mar
					LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mar	9-Mar
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar	16-Mar
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
31-Mar						

**HY/2017/10 Tuen Mun - Chek Lap Kok Link - Northern Tunnel Connection Buildings, E&M Works Landfill Gas Monitoring
Schedule (1 to 30 April 2019)**

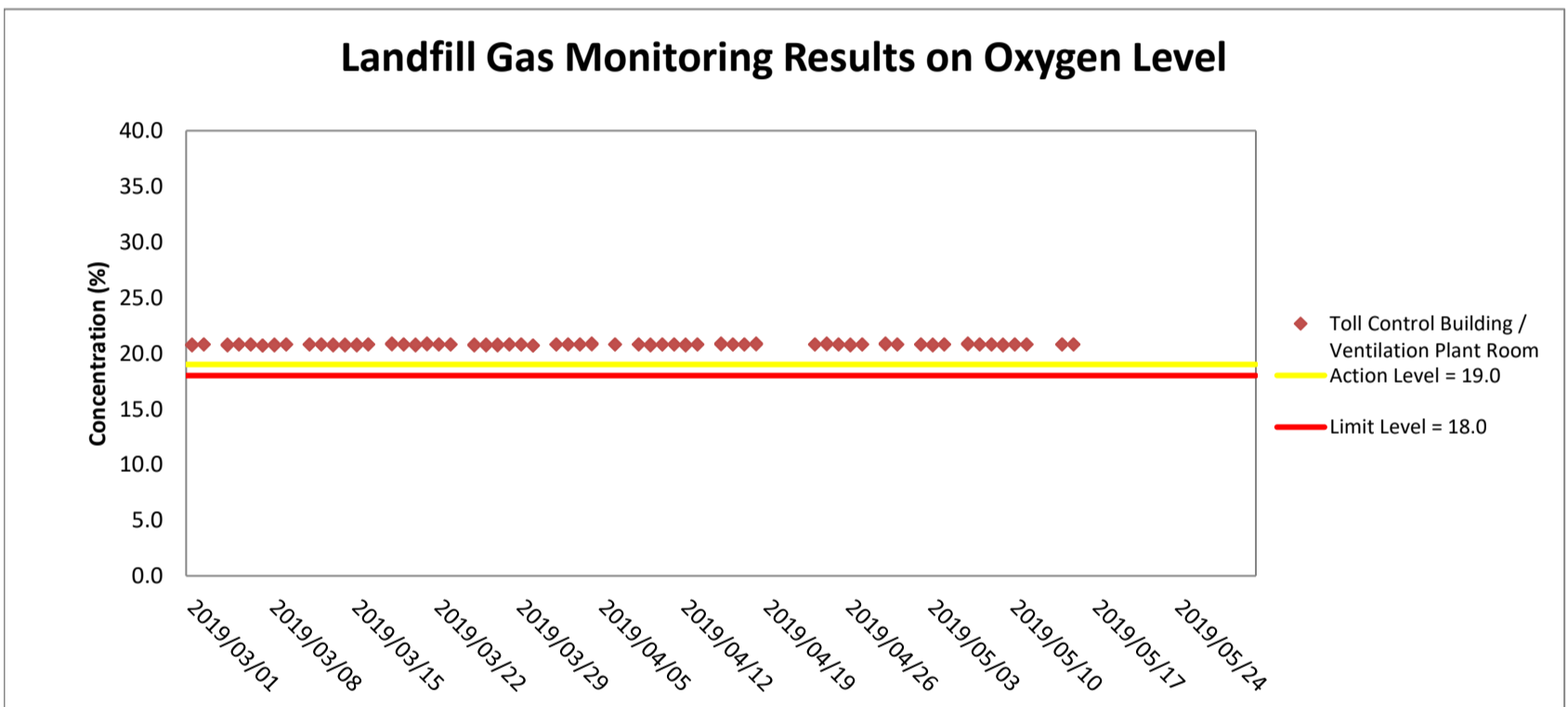
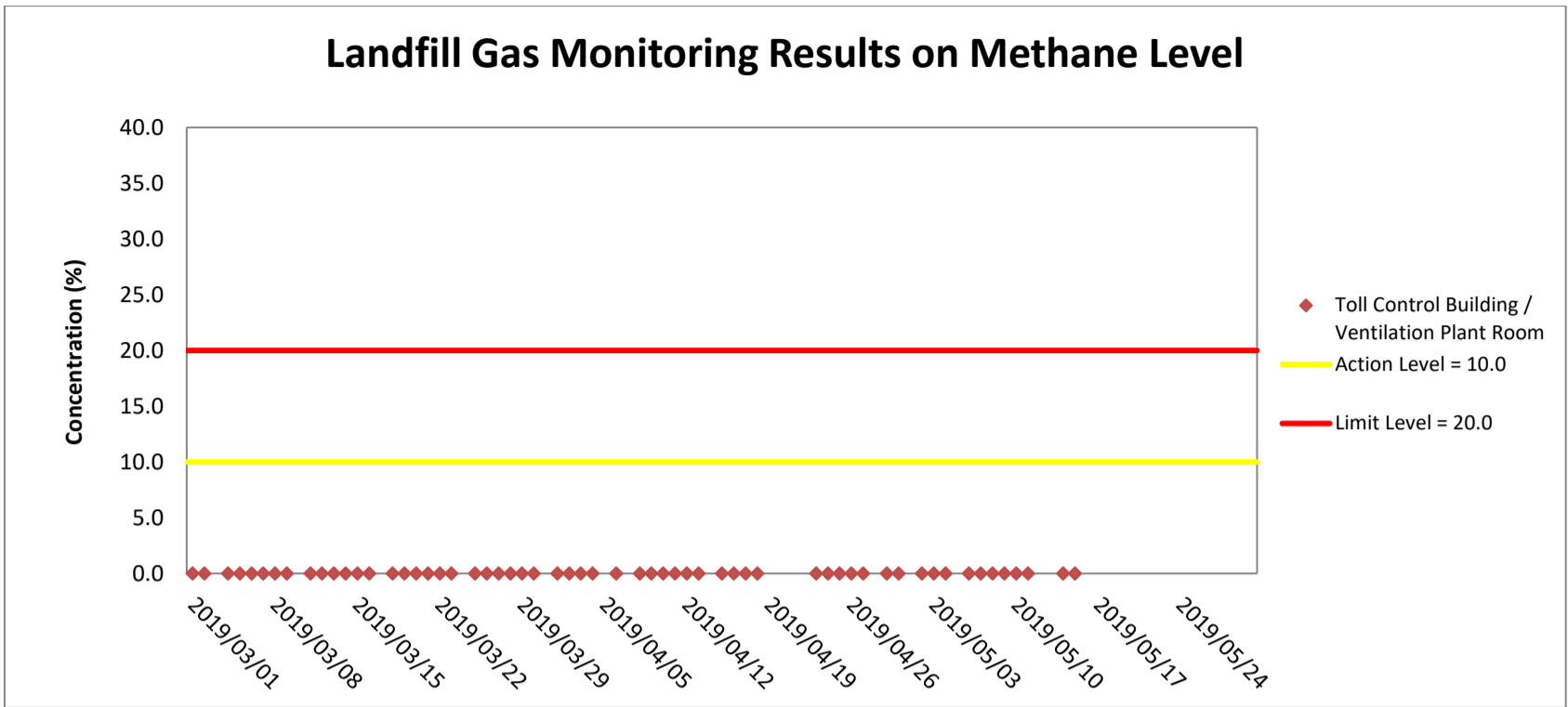
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/Apr	2/Apr	3/Apr	4/Apr	5/Apr	6/Apr
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)		LFG Monitoring (a.m. & p.m.)
7/Apr	8/Apr	9/Apr	10/Apr	11/Apr	12/Apr	13/Apr
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
14/Apr	15/Apr	16/Apr	17/Apr	18/Apr	19/Apr	20/Apr
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)		
21/Apr	22/Apr	23/Apr	24/Apr	25/Apr	26/Apr	27/Apr
		LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
28/Apr	29/Apr	30/Apr				
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)				

**HY/2017/10 Tuen Mun - Chek Lap Kok Link - Northern Tunnel Connection Buildings, E&M Works
Landfill Gas Monitoring Schedule (1 to 31 May 2019)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-May	2-May	3-May	4-May
				LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
5-May	6-May	7-May	8-May	9-May	10-May	11-May
	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)
12-May	13-May	14-May	15-May	16-May	17-May	18-May
		LFG Monitoring (a.m. & p.m.)	LFG Monitoring (a.m. & p.m.)			
19-May	20-May	21-May	22-May	23-May	24-May	25-May
26-May	27-May	28-May	29-May	30-May	31-May	

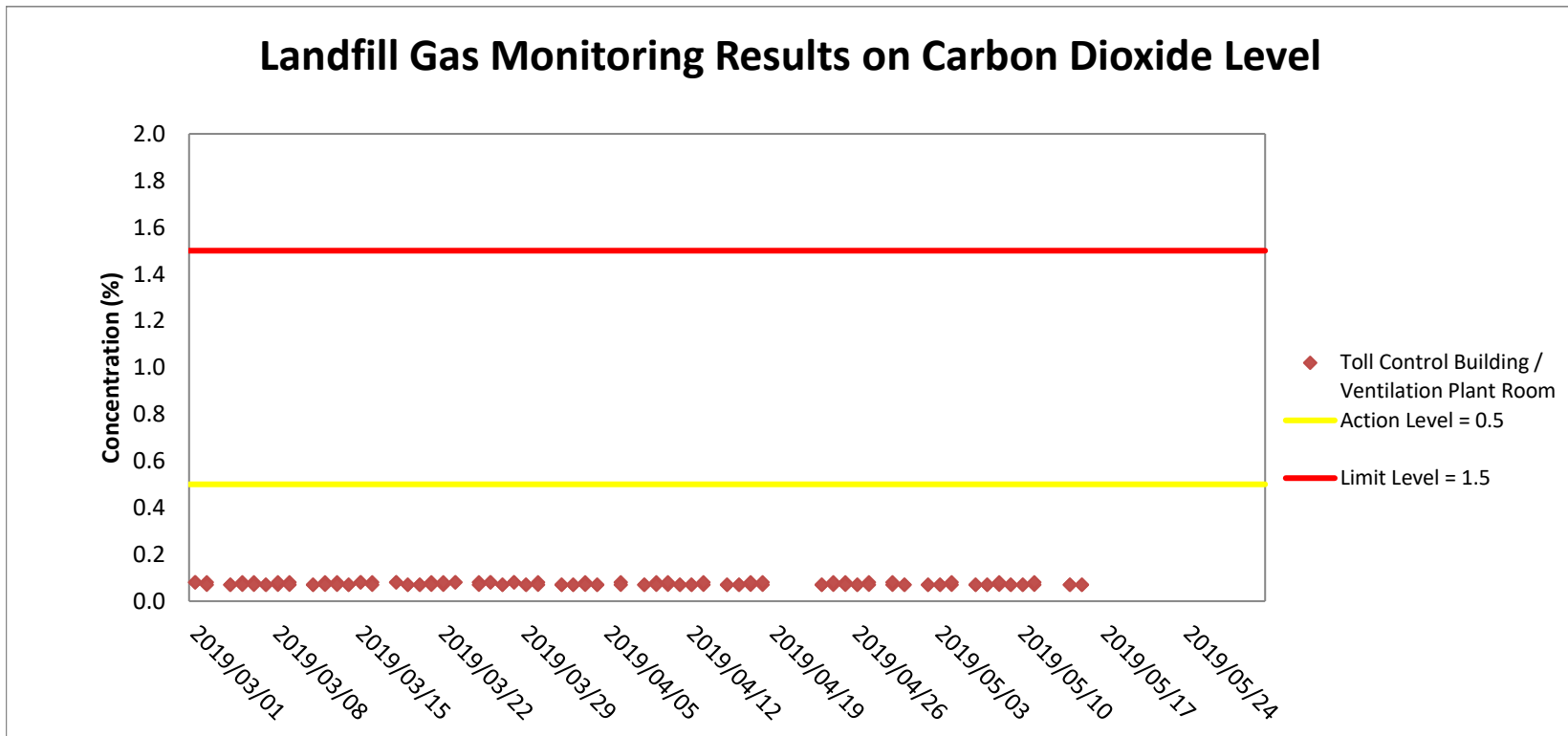
Appendix G

Landfill Gas Monitoring
Results and Graphical
Presentation



Weather condition within the reporting period was sunny to rainy

Major construction works undertaken within the reporting period include Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building, Electrical and Mechanical Works at Ventilation Plant Room, North Ventilation Room and Tunnel, Building Structure at Administration Building, Maintenance Depot, Fire Services Building, Customs and Excise Building and Satellite Control Building and Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2 and Underpass at C3 area.



Weather condition within the reporting period was sunny to rainy

Major construction works undertaken within the reporting period include Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Toll Control Building, Electrical and Mechanical Works at Ventilation Plant Room, North Ventilation Room and Tunnel, Building Structure at Administration Building, Maintenance Depot, Fire Services Building, Customs and Excise Building and Satellite Control Building and Electrical and Mechanical Works and Architectural Builder's Work and Finishes at Kiosk N2 and Underpass at C3 area.

Appendix H

Monthly Summary of Waste Flow Table

Contract No. : HY/2017/10

**Tuen Mun Chek Lap Kok Link – Northern Connection Tunnel Buildings, Electrical and Mechanical Works
Monthly Summary Waste Flow Table for 2019 (Year)**

Month/Material	Actual Quantities of Inert C&D Materials Generation						Actual Quantities of C&D wastes Generation		Actual Quantities of Recyclables Generation			
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fills	Imported Fill	Chemical Waste	General Refuse	Metals	Felled trees	Paper/ cardboard packaging	Plastics
Unit	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000m ³)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)	('000Kg)
Jan	2.089	-	0.150	-	1.939	-	-	74.680	-	-	0.042	-
Feb	2.474	0.008	0.345	-	2.129	-	-	67.230	-	-	0.049	-
Mar	0.079	0.060	-	-	0.079	-	-	73.690	-	-	-	-
Apr	0.013	-	-	-	0.013	-	-	56.730	-	-	-	-
May	-	-	-	-	-	-	-	62.240	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-	-
SUB-TOTAL	4.655	0.068	0.494	0.000	4.160	0.000	0.000	334.570	0.000	0.000	0.091	0.000
Jul	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	4.655	0.068	0.494	0.000	4.160	0.000	0.000	334.570	0.000	0.000	0.091	0.000

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.
- 3 - Broken concrete for recycling into aggregates.
- 4 - Assumed 5 kg per damaged water-filled barrier.
- 5 - Disposed as Public Fills includes Hard Rock and Large Broken Concrete.

Appendix I

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

Appendix J1 Cumulative Statistics on Exceedances

		Total No. recorded in this reporting period	Total No. recorded since contract commencement
1-Hr TSP	Action	4	25
	Limit	0	2
24-Hr TSP	Action	1	2
	Limit	0	0

Appendix J2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Period	1	0	0
Total No. received since contract commencement	1	0	0

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

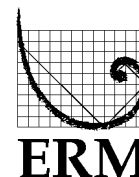
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern
Connection Tunnel Buildings, Electrical and
Mechanical Works

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 4 April 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

Action Level Exceedance
0463091_27March2019_1hrTSP_Station ASR1

One (1) exceedance was recorded on 27 March 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader

CONFIDENTIALITY NOTICE

This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, distribute, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us immediately.



ERM-Hong Kong, Limited

**CONTRACT NO. HY/2017/10
TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION TUNNEL BUILDINGS,
ELECTRICAL AND MECHANICAL WORKS**

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> 0463091_27March2019_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	27 March 2019 (Measured) 4 April 2019 (Results obtained from ENPO Website)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10, AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
Measured Levels	Refer to the attached data sheet.	
Works Undertaken (at the time of monitoring event)	Works undertaken under this Contract on 27 March 2019 included: <ul style="list-style-type: none"> ▪ Building structure at Administration Building and Maintenance Depot (<i>refer to Contractor's photo</i>) 	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • Apart from exceedance of 1-hr TSP at ASR1 during 13:33-14:33 on 27 March 2019, all 1hr-TSP levels and other 24-hr TSP levels at all monitoring stations were in compliance with the Action and Limit Levels on the same day. • Watering record provided by the Contractor was reviewed. Watering was maintained on unpaved and dry road on 27 March 2019 (<i>refer to Contractor's Photo and watering record</i>). • Recorded wind speed during the works period was zero. Dust generated from the construction works, if any, will be localized within the site area and was not likely to be dispersed to station ASR1. <p>Based on the above, the exceedances are unlikely to be due to the Contract.</p>	
Actions Taken/ To Be Taken	The Contractor has been reminded to ensure all dust suppression measures are implemented at the site area including water spraying at unpaved road. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 27 March 2019 and locations of air quality monitoring stations are attached. The location of the works area under this Contract is attached. The attached wind data on 27 March 2019 is sourced from <i>Contract No. HY/2012/08</i> for reference.	

Results of Air Quality Monitoring

Project	Works	Date (yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-03-27	AQMS1	13:44	1-hour TSP	136	ug/m3
TMCLKL	HY/2012/08	2019-03-27	AQMS1	14:46	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	2019-03-27	AQMS1	15:48	1-hour TSP	114	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR1	13:33	1-hour TSP	412	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR1	14:35	1-hour TSP	213	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR1	15:37	1-hour TSP	274	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR10	13:01	1-hour TSP	86	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR10	14:03	1-hour TSP	43	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR10	15:05	1-hour TSP	51	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR5	13:22	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR5	14:24	1-hour TSP	93	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR5	15:26	1-hour TSP	102	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR6	13:11	1-hour TSP	110	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR6	14:13	1-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR6	15:15	1-hour TSP	76	ug/m3
TMCLKL	HY/2012/08	2019-03-27	AQMS1	16:50	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR1	16:39	24-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR10	16:07	24-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR5	16:28	24-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	2019-03-27	ASR6	16:17	24-hour TSP	73	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

PHOTO BY CONTRACTOR ON 27 MARCH 2019

Photo 1 - Building structure was conducted at works area of Administration Building and Maintenance Depot



Photo 2- Watering of unpaved roads near Administration Building and Maintenance Depot



WATERING RECORD ON 27 MARCH 2019

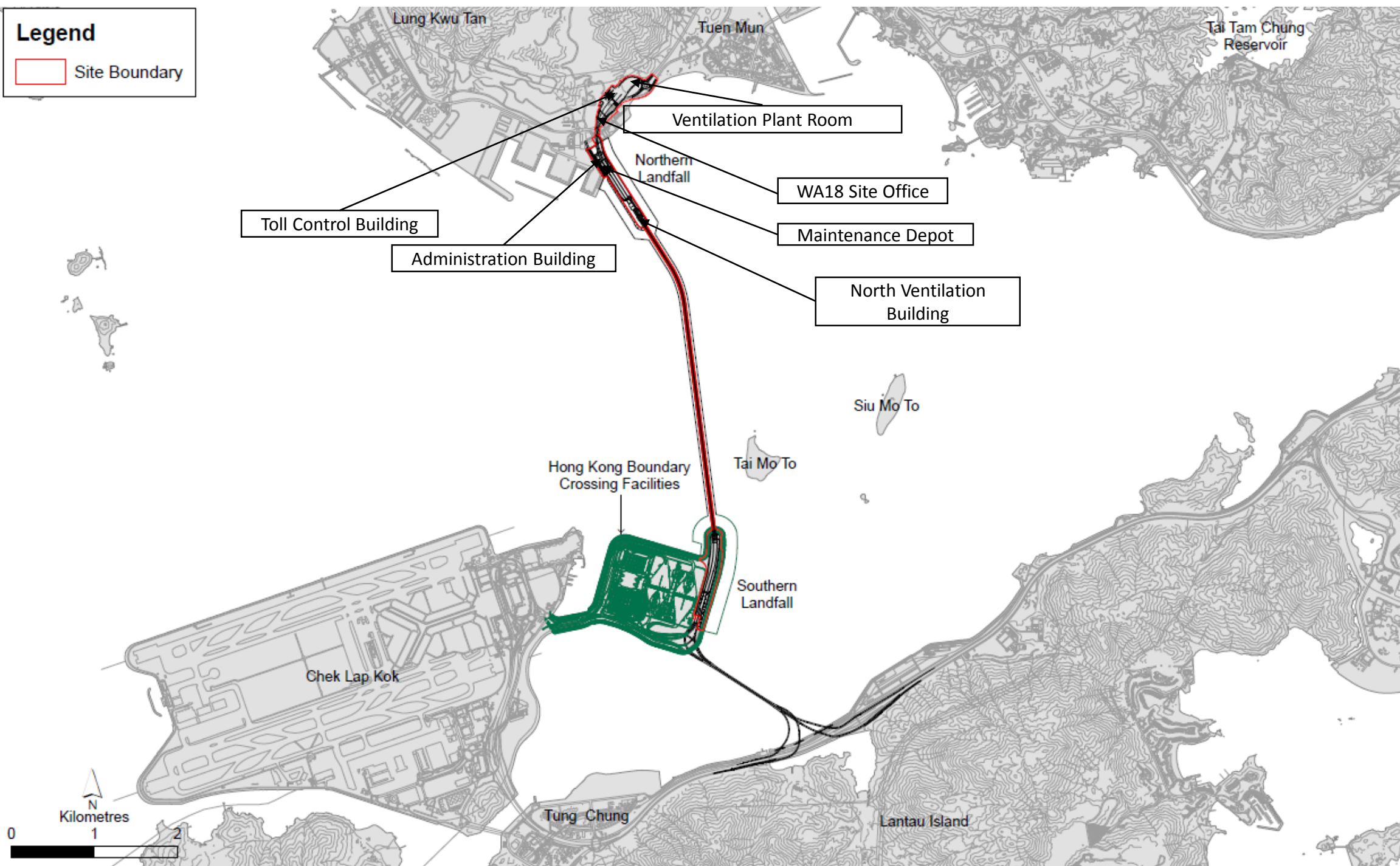
27 th Mar		Location: AAB & MD	
Period		Time	Sign
7-8			
8-9	/	8:07	Man
9-10	//	9:34 9:58	Man
10-11	/	10:41	Man
11-12	/	11:38	Man
12-13	/	12:50	Man
13-14	/	13:21	Man
14-15	//	14:03 14:44	Man
15-16	/	15:36	Man
16-17	/	16:21	Man
17-18	/	17:40	Man
18-19			

Meteorological Data for Impact Monitoring in the reporting period*			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Director (degree)
19/03/27	0:00	0.4	95
19/03/27	1:00	0	-
19/03/27	2:00	0.4	68
19/03/27	3:00	0	-
19/03/27	4:00	0	-
19/03/27	5:00	0	-
19/03/27	6:00	0	-
19/03/27	7:00	1.3	96
19/03/27	8:00	1.3	101
19/03/27	9:00	0	-
19/03/27	10:00	0.4	109
19/03/27	11:00	0	-
19/03/27	12:00	0	-
19/03/27	13:00	0	-
19/03/27	14:00	0	-
19/03/27	15:00	0	-
19/03/27	16:00	0	-
19/03/27	17:00	0	-
19/03/27	18:00	0	-
19/03/27	19:00	0	-
19/03/27	20:00	0	-
19/03/27	21:00	0	-
19/03/27	22:00	0	-
19/03/27	23:00	0	-

*Wind data is sourced from Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section

Legend

 Site Boundary



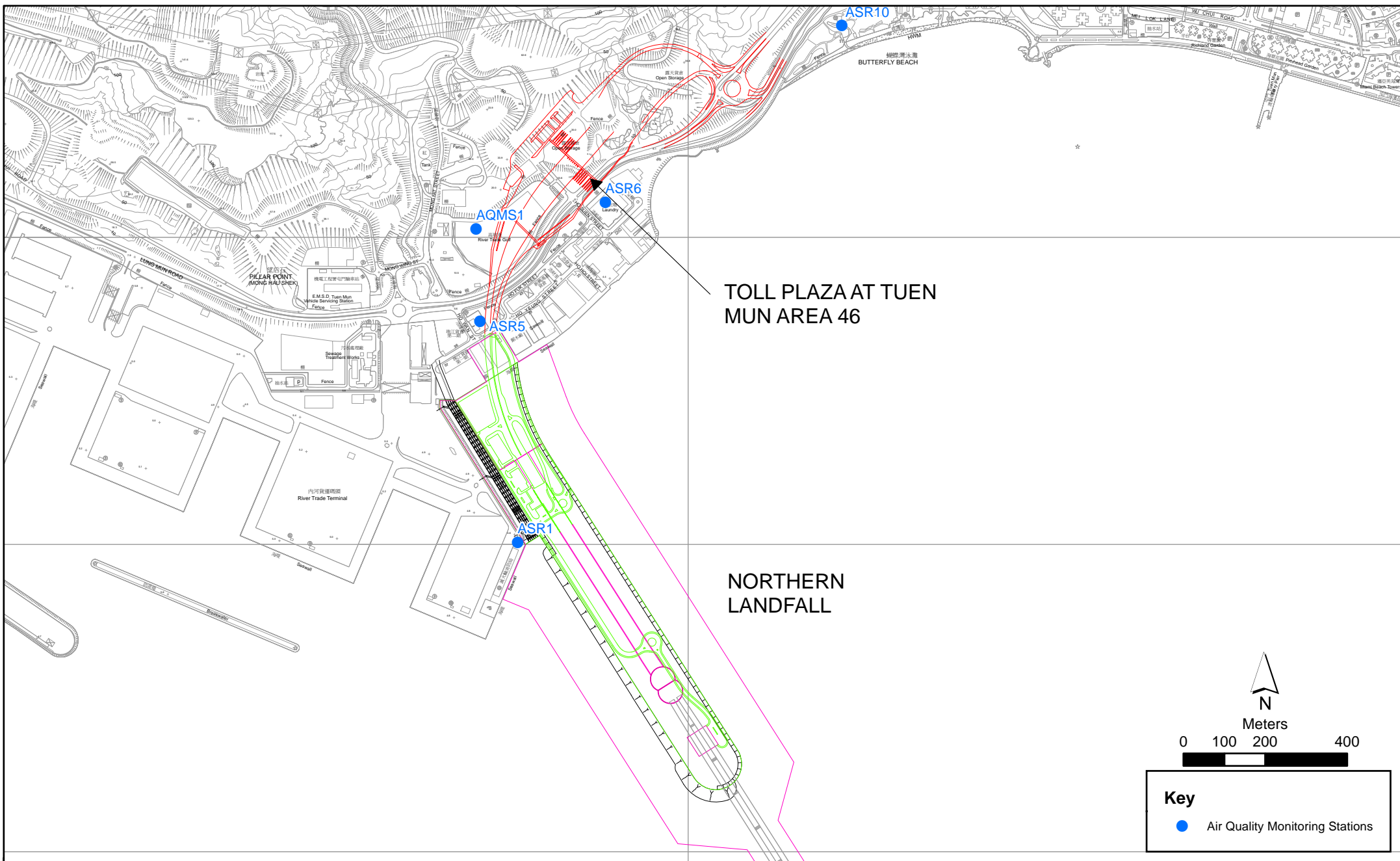


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
 (Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link -
 Northern Connection Sub-sea Tunnel Section)

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

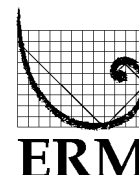
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern
Connection Tunnel Buildings, Electrical and
Mechanical Works

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 9 April 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

Action Level Exceedance
0463091_30March2019_1hrTSP_Station ASR1

One (1) exceedance was recorded on 30 March 2019.

Regards,

A handwritten signature in blue ink that reads "Jasmine". The signature is written in a cursive, flowing style.

Dr Jasmine Ng
Environmental Team Leader

CONFIDENTIALITY NOTICE

This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, distribute, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us immediately.



ERM-Hong Kong, Limited

**CONTRACT NO. HY/2017/10
TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION TUNNEL BUILDINGS,
ELECTRICAL AND MECHANICAL WORKS**

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> 0463091_30March2019_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	30 March 2019 (Measured) 9 April 2019 (Results obtained from ENPO Website)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10, AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
Measured Levels	Refer to the attached data sheet.	
Works Undertaken (at the time of monitoring event)	Works undertaken under this Contract on 30 March 2019 included: <ul style="list-style-type: none"> ▪ Building structure at Administration Building and Maintenance Depot (<i>refer to Contractor's photo</i>) 	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • Apart from exceedance of 1-hr TSP at ASR1 during 10:48-11:48 on 30 March 2019, all 1hr-TSP levels and other 24-hr TSP levels at all monitoring stations were in compliance with the Action and Limit Levels on the same day. • Watering record provided by the Contractor was reviewed. Watering was maintained on unpaved and dry road on 30 March 2019 (<i>refer to Contractor's Photo and watering record</i>). • With reference to the recorded wind direction (ranged between 110° and 114°, blowing from an easterly direction) during the works period, no works area under this contract is located upstream of Station ASR1. <p>Based on the above, the exceedances are unlikely to be due to the Contract.</p>	
Actions Taken/ To Be Taken	The Contractor has been reminded to ensure all dust suppression measures are implemented at the site area including water spraying at unpaved road. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 30 March 2019 and locations of air quality monitoring stations are attached. The location of the works area under this Contract is attached. The attached wind data on 30 March 2019 is sourced from <i>Contract No. HY/2012/08</i> for reference.	

Results of Air Quality Monitoring

Project	Works	Date (yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-03-30	AQMS1	8:55	1-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2019-03-30	AQMS1	9:57	1-hour TSP	128	ug/m3
TMCLKL	HY/2012/08	2019-03-30	AQMS1	10:59	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR1	8:44	1-hour TSP	34	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR1	9:46	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR1	10:48	1-hour TSP	374	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR10	8:10	1-hour TSP	51	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR10	9:12	1-hour TSP	32	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR10	10:14	1-hour TSP	56	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR5	8:32	1-hour TSP	142	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR5	9:34	1-hour TSP	192	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR5	10:36	1-hour TSP	121	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR6	8:20	1-hour TSP	86	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR6	9:22	1-hour TSP	124	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR6	10:24	1-hour TSP	92	ug/m3
TMCLKL	HY/2012/08	2019-03-30	AQMS1	12:01	24-hour TSP	64	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR1	11:50	24-hour TSP	186	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR10	11:16	24-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR5	11:38	24-hour TSP	69	ug/m3
TMCLKL	HY/2012/08	2019-03-30	ASR6	11:26	24-hour TSP	66	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

PHOTO BY CONTRACTOR ON 30 MARCH 2019

Photo 1 - Building structure was conducted at works area of Administration Building and Maintenance



Photo 2- Watering of unpaved roads near Administration Building and Maintenance Depot



WATERING RECORD ON 27 MARCH 2019

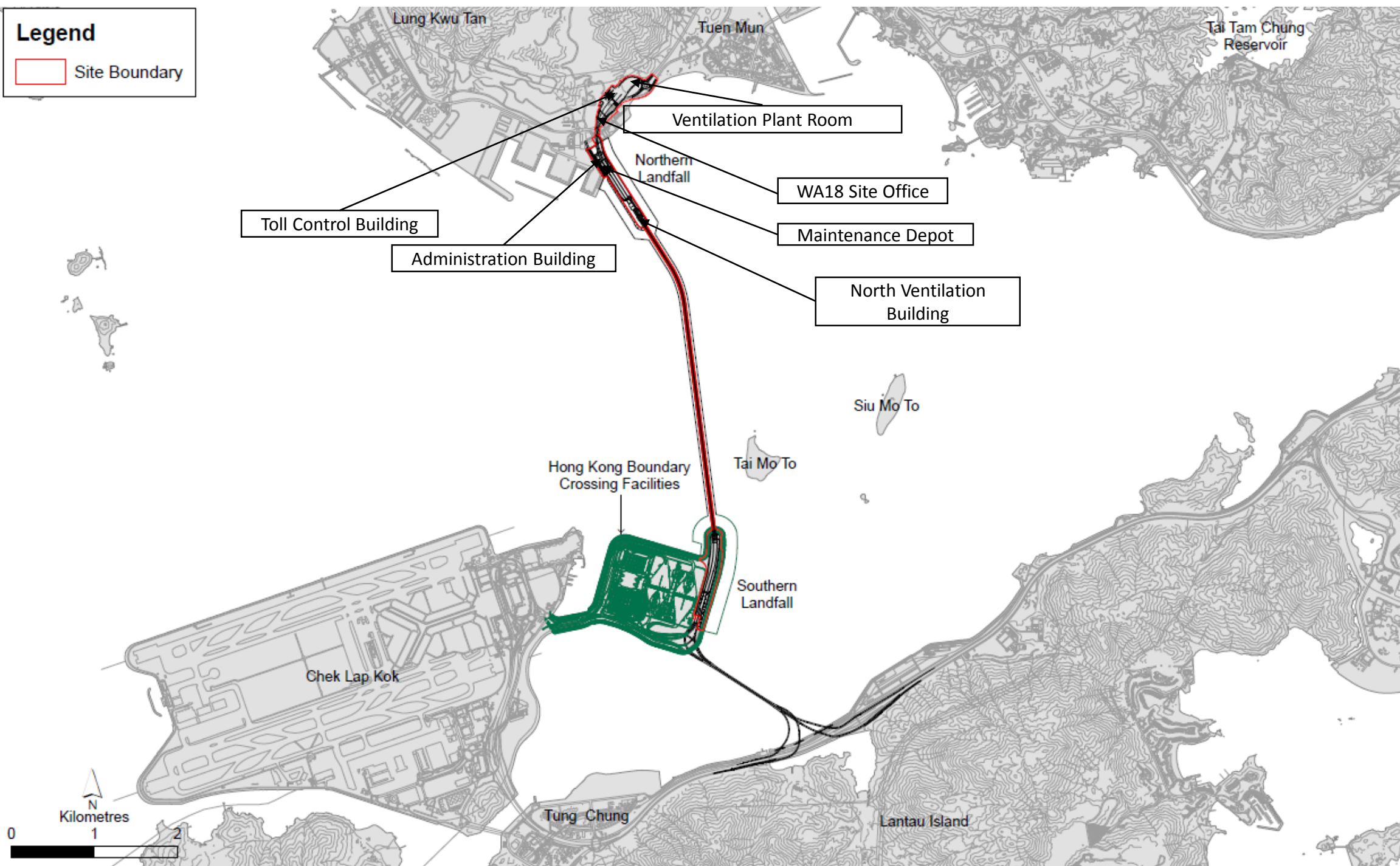
30 th Mar		Location	
Period		Time	Sign
7-8	/	7:56	Alan
8-9	/	8:41	Alan
9-10	/	9:36	Alan
10-11	/	10:27	Alan
11-12	/	11:31	Alan
12-13	/	12:09	Alan
13-14	//	13:04 13:49	Alan
14-15	/	14:42	Alan
15-16	/	15:33	Alan
16-17	/	16:13	Alan
17-18	/	17:06	Alan
18-19			

Meteorological Data for Impact Monitoring in the reporting period*			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Director (degree)
19/03/30	0:00	0	-
19/03/30	1:00	0	-
19/03/30	2:00	0	-
19/03/30	3:00	0	-
19/03/30	4:00	0	-
19/03/30	5:00	0	-
19/03/30	6:00	0	-
19/03/30	7:00	0	-
19/03/30	8:00	0	-
19/03/30	9:00	0	-
19/03/30	10:00	1.8	110
19/03/30	11:00	1.8	114
19/03/30	12:00	0.9	119
19/03/30	13:00	2.2	105
19/03/30	14:00	0.9	113
19/03/30	15:00	2.7	108
19/03/30	16:00	2.7	109
19/03/30	17:00	2.2	103
19/03/30	18:00	1.8	121
19/03/30	19:00	1.3	120
19/03/30	20:00	0	-
19/03/30	21:00	0.4	101
19/03/30	22:00	0.4	83
19/03/30	23:00	0.4	81

*Wind data is sourced from Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section

Legend

 Site Boundary



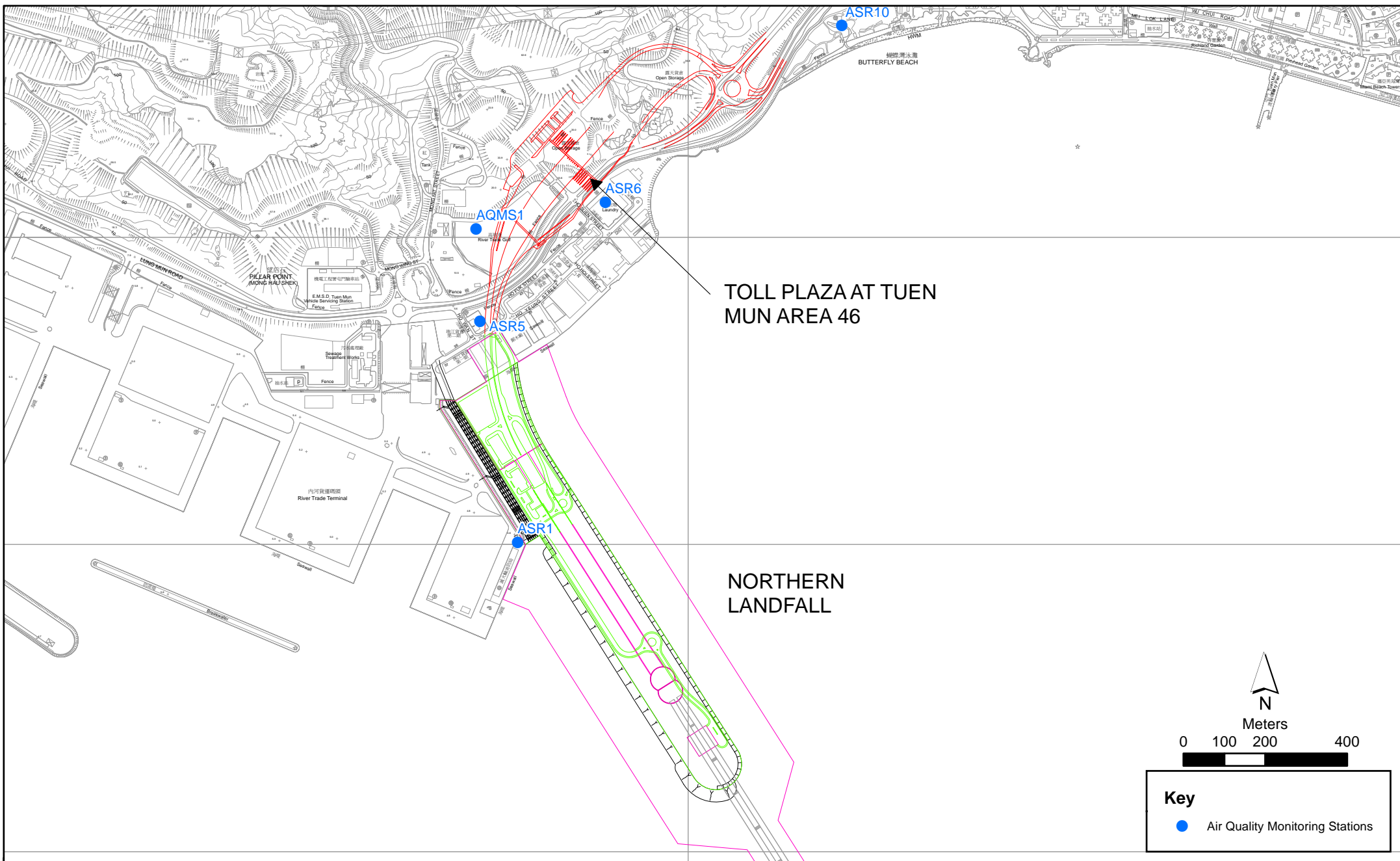


Figure 2.1

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
 (Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link -
 Northern Connection Sub-sea Tunnel Section)

Key
 ● Air Quality Monitoring Stations

**Environmental
 Resources
 Management**



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message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

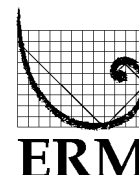
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern
Connection Tunnel Buildings, Electrical and
Mechanical Works

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 3 June 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

Action Level Exceedance
0463091_11May2019_1hrTSP_Station ASR1

One (1) exceedance was recorded on 11 May 2019.

Regards,

Dr Jasmine Ng
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2017/10

**TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION TUNNEL BUILDINGS,
ELECTRICAL AND MECHANICAL WORKS**

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> 0463091_11May2019_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
Date	11 May 2019 (Measured) 27 May 2019 (Results obtained from ENPO Website)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10, AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
Measured Levels	Refer to the attached data sheet.	
Works Undertaken (at the time of monitoring event)	Works undertaken under this Contract on 11 May 2019 included: <ul style="list-style-type: none"> ▪ Building structure at Administration Building, Maintenance Depot, Customs and Excise Building and Fire Services Building (<i>refer to Contractor's photo</i>) 	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • Apart from exceedance of 1-hr TSP at ASR1 during 09:03 – 10:03 on 11 May 2019, all 1-hr TSP levels and other 24-hr TSP levels at all monitoring stations were in compliance with the Action and Limit Levels on the same day. • With reference to the recorded wind direction (ranged between 95° and 98°, blowing from an easterly direction) during the works period, no works area under this contract is located upstream of Station ASR1. <p>Based on the above, the exceedances are unlikely to be due to the Contract.</p>	
Actions Taken/ To Be Taken	The Contractor has been reminded to ensure all dust suppression measures are implemented at the site area. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 11 May 2019 and locations of air quality monitoring stations are attached. The location of the works area under this Contract is attached. The attached wind data on 11 May 2019 is sourced from <i>Contract No. HY/2012/08</i> for reference.	

Results of Air Quality Monitoring

Project	Works	Date (yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-05-11	AQMS1	9:15	1-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	2019-05-11	AQMS1	10:17	1-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	2019-05-11	AQMS1	11:19	1-hour TSP	99	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR1	9:03	1-hour TSP	339	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR1	10:05	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR1	11:07	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR10	8:30	1-hour TSP	73	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR10	9:32	1-hour TSP	52	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR10	10:34	1-hour TSP	60	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR5	8:52	1-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR5	9:54	1-hour TSP	124	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR5	10:56	1-hour TSP	194	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR6	8:41	1-hour TSP	90	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR6	9:43	1-hour TSP	85	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR6	10:45	1-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	2019-05-11	AQMS1	12:21	24-hour TSP	41	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR1	12:09	24-hour TSP	87	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR10	11:36	24-hour TSP	48	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR5	11:58	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-05-11	ASR6	11:47	24-hour TSP	49	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

PHOTO BY CONTRACTOR ON 11 MAY 2019

Photo 1 - Building structure was conducted at works area of Customs and Excise Building



Photo 2 - Building structure was conducted at works area of Administration Building

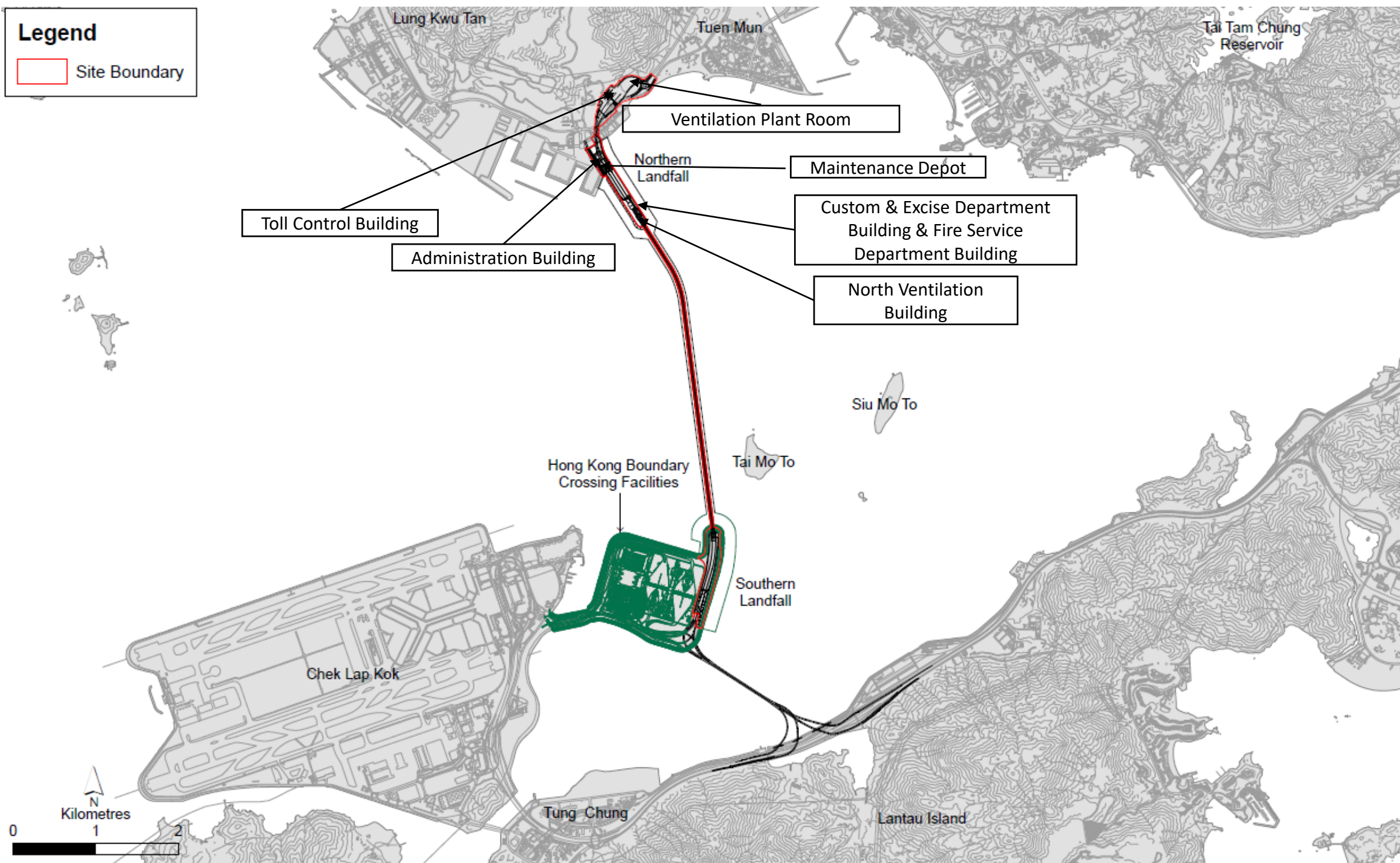


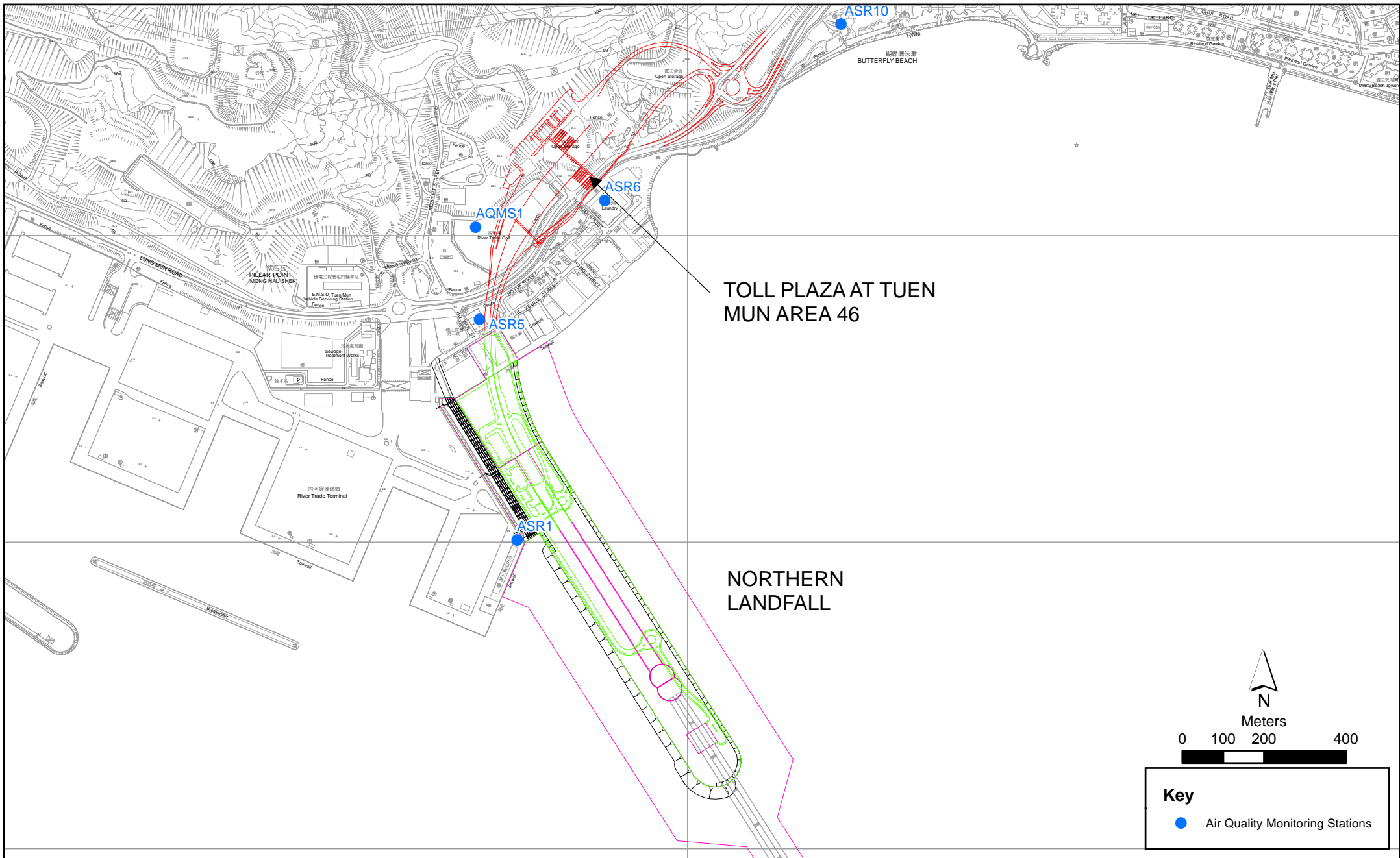
Meteorological Data for Impact Monitoring in the reporting period*			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Director (degree)
19/05/11	0:00	0.9	14
19/05/11	1:00	0	46
19/05/11	2:00	0.0	34
19/05/11	3:00	0.9	46
19/05/11	4:00	0.4	49
19/05/11	5:00	0.4	100
19/05/11	6:00	0.4	39
19/05/11	7:00	0.9	70
19/05/11	8:00	1.8	42
19/05/11	9:00	2.7	98
19/05/11	10:00	2.7	95
19/05/11	11:00	1.8	122
19/05/11	12:00	1.3	218
19/05/11	13:00	1.3	275
19/05/11	14:00	2.2	191
19/05/11	15:00	2.2	194
19/05/11	16:00	2.2	196
19/05/11	17:00	2.2	191
19/05/11	18:00	0.9	84
19/05/11	19:00	2.2	39
19/05/11	20:00	2.2	49
19/05/11	21:00	2.2	60
19/05/11	22:00	3.1	95
19/05/11	23:00	3.1	67

*Wind data is sourced from Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section

Legend

Site Boundary





TOLL PLAZA AT TUEN
MUN AREA 46

NORTHERN
LANDFALL



Meters

0 100 200 400

Key

- Air Quality Monitoring Stations

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
(Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link -
Northern Connection Sub-sea Tunnel Section)

Email
message

Environmental
Resources
Management

To Ramboll Hong Kong Limited (ENPO)

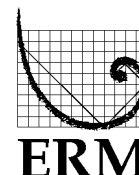
From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2017/10
Tuen Mun – Chek Lap Kok Link – Northern
Connection Tunnel Buildings, Electrical and
Mechanical Works

Subject Notification of Exceedance for Air Quality
Impact Monitoring

Date 3 June 2019

2507,
25/F One Harbourfront,
18 Tak Fung Street,
Hung Hom, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jasmine.ng@erm.com



Dear Sir/ Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

Action Level Exceedance

0463091_23May2019_1hrTSP_Station ASR1

0463091_23May2019_24hrTSP_Station ASR1

Two (2) exceedance was recorded on 23 May 2019.

Regards,

Dr Jasmine Ng
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2017/10

**TUEN MUN – CHEK LAP KOK LINK –
NORTHERN CONNECTION TUNNEL BUILDINGS,
ELECTRICAL AND MECHANICAL WORKS**

Air Quality Impact Monitoring

Notification of Exceedance

Log No.	<u>Action Level Exceedance</u> 0463091_23May2019_1hrTSP_Station ASR1 0463091_23May2019_24hrTSP_Station ASR1 [Total No. of Exceedances = 2]	
Date	23 May 2019 (Measured) 3 June 2019 (Results obtained from ENPO Website)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10, AQMS1	
Parameter(s) with Exceedance(s)	1- hr TSP 24-hr TSP	
Action Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 331 ASR5 = 340 ASR6 = 338 ASR10 = 335 AQMS1 = 337
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
Limit Levels	1-hr TSP ($\mu\text{g}/\text{m}^3$)	500
	24-hr TSP ($\mu\text{g}/\text{m}^3$)	260
Measured Levels	Refer to the attached data sheet.	
Works Undertaken (at the time of monitoring event)	Works undertaken under this Contract on 23 and 24 May 2019 included: ▪ Building structure at Administration Building, Maintenance Depot, Customs and Excise Building and Fire Services Building (<i>refer to Contractor's photo</i>)	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedances are unlikely to be due to the Contract, in view of the following:</p> <ul style="list-style-type: none"> • Apart from exceedance of 1-hr TSP at ASR1 during 13:44-14:44 on 23 May 2019 and 24-hr TSP at ASR1 during 23 May 2019 16:50 to 24 May 2019 16:50, all 1-hr TSP levels and other 24-hr TSP levels at all monitoring stations were in compliance with the Action and Limit Levels on the same day. • With reference to the recorded wind direction (ranged between 84° and 105° when 1-hr TSP exceedance was recorded and ranged between 59° to 101° when 24-hr TSP exceedance were recorded blowing from an easterly direction) during the works period, no works area under this contract is located upstream of Station ASR1. <p>Based on the above, the exceedances are unlikely to be due to the Contract.</p>	
Actions Taken/ To Be Taken	The Contractor has been reminded to ensure all dust suppression measures are implemented at the site area. The ET will monitor for future trends in exceedances.	
Remarks	The monitoring results on 23 May 2019 and locations of air quality monitoring stations are attached. The location of the works area under this Contract is attached. The attached wind data on 23 and 24 May 2019 is sourced from <i>Contract No. HY/2012/08</i> for reference.	

Results of Air Quality Monitoring

Project	Works	Date (yyyy-mm-dd)	Station	Time (hh:mm, 24hour)	Parameter	Results	Unit
TMCLKL	HY/2012/08	2019-05-23	AQMS1	13:55	1-hour TSP	145	ug/m3
TMCLKL	HY/2012/08	2019-05-23	AQMS1	14:57	1-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	2019-05-23	AQMS1	15:59	1-hour TSP	80	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR1	13:44	1-hour TSP	408	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR1	14:46	1-hour TSP	169	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR1	15:48	1-hour TSP	191	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR10	13:13	1-hour TSP	122	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR10	14:15	1-hour TSP	37	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR10	15:17	1-hour TSP	49	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR5	13:33	1-hour TSP	215	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR5	14:35	1-hour TSP	72	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR5	15:37	1-hour TSP	105	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR6	13:23	1-hour TSP	167	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR6	14:25	1-hour TSP	60	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR6	15:27	1-hour TSP	93	ug/m3
TMCLKL	HY/2012/08	2019-05-23	AQMS1	17:01	24-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR1	16:50	24-hour TSP	217	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR10	16:19	24-hour TSP	51	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR5	16:39	24-hour TSP	80	ug/m3
TMCLKL	HY/2012/08	2019-05-23	ASR6	16:29	24-hour TSP	71	ug/m3

Note: Indicates Exceedance of Action Level
Indicates Exceedance of Limit Level

PHOTO BY CONTRACTOR ON 23 AND 24 MAY 2019

Photo 1 - Building structure was conducted at works area of Customs and Excise Building (23 May 2019)



Photo 2- Building structure was conducted at works area of Customs and Excise Building (24 May 2019)



Photo 3 - Building structure was conducted at works area of Maintenance Depot (24 May 2019)

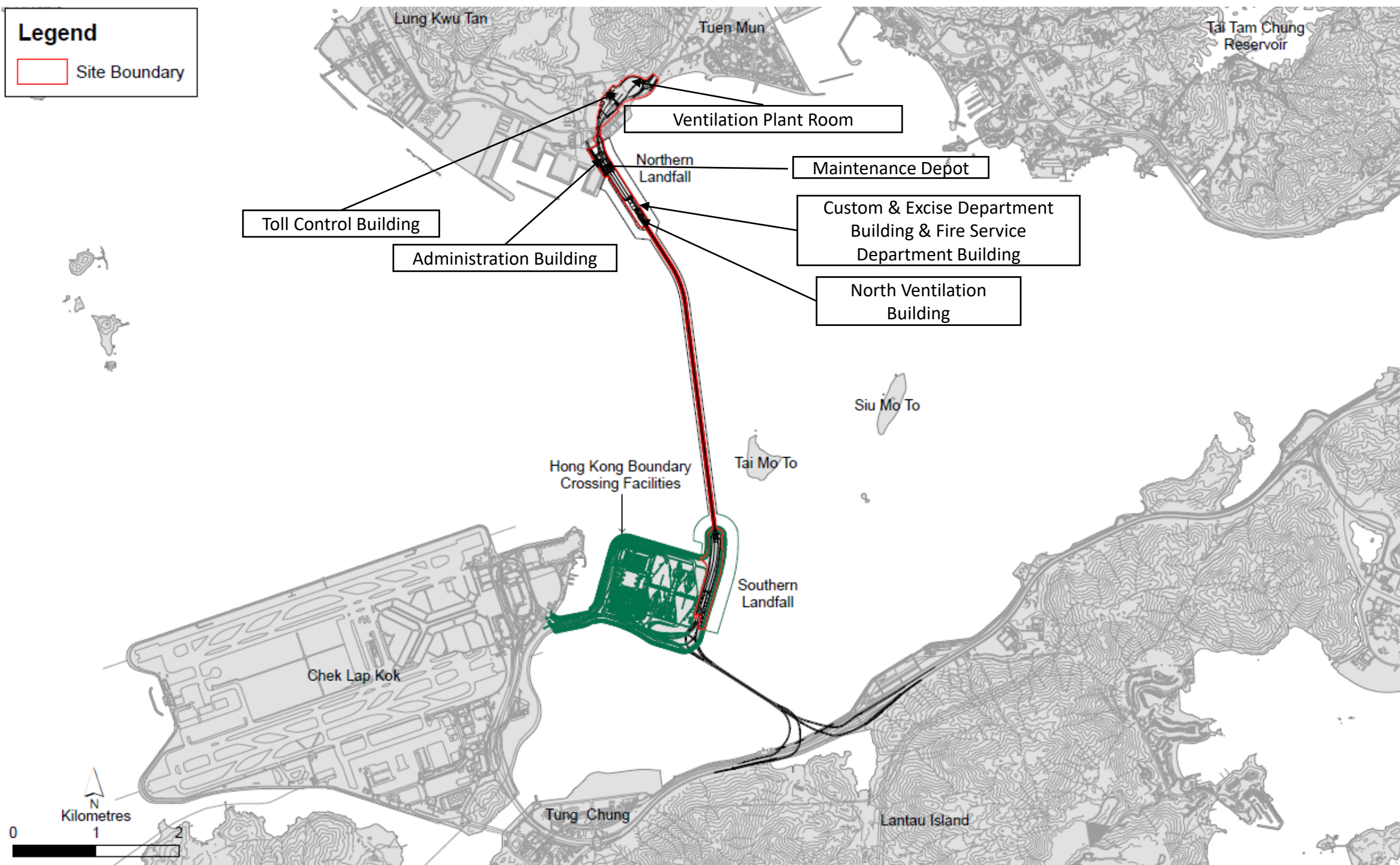


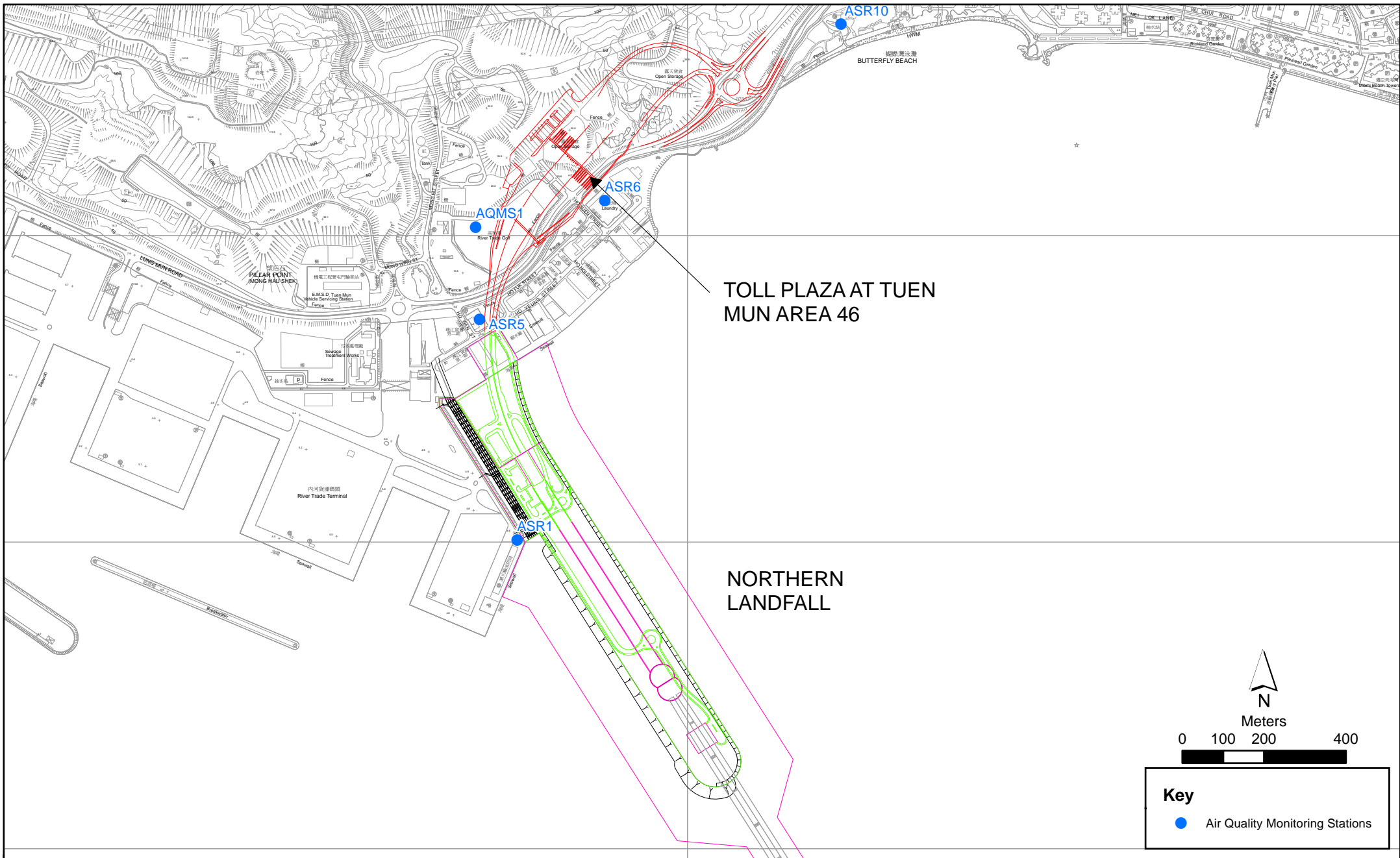
Meteorological Data for Impact Monitoring in the reporting period*			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Director (degree)
19/05/23	0:00	1.8	71
19/05/23	1:00	2.2	83
19/05/23	2:00	2.2	93
19/05/23	3:00	1.8	97
19/05/23	4:00	1.8	60
19/05/23	5:00	1.8	67
19/05/23	6:00	2.2	99
19/05/23	7:00	1.8	82
19/05/23	8:00	2.2	83
19/05/23	9:00	2.7	95
19/05/23	10:00	2.7	82
19/05/23	11:00	3.1	97
19/05/23	12:00	2.2	92
19/05/23	13:00	2.7	84
19/05/23	14:00	4	105
19/05/23	15:00	3.1	84
19/05/23	16:00	3.6	86
19/05/23	17:00	3.1	91
19/05/23	18:00	3.1	101
19/05/23	19:00	3.1	86
19/05/23	20:00	3.6	65
19/05/23	21:00	4	85
19/05/23	22:00	4.5	100
19/05/23	23:00	4.5	82
19/05/24	0:00	3.6	97
19/05/24	1:00	2.7	60
19/05/24	2:00	3.1	75
19/05/24	3:00	3.1	73
19/05/24	4:00	3.1	59
19/05/24	5:00	3.1	60
19/05/24	6:00	3.1	64
19/05/24	7:00	4	91
19/05/24	8:00	4.5	89
19/05/24	9:00	4.9	87
19/05/24	10:00	4.5	100
19/05/24	11:00	4.5	81
19/05/24	12:00	4.5	101
19/05/24	13:00	4.9	100
19/05/24	14:00	4.5	81
19/05/24	15:00	4.5	80
19/05/24	16:00	4.5	80
19/05/24	17:00	4.5	86
19/05/24	18:00	4.5	93
19/05/24	19:00	4	63
19/05/24	20:00	4	75
19/05/24	21:00	4.5	87
19/05/24	22:00	4.9	87
19/05/24	23:00	4.5	84

*Wind data is sourced from Contract No. HY/2012/08 Tuen Mun - Chek Lap Kok Link - Northern Connection Sub-sea Tunnel Section

Legend

Site Boundary





TOLL PLAZA AT TUEN
MUN AREA 46

NORTHERN
LANDFALL



Meters

0 100 200 400

Key

● Air Quality Monitoring Stations

Air Quality Monitoring Stations for the Enhanced TSP Monitoring
(Source: Adopted from Contract No. HY/2012/08 Tuen Mun-Chek Lap Kok Link -
Northern Connection Sub-sea Tunnel Section)



ENVIRONMENTAL COMPLAINT/ ENQUIRY FORM

Complaint/ Enquiry Received*
Date: 22 May 2019 Time: Undisclosed From: Environmental Protection Department (EPD) Via: Email
Complainant/ Enquirer*: Name: Undisclosed Tel: Undisclosed Address: Undisclosed Media: Dust / Other Description: A complaint was received by EPD regarding construction dust nuisance at Northern Landfall of the sub-sea tunnel of Tuen Mun - Chek Lap Kok Link. The complaint reported that dust nuisance was generated at near the River Trade Terminal and Chu Kong Warehouse. The Environmental Team (ET) received the complaint notification from the Independent Environmental Checker (IEC) on 22 May 2019.

Investigation Report & Response

<p>Site records provided by the Contractor were reviewed upon receiving the complaint. Based on the site records, major works under this Contract included structure building at Maintenance Depot and Administration Building near the River Trade Terminal and Chu Kong Warehouse which are not major dust generating works.</p> <p>Site inspection was carried out on 24 May 2019. During the site inspection, no particular finding was observed. There were no major unpaved roads in the site boundary of this Contract and majors works under this contract near the River Trade Terminal and Chu Kong Warehouse were structure building which are not major dust generating works (see <i>Annex A</i>). Construction site boundary under this Contract is shown in <i>Figure 1</i>.</p> <p>Action level exceedances on 1-hour TSP and 24-hour TSP at ASR1 were recorded on 23 May 2019. However, as the complaint was received on 22 May 2019, it is not likely to be related to the exceedances recorded on 23 May 2019.</p> <p>Upon investigation, there is no evidence to indicate that the complaint case is related to this Contract.</p>

Mitigation Measures and Follow-Up Actions Recommended to Contractor

<p>Based on the investigation, there is no evidence to indicate that the complaint case is related to this Contract and thus no further action will be required. The Contractor has been reminded to maintain watering for at least 12 times per day at any unpaved road throughout the construction period. Increase in watering frequency should also be considered when necessary.</p>

Date of File Closed : 12 June 2019

Approved and Filed by:

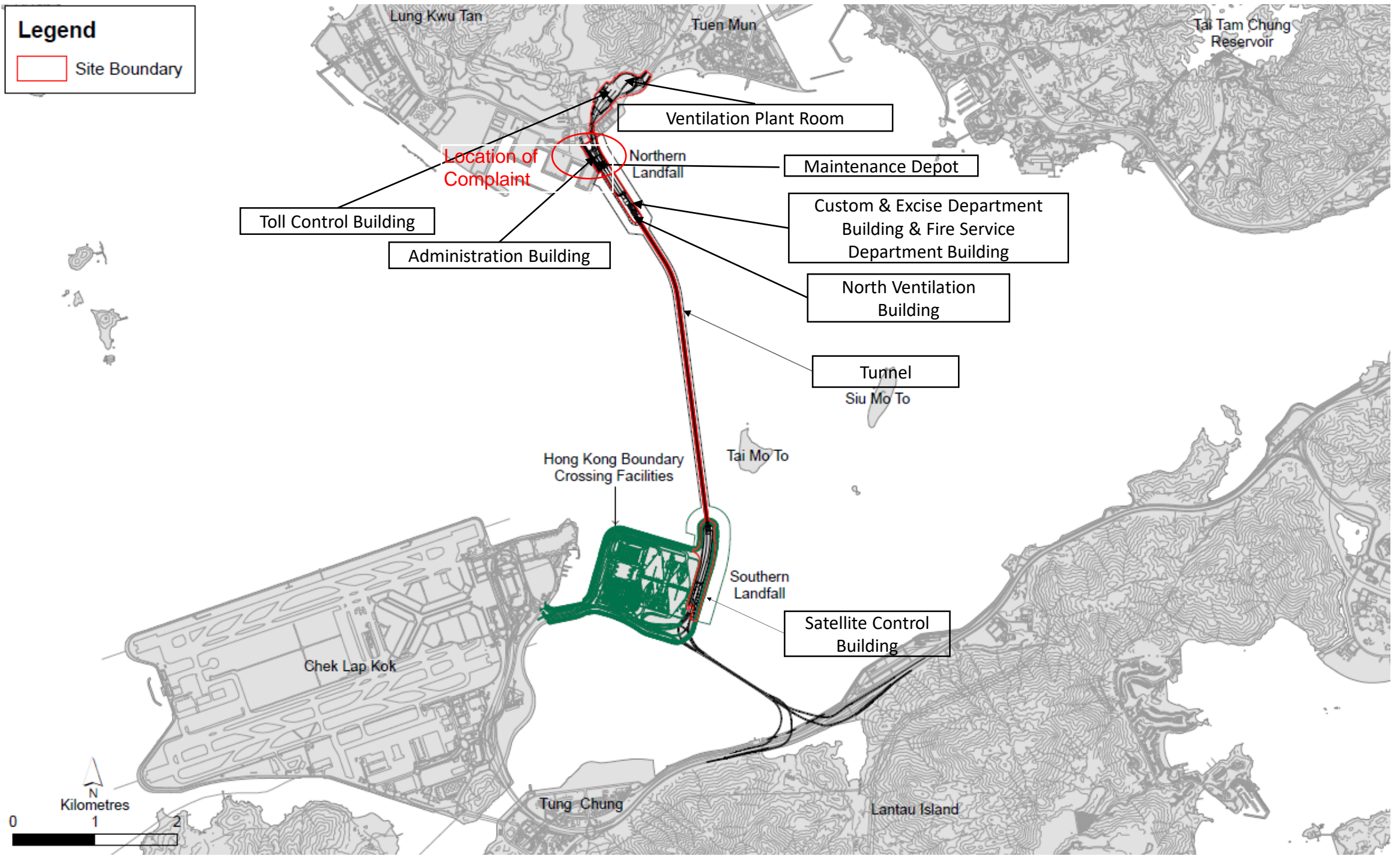
A handwritten signature in blue ink that reads 'Jasmine'.

(Dr Jasmine Ng, ET Leader)

Date: 30 May 2019

Legend

Site Boundary



Annex A

Photo of site inspection at
Northern Landfall on 24
May 2019

Photo 1 - Structure building at Maintenance Depot

