

## Appendix J

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

**Table J1**      *Cumulative Statistics on Exceedances*

Monitoring Parameters	Action/Limit Level	Total No. recorded in this reporting quarter	Total No. recorded since Contract commencement
1-Hr TSP	Action	8	87
	Limit	1	6
24-Hr TSP	Action	1	9
	Limit	0	4
Water Quality	Action	0	20
	Limit	0	1
Impact Dolphin Monitoring	Action	0	11
	Limit	1	14

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

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This Reporting Period (December 2018 to February 2019)	0	0	0
Total No. received since Contract commencement	16	1	0

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

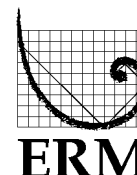
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun–Chek Lap  
Kok Link–Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 14 December 2018

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hunghom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



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Dear Sir or Madam,

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

0212330\_9December2018\_1hrTSP\_Station ASR1

One Action Level Exceedance was recorded on 9 December 2018.

Regards,

A handwritten signature in black ink, appearing to read 'Jasmine', written in a cursive style.

Dr Jasmine Ng  
Environmental Team Leader

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ERM-Hong Kong, Limited

**CONTRACT NO. HY/2012/08**  
**TUEN MUN – CHEK LAP KOK LINK –**  
**NORTHERN CONNECTION SUB-SEA TUNNEL SECTION**

**Air Quality Impact Monitoring**  
**Notification of Exceedance**

<b>Log No.</b>	0212330_9December2018_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
<b>Date</b>	9 December 2018 (Measured) 14 December 2018 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	1-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 1-hr TSP is observed at ASR1 ( $346 \mu\text{g}/\text{m}^3$ ) during 1044 – 1144 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 9 December 2018, no construction works was carried out on site.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, no construction works was carried out on site on 9 December 2018. The Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>According to the construction information provided by the Contractor, no construction works was carried out on 9 December 2018. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photo record is provided in Annex A. Photos taken during AQM are also provided.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data, and the locations of air quality monitoring stations are attached.



## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 9/12/2018



Water truck was used for dust control. (Works Area Portion N-C)



Water spraying was applied on the main haul road. (Works Area Portion N-C)





## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 9/12/2018



Water spraying was applied on the main haul road. (Works Area Portion N-A)



Dusty material was covered by tarpaulin sheets. (Works Area Portion N-A)



## Annex A      Photos taken during AQM

\*Note: Photos taken on 9/12/2018



ASR1



ASR1



Air quality monitoring results on 9/12/2018								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	9/12/2018	AQMS1	Cloudy	8:52	1-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	9/12/2018	AQMS1	Cloudy	9:54	1-hour TSP	57	ug/m3
TMCLKL	HY/2012/08	9/12/2018	AQMS1	Cloudy	10:56	1-hour TSP	75	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR1	Cloudy	8:40	1-hour TSP	135	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR1	Cloudy	9:42	1-hour TSP	212	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR1	Cloudy	10:44	1-hour TSP	346	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR10	Cloudy	8:05	1-hour TSP	74	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR10	Cloudy	9:07	1-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR10	Cloudy	10:09	1-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR5	Cloudy	8:28	1-hour TSP	201	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR5	Cloudy	9:30	1-hour TSP	194	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR5	Cloudy	10:32	1-hour TSP	194	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR6	Cloudy	8:16	1-hour TSP	134	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR6	Cloudy	9:18	1-hour TSP	97	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR6	Cloudy	10:20	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	9/12/2018	AQMS1	Cloudy	11:58	24-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR1	Cloudy	11:46	24-hour TSP	62	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR10	Cloudy	11:09	24-hour TSP	40	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR5	Cloudy	11:34	24-hour TSP	117	ug/m3
TMCLKL	HY/2012/08	9/12/2018	ASR6	Cloudy	11:22	24-hour TSP	53	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/12/09	0:00	2.7	21
18/12/09	1:00	3.1	34
18/12/09	2:00	2.2	55
18/12/09	3:00	2.2	39
18/12/09	4:00	1.3	18
18/12/09	5:00	1.3	56
18/12/09	6:00	1.8	56
18/12/09	7:00	1.8	38
18/12/09	8:00	2.2	36
18/12/09	9:00	2.7	14
18/12/09	10:00	1.8	32
18/12/09	11:00	0.9	43
18/12/09	12:00	0.9	41
18/12/09	13:00	1.3	348
18/12/09	14:00	2.2	331
18/12/09	15:00	3.1	326
18/12/09	16:00	1.8	330
18/12/09	17:00	1.3	13
18/12/09	18:00	1.3	4
18/12/09	19:00	1.8	18
18/12/09	20:00	1.8	53
18/12/09	21:00	0.9	336
18/12/09	22:00	1.3	27
18/12/09	23:00	1.3	44

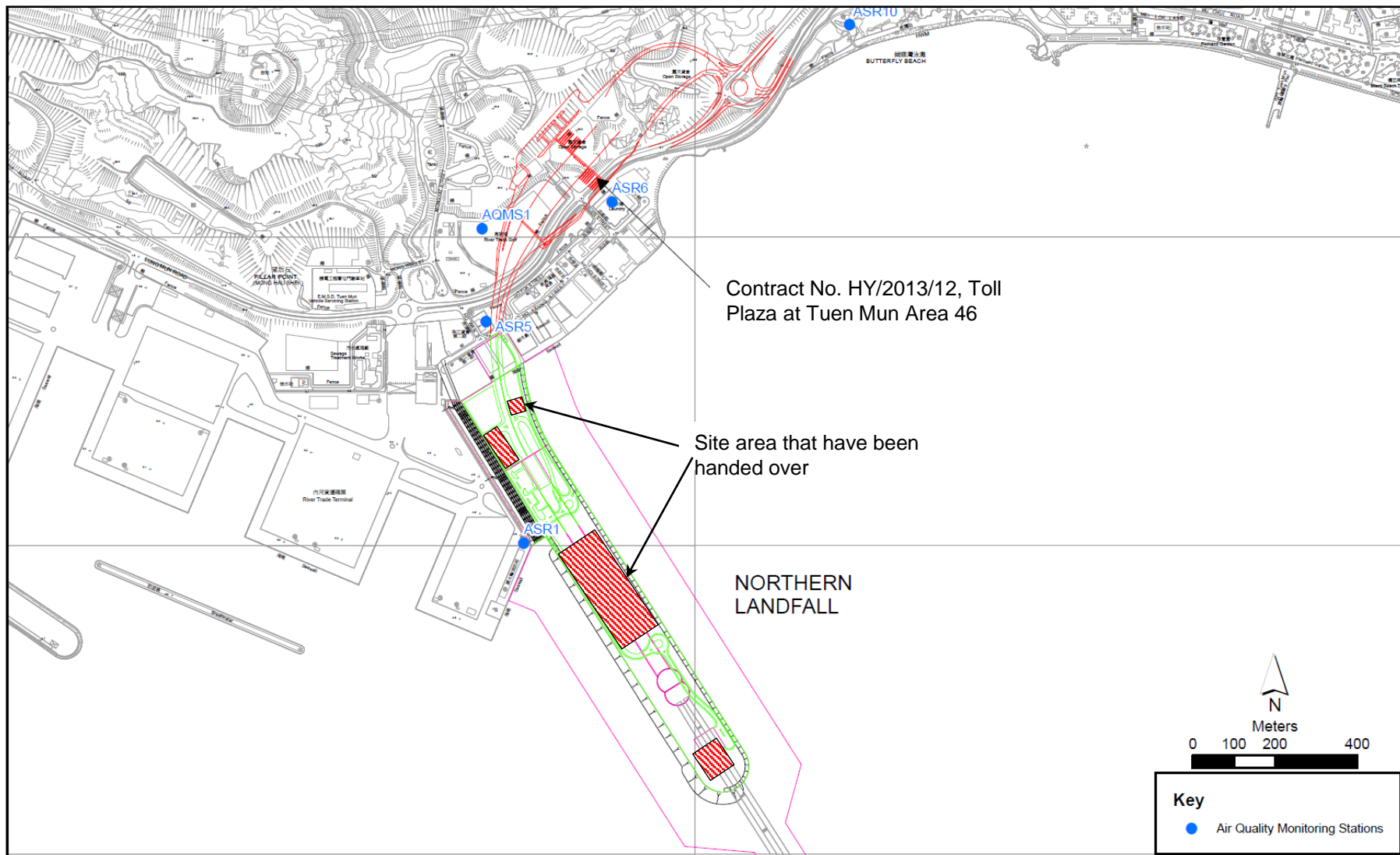


Figure 1

No construction works was carried out on 9 December 2018

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun-Chek Lap  
Kok Link-Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 24 December 2018

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



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Dear Sir or Madam,

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

0212330\_12December2018\_1hrTSP\_Station ASR1

One Action Level Exceedance was recorded on 12 December 2018.

Regards,

Dr Jasmine Ng  
Environmental Team Leader

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# ERM-Hong Kong, Limited

## CONTRACT NO. HY/2012/08 TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

### Air Quality Impact Monitoring Notification of Exceedance

<b>Log No.</b>	0212330_12December2018_1hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
<b>Date</b>	12 December 2018 (Measured) 24 December 2018 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	1-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 1-hr TSP is observed at ASR1 ( $414 \mu\text{g}/\text{m}^3$ ) during 1331 – 1431 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 12 December 2018, TBM tunnel works and surcharge removal was carried out at Portion N-C on the site.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 12 December 2018 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	



<b>Actions Taken/ To Be Taken</b>	<p>According to the construction information provided by the Contractor, TBM tunnel works and surcharge removal was carried out on 12 December 2018. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos are provided in Annex A. Photos taken during AQM are also provided in Annex A.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results and the locations of air quality monitoring stations are attached.



## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 12/12/2018



Water truck was used for dust control during surcharge removal. (Works Area Portion N-C)



Water spraying was applied on the main haul road. (Works Area Portion N-C)



## Annex A      Photos taken during AQM

\*Note: Photos taken on 12/12/2018



No significant dust impact was observed during AQM at ASR1.

Air quality monitoring results on 12/12/2018								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	12/12/2018	AQMS1	Cloudy	13:41	1-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	12/12/2018	AQMS1	Cloudy	14:43	1-hour TSP	79	ug/m3
TMCLKL	HY/2012/08	12/12/2018	AQMS1	Cloudy	15:45	1-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR1	Cloudy	13:31	1-hour TSP	414	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR1	Cloudy	14:33	1-hour TSP	174	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR1	Cloudy	15:35	1-hour TSP	142	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR10	Cloudy	13:00	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR10	Cloudy	14:02	1-hour TSP	77	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR10	Cloudy	15:04	1-hour TSP	80	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR5	Cloudy	13:20	1-hour TSP	340	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR5	Cloudy	14:22	1-hour TSP	171	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR5	Cloudy	15:24	1-hour TSP	168	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR6	Cloudy	13:10	1-hour TSP	230	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR6	Cloudy	14:12	1-hour TSP	111	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR6	Cloudy	15:14	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	12/12/2018	AQMS1	Cloudy	16:47	24-hour TSP	73	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR1	Cloudy	16:27	24-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR10	Cloudy	16:06	24-hour TSP	69	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR5	Cloudy	16:26	24-hour TSP	142	ug/m3
TMCLKL	HY/2012/08	12/12/2018	ASR6	Cloudy	16:16	24-hour TSP	93	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/12/12	0:00	1.8	313
18/12/12	1:00	1.8	282
18/12/12	2:00	1.8	297
18/12/12	3:00	1.8	306
18/12/12	4:00	1.8	316
18/12/12	5:00	0.9	348
18/12/12	6:00	1.3	281
18/12/12	7:00	1.3	55
18/12/12	8:00	1.8	295
18/12/12	9:00	1.3	298
18/12/12	10:00	1.8	19
18/12/12	11:00	1.3	344
18/12/12	12:00	0.9	321
18/12/12	13:00	1.3	347
18/12/12	14:00	2.2	304
18/12/12	15:00	1.3	306
18/12/12	16:00	1.8	322
18/12/12	17:00	1.8	303
18/12/12	18:00	0.9	289
18/12/12	19:00	0.9	327
18/12/12	20:00	1.3	3
18/12/12	21:00	0.9	260
18/12/12	22:00	1.8	18
18/12/12	23:00	1.8	40



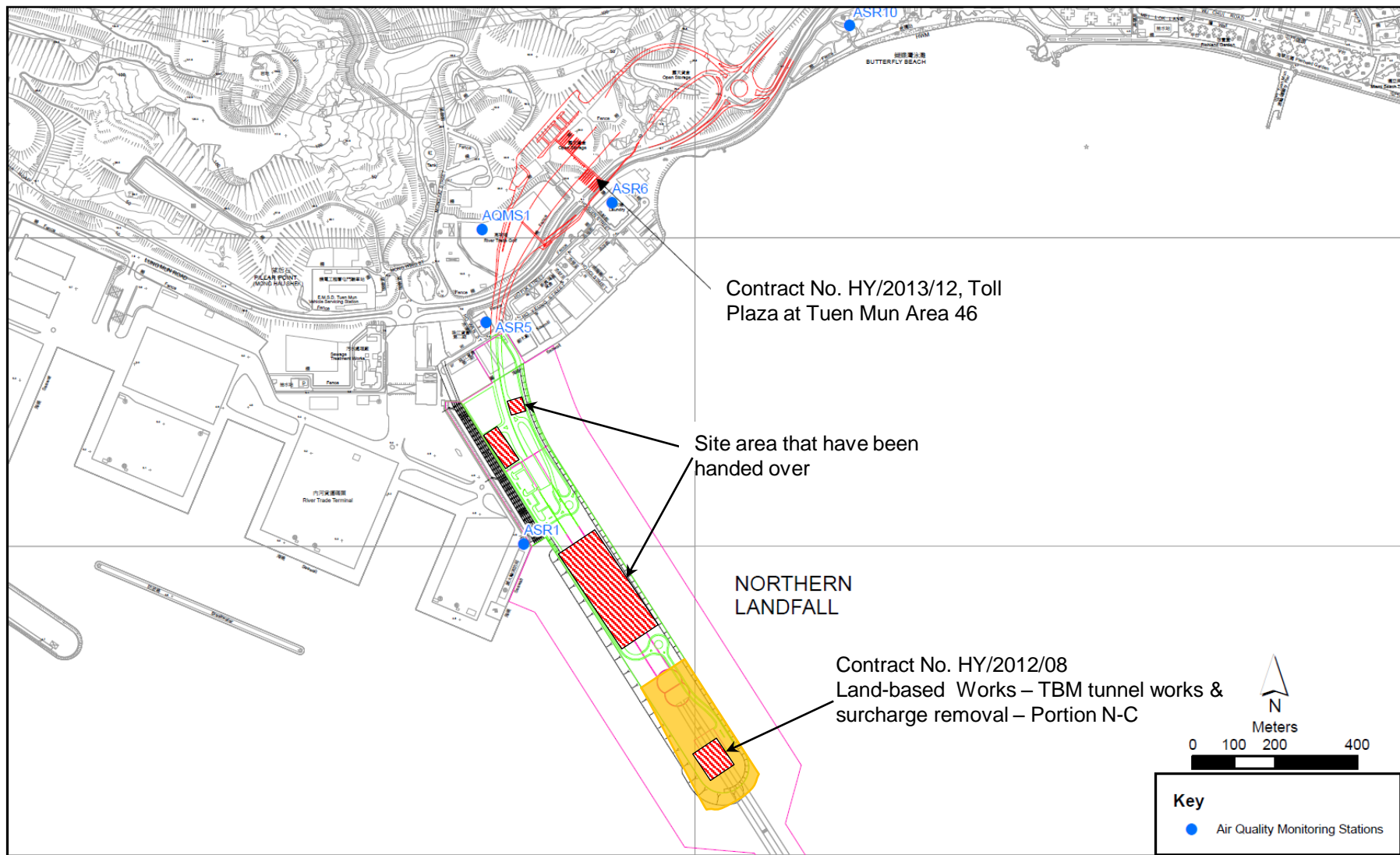


Figure 1

Indicative Construction Works Area on 12 December 2018

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

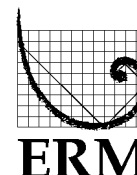
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun-Chek Lap  
Kok Link-Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 28 December 2018

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



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Dear Sir or Madam,

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

0212330\_18December2018\_1hrTSP\_Station ASR6

One Action Level Exceedance was recorded on 18 December 2018.

Regards,

Dr Jasmine Ng  
Environmental Team Leader

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**ERM-Hong Kong, Limited**

**CONTRACT NO. HY/2012/08  
TUEN MUN – CHEK LAP KOK LINK –  
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION**

**Air Quality Impact Monitoring  
Notification of Exceedance**

<b>Log No.</b>	<b>0212330_18December2018_1hrTSP_Station ASR6</b> <b>[Total No. of Exceedances = 1]</b>	
<b>Date</b>	18 December 2018 (Measured) 26 December 2018 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	1-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 1-hr TSP is observed at ASR6 ( $478 \mu\text{g}/\text{m}^3$ ) during 1416 – 1516 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 18 December 2018, TBM tunnel works and surcharge removal was carried out at Portion N-C.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 18 December 2018 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>According to the construction information provided by the Contractor, TBM tunnel works and surcharge removal was carried out on 18 December 2018. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos are provided in Annex A.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data and the locations of air quality monitoring stations are attached.



## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 18/12/2018



Water spraying was applied on the main haul road. (Works Area Portion N-A)



Water spraying was applied on the main haul road. (Works Area Portion N-A)





## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 18/12/2018



Water spraying was applied on the main haul road. (Works Area Portion N-A)



Water spraying was applied on the main haul road. (Works Area Portion N-C)

Air quality monitoring results on 18/12/2018								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	18/12/2018	AQMS1	Sunny	13:49	1-hour TSP	118	ug/m3
TMCLKL	HY/2012/08	18/12/2018	AQMS1	Sunny	14:51	1-hour TSP	188	ug/m3
TMCLKL	HY/2012/08	18/12/2018	AQMS1	Sunny	15:53	1-hour TSP	151	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR1	Sunny	13:37	1-hour TSP	207	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR1	Sunny	14:39	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR1	Sunny	15:41	1-hour TSP	174	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR10	Sunny	13:03	1-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR10	Sunny	14:05	1-hour TSP	73	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR10	Sunny	15:07	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR5	Sunny	13:26	1-hour TSP	311	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR5	Sunny	14:30	1-hour TSP	193	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR5	Sunny	15:32	1-hour TSP	192	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR6	Sunny	13:14	1-hour TSP	224	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR6	Sunny	14:16	1-hour TSP	478	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR6	Sunny	15:18	1-hour TSP	123	ug/m3
TMCLKL	HY/2012/08	18/12/2018	AQMS1	Sunny	16:55	24-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR1	Sunny	16:43	24-hour TSP	131	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR10	Sunny	16:09	24-hour TSP	66	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR5	Sunny	16:34	24-hour TSP	134	ug/m3
TMCLKL	HY/2012/08	18/12/2018	ASR6	Sunny	16:20	24-hour TSP	94	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
18/12/18	0:00	1.3	339
18/12/18	1:00	0.9	335
18/12/18	2:00	0.4	50
18/12/18	3:00	0.9	335
18/12/18	4:00	0.9	56
18/12/18	5:00	0.4	81
18/12/18	6:00	0.9	81
18/12/18	7:00	0.9	99
18/12/18	8:00	1.3	83
18/12/18	9:00	1.3	86
18/12/18	10:00	1.3	35
18/12/18	11:00	1.8	31
18/12/18	12:00	1.3	130
18/12/18	13:00	3.1	140
18/12/18	14:00	3.6	103
18/12/18	15:00	3.1	114
18/12/18	16:00	4	132
18/12/18	17:00	4	110
18/12/18	18:00	2.7	84
18/12/18	19:00	2.2	101
18/12/18	20:00	1.8	36
18/12/18	21:00	1.8	34
18/12/18	22:00	1.8	43
18/12/18	23:00	1.8	49

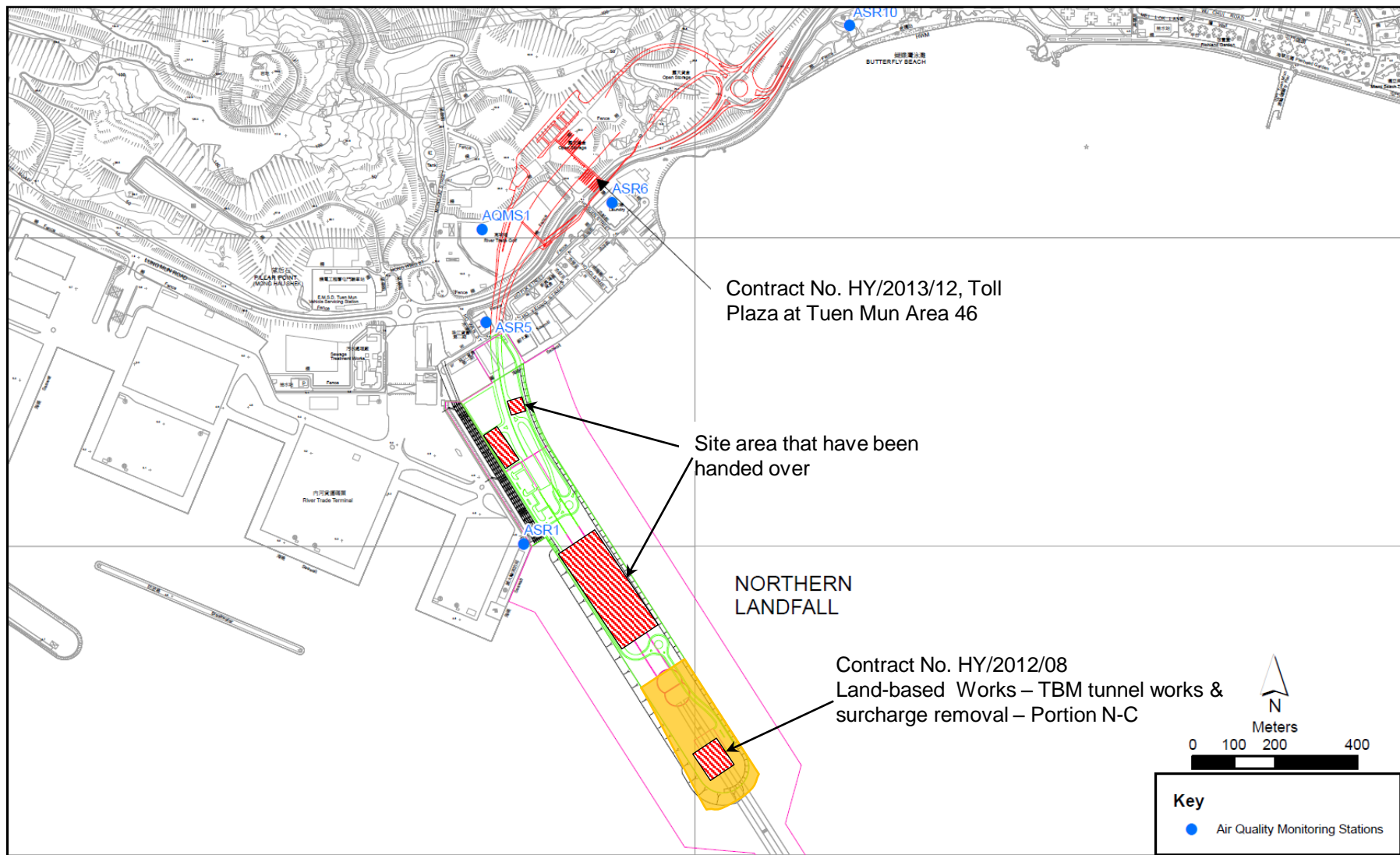


Figure 1

Indicative Construction Works Area on 18 December 2018

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

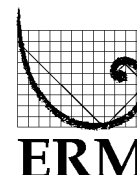
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun-Chek Lap  
Kok Link-Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 17 January 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_8January2019\_1hrTSP\_Station ASR5

One Action Level Exceedance was recorded on 8 January 2019.

Regards,

Dr Jasmine Ng  
Environmental Team Leader

---

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**ERM-Hong Kong, Limited**

**CONTRACT NO. HY/2012/08  
TUEN MUN – CHEK LAP KOK LINK –  
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION**

**Air Quality Impact Monitoring  
Notification of Exceedance**

<b>Log No.</b>	0212330_8January2019_1hrTSP_Station ASR5 [Total No. of Exceedances = 1]	
<b>Date</b>	8 January 2019 (Measured) 17 January 2019 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	1-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 1-hr TSP is observed at ASR5 ( $354 \mu\text{g}/\text{m}^3$ ) during 1320 – 1420 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 8 January 2019, TBM tunnel works and surcharge removal was carried out at Portion N-C.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 8 January 2019 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>According to the construction information provided by the Contractor, TBM tunnel works and surcharge removal was carried out on 8 January 2019. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos are provided in Annex A. Water spraying record is also provided.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data and the locations of air quality monitoring stations are attached.



## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 8/1/2019



Water truck is used for water spraying at the works area. (Works Area Portion N-C)



Water spraying was applied on the main haul road. (Works Area Portion N-A)



## Annex A      Photos taken during AQM

\*Note: Photos taken on 8/1/2019



ASR5



ASR5

Air quality monitoring results on 8/1/2019								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	2019-01-08	AQMS1	Cloudy	13:41	1-hour TSP	179	ug/m3
TMCLKL	HY/2012/08	2019-01-08	AQMS1	Cloudy	14:43	1-hour TSP	192	ug/m3
TMCLKL	HY/2012/08	2019-01-08	AQMS1	Cloudy	15:45	1-hour TSP	193	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR1	Cloudy	13:30	1-hour TSP	184	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR1	Cloudy	14:32	1-hour TSP	281	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR1	Cloudy	15:34	1-hour TSP	193	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR10	Cloudy	13:00	1-hour TSP	162	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR10	Cloudy	14:02	1-hour TSP	189	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR10	Cloudy	15:04	1-hour TSP	192	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR5	Cloudy	13:20	1-hour TSP	354	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR5	Cloudy	14:22	1-hour TSP	292	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR5	Cloudy	15:24	1-hour TSP	275	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR6	Cloudy	13:10	1-hour TSP	239	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR6	Cloudy	14:12	1-hour TSP	231	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR6	Cloudy	15:14	1-hour TSP	197	ug/m3
TMCLKL	HY/2012/08	2019-01-08	AQMS1	Cloudy	16:47	24-hour TSP	97	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR1	Cloudy	16:36	24-hour TSP	135	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR10	Cloudy	16:06	24-hour TSP	90	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR5	Cloudy	16:26	24-hour TSP	175	ug/m3
TMCLKL	HY/2012/08	2019-01-08	ASR6	Cloudy	16:16	24-hour TSP	119	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/01/08	0:00	0	-
19/01/08	1:00	0	-
19/01/08	2:00	0	-
19/01/08	3:00	0.4	47
19/01/08	4:00	0.9	44
19/01/08	5:00	1.3	93
19/01/08	6:00	0.9	111
19/01/08	7:00	1.3	95
19/01/08	8:00	0.4	88
19/01/08	9:00	0.9	113
19/01/08	10:00	0.4	163
19/01/08	11:00	0.9	159
19/01/08	12:00	1.3	228
19/01/08	13:00	0.9	210
19/01/08	14:00	0.9	204
19/01/08	15:00	0.9	221
19/01/08	16:00	0.4	250
19/01/08	17:00	0.9	182
19/01/08	18:00	1.8	345
19/01/08	19:00	1.3	309
19/01/08	20:00	1.3	295
19/01/08	21:00	0.9	299
19/01/08	22:00	1.3	297
19/01/08	23:00	0.4	346



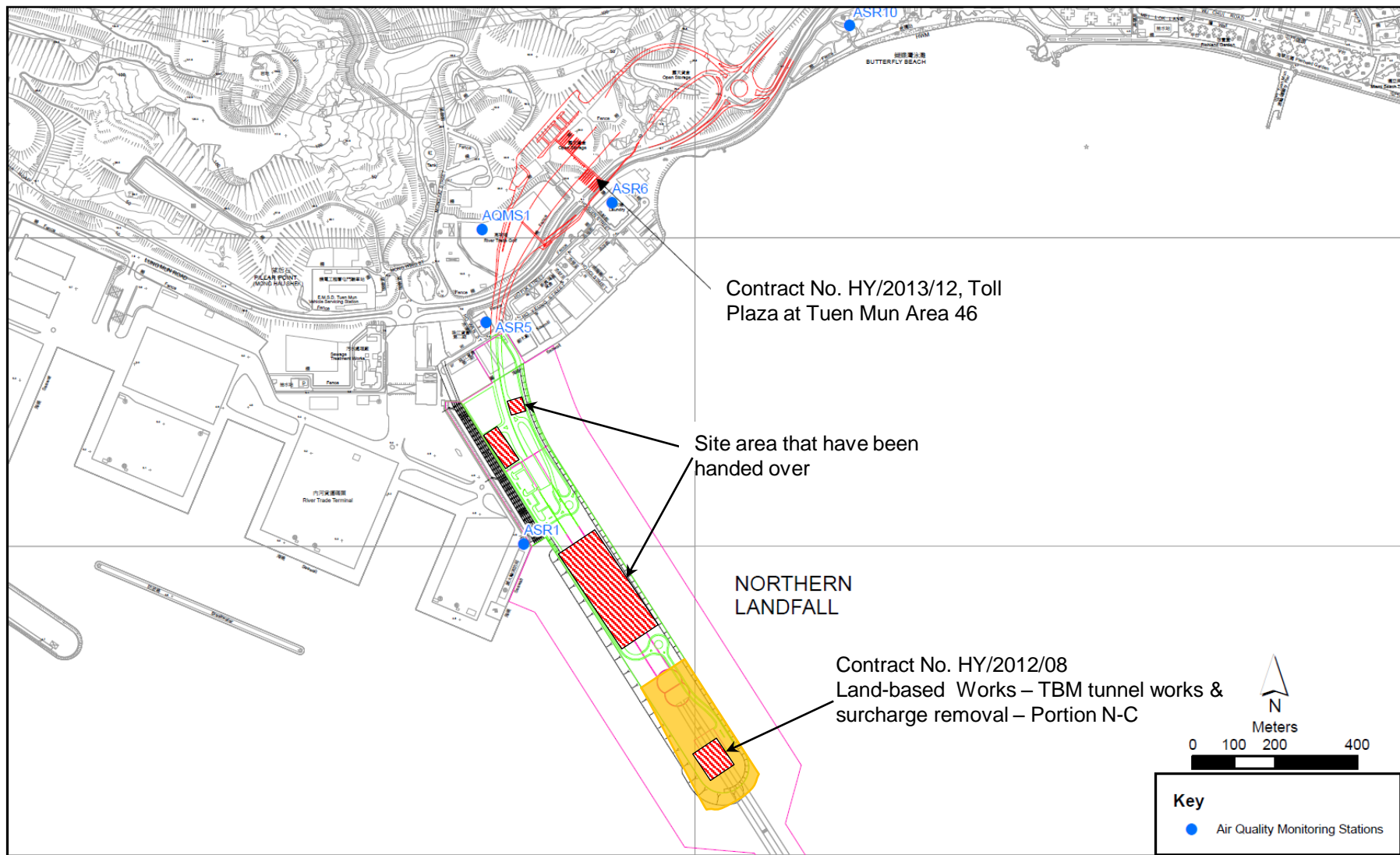


Figure 1

Indicative Construction Works Area on 8 January 2019

Site Location 地盤位置:

Date 日期:

Northern Landfill

5 Jan 2019 to 至 11 Jan 2019

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	✓	✓	✓	✓	✓	✓	✓
2	8:45 – 9:30	✓	✓	✓	✓	✓	✓	✓
3	9:30 – 10:15	✓	✓	✓	✓	✓	✓	✓
4	10:15 – 11:00	✓	✓	✓	✓	✓	✓	✓
5	11:00 – 11:45	✓	✓	✓	✓	✓	✓	✓
6	11:45 – 12:30	✓	✓	✓	✓	✓	✓	✓
7	12:30 – 13:15	✓	✓	✓	✓	✓	✓	✓
8	13:15 – 14:00	✓	✓	✓	✓	✓	✓	✓
9	14:00 – 14:45	✓	✓	✓	✓	✓	✓	✓
10	14:45 – 15:30	✓	✓	✓	✓	✓	✓	✓
11	15:30 – 16:45	✓	✓	✓	✓	✓	✓	✓
12	16:45 – 17:30	✓	✓	✓	✓	✓	✓	✓
	Verified by Site Foreman 地盤科文簽署確認	✓	✓	✓	✓	✓	✓	✓

**Night shift 夜間工作 (if necessary 如需要)**

	17:30 – 19:00						
	19:00 – 20:30						
	20:30 – 22:00						
	22:00 – 23:00						

\*Please - tick (✓) in the box if complete the spraying of water.  
circle (O) in the box if it is raining.

\*如果 - 已經完成灑水, 請於方格內加上剔號(✓)。  
是下雨天, 請於方格內加上圓圈(O)。

**Remarks:**

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

**備註:**

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

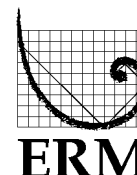
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun–Chek Lap  
Kok Link–Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 17 January 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hunghom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_11January2019\_1hrTSP\_Station ASR1  
0212330\_11January2019\_1hrTSP\_Station ASR5

Two Action Level Exceedances were recorded on 11 January 2019.

Regards,

A handwritten signature in black ink, appearing to read 'Jasmine', written in a cursive style.

Dr Jasmine Ng  
Environmental Team Leader

---

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08  
TUN MUN – CHEK LAP KOK LINK –  
NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

Air Quality Impact Monitoring  
Notification of Exceedance

Log No.	0212330_11January2019_1hrTSP_Station ASR1 0212330_11January2019_1hrTSP_Station ASR5 [Total No. of Exceedances = 2]	
Date	11 January 2019 (Measured) 17 January 2019 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR1 ( $335 \mu\text{g}/\text{m}^3$ ) during 1339 – 1439 hrs. Action Level Exceedance for 1-hr TSP is observed at ASR5 ( $398 \mu\text{g}/\text{m}^3$ ) during 1327 – 1427 hrs.	
Works Undertaken (at the time of monitoring event)	On 11 January 2019, TBM tunnel works and surcharge removal was carried out at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 11 January 2019 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>Follow-up site inspection was carried out on 23 January 2019. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos are provided in Annex A.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data and the locations of air quality monitoring stations are attached.





## Annex A      Photos taken during site inspection

\*Note: Photos taken on 23/1/2019



Water truck is used for water spraying at works area. (Works Area Portion N-C)



Exposed soil is covered by tarpaulin sheets to prevent dust. (Works Area Portion N-C)



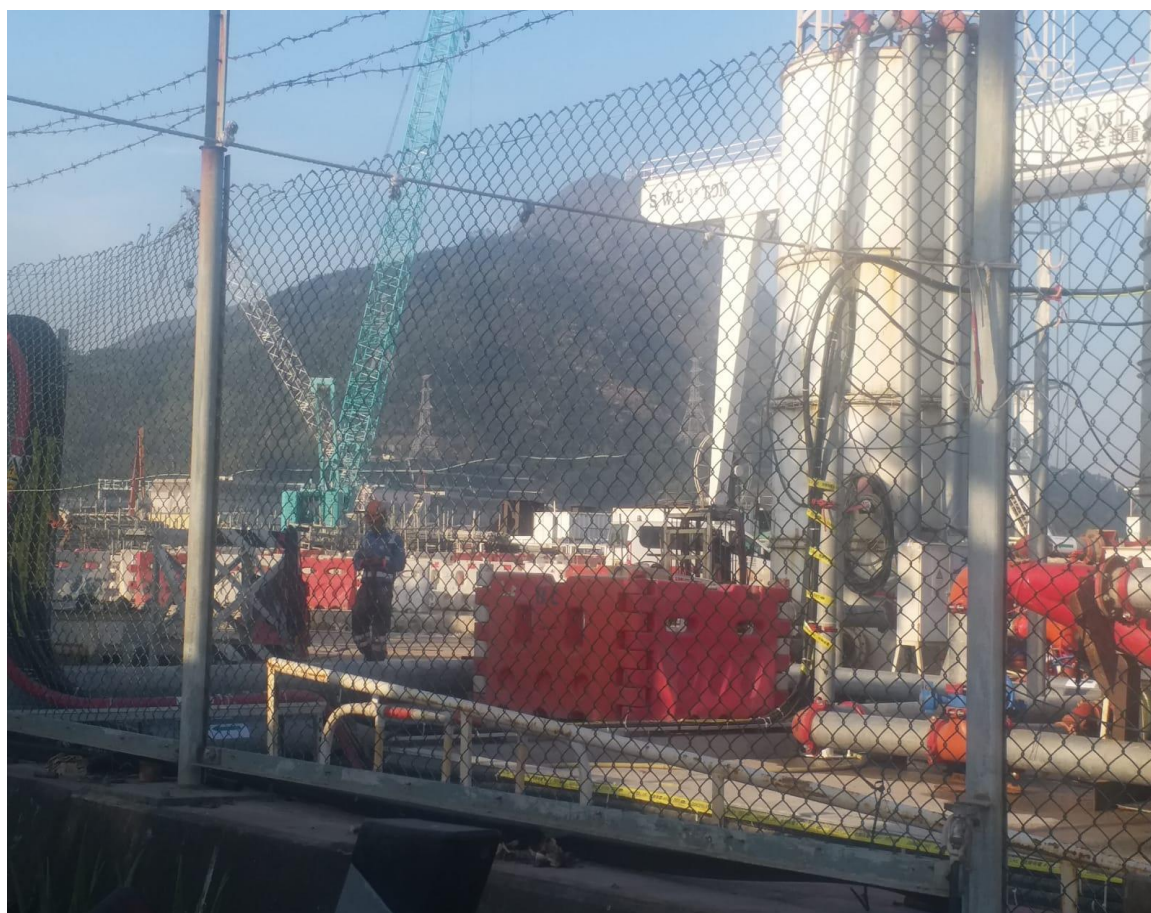


## Annex A      Photos taken during AQM

\*Note: Photos taken on 11/1/2019



ASR5



ASR1

Air quality monitoring results on 11/1/2019								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	11/1/2019	AQMS1	Cloudy	13:50	1-hour TSP	214	ug/m3
TMCLKL	HY/2012/08	11/1/2019	AQMS1	Cloudy	14:52	1-hour TSP	90	ug/m3
TMCLKL	HY/2012/08	11/1/2019	AQMS1	Cloudy	15:54	1-hour TSP	108	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR1	Cloudy	13:39	1-hour TSP	335	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR1	Cloudy	14:41	1-hour TSP	129	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR1	Cloudy	15:43	1-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR10	Cloudy	13:05	1-hour TSP	116	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR10	Cloudy	14:07	1-hour TSP	155	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR10	Cloudy	15:09	1-hour TSP	95	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR5	Cloudy	13:27	1-hour TSP	398	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR5	Cloudy	14:29	1-hour TSP	327	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR5	Cloudy	15:31	1-hour TSP	243	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR6	Cloudy	13:16	1-hour TSP	214	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR6	Cloudy	14:18	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR6	Cloudy	15:20	1-hour TSP	153	ug/m3
TMCLKL	HY/2012/08	11/1/2019	AQMS1	Cloudy	16:56	24-hour TSP	127	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR1	Cloudy	16:45	24-hour TSP	120	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR10	Cloudy	16:11	24-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR5	Cloudy	16:33	24-hour TSP	196	ug/m3
TMCLKL	HY/2012/08	11/1/2019	ASR6	Cloudy	16:22	24-hour TSP	191	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/01/11	0:00	0	-
19/01/11	1:00	0	-
19/01/11	2:00	0	-
19/01/11	3:00	0	-
19/01/11	4:00	0.9	89
19/01/11	5:00	0.4	113
19/01/11	6:00	1.3	51
19/01/11	7:00	1.8	71
19/01/11	8:00	0.9	137
19/01/11	9:00	0.9	284
19/01/11	10:00	0.9	162
19/01/11	11:00	1.3	223
19/01/11	12:00	0.9	160
19/01/11	13:00	0.9	112
19/01/11	14:00	1.3	155
19/01/11	15:00	2.2	69
19/01/11	16:00	1.8	55
19/01/11	17:00	0.9	90
19/01/11	18:00	0.4	88
19/01/11	19:00	0	-
19/01/11	20:00	0	-
19/01/11	21:00	0	-
19/01/11	22:00	0	-
19/01/11	23:00	0	-

<b>Site Location 地盤位置:</b>		Northern Landfall						
<b>Date 日期:</b>		7 Jan 2019 to 13 Jan 2019						
	<b>Time 時間</b>	<b>Monday 星期一</b>	<b>Tuesday 星期二</b>	<b>Wednesday 星期三</b>	<b>Thursday 星期四</b>	<b>Friday 星期五</b>	<b>Saturday 星期六</b>	<b>Sunday 星期日</b>
1	8:00 – 8:45	/	/	/	/	/	/	/
2	8:45 – 9:30	/	/	/	/	/	/	/
3	9:30 – 10:15	/	/	/	/	/	/	/
4	10:15 – 11:00	/	/	/	/	/	/	/
5	11:00 – 11:45	/	/	/	/	/	/	/
6	11:45 – 12:30	/	/	/	/	/	/	/
7	12:30 – 13:15	/	/	/	/	/	/	/
8	13:15 – 14:00	/	/	/	/	/	/	/
9	14:00 – 14:45	/	/	/	/	/	/	/
10	14:45 – 15:30	/	/	/	/	/	/	/
11	15:30 – 16:45	/	/	/	/	/	/	/
12	16:45 – 17:30	/	/	/	/	/	/	/
<b>Verified by Site Foreman 地盤科文簽署確認</b>		7	7	7	7	7	7	7

<b>Night shift 夜間工作 (if necessary 如需要)</b>								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

\*Please - tick (✓) in the box if complete the spraying of water.  
circle (O) in the box if it is raining.

\*如果 - 已經完成灑水, 請於方格內加上剔號(✓)。  
是下雨天, 請於方格內加上圓圈(O)。

**Remarks:**

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

**備註:**

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。

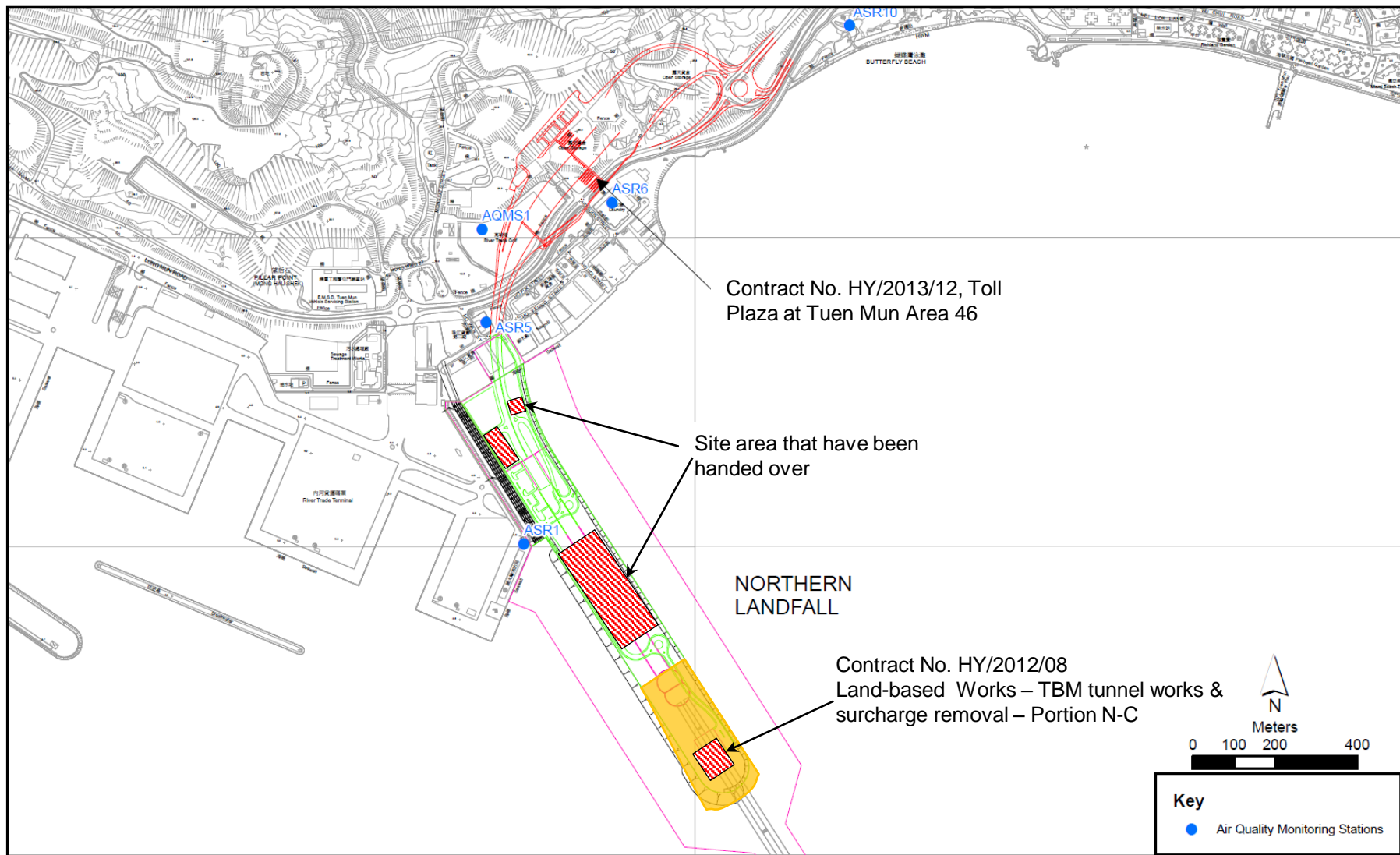


Figure 1

Indicative Construction Works Area on 11 January 2019



Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

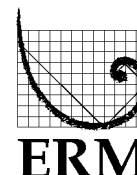
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun-Chek Lap  
Kok Link-Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 29 January 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_17January2019\_1hrTSP\_Station ASR1  
0212330\_17January2019\_1hrTSP\_Station ASR5

One Action Level and one Limit Level Exceedances were recorded on 17  
January 2019.

Regards,

A handwritten signature in black ink, appearing to read 'Jasmine', written in a cursive style.

Dr Jasmine Ng  
Environmental Team Leader

---

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# ERM-Hong Kong, Limited

## CONTRACT NO. HY/2012/08 TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

### Air Quality Impact Monitoring Notification of Exceedance

<b>Log No.</b>	0212330_17January2019_1hrTSP_Station ASR1 0212330_17January2019_1hrTSP_Station ASR5 [Total No. of Exceedances = 2]	
<b>Date</b>	17 January 2019 (Measured) 29 January 2019 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	1-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 1-hr TSP is observed at ASR5 ( $354 \mu\text{g}/\text{m}^3$ ) during 1552 – 1652 hrs. Limit Level Exceedance for 1-hr TSP is observed at ASR1 ( $519 \mu\text{g}/\text{m}^3$ ) during 1604 – 1704 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 17 January 2019, TBM tunnel works and surcharge removal was carried out at Portion N-C.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 17 January 2019 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water truck was used for water spraying at the works area to prevent dust.</li> <li>With reference to the recorded wind direction (ranged between <math>284^\circ</math> and <math>351^\circ</math>, blowing from a north-westerly direction) and wind speed (ranged from 0.9 to 2.2 m/s) during the period of the observed 1-hr TSP exceedances, Stations ASR1 and ASR5 are located upstream to the construction works at Portion N-C. Thus the observed exceedances should not be affected by the dust, if any, generated by the construction activities under this Contract.</li> </ul> <p>Based on the above, the exceedances are unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>According to the construction information provided by the Contractor, TBM tunnel works and surcharge removal was carried out on 17 January 2019. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos taken on 17 January 2019 are provided in Annex A.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data and the locations of air quality monitoring stations are attached.



## Annex A      Photos taken during site inspection

\*Note: Photos taken on 17/1/2019



Water truck is used for water spraying to prevent dust. (Works Area Portion N-A)



Water truck is used for water spraying at works area. (Works Area Portion N-C)



## Annex A      Photos taken during site inspection

\*Note: Photos taken on 17/1/2019



Exposed soil are covered by tarpaulin sheets to prevent dust. (Works Area Portion N-C)





## Annex A      Photos taken during AQM

\*Note: Photos taken on 17/1/2019



ASR5



ASR1

Air quality monitoring results on 17/1/2019								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	17/1/2019	AQMS1	Cloudy	14:13	1-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	17/1/2019	AQMS1	Cloudy	15:14	1-hour TSP	194	ug/m3
TMCLKL	HY/2012/08	17/1/2019	AQMS1	Cloudy	16:16	1-hour TSP	165	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR1	Cloudy	14:00	1-hour TSP	154	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR1	Cloudy	15:02	1-hour TSP	200	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR1	Cloudy	16:04	1-hour TSP	519	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR10	Cloudy	13:26	1-hour TSP	223	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR10	Cloudy	14:28	1-hour TSP	156	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR10	Cloudy	15:30	1-hour TSP	113	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR5	Cloudy	13:48	1-hour TSP	140	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR5	Cloudy	14:50	1-hour TSP	269	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR5	Cloudy	15:52	1-hour TSP	354	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR6	Cloudy	13:37	1-hour TSP	97	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR6	Cloudy	14:39	1-hour TSP	304	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR6	Cloudy	15:41	1-hour TSP	255	ug/m3
TMCLKL	HY/2012/08	17/1/2019	AQMS1	Cloudy	17:18	24-hour TSP	82	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR1	Cloudy	17:06	24-hour TSP	137	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR10	Cloudy	16:32	24-hour TSP	73	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR5	Cloudy	16:54	24-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	17/1/2019	ASR6	Cloudy	16:43	24-hour TSP	98	ug/m3



Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/01/17	0:00	1.3	342
19/01/17	1:00	1.8	340
19/01/17	2:00	2.2	32
19/01/17	3:00	1.8	30
19/01/17	4:00	1.8	22
19/01/17	5:00	1.8	49
19/01/17	6:00	1.8	17
19/01/17	7:00	1.3	55
19/01/17	8:00	0.9	32
19/01/17	9:00	1.8	45
19/01/17	10:00	2.2	47
19/01/17	11:00	2.2	52
19/01/17	12:00	1.8	29
19/01/17	13:00	2.2	207
19/01/17	14:00	2.2	274
19/01/17	15:00	3.1	276
19/01/17	16:00	2.2	284
19/01/17	17:00	0.9	351
19/01/17	18:00	1.8	90
19/01/17	19:00	1.3	85
19/01/17	20:00	0.9	32
19/01/17	21:00	1.3	37
19/01/17	22:00	1.3	42
19/01/17	23:00	1.3	44

**Site Location 地盤位置:** Northern Landfall  
**Date 日期:** 14 Jan 2019 to 20 Jan 2019

	<b>Time 時間</b>	<b>Monday 星期一</b>	<b>Tuesday 星期二</b>	<b>Wednesday 星期三</b>	<b>Thursday 星期四</b>	<b>Friday 星期五</b>	<b>Saturday 星期六</b>	<b>Sunday 星期日</b>
1	8:00 – 8:45	/	/	/	/	/	/	/
2	8:45 – 9:30	/	/	/	/	/	/	/
3	9:30 – 10:15	/	/	/	/	/	/	/
4	10:15 – 11:00	/	/	/	/	/	/	/
5	11:00 – 11:45	/	/	/	/	/	/	/
6	11:45 – 12:30	/	/	/	/	/	/	/
7	12:30 – 13:15	/	/	/	/	/	/	/
8	13:15 – 14:00	/	/	/	/	/	/	/
9	14:00 – 14:45	/	/	/	/	/	/	/
10	14:45 – 15:30	/	/	/	/	/	/	/
11	15:30 – 16:45	/	/	/	/	/	/	/
12	16:45 – 17:30	/	/	/	/	/	/	/
	<b>Verified by Site Foreman 地盤科文簽署確認</b>	7	7	7	7	7	7	7

**Night shift 夜間工作 (if necessary 如需要)**

	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

\*Please - tick (✓) in the box if complete the spraying of water.  
circle (O) in the box if it is raining.

\*如果 - 已經完成灑水, 請於方格內加上剔號(✓)。  
是下雨天, 請於方格內加上圓圈(O)。

**Remarks:**

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

**備註:**

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。

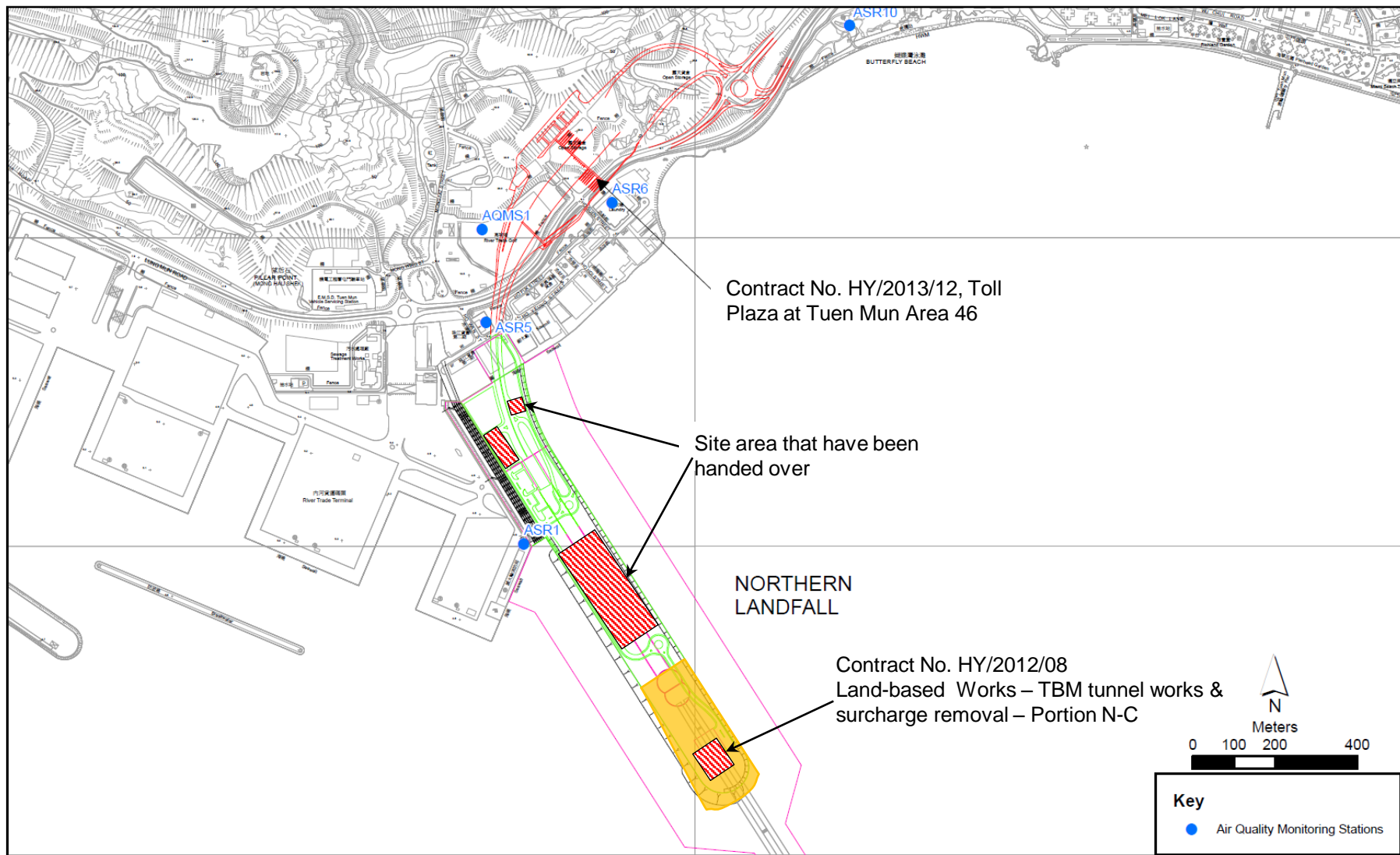


Figure 1

Indicative Construction Works Area on 17 January 2019

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun–Chek Lap  
Kok Link–Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 8 February 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_26January2019\_1hrTSP\_Station ASR5

One Action Level Exceedance was recorded on 26 January 2019.

Regards,

Dr Jasmine Ng  
Environmental Team Leader

---

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# ERM-Hong Kong, Limited

## CONTRACT NO. HY/2012/08 TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

### Air Quality Impact Monitoring Notification of Exceedance

Log No.	0212330_26January2019_1hrTSP_Station ASR5 [Total No. of Exceedances = 1]	
Date	26 January 2019 (Measured) 8 February 2019 (Laboratory results received by ERM)	
Monitoring Station	ASR1, ASR5, ASR6, ASR10 and AQMS1	
Parameter(s) with Exceedance(s)	1-hr TSP	
Action Levels	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
Limit Levels	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
Measured Levels	Action Level Exceedance for 1-hr TSP is observed at ASR5 ( $399 \mu\text{g}/\text{m}^3$ ) during 0830 – 0930 hrs.	
Works Undertaken (at the time of monitoring event)	On 26 January 2019, TBM tunnel works and surcharge removal was carried out at Portion N-C.	
Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 26 January 2019 was TBM tunnel works and surcharge removal. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> <li>With reference to the recorded wind direction (ranged between <math>143^\circ</math> and <math>158^\circ</math>, blowing from a south-easterly direction) and wind speed (ranged from 1.3 to 2.2 m/s) during the period of the observed 1-hr TSP exceedances, Stations ASR5 are located downstream to the construction works at Portion N-C. However, with similar wind direction and wind speed in the 2<sup>nd</sup> and 3<sup>rd</sup> hour of the 1-hour TSP monitoring, no exceedances were recorded. According to the water spraying record, water spraying was also applied every 45 minutes to prevent dust.</li> </ul> <p>Based on the above, the exceedance is unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>Follow-up site inspection was carried out on 8 February 2019. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Photos are provided in Annex A. Photos taken during AQM are also provided.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period.</p>
<b>Remarks</b>	<p>The monitoring results, wind data and the locations of air quality monitoring stations are attached.</p>





## Annex A      Photos taken during site inspection

\*Note: Photos taken on 8/2/2019



Water truck was used for water spraying to prevent dust. (Works Area Portion N-A)



Water spraying was applied on the main haul road. (Works Area Portion N-C)



## Annex A      Photos taken during site inspection

\*Note: Photos taken on 8/2/2019



Exposed soil was covered by tarpaulin sheets to prevent dust. (Works Area Portion N-C)



## Annex A      Photos taken during AQM

\*Note: Photos taken on 26/1/2019



ASR5



ASR5

Air quality monitoring results on 26/1/2019								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	26/1/2019	AQMS1	Sunny	8:53	1-hour TSP	126	ug/m3
TMCLKL	HY/2012/08	26/1/2019	AQMS1	Sunny	9:55	1-hour TSP	69	ug/m3
TMCLKL	HY/2012/08	26/1/2019	AQMS1	Sunny	10:57	1-hour TSP	75	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR1	Sunny	8:42	1-hour TSP	245	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR1	Sunny	9:44	1-hour TSP	207	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR1	Sunny	10:46	1-hour TSP	112	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR10	Sunny	8:08	1-hour TSP	106	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR10	Sunny	9:10	1-hour TSP	74	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR10	Sunny	10:12	1-hour TSP	71	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR5	Sunny	8:30	1-hour TSP	399	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR5	Sunny	9:32	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR5	Sunny	10:34	1-hour TSP	208	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR6	Sunny	8:19	1-hour TSP	304	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR6	Sunny	9:21	1-hour TSP	111	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR6	Sunny	10:23	1-hour TSP	141	ug/m3
TMCLKL	HY/2012/08	26/1/2019	AQMS1	Sunny	11:59	24-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR1	Sunny	11:48	24-hour TSP	83	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR10	Sunny	11:14	24-hour TSP	73	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR5	Sunny	11:36	24-hour TSP	101	ug/m3
TMCLKL	HY/2012/08	26/1/2019	ASR6	Sunny	11:25	24-hour TSP	90	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/01/26	0:00	0	-
19/01/26	1:00	0	-
19/01/26	2:00	0.4	12
19/01/26	3:00	2.2	34
19/01/26	4:00	2.2	47
19/01/26	5:00	2.2	39
19/01/26	6:00	2.7	47
19/01/26	7:00	1.8	14
19/01/26	8:00	1.3	143
19/01/26	9:00	2.2	158
19/01/26	10:00	2.2	154
19/01/26	11:00	1.8	221
19/01/26	12:00	2.2	215
19/01/26	13:00	1.3	220
19/01/26	14:00	1.3	254
19/01/26	15:00	2.2	213
19/01/26	16:00	2.2	232
19/01/26	17:00	1.3	94
19/01/26	18:00	1.8	96
19/01/26	19:00	1.8	95
19/01/26	20:00	2.2	85
19/01/26	21:00	2.7	94
19/01/26	22:00	3.6	86
19/01/26	23:00	3.1	95

<b>Site Location 地盤位置:</b>		<u>Northern Landfall</u>						
<b>Date 日期:</b>		<u>21 Jun 2019</u> to 至 <u>27 Jun 2019</u>						
	<b>Time 時間</b>	<b>Monday 星期一</b>	<b>Tuesday 星期二</b>	<b>Wednesday 星期三</b>	<b>Thursday 星期四</b>	<b>Friday 星期五</b>	<b>Saturday 星期六</b>	<b>Sunday 星期日</b>
1	8:00 – 8:45	/	/	/	/	/	/	/
2	8:45 – 9:30	/	/	/	/	/	/	/
3	9:30 – 10:15	/	/	/	/	/	/	/
4	10:15 – 11:00	/	/	/	/	/	/	/
5	11:00 – 11:45	/	/	/	/	/	/	/
6	11:45 – 12:30	/	/	/	/	/	/	/
7	12:30 – 13:15	/	/	/	/	/	/	/
8	13:15 – 14:00	/	/	/	/	/	/	/
9	14:00 – 14:45	/	/	/	/	/	/	/
10	14:45 – 15:30	/	/	/	/	/	/	/
11	15:30 – 16:45	/	/	/	/	/	/	/
12	16:45 – 17:30	/	/	/	/	/	/	/
<b>Verified by Site Foreman 地盤科文簽署確認</b>		7	7	7	7	7	7	7

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

\*Please - tick (✓) in the box if complete the spraying of water.  
circle (O) in the box if it is raining.

\*如果 - 已經完成灑水, 請於方格內加上剔號(✓)。  
是下雨天, 請於方格內加上圓圈(O)。

**Remarks:**

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

**備註:**

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。



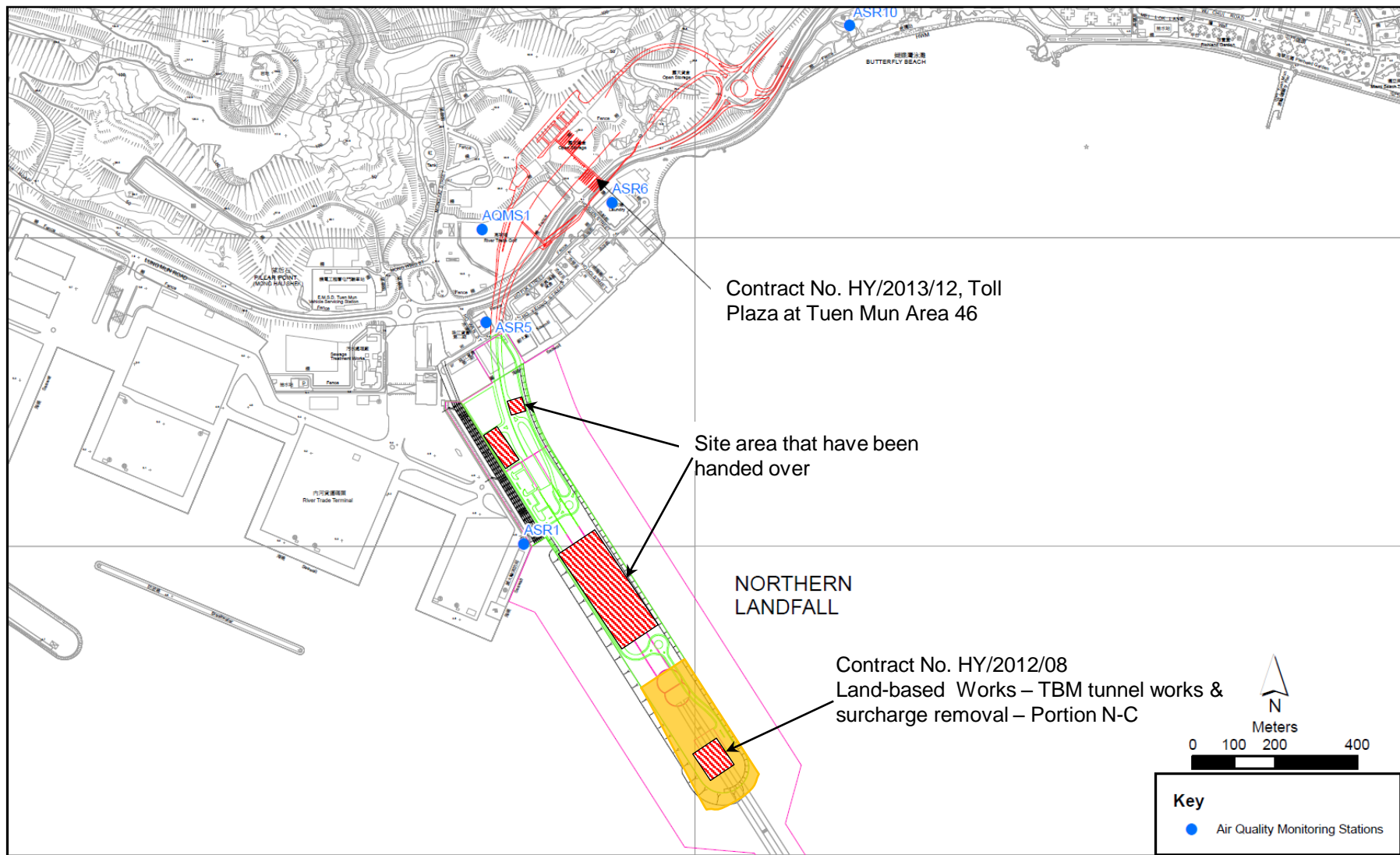


Figure 1

Indicative Construction Works Area on 26 January 2019

Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

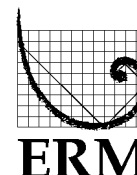
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun–Chek Lap  
Kok Link–Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Air Quality  
Impact Monitoring

**Date** 26 February 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_16February2019\_24hrTSP\_Station ASR1

One Action Level Exceedance was recorded on 16 February 2019.

Regards,

A handwritten signature in black ink, appearing to read 'Jasmine', written in a cursive style.

Dr Jasmine Ng  
Environmental Team Leader

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# ERM-Hong Kong, Limited

## CONTRACT NO. HY/2012/08 TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

### Air Quality Impact Monitoring Notification of Exceedance

<b>Log No.</b>	0212330_16February2019_24hrTSP_Station ASR1 [Total No. of Exceedances = 1]	
<b>Date</b>	16 February 2019 (Measured) 25 February 2019 (Laboratory results received by ERM)	
<b>Monitoring Station</b>	ASR1, ASR5, ASR6, ASR10 and AQMS1	
<b>Parameter(s) with Exceedance(s)</b>	24-hr TSP	
<b>Action Levels</b>	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 213 ASR5 = 238 AQMS1 = 213 ASR6 = 238 ASR10 = 214
	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	ASR1 = 331 ASR5 = 340 AQMS1 = 335 ASR6 = 338 ASR10 = 337
<b>Limit Levels</b>	1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	500
	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )	260
<b>Measured Levels</b>	Action Level Exceedance for 24-hr TSP is observed at ASR1 ( $237 \mu\text{g}/\text{m}^3$ ) during 1158 – 1158 hrs.	
<b>Works Undertaken (at the time of monitoring event)</b>	On 16 February 2019, TBM tunnel works was carried out at Portion N-C and slurry wall construction was carried out at Portion N-A.	
<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The exceedance is unlikely to be due to this Contract, in view of the following:</p> <ul style="list-style-type: none"> <li>According to the construction information provided by the Contractor, the majority of construction works on 16 February 2019 was TBM tunnel works and slurry wall construction. During the period of the land-based construction works, the Contractor has implemented the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual (e.g. water spraying on exposed soil within the Project site and associated works areas; exposed soil covered by tarpaulin sheets).</li> <li>The exceedance is unlikely to be due to this Contract as dust suppression measures were implemented properly on site. Water spraying was applied on site to prevent dust.</li> <li>From 11:00 to 18:00 on 16 February 2019, slurry wall construction was carried out at Portion N-A and TBM tunnel works was carried out at Portion N-C. From 18:00 on 16 February 2019 to 11:00 on 17 February 2019, no construction works were carried out on site. With reference to the recorded wind direction (ranged between <math>80^\circ</math> and <math>122^\circ</math>, blowing from an easterly direction) and wind speed (ranged from 1.3 to 3.1 m/s) during the works period, Stations ASR1 are located downstream to the construction works at Portion N-A. After 18:00, no construction works were carried out on site so no dust impact would be expected. Exposed soil was covered by tarpaulin sheets to prevent dust.</li> </ul> <p>Based on the above, the exceedance is unlikely to be due to this Contract.</p>	

<b>Actions Taken/ To Be Taken</b>	<p>Follow-up site inspection was carried out on 20 February 2019. Dust suppression measures were properly implemented. Water spraying was applied to prevent dust. Exposed soil was covered by tarpaulin sheets to prevent dust. Photos are provided in Annex A. Photos taken during AQM are also provided.</p> <p>The Contractor has been reminded to implement the required mitigation measures as per the EP, approved EIA and Updated EM&amp;A Manual including watering to maintain all exposed road surfaces and dust sources wet, use of sprinklers for water spraying, covering the materials having the potential to create dust by clean tarpaulin, use of water truck and watering on all exposed soil within the Project site) throughout the construction period.</p>
<b>Remarks</b>	The monitoring results, wind data and the locations of air quality monitoring stations are attached.



## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 16/2/2019



Water truck was used for water spraying to prevent dust. (Works Area Portion N-A)





## Annex A      Photos provided by the Contractor

\*Note: Photos taken on 17/2/2019



Exposed soil was covered by tarpaulin sheet to prevent dust. (Works Area Portion N-C)



Exposed soil was covered by tarpaulin sheet to prevent dust. (Works Area Portion N-C)





## Annex A      Photos taken during site inspection

\*Note: Photos taken on 20/2/2019



Water truck was used for water spraying to prevent dust. (Works Area Portion N-A)



## Annex A      Photos taken during AQM

\*Note: Photos taken on 16/2/2019



ASR1



ASR1



Air quality monitoring results on 16/2/2019								
Project	Works	Date	Station	Weather	Start time	Parameters	Results	Unit
TMCLKL	HY/2012/08	16/2/2019	AQMS1	Cloudy	9:03	1-hour TSP	50	ug/m3
TMCLKL	HY/2012/08	16/2/2019	AQMS1	Cloudy	10:05	1-hour TSP	88	ug/m3
TMCLKL	HY/2012/08	16/2/2019	AQMS1	Cloudy	11:07	1-hour TSP	90	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR1	Cloudy	8:52	1-hour TSP	244	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR1	Cloudy	9:54	1-hour TSP	223	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR1	Cloudy	10:56	1-hour TSP	125	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR10	Cloudy	8:22	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR10	Cloudy	9:24	1-hour TSP	49	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR10	Cloudy	10:26	1-hour TSP	64	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR5	Cloudy	8:41	1-hour TSP	235	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR5	Cloudy	9:43	1-hour TSP	99	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR5	Cloudy	10:45	1-hour TSP	127	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR6	Cloudy	8:32	1-hour TSP	133	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR6	Cloudy	9:34	1-hour TSP	81	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR6	Cloudy	10:36	1-hour TSP	67	ug/m3
TMCLKL	HY/2012/08	16/2/2019	AQMS1	Cloudy	12:09	24-hour TSP	57	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR1	Cloudy	11:58	24-hour TSP	237	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR10	Cloudy	11:28	24-hour TSP	35	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR5	Cloudy	11:47	24-hour TSP	103	ug/m3
TMCLKL	HY/2012/08	16/2/2019	ASR6	Cloudy	11:38	24-hour TSP	76	ug/m3

Meteorological Data for Impact Monitoring in the reporting period			
Date (yy-mm-dd)	Time (24hrs)	Average of Wind Speed (m/s)	Average of Wind Direction(degree)
19/02/16	11:00	1.3	120
19/02/16	12:00	2.7	112
19/02/16	13:00	3.1	122
19/02/16	14:00	3.1	80
19/02/16	15:00	2.7	82
19/02/16	16:00	3.1	99
19/02/16	17:00	3.1	88
19/02/16	18:00	2.7	110
19/02/16	19:00	3.1	118
19/02/16	20:00	3.6	119
19/02/16	21:00	3.6	101
19/02/16	22:00	4	80
19/02/16	23:00	4.5	96
19/02/17	0:00	4	82
19/02/17	1:00	3.6	91
19/02/17	2:00	3.1	83
19/02/17	3:00	3.1	86
19/02/17	4:00	3.6	95
19/02/17	5:00	4.5	98
19/02/17	6:00	3.6	101
19/02/17	7:00	4	84
19/02/17	8:00	4.9	83
19/02/17	9:00	5.4	80
19/02/17	10:00	4.9	81
19/02/17	11:00	4.9	79

Site Location 地盤位置: Northern Landfall  
Date 日期: 11 Feb 2019 to 至 17 Feb 2019

	Time 時間	Monday 星期一	Tuesday 星期二	Wednesday 星期三	Thursday 星期四	Friday 星期五	Saturday 星期六	Sunday 星期日
1	8:00 – 8:45	/	/	/	/	/	/	/
2	8:45 – 9:30	/	/	/	/	/	/	/
3	9:30 – 10:15	/	/	/	/	/	/	/
4	10:15 – 11:00	/	/	/	/	/	/	/
5	11:00 – 11:45	/	/	/	/	/	/	/
6	11:45 – 12:30	/	/	/	/	/	/	/
7	12:30 – 13:15	/	/	/	/	/	/	/
8	13:15 – 14:00	/	/	/	/	/	/	/
9	14:00 – 14:45	/	/	/	/	/	/	/
10	14:45 – 15:30	/	/	/	/	/	/	/
11	15:30 – 16:45	/	/	/	/	/	/	/
12	16:45 – 17:30	/	/	/	/	/	/	/
	Verified by Site Foreman 地盤科文簽署確認	7	7	7	7	7	7	7

Night shift 夜間工作 (if necessary 如需要)								
	17:30 – 19:00							
	19:00 – 20:30							
	20:30 – 22:00							
	22:00 – 23:00							

\*Please - tick (✓) in the box if complete the spraying of water.  
circle (O) in the box if it is raining.

\*如果 - 已經完成灑水, 請於方格內加上剔號(✓)。  
是下雨天, 請於方格內加上圓圈(O)。

**Remarks:**

- Pursuant to EP Clause 3.15, the Permit Holder shall undertake watering at least 12 times per day on all exposed soil within the Project site and associated work areas in Tuen Mun area throughout the construction phase.
- Spraying position includes the main haul road, open area, slopes, stockpiles and any other dusty materials.
- If it is raining, no water spraying is needed.
- The no of spraying will be increased due to site condition.

**備註:**

- 根據環境許可證 3.15 條例, 在整個施工階段內, 許可證持有人須每天至少 12 次在屯門區項目工地和相關的工作區域內的所有暴露土壤灑水。
- 灑水位置包括主要運輸道路, 空曠地帶, 斜坡, 存料堆, 以及任何其他產生塵埃物料。
- 當下雨時, 地盤將不需要灑水。
- 如果地盤情況更改或有需要時, 灑水次數會相應增加。

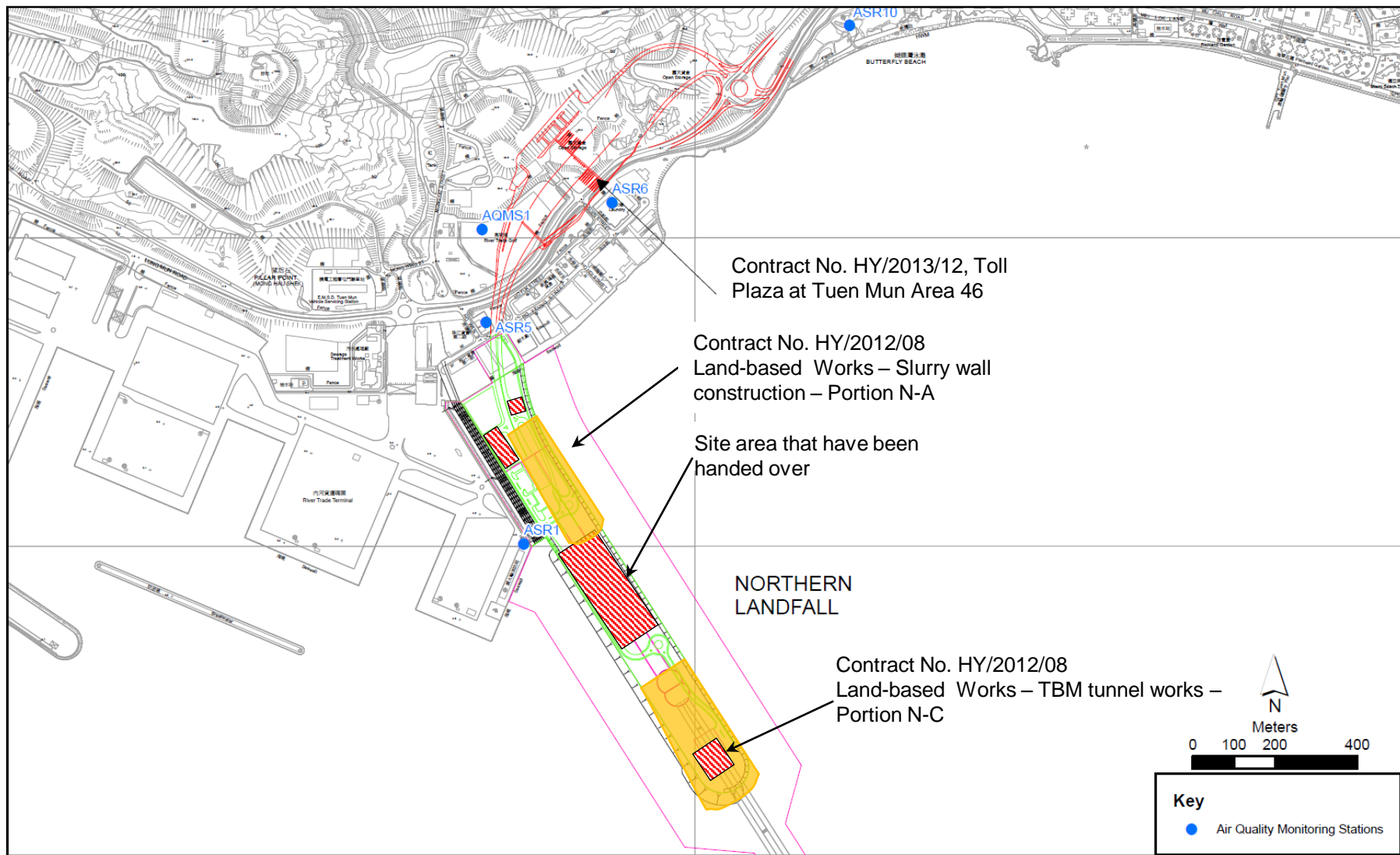


Figure 1

Indicative Construction Works Area on 16 February 2019



Email  
message

Environmental  
Resources  
Management

**To** Ramboll Hong Kong, Limited (ENPO)

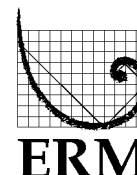
**From** ERM- Hong Kong, Limited

**Ref/Project number** Contract No. HY/2012/08 Tuen Mun–Chek Lap  
Kok Link–Northern Connection Sub-sea Tunnel  
Section

**Subject** Notification of Exceedance for Impact Dolphin  
Monitoring

**Date** 27 August 2019

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660



---

Dear Sir or Madam,

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

0212330\_Dec2018/Feb2019\_dolphin\_STG&ANI\_NEL&NWL

A total of one limit level exceedance was recorded in the quarterly impact  
dolphin monitoring data between December 2018 and February 2019.

Regards,

Dr Jasmine Ng  
Environmental Team Leader

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# ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/08

## TUEN MUN – CHEK LAP KOK LINK – NORTHERN CONNECTION SUB-SEA TUNNEL SECTION

### Impact Dolphin Monitoring Notification of Exceedance

Log No.	0212330_ Dec2018/Feb2019_dolphin_STG&ANI_NEL&NWL [Total No. of Exceedances = 1 Limit Level Exceedance]	
Date	December 2018 to February 2019 (monitored) 12 April 2019 (results received by ERM)	
Monitoring Area	Northeast Lantau (NEL) and Northwest Lantau (NWL)	
Parameter(s) with Exceedance(s)	Quarterly encounter rate of dolphin sightings (STG) Quarterly encounter rate of total number of dolphins (ANI)	
Action Levels	North Lantau Social cluster	NEL: STG < 4.2 & ANI < 15.5 or NWL: STG < 6.9 & ANI < 31.3
Limit Levels		NEL: STG < 2.4 & ANI < 8.9 and NWL: STG < 3.9 & ANI < 17.9
Recorded Levels	NEL	STG = 0 & ANI = 0
	NWL	STG = 2.40 & ANI = 7.95
	One Limit Level Exceedance was recorded in the quarterly impact dolphin monitoring at NEL and NWL between December 2018 and February 2019. The exceedance was reported in the approved <i>Sixty-fourth Monthly EM&amp;A Report</i> dated 12 March 2019.	
Statistical Analyses	<p>Further to the review of the available and relevant dolphin monitoring data in the EM&amp;A programme by this Contract, statistical analyses were conducted as follows:</p> <ul style="list-style-type: none"> <li>A two-way ANOVA with repeated measures and unequal sample size was conducted using Period (2 levels: baseline vs impact – present impact quarter, December 2018 to February 2019) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and present impact monitoring quarter. By setting <math>\alpha = 0.05</math> as the significance level in the statistical tests, significant differences in STG (<math>p = 0.0041</math>) and ANI (<math>p = 0.0221</math>) were detected between Periods.</li> <li>A two-way ANOVA with repeated measures and unequal sample size was conducted using Cumulative Period (2 levels: baseline vs impact – cumulative quarters, December 2012 to November 2018) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the average encounter rates between the baseline and cumulative impact monitoring quarter. By setting <math>\alpha = 0.00001</math> as the significance level in the statistical tests, significant difference in STG (<math>p = 0.000000</math>) and in ANI (<math>p = 0.000000</math>) between Cumulative Period and Location were detected.</li> </ul> <p>*Note: The commencement date under <i>Contract No. HY/2012/08</i> is 1 November 2013.</p>	
Works Undertaken (in the monitoring quarter)	In the quarter between December 2018 and February 2019, Seawall Modification Works was undertaken under Contract No. HY/2012/08.	

<b>Possible Reason for Action or Limit Level Exceedance(s)</b>	<p>The potential factors that may have contributed to the observed exceedance are reviewed below:</p> <ul style="list-style-type: none"> <li>• Blocking of CWD travelling corridor: The <i>Monitoring of Marine Mammals in Hong Kong Waters (2017 – 18)</i> <sup>(1)</sup> reported that dolphin usage and traveling activities to the northern side of the airport (dolphin traveling corridor) are affected by frequent high-speed ferry traffic from Sky Pier (not related to this Contract), which is likely a major factor resulting in the decrease in dolphin abundances in North Lantau.</li> <li>• Marine works of the Contract: As per the findings from the EIA report (<i>Section 8.11.9</i>), the major influences on the Chinese White Dolphin (CWD) <i>Sousa chinensis</i> under this Contract are marine traffics, reclamation and dredging works. The Contractor implemented the marine traffic control in the reporting period as per the requirements in the <i>EP-354/2009/D</i> and the updated <i>EM&amp;A Manual</i>. Most of the vessels of this Contract also worked within the site boundary, in which the area is seldom used by CWD. Disturbance from vessels of this Contract is considered minor. During this quarter of dolphin monitoring, no adverse impact on CWD due to the activities under this Contract was observed.</li> <li>• Impact on water quality: According to the findings in the water quality monitoring results at the impact monitoring stations between December 2018 and February 2019, there was no exceedance recorded during water quality impact monitoring in the reporting period.</li> </ul> <p>In view of the above, marine ecological mitigation measures were considered properly implemented, and thus no unacceptable impact on CWD or its habitat was associated with this Contract in this quarter.</p>
<b>Actions Taken/ To Be Taken</b>	<p>In the quarter between December 2018 and February 2019, Seawall Modification Works were carried out.</p> <p>The existing mitigation measures are recommended to be continuously implemented. Furthermore, it is also recommended to reduce the vessels for marine works as much as possible. The ET will monitor for future trends in exceedance(s).</p> <p>A joint team meeting was held on 11 March 2019 for discussion on CWD trend, with attendance of ENPO, Representatives of Resident Site Staff (RSS), Representatives of Environmental Teams (ETs) for Contract No. HY/2011/03, HY/2013/04, HY/2012/07 and HY/2012/08. The discussion/recommendation as presented in the meeting, which might be relevant to this Contract are summarized below. It was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified or separate from the other stress factors. It was reminded that the ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractors to ensure the relevant measures are fully implemented. It was recommended that the marine works of HZMB projects should be completed as soon as possible to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible. The participants were also reminded that the protection measures (e.g. speed limit control) for the BMP shall be implemented so as to provide a better habitat for dolphin recovery. It is noted that even though marine vessels may moor within the mooring site of BMP, commercial activities including loading / unloading / transshipment are not allowed except a permit is obtained. The HZMB works vessels were recommended to avoid the BMP. It was also recommended that the marine works footprint and vessels for the marine works should be reduced as much as possible, and vessels idling / mooring in other part of the North Lantau shall be avoided whenever possible.</p> <p>Dolphin specialists of the Projects confirmed that the CWD sighting nearby north of Sha Chau and Lung Kwu Chau Marine Park has significantly declined. The reason for the decline was likely related to the re-routing of high-speed ferry from Sky Pier. The CWDs in the area should be closely followed.</p>
<b>Remarks</b>	<p>The results of impact dolphin monitoring, the status of implemented marine ecological mitigation measures are documented in the approved <i>Sixty-second to Sixty-Fourth Monthly EM&amp;A Reports</i>.</p>

(1) Hung S K Y (2017). Prepared for AFCD. Available at: [https://www.afcd.gov.hk/english/conservation/con\\_mar\\_chi/con\\_mar\\_chi\\_chi/files/Final\\_Report\\_2016\\_17.pdf](https://www.afcd.gov.hk/english/conservation/con_mar_chi/con_mar_chi_chi/files/Final_Report_2016_17.pdf)