

Environmental Team Services for Contract No. CV/2011/01 -
Site formation and Infrastructural works near Tsing Lun Road
and Tsz Tin Road in Area 54, Tuen Mun

Quarterly EM&A Summary Report for December 2013 to February
2014 (Rev A)
March 2014

Report No. 298617/ENL/EM&A/Q/09/A



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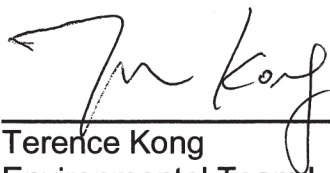
Civil Engineering and Development Department, 2/F, Civil Engineering and Development Building,
101 Princess Margaret Rd, Homantin, Kowloon

Environmental Team Services for Contract No. CV/2011/01

**Site formation and Infrastructural works near Tsing Lun Road and Tsz Tin
Road in Area 54, Tuen Mun**

Quarterly EM&A Summary Report for December 2013 to February 2014 (Rev A)

Certified by:



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Mott MacDonald Hong Kong Limited

Date

1 April 2014

Verified by:



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Independent Environmental Checker (IEC)
Atkins China Limited

Date

2 April 2014

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Executive Summary

In September 2011, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by the Civil Engineering and Development Department (CEDD) under Agreement No. LW 05/2011 to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the Site formation and Infrastructural works near Tsing Lun Road and Tsz Tin Road in Area 54, Tuen Mun (The Project).

The Environmental Permit (EP) for the “Widening of Tsing Lun Road, Tuen Mun” was granted by the Environmental Protection Department (EPD) on 17 March 2009. This is the 9th Quarterly EM&A Summary Report submitted under Section 6.3.3 of the EM&A Manual which summarises the findings on EM&A during the period from 1 December 2013 to 28 February 2014.

Exceedance of Action and Limit Levels

During the reporting period, nine exceedances of the Noise Limit Level (as L_{eq}) were recorded at NM9 (TWGHs Yau Tze Tin Memorial College) on 30 December 2013, 9, 21 and 27 January 2014, 5 and 28 February 2014. The exceedances were investigated and recommendations were made for Contractor’s implementation.

There was no breach of Action or Limit levels for Air Quality (1-hr and 24-hr Total Suspended Particulates (TSP)) and of Action level for Noise in the reporting period.

Implementation of Mitigation Measures

Weekly site audits were carried out during the reporting period to confirm the implementation measures undertaken by the Contractor. Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste management and trees were monitored or reviewed.

Record of Complaints

There was no record of complaints received in the reporting period.

Record of Notification of Summons and Successful Prosecution

There was no record of notification of summons and successful prosecution in the reporting period.

1 Background

In September 2011, MMHK was commissioned by the CEDD under Agreement No. LW 05/2011 to undertake the ET services (including environmental monitoring and audit (EM&A)) for the Site formation and Infrastructural works near Tsing Lun Road and Tsz Tin Road in Area 54, Tuen Mun (The Project). The construction of the project commenced on 8 December 2011.

The Quarterly EM&A Summary Report is submitted to fulfil Section 6.3.3 of the EM&A Manual for the "Widening of Tsing Lun Road, Tuen Mun", which was granted by the Environmental Protection Department (EPD) on 17 March 2009.

This is the 9th Quarterly EM&A Summary Report presenting the monitoring works conducted from 1 December 2013 to 28 February 2014. The purpose of this report is to summarise the finding in the EM&A of the project over the reporting period and was prepared according to the requirements in Section 6.3.3 of the EM&A Manual.

2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix A**.

3 Works Undertaken in the Reporting Period

During the reporting period, construction works of the Project undertaken included:

- Construction of watermain
- Construction of box culvert
- Construction of noise barrier
- Demolition of existing structures
- Construction of stormwater drain and sewerage
- Roadworks
- Construction of watermain
- Construction of superstructure of footbridge

The Construction Works Programme of the Project is provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1** and **Figure 2**.

4 Summary of EM&A Requirements

The EM&A programme requires environmental monitoring of air quality and noise as specified in the approved EM&A Manual.

A summary of impact EM&A requirements is presented in **Table 4.1**.

Table 4.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Submission/Documentation	Deadline	Status
Air Quality	24-hour Total Suspended Particulates (TSP)	-	Once every 6 days	Tung Wah Group of Hospitals (TWGHs) Yau Tze Tin Memorial College (AM3)
	1-hour TSP	-	3 times every 6 days	
Noise	L _{eq} , L ₉₀ & L ₁₀ (30 min)	Daytime on normal weekdays (0700-1900 hrs)	Once every week (the time period to be monitoring will be randomly selected if there are works at hours other than daytime on normal weekdays; otherwise only the daytime on normal weekdays will be monitored) For restricted hours (outside daytime on normal weekdays), one set of measurement shall include at least 3 consecutive L _{eq} (5 mins) results.	Siu Hong Court (NM8) and TWGHs Yau Tze Tin Memorial College (NM9)
		Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)		
		All days during the night-time (2300-0700 hrs of the next day)		

The locations of the monitoring stations are shown in **Figure 3**. The Environmental Quality Performance Limits for air quality and noise are shown in **Appendix C**.

5 Environmental Mitigation Measures

The EM&A programme followed the recommended mitigation measures in the EM&A Manual. The EM&A requirements of the environmental mitigation measures are provided in **Appendix D**. In particular, the following mitigation measures were brought to attention during the site audits:

Air Quality

- Excavated dusty materials should be covered by impervious sheeting or sprayed with water to keep the entire surface wet.
- Every vehicle should be washed to remove dusty materials from its body and wheels before leaving a construction site.

Noise

- Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction works.

Water Quality

- Channels, earth bunds or sand bag barriers shall be provided on site to direct storm water to silt removal facilities. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94.
- All drainage facilities and erosion and sediment control structures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms.
- Water to be pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.
- Particular attention shall be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.
- All vehicles and mechanical plant shall be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.

- Dusty materials shall be stored in a covered warehouse and the excess amount should be removed from the site.

Waste Management

- Chemical waste produced should be handled in accordance with the relevant guidelines and regulations.
- Construction solid waste, debris and rubbish on site shall be collected, handled and disposed of properly.

6 Status of Environmental Protection and Pollution Control

Weekly site inspections were carried out on 4, 11, 18, 24 and 31 December 2013, 8, 15, 22, 28 January 2014, 5, 12, 19 and 26 February 2014 to confirm the implementation measures undertaken by the Contractor. Some of the key observations from site inspections during the reporting period are summarised below:-

- Silt/mud track at entrances/exits of the site and on nearby public roads/footpaths;
- C&D material, sand, silt and/or mud deposited inside/near drains, nullahs and U-channels;
- Site runoff from construction activities or wheel washing facilities by-passing or not properly treated by sedimentation facilities before discharge;
- Proper washing area for concrete truck to be provided;
- Stagnant water observed within the site;
- Potential dust emissions from cement mixing;
- Covering of dusty stockpiles required;
- Dark smoke emission from excavator;
- Oil stain to be cleaned up as chemical waste;
- Chemical waste store to be properly labelled and locked;
- Labels, drip trays and proper storage facilities to be provided for chemical containers;
- Regular maintenance of construction plant to be provided;
- Potential noise disturbance from noisy construction works (including breaking);
- Noise emission label to be provided for air compressor;
- Maintenance of tree protection zones required, and
- The poor/damaged condition of some trees to be reviewed and appropriately remediated.

All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures for action. The summary of implementation status of the environmental mitigation measures at the end of the reporting period are provided in **Appendix D**.

7 Impact Monitoring Results

Impact monitoring for air quality and noise due to the construction work were undertaken in compliance with the EM&A Manual during the reporting period, and the results of monitoring were included in the individual Monthly EM&A reports covering this reporting period which have been already submitted. The graphical plots of the monitoring results over the past 4 months are presented in **Appendix E**.

The weather during the reporting period remained warm and was wetter than average overall. December 2013 was significantly colder than usual and characterised by generally dry conditions for most parts of the month except for rain in mid-December. Meanwhile, January 2014 was sunnier and drier than usual as a

result of the dominance of dry northeast monsoon for most of the month. February 2014 was cooler and drier than usual as a result of dominance of strong northeast monsoon and the dry continental airstream. Wind data from the Hong Kong Observatory Weather Station at Tuen Mun were provided in the individual Monthly EM&A Reports covering the reporting period.

Apart from impacts caused by this project, in terms of air quality impact, the major dust sources were from road traffic along Tsing Lun Road and Tsz Tin Road, operation of open storage areas in the vicinity of the project site and construction works at adjacent sites. Meanwhile, the major sources of noise were vehicles travelling on Tsing Lun Road directly facing the noise sensitive receivers (NSRs), operation of open storage and carparks near Tsz Tin Tsuen and the bus terminus at Siu Hong Road, and construction works at adjacent sites. School bells and noise from school activities in TWGHs Yau Tze Tin Memorial College also contributed to the noise level. Furthermore, during the reporting period some more parts of the Project site were handed over by CEDD (as Project Proponent) to the Housing Authority for infrastructure and associated works; some environmental impacts including air quality and noise are expected to be caused by these works.

8 Summary of Non-compliance (Exceedances)

Nine exceedances of the Noise Limit Level (as L_{eq}) were recorded at NM9 (TWGHs Yau Tze Tin Memorial College) in the reporting period. The L_{eq} (30 min) levels measured at NM9 were:

- 73 dB(A) (14:40-15:10) on 30 December 2013, which exceeded the Limit Level of 70 dB(A).
- 70 dB(A) (13:00-13:30) and 71 dB(A) (13:30-14:00) on 9 January 2014, which exceeded the Limit Level of 65 dB(A) (adjusted due to school examination being held during these noise monitoring sessions);
- 71 dB(A) (08:30-09:00) and 71 dB(A) (09:00-09:30) on 21 January 2014, which exceeded the Limit Level of 65 dB(A) (adjusted due to school examination being held during these noise monitoring sessions); and
- 72 dB(A) (08:23-08:53) and 72 dB(A) (08:53-09:23) on 27 January 2014, which exceeded the Limit Level of 70 dB(A).
- 71 dB(A) (10:25-10:55) on 5 February 2014, which exceeded the Limit Level of 70 dB(A).
- 71 dB(A) (08:55-09:25) on 28 February 2014, which exceeded the Limit Level of 70 dB(A).

There was no breach of Action or Limit levels for Air Quality (1-hr and 24-hr Total Suspended Particulates (TSP)) and of Action level for Noise in the reporting period.

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

Noise Exceedance – 30 December 2013

During the subject noise monitoring session, no works were observed in the Project site area directly opposite NM9. Generally, no major construction noise sources from the Project site were observed and the only Project works being conducted were manual works near Tsz Tin Road and Hong Po Road which were approximately 200m away from NM9. Other noise sources observed consisted of crane operation, backhoe, bored piling and sheet piling by another contractor at an adjacent construction site directly opposite NM9, as well as traffic noise.

According to the site diary of 30 December 2013 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included use of backhoes for installation of sheetpiles at BC5-9 (during the morning only), backfilling, placing of concrete and erection of framework to base slab of noise barriers, construction of thrust block of watermain pipe and excavation of soil material for pipe. Other activities conducted by the Contractor within the Project site included site survey work and general site tidying. Site plant was switched off when not in use.

It was concluded that the exceedance was unlikely to have been Project-related.

Noise Exceedances – 9 January 2014

During the subject noise monitoring sessions (13:00-14:00), bored piling and crane operation by another contractor at multiple locations within an adjacent construction site directly facing NM9 (about 60m and 120m from NM9), as well as traffic noise, were observed.

According to the site diary of 9 January 2014 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included the use of backhoe for breaking of existing concrete for BC5-9 and trimming formation of road at Tsing Lun Road near roundabout. The Contractor confirmed that such breaking activity took place during the afternoon and at least 3m below the level of the footpath and road surface of Tsing Lun Road, and that the breaker tip was wrapped with noise insulating material during such works. Other works in the Project site by the Contractor using backhoe, including excavation work, removal of footwork and placing of concrete blinding layer, were located approximately 200-350m away from NM9, near and along Tsz Tin Road. Site plant was switched off when not in use.

According to the EM&A Baseline Monitoring Report for this Project (submitted in November 2011) that the normal weekday background L_{eq} (30 min) noise level at NM9 ranged from 64.6 to 80.0 dB(A) with a mean of 69.2 dB(A), which already almost always exceeded the adjusted Limit Level of 65 dB(A) as set out in the Project EM&A Manual. The subject noise levels recorded were within this range.

Therefore, it was concluded that the exceedances were unlikely to have been Project-related, but it is noted that a major noise source originated from an adjacent site.

Noise Exceedances – 21 January 2014

During the subject noise monitoring sessions (08:30-09:00 & 09:00-09:30), bored piling and crane operation by another contractor at multiple locations within an adjacent construction site directly facing NM9 (about 60m and 120m from NM9), as well as traffic noise, were observed.

According to the site diary of 21 January 2014 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included the use of backhoe for excavation work near roundabout and concreting work to base slab for BC5 Bay 9 and backfilling works near NE Bay 8 (about 100m from NM9). Manual laying of 100mm thick stone facing blocks for NE Bay 6 & Bay 8 was also conducted. Other works in the Project site by the Contractor included excavation for and installation of gully and excavation work for water main pipe using backhoe near BC6-14 (at Tsz Tin Road, about 200m from NM9). Site plant was switched off when not in use.

According to the EM&A Baseline Monitoring Report for this Project (submitted in November 2011) that the normal weekday background L_{eq} (30 min) noise level at NM9 ranged from 64.6 to 80.0 dB(A). The subject noise levels recorded were within this range.

Therefore, it was concluded that the exceedances were unlikely to have been Project-related, but it is noted that a major noise source originated from an adjacent site.

Noise Exceedances – 27 January 2014

During the subject noise monitoring sessions (08:23-08:53 & 08:53-09:23), bored piling and crane operation by another contractor at multiple locations within an adjacent construction site directly facing NM9 (about 60m and 120m from NM9), as well as traffic noise, were observed.

According to the site diary of 27 January 2014 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included the use of backhoe for backfilling for footing for directional sign DS5 (near BC5-9) and laying temporary ducting for light cable diversion at Tsing Lun Road near roundabout (about 100m from NM9), and installation of valve chamber and backfilling near Inspection Chamber B near BC6. Manual installation of dowel bar and preparation work of steel fixing for BC5-9 were also conducted. Other works in the Project site conducted by the Contractor included:

- installation of sheet pile using backhoe near Gate C (at Hong Po Road, about 200m from NM9);
- general tidying work near Gate A (at Tsz Tin Road, about 200m from NM9) using backhoe and lorry; and
- concreting of connection of existing nullah and Inlet No. 1 using backhoe (at Tsz Tin Road, about 350m from NM9).

Site plant was switched off when not in use.

According to the EM&A Baseline Monitoring Report for this Project (submitted in November 2011) that the normal weekday background L_{eq} (30 min) noise level at NM9 ranged from 64.6 to 80.0 dB(A). The subject noise levels recorded were within this range.

Therefore, it was concluded that the exceedances were unlikely to have been Project-related, but it is noted that a major noise source originated from an adjacent site.

Noise Exceedance – 5 February 2014

During the subject noise monitoring session (10:25-10:55), backhoe was in operation by the Contractor within the Project site area near NM9. Bored piling and crane operation by another contractor at multiple locations within an adjacent construction site directly facing NM9 (about 60m and 120m from NM9), as well as traffic noise, were also observed.

According to the site diary of 5 February 2014 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included the use of backhoe for breaking concrete at Tsing Lun Road near roundabout (about 50m from NM9), for excavation works at Hong Po Road (about 150m from NM9) and for backfilling for gullies and Inspection Chamber B near BC6 (about 200m from NM9). Other works in the Project site conducted by the Contractor included:

- installation of sheet pile using backhoe near Gate C (at Hong Po Road, about 200m from NM9) involving welding; and
- removal of sheetpiles at Inspection Chamber B near BC6 involving welding.

Site plant was switched off when not in use.

Also, a weekly environmental site inspection was conducted by ET on the morning of 5 February 2014 (09:30-10:30). During the inspection, an idle backhoe with breaker tip wrapped in noise insulating material was observed in the Project site area opposite NM9 (on Tsing Lun Road near roundabout). Tarpaulin sheet was provided by the Contractor to shield breaking activity from NM9, however this was not considered to be an adequate noise mitigation measure.

According to the EM&A Baseline Monitoring Report for this Project (submitted in November 2011) that the normal weekday background L_{eq} (30 min) noise level at NM9 ranged from 64.6 to 80.0 dB(A), therefore indicating that the 70 dB(A) Noise Limit Level would be occasionally exceeded. The subject noise levels recorded were within this range.

It was concluded that the exceedance may have been Project-related, but it is also noted that a major noise source originated from an adjacent site.

Noise Exceedance – 28 February 2014

During the subject noise monitoring session (08:55-09:25), backhoe was in operation by the Contractor within the Project site area opposite Siu Hong Court (about 150m from NM9). Bored piling and crane operation by another contractor at multiple locations within an adjacent construction site directly facing NM9 (about 75m, 150m, 200m and 300m from NM9), as well as traffic noise, were also observed.

According to the site diary of 28 February 2014 provided by the Contractor, the major site activities conducted within the Project site area nearest to NM9 included the use of backhoe for concrete breaking works at Tze Tin Road (about 230m from NM9), for concreting works near BC6-14 (at Tsz Tin Road, about 200m from NM9) and for backfilling works at Tsing Lun Road opposite Siu Hong Court and Hong Po Road (both about 150m from NM9). Temporary noise barrier was provided by the Contractor during the abovementioned concrete breaking works.

Other works in the Project site conducted by the Contractor included:

- Delivery of fill material by numerous dump trucks; and
- Installation works involving welding on Tsz Tin Road (about 300m from NM9).

Site plant was switched off when not in use.

According to the EM&A Baseline Monitoring Report for this Project (submitted in November 2011) that the normal weekday background L_{eq} (30 min) noise level at NM9 ranged from 64.6 to 80.0 dB(A), therefore indicating that the 70 dB(A) Noise Limit Level would be occasionally exceeded. The subject noise levels recorded were within this range.

It was concluded that the exceedance was unlikely to be Project-related, but it is also noted that a major noise source originated from an adjacent site.

10 Actions Taken in the event of Non-compliance

Noise Exceedance – 30 December 2013

Although the exceedance was unlikely to be Project-related, nevertheless the Contractor is reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area.

No further increase in noise monitoring frequency is recommended from the findings of this investigation. It is noted that increase in noise monitoring frequency during the next school examination period at NM9 (scheduled for 9-24 January 2014) was ongoing, following the investigation findings into exceedance ref. no. 001.

Noise Exceedances – 9 January 2014

Although the exceedances were unlikely to be Project-related, nevertheless the Contractor is reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area.

No increase in noise monitoring frequency is recommended from the findings of this investigation.

Noise Exceedances – 21 January 2014

Although the exceedances were unlikely to be Project-related, nevertheless the Contractor is reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area.

No increase in noise monitoring frequency is recommended from the findings of this investigation.

Noise Exceedances – 27 January 2014

Although the exceedances were unlikely to be Project-related, nevertheless the Contractor is reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area.

No increase in noise monitoring frequency is recommended from the findings of this investigation.

Noise Exceedance – 5 February 2014

The Contractor is reminded that all noise mitigation measures recommended in the EM&A Manual should be properly implemented within the Project site area. In particular, moveable noise barriers or shields should be placed in front of noisy site works or plant to shield noise sensitive receivers (NSRs) from noise nuisance. Noise mitigation measures implemented by the Contractor within the Project site have included:

- Switching off site plant (or throttling down to a minimum) when not in active use during construction works;
- Relocation of mobile plant and noisy site activities further away from NM9 (towards Project site areas near Tsz Tin Road and Hong Po Road);
- Closing of the engine flaps of site plant during operation; and
- Wrapping of noisy construction equipment (e.g. breaker tips) with noise insulation material during operation.

In accordance with the Event and Action Plan, it is proposed that increase in monitoring frequency be conducted at NM9 during the week commencing Monday 24 February 2014 to check the effectiveness of the mitigation measures implemented. Two 30-min noise monitoring sessions at NM9 are scheduled during construction works on 28 February 2014.

Noise Exceedance – 28 February 2014

Although the exceedance was unlikely to be Project-related, nevertheless the Contractor is reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area.

No increase in noise monitoring frequency is recommended based on the findings of this investigation.

11 Record on Environmental Complaints received

No environmental complaint (written or verbal) was received during the reporting period; therefore, no follow-up actions were required.

Besides, there were no notifications of summons or successful prosecutions during the period.

12 Comments and Recommendations

It is noted that several noise exceedances were recorded during the reporting period, although it was concluded that most of these unlikely to be caused by the Project. Nevertheless, from observations made during site audits and results of ongoing impact monitoring, it was considered that the mitigation measures recommended in the EM&A Manual were largely effective and efficient in controlling the environmental pollutions caused by the construction works of the project.

During the school examination period in this reporting period (9-24 January 2014, except 15 January 2014 when no school examinations were held), the noise criterion for L_{eq} was lowered to 65dB(A) in accordance with the Baseline Monitoring Report. Given the abovementioned recorded noise exceedances, the Contractor is also reminded to ensure that all noise mitigation measures recommended in the EM&A Manual are properly implemented within the Project site area. Since it was noted that the background noise level is close to (or even higher than) 65 dB(A), the ET has further suggested to the Contractor to try avoiding works being carried out by mobile plants during school examination hours.

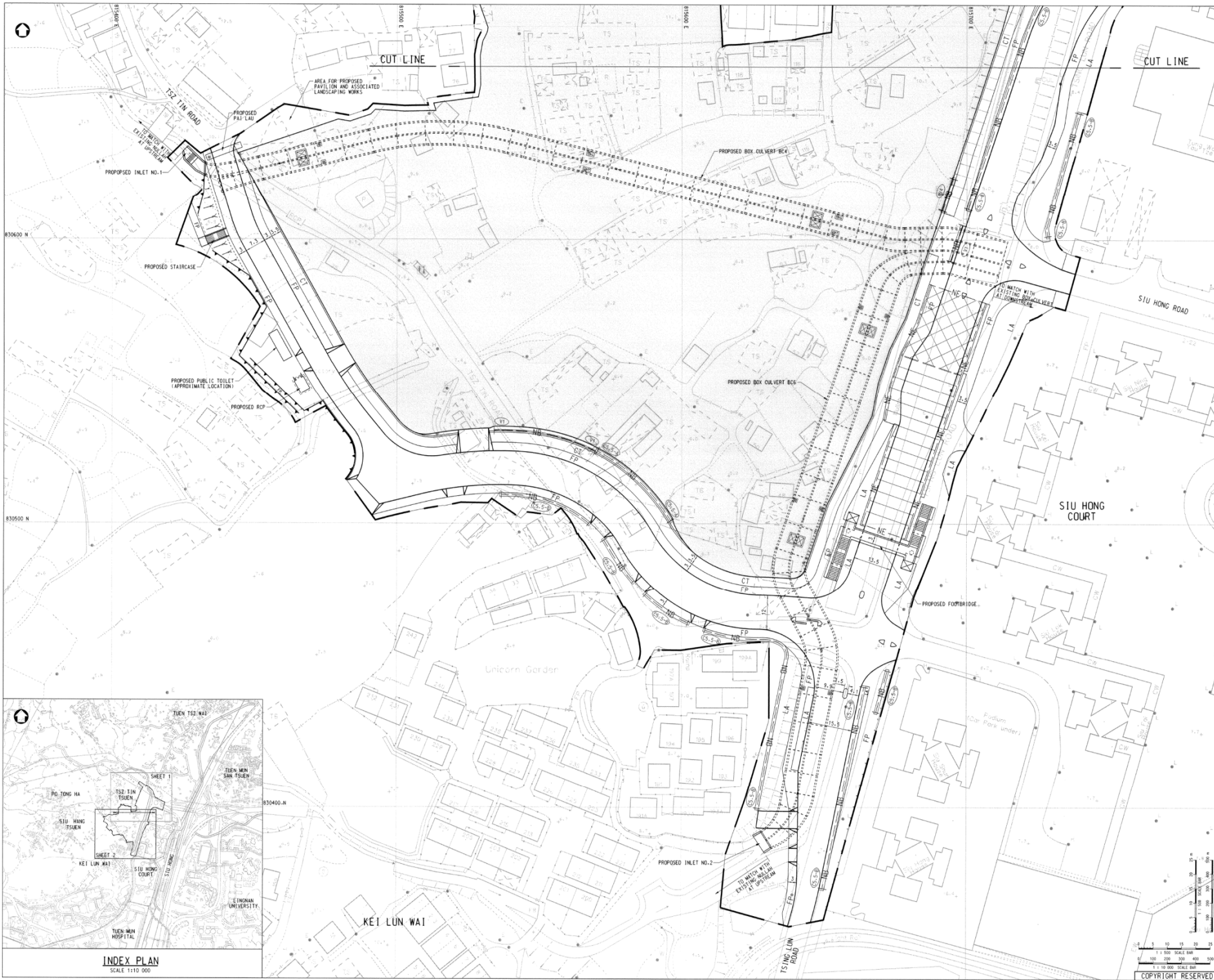
13 Conclusions

The EM&A programme, as recommended in the EM&A Manual, commenced on 8 December 2011 and has continued in the reporting period.

Monitoring of air quality and noise due to the Project was continuing. In particular, the 1-hr TSP, 24-hr TSP and noise levels (as L_{eq}) under monitoring have been checked against established Action and Limit levels. Nine exceedances of the Noise Limit Level were recorded during the reporting period. The exceedances were investigated and recommendations were made by ET for Contractor's implementation. There was no breach of Action and Limit Levels for 1-hr TSP and 24-hr TSP and of Action level for Noise in the reporting period.

There were no complaints, notifications of summons or successful prosecutions during the reporting period.

From site observations and results of ongoing impact monitoring, it was considered that the mitigation measures recommended in the EM&A Manual were largely effective and efficient in controlling the environmental pollutions from the project, despite the abovementioned noise exceedances.



NOTES:
1. FOR NOTES AND LEGEND, REFER DRAWING NO. LW841.

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REVISION				
		name	initials	date
designed		M. H. TSE	MT	18.04.17
drawn		C. H. HO	CH	18.04.17
checked		C. T. LAU	CL	19.04.17
approved				

contract no. CV/2011/01
 date 1: 18.04.2011

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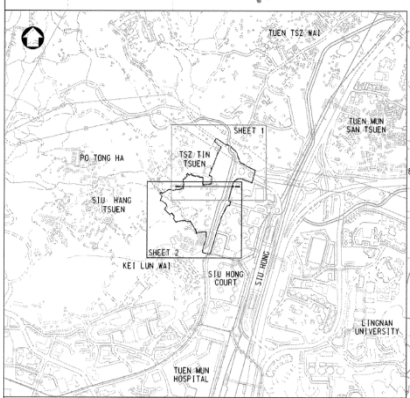
contract
SITE FORMATION AND INFRASTRUCTURAL WORKS NEAR TSING LUN ROAD AND TSZ TIN ROAD IN AREA 54, TUEN MUN

Figure 2
Site Layout (2)

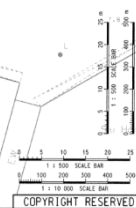
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office
 LAND WORKS DIVISION
 CIVIL ENGINEERING OFFICE

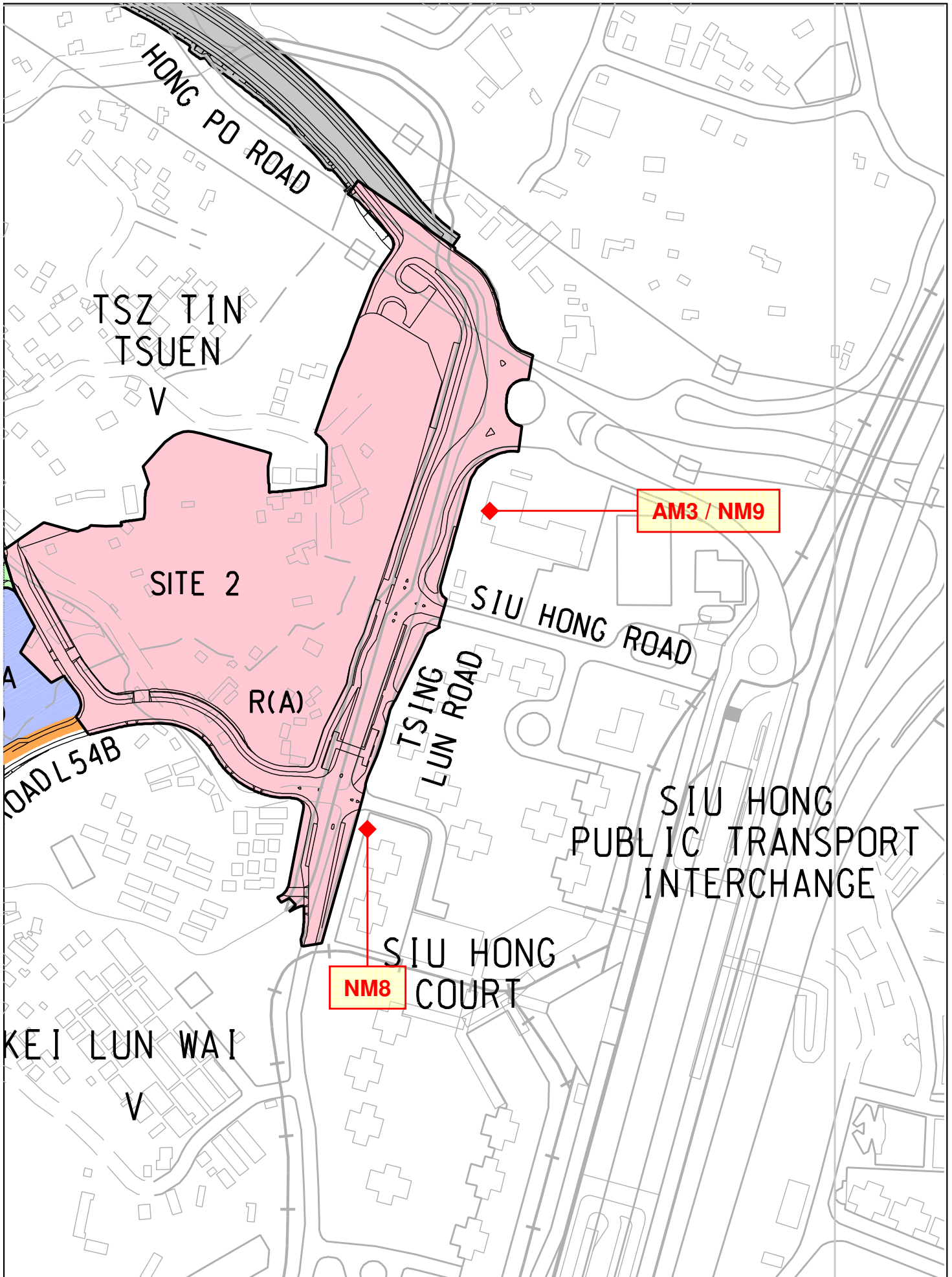
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT



INDEX PLAN
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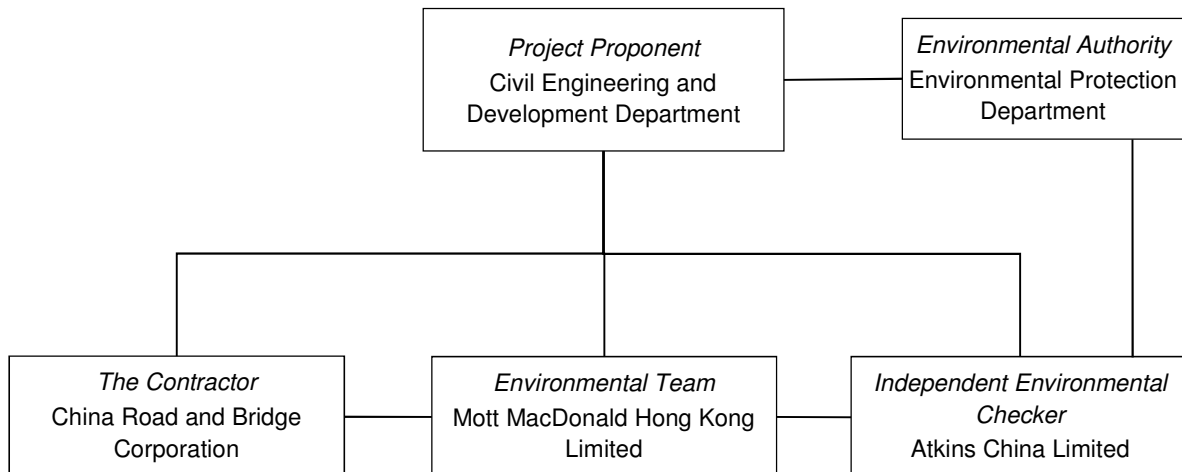


Appendices

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Appendix A. Project Organisation

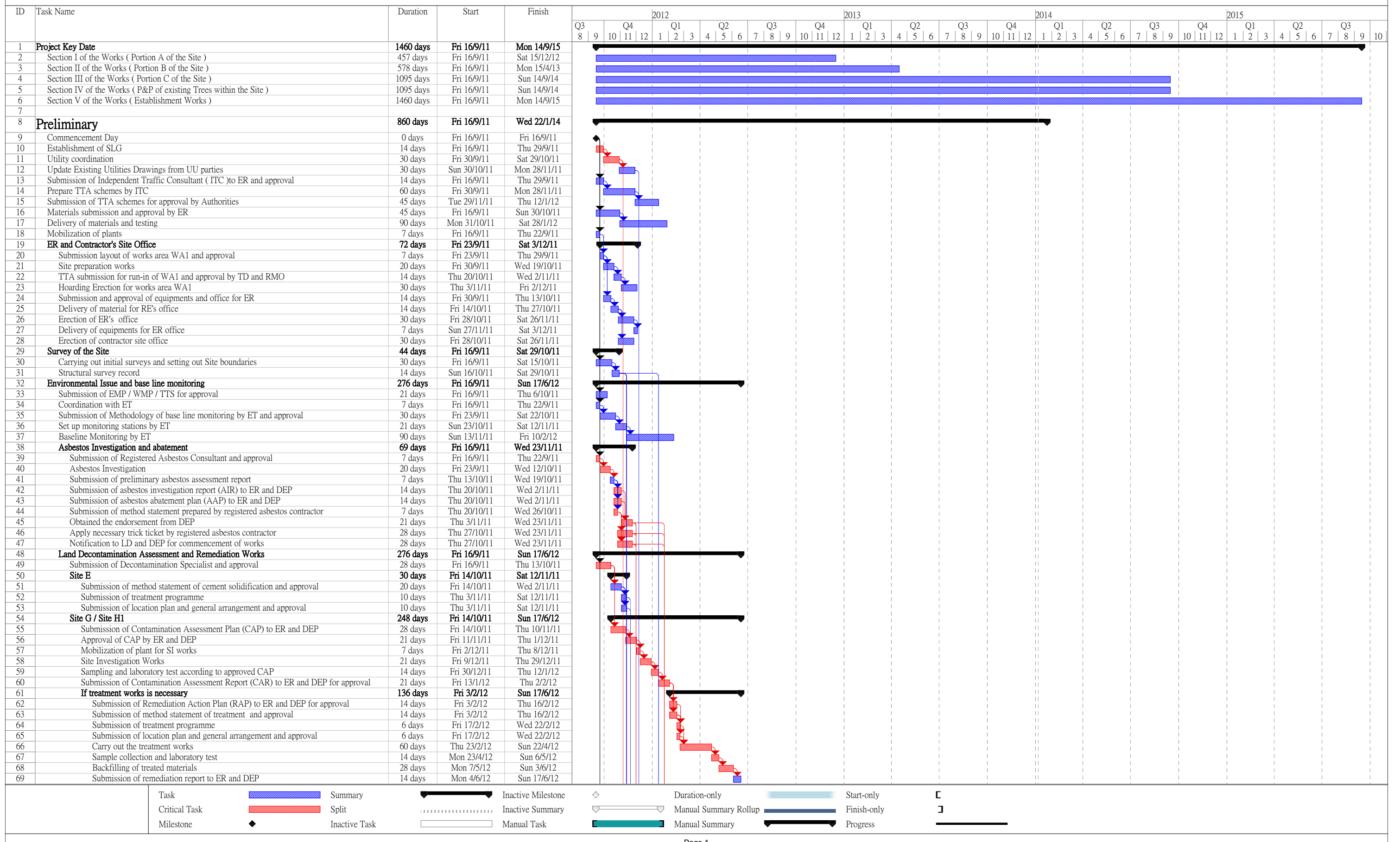


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China Road and Bridge Corporation	Project Manager	Mr Raymond Mau	9048 3669
China Road and Bridge Corporation	Site Agent	Mr Kau Kwok-hung, Ken	5335 9758
China Road and Bridge Corporation	Environmental Officer	Mr Ray Ma	5335 9755

Appendix B. Tentative Construction Programme

CRBC-China Road and Bridge Corporation
Contract No. CV/2011/01
Site Formation and Infrastructural Works near Tsing Lun Road and Tze Tin Road in Area 54, Tuen Mun
Master Program (Version 0)



CRBC-China Road and Bridge Corporation
Contract No. CV/2011/01
Site Formation and Infrastructural Works near Tsing Lun Road and Tze Tin Road in Area 54, Tuen Mun
Master Program (Version 0)

ID	Task Name	Duration	Start	Finish	2012												2013												2014												2015																								
					Q3	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	Q1	2	3	4	5	6	7	8	9	10	11	12	Q1	2	3	4	5	6	7	8	9	10	11	12	Q1	2	3	4	5	6	7	8	9	10	11	12	Q1	2	3	4	5	6	7
70	Landscape Works	50 days	Fri 16/9/11	Fri 4/11/11																																																													
71	Submission of Tree Specialist and approval by the ER	10 days	Fri 16/9/11	Sun 25/9/11																																																													
72	Submission of methodology for Tree Transplanting Works for ER's approval	40 days	Mon 26/9/11	Fri 4/11/11																																																													
73	Carry out Tree Survey	30 days	Mon 26/9/11	Tue 25/10/11																																																													
74	Prepare the tree survey report and approval by the ER	10 days	Wed 26/10/11	Fri 4/11/11																																																													
75	Carry out the Tree Group Inspection Works	30 days	Mon 26/9/11	Tue 25/10/11																																																													
76	Submission of Records for Tree Group Inspection Works	7 days	Wed 26/10/11	Tue 1/11/11																																																													
77	Noise Barriers	860 days	Fri 16/9/11	Wed 22/1/14																																																													
78	Submission of Noise Barrier Specialist and approval by the ER	50 days	Fri 16/9/11	Fri 4/11/11																																																													
79	Technical / Design Submission and Approval By the ER	360 days	Sat 5/11/11	Mon 29/10/12																																																													
80	Material, Technical and Design Submission with ICE Certificate	90 days	Sat 5/11/11	Thu 2/2/12																																																													
81	Material, Technical and Design of noise barrier approval by the ER	30 days	Fri 3/2/12	Sat 3/3/12																																																													
82	Finalization of setting out and alignment of noise barrier	120 days	Sun 4/3/12	Sun 1/7/12																																																													
83	General arrangement and Shop Drawings submission	210 days	Sun 4/3/12	Sat 29/9/12																																																													
84	General arrangement and Shop Drawings approval by the ER	30 days	Sun 30/9/12	Mon 29/10/12																																																													
85	Procurement of material, delivery and Test	360 days	Sun 4/3/12	Tue 26/2/13																																																													
86	Holding down bolts materials	180 days	Sun 4/3/12	Thu 30/8/12																																																													
87	Structural steel materials	180 days	Sun 4/3/12	Thu 30/8/12																																																													
88	Carry out materials test	90 days	Fri 31/8/12	Wed 28/11/12																																																													
89	PMMA transparent /Translucent panels	180 days	Mon 2/7/12	Fri 28/12/12																																																													
90	Absorptive type noise barrier panels	180 days	Mon 2/7/12	Fri 28/12/12																																																													
91	Aluminium profiles, cladding, EPDM sealing and fixing	240 days	Mon 2/7/12	Tue 26/2/13																																																													
92	Offsite Fabrication Yard for Steelworks	810 days	Sat 5/11/11	Wed 22/1/14																																																													
93	ER's approval of PRC workshop	200 days	Sat 5/11/11	Tue 22/5/12																																																													
94	Delivery structural steel to Offsite Fabrication Yard	200 days	Fri 31/8/12	Mon 18/3/13																																																													
95	Verify the as-build of installed holding down bolts	10 days	Tue 19/3/13	Thu 28/3/13																																																													
96	Fabrication (Cut + Weld + Galvanising + Painting)	300 days	Fri 29/3/13	Wed 22/1/14																																																													
97																																																																	
98	Section I of the Works - Portion A	457 days	Fri 16/9/11	Sat 15/12/12																																																													
99	Procession of Site	0 days	Fri 16/9/11	Fri 16/9/11																																																													
100	Site Clearance	142 days	Fri 16/9/11	Sat 4/2/12																																																													
101	General Site Clearance Works	14 days	Fri 16/9/11	Thu 29/9/11																																																													
102	Forming site access	30 days	Fri 30/9/11	Sat 29/10/11																																																													
103	Tree Felling works	14 days	Sun 30/10/11	Sat 12/11/11																																																													
104	Submission of Method Statement for Demolishing of existing village house	30 days	Fri 30/9/11	Sat 29/10/11																																																													
105	Obtained Approval for method statement for demolishing of existing village house	14 days	Sun 30/10/11	Sat 12/11/11																																																													
106	Demolition of Existing village houses (without asbestos)	11 days	Sun 13/11/11	Wed 23/11/11																																																													
107	Removal of asbestos materials and disposal	28 days	Thu 24/11/11	Wed 21/12/11																																																													
108	Demolition of Existing village houses (with asbestos)	45 days	Thu 22/12/11	Sat 4/2/12																																																													
109	Tree Transplanting for H941	73 days	Sat 5/11/11	Mon 16/1/12																																																													
110	Preparation Works for tree transplant	7 days	Sat 5/11/11	Fri 11/11/11																																																													
111	Crown Pruning	2 days	Sat 12/11/11	Sun 13/11/11																																																													
112	Root pruning - Stage 1	2 days	Mon 14/11/11	Tue 15/11/11																																																													
113	Waiting for 2nd stage root pruning	28 days	Wed 16/11/11	Tue 13/12/11																																																													
114	Root pruning - Stage 2	2 days	Wed 14/12/11	Thu 15/12/11																																																													
115	Waiting for transplant after 2nd stage root pruning	28 days	Fri 16/12/11	Thu 12/1/12																																																													
116	Carry out the transplanting works	4 days	Fri 13/1/12	Mon 16/1/12																																																													
117	Treatment of Contaminated Materials	161 days	Sun 13/11/11	Sat 21/4/12																																																													
118	Prepare the treatment area for cement solidification works	45 days	Sun 13/11/11	Tue 27/12/11																																																													
119	Carry out the treatment works	60 days	Wed 28/12/11	Sat 25/2/12																																																													
120	Sample collection and laboratory test	14 days	Sun 26/2/12	Sat 10/3/12																																																													
121	Backfilling of treated materials	28 days	Sun 11/3/12	Sat 7/4/12																																																													
122	Submission of remediation report to ER and DEP	14 days	Sun 8/4/12	Sat 21/4/12																																																													
123	Retaining Wall No.1	181 days	Tue 29/11/11	Sun 27/5/12																																																													
124	Submission of Method Statement for ER / CLP consent	30 days	Tue 29/11/11	Wed 28/12/11																																																													
125	Obtained Consent from ER / CLP for commencement of works	14 days	Thu 29/12/11	Wed 11/1/12																																																													
126	UU Cordination / Detection	7 days	Thu 12/1/12	Wed 18/1/12																																																													
127	Excavation for structure	40 days	Thu 19/1/12	Mon 27/2/12																																																													
128	Bay 11	15 days	Tue 28/2/12	Tue 13/3/12																																																													
129	Bay 12	15 days	Wed 14/3/12	Wed 28/3/12																																																													
130	Bay 13	15 days	Thu 29/3/12	Thu 12/4/12																																																													
131	Bay 14	15 days	Fri 13/4/12	Fri 27/4/12																																																													
132	Backfilling abd compaction	30 days	Sat 28/4/12	Sun 27/5/12																																																													
133	Site Hoard, Drainage Works and Site Formation Works	307 days	Sun 5/2/12	Fri 7/12/12																																																													
134	UU Detection	7 days	Sun 5/2/12	Sat 11/2/12																																																													
135	U channel construction (between CP 6.1 and SMH 6.1)	30 days	Sun 12/2/12	Mon 12/3/12																																																													
136	U channel construction (between CP 6.1 and CP1.1)	30 days	Tue 13/3/12	Wed 11/4/12																																																													
137	Hoarding Erection (between SMH and CP 1.1)	60 days	Thu 12/4/12	Sun 10/6/12																																																													
138	Site Formation Works	75 days	Mon 11/6/12	Fri 24/8/12																																																													

Task		Summary		Inactive Milestone		Duration-only		Start-only	
Critical Task		Split		Inactive Summary		Manual Summary Rollup		Finish-only	
Milestone		Inactive Task		Manual Task		Manual Summary		Progress	

CRBC-China Road and Bridge Corporation
Contract No. CV/2011/01
Site Formation and Infrastructural Works near Tsing Lun Road and Tze Tin Road in Area 54, Tuen Mun
Master Program (Version 0)

ID	Task Name	Duration	Start	Finish	2012			2013			2014			2015					
					Q3	Q4	Q1	Q1	Q2	Q3	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
257	Carry out the transplanting works	16 days	Wed 8/2/12	Thu 23/2/12															
258	Works at Tsz Tin Road	913 days	Sun 11/3/12	Tue 9/9/14															
259	Works between CH.LZ 1+36 and CH.L54B 1+75	518 days	Sun 11/3/12	Sat 10/8/13															
260	Rataining Wall No.2A	14 days	Wed 17/10/12	Tue 30/10/12															
263	Rataining Wall No.2B	30 days	Mon 4/6/12	Tue 3/7/12															
267	Rataining Wall No.3	60 days	Wed 4/7/12	Sat 1/9/12															
275	Rataining Wall No.4	30 days	Fri 3/8/12	Sat 1/9/12															
280	Box Culvert BC4	47 days	Sat 15/9/12	Wed 31/10/12															
281	Drainage works (between M1 and M2)	15 days	Sat 15/9/12	Sat 29/9/12															
282	Bay A1	10 days	Sun 30/9/12	Tue 9/10/12															
283	Bay A2	7 days	Wed 10/10/12	Tue 16/10/12															
284	Inlet No.1	15 days	Wed 17/10/12	Wed 31/10/12															
285	Road & Drain Works	158 days	Sun 2/9/12	Wed 6/2/13															
286	Earthworks	70 days	Sun 2/9/12	Sat 10/11/12															
287	Drainage and Gravity Sewerage Works	45 days	Wed 17/10/12	Fri 30/11/12															
288	Water main laying works	25 days	Fri 16/11/12	Mon 10/12/12															
289	Interceptor Sewer (RM)	10 days	Tue 11/12/12	Thu 20/12/12															
290	Road Pavement works	45 days	Fri 21/12/12	Sun 3/2/13															
291	Implement of TTA	3 days	Mon 4/2/13	Wed 6/2/13															
292	Construction of Proposed Pai Lau	240 days	Sat 9/6/12	Sun 3/2/13															
293	Reinforcement structure works	35 days	Thu 1/11/12	Wed 5/12/12															
294	Material approval and delivery	180 days	Sat 9/6/12	Wed 5/12/12															
295	Decoration Works	60 days	Thu 6/12/12	Sun 3/2/13															
296	Construction of Pavilion	300 days	Mon 15/10/12	Sat 10/8/13															
297	Reinforcement structure works	65 days	Thu 7/2/13	Fri 12/4/13															
298	Material approval and delivery	180 days	Mon 15/10/12	Fri 12/4/13															
299	Decoration Works	60 days	Sat 13/4/13	Tue 11/6/13															
300	Landscape Works	60 days	Wed 12/6/13	Sat 10/8/13															
301	Construction of Public Toilet	390 days	Sun 11/3/12	Thu 4/4/13															
302	Design Submission and Approval	180 days	Sun 11/3/12	Fri 7/9/12															
303	Material approval and delivery	90 days	Fri 7/9/12	Thu 6/12/12															
304	Reinforcement structure works	60 days	Thu 6/12/12	Sun 3/2/13															
305	E&M and Decoration Works	60 days	Mon 4/2/13	Thu 4/4/13															
306	Construction of RCP	235 days	Fri 7/9/12	Mon 29/4/13															
307	RC Structure	30 days	Mon 4/2/13	Tue 5/3/13															
308	Material approval and delivery	180 days	Fri 7/9/12	Tue 5/3/13															
309	Steel work and external cladding	45 days	Wed 6/3/13	Fri 19/4/13															
310	Water supply and E&M	10 days	Sat 20/4/13	Mon 29/4/13															
311	Works Between CH.L54B 1+75 and CH.L54B 0+35	464 days	Sun 11/11/12	Mon 17/2/14															
312	Works at Northern Side	186 days	Sun 11/11/12	Wed 15/5/13															
313	Road & Drain Works	186 days	Sun 11/11/12	Wed 15/5/13															
314	Demolishing of existing pavement area	18 days	Sun 11/11/12	Wed 28/11/12															
315	Drainage and gravity sewerage works	45 days	Thu 29/11/12	Sat 12/1/13															
316	Water main laying	45 days	Sun 13/1/13	Tue 26/2/13															
317	Interceptor Sewer (RM)	25 days	Wed 27/2/13	Sat 23/3/13															
318	Road Pavement works	50 days	Sun 24/3/13	Sun 12/5/13															
319	Implement of TTA	3 days	Mon 13/5/13	Wed 15/5/13															
320	Works at Southern Side	318 days	Sat 6/4/13	Mon 17/2/14															
321	Noise Barrier (Concrete Structure)	240 days	Sat 6/4/13	Sun 1/12/13															
331	Road & Drain Works	78 days	Mon 2/12/13	Mon 17/2/14															
332	Demolishing of existing pavement area	18 days	Mon 2/12/13	Thu 19/12/13															
333	Drainage and gravity sewerage works	30 days	Fri 20/12/13	Sat 18/1/14															
334	Road Pavement works	30 days	Sun 19/1/14	Mon 17/2/14															
335	Proposed Utility Works	120 days	Mon 13/5/13	Mon 9/9/13															
336	Construction of U channel along Proposed Cycle Track	90 days	Tue 10/9/13	Sun 8/12/13															
337	Construction Cycle Track	60 days	Mon 9/12/13	Thu 6/2/14															
338	Construction of Footpath	90 days	Fri 7/2/14	Wed 7/5/14															
339	Installation of Irrigation System	45 days	Thu 8/5/14	Sat 21/6/14															
340	Landscape Works	60 days	Sun 22/6/14	Wed 20/8/14															
341	Misc. works	20 days	Thu 21/8/14	Tue 9/9/14															
342	Works at Hong Po Road	1019 days	Sun 13/11/11	Wed 27/8/14															
343	Works at Southern side of Hong Po Road	581 days	Sun 13/11/11	Sat 15/6/13															
344	Box Culvert BC5 and interface works	281 days	Sun 13/11/11	Sun 19/8/12															
359	Retaining Wall No.1 and interface works	93 days	Wed 14/3/12	Thu 14/6/12															
371	Earthworks	134 days	Sat 28/4/12	Sat 8/9/12															
372	Backfilling and compaction above and adjacent to RW 1	60 days	Sat 28/4/12	Tue 26/6/12															
373	Demolishing of Existing open channel	60 days	Sat 12/5/12	Tue 10/7/12															
374	Backfilling and compaction above and adjacent to BC 5	80 days	Thu 21/6/12	Sat 8/9/12															

Task		Summary		Inactive Milestone		Duration-only		Start-only	
Critical Task		Split		Inactive Summary		Manual Summary Rollup		Finish-only	
Milestone		Inactive Task		Manual Task		Manual Summary		Progress	

Appendix C. Action and Limit Levels for Construction Phase

Air Quality

The Action and Limit Levels for 1-hour and 24-hour TSP at the designated monitoring station are presented in the following tables:

Table C.1: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM3	329	500

Table C.2: Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM3	179	260

Noise

The Action and Limit Levels for Noise at the designated monitoring stations are presented in the following table:

Table C.3: Action and Limit Levels for Construction Noise

Time Period & Monitoring Locations	Action Level	Limit Level
NM8		
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
NM9		
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	70 dB(A) / 65 dB(A) *
NM8, NM9		
0700-2300 hrs on holidays; and 1900-2300 hrs on all other days	When one documented complaint is received from any one of the sensitive receivers	65 dB(A)
2300-0700 hrs of next day	When one documented complaint is received from any one of the sensitive receivers	50 dB(A)

Note: * Reduced to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Appendix D. Environmental Mitigation Measures - Implementation Status

Table D.1: Air Quality – Recommended Mitigation Measures

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*2.1.7, Table A	<ul style="list-style-type: none"> Excavated dusty materials should be covered by impervious sheeting or sprayed with water to keep the entire surface wet. 	P
	<ul style="list-style-type: none"> Every vehicle should be washed to remove dusty materials from its body and wheels before leaving a construction site. 	P
	<ul style="list-style-type: none"> The load carried by vehicle should be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle. 	✓
	<ul style="list-style-type: none"> The heights from which fill materials are dropped should be controlled to a practical level to minimise the fugitive dust arising from unloading. 	✓
	<ul style="list-style-type: none"> The haul roads should be located away from air sensitive receivers (ASRs). 	✓
	<ul style="list-style-type: none"> The haul roads should be sprayed with water to keep the entire road surface wet. 	✓
	<ul style="list-style-type: none"> Vehicle speed within the construction sites should be maintained at 20 km/h or below. 	✓

Table D.2: Noise – Recommended Mitigation Measures

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*3.8, Table A	<ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works. 	✓
	<ul style="list-style-type: none"> Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. 	✓
	<ul style="list-style-type: none"> Plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from nearby NSRs. 	✓
	<ul style="list-style-type: none"> Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction works. 	P
	<ul style="list-style-type: none"> Mobile plant should be sited as far away from NSRs as possible. 	✓
	<ul style="list-style-type: none"> Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	✓
	<ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works. 	✓

Table D.3: Water Quality – Recommended Mitigation Measures

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*5.1, Table A	<ul style="list-style-type: none"> A temporary drainage channel shall be provided to divert any runoff away from the site. 	✓
*5.1, Table A ^2.4	<ul style="list-style-type: none"> Channels, earth bunds or sand bag barriers shall be provided on site to direct storm water to silt removal facilities. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94. 	P
*5.1, Table A	<ul style="list-style-type: none"> The overall slope of the site shall be kept to a minimum to reduce the erosive potential of surface water flows. 	✓
*5.1, Table A	<ul style="list-style-type: none"> All entrances and exits of construction sites shall be protected by coarse stone ballast. 	✓

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*5.1, Table A	<ul style="list-style-type: none"> Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ capacity, are recommended as a general mitigation measure which can be used for settling storm water prior to disposal. 	✓
*5.1, Table A ^2.6	<ul style="list-style-type: none"> All drainage facilities and erosion and sediment control structures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. 	P
*5.1, Table A	<ul style="list-style-type: none"> Measures shall be taken to minimise the ingress of any site drainage into excavations. 	✓
^2.5	<ul style="list-style-type: none"> Water to be pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities. 	P
*5.1, Table A	<ul style="list-style-type: none"> Particular attention shall be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. 	P
*5.1, Table A	<ul style="list-style-type: none"> All vehicles and mechanical plant shall be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. 	P
*5.1, Table A	<ul style="list-style-type: none"> The bentonite, grouting and cement materials shall only be delivered to the construction site when they are to be used. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Dusty materials shall be stored in a covered warehouse and the excess amount should be removed from the site. 	P
^2.7	<ul style="list-style-type: none"> Construction waste, debris and rubbish shall be properly collected, handled and disposed of to avoid water quality impacts. 	✓
^2.8	<ul style="list-style-type: none"> Construction work force sewage shall be handled by temporary or permanent public toilets or by portable chemical toilets or sewage holding tanks with the sewage to be regularly collected. 	✓

Table D.4: Waste Management – Recommended Mitigation Measures

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*5.1, Table A	<ul style="list-style-type: none"> Construction solid waste, debris and rubbish on site shall be collected, handled and disposed of properly. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Handle and store wastes in a manner which ensures that they are held securely without loss or leakage, thereby minimising the potential for pollution. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Use waste hauliers authorised or licensed to collect specific category of waste, e.g. chemical wastes. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Remove wastes in a timely manner. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Maintain and clean waste storage areas regularly. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Obtain the necessary waste disposal permits from the appropriate authorities. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Dispose of waste at licensed waste disposal facilities. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Develop procedures such as a ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Maintain records of the quantities of wastes generated, recycled and disposed. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Surplus excavated materials shall be reused as fill material at public filling areas (PFA). 	✓

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*5.1, Table A	<ul style="list-style-type: none"> Control measures shall be taken at the stockpiling area to prevent the generation of dust and pollution of stormwater channels. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Wetting the surface of the stockpiled soil with water when necessary especially during the dry season. 	✓
*5.1, Table A	<ul style="list-style-type: none"> Chemical waste produced should be handled in accordance with the relevant guidelines and regulations. 	P

Table D.5: Terrestrial Ecology – Recommended Mitigation Measures

* EM&A / ^ EP ref:	Recommended measures	Implementation Status
*4, Table A	<ul style="list-style-type: none"> Regular checks shall be made to ensure that the work site boundaries are not exceeded and that no damage is being caused to the surrounding areas. 	✓
*4	<ul style="list-style-type: none"> Wild and uncontrolled open fires shall be strictly prohibited within the work site boundary. 	✓

Table D.6: Others – Recommended Mitigation Measures

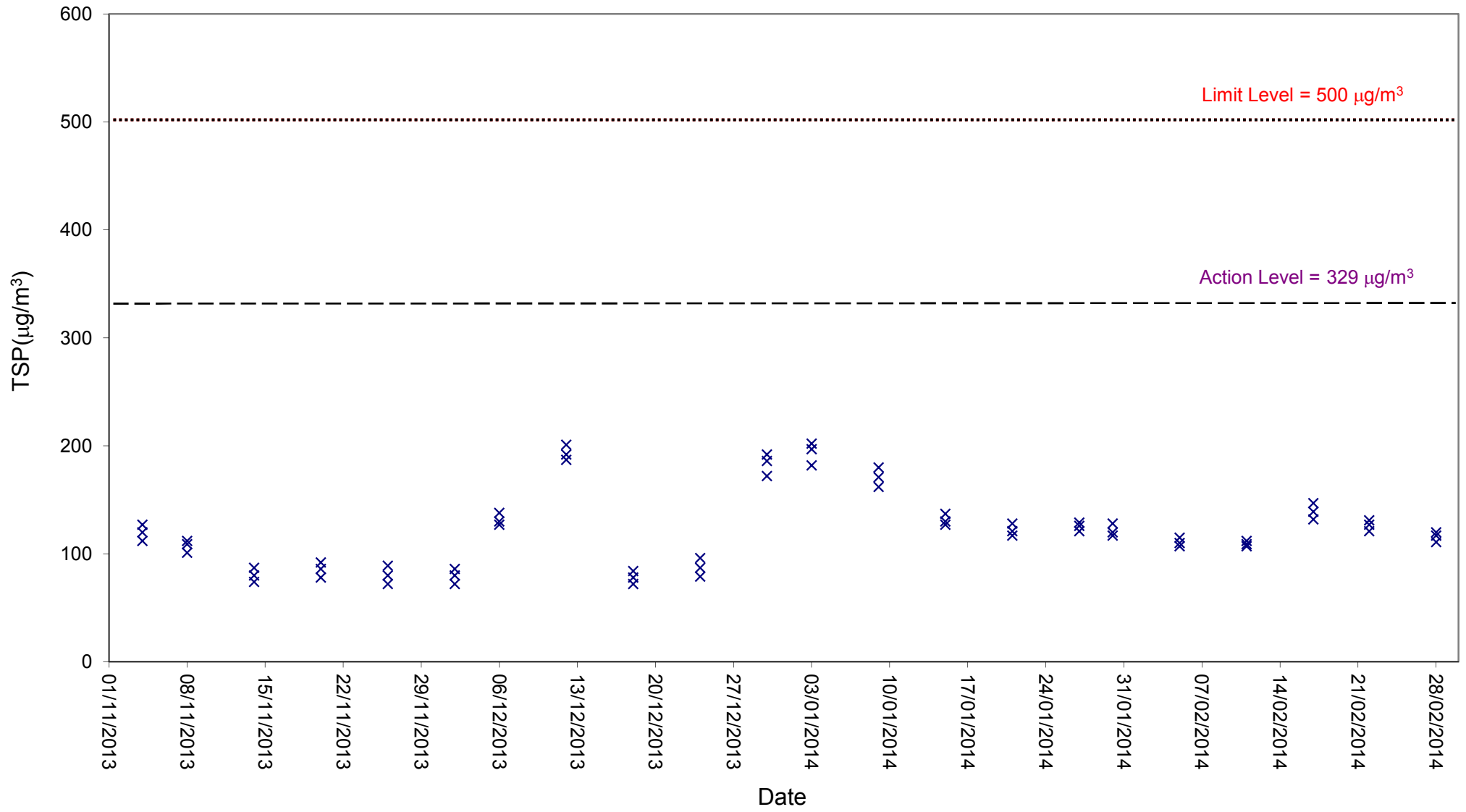
* EM&A / ^ EP ref:	Recommended measures	Implementation Status
^1.5	<ul style="list-style-type: none"> A copy of the valid Environmental Permit shall be displayed conspicuously on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public information at all times. The most updated information about the Permit, including any amended Permit, shall be displayed at such locations. If the Permit Holder surrenders a part or whole of the Permit, the notice he send to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s). 	✓
n/a	<ul style="list-style-type: none"> The required licenses should be obtained by the Contractor (including CNP (if any), WPCO license, etc.) 	✓

Legend:

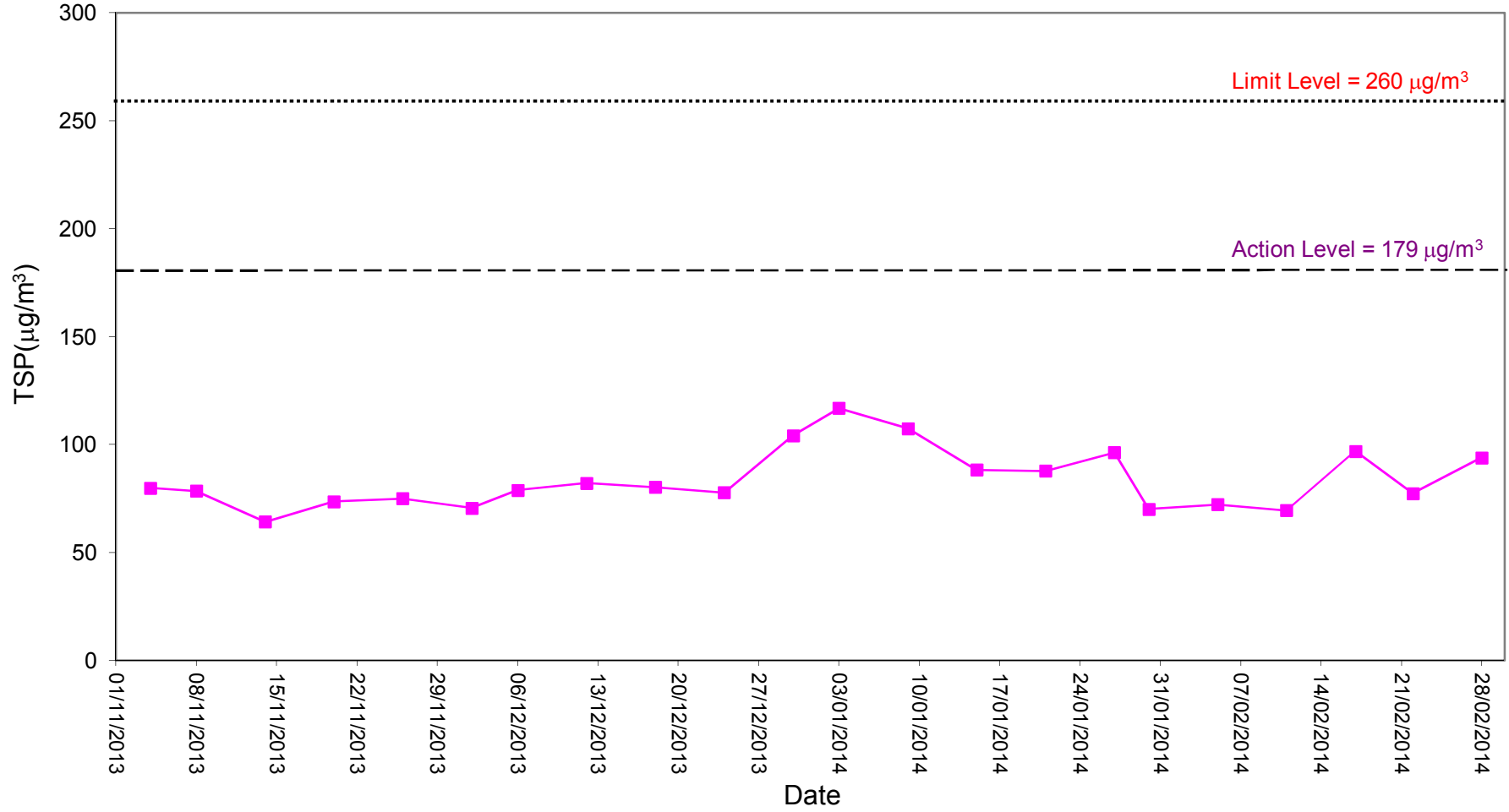
- ✓ Implemented
- × Not implemented
- P Partially implemented
- N/A Not applicable

Appendix E. Graphical Plots of the Monitoring Results

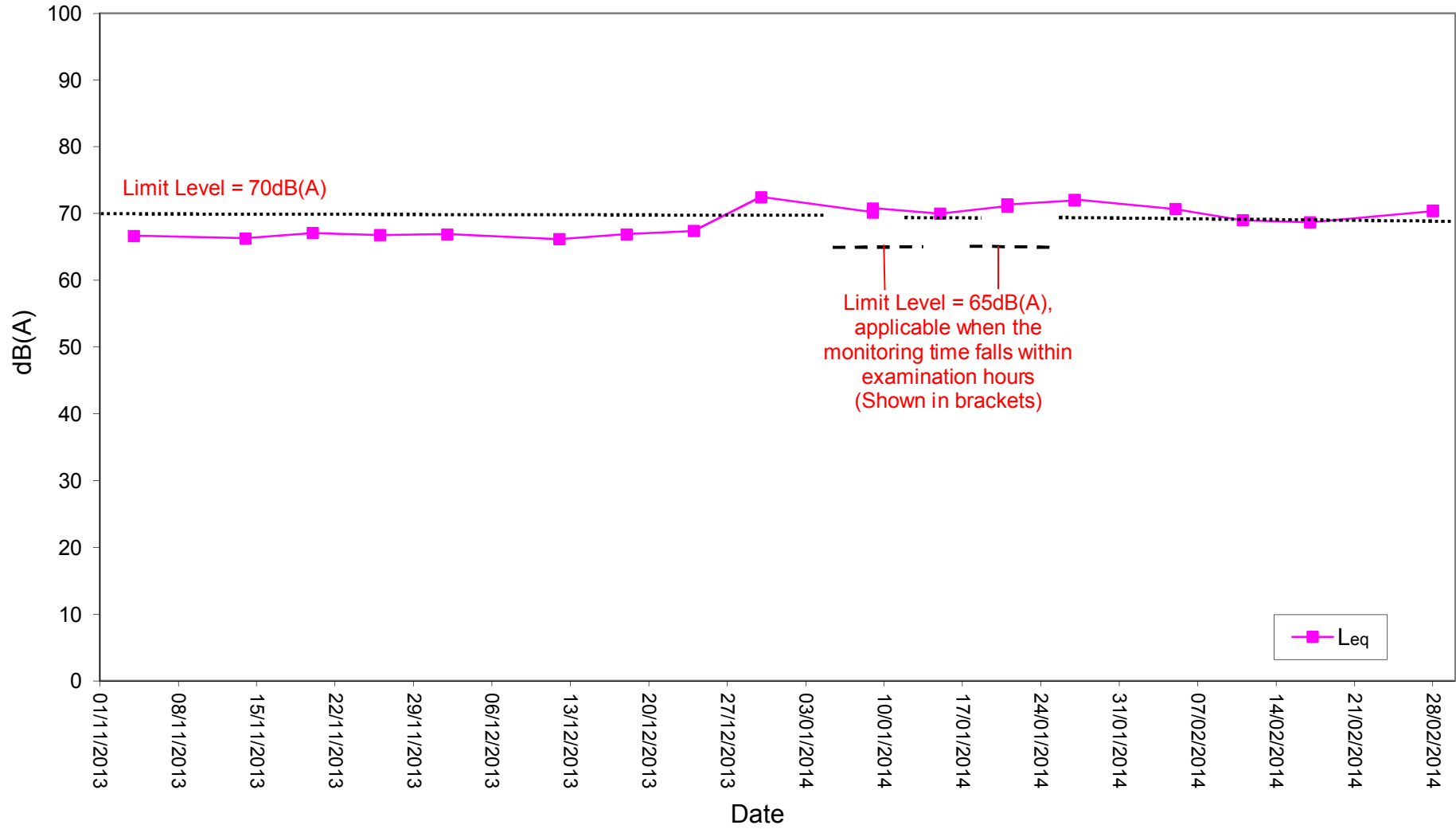
1-hour TSP Level at AM3



24-hour TSP Level at AM3



Noise Level for 30 min, dB(A), at NM9



Noise Level for 30 min, dB(A), at NM8

