# Civil Engineering and Development Department

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

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

Final EM&A Review Report

(Version 1.0)

Approved By _____
(Environmental Team Leader)

REMARKS:

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

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

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# EXECUTIVE SUMMARY

## Introduction

1. This is the Final Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Ltd. for "Contract No. KL/2012/03 - Kai Tak Development – Stage 4 Infrastructure at Former North Apron Area" (hereafter referred to as "the Project"). This contract comprises the construction of Schedule 2 Designated Projects (DP) Road D2 & Sewage Pumping Station PS2 and PS-NPS which forms a part of the works under two Environmental Permits (EP), EP-337/2009 and EP-344/2009. The title of the designated projects under Environmental Permit No.: EP-344/2009 is "New sewage pumping stations serving Kai Tak Development" and under Environmental Permit No.: EP-337/2009 is "New distributor roads serving the planned Kai Tak Development".

2. The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No.: EP-337/2009 was approved by the EPD on 15th April 2019. The impact environmental monitoring has been ceased since 15th April 2019. The As-built drawing for Road D2 was submitted to EPD on 13rd August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No.: EP-337/2009 have been ceased since 15th August 2019.

3. The construction works undertaken by Contract No. KL/2012/03 under EP No.: EP-344/2009 have been completed. Sewage Pumping Station, PS-NPS and PS2, were handed over to Drainage Services Department for operation on 31st July 2019 and 2nd January 2020 respectively. As all construction activities have been completed, no further environmental impact due to this Contract would be anticipated. As-built drawings for PS-NPS and PS2 were submitted to EPD on 27th July 2020. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permit (EP) No.: EP-344/2009 have been ceased since 1st August 2020.

4. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table I** (see **Figure 2 and 3** for their locations).

**Table I Air Quality and Noise Monitoring Stations for this Project**

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|---|---|---|
| **Air Quality Monitoring Stations** | | |
| AM2 - Lee Kau Yan Memorial School | Yes | AM2(A) – Ng Wah Catholic Secondary School(1) |
| AM3 – Sky Tower | No | AM3(A) – Holy Trinity Bradbury Centre<br>AM3(B) – Family Planning Association of Hong Kong(2) |
| AM4 – Grand Waterfront | No | AM4(A) – EMSD Workshop(3)<br>AM4(B) – Ma Tau Kok Road (next to EMSD workshops)(3)<br>AM4(C) – New Pumping Station(3) |
| AM5 – CCC Kei To Secondary School | No | AM5(A) – Po Leung Kuk Ngan Po Ling College(4) |

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|---|---|---|
| AM6 – Site 1B4 (Planned) | N/A | |
| **Noise Monitoring Stations** | | |
| M6 – Holy Carpenter Primary School | No | M6(A) – Oblate Primary School(5) |
| M7 – CCC Kei To Secondary School | Yes | N/A |
| M8 – Po Leung Kuk Ngan Po Ling College | No | M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) (6) |
| M9 – Tak Long Estate(7) | Yes | N/A |
| M10 – Site 1B4 (Planned) | N/A | |

Remarks:

- "Yes" – Monitoring station is the same as that stated in EM&A Manual.
- "No" – Monitoring station is not the same as that stated in EM&A Manual. Request for carrying monitoring works at the monitoring stations stated in EM&A Manual was rejected by owner of premise. Alternative monitoring stations were proposed by the ET of Schedule 3 EIA and approved by the EPD.
- N/A – No alternative monitoring station is required.
- (1) AM2(A) – The permission of air quality works (24-hour TSP) at station AM2 was denied and the monitoring works were resumed at the alternative station – AM2(A) in August 2017.
- (2) AM3(B) – The permission of air quality monitoring works (24-hour TSP) at station AM3(A) was denied in November 2017, the monitoring works were resumed at the alternative station – AM3(B) in December 2017.
- (3) AM4(A) – EMSD Workshop was cancelled due to unsuccessful accessibility of the facility in December 2016. 1-hr TSP monitoring was conducted at AM4(B) – Ma Tau Kuk Road (next to EMSD workshop) temporarily and 24-hr TSP monitoring was conducted at AM4(C) – New Pumping Station under Contract No. KL/2012/03 in March 2017.
- (4) AM5(A) – Po Leung Kuk Ngan Po Ling College was cancelled because no permission was granted from the premise in March 2017. Air quality monitoring was carried out at AM5 – CCC Kei To Secondary School in April 2017.
- (5) Construction noise monitoring at Station M6 – Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6A – Oblate Primary School since 10th October 2014 onwards.
- (6) Noise monitoring at M8 – Po Leung Kuk Ngan Po Ling College was cancelled due to no permission was granted from the premise. Noise monitoring was carried out at M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) temporarily from 21st November 2018. The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC and adopted on 20th March 2019.
- (7) The residential buildings at planned noise monitoring stations M9 – Site 1B1 (named as Tak Long Estate) had been established and being occupied at the end of December 2013. The Baseline Environmental Monitoring Report for the monitoring stations M9 – Site 1B1 (named as Tak Long Estate) has been submitted to EPD in July 2014 and the impact noise monitoring at M9 was commenced from April 2014.

## Environmental Monitoring Works

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

6. Summary of the non-compliance during construction period for the Project is tabulated in **Table II**.

**Table II Non-compliance Recorded for the Project during Construction Period**

| Parameter | No. of Project-related Exceedance | | Action Taken |
|---|---|---|---|
| | Action Level | Limit Level | |
| 1-hr TSP | 0 | 0 | N/A |
| 24-hr TSP | 0 | 0 | N/A |
| Noise | 1 | 0 | Refer to Appendix H |

*1-hour TSP Monitoring*

7. 1-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded.

*24-hour TSP Monitoring*

8. 24-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded.

*Construction Noise Monitoring*

9. All construction noise monitoring was conducted as scheduled during construction period. One Action Level exceedance was recorded during the whole construction period due to documented complaint. No Project-related Limit Level exceedance was recoded.

**Environmental Licenses and Permits**

10. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Environmental Permits No.: EP-344/2009 and EP-337/2009 were issued on 23rd April 2009.

11. Registration of Chemical Waste Producer (Waste Producer Number: 5213-286-K2958-05).

**Environmental Mitigation Implementation Schedule**

12. Air quality, noise and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix J**.

**Summary of Complaints and Prosecutions**

13. 3 nos. of environmental-related complaints were recorded at any of the site portions since the commencement of this Contract. The Summary of Complaint Log is presented in **Appendix H.**

**Key Information during Construction Period**

14. The construction program for the Project is provided in **Appendix K**.

15. Summary of key information during construction period is tabulated in **Table III**.

**Table III Summary Table for Key Information during Construction Period**

| Event | Event Details | | Action Taken | Status | Remark |
|---|---|---|---|---|---|
| | Number | Nature | | | |
| Complaint received | 3 | Noise Nuisance / Waste Disposal / Dust Emission / Muddy Water Discharge | Details refer to **Appendix H** | Closed | --- |
| Reporting Changes | 0 | --- | N/A | N/A | --- |
| Notifications of any summons & prosecutions received | 0 | --- | N/A | N/A | --- |

# 1. INTRODUCTION

## Background

1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 4 Infrastructure at Former North Apron Area is one of the construction stages of KTD. Schedule 2 DPs in this Project include new distributor roads serving the planned KTD and new sewage pumping stations serving the planned KTD. The general layout of the Project is shown in **Figure 1.**

1.2 Two Environmental Permits (EPs) No.: EP-344/2009 and EP-337/2009 were also issued to the Permit Holder Civil Engineering and Development Department on 23rd April 2009 for new sewage pumping stations serving the planned KTD and new distributor roads serving the planned KTD respectively.

1.3 A study of environmental impact assessment (EIA) was undertaken to identify the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and recommend possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4th April 2009.

1.4 Wellab Limited (Wellab) was commissioned by Kwan On Construction Co., Ltd. (the Contractor) on 1st January 2019 to undertake the role of the Environmental Team (ET) for the Contract No. KL/2012/03 - Stage 4 Infrastructure at Former North Apron Area. The construction work under KL/2012/03 comprises the construction of Road D2 & Sewage Pumping Station PS2 and PS NPS which forms a part of the works under two EPs (EP-337/2009 and EP-344/2009).

1.5 Wellab Limited was commissioned by Kwan On Construction Co., Ltd. to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract was on 1st December 2013 for Road D2 (part), Sewage Pumping Station PS2 and PS NPS.

1.6 The Proposal for Cessation of Construction Phase EM&A Works at Road D2 for Environmental Permits (EP) No. EP-337/2009 was approved by the Environmental Protection Department (EPD) on 15th April 2019. The impact environmental monitoring has been ceased since 15th April 2019. The As-built drawing for Road D2 was submitted to EPD on 13 August 2019. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permits (EP) No. EP-337/2009 have been ceased since 15 August 2019.

1.7 The construction works undertaken by Contract No. KL/2012/03 under EP No.: EP-344/2009 have been completed. Sewage Pumping Station, PS-NPS and PS2, were handed over to Drainage Services Department for operation on 31st July 2019 and 2nd January 2020 respectively. As all construction activities have been completed, no further environmental impact due to this Contract would be anticipated. The As-built drawing for PS-NPS and PS2 were submitted to EPD on 27th July 2020. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permit (EP) No.: EP-344/2009 have been ceased since 1st August 2020. Therefore, this is the Final EM&A review report for

Environmental Permits (EP) No. EP-337/2009 and EP-344/2009 summarizing the EM&A works for the Project during construction period.

**Project Organizations**

1.8 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Civil Engineering and Development Department (CEDD).
- The Engineer and the Engineer's Representative (ER) – AECOM.
- Environmental Team (ET) – Wellab Limited (WL).
- Independent Environmental Checker (IEC) – Acuity Sustainability Consulting Limited (Acuity)
- Contractor – Kwan On Construction Co., Ltd. (Kwan On).

1.9 The key contacts of the Project are shown in **Table 1.1** and **Figure 5**.

**Table 1.1 Key Project Contacts**

| Party | Role | Contact Person | Position | Phone No. | Fax No. |
|---|---|---|---|---|---|
| CEDD | Project Proponent | Mr. C. K. Choi | Senior Engineer | 3106 2583 | 3579 4512 |
| AECOM | Engineer's Representative | Mr. W. K. Leung | CRE | 2798 0771 | 3013 8864 |
| | | Mr. Mickey Lee | RE | | |
| Wellab | Environmental Team | Dr. Priscilla Choy | Environmental Team Leader | 2151 2089 | 3107 1388 |
| | | Ms. Ivy Tam | Project Coordinator and Audit Team Leader | 2151 2090 | |
| Acuity | Independent Environmental Checker | Mr. F. C. Tsang | Independent Environmental Checker | 26988060 | 26989383 |
| Kwan On | Contractor | Mr. P.H. Ho | Site Agent | 2889 8675 | 2558 6900 |
| | | | | 6146 6761 (Hotline telephone number) | |

**Summary of EM&A Requirements**

1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit Levels for all environmental parameters;
- Event Action Plans;
- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.

1.11 With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table 1.2** (see **Figure 2 and 3** for their locations).

**Table 1.2 Air Quality and Noise Monitoring Stations for this Project**

| Locations | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations |
|---|---|---|
| **Air Quality Monitoring Stations** | | |
| AM2 - Lee Kau Yan Memorial School | Yes | AM2(A) – Ng Wah Catholic Secondary School(1) |
| AM3 – Sky Tower | No | AM3(A) – Holy Trinity Bradbury Centre<br>AM3(B) – Family Planning Association of Hong Kong(2) |
| AM4 – Grand Waterfront | No | AM4(A) – EMSD Workshop(3)<br>AM4(B) – Ma Tau Kok Road (next to EMSD workshops)(3)<br>AM4(C) – New Pumping Station(3) |
| AM5 – CCC Kei To Secondary School | No | AM5(A) – Po Leung Kuk Ngan Po Ling College(4) |
| AM6 – Site 1B4 (Planned) | N/A | |
| **Noise Monitoring Stations** | | |
| M6 – Holy Carpenter Primary School | No | M6(A) – Oblate Primary School(5) |
| M7 – CCC Kei To Secondary School | Yes | N/A |
| M8 – Po Leung Kuk Ngan Po Ling College | No | M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) (6) |
| M9 – Tak Long Estate(7) | Yes | N/A |
| M10 – Site 1B4 (Planned) | N/A | |

Remarks:

- "Yes" – Monitoring station is the same as that stated in EM&A Manual
- "No" – Monitoring station is not the same as that stated in EM&A Manual. Request for carrying monitoring works at the monitoring stations stated in EM&A Manual was rejected by owner of premise. Alternative monitoring stations were proposed by the ET of Schedule 3 EIA and approved by the EPD.
- N/A – No alternative monitoring station is required.
- (1) AM2(A) – The permission of air quality works (24-hour TSP) at station AM2 was denied and the monitoring works were resumed at the alternative station – AM2(A) in August 2017.
- (2) AM3(B) – The permission of air quality monitoring works (24-hour TSP) at station AM3(A) was denied in November 2017, the monitoring works were resumed at the alternative station – AM3(B) in December 2017.
- (3) AM4(A) – EMSD Workshop was cancelled due to unsuccessful accessibility of the facility in December 2016. 1-hr TSP monitoring was conducted at AM4(B) – Ma Tau Kuk Road (next to EMSD workshop) temporarily and 24-hr TSP monitoring was conducted at AM4(C) – New Pumping Station under Contract No. KL/2012/03 in March 2017.
- (4) AM5(A) – Po Leung Kuk Ngan Po Ling College was cancelled because no permission was granted from the premise in March 2017. Air quality monitoring was carried out at AM5 – CCC Kei To Secondary School in April 2017.
- (5) Construction noise monitoring at Station M6 – Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6A – Oblate Primary School since 10th October 2014 onwards.
- (6) Noise monitoring at M8 – Po Leung Kuk Ngan Po Ling College was cancelled due to no permission was granted from the premise. Noise monitoring was carried out at M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) temporarily from 21st November 2018. The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC and adopted on 20th March 2019.
- (7) The residential buildings at planned noise monitoring stations M9 – Site 1B1 (named as Tak Long Estate) had been established and being occupied at the end of December 2013. The Baseline Environmental Monitoring Report for the monitoring stations M9 – Site 1B1 (named as Tak Long Estate) has been submitted to EPD in July 2014 and the impact noise monitoring at M9 was commenced from April 2014.

1.12 According to the Environmental Monitoring and Audit Manual (EM&A Manual) of the Kai Tak Development (KTD) Schedule 3 Environmental Impact Assessment (EIA) Report, the impact monitoring at the designated monitoring stations as required in KTD EM&A Manual

under the EP, has been conducted in Environmental Monitoring Works for Kai Tak Development under Schedule 3 of KTD, which is on-going starting from December 2010.

1.13 The impact monitoring data under Contract No. KLN/2010/04 under Schedule 3 of KTD were adopted for the Project since 1st December 2013. As Contract No. KLN/2010/04 was superseded by Contract No. KLN/2013/16 in March 2014, all impact environmental monitoring results under Contract No. KLN/2013/16 were adopted for the Project from March 2014 to March 2017.

1.14 Contract no. KLN/2013/16 was superseded by Contract No. KLN/2016/09 in March 2017. All impact environmental monitoring results under Contract No. KLN/2016/09 were adopted for this project since March 2017 until the approach for adoption of all impact environmental monitoring results under Schedule 3 of KTD for this project were rearranged. Subsequently, the impact environmental monitoring works were carried out under this project with approval from EPD, Project Proponent (CEDD), RE and IEC with the environmental monitoring requirements as stipulated in Schedule 2 Designated Project (DP) "New Distributor Roads Serving the Planned KTD" and "New Sewage Pumping Stations Serving the Planned KTD" under Section 2 of KTD EM&A Manual for EP-337/2009 and EP-344/2009.

1.15 **Table 1.3** and **Table 1.4** summarizes the environmental monitoring schedule for monitoring stations during construction period.

**Table 1.3 Air Quality Monitoring Schedule during Construction Period**

| Station | Monitoring date | | Monitoring results provided by |
|---|---|---|---|
| | From | To | |
| *1-hour average TSP levels* | | | |
| AM2 – Lee Kau Yan Memorial School | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | June 2017 | KLN/2016/09 |
| | June 2017 | April 2019 | KL/2012/03 |
| AM3(A) - Holy Trinity Bradbury Centre | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | June 2017 | KLN/2016/09 |
| | June 2017 | April 2019 | KL/2012/03 |
| AM4(A) – EMSD Workshops | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | December 2016 | KLN/2013/16 |
| AM4(B) – Ma Tau Kok Road (next to EMSD workshops) | January 2017 | March 2017 | KLN/2013/16 |
| | March 2017 | March 2017 | KLN/2016/09 |

| | | | |
|---|---|---|---|
| AM4(C) – New Pumping Station | April 2017 | May 2017 | KLN/2016/09 |
| | May 2017 | April 2019 | KL/2012/03 |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | April 2017 | KLN/2016/09 |
| AM5 – CCC Kei To Secondary School | April 2017 | June 2017 | KLN/2016/09 |
| | June 2017 | April 2019 | KL/2012/03 |
| *24-hour average TSP levels* | | | |
| AM2 – Lee Kau Yan Memorial School | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | August 2017 | KLN/2016/09 |
| AM2(A) – Ng Wah Catholic Secondary School | August 2017 | April 2019 | KL/2012/03 |
| AM3(A) - Holy Trinity Bradbury Centre | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | November 2017 | KLN/2016/09 |
| AM3(B) – Family Planning Association of Hong Kong | December 2017 | April 2019 | KL/2012/03 |
| AM4(A) – EMSD Workshops | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | December 2016 | KLN/2013/16 |
| AM4(C) – New Pumping Station | March 2017 | May 2017 | KLN/2016/09 |
| | May 2017 | April 2019 | KL/2012/03 |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| AM5 – CCC Kei To Secondary School | April 2017 | June 2017 | KLN/2016/09 |
| | June 2017 | April 2019 | KL/2012/03 |

**Table 1.4 Noise Monitoring Schedule during Construction Period**

| Stations | Monitoring date | | Monitoring results provided by |
|---|---|---|---|
| | From | To | |
| M6 – Holy Carpenter Primary School | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | October 2014 | KLN/2013/16 |
| M6(A) – Oblate Primary School | October 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | May 2017 | KLN/2016/09 |
| | May 2017 | April 2019 | KL/2012/03 |
| M7 – CCC Kei To Secondary School | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | June 2017 | KLN/2016/09 |
| | June 2017 | April 2019 | KL/2012/03 |
| M8 – Po Leung Kuk Ngan Po Ling College | December 2013 | February 2014 | KLN/2010/04 |
| | March 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | May 2017 | KLN/2016/09 |
| | May 2017 | November 2018 | KL/2012/03 |
| M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) | November 2018 | April 2019 | KL/2012/03 |
| M9 – Tak Long Estate | April 2014 | March 2017 | KLN/2013/16 |
| | March 2017 | May 2017 | KLN/2016/09 |
| | May 2017 | April 2019 | KL/2012/03 |

# 2. AIR QUALITY

## Prediction and Evaluation of Environmental Impact

2.1 The maximum cumulative 1-hour and 24-hour average Total Suspended Particulates (TSP) levels for construction of the Project were predicted and evaluated during EIA period. The **Table 2.1** summarizes the EIA predictions during construction period.

**Table 2.1 EIA Predictions of 1-hr TSP and 24-hr TSP Average Levels**

| Station | Predicted Average TSP conc. | |
|---|---|---|
| | Scenario 1 (Mid 2009 to Mid 2013), µg/m$^3$ | Scenario 2 (Mid 2013 to Late 2016), µg/m$^3$ |
| *1-hour average TSP levels* | | |
| AM2 – Lee Kau Yan Memorial School | 290 | 312 |
| AM3(A) – Holy Trinity Bradbury Centre | 217 | 247 |
| AM4(A) – EMSD Workshops | 246 | 258 |
| AM4(B) – Ma Tau Kok Road (next to EMSD workshops)(3) | N/A | N/A |
| AM4(C) – New Pumping Station(3) | N/A | N/A |
| AM5 – CCC Kei To Secondary School(4) | 163 | 220 |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | 159 | 221 |
| *24-hour average TSP levels* | | |
| AM2 – Lee Kau Yan Memorial School | 145 | 169 |
| AM2(A) – Ng Wah Catholic Secondary School(1) | N/A | N/A |
| AM3(A) – Holy Trinity Bradbury Centre | 106 | 138 |
| AM3(B) – Family Planning Association of Hong Kong(2) | N/A | N/A |
| AM4(A) – EMSD Workshops | 143 | 152 |
| AM4(C) – New Pumping Station(3) | 143 | 152 |
| AM5 – CCC Kei To Secondary School(4) | 106 | 127 |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | 103 | 128 |

Remarks:

- (1) AM2(A) – The permission of air quality works (24-hour TSP) at station AM2 was denied and the monitoring works were resumed at the alternative station – AM2(A) in August 2017.
- (2) AM3(B) – The permission of air quality monitoring works (24-hour TSP) at station AM3(A) was denied in November 2017, the monitoring works were resumed at the alternative station – AM3(B) in December 2017.
- (3) AM4(A) – EMSD Workshop was cancelled due to unsuccessful accessibility of the facility in December 2016. 1-hr TSP monitoring was conducted at AM4(B) – Ma Tau Kuk Road (next to EMSD workshop) temporarily and 24-hr TSP monitoring was conducted at AM4(C) – New Pumping Station under Contract No. KL/2012/03 in March 2017.
- (4) AM5(A) – Po Leung Kuk Ngan Po Ling College was cancelled because no permission was granted from the premise in March 2017. Air quality monitoring was carried out at AM5 – CCC Kei To Secondary School in April 2017.

**Baseline Condition**

2.2 Baseline air quality monitoring was conducted at the designated monitoring stations. The baseline data was used for the Project to derive the Action/Limit Level. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

2.3 The baseline 1-hr average TSP level, 24-hr average TSP level and the Action and Limit Levels at each designated air quality monitoring stations are presented in **Table 2.2**.

**Table 2.2 Baseline Average TSP levels and Limit Level for Monitoring Stations**

| Station | Average TSP conc. | | |
|---|---|---|---|
| | **Average TSP Concentration, µg/m³ (Range)** | **Action Level, µg/m³** | **Limit Level, µg/m³** |
| *1-hour average TSP levels* | | | |
| AM2 – Lee Kau Yan Memorial School | 147.9 (64.4 – 216.8) | 346 | 500 |
| AM3(A) - Holy Trinity Bradbury Centre | 155.2 (108.4 – 196.3) | 351 | |
| AM4(A) – EMSD Workshops | 186.8 (156.3 – 213.0) | 371 | |
| AM4(B) – Ma Tau Kok Road (next to EMSD workshops)(3) | | | |
| AM4(C) – New Pumping Station(3) | | | |
| AM5 – CCC Kei To Secondary School(4) | 145.8 (77.5 – 203.0) | 345 | |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | | | |
| *24-hour average TSP levels* | | | |
| AM2 – Lee Kau Yan Memorial School | 42.0 (26.7 – 57.1) | 157 | 260 |
| AM2(A) – Ng Wah Catholic Secondary School(1) | | | |
| AM3(A) - Holy Trinity Bradbury Centre | 56.3 (30.2 – 82.5) | 167 | |
| AM3(B) – Family Planning Association of Hong Kong(2) | | | |
| AM4(A) – EMSD Workshops | 88.3 (43.0 – 137.3) | 187 | |
| AM4(C) – New Pumping Station(3) | | | |
| AM5 – CCC Kei To Secondary School(4) | 39.6 (22.6 – 68.7) | 156 | |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | | | |

Remarks:

- (1) AM2(A) – The permission of air quality works (24-hour TSP) at station AM2 was denied and the monitoring works were resumed at the alternative station – AM2(A) in August 2017.
- (2) AM3(B) – The permission of air quality monitoring works (24-hour TSP) at station AM3(A) was denied in November 2017, the monitoring works were resumed at the alternative station – AM3(B) in December 2017.
- (3) AM4(A) – EMSD Workshop was cancelled due to unsuccessful accessibility of the facility in December 2016. 1-hr TSP monitoring was conducted at AM4(B) – Ma Tau Kuk Road (next to EMSD workshop) temporarily and 24-hr TSP monitoring was conducted at AM4(C) – New Pumping Station under Contract No. KL/2012/03 in March 2017.
- (4) AM5(A) – Po Leung Kuk Ngan Po Ling College was cancelled because no permission was granted from the premise in March 2017. Air quality monitoring was carried out at AM5 – CCC Kei To Secondary School in April 2017.

**Monitoring Requirements**

2.4 According to EM&A Manual under the EP, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

**Monitoring Locations**

2.5 Impact dust monitoring was conducted at the air quality monitoring stations, AM2 - Lee Kau Yan Memorial School, AM2(A) – Ng Wah Catholic Secondary School, AM3(A) - Holy Trinity Bradbury Centre, AM3(B) – Family Planning Association of Hong Kong, AM4(A) – EMSD Workshops, AM4(B) – Ma Tau Kok Road (next to EMSD workshops), AM4(C) – New Pumping Station, AM5 – CCC Kei To Secondary School and AM5(A) – Po Leung Kuk Ngan Po Ling College.

2.6 The 24-hour TSP monitoring at AM2 was unavailable due to rejection by the premises owner and therefore an alternative monitoring station AM2(A) was proposed and adopted for subsequent impact monitoring starting in August 2017.

2.7 The 24-hour TSP monitoring at AM3(A) was unavailable due to rejection by the premises owner in November 2017 and therefore an alternative monitoring station AM3(B) was proposed and adopted for subsequent impact monitoring starting in December 2017.

2.8 The air quality monitoring at AM4(A) was unavailable due to unsuccessful accessibility of the facility in December 2016 and therefore an alternative monitoring station AM4(B) was proposed and adopted for 1-hour TSP monitoring temporarily from January 2017 to March 2017. An alternative monitoring station AM4(C) was also proposed and adopted for subsequent impact monitoring starting in March 2017.

2.9 The air quality monitoring at AM5(A) was unavailable due to rejection by the premises owner in March 2017 and therefore an alternative monitoring station AM5 was proposed and adopted for subsequent impact monitoring starting in April 2017.

2.10 **Table 2.3** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

**Table 2.3 Locations for Air Quality Monitoring**

| Monitoring Stations | Locations | Monitoring Parameter | Location of Measurement |
|---|---|---|---|
| AM2 | Lee Kau Yan Memorial School | 1-hour TSP & 24-hour TSP | Rooftop (about 8/F) Area |
| AM2(A) | Ng Wah Catholic Secondary School | 24-hour TSP | Rooftop (about 8/F) Area |
| AM3(A) | Holy Trinity Bradbury Centre | 1-hour TSP & 24-hour TSP | Rooftop (about 8/F) Area |
| AM3(B) | Family Planning Association of Hong Kong | 24-hour TSP | Rooftop (about 4/F) Area |
| AM4(A) | EMSD Workshops | 1-hour TSP & 24-hour TSP | Rooftop (about 6/F) Area |
| AM4(B) | Ma Tau Kok Road (next to EMSD workshops) | 1-hour TSP | N/A |
| AM4(C) | New Pumping Station | 1-hour TSP & 24-hour TSP | Rooftop (about 6/F) Area |
| AM5 | CCC Kei To Secondary School | 1-hour TSP & 24-hour TSP | Rooftop (about 10/F) Area |
| AM5(A) | Po Leung Kuk Ngan Po Ling College | 1-hour TSP & 24-hour TSP | Rooftop (about 10/F) Area |
| AM6 | PA15 | - | Site 1B4 (Planned) |

**Monitoring Parameters, Frequency and Duration**

2.11 **Table 2.4** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period.

**Table 2.4 Impact Dust Monitoring Parameters, Frequency and Duration**

| Parameters | Frequency |
|---|---|
| 1-hr TSP | Three times / 6 days |
| 24-hr TSP | Once / 6 days |

**Results and Observations**

2.12 A summary of the impact air quality monitoring results in the construction period is given in **Table 2.5.**

**Table 2.5 Summary of 1-hr and 24-hr TSP Monitoring Results in the Construction Period**

| Monitoring Station(s) | Average µg/m³ | Maximum µg/m³ | Minimum µg/m³ | Action Level µg/m³ | Limit Level µg/m³ |
|---|---|---|---|---|---|
| **1-hour TSP** | | | | | |
| AM2 | 132.4 | 345.6 | 19.1 | 346 | 500 |
| AM3(A) | 127.3 | 346.7 | 15.7 | 351 | |
| AM4(A) | 136.3 | 364.9 | 14.9 | 371 | |
| AM4(B) | 154.3 | 210.2 | 43.8 | | |
| AM4(C) | 147.0 | 367.7 | 25.4 | | |
| AM5 | 127.9 | 327.3 | 23.8 | 345 | |
| AM5(A) | 117.0 | 338.2 | 9.9 | | |
| **24-hour TSP** | | | | | |
| AM2 | 70.0 | 152.0 | 15.2 | 157 | 260 |
| AM2(A) | 65.2 | 142.4 | 15.7 | | |
| AM3(A) | 68.2 | 149.3 | 12.6 | 167 | |
| AM3(B) | 82.8 | 154.1 | 11.2 | | |
| AM4(A) | 88.0 | 179.2 | 11.9 | 187 | |
| AM4(C) | 71.4 | 176.5 | 12.3 | | |
| AM5 | 41.3 | 117.0 | 9.2 | 156 | |
| AM5(A) | 40.6 | 112.3 | 12.7 | | |

2.13 1-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded.

2.14 24-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix F**.

2.15 The weather information during construction period is summarized in **Appendix B**.

2.16 The summary of exceedance record during construction period is shown in **Appendix F**. No exceedance was recorded for the air quality monitoring.

2.17 The summary of monitoring data and graphical presentation of 1-hr and 24-hr TSP air quality monitoring results during construction period are shown in **Appendix C** and **Appendix D** respectively.

2.18 According to our field observations, the major dust sources identified at the designated air quality monitoring stations are as follows:

**Table 2.6 Major Dust Sources Identified at Air Sensitive Receivers**

| Station | Major Dust Sources |
|---|---|
| AM2 – Lee Kau Yan Memorial School | Road Traffic Dust<br>Exposed site area and open stockpiles<br>Site vehicle movement |
| AM2(A) – Ng Wah Catholic Secondary School | Road Traffic Dust<br>Exposed site area and open stockpiles<br>Excavation works<br>Site vehicle movement |
| AM3(A) – Holy Trinity Bradbury Centre | Road Traffic Dust<br>Exposed site area<br>Excavation works<br>Site vehicle movement |
| AM3(B) – Family Planning Association of Hong Kong | Road Traffic Dust<br>Exposed site area<br>Excavation works<br>Site vehicle movement |
| AM4(A) – EMSD Workshops | Recycling Company<br>Site Vehicle movement |
| AM4(B) – Ma Tau Kok Road (next to EMSD workshops) | Site vehicle movement |
| AM4(C) – New Pumping Station | Site vehicle movement |
| AM5 – CCC Kei To Secondary School | Road Traffic Dust |
| AM5(A) – Po Leung Kuk Ngan Po Ling College | Road Traffic Dust<br>Excavation works at the site (Contract No.: 1/WSD/08(K)) facing Po Leung Kuk Ngan Po Ling College<br>Excavation works at the site (Contract No.: 1/WSD/14(K)) facing Po Leung Kuk Ngan Po Ling College |

# 3. NOISE

## Prediction and Evaluation of Environmental Impact

3.1 The cumulative noise levels for construction of the Project were predicted and evaluated in the absence of mitigation measures during EIA period. The **Table 3.1** summarizes the EIA predictions during construction period.

**Table 3.1 EIA Predictions of Noise Levels**

| Stations | Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour ($L_{eq\ (30min)}$ dB(A)) |
|---|---|
| M6 – Holy Carpenter Primary School | 47 – 86 |
| M6(A) – Oblate Primary School(1) | 47 - 64 |
| M7 – CCC Kei To Secondary School | 45 – 68 |
| M8 – Po Leung Kuk Ngan Po Ling College | 44 – 70 |
| M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary)(2) | 44 – 70 |
| M9 – Tak Long Estate(3) | Not Predicted in EIA Report |

Remarks:
(1) Construction noise monitoring at Station M6 – Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6A – Oblate Primary School since 10th October 2014 onwards.
(2) Noise monitoring at M8 – Po Leung Kuk Ngan Po Ling College was cancelled due to no permission was granted from the premise. Noise monitoring was carried out at M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) temporarily from 21st November 2018. The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC on 20th March 2019.
(3) The residential buildings at planned noise monitoring stations M9 – Site 1B1 (named as Tak Long Estate) had been established and being occupied at the end of December 2013. The Baseline Environmental Monitoring Report for the monitoring stations M9 – Site 1B1 (named as Tak Long Estate) has been submitted to EPD in July 2014 and the impact noise monitoring at M9 was commenced from April 2014.

## Baseline Condition

3.2 The baseline noise level and the Noise Limit Level at each designated noise monitoring stations are presented in **Table 3.2**. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

**Table 3.2 Baseline Noise Level and Noise Limit Level for Monitoring Stations**

| Stations | Baseline Noise Level, dB (A) | Noise Limit Level, dB (A) |
|---|---|---|
| M6 | 63.9 (at 0700 – 1900 hrs on normal weekdays) / | 70(2) (at 0700 – 1900 hrs on normal weekdays) |
| M6(A) | 63.9 (at 0700 – 1900 hrs on normal weekdays) | |
| M7 | 68.7 (at 0700 – 1900 hrs on normal weekdays) | |
| M8 | 61.9 (at 0700 – 1900 hrs on normal weekdays) | |
| M8(A)(3) | 61.9 (at 0700 – 1900 hrs on normal weekdays)<br>64.9 (at 0700 – 1900 hrs on | |

| | | |
|---|---|---|
| | normal weekdays) (adopted since 20 March 2019) | |
| M9 | 59.9 (at 0700 – 1900 hrs on normal weekdays) | 75 (at 0700 – 1900 hrs on normal weekdays) |

Note:
(1) The noise level due to the construction work (CNL) was calculated by the following formula:
CNL = 10 log ($10^{MNL/10} – 10^{BNL/10}$)
MNL = Measured Noise Level, BNL = Baseline Noise Level
(2) Noise Limit Level is 65 dB(A) during school examination periods.
(3) The Baseline Noise Level of Station M8 was adopted for alternative Station M8(A) temporarily until the baseline checking was completed. Since 20 March 2019, The Free Field noise measurement was adopted for Station M8(A) and its baseline reference noise level was adjusted with a correction of +3dB(A).

**Monitoring Requirements**

3.3 According to EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements ($L_{eq(30\ min.)}$) between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

**Monitoring Locations**

3.4 Five designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at four designated monitoring stations (M6, M7, M8 and M9).

3.5 Construction noise monitoring at station M6 – Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise monitoring station M6(A) - Oblate Primary School since 10th October 2014 to carry out the monitoring works.

3.6 The construction noise monitoring station M8 - Po Leung Kuk Ngan Po Ling College was rejected by the premises owner on 12th November 2018. An alternative monitoring station M8(A) was agreed by IEC on 20th March 2019.

3.7 **Table 3.3** describes the noise monitoring locations, which are also depicted in **Figure 3**.

**Table 3.3 Noise Monitoring Stations**

| Monitoring Stations | Locations | Location of Measurement |
|---|---|---|
| M6 | Holy Carpenter Primary School | Rooftop (about 7/F) Area |
| M6(A)(1) | Oblate Primary School | Rooftop (about 7/F) Area |
| M7 | CCC Kei To Secondary School | Rooftop (about 8/F) Area |
| M8 | Po Leung Kuk Ngan Po Ling College | Staircase Area (about 9/F) |
| M8(A)(2) | Po Leung Kuk Ngan Po Ling College (Site Boundary) | Ground Level (at a position 3m above the ground) |
| M9(3) | Tak Long Estate | Car Park Building (about 2/F) |
| M10(4) | Site 1B4 (Planned) | - |

Remarks:
(1) Construction noise monitoring at Station M6 – Holy Carpenter Primary School was rejected by the premise owner on 6th October 2014. The monitoring station has been relocated at a proposed alternative noise

monitoring station M6A – Oblate Primary School since 10th October 2014 onwards.

(2) Noise monitoring at M8 – Po Leung Kuk Ngan Po Ling College was cancelled due to no permission was granted from the premise. Noise monitoring was carried out at M8(A) – Po Leung Kuk Ngan Po Ling College (Site Boundary) temporarily from 21st November 2018. The proposal for alternative position of M8 (remark as M8(A)) was agreed by IEC on 20th March 2019.

(3) The residential buildings at planned noise monitoring stations M9 – Site 1B1 (named as Tak Long Estate) had been established and being occupied at the end of December 2013. The Baseline Environmental Monitoring Report for the monitoring stations M9 – Site 1B1 (named as Tak Long Estate) has been submitted to EPD in July 2014 and the impact noise monitoring at M9 was commenced from April 2014.

(4) The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

**Monitoring Parameters, Frequency and Duration**

**Table 3.4** summarizes the monitoring parameters, frequency and total duration of monitoring.

**Table 3.4 Noise Monitoring Parameters, Frequency and Duration**

| Monitoring Stations | Parameter | Period | Frequency | Measurement |
|---|---|---|---|---|
| M6<br>M7<br>M8<br>M9 | $L_{10(30\ min.)}$ dB(A)<br>$L_{90(30\ min.)}$ dB(A)<br>$L_{eq(30\ min.)}$ dB(A) | 0700-1900 hrs on normal weekdays | Once per week | Façade |
| M6(A)<br>M8(A) | $L_{10(30\ min.)}$ dB(A)<br>$L_{90(30\ min.)}$ dB(A)<br>$L_{eq(30\ min.)}$ dB(A) | 0700-1900 hrs on normal weekdays | Once per week | Free Field |

**Results and Observations**

3.8 A summary of the noise monitoring results in the construction period is given in **Table 3.5**.

**Table 3.5 Summary of Noise Monitoring Results in the Construction Period**

| Noise Monitoring Station | Range, $L_{eq\ (30\ min.)}$ dB(A) | Action Level | Limit Level, $L_{eq\ (30\ min.)}$ dB(A) |
|---|---|---|---|
| M6 | 47.6 – 69.8 | When one documented complaint is received | 70* dB(A) (at 0700 to 1900 hrs on normal weekdays) |
| M6(A) | 47.6 – 69.8 | | |
| M7 | 52.4 – 69.4 | | |
| M8 | 45.6 – 71.9 | | |
| M8(A) | 59.5 – 69.5 | | |
| M9 | 46.6 – 75.0 | | 75 dB(A) (at 0700 to 1900 hrs on normal weekdays) |

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

3.9 Noise monitoring results and graphical presentations are shown in **Appendix E**.

3.10 All construction noise monitoring was conducted as scheduled during construction period.

One Action Level exceedance was recorded during the whole construction period due to documented complaint. No project-related Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix F**.

3.11 The major noise sources identified at the designated noise monitoring stations are as follows:

**Table 3.6 Major Noise Sources Identified at Noise Sensitive Receivers**

| Monitoring Stations | Locations | Major Noise Sources |
|---|---|---|
| M6 | Holy Carpenter Primary School | Road and marine traffic Noise |
| M6(A) | Oblate Primary School | Road and marine traffic Noise |
| M7 | CCC Kei To Secondary School | Road and marine traffic Noise<br>Excavation works at the site (Contract No.: 1/WSD/08(K)) facing Po Leung Kuk Ngan Po Ling College<br>Excavation works at the site (Contract No.: 1/WSD/14(K)) facing Po Leung Kuk Ngan Po Ling College |
| M8 | Po Leung Kuk Ngan Po Ling College | |
| M8(A) | Po Leung Kuk Ngan Po Ling College (Site Boundary) | |
| M9 | Tak Long Estate | Traffic Noise<br>Construction works |

# 4. COMPARISON OF THE EM&A DATA WITH THE EIA

*Air Quality*

4.1 The maximum predicted cumulative 1-hour and 24-hour average TSP levels for construction of the Project were predicted by EIA Report as shown in **Table 2.1**. Based on the results of prediction, no exceedance of 1-hour average and 24-hour average TSP is predicted at the ASRs at 1.5m above ground. The graphical presentation of 1-hour average and 24-hour average TSP impact monitoring data during construction period were shown in **Appendix C and D** respectively. One air quality complaint from EPD was received by the Project during the construction period and the complaint details is shown in **Appendix H**.

*Noise*

4.2 The cumulative mitigated construction noise levels at NSRs during normal daytime working hours for the project has been predicted by EIA Report as shown in **Table 3.1**. Noise reduction from the use of mitigation measures are included quiet plant, noise barrier and enclosure for construction plants. No exceedance over daytime construction noise criteria are predicted at the NSRs. The graphical presentation of noise impact monitoring data during construction period were shown in **Appendix E.** One noise complaint from EPD was received by the Project during the construction period and the complaint details is shown in **Appendix H**.

4.3 No Project-related exceedance at the monitoring stations (Air Quality and Noise) was recorded during the construction period. Detail of the non-projected related exceedances is provided in **Appendix F**.

# 5. LANDSCAPE AND VISUAL

## Monitoring Requirements

5.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

5.2 The audit on landscape and visual mitigation measures as recommended in the approved EIA report for the Kai Tak Development (KTD) (AEIAR-130/2009) will remain on-going after the cessation of EM&A Programme (Construction Phase). The site inspection and audit for landscape and visual impact and landscape and visual mitigation measures will be continued until the end of the 24-month establishment period.

## Results and Observations

5.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in Monthly EM&A Reports.

5.4 No non-compliance was recorded during the construction period. The implementation status for Landscape and Visual mitigation measure is provided on **Appendix J**.

# 6. ENVIRONMENTAL AUDIT

## Site Audits

6.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. No non-compliance was observed during the site audits throughout the construction period.

## Review of Environmental Monitoring Procedures

6.2 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

*Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations, within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

*Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

## Implementation Status of Environmental Mitigation Measures

6.3 The mitigation measures detailed in the EM&A Manual were implemented throughout the whole construction period. A summary of the EMIS is provided in **Appendix J**.

6.4 Observations and recommendations recorded during the site audits were summarized in each of the Monthly EM&A Reports.

## Status of Waste Management

6.5 The amount of wastes generated by the major site activities of this Project during construction period is shown in **Appendix I**.

6.6 The Contractor is advised to take photo and inspection records to ensure that all dump trucks have the skip fully covered before leaving the site.

6.7 Most of the necessary mitigation measures have been implemented and recommended, follow-up actions have been discharged by the Contractor regarding to waste management in the reporting period. Observations and recommendations recorded during the site audits were summarized in each of the Monthly EM&A Report.

**Implementation Status of Event Action Plans**

6.8 The Event Action Plans for air quality, noise and landscape and visual are presented in **Appendix G**.

1-hr TSP Monitoring

6.9 No Action/Limit Level exceedance was recorded during construction period.

24-hr TSP Monitoring

6.10 No Action/Limit Level exceedance was recorded during construction period.

Construction Noise

6.11 One Action Level exceedance was recorded during the whole construction period due to documented complaint, the complaint details are shown in **Appendix H.** No project-related Limit Level exceedance was recorded, summary of exceedance is show in **Appendix F**.

Landscape and visual

6.12 No non-compliance was recorded during construction period.

**Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution**

6.13 3 nos. of environmental-related complaints, prosecution or summons were recorded at any of the site portions. The effectiveness of mitigation measure implemented by the Contractor for each complaint was observed to be satisfactory. The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix H**.

# 7. COMMENT, CONCLUSIONS AND RECOMMENDATION

## Comment on Overall EM&A Programme

7.1 The EM&A Programme requires construction phase monitoring for air quality, air-bone construction noise, landscape & visual and environmental site audit. Timely implementation of mitigation measures were carried out according to the environmental data obtained during construction phase.

7.2 According to the information from RE and Contractor, the major construction activities under Environmental Permit (EP) No. EP-337/2009 were completed on 19th September 2018 and the cessation of EM&A Programme was approved by EPD on 15th April 2019. After the submission of the As-built drawing for Road D2 to EPD on 13th August 2019, Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permit (EP) No. EP-337/2009 have been ceased since 15th August 2019.

7.3 The construction works undertaken by Contract No. KL/2012/03 under EP No.: EP-344/2009 have been completed. Sewage Pumping Station, PS-NPS and PS2, were handed over to Drainage Services Department for operation on 31st July 2019 and 2nd January 2020 respectively. As all construction activities have been completed, no further environmental impact due to this Contract would be anticipated. The As-built drawing for PS-NPS and PS2 were submitted to EPD on 27th July 2020. Weekly site inspection, Landscape and Visual Monitoring and reporting for Environmental Permit (EP) No.: EP-344/2009 have been ceased since 1st August 2020.

7.4 Therefore, there was no major construction activities after 2nd January 2020 and the future environmental concerns under Contract No. KL/2012/03. The weekly site inspections were effective to ensure the implementation and efficiency of the mitigation measures. As a result, environmental nuisance to the public could be reduced to minimal.

7.5 Therefore, the overall performance of the monitoring methodology adopted and environmental management system in this Project was effective.

## Overall EM&A Data

7.6 Environmental monitoring works were performed during construction period and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

7.7 1-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

7.8 24-hour TSP monitoring was conducted as scheduled during construction period. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

7.9 All construction noise monitoring was conducted as scheduled during construction period.

One Action Level exceedance was recorded during the whole construction period due to documented complaint. No project-related Limit Level exceedance was recorded.

Landscape and visual

7.10 No non-compliance was recorded during construction period.

Complaint and Prosecution

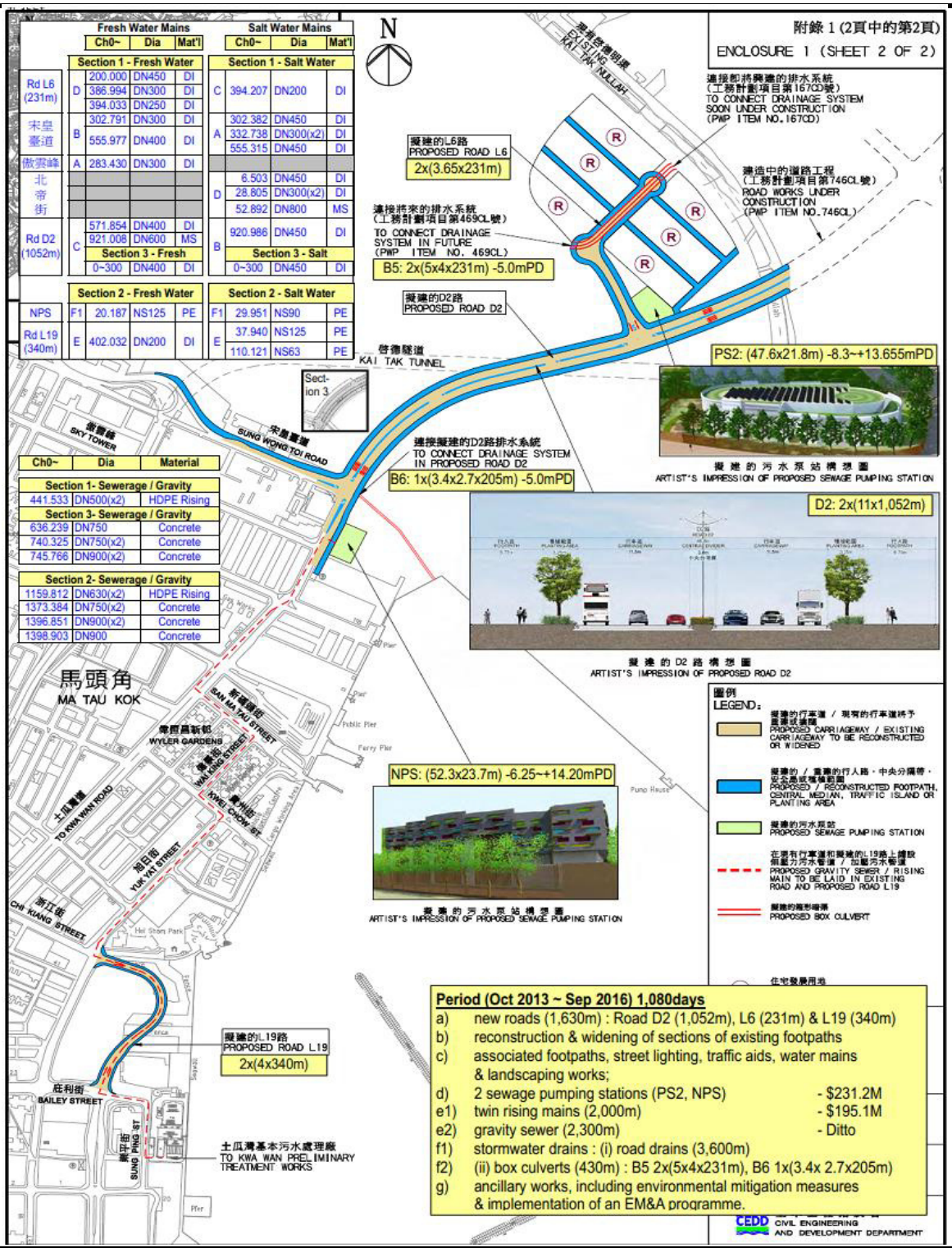
7.11 3 nos. of environmental complaints were received during construction period.

**Recommendations and Conclusions**

7.12 The EM&A programme was found to be effective in monitoring impacts arising from the Project. The findings of the environmental monitoring program suggest that no adverse impacts on sensitive receivers were brought about by the Project. In conclusion the Project was environmentally acceptable in terms of air quality, noise levels since no exceedance of Action and Limit Levels were recorded for air quality and no Project-related exceedance of Limit Levels were recorded for construction noise throughout the Project with the proper implementation of mitigation measures, which is as predicted in the EIA.

7.13 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was cost-effectively identified and necessary prompt effective mitigation measures were implemented to avoid any unacceptable impacts.

# FIGURES



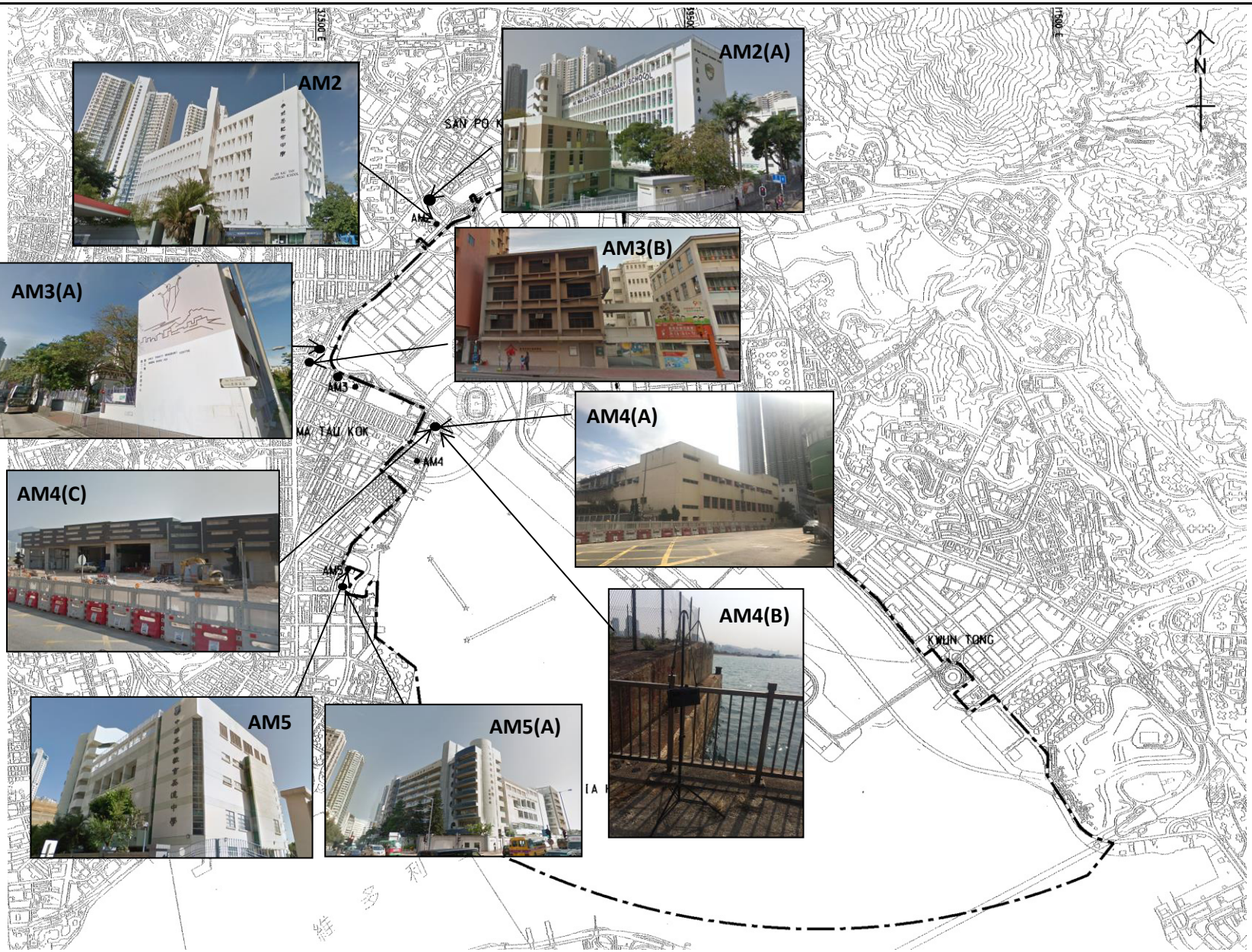

| Ch0~ | Dia | Mat'l |
|---|---|---|
| **Section 1 - Fresh Water** | | |
| D | 200.000 | DN450 | DI |
| | 386.994 | DN300 | DI |
| | 394.033 | DN250 | DI |
| B | 302.791 | DN300 | DI |
| | 555.977 | DN400 | DI |
| A | 283.430 | DN300 | DI |
| C | 571.854 | DN400 | DI |
| | 921.008 | DN600 | MS |
| **Section 3 - Fresh** | | |
| | 0~300 | DN400 | DI |
| **Section 2 - Fresh Water** | | |
| F1 | 20.187 | NS125 | PE |
| E | 402.032 | DN200 | DI |

| Ch0~ | Dia | Mat'l |
|---|---|---|
| **Section 1 - Salt Water** | | |
| C | 394.207 | DN200 | DI |
| A | 302.382 | DN450 | DI |
| | 332.738 | DN300(x2) | DI |
| | 555.315 | DN450 | DI |
| D | 6.503 | DN450 | DI |
| | 28.805 | DN300(x2) | DI |
| | 52.892 | DN800 | MS |
| B | 920.986 | DN450 | DI |
| **Section 3 - Salt** | | |
| | 0~300 | DN450 | DI |
| **Section 2 - Salt Water** | | |
| F1 | 29.951 | NS90 | PE |
| E | 37.940 | NS125 | PE |
| | 110.121 | NS63 | PE |

| Ch0~ | Dia | Material |
|---|---|---|
| **Section 1- Sewerage / Gravity** | | |
| 441.533 | DN500(x2) | HDPE Rising |
| **Section 3- Sewerage / Gravity** | | |
| 636.239 | DN750 | Concrete |
| 740.325 | DN750(x2) | Concrete |
| 745.766 | DN900(x2) | Concrete |
| **Section 2- Sewerage / Gravity** | | |
| 1159.812 | DN630(x2) | HDPE Rising |
| 1373.384 | DN750(x2) | Concrete |
| 1396.851 | DN900(x2) | Concrete |
| 1398.903 | DN900 | Concrete |

| | | | |
|---|---|---|---|
| Title | KL/2012/03 - Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area | Scale N.T.S | Project No. MA13056 |
| | Site Layout Plan | Date Oct - 19 | Figure 1 |

WELLAB

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|---|---|---|---|
| Title | Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br>Air Quality Monitoring Stations under this Project | Scale: N.T.S<br>Date: Oct-19 | Project No.: MA13056<br>Figure: 2 |

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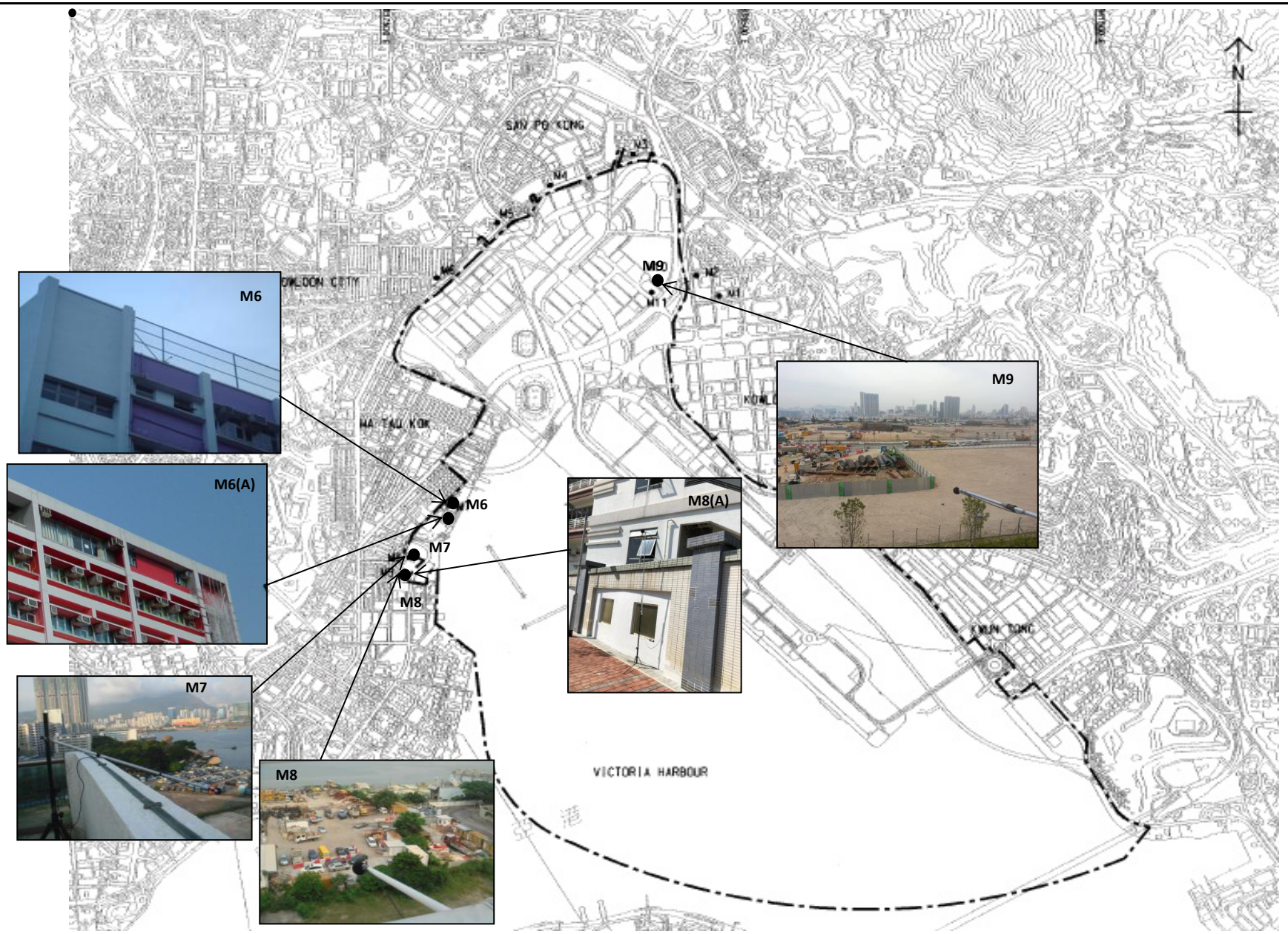


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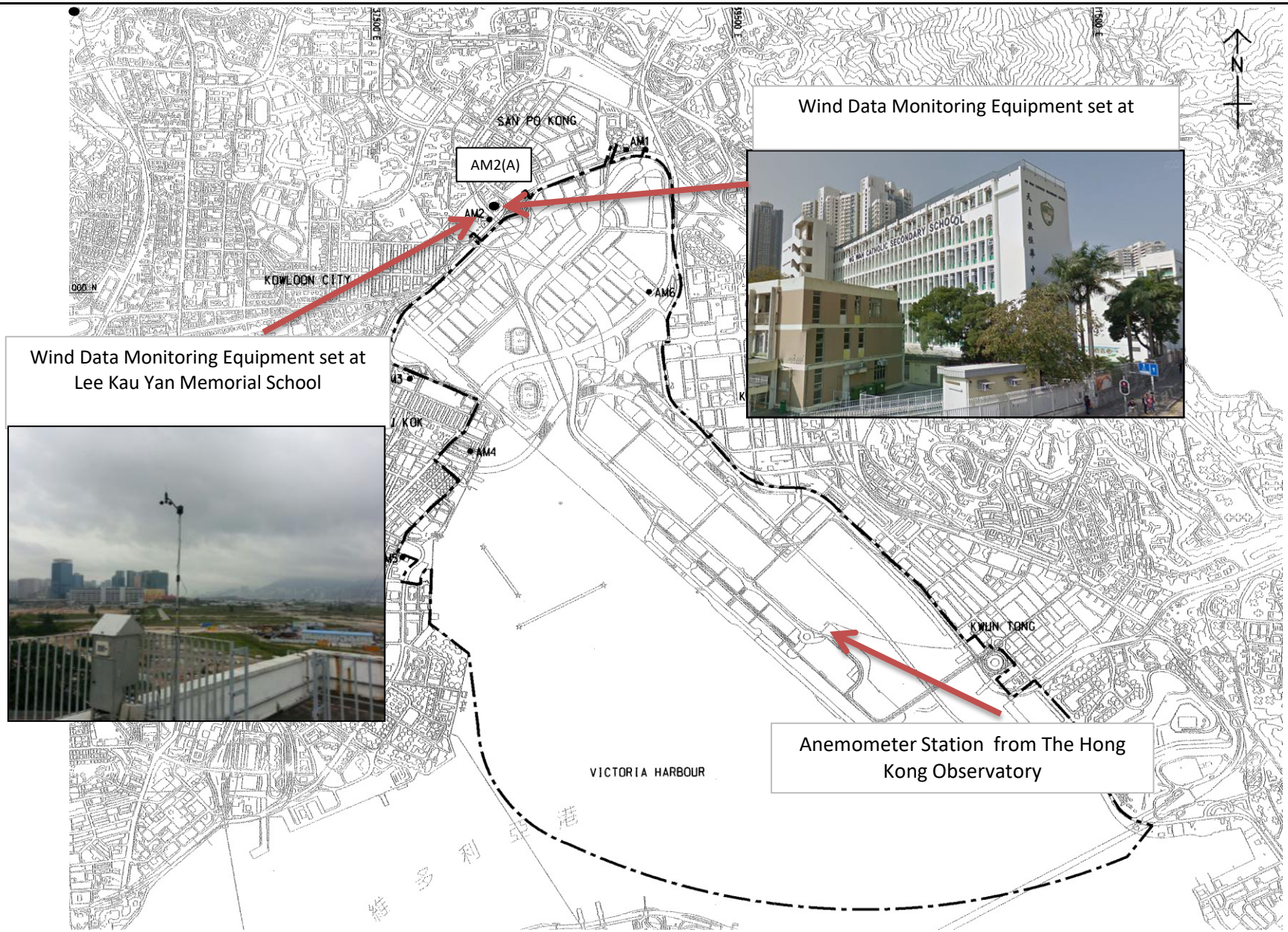
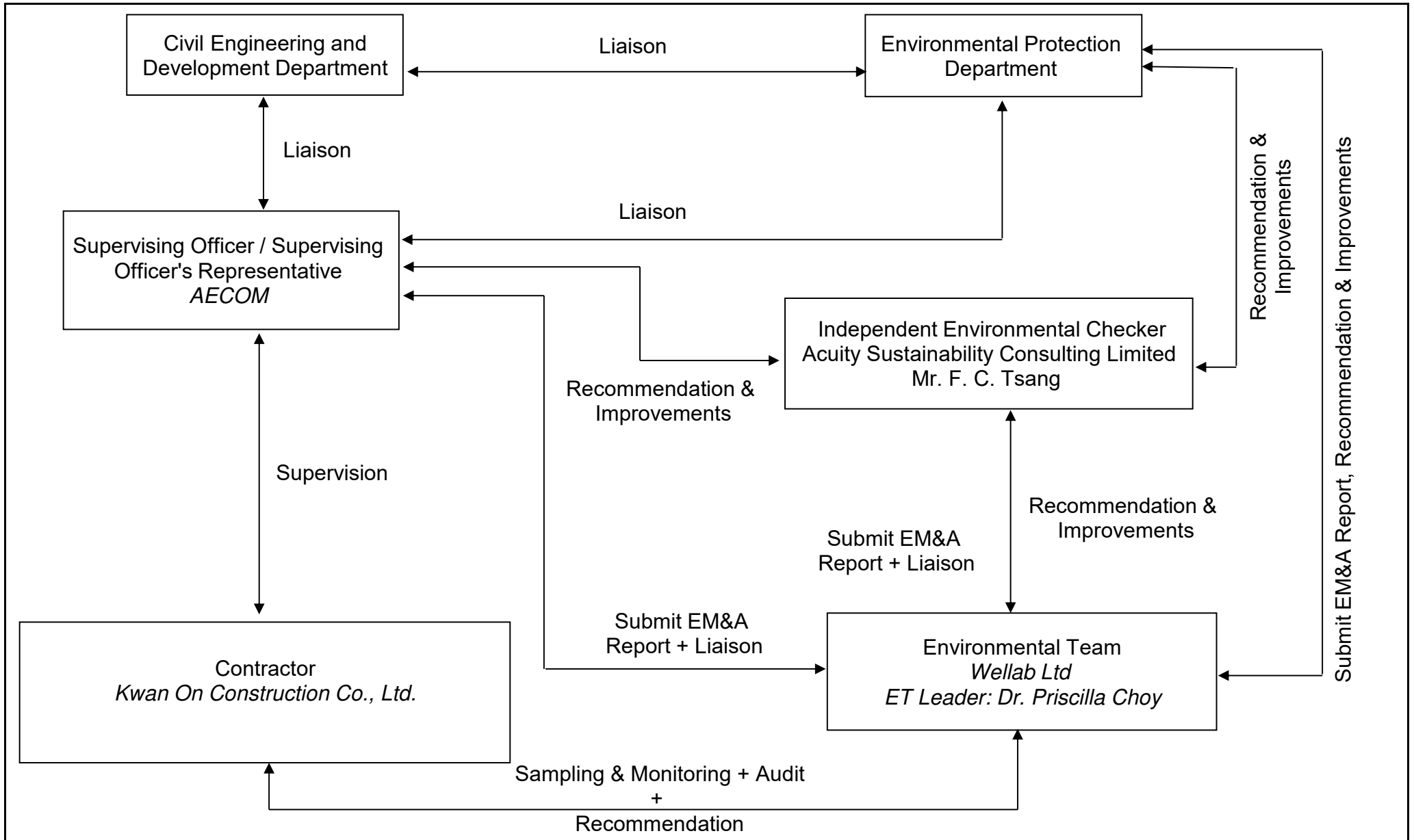
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br>Noise Monitoring Stations under this Project | Scale: N.T.S | Project No.: MA13056 | WELLAB |
| | Date: Oct - 19 | Figure: 3 | |




| | | | |
|---|---|---|---|
| Title | Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br>Location of Wind Data Monitoring Equipment | Scale: N.T.S<br>Date: Oct - 19 | Project No.: MA13056<br>Figure: 4 |

WELLAB




| Title | Scale | Project |
|---|---|---|
| Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br>Management Structure | N.T.S | No. MA13056 |
| | Date: Oct-20 | Figure: 5 |

WELLAB

# APPENDIX A
# ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

# Appendix A - Action and Limit Levels

**Table A-1 Action and Limit Levels for 1-Hour TSP**

| Location | Action Level, µg/m$^3$ | Limit Level, µg/m$^3$ |
|---|---|---|
| AM2 | 346 | 500 |
| AM3(A) | 351 | |
| AM4(A) | 371 | |
| AM4(B) | 371 | |
| AM4(C) | 371 | |
| AM5 | 345 | |
| AM5(A) | 345 | |

**Table A-2 Action and Limit Levels for 24-Hour TSP**

| Location | Action Level, µg/m$^3$ | Limit Level, µg/m$^3$ |
|---|---|---|
| AM2 | 157 | 260 |
| AM2(A) | 157 | |
| AM3(A) | 167 | |
| AM3(B) | 167 | |
| AM4(A) | 187 | |
| AM4(B) | 187 | |
| AM4(C) | 187 | |
| AM5 | 156 | |
| AM5(A) | 156 | |

**Table A-3 Action and Limit Levels for Construction Noise**

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

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

**APPENDIX B**
**WEATHER INOFRMATION**

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| December 2013 | 16.1 | 63.0 | 88.3 | 30 | 24.9 |
| January 2014 | 16.3 | 67.0 | Trace | 40 | 22.9 |
| February 2014 | 15.5 | 82.0 | 39.5 | 50 | 26.6 |
| March 2014 | 18.7 | 83.0 | 207.6 | 60 | 24.1 |
| April 2014 | 22.6 | 86.0 | 132.4 | 80 | 20.6 |
| May 2014 | 26.4 | 86.0 | 687.3 | 240 | 23.7 |
| June 2014 | 29.0 | 80.0 | 436.6 | 230 | 18.8 |
| July 2014 | 29.8 | 80.0 | 260.5 | 220 | 18.2 |
| August 2014 | 29.0 | 81.0 | 548.2 | 240 | 17.7 |
| September 2014 | 29.0 | 77.0 | 140.6 | 80 | 17.4 |
| October 2014 | 26.2 | 71.0 | 109.8 | 100 | 24.3 |

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| November 2014 | 22.6 | 78.0 | 31.1 | 90 | 25.0 |
| December 2014 | 16.3 | 67.0 | 44.7 | 20 | 30.5 |
| January 2015 | 16.4 | 72.0 | 41.7 | 50 | 24.3 |
| February 2015 | 17.5 | 78.0 | 32.0 | 40 | 22.2 |
| March 2015 | 19.9 | 85.0 | 28.4 | 50 | 22.6 |
| April 2015 | 23.6 | 77.0 | 64.5 | 20 | 18.2 |
| May 2015 | 27.5 | 85.0 | 513.0 | 10 | 20.1 |
| June 2015 | 29.7 | 80.0 | 302.1 | 220 | 20.3 |
| July 2015 | 29.1 | 79.0 | 406.2 | 210 | 20.4 |
| August 2015 | 29.3 | 78.0 | 143.3 | 220 | 12.8 |
| September 2015 | 28.4 | 78.0 | 87.9 | 60 | 20.0 |

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| October 2015 | 26.0 | 77.0 | 168.3 | 80 | 23.0 |
| November 2015 | 24.0 | 79.0 | 22.8 | 80 | 27.7 |
| December 2015 | 18.6 | 76.0 | 64.3 | 20 | 26.2 |
| January 2016 | 16.0 | 83.0 | 266.9 | 60 | 29.4 |
| February 2016 | 15.5 | 74.0 | 24.8 | 20 | 21.3 |
| March 2016 | 17.5 | 84.0 | 148.7 | 50 | 22.8 |
| April 2016 | 23.6 | 89.0 | 211.4 | 40 | 17.1 |
| May 2016 | 26.7 | 83.0 | 233.6 | 70 | 20.2 |
| June 2016 | 29.4 | 82.0 | 347.4 | 220 | 18.0 |
| July 2016 | 29.8 | 79.0 | 175.9 | 230 | 19.2 |
| August 2016 | 28.4 | 84.0 | 532.7 | 60 | 17.1 |

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| September 2016 | 27.9 | 79.0 | 323.1 | 80 | 18.9 |
| October 2016 | 26.8 | 80.0 | 624.4 | 70 | 26.3 |
| November 2016 | 22.3 | 79.0 | 131.3 | 70 | 27.0 |
| December 2016 | 19.6 | 70.0 | 6.6 | 70 | 26.7 |
| January 2017 | 18.5 | 66.0 | 7.8 | 70 | 26.4 |
| February 2017 | 17.0 | 65.0 | 19.9 | 60 | 26.7 |
| March 2017 | 19.3 | 80.0 | 48.0 | 60 | 26.5 |
| April 2017 | 23.3 | 69.0 | 58.8 | 70 | 20.1 |
| May 2017 | 26.0 | 77.0 | 399.3 | 80 | 18.6 |
| June 2017 | 28.8 | 78.0 | 656.0 | 240 | 23.0 |
| July 2017 | 28.7 | 79.0 | 570.7 | 90 | 22.1 |

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| August 2017 | 29.3 | 70.0 | 489.1 | 230 | 20.7 |
| September 2017 | 29.0 | 65.0 | 192.4 | 80 | 17.5 |
| October 2017 | 26.3 | 57.0 | 99.6 | 70 | 32.8 |
| November 2017 | 22.2 | 74.0 | 31.2 | 60 | 28.8 |
| December 2017 | 17.8 | 54.0 | Trace | 70 | 29.6 |
| January 2018 | 16.1 | 77.0 | 62.2 | 60 | 29.6 |
| February 2018 | 16.8 | 70.0 | 4.5 | 50 | 23.7 |
| March 2018 | 19.1 | 82.0 | 22.7 | 60 | 23.0 |
| April 2018 | 22.6 | 83.0 | 28.1 | 70 | 16.1 |
| May 2018 | 25.9 | 77.0 | 57.5 | 80 | 19.7 |
| June 2018 | 28.6 | 80.0 | 458.8 | 230 | 24.8 |

**APPENDIX B –**
**WEATHER CONDITIONS DURING THE MONITORING PERIOD**

## I. General Information

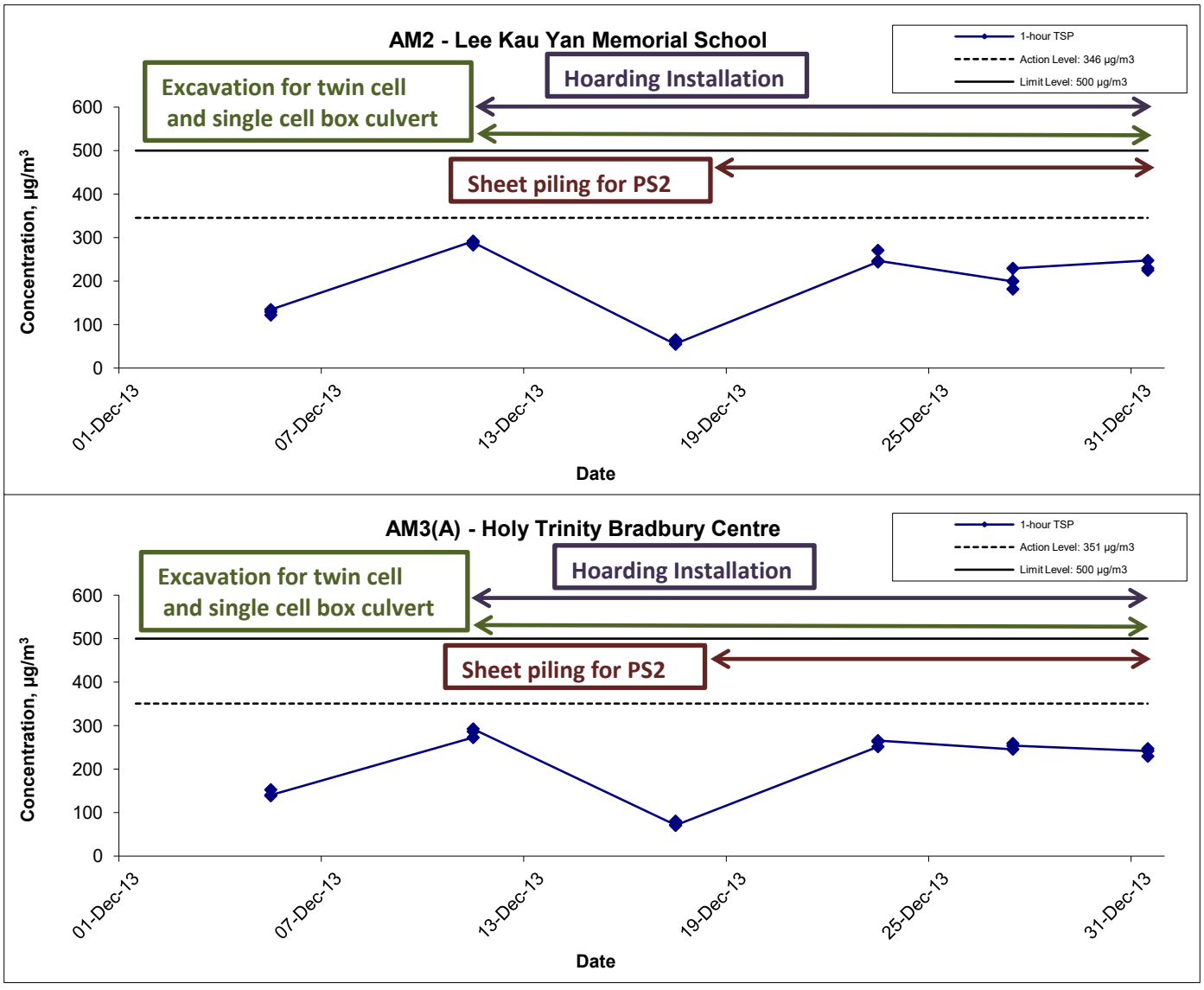
| Month | Mean Air Temperature (°C) | Mean Relative Humidity (%) | Total Precipitation (mm) | Prevailing Wind Direction (Degrees) | Mean Wind Speed (km/h) |
|---|---|---|---|---|---|
| July 2018 | 28.8 | 81.0 | 341.1 | 90 | 24.2 |
| August 2018 | 28.6 | 81.0 | 6151.0 | 230 | 20.0 |
| September 2018 | 28.0 | 78.0 | 383.3 | 90 | 19.5 |
| October 2018 | 25.3 | 69.0 | 104.3 | 80 | 24.2 |
| November 2018 | 22.9 | 78.0 | 73.4 | 70 | 29.1 |
| December 2018 | 19.2 | 76.0 | 11.9 | 360 | 25.9 |
| January 2019 | 18.1 | 76.0 | 4.7 | 60 | 22.8 |
| February 2019 | 20.1 | 85.0 | 68.7 | 60 | 23.4 |
| March 2019 | 21.0 | 84.0 | 186.5 | 60 | 24.5 |
| April 2019 | 24.7 | 84.0 | 185.8 | 70 | 21.9 |

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

** Trace means rainfall less than 0.05mm.

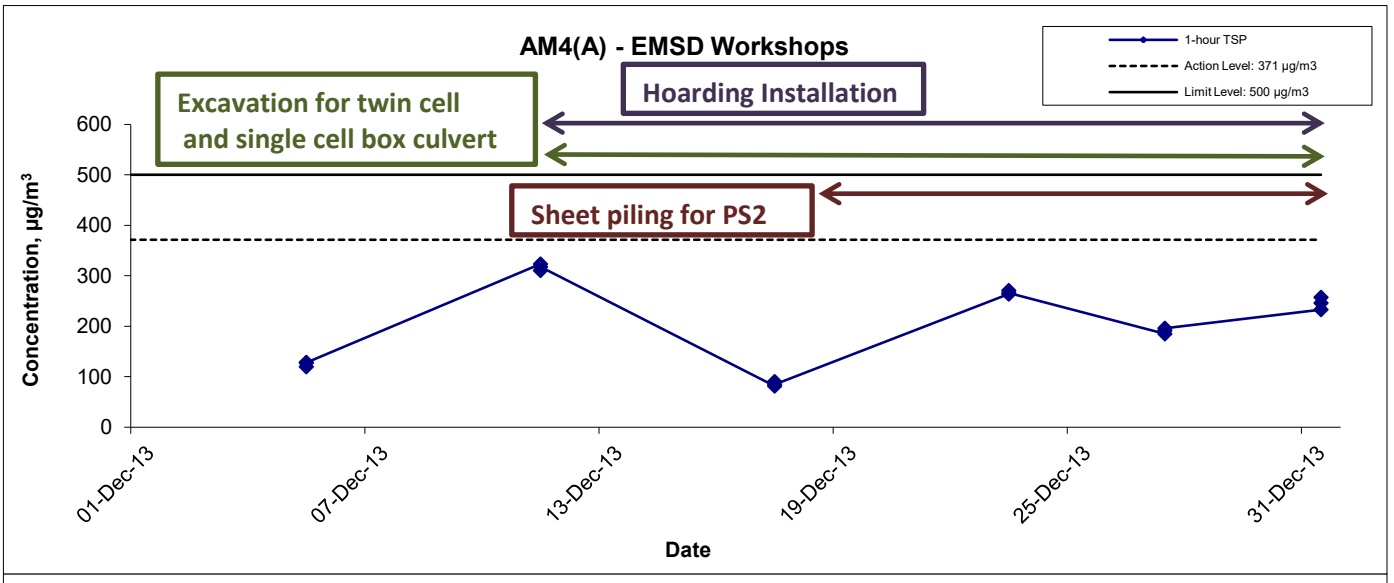
**APPENDIX C**
**GRAPHICAL PRFESENTATION FOR 1-HOUR TSP MONITORING**

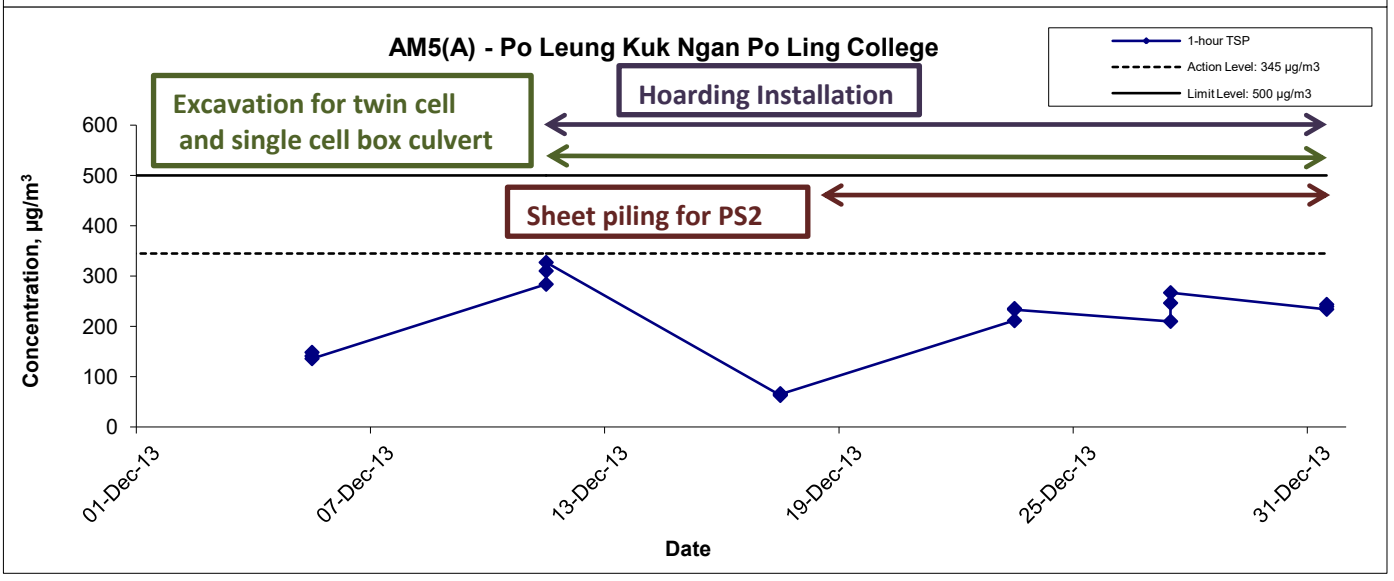
## 1-hr TSP Concentration Levels




| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Dec 13 | Appendix: C | |

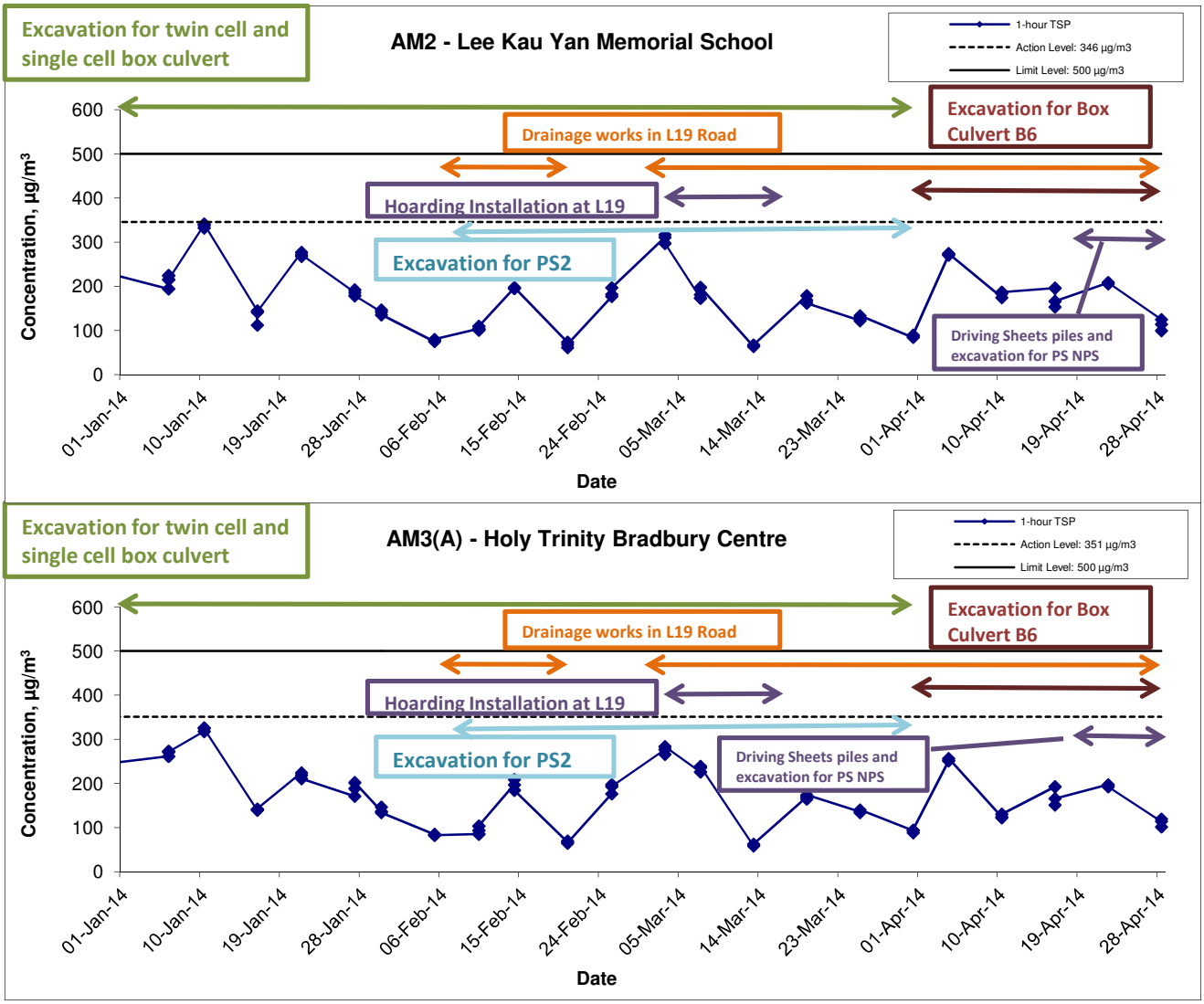
## 1-hr TSP Concentration Levels



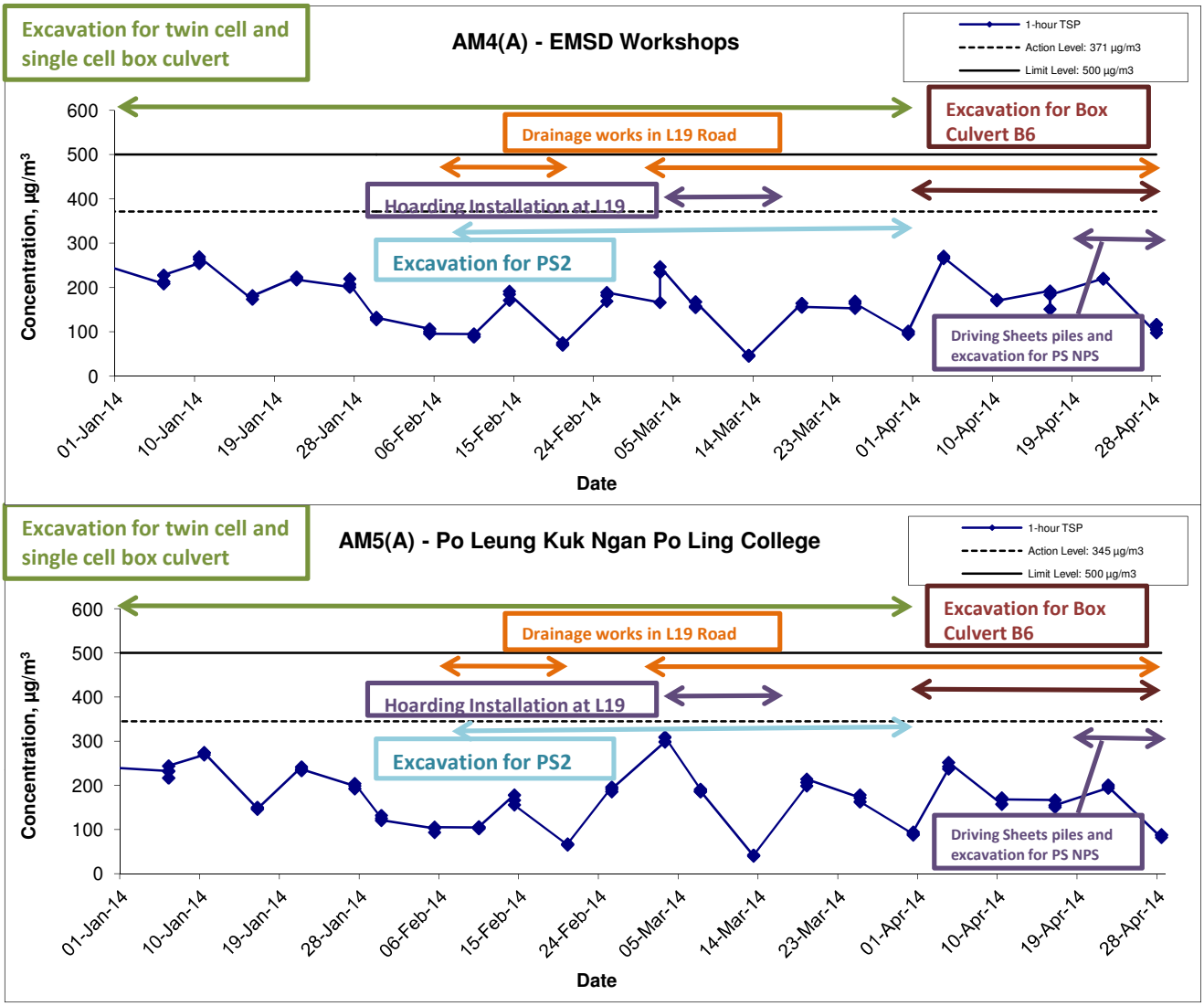

| | | | | |
|---|---|---|---|---|
| Title | Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale N.T.S | Project No. MA13056 | WELLAB 匯力 consulting . testing . research |
| | | Date Dec 13 | Appendix C | |

## 1-hr TSP Concentration Levels



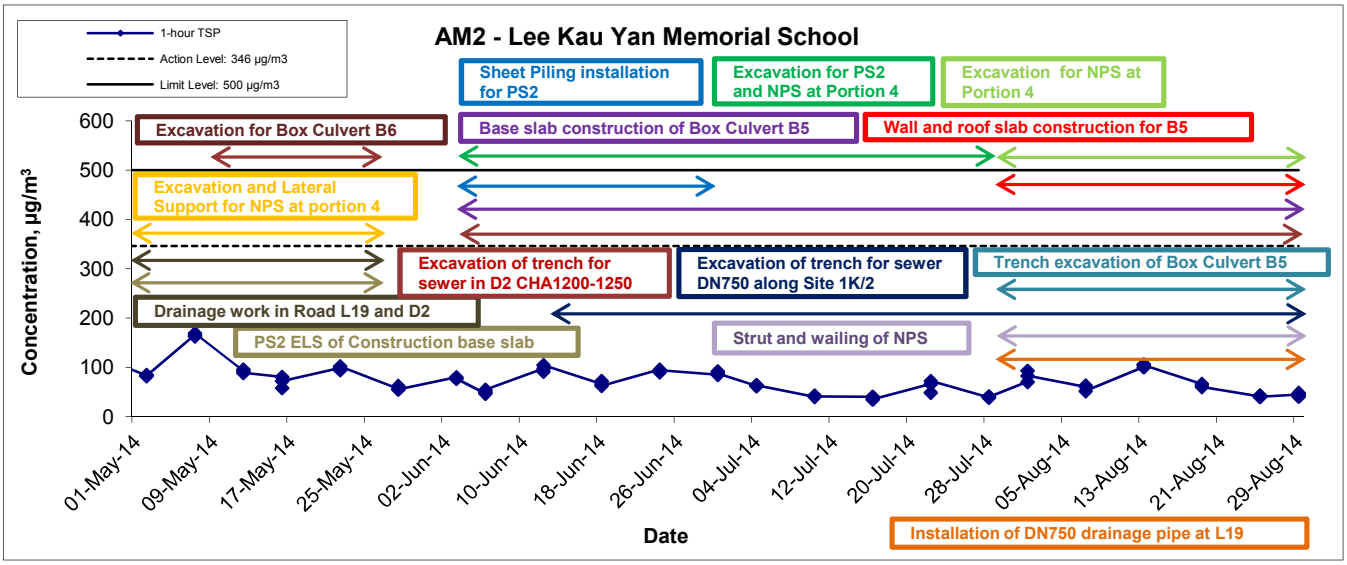

| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Jan-Apr 14 | Appendix: C | |

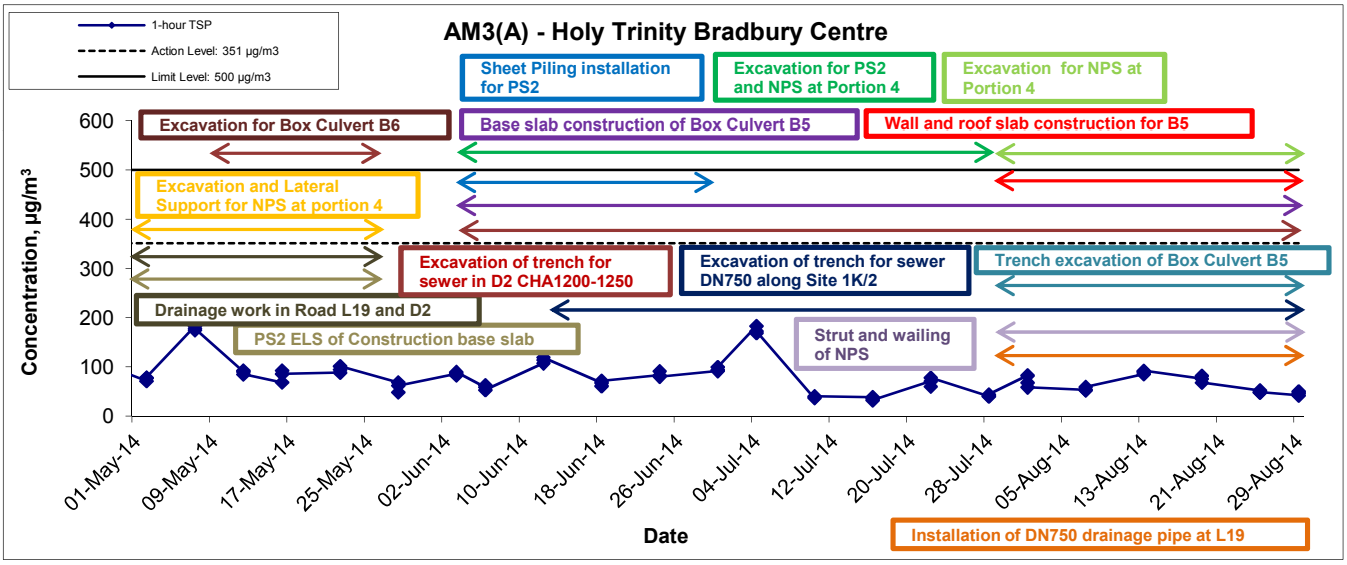
## 1-hr TSP Concentration Levels




| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Jan-Apr 14 | Appendix: C | |

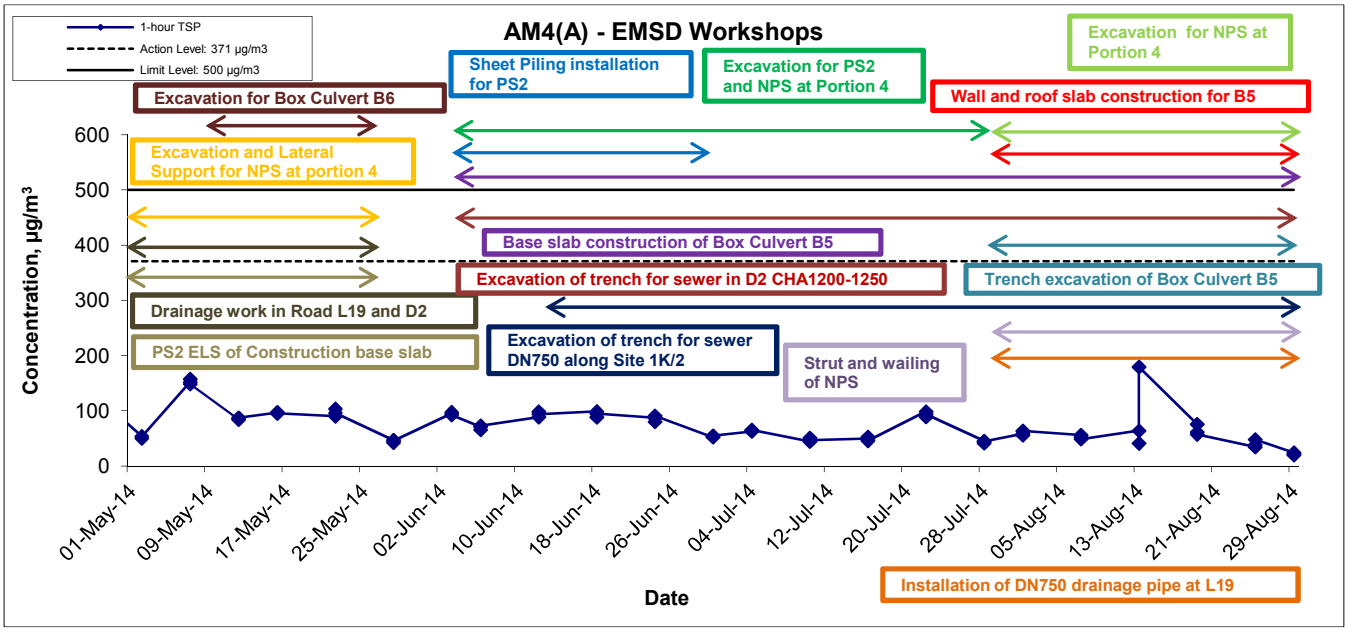
## 1-hr TSP Concentration Levels

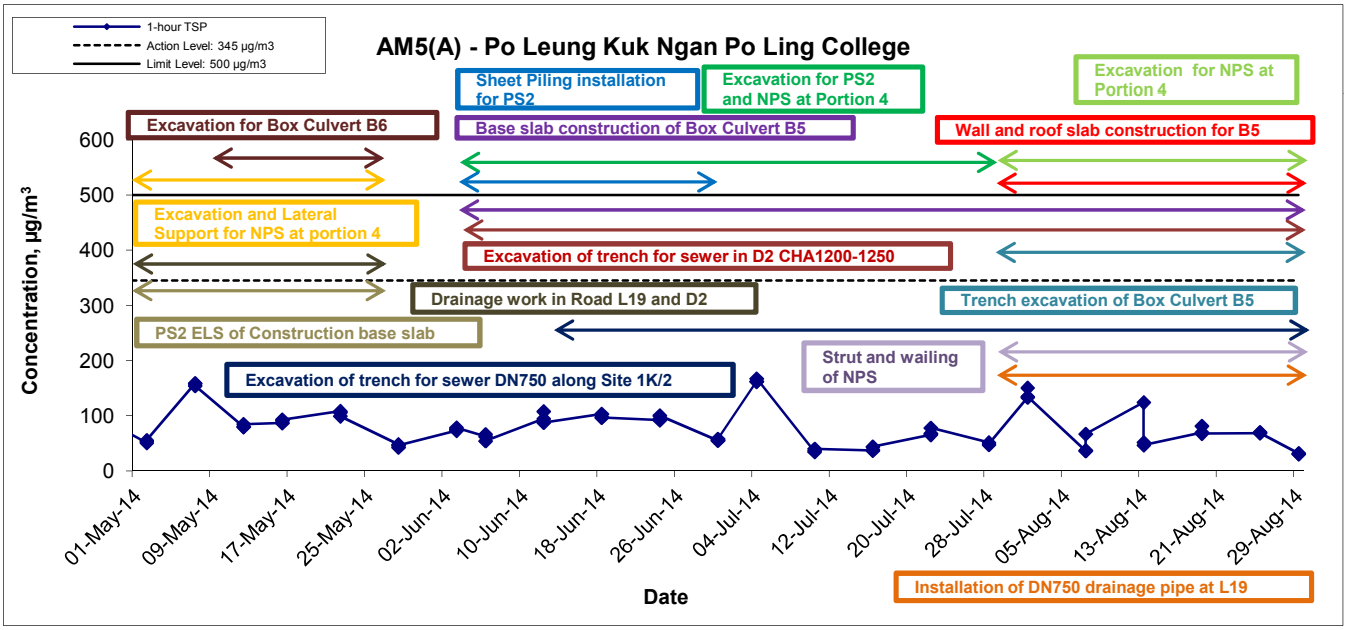



| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2013/16<br>Environmental Monitoring Works for Kai Tak Development<br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: May-Aug 14 | Appendix: C | |

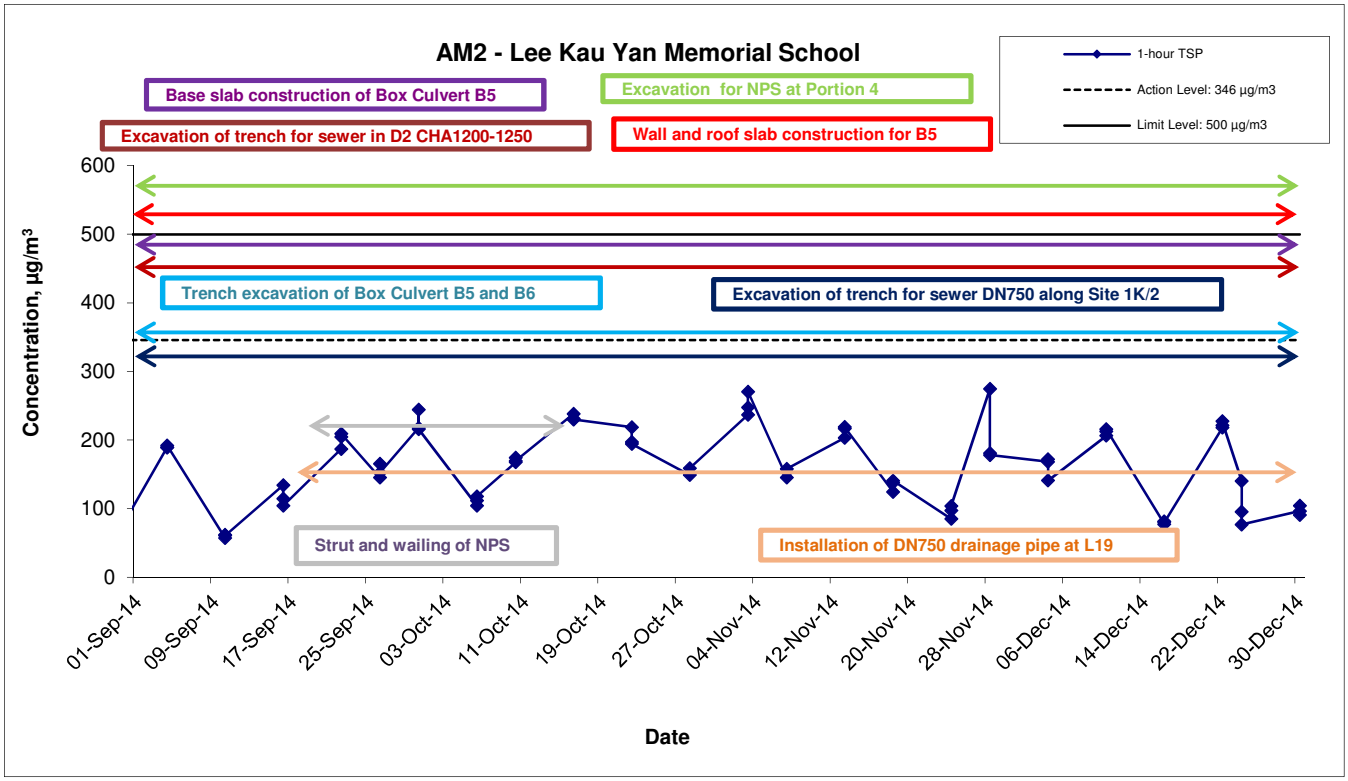
## 1-hr TSP Concentration Levels

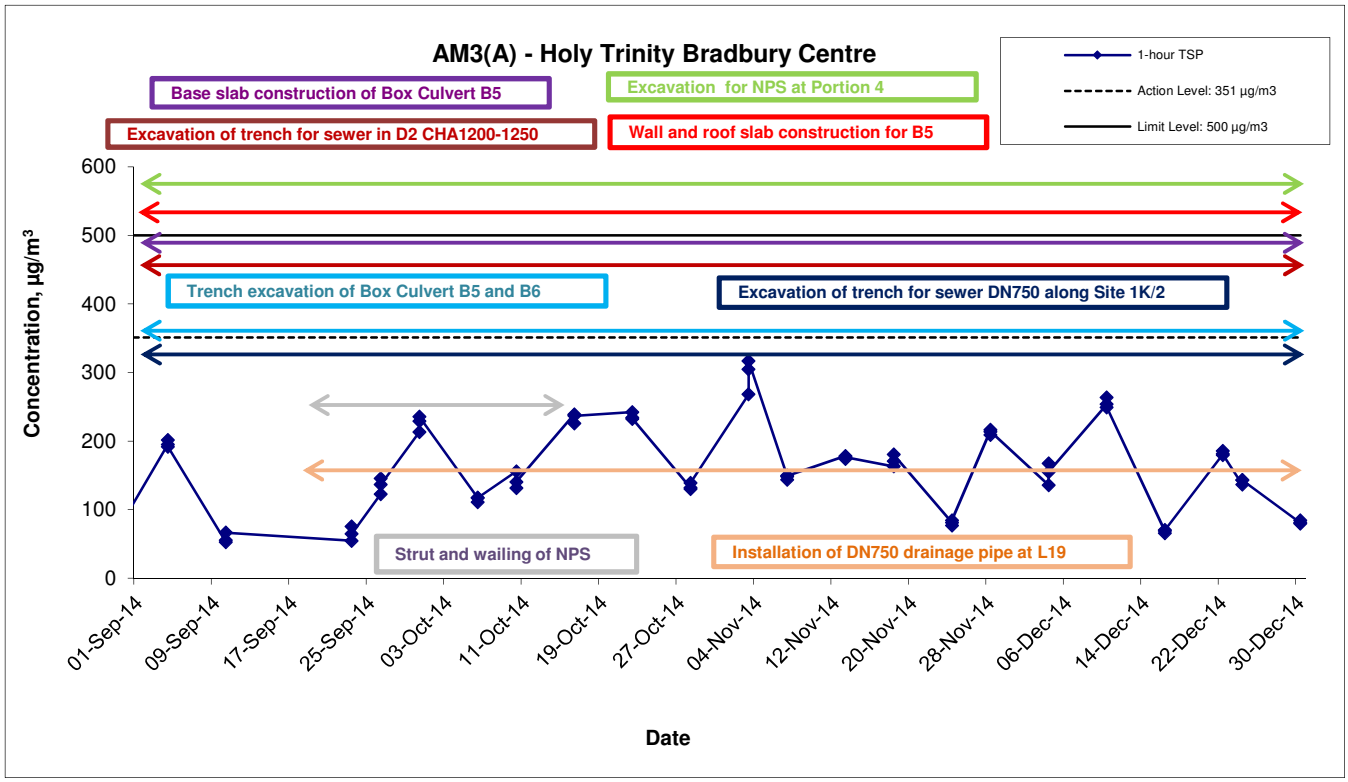



| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2013/16<br>Environmental Monitoring Works for Kai Tak Development<br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: May-Aug 14 | Appendix: C | |

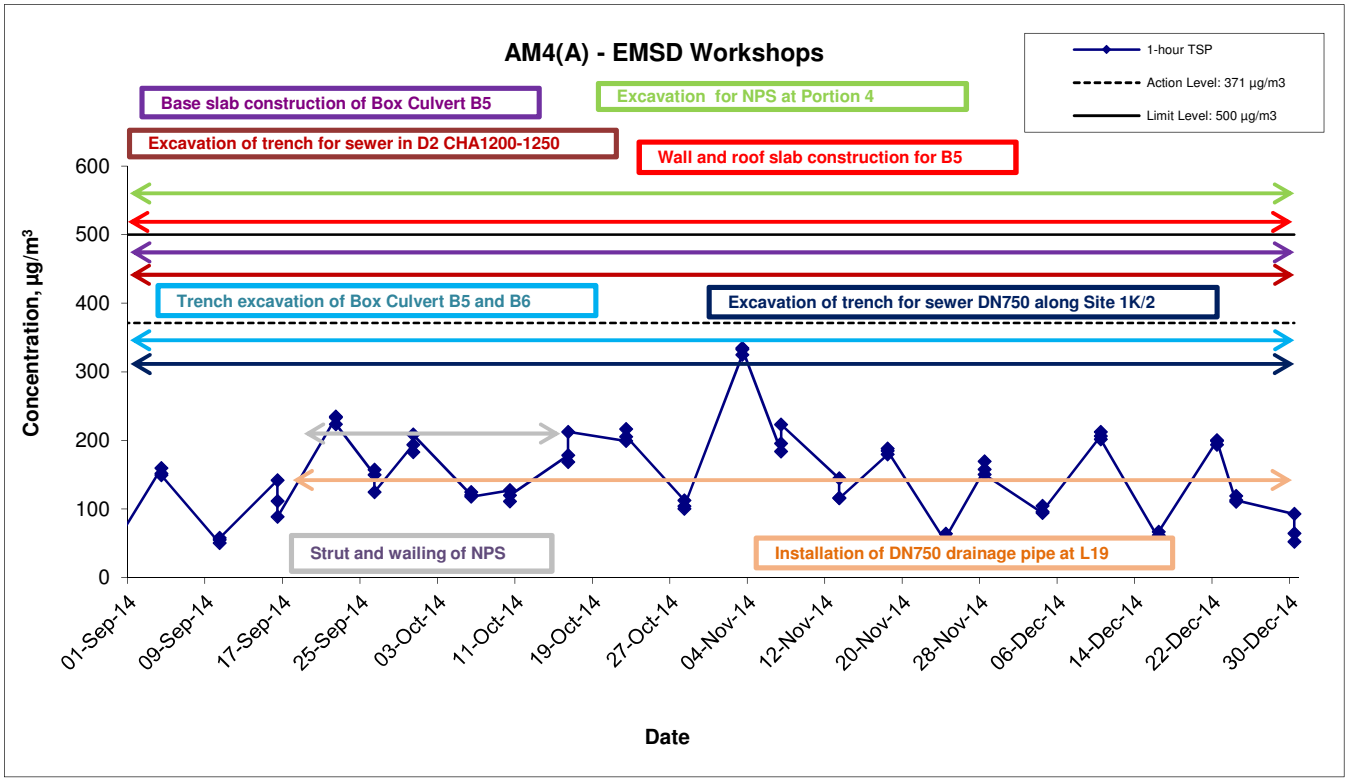
## 1-hr TSP Concentration Levels

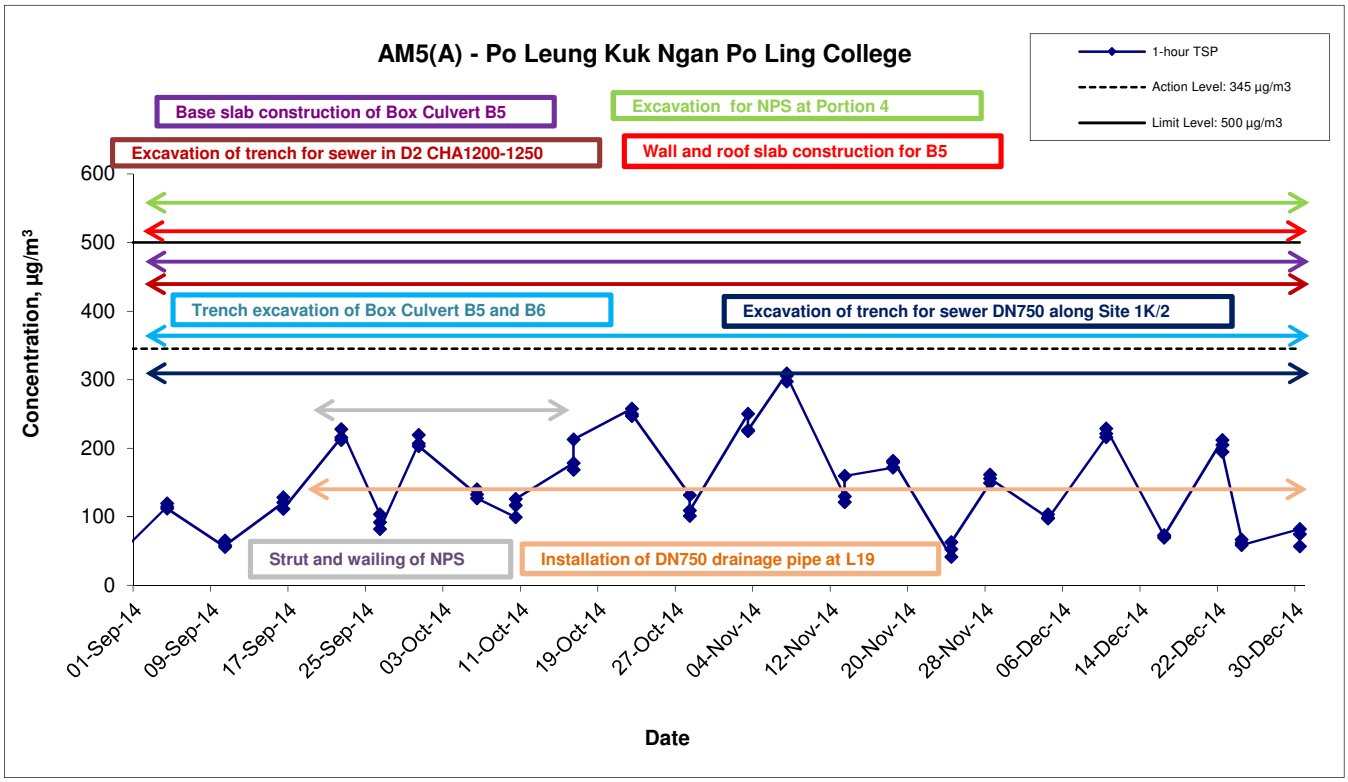



| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Sep-Dec 14 | Appendix: C | |

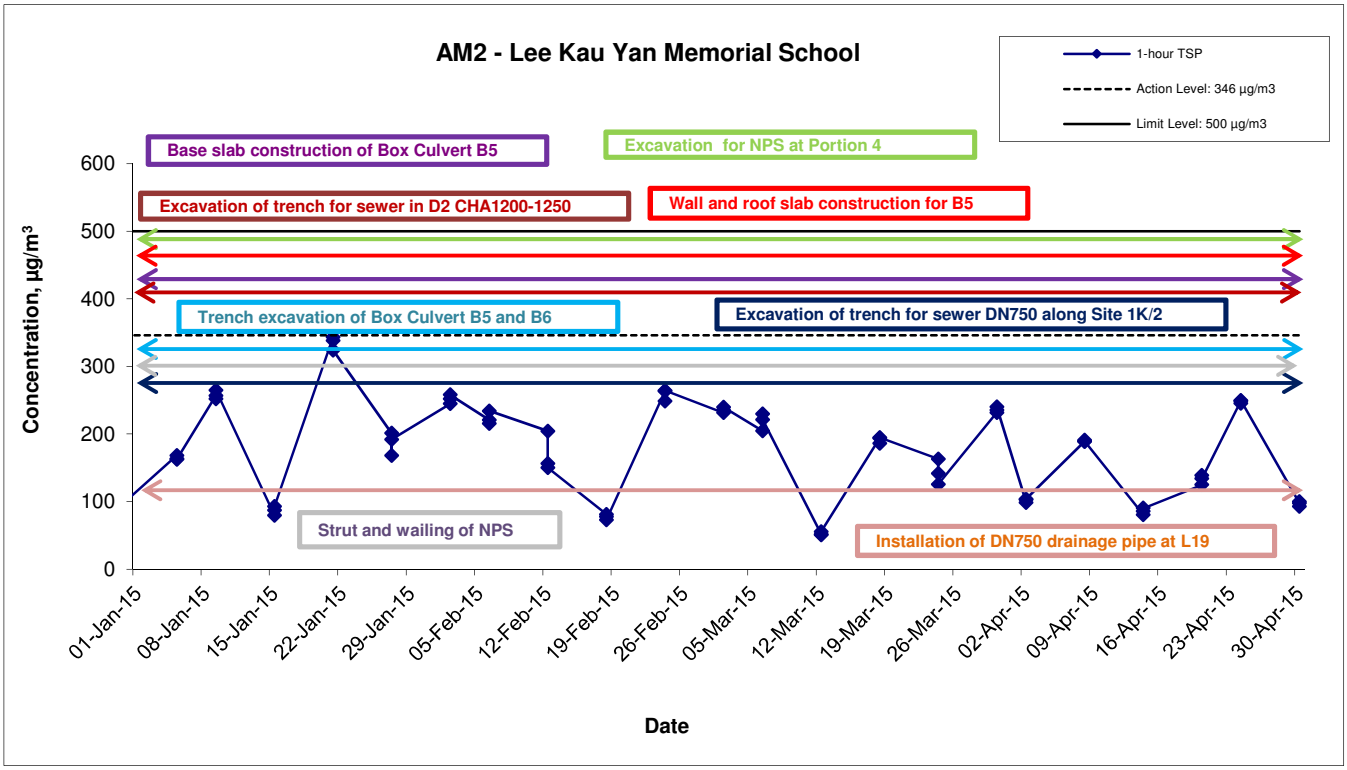
## 1-hr TSP Concentration Levels

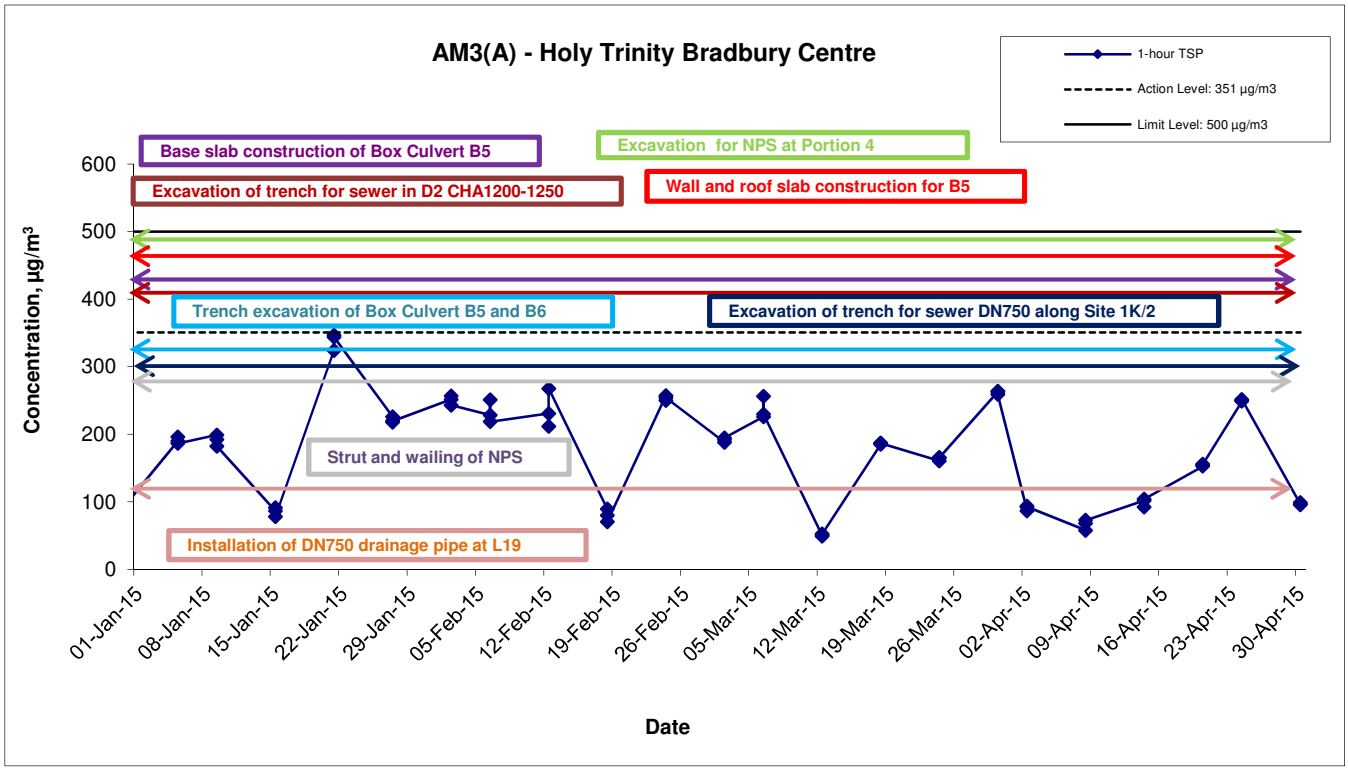



| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Sep-Dec 14 | Appendix: C | |

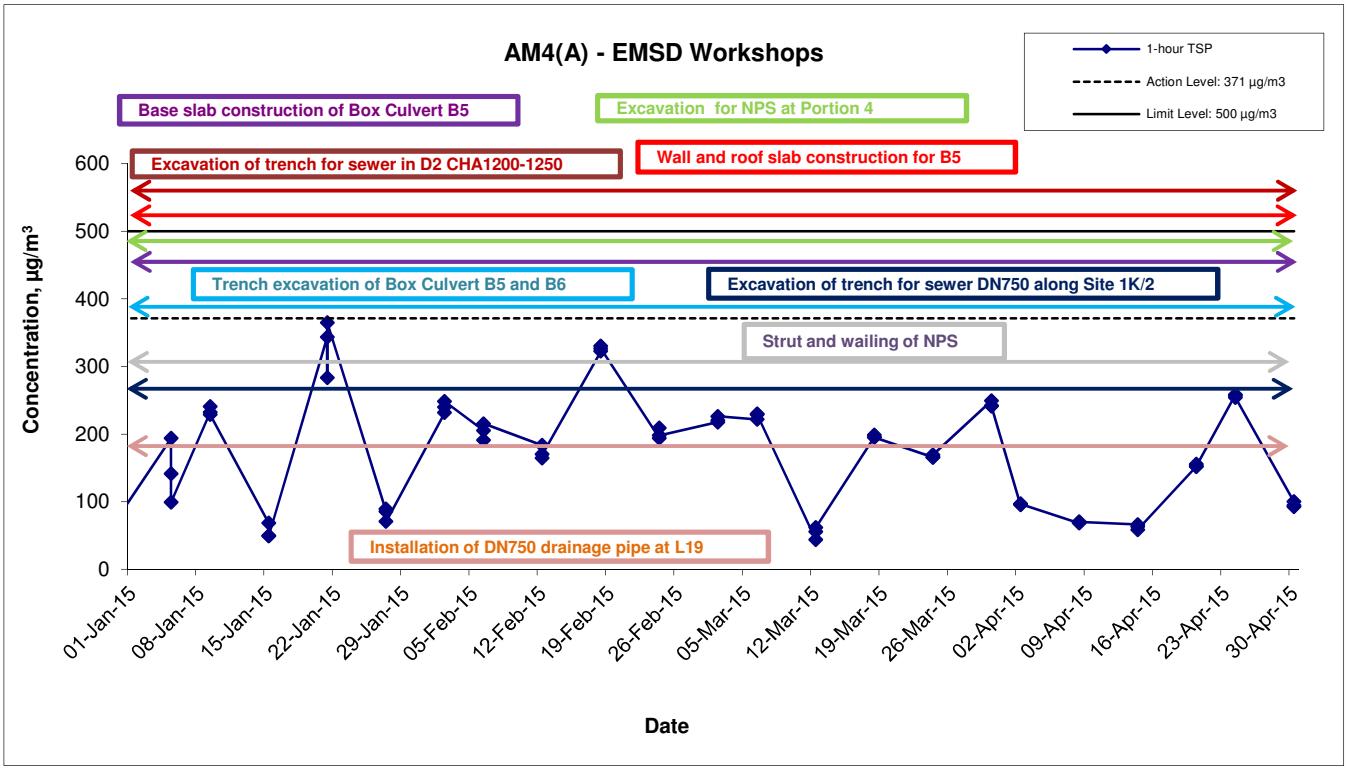
## 1-hr TSP Concentration Levels

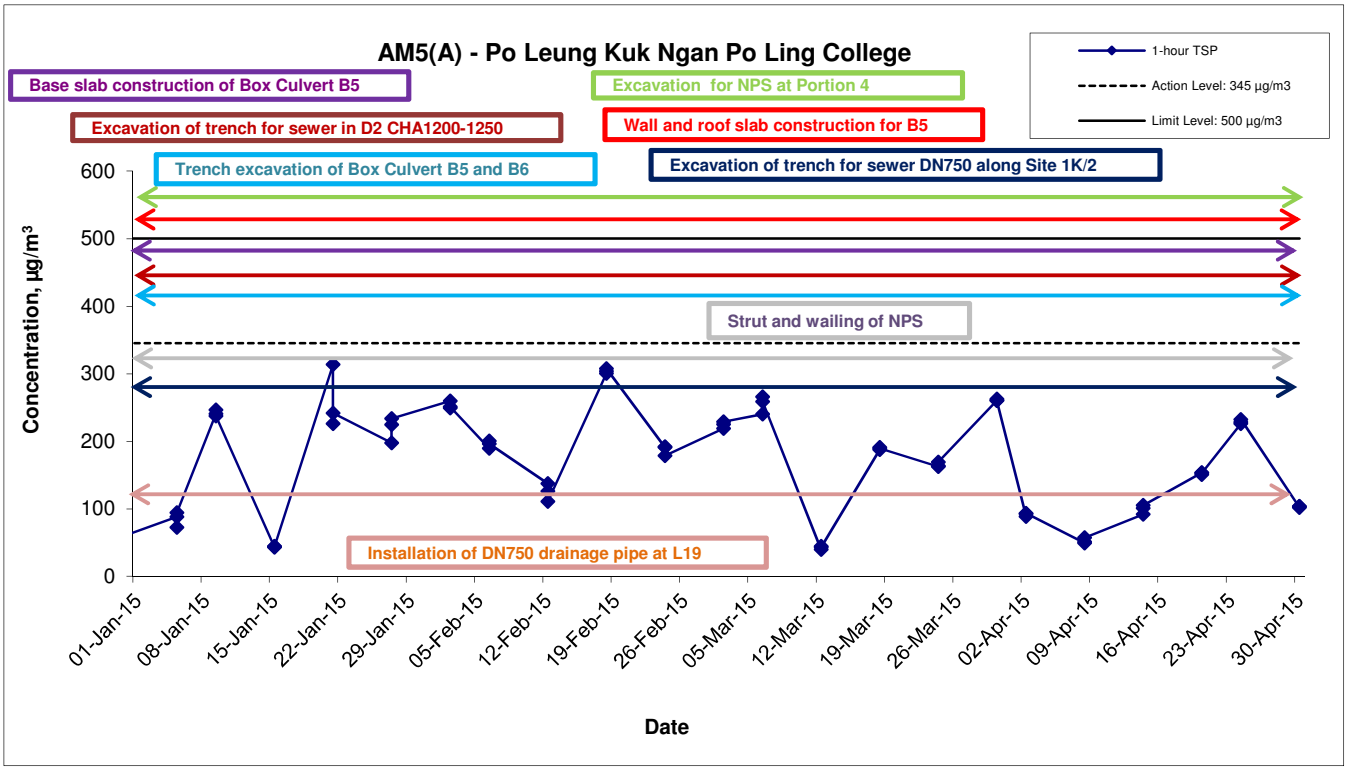



| | | | |
|---|---|---|---|
| Title: Contract No. KLN/2013/16<br>Environmental Monitoring Works for Kai Tak Development<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: Jan-Apr 15 | Appendix: C | |

## 1-hr TSP Concentration Levels




| | | | |
|---|---|---|---|
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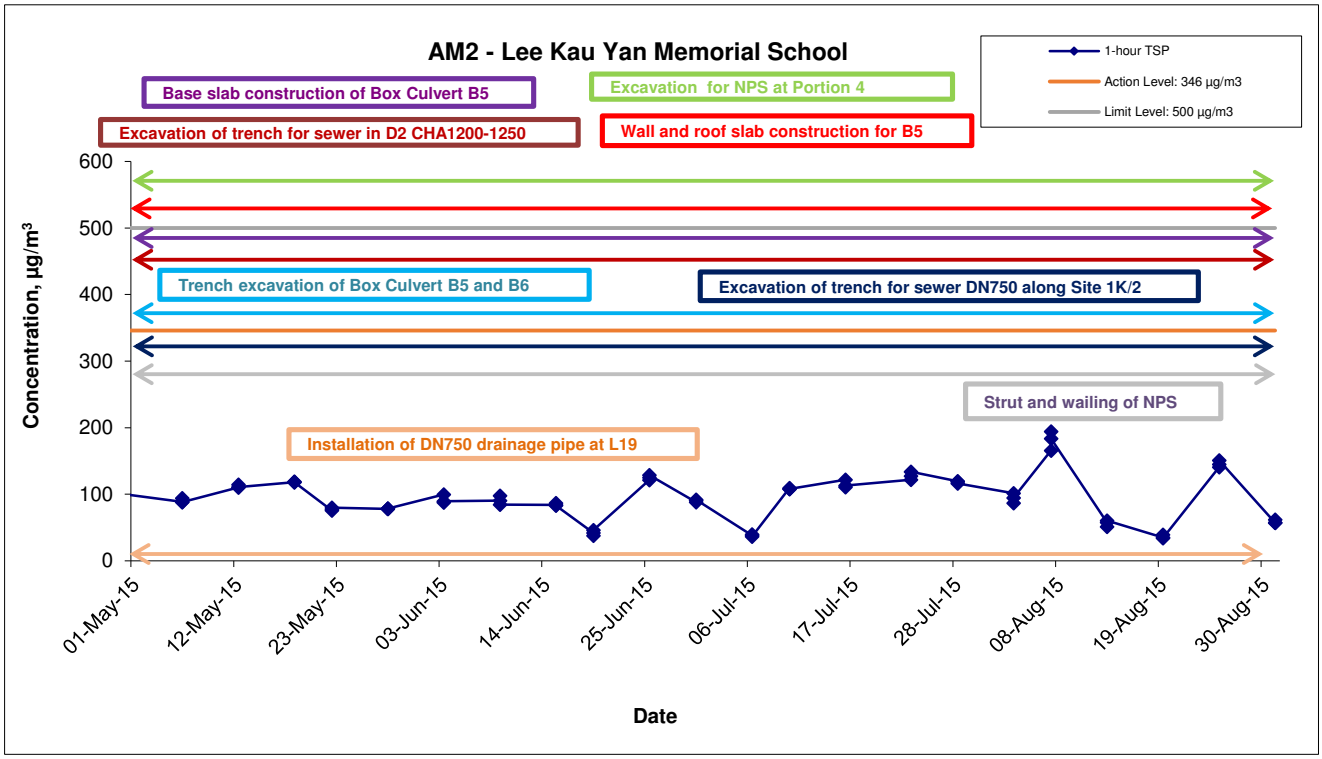
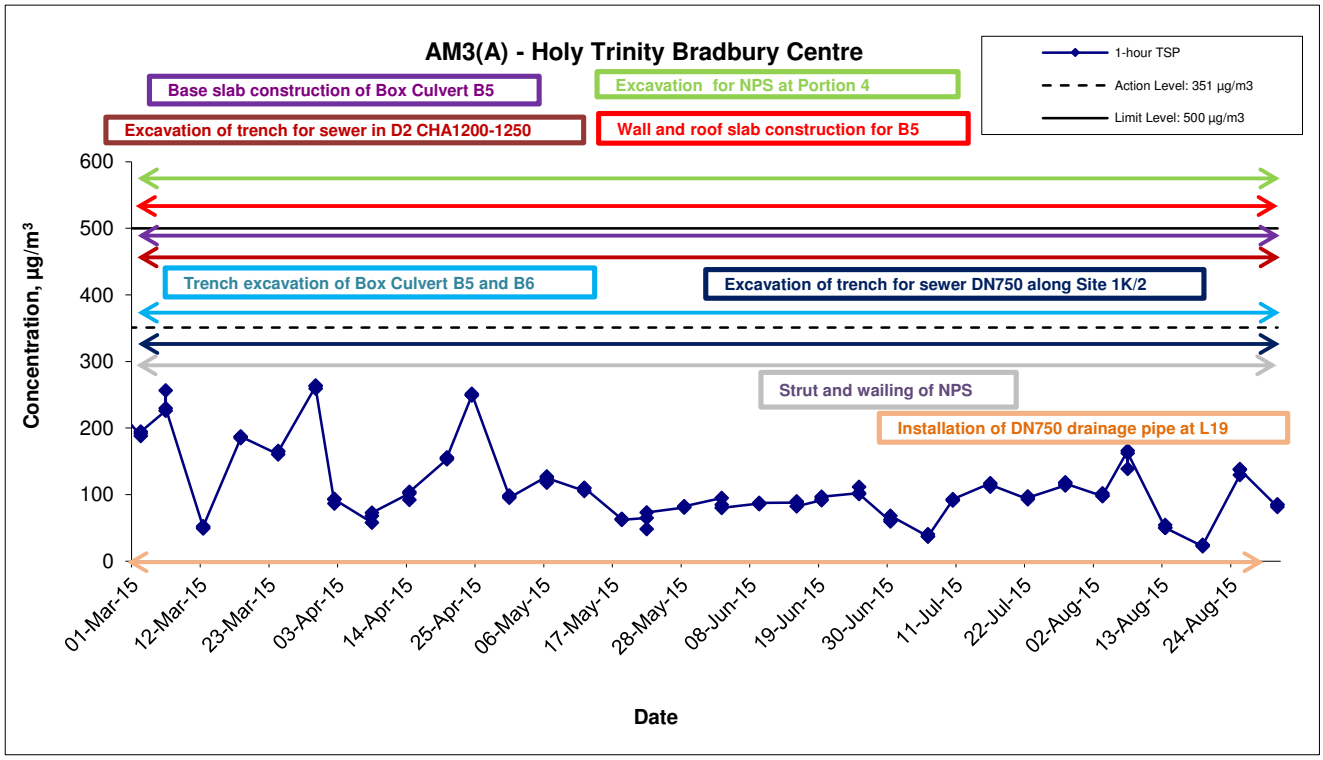
| | Date: Jan-Apr 15 | Appendix: C | |

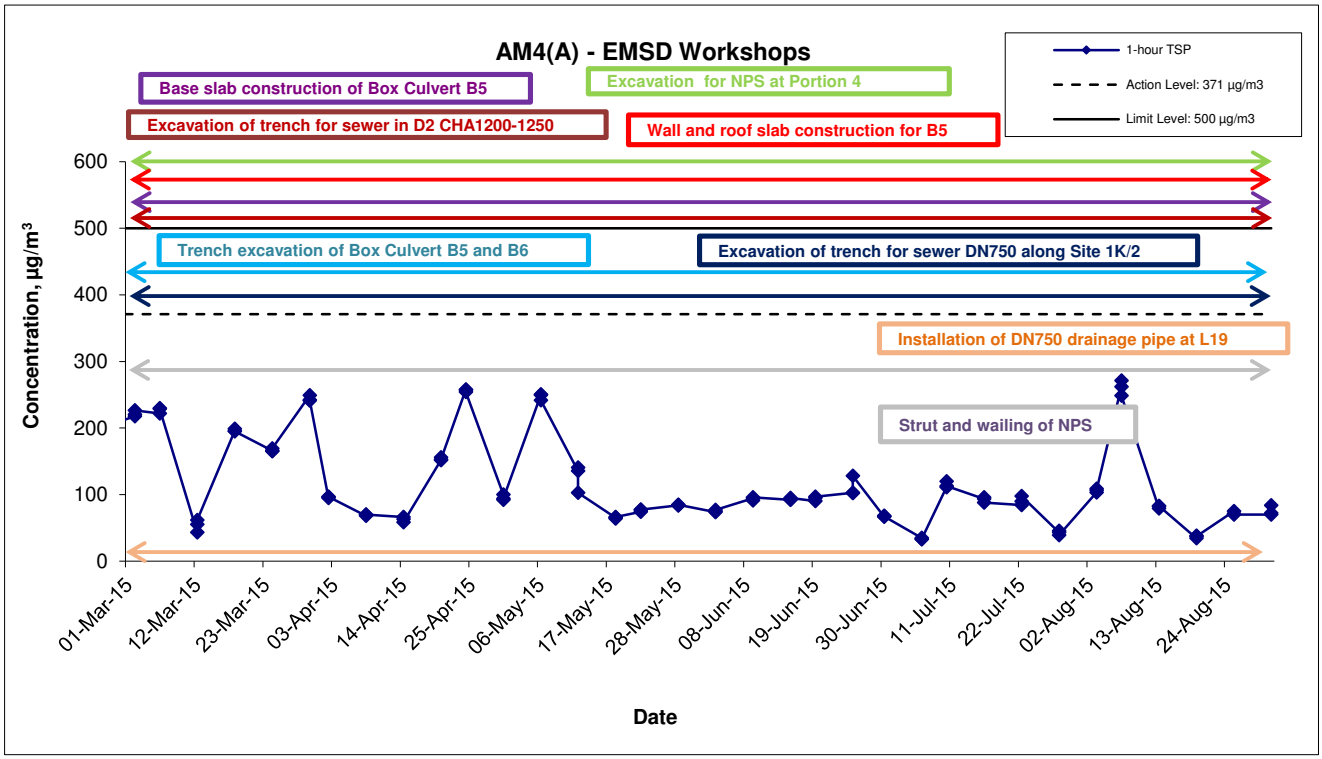
## 1-hr TSP Concentration Levels

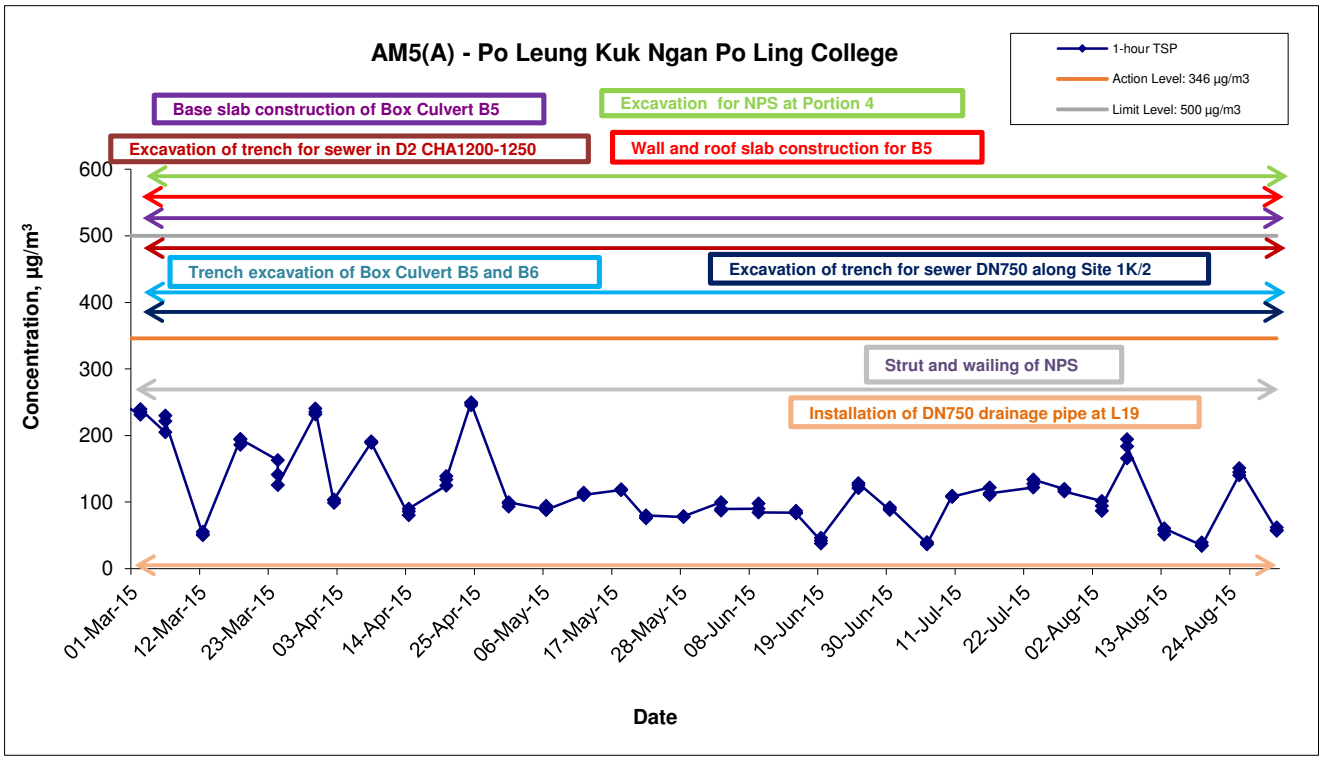



| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: May-Aug 15 | Appendix: C | |

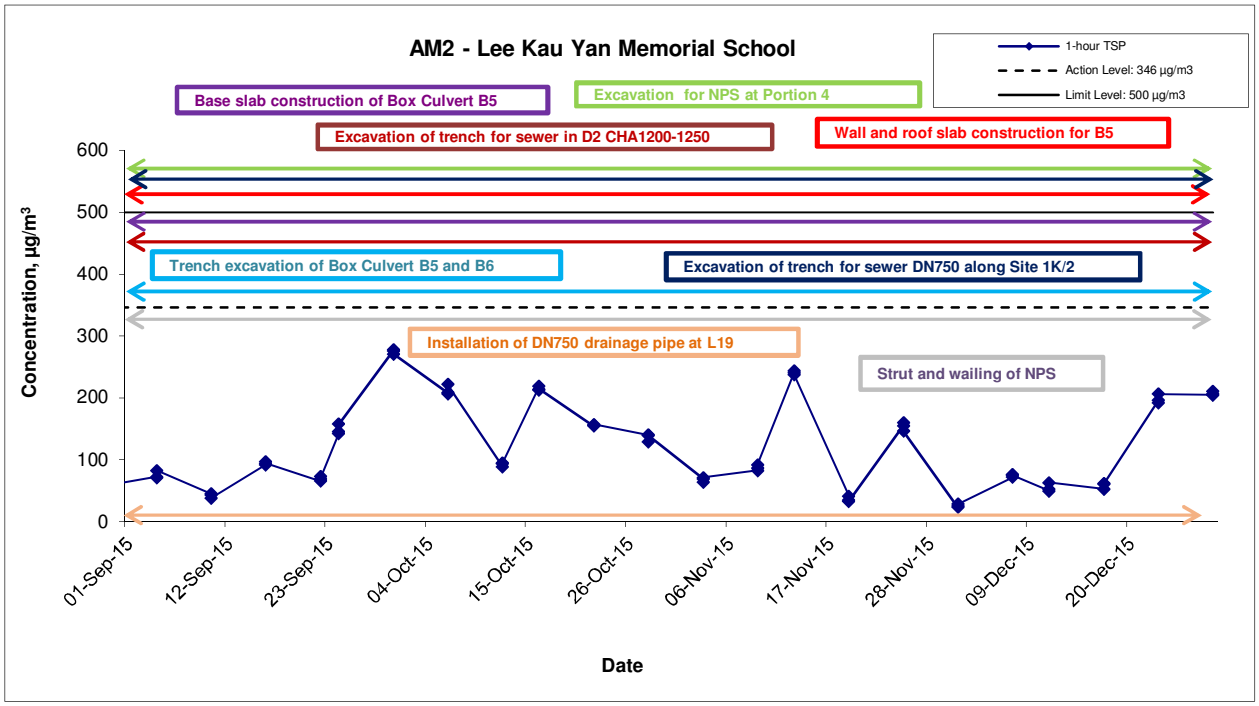
## 1-hr TSP Concentration Levels

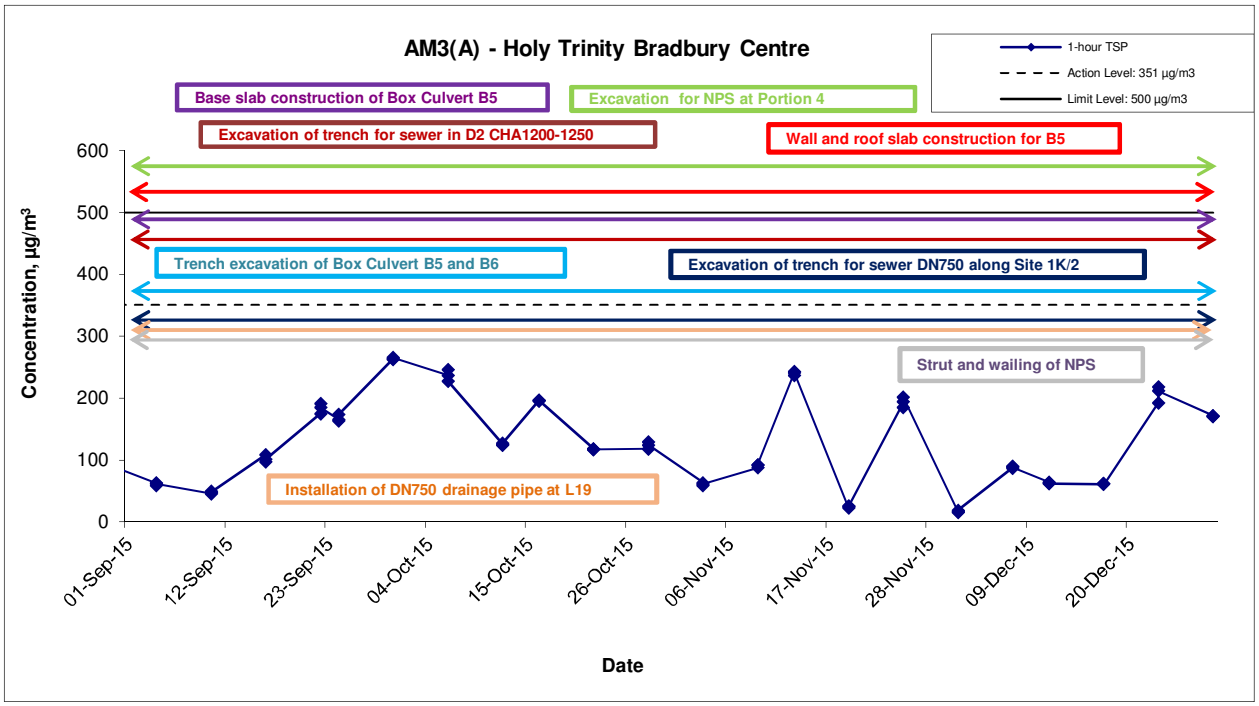



| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力 consulting . testing . research |
| | Date: May-Aug 15 | Appendix: C | |

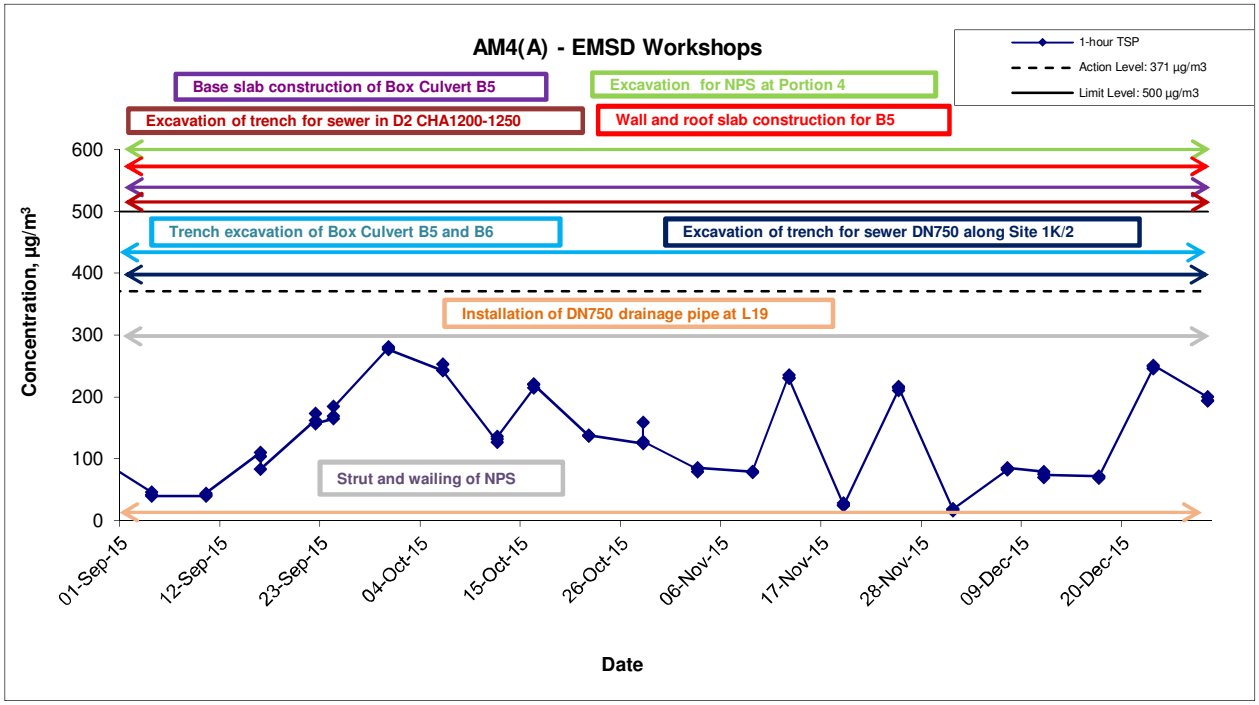
## 1-hr TSP Concentration Levels

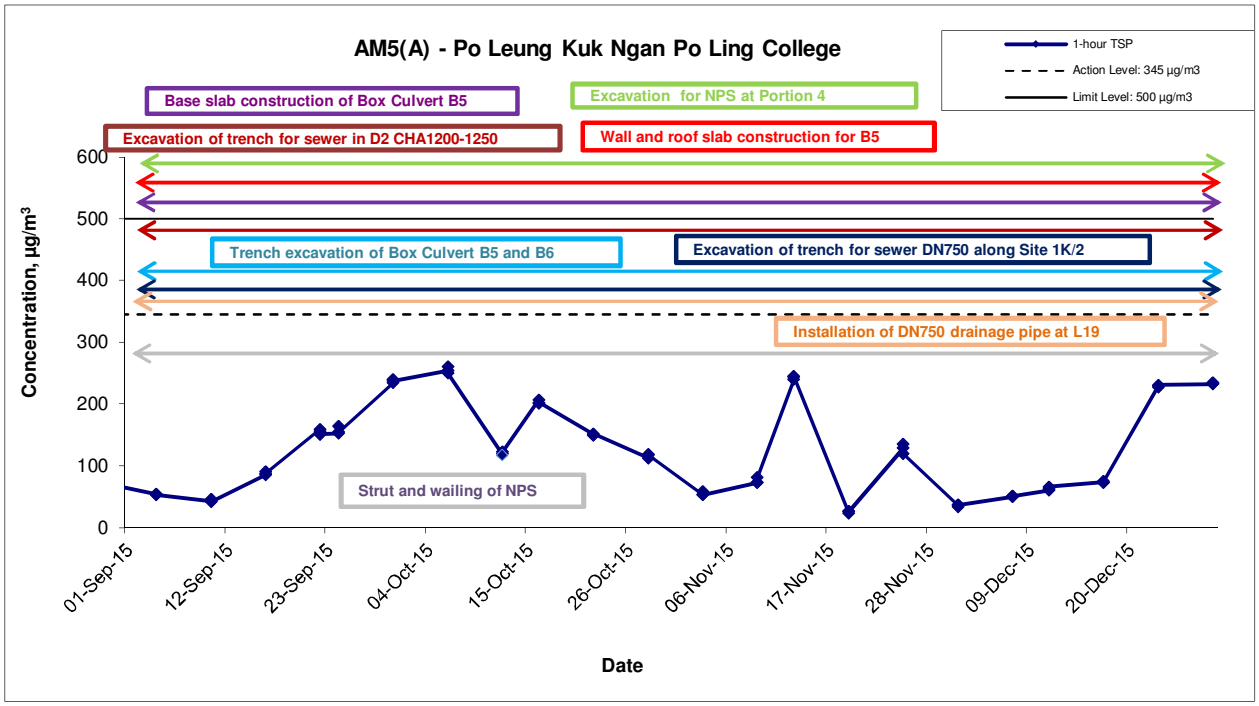



| | | | |
|---|---|---|---|
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S<br>Date: Sep-Dec 15 | Project No.: MA13056<br>Appendix: C | WELLAB 匯力 consulting . testing . research |

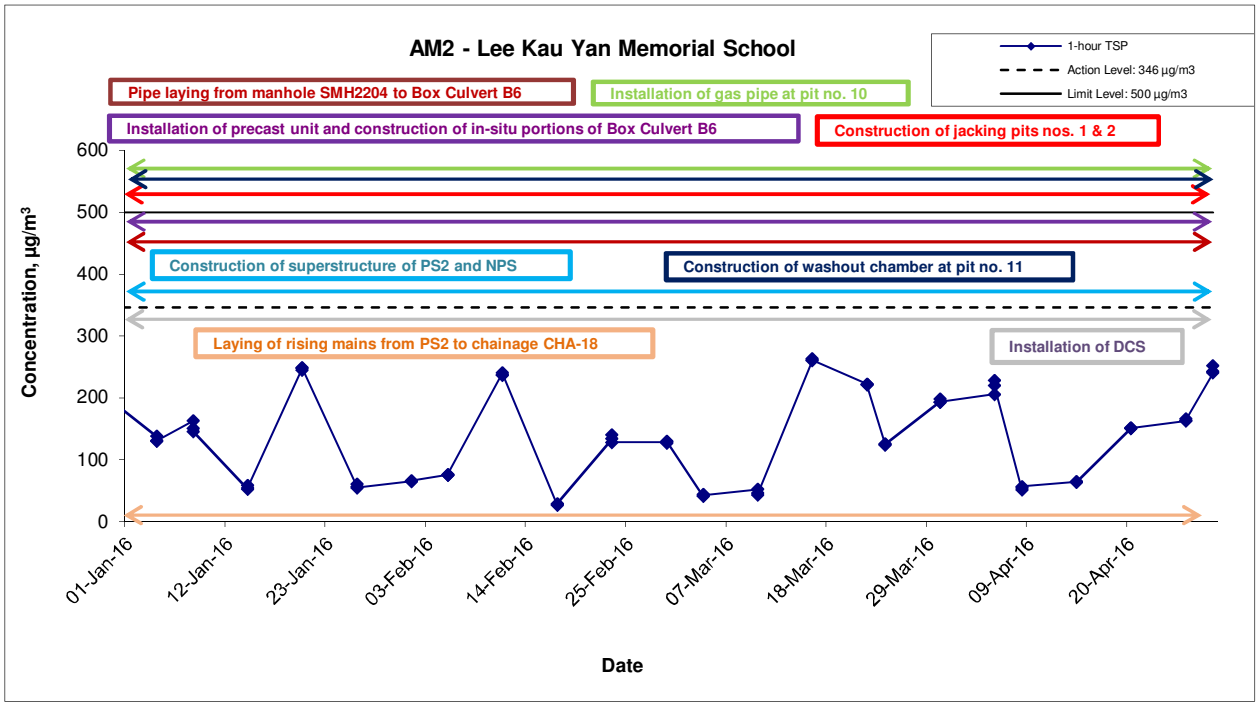
## 1-hr TSP Concentration Levels

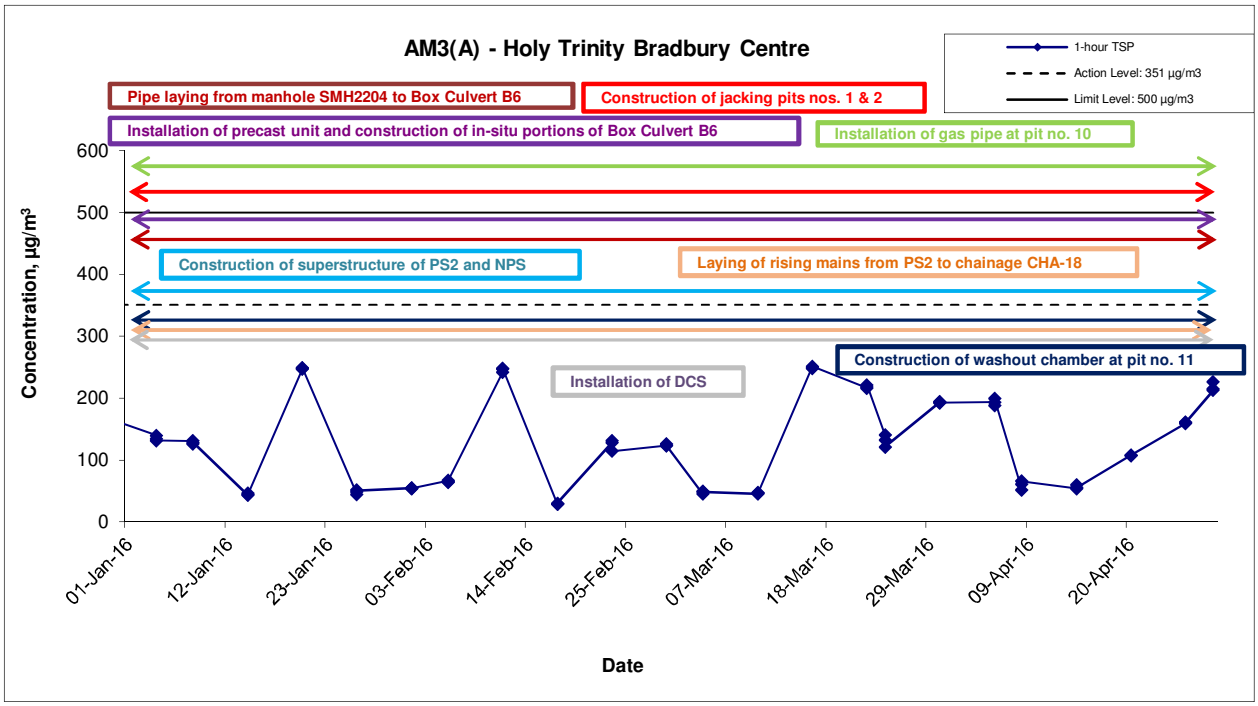



| | | | | |
|---|---|---|---|---|
| Title | Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale<br>N.T.S | Project No.<br>MA13056 | WELLAB 匯力<br>consulting . testing . research |
| | | Date<br>Sep-Dec 15 | Appendix<br>C | |

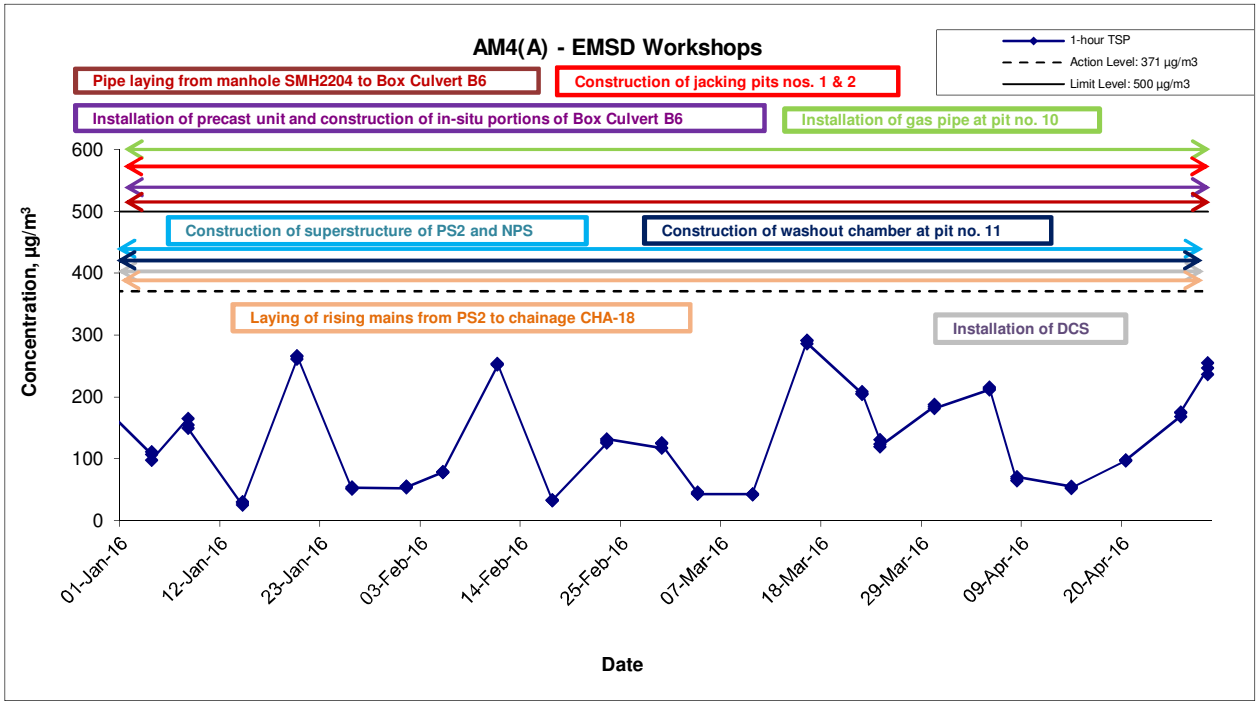
## 1-hr TSP Concentration Levels

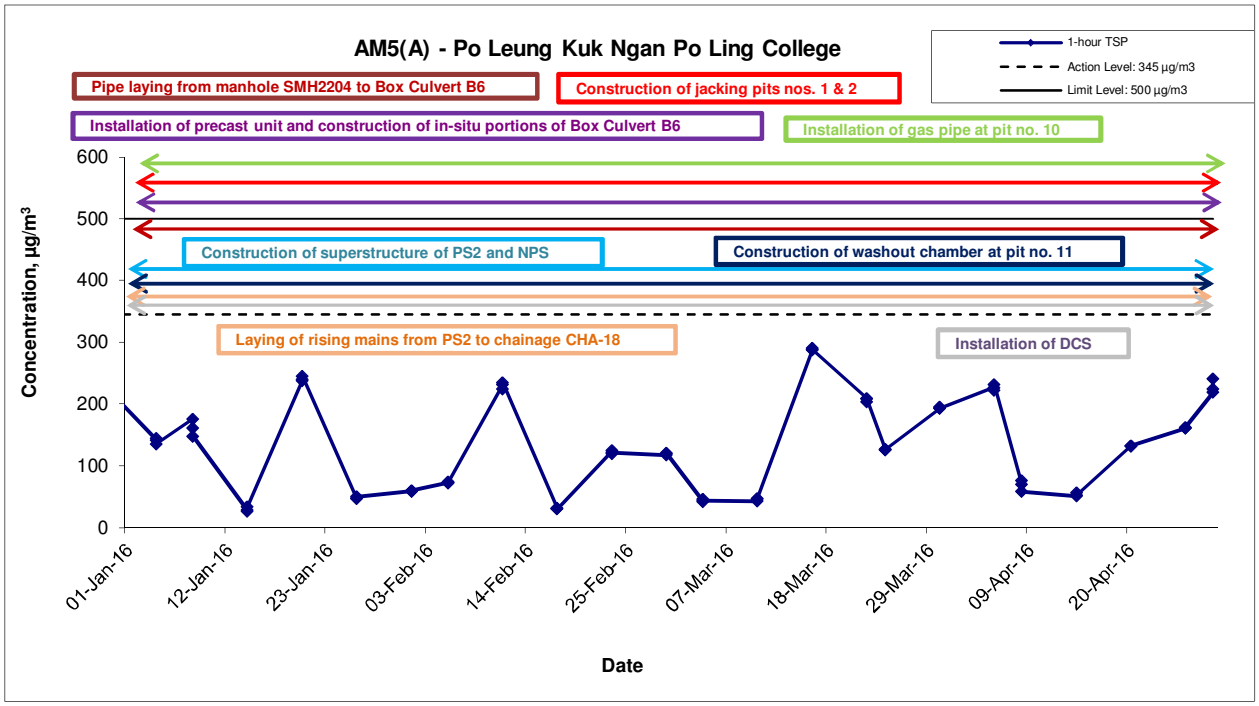



| | | | | |
|---|---|---|---|---|
| Title | Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale N.T.S | Project No. MA13056 | WELLAB 匯力 consulting . testing . research |
| | | Date Jan-Apr 16 | Appendix C | |

## 1-hr TSP Concentration Levels

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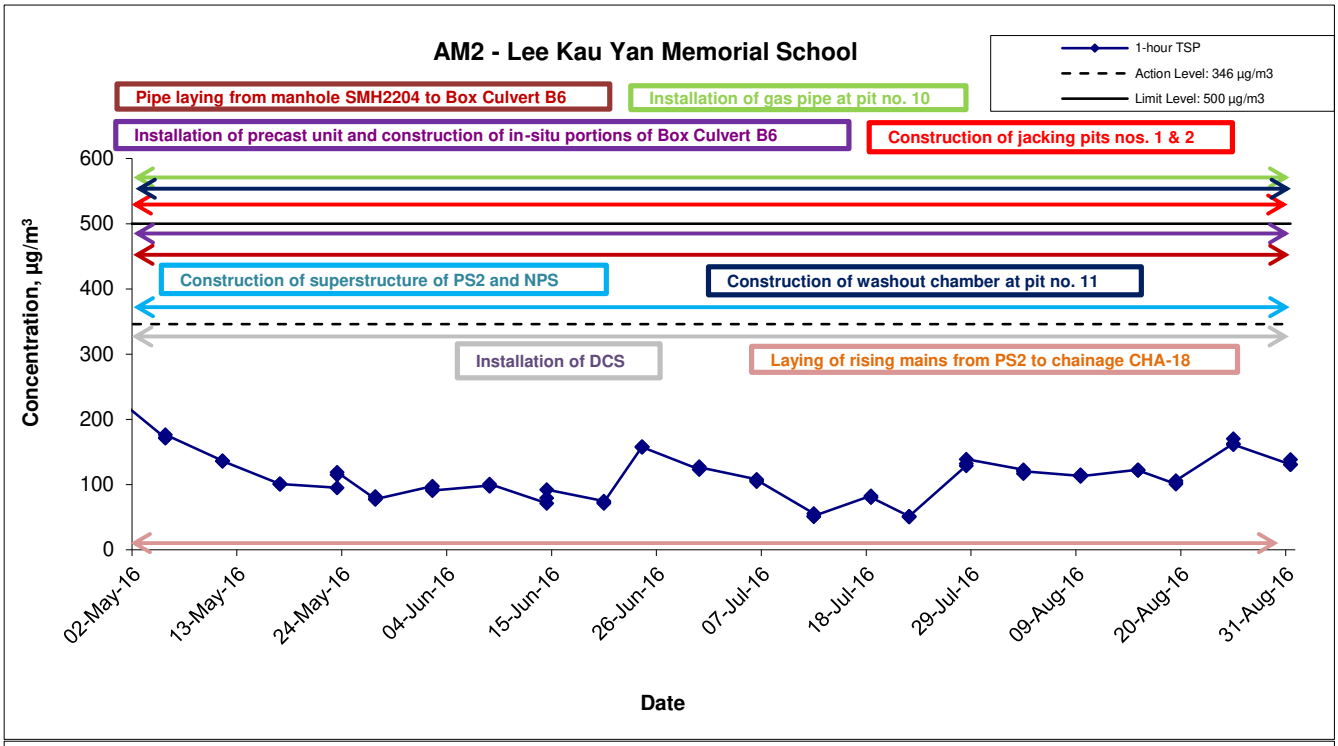
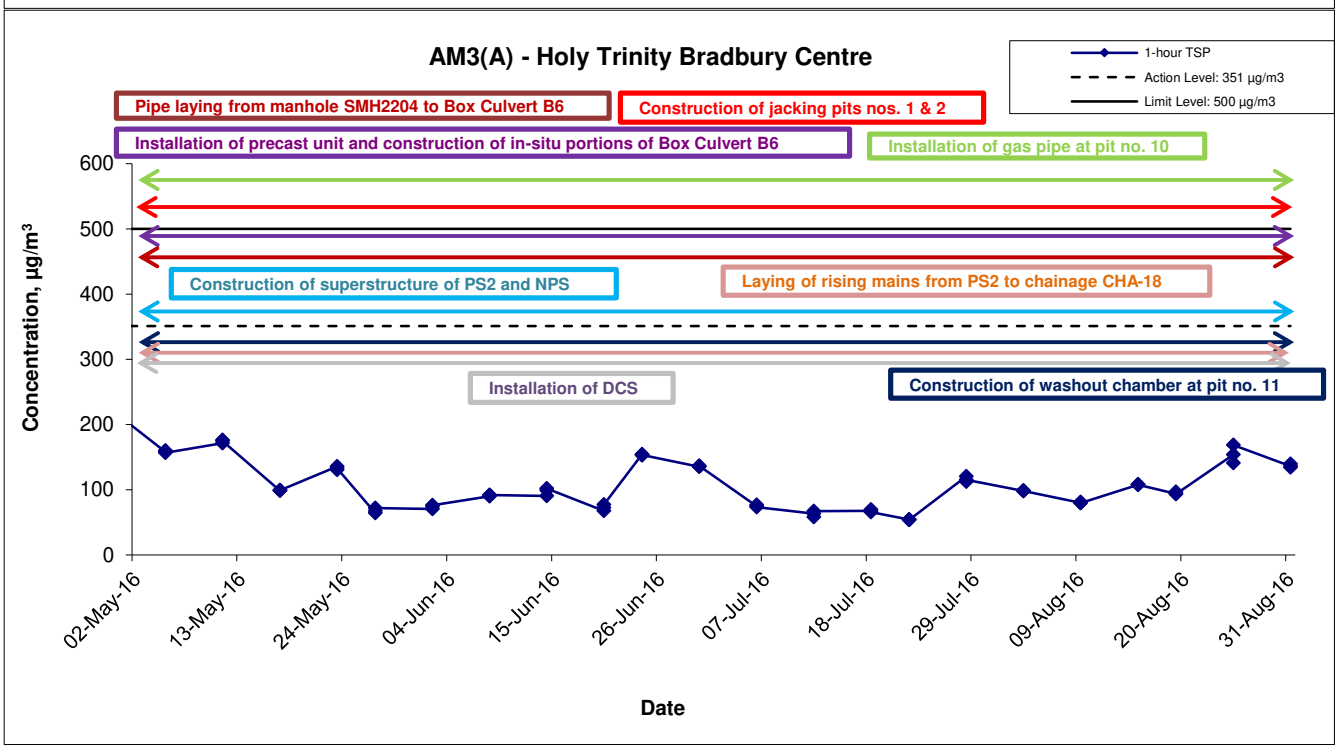
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 1-hour TSP Monitoring Results | Scale: N.T.S | Project No.: MA13056 | WELLAB 匯力<br>consulting . testing . research |
| | Date: Jan-Apr 16 | Appendix: C | |

## 1-hr TSP Concentration Levels

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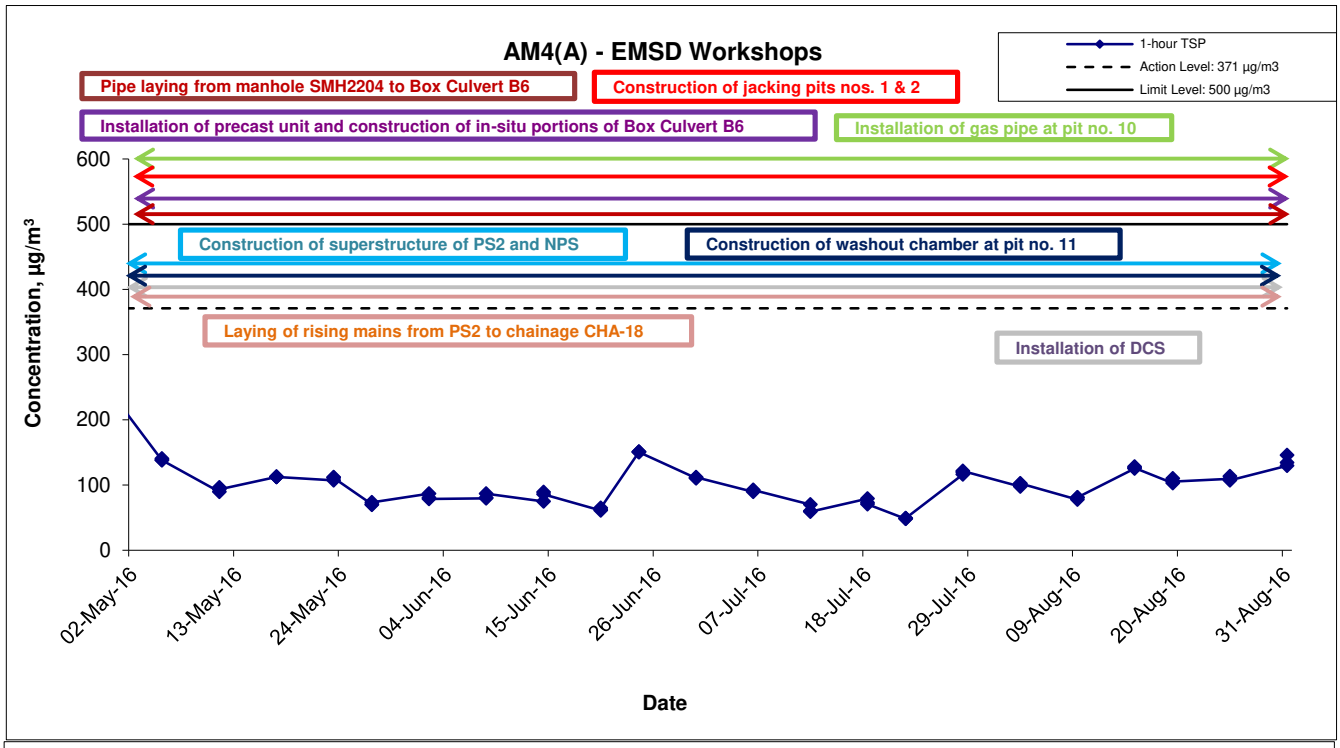
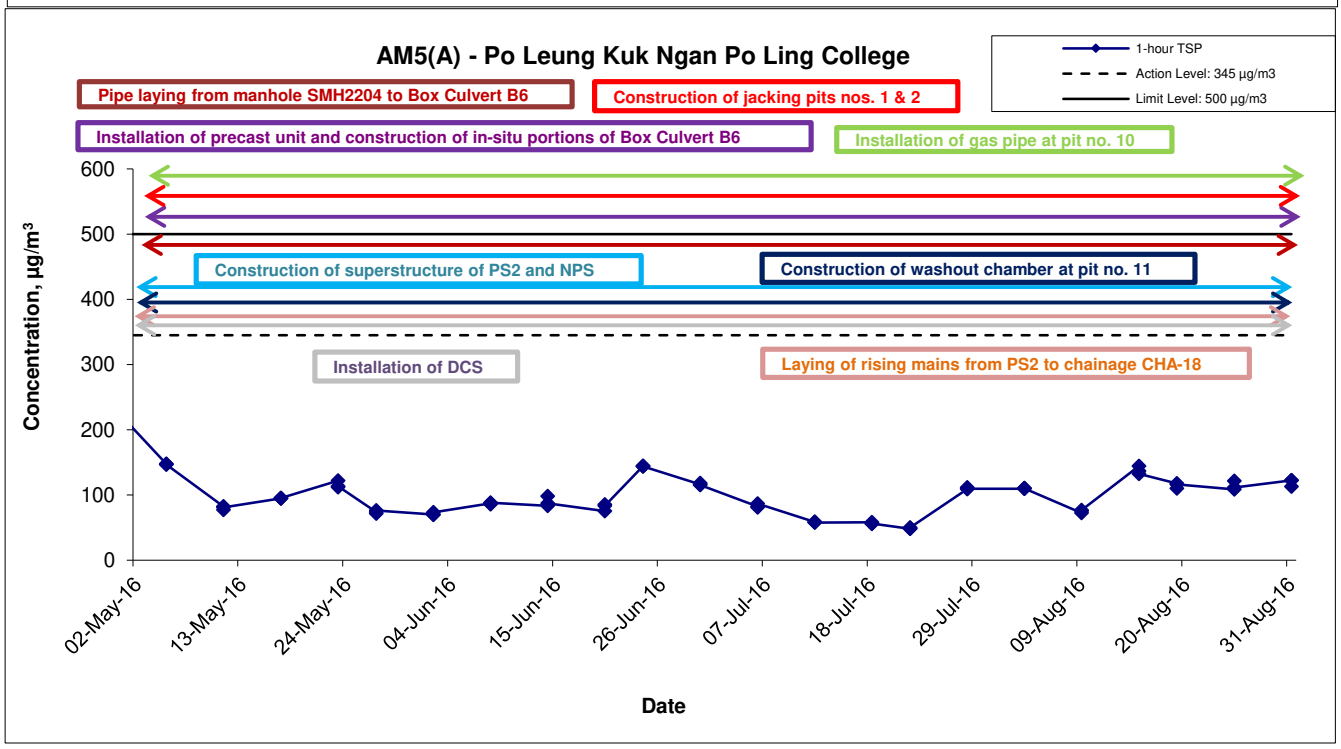
## 1-hr TSP Concentration Levels

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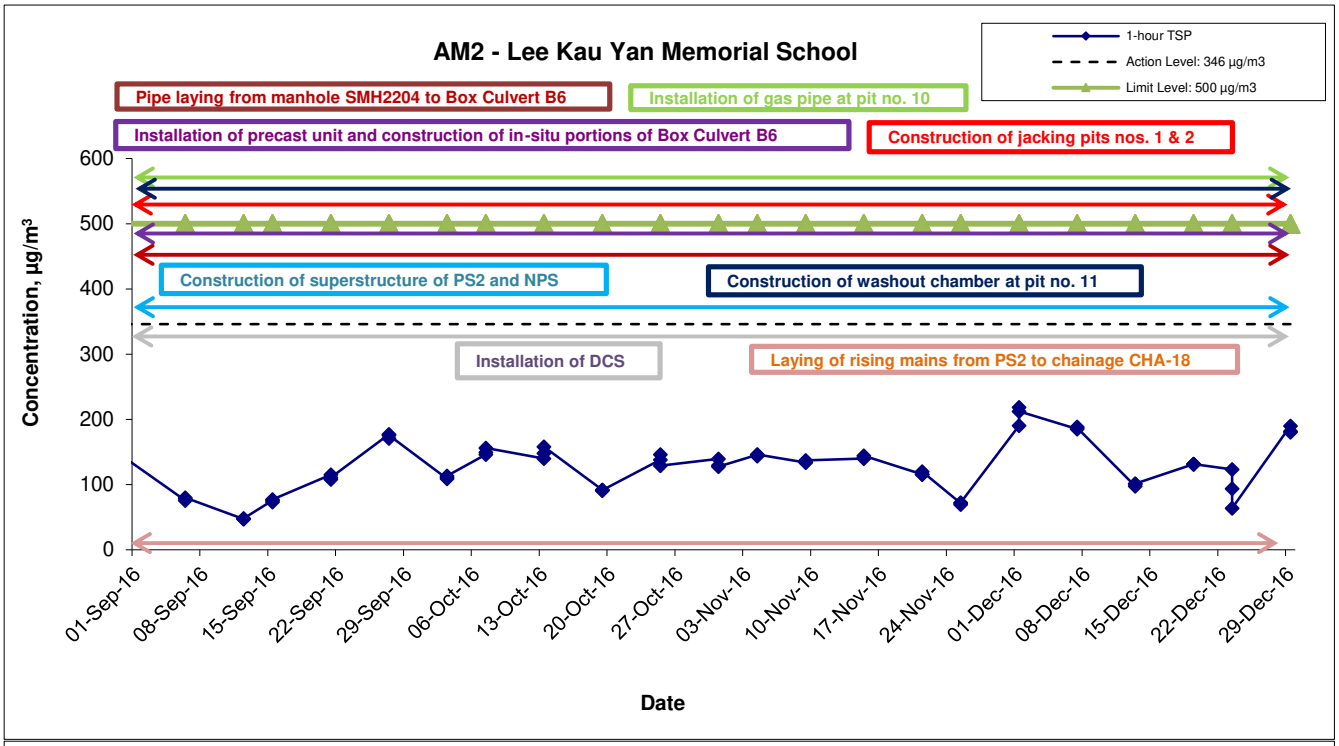
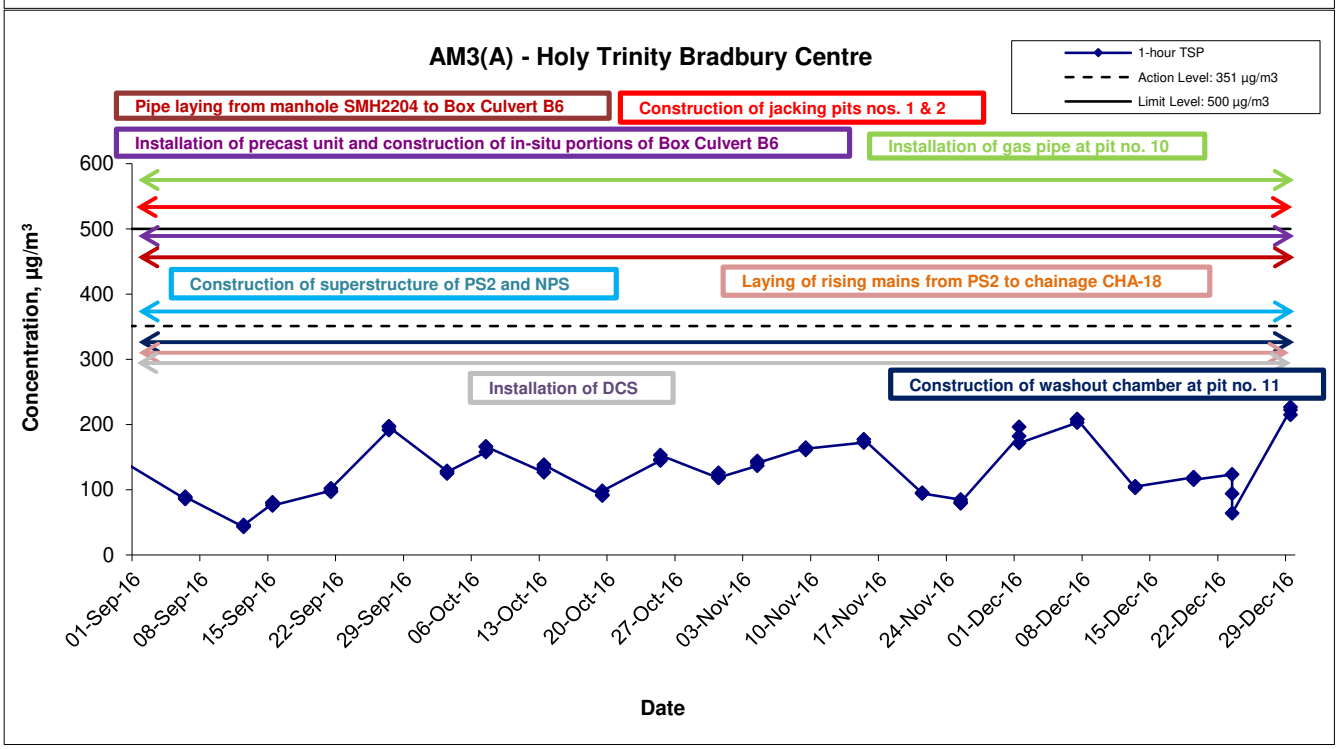
## 1-hr TSP Concentration Levels

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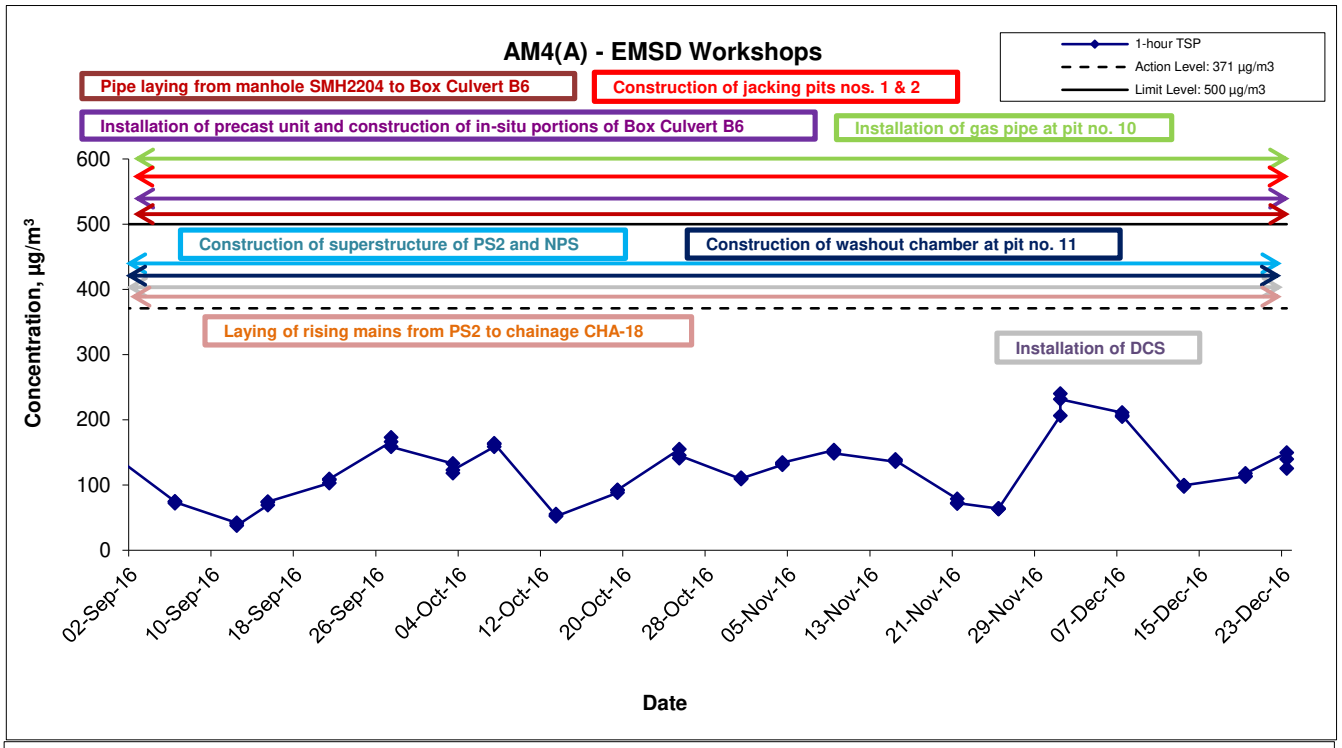
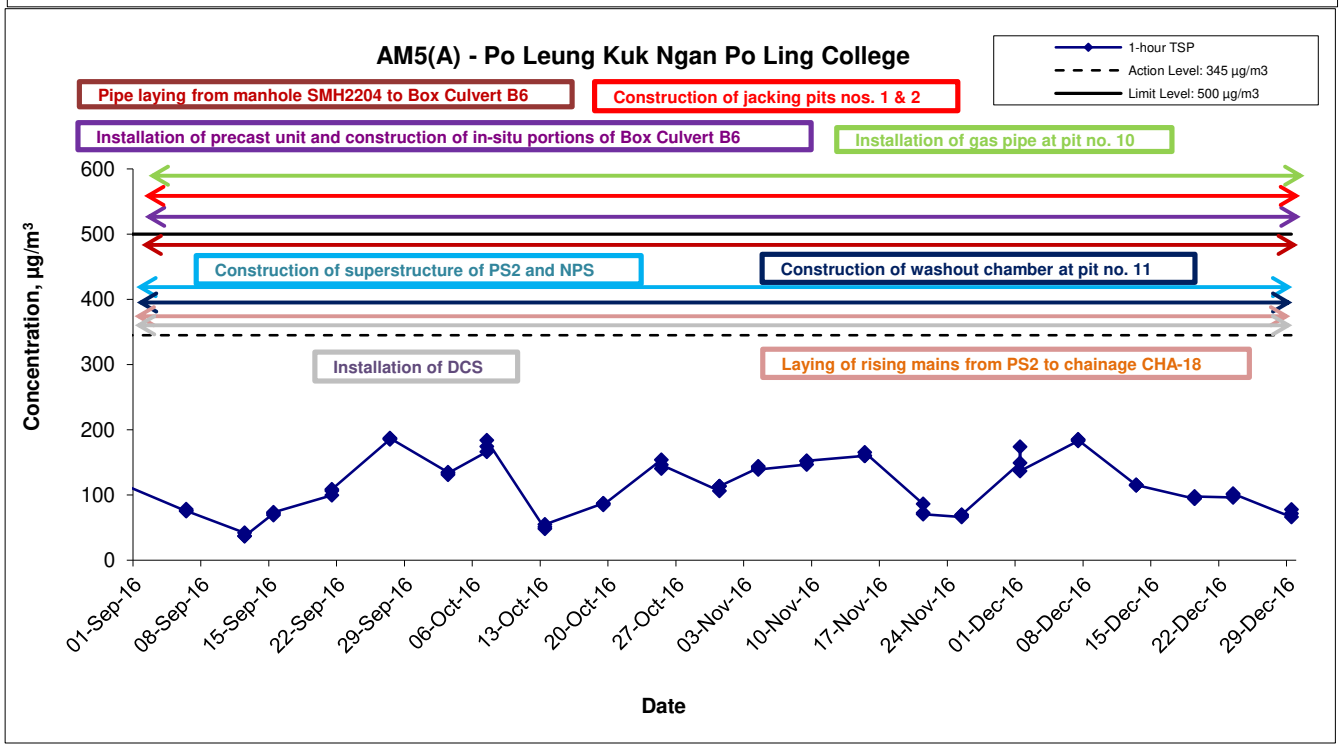
| | Date: Sep-Dec 16 | Appendix: C | |

## 1-hr TSP Concentration Levels

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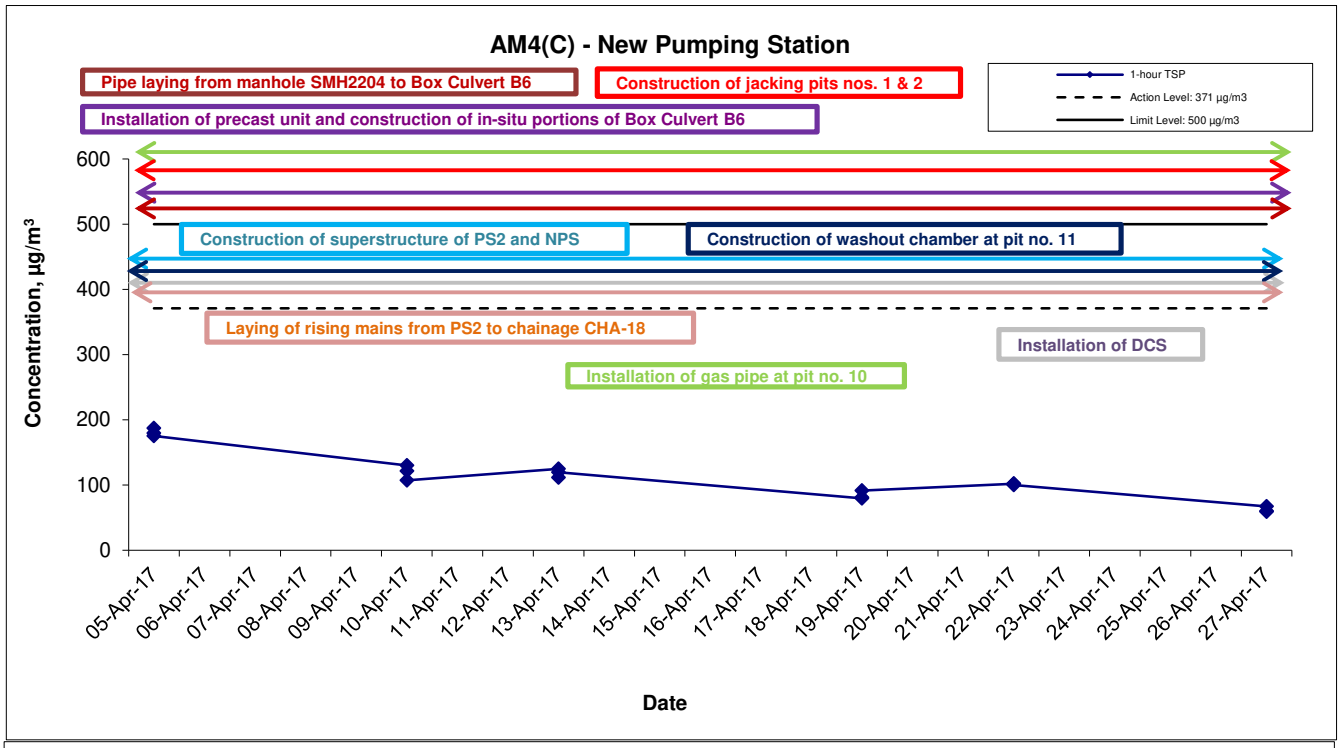
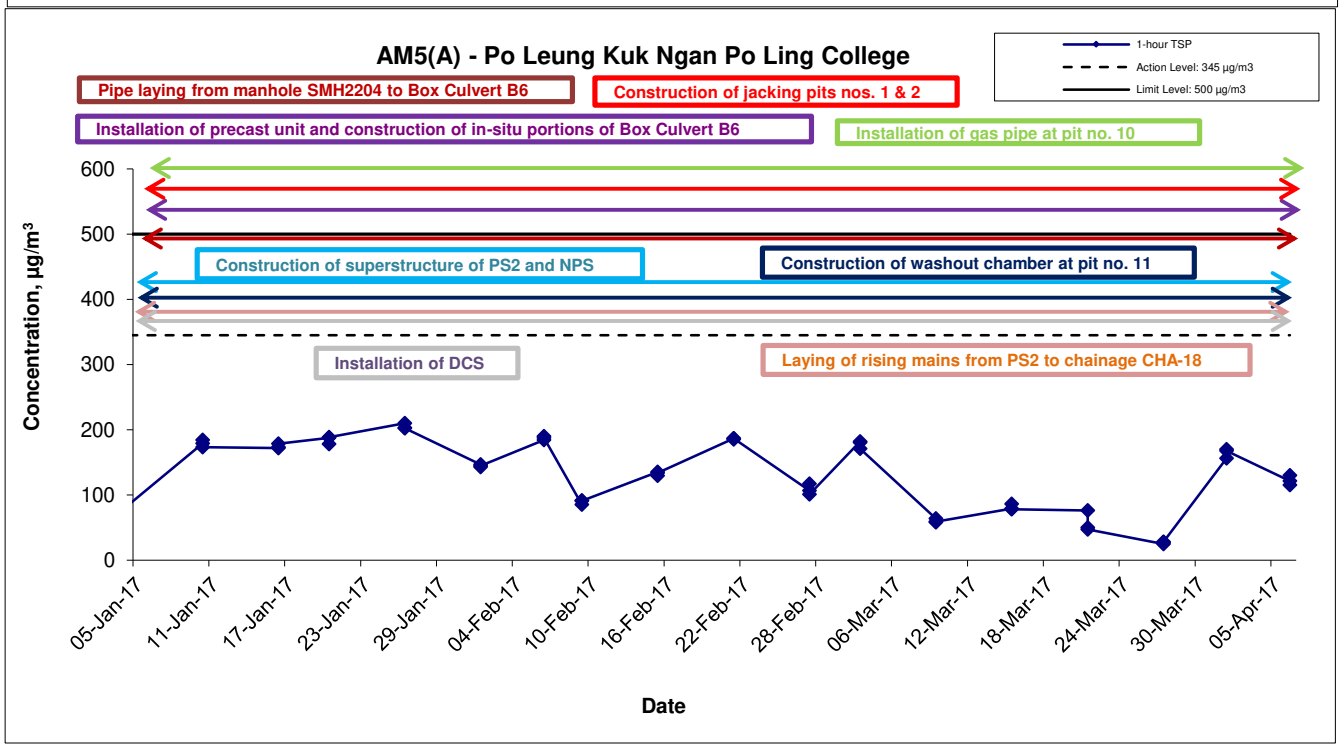
## 1-hr TSP Concentration Levels

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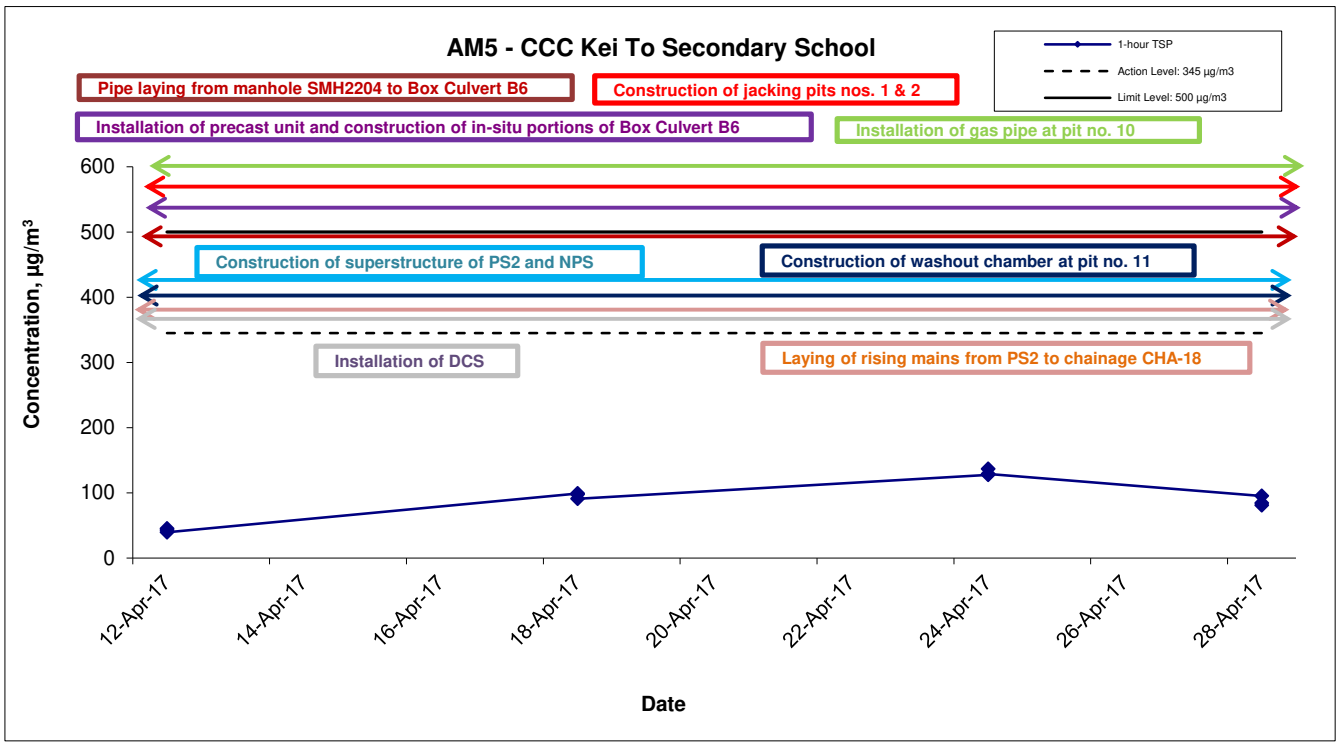
## 1-hr TSP Concentration Levels

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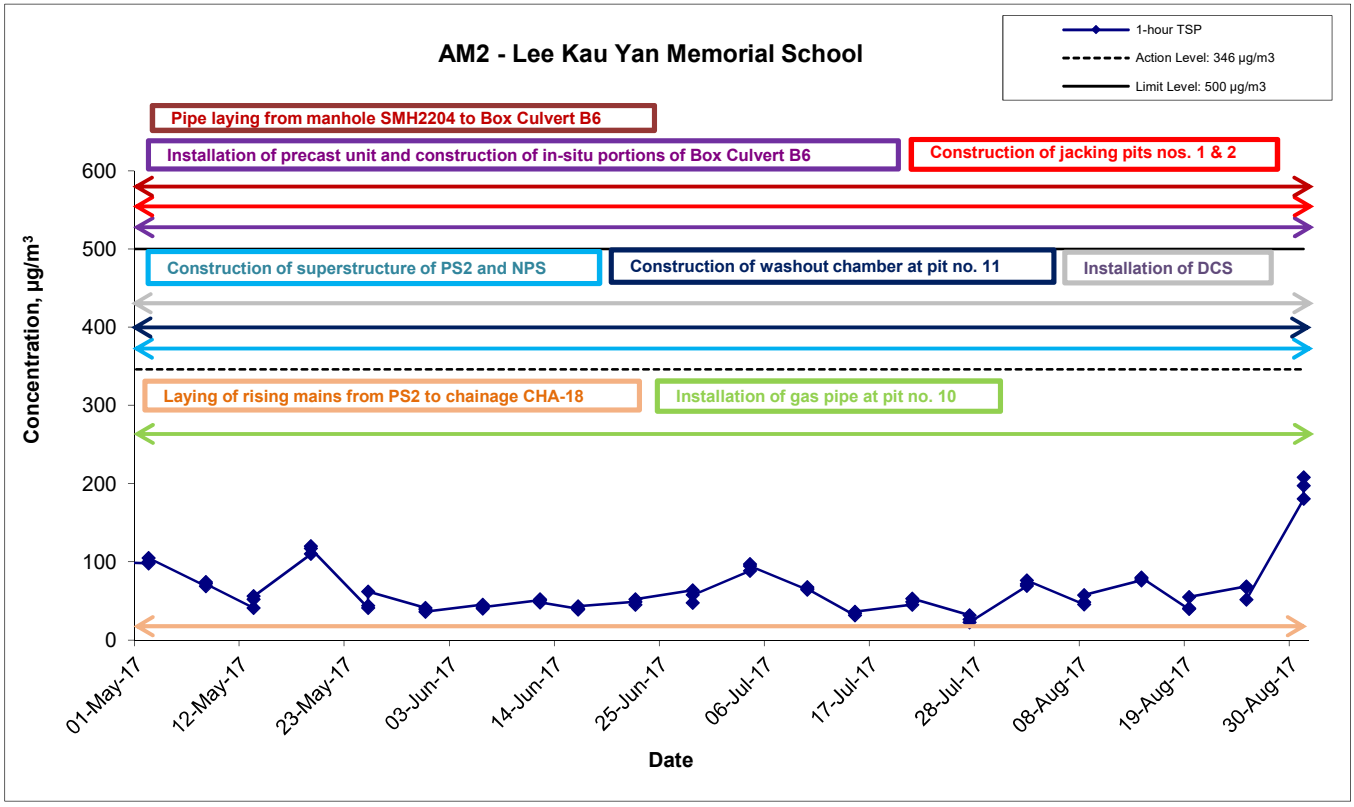
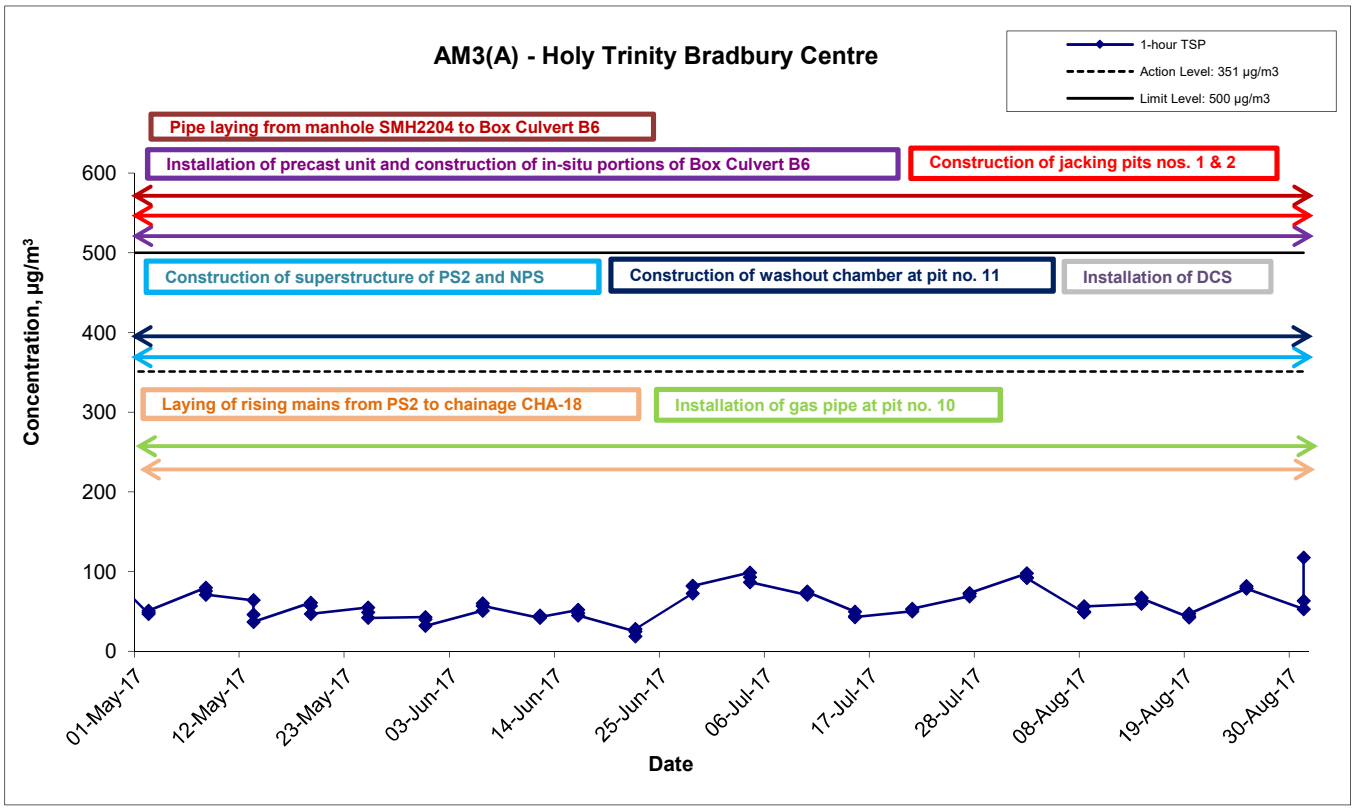
| | Date: Jan-Apr 17 | Appendix: C | |

## 1-hr TSP Concentration Levels

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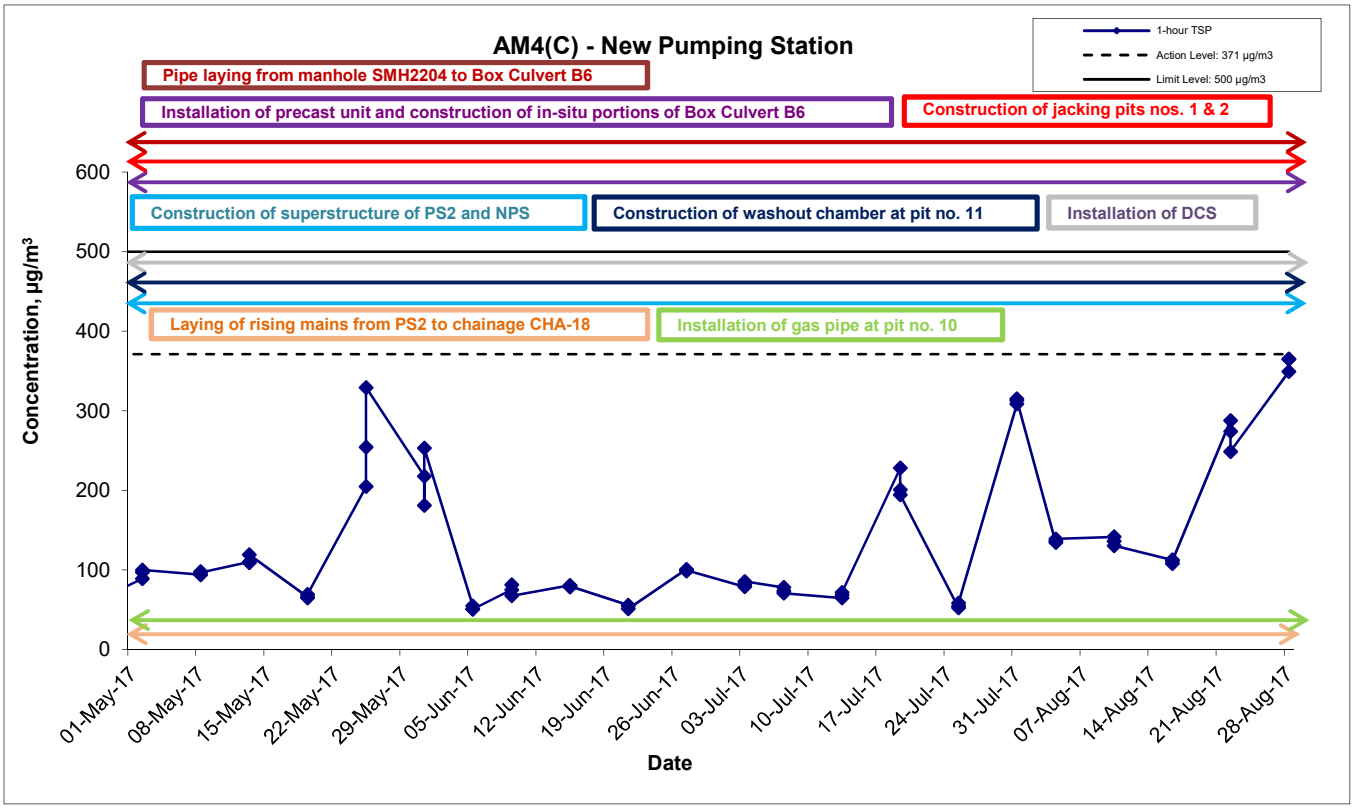
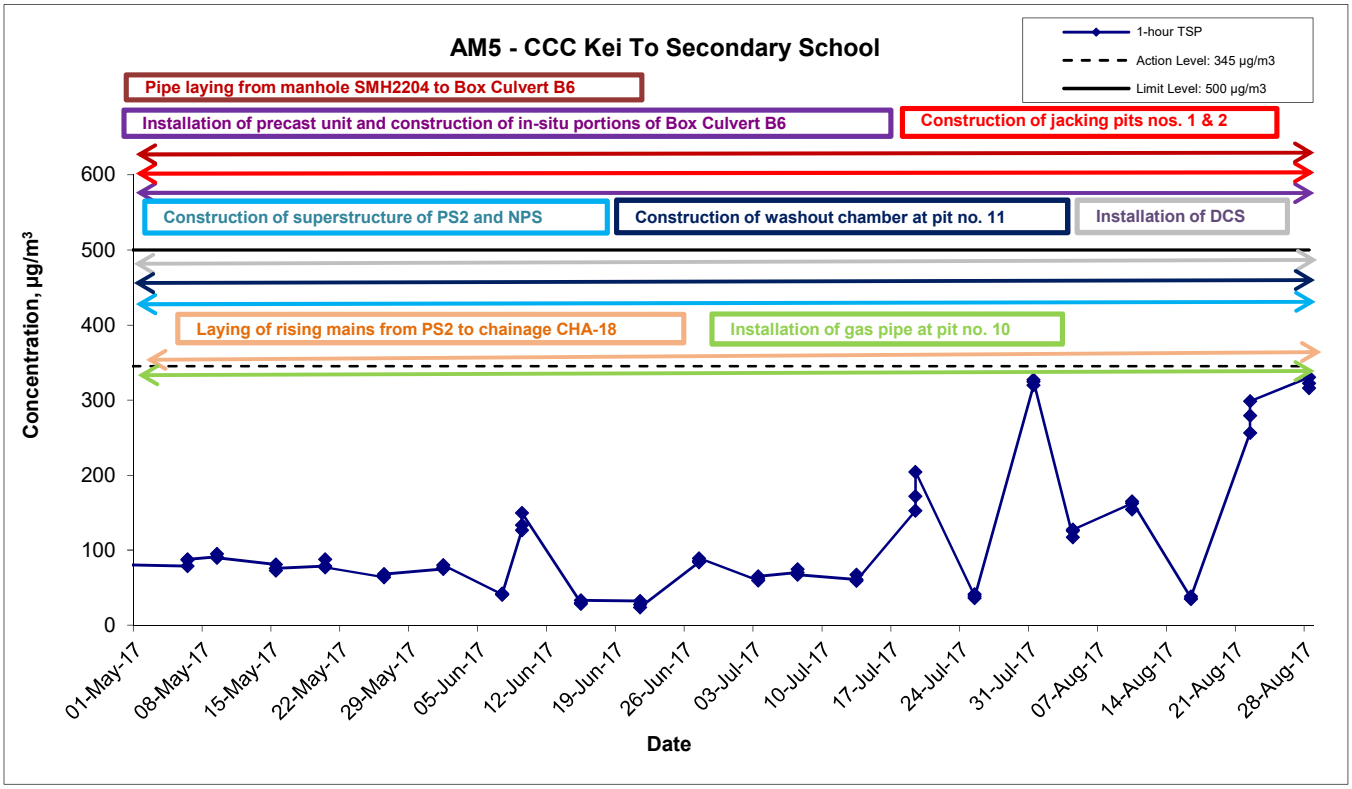
## 1-hr TSP Concentration Levels

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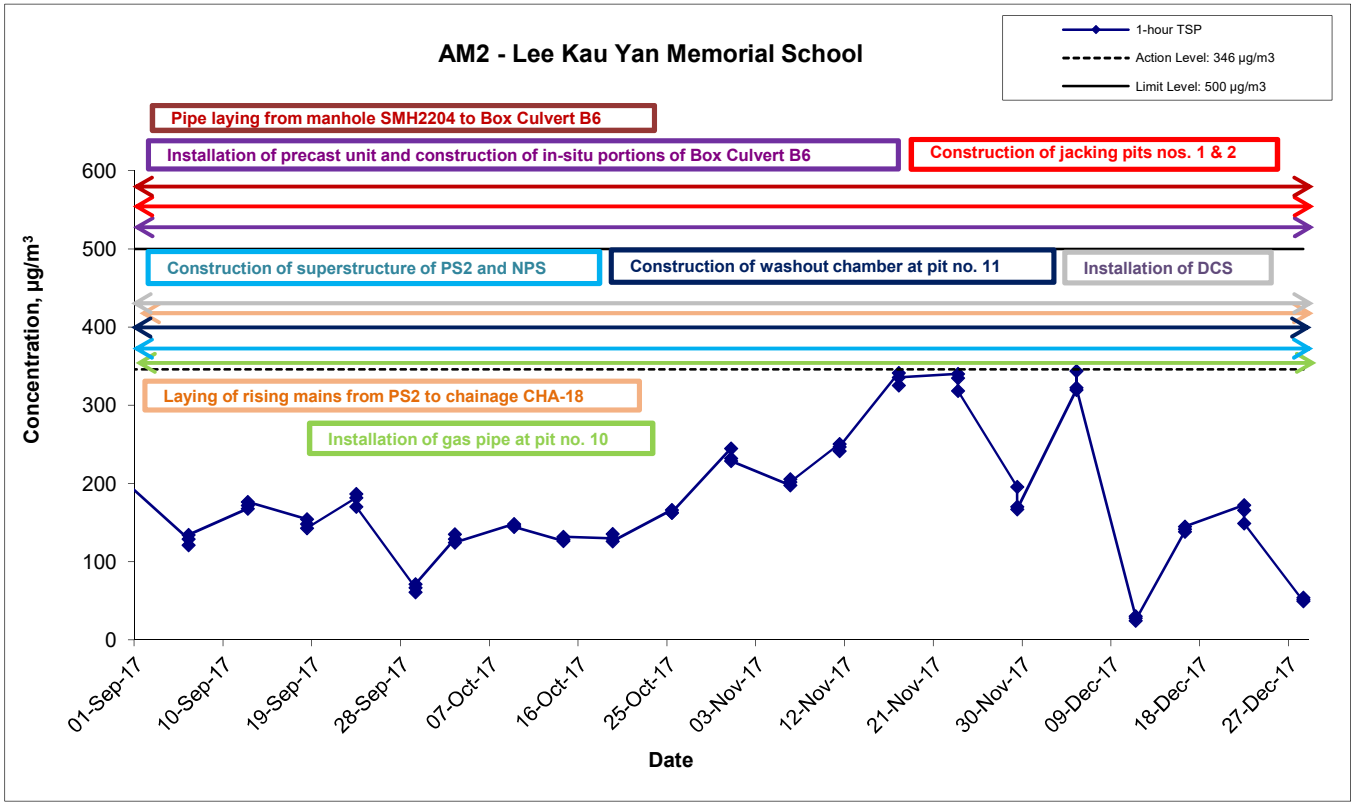
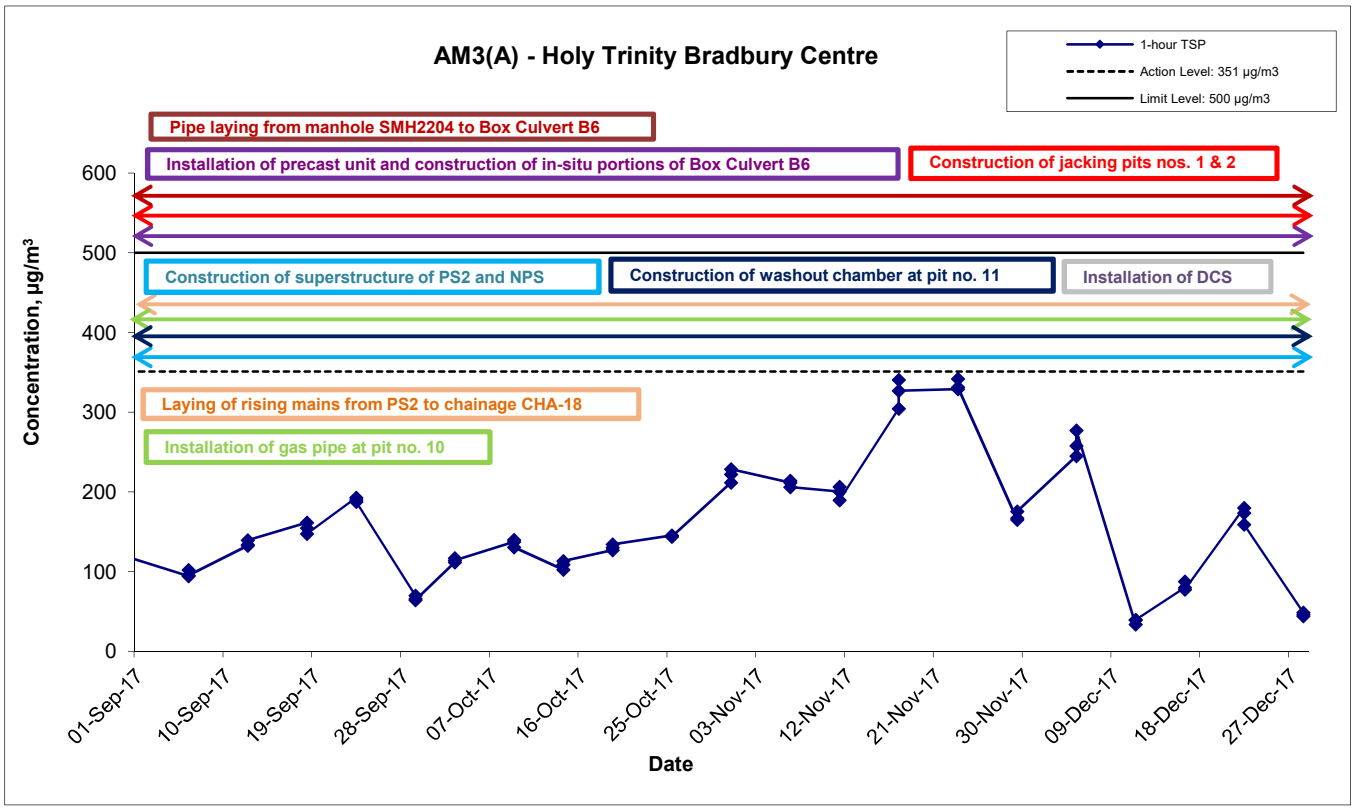
## 1-hr TSP Concentration Levels

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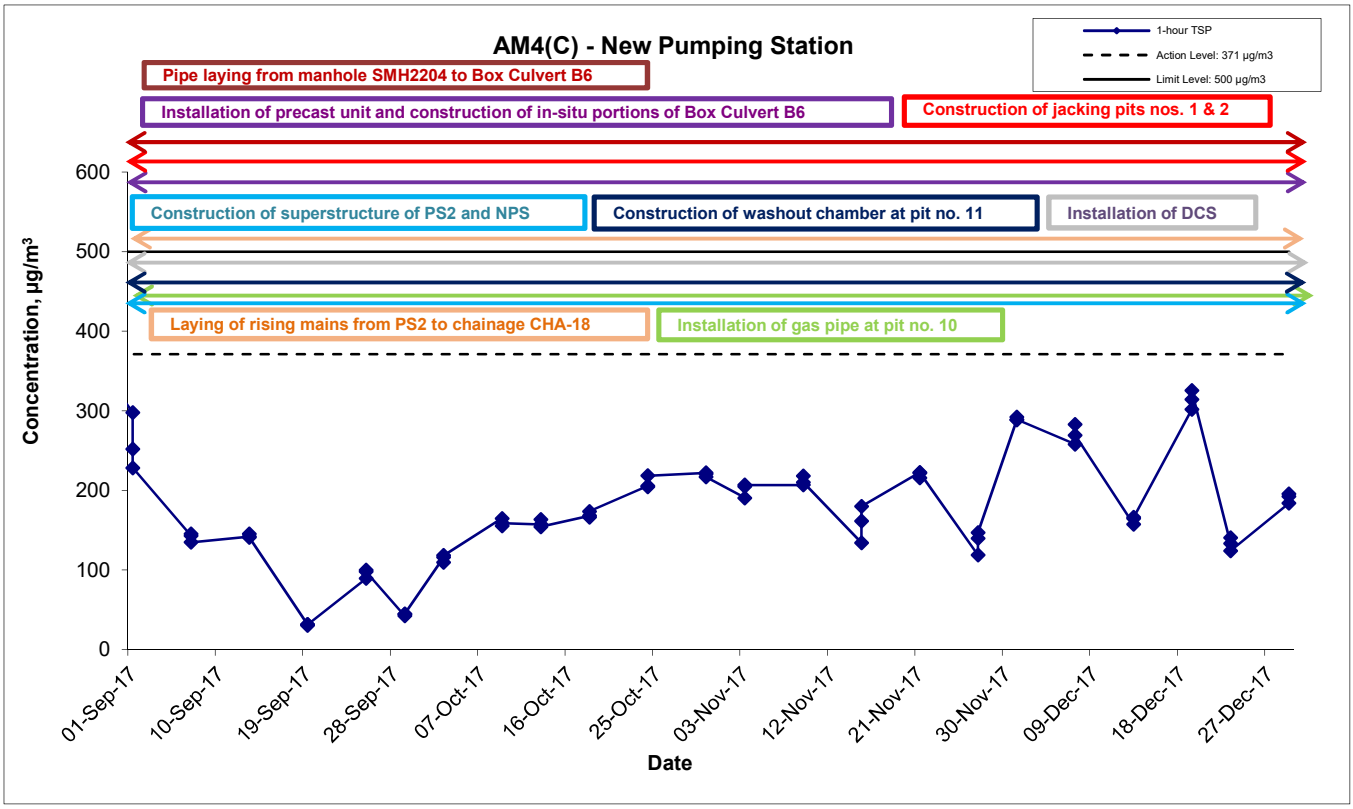
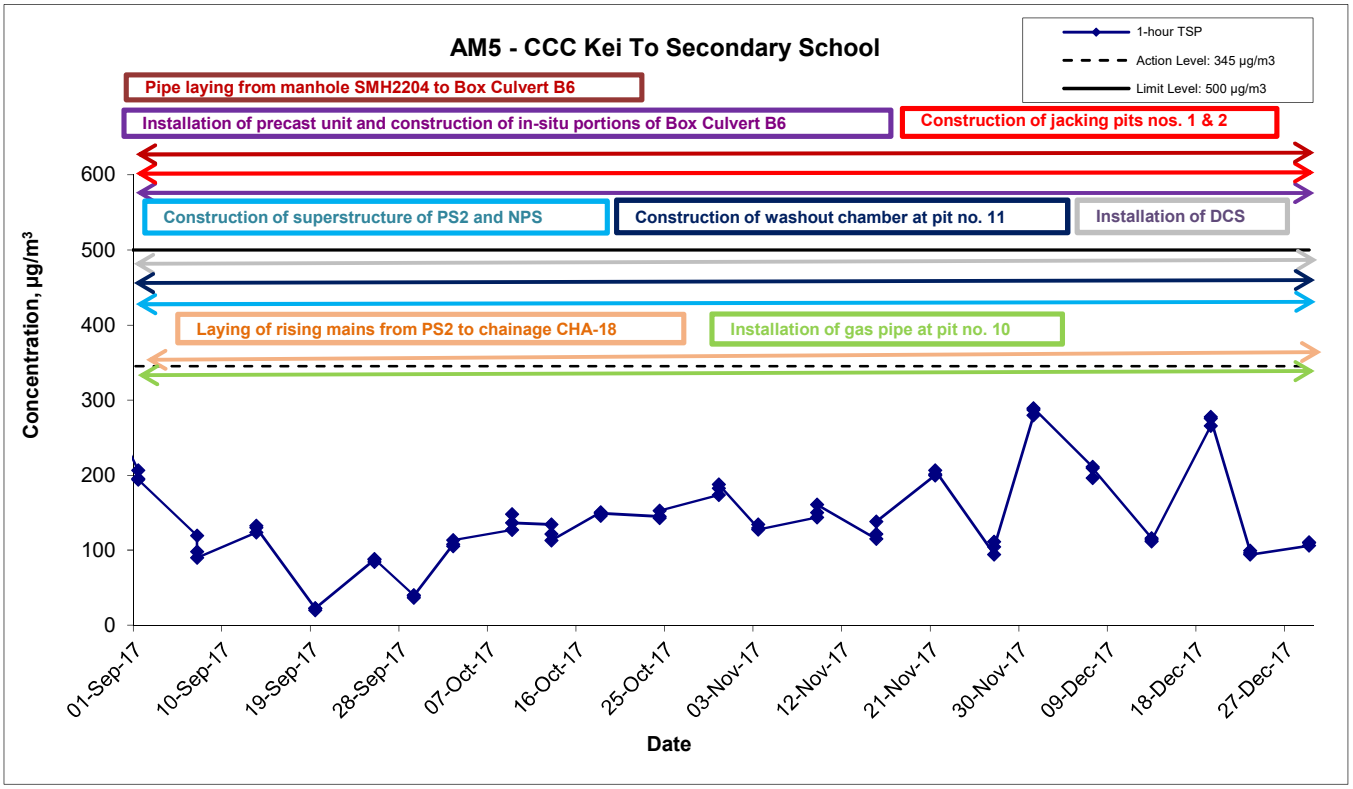
## 1-hr TSP Concentration Levels

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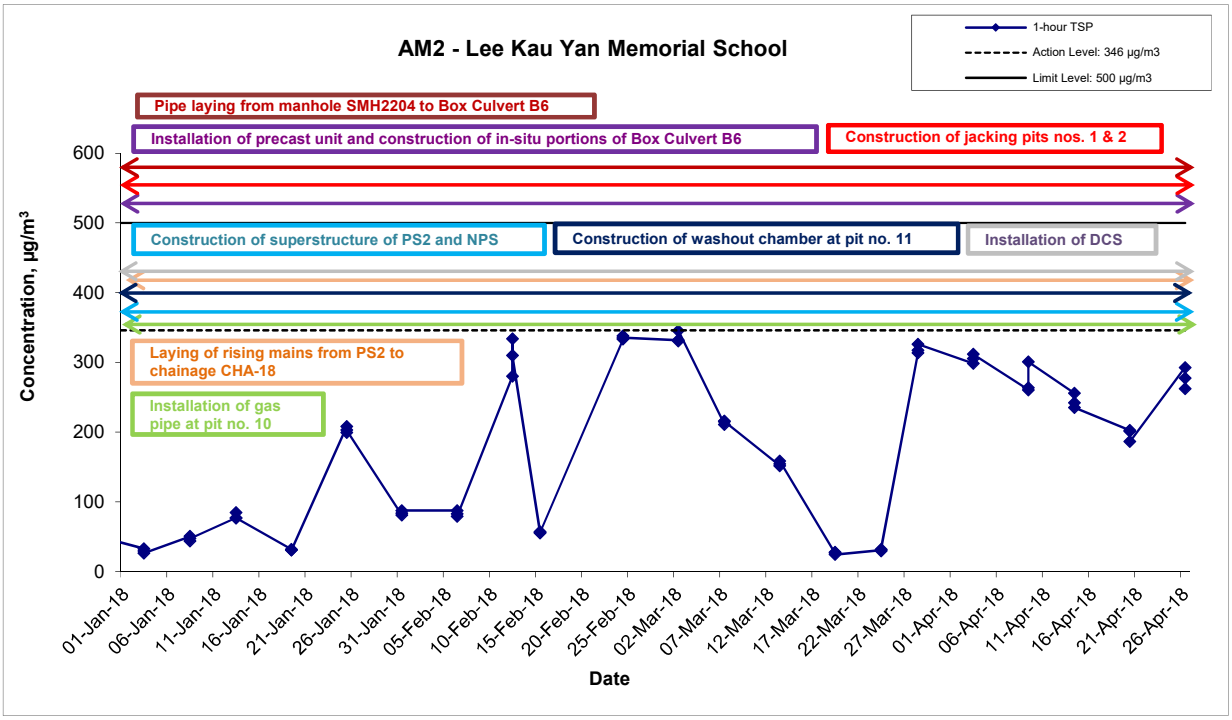
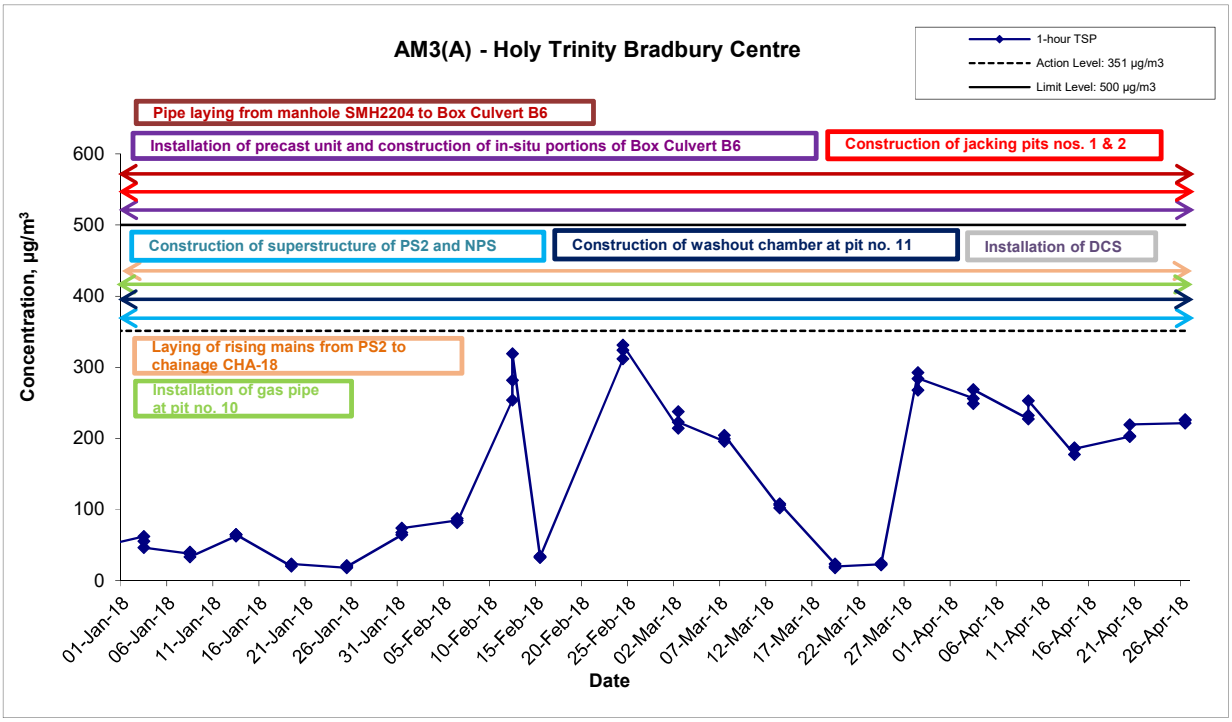
## 1-hr TSP Concentration Levels

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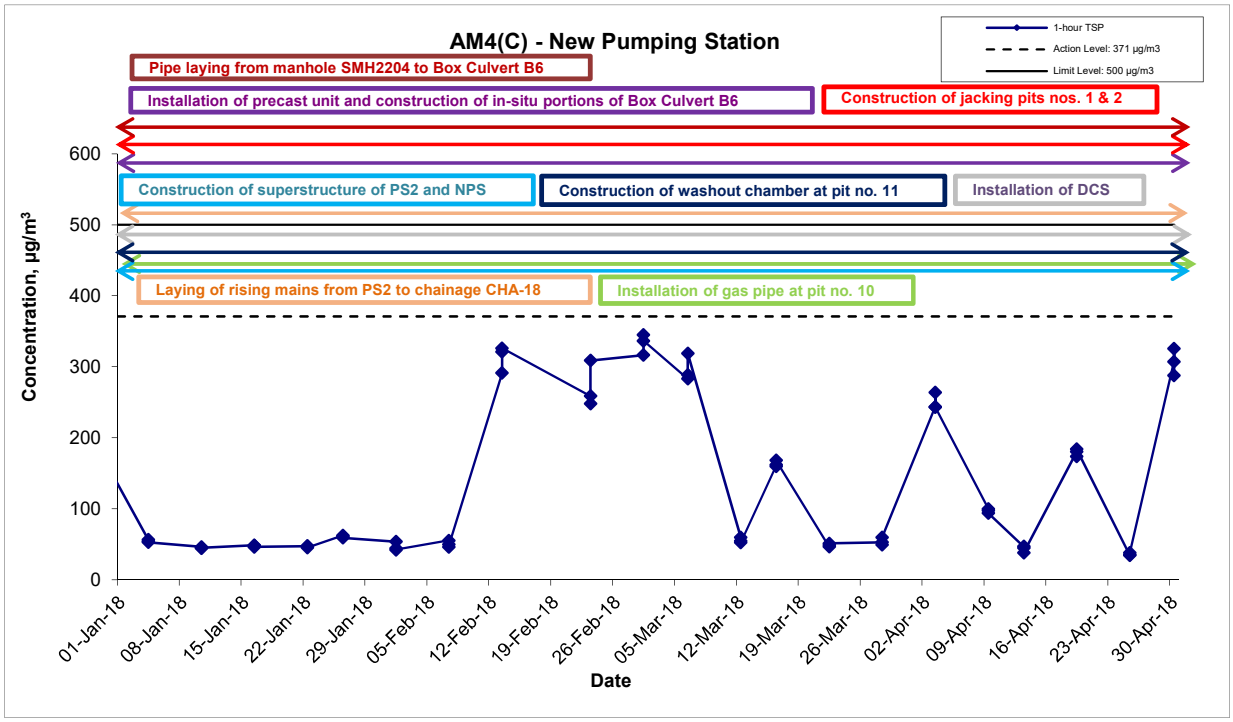
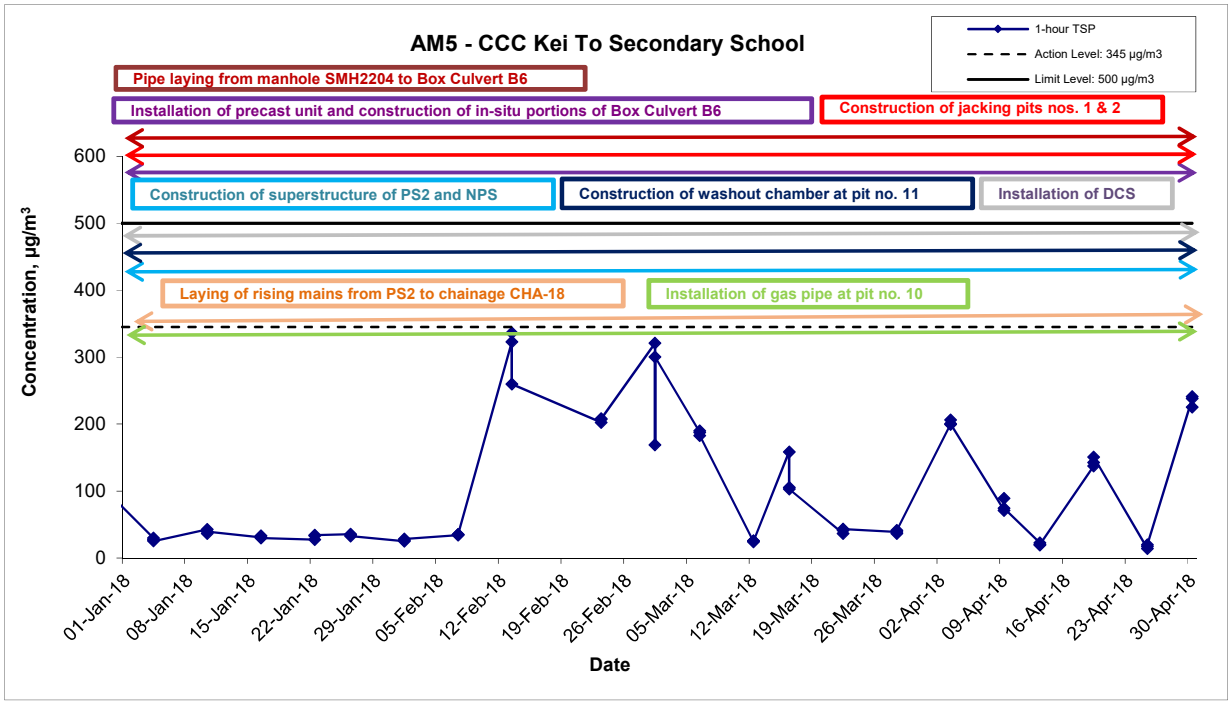
| | Date: Jan-Apr 18 | Appendix: C | |

## 1-hr TSP Concentration Levels

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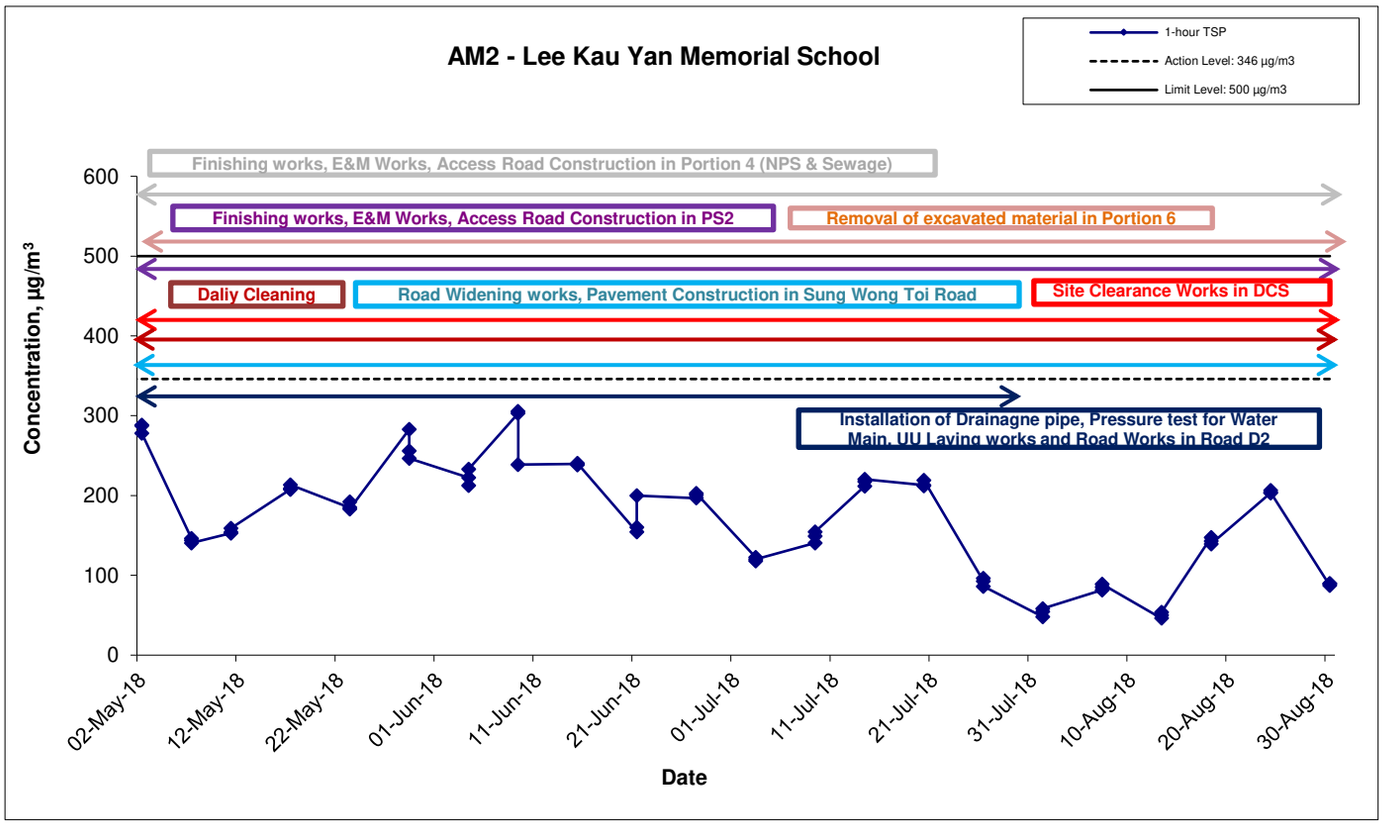


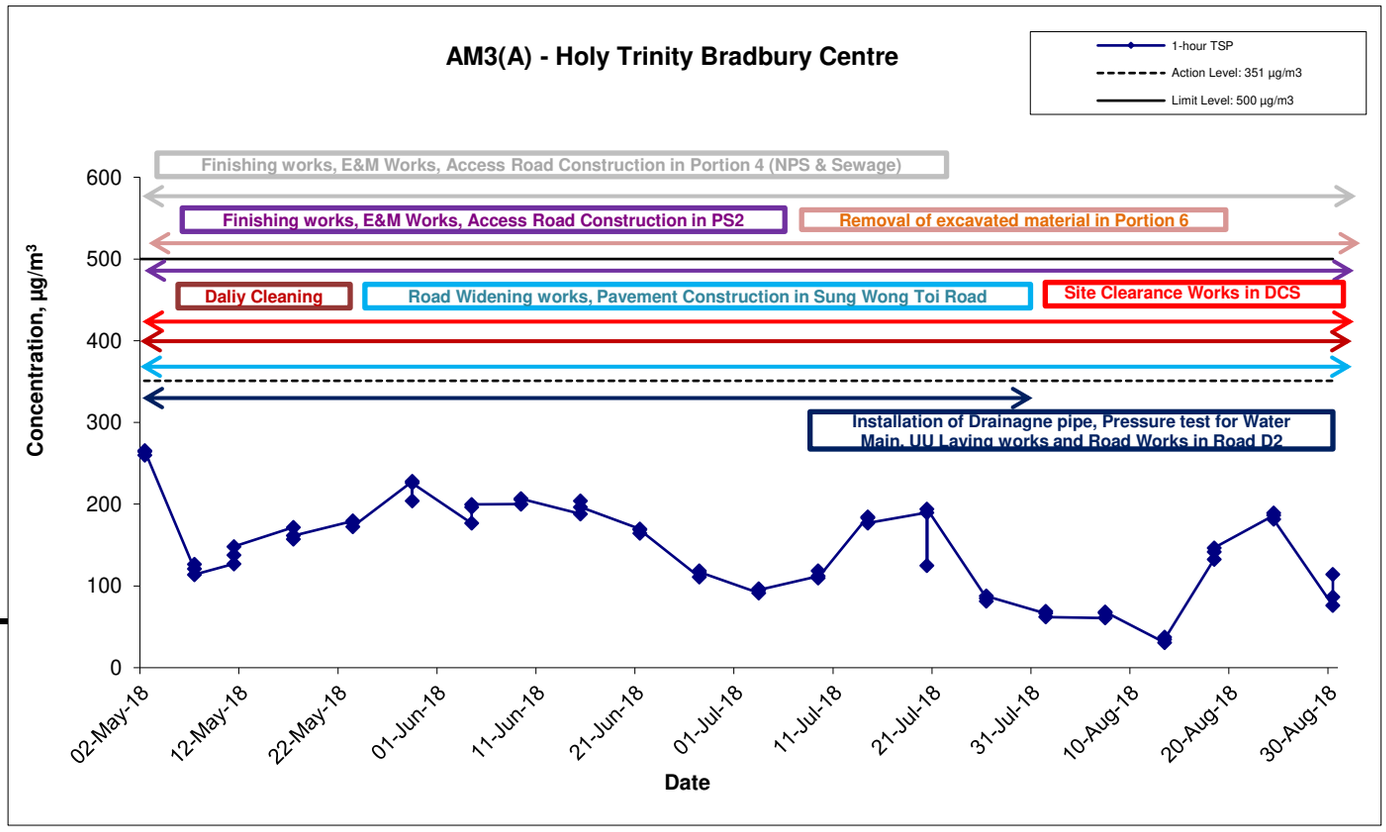


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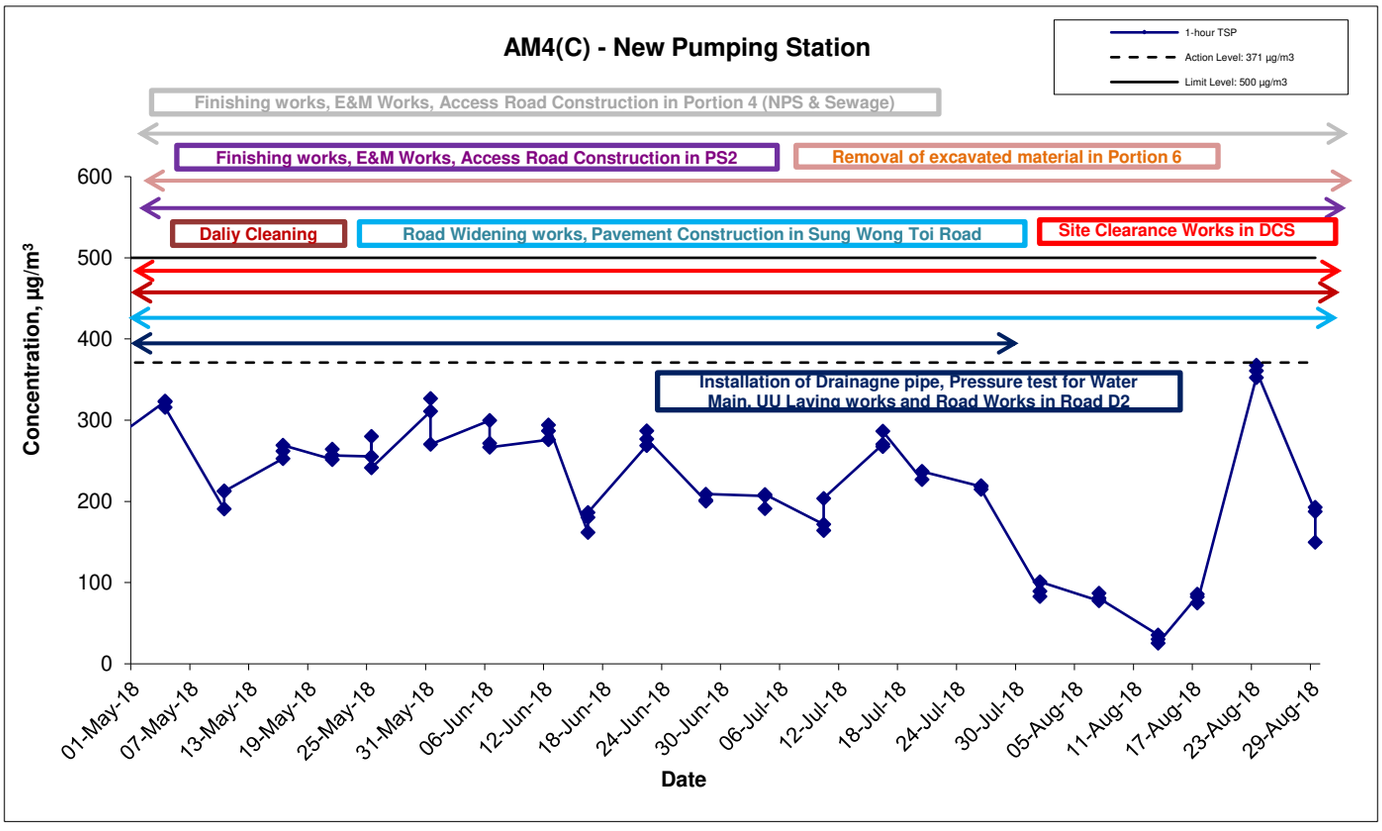
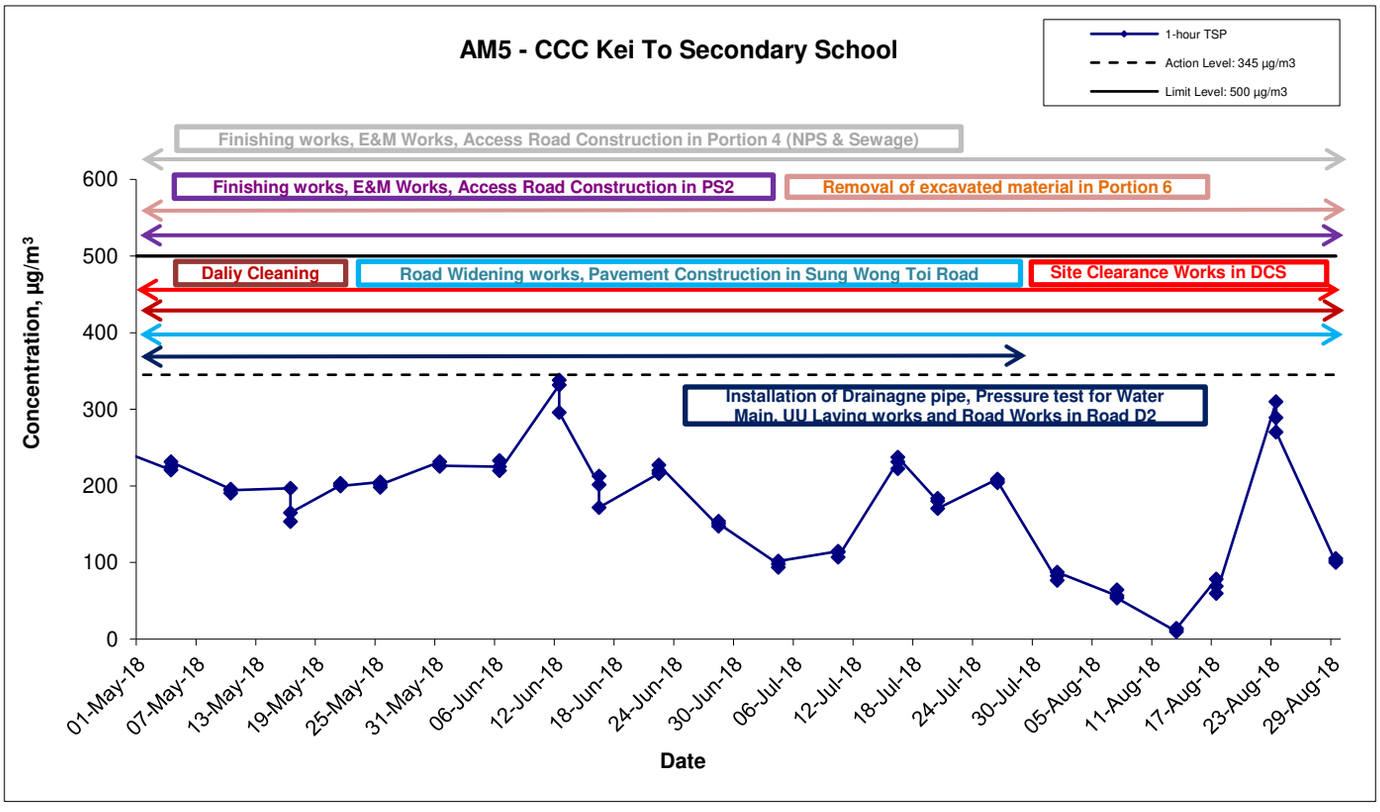
## 1-hr TSP Concentration Levels

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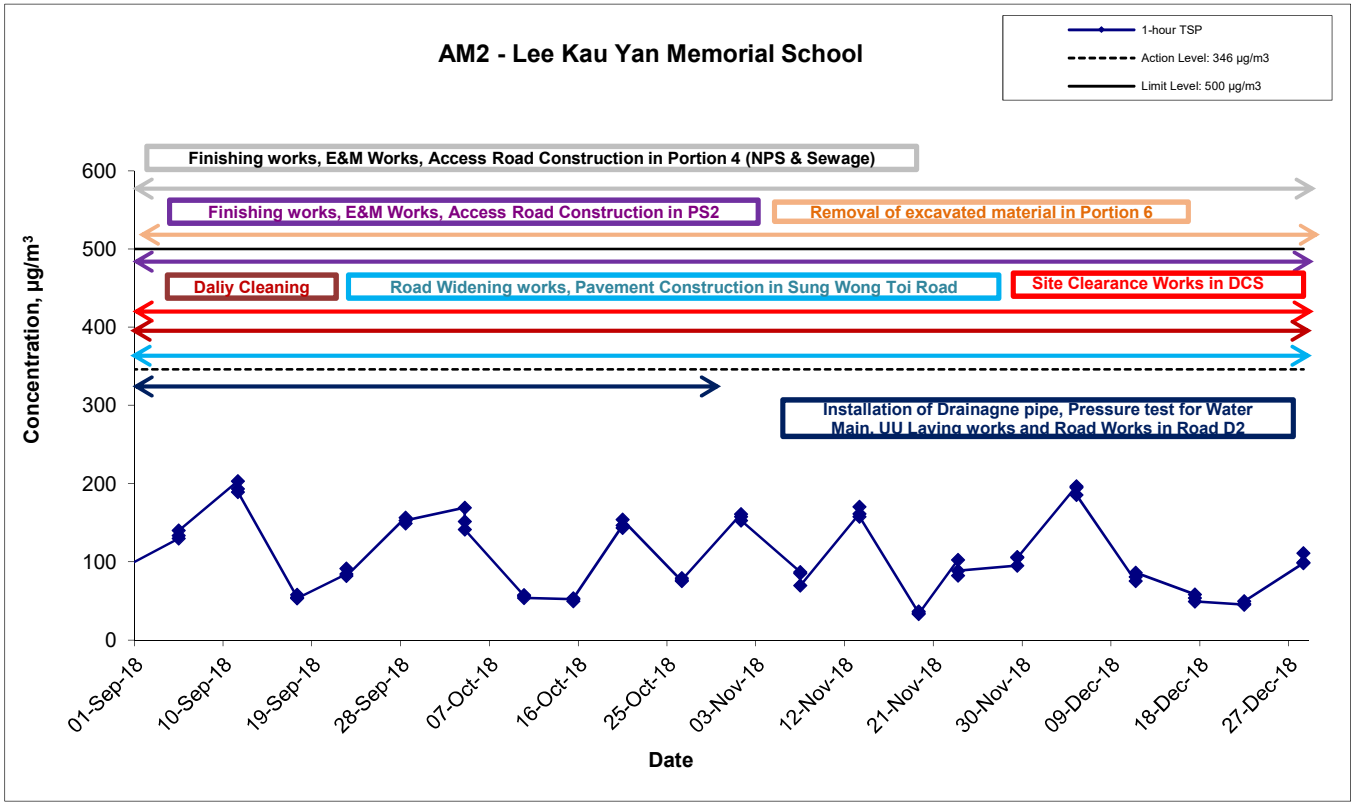
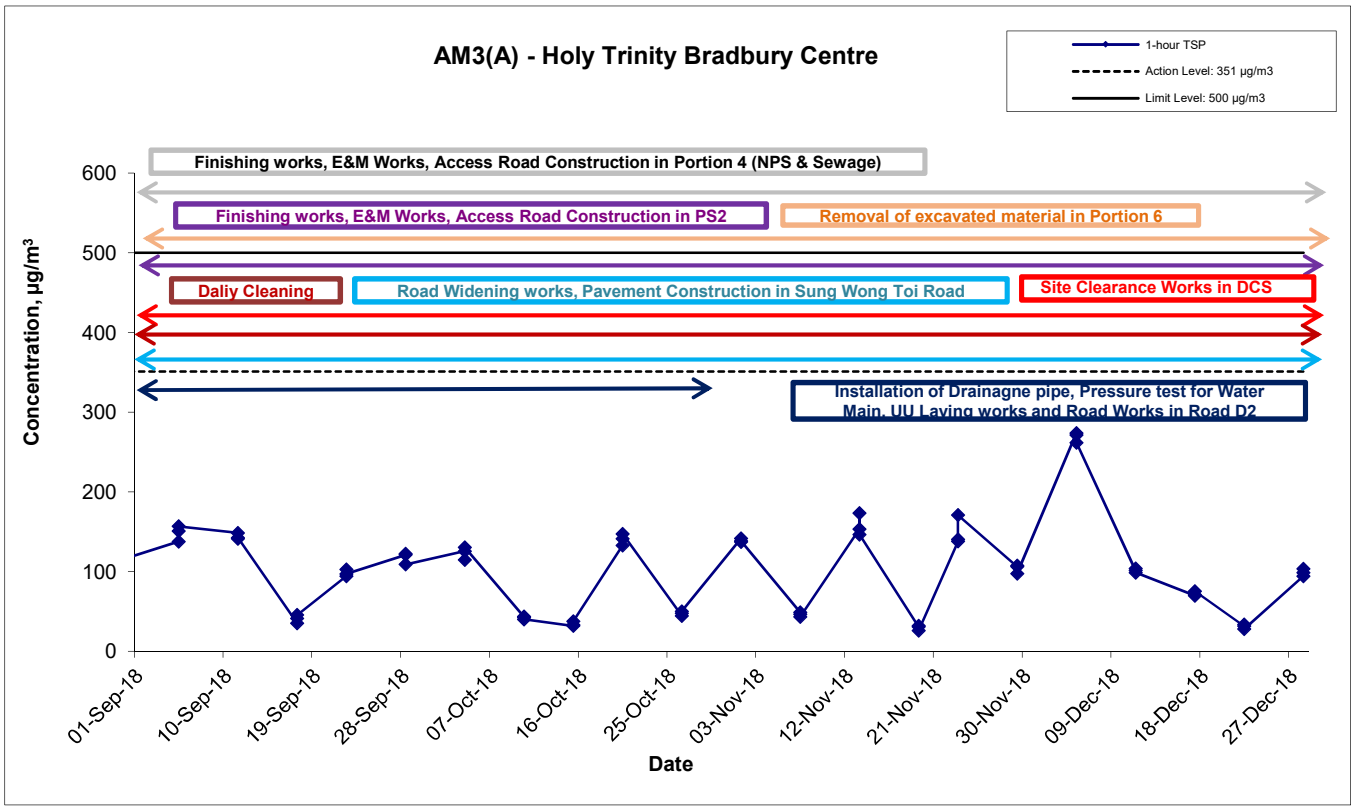
## 1-hr TSP Concentration Levels

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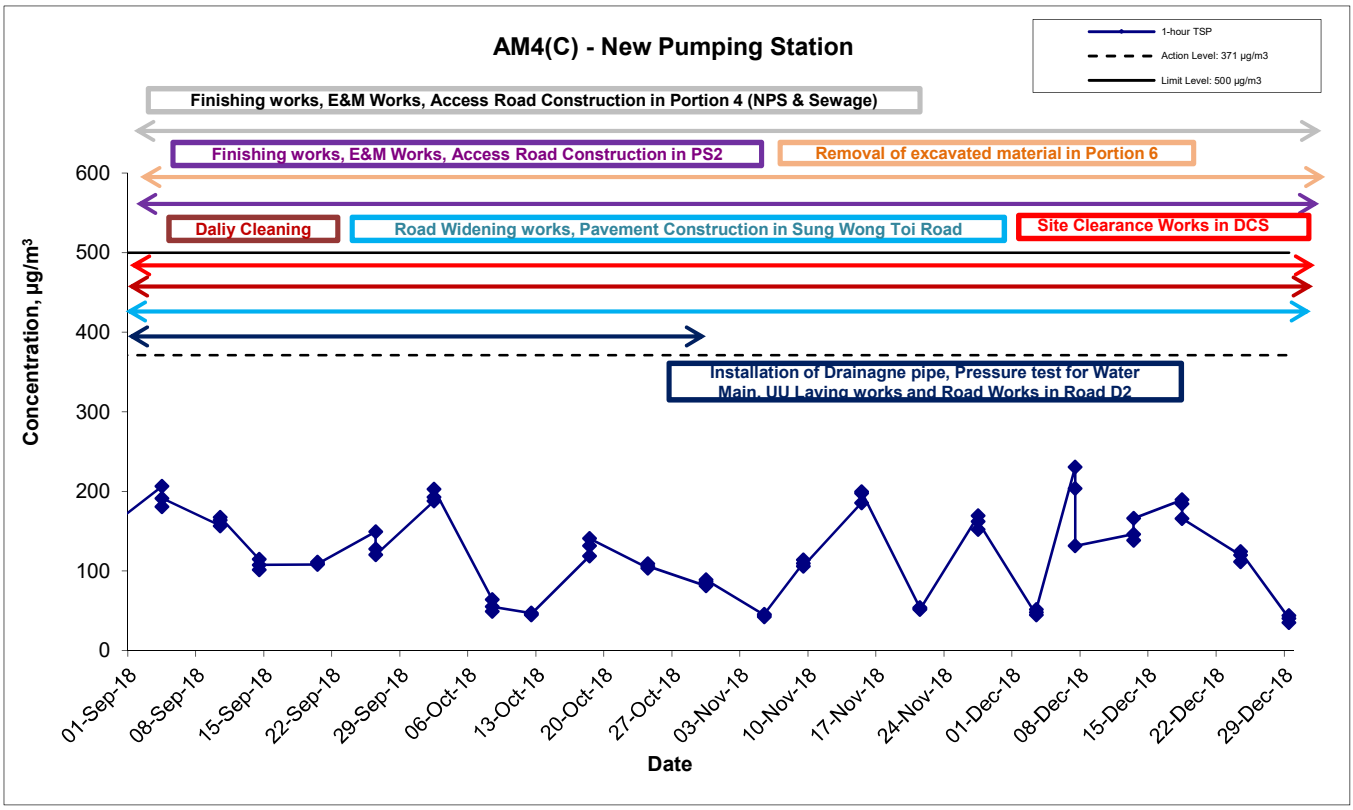
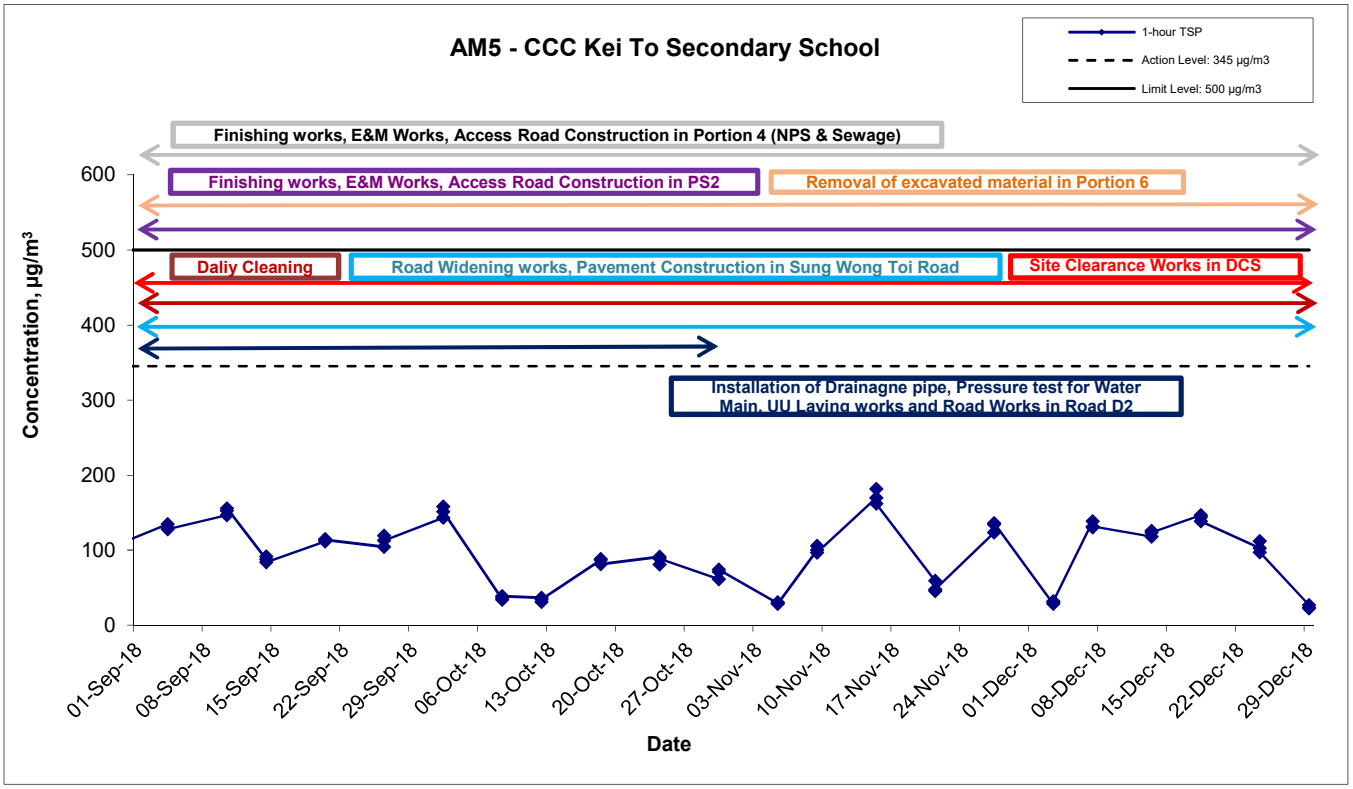
## 1-hr TSP Concentration Levels

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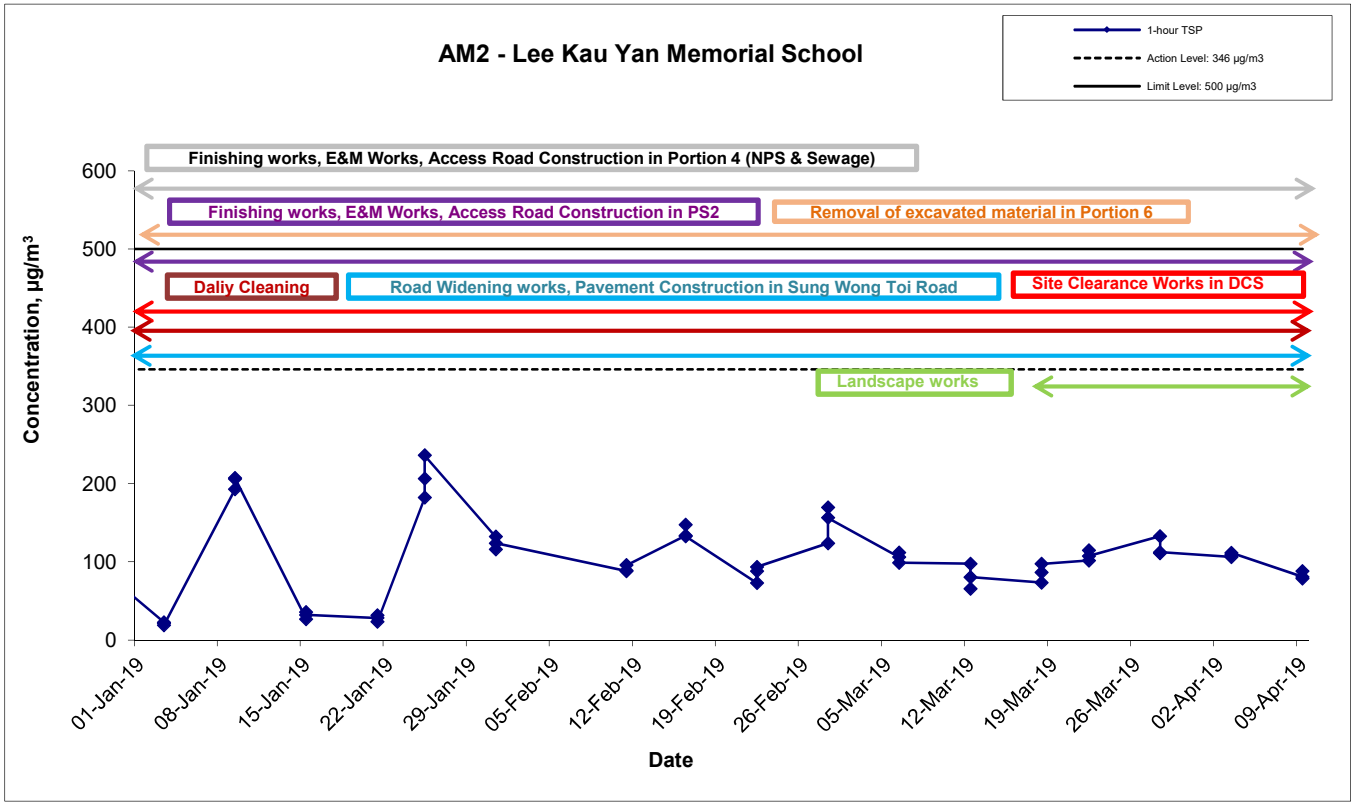
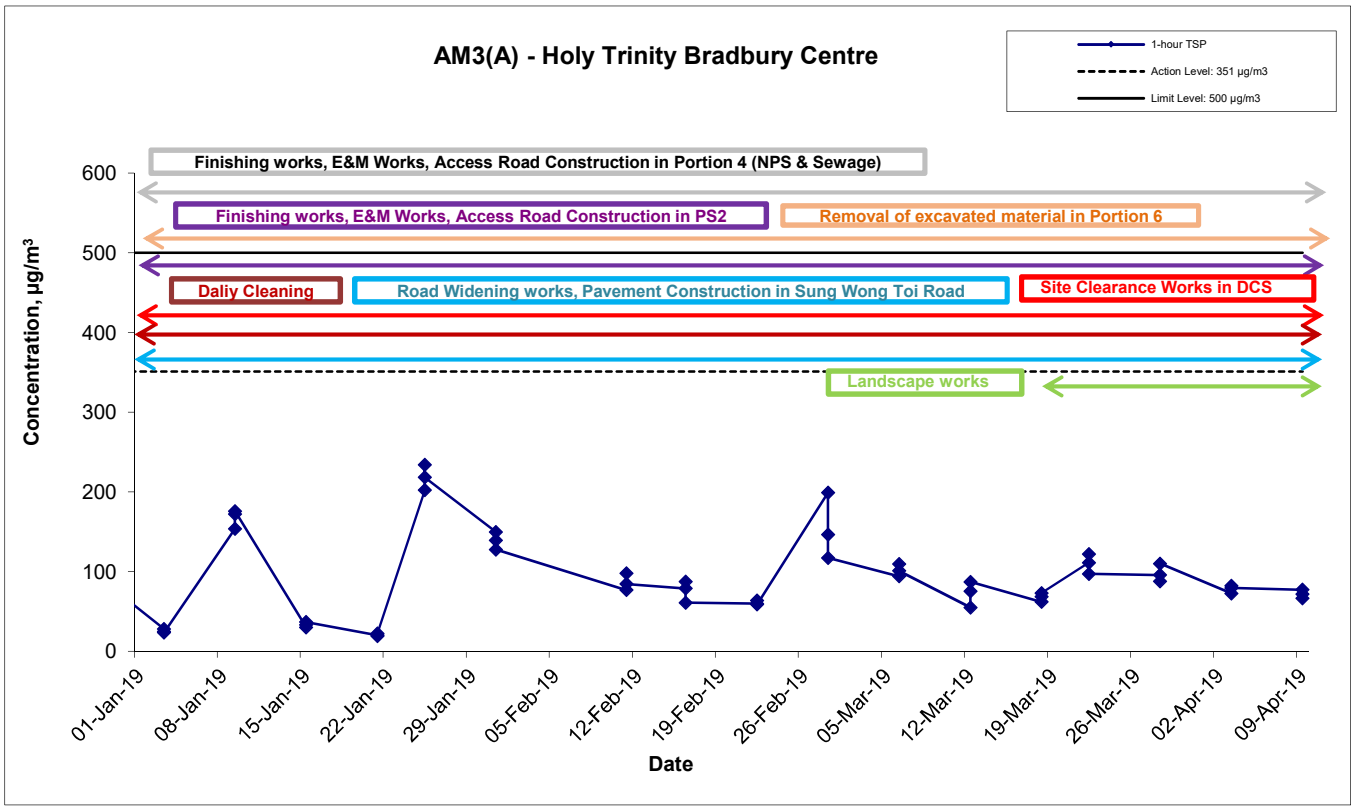
## 1-hr TSP Concentration Levels

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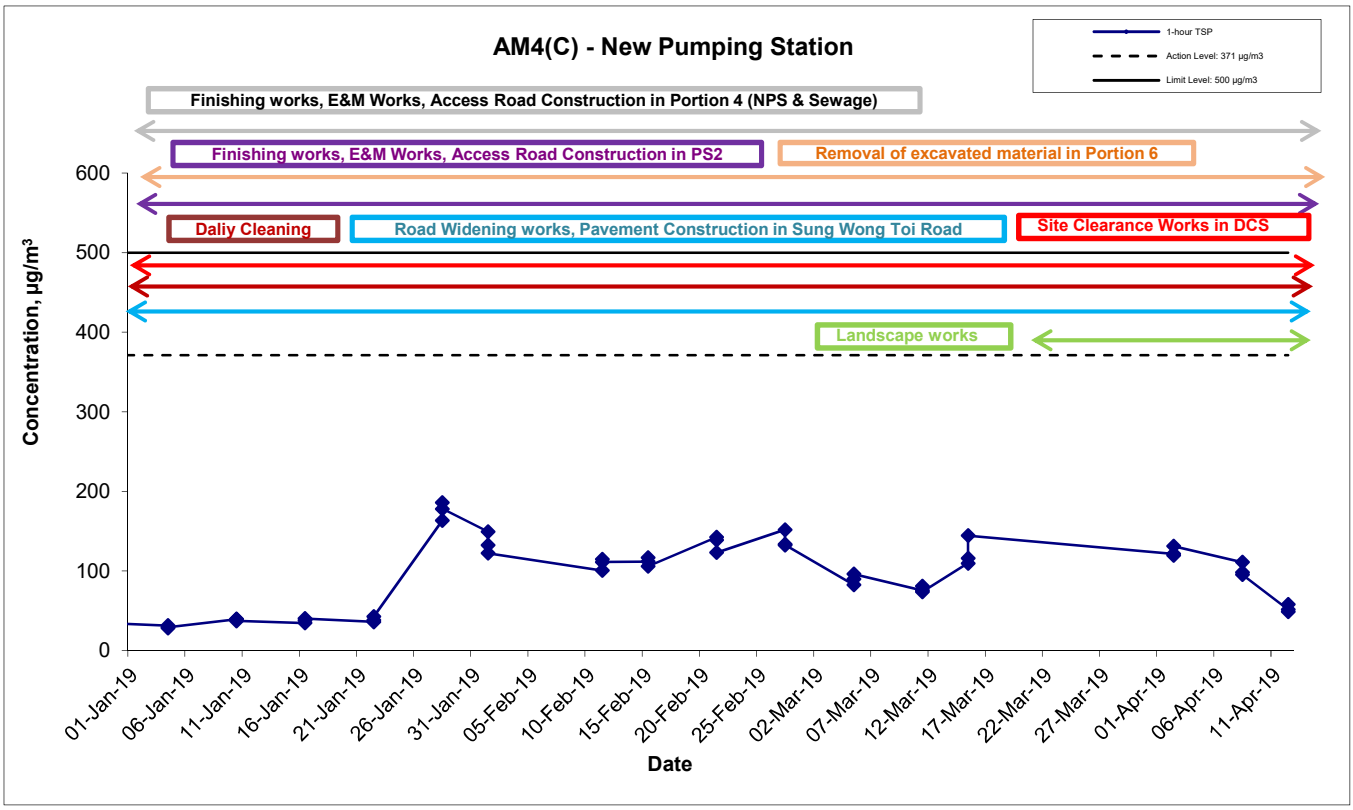
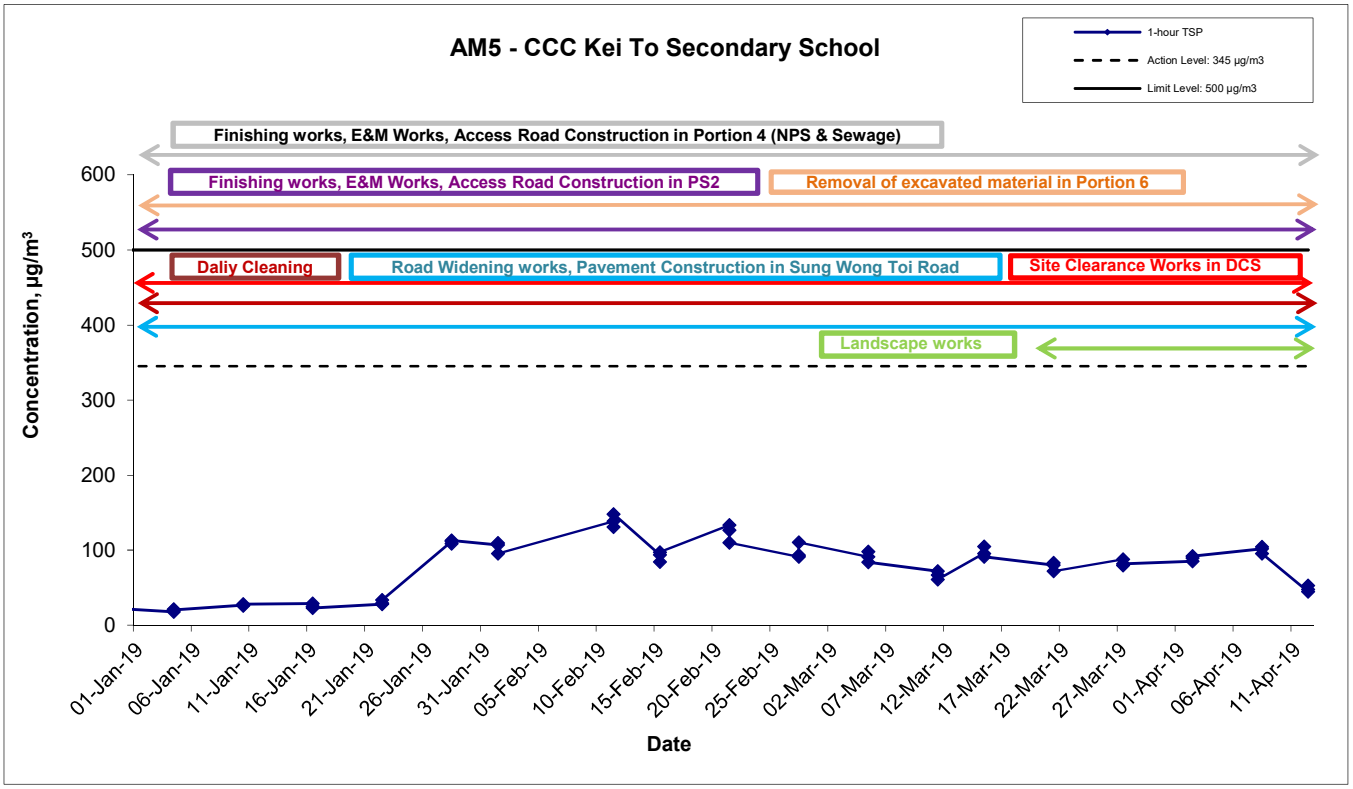
## 1-hr TSP Concentration Levels

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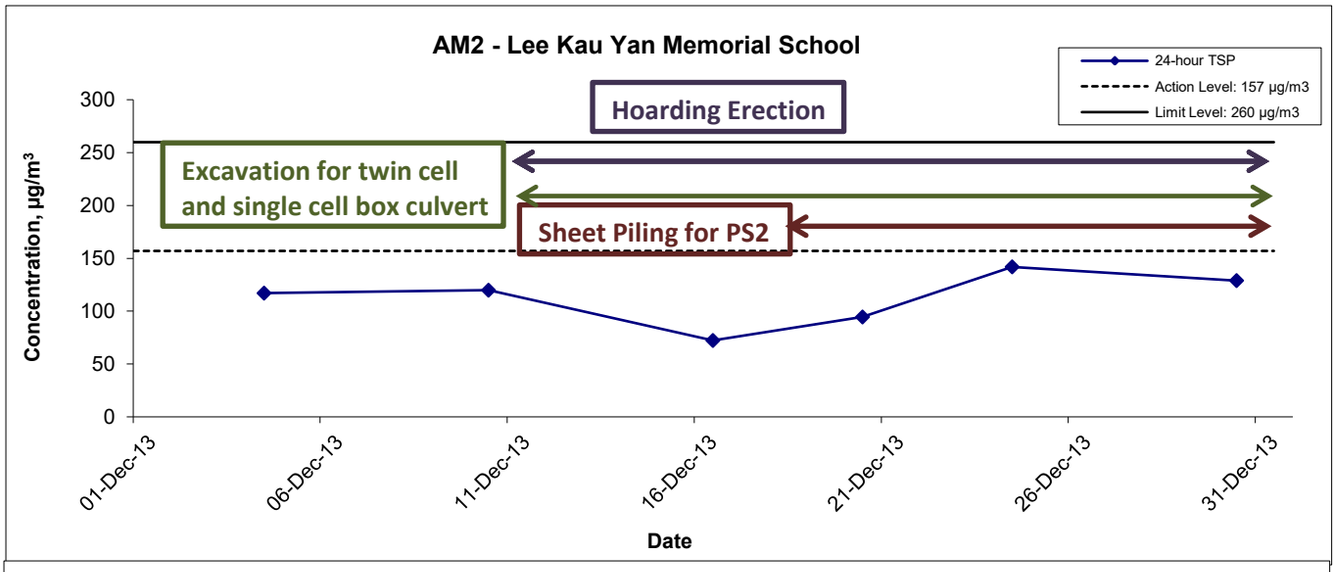
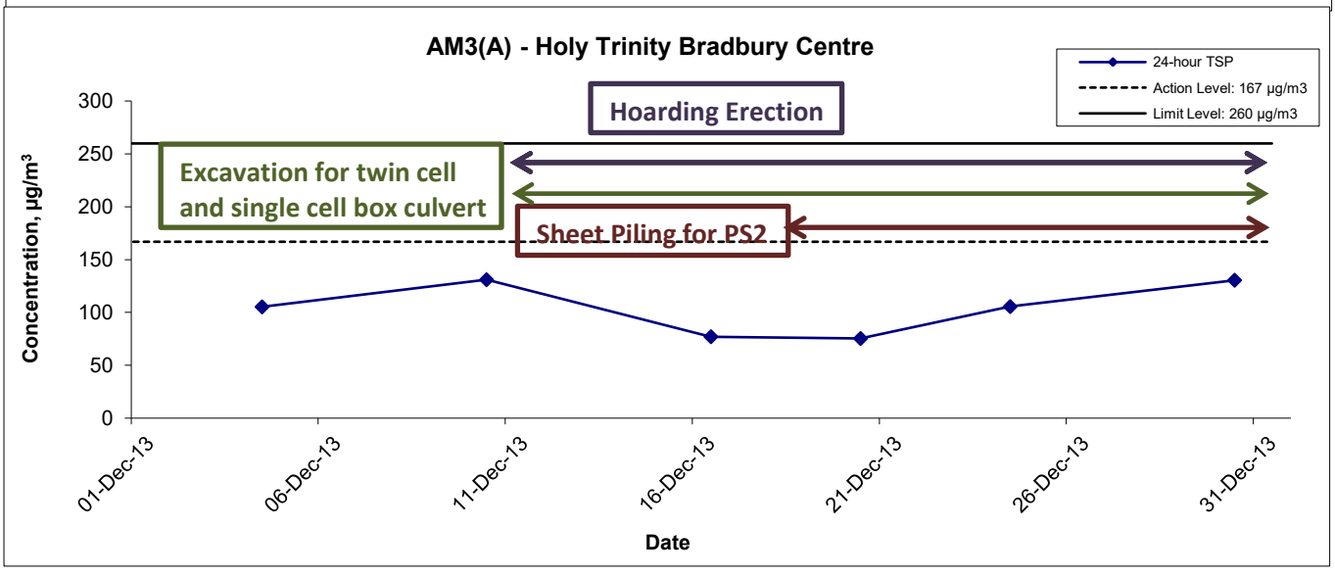
| | | Date Jan-Apr 19 | Appendix C | |

**APPENDIX D**
**GRAPHICAL PRFESENTATION FOR 24-HOUR TSP MONITORING**

## 24-hr TSP Concentration Levels

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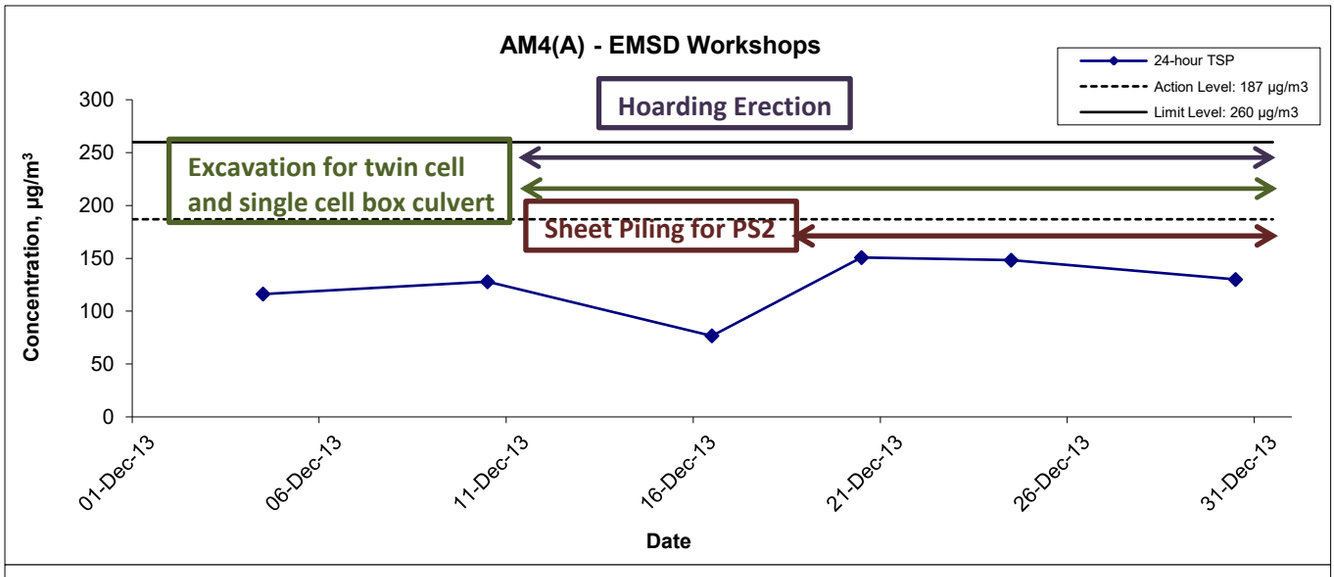
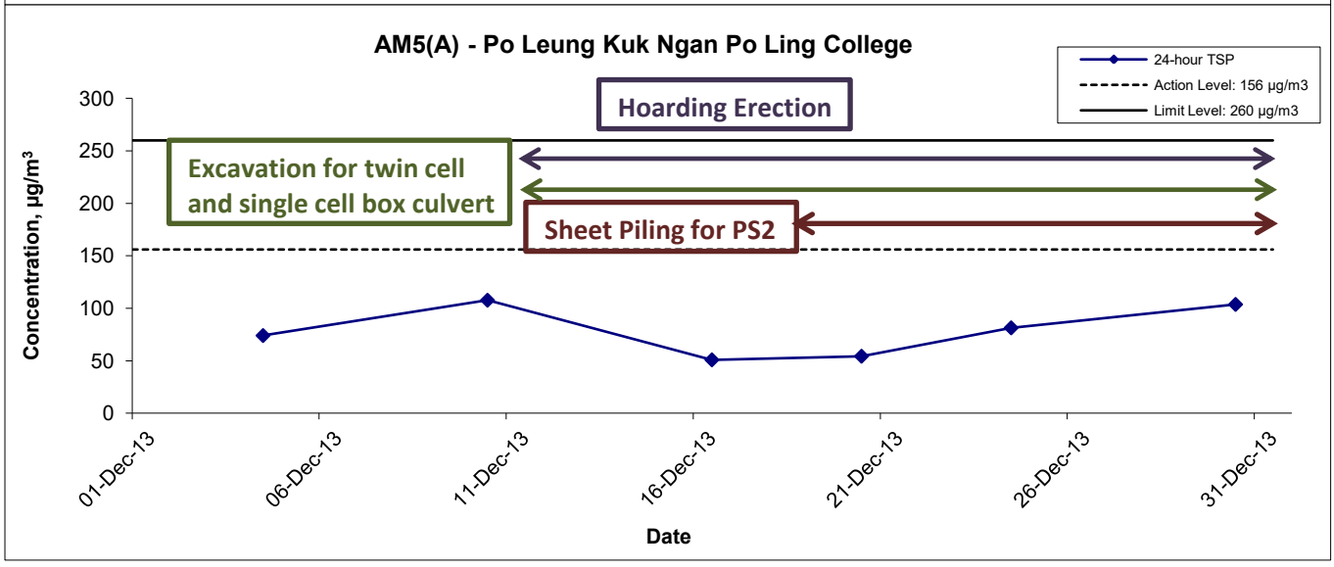
## 24-hr TSP Concentration Levels

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| | Date: Dec 13 | Appendix: D | |

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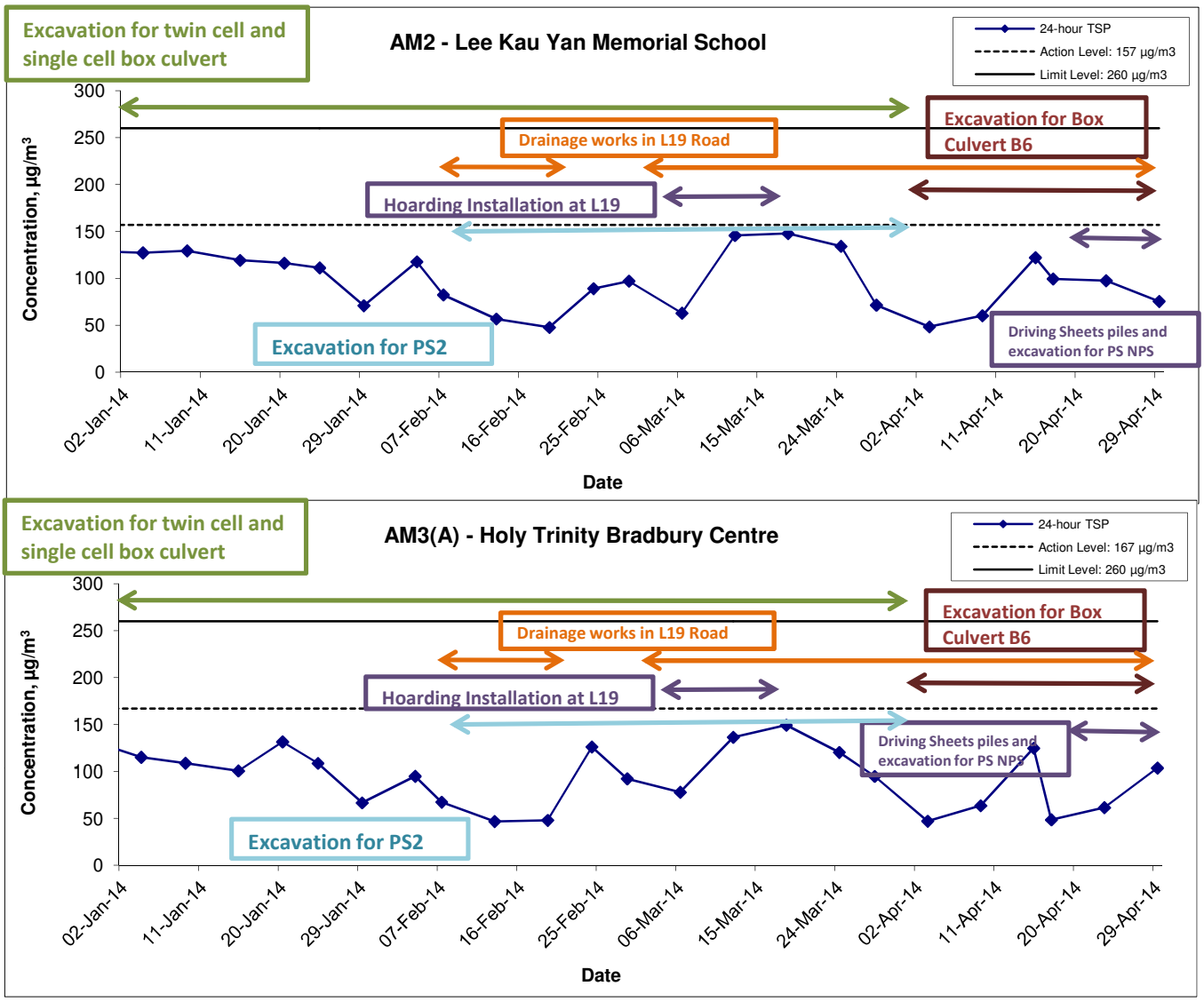


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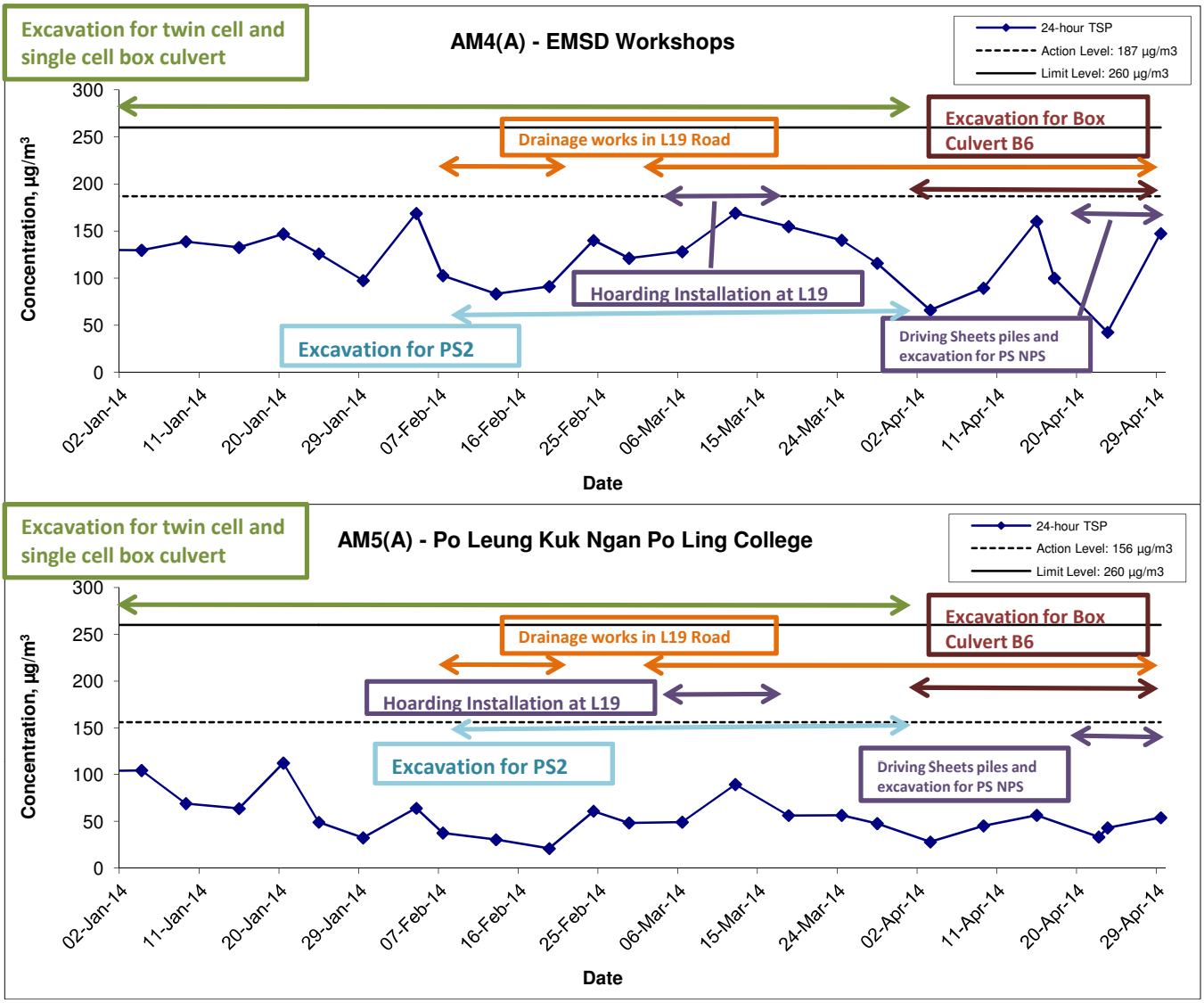
## 24-hr TSP Concentration Levels

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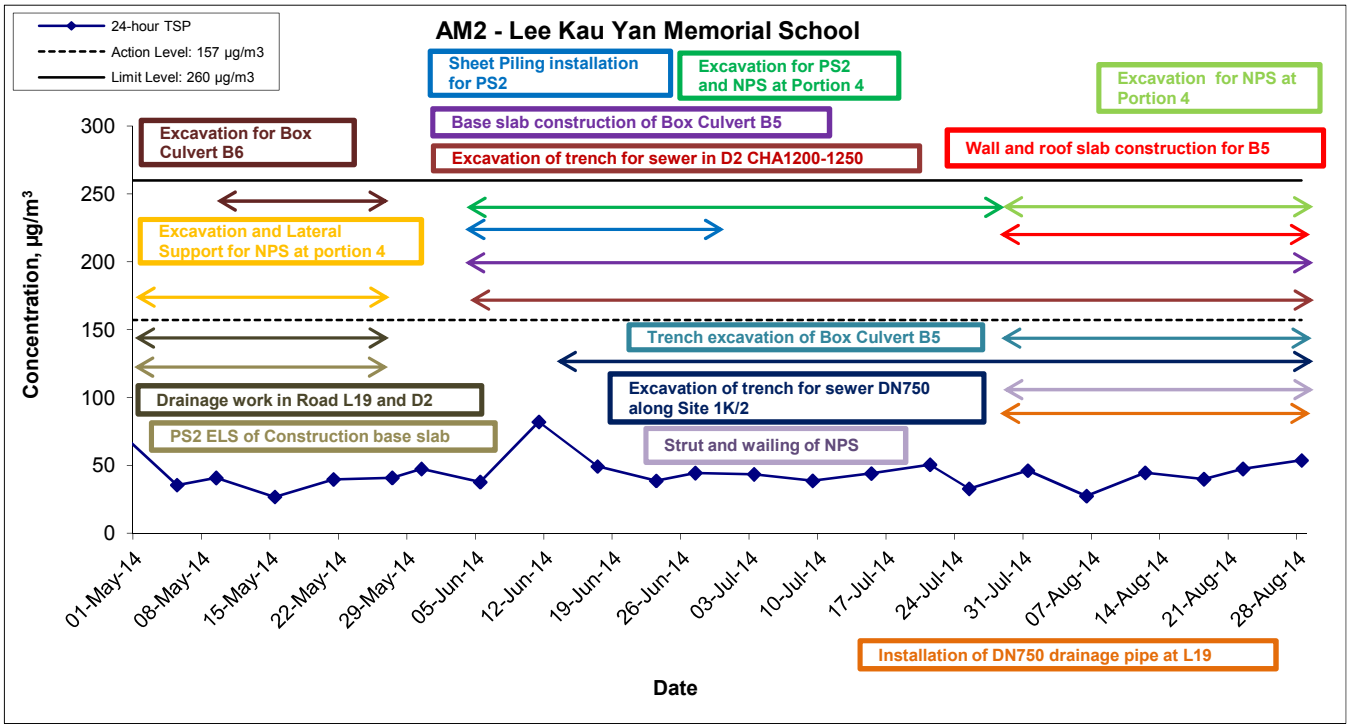
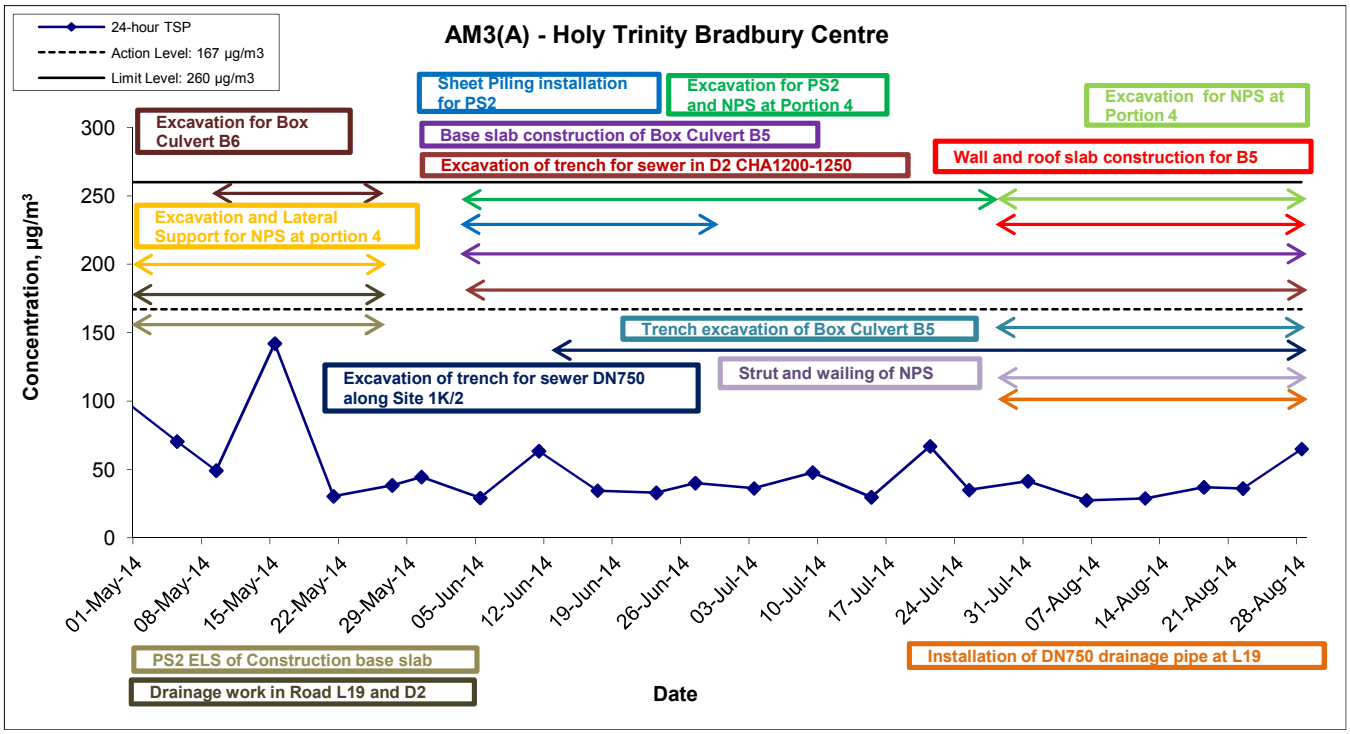
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br><br>Graphical Presentation of 24-hour TSP Monitoring Results | Scale: N.T.S<br>Date: Jan-Apr 14 | Project No.: MA13056<br>Appendix: D | WELLAB 匯力 consulting . testing . research |

## 24-hr TSP Concentration Levels

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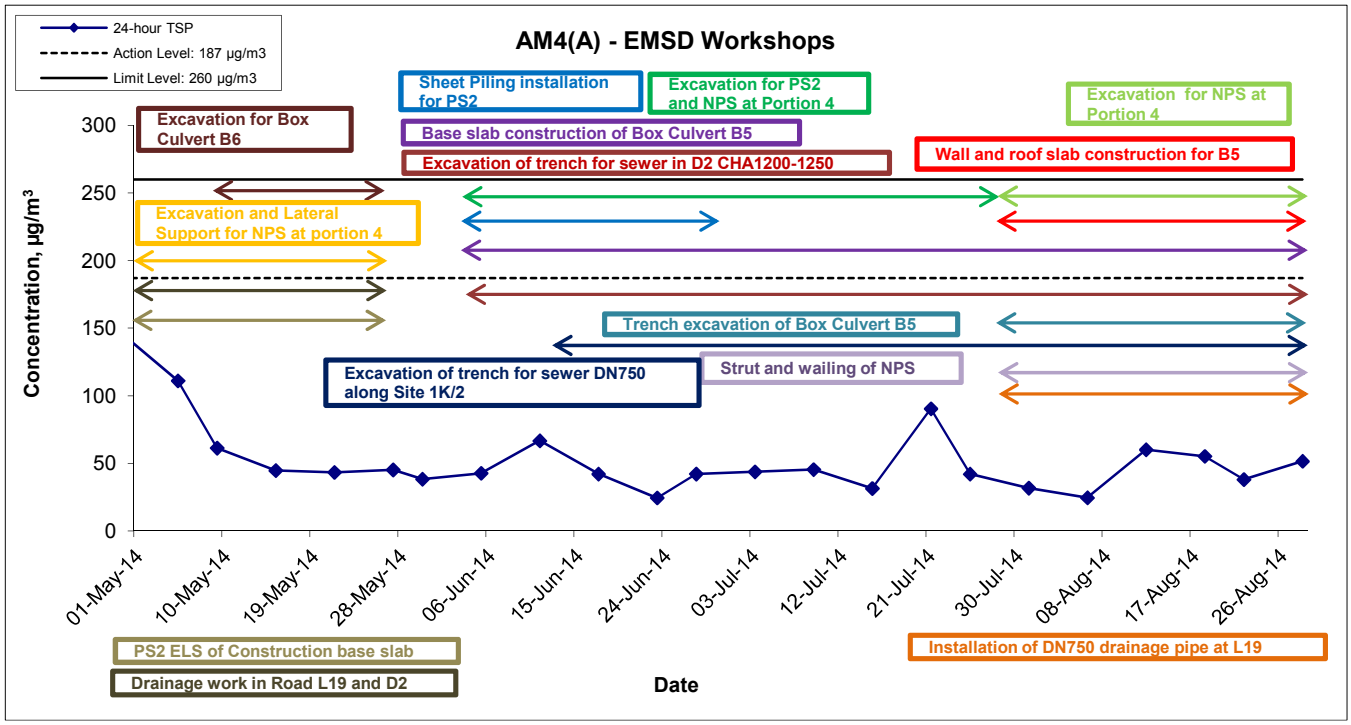
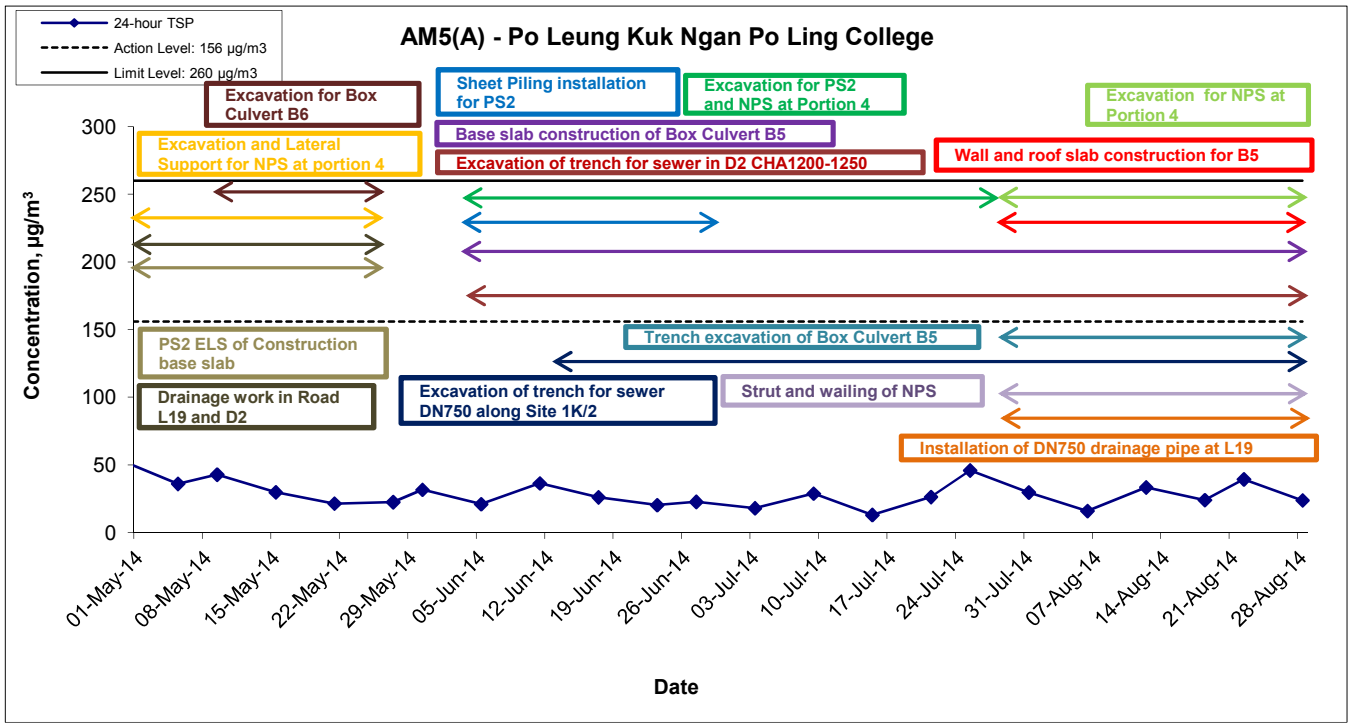
| | Date: May-Aug 14 | Appendix: D | |

## 24-hr TSP Concentration Levels

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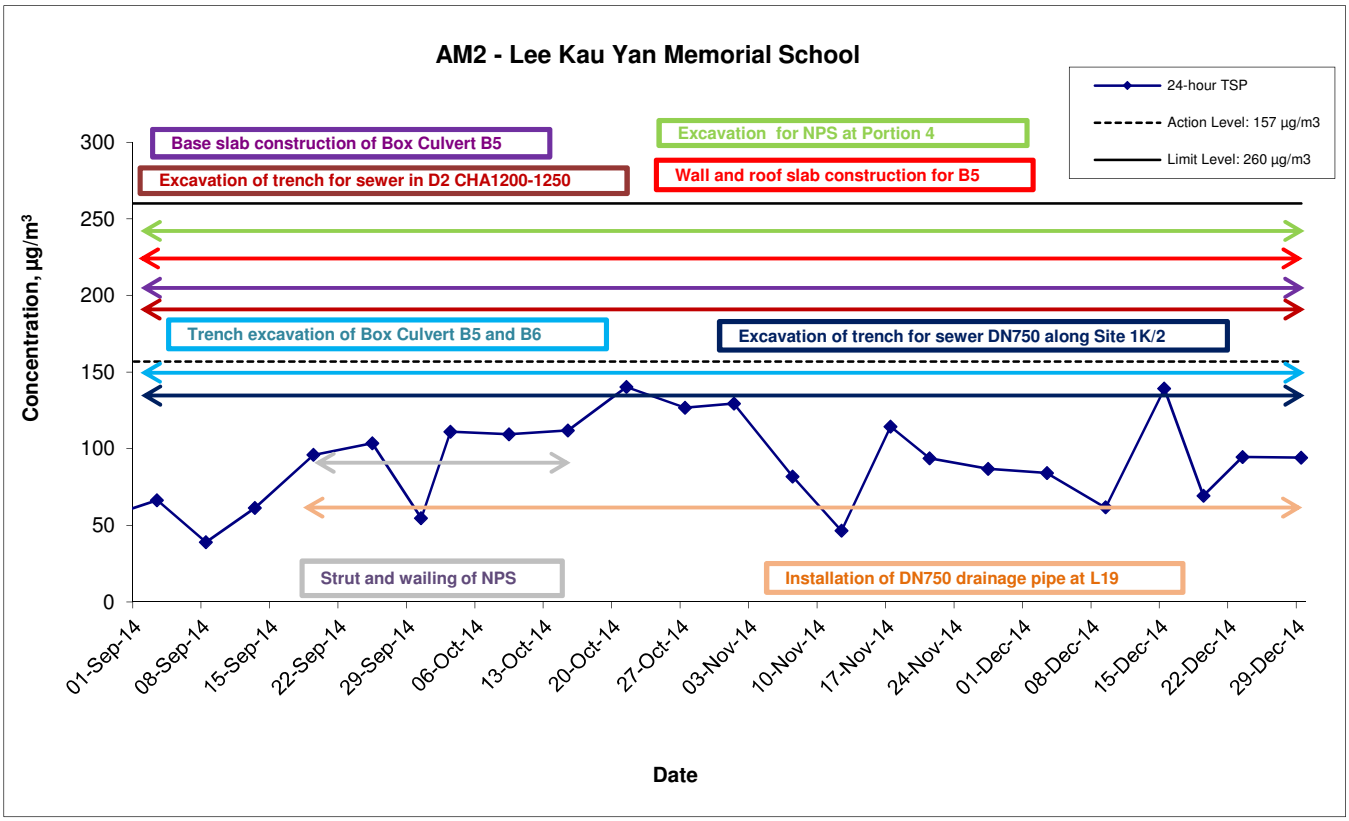


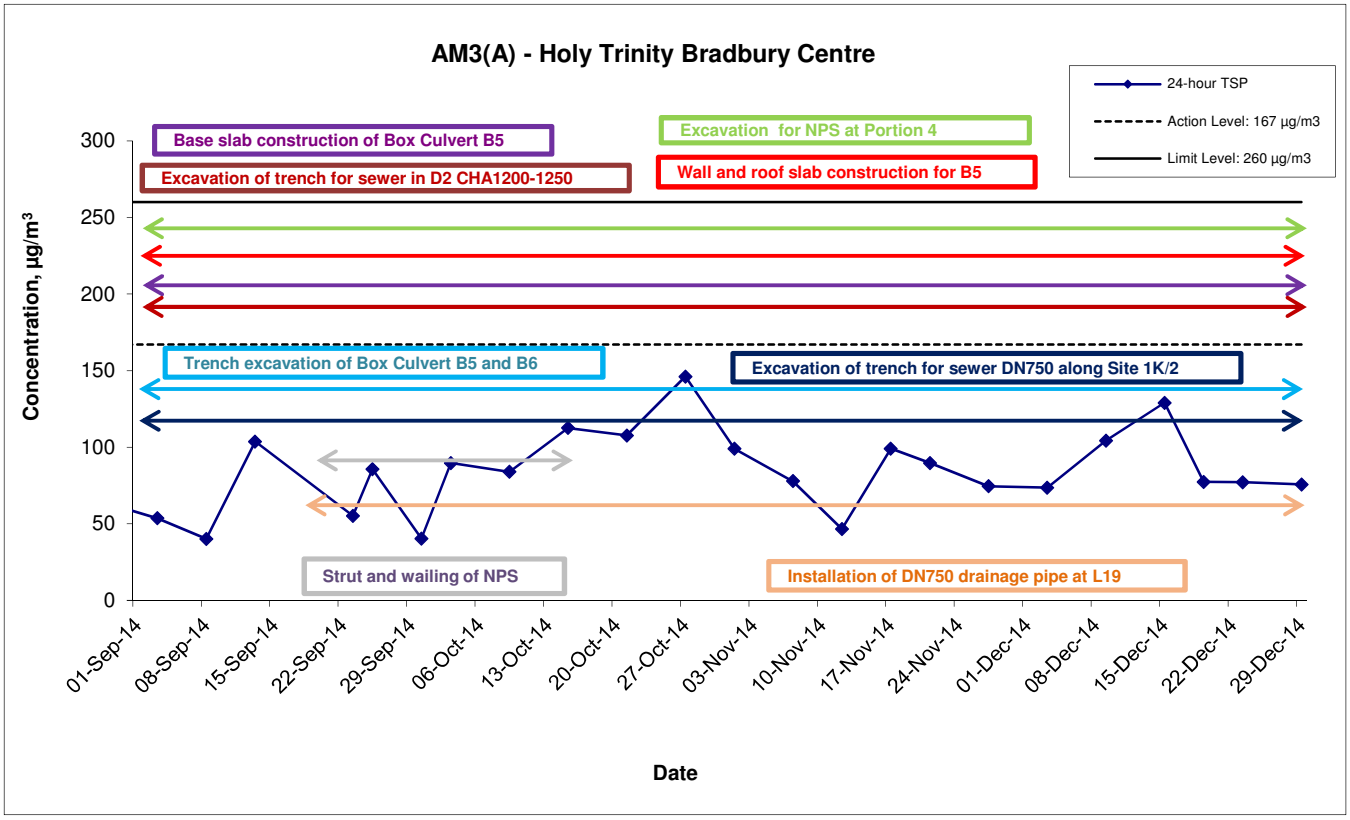


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| | Date: Sep-Dec 14 | Appendix: D | |

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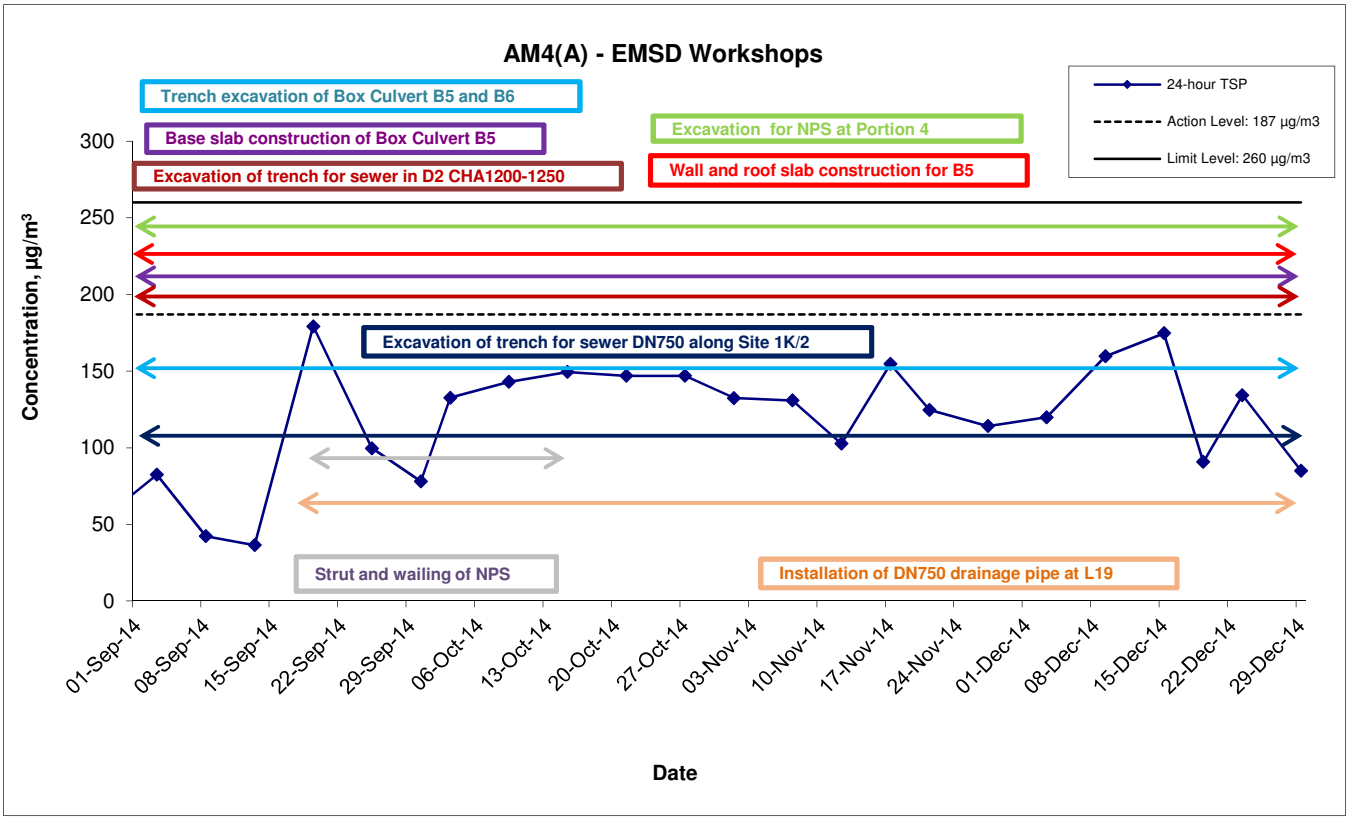


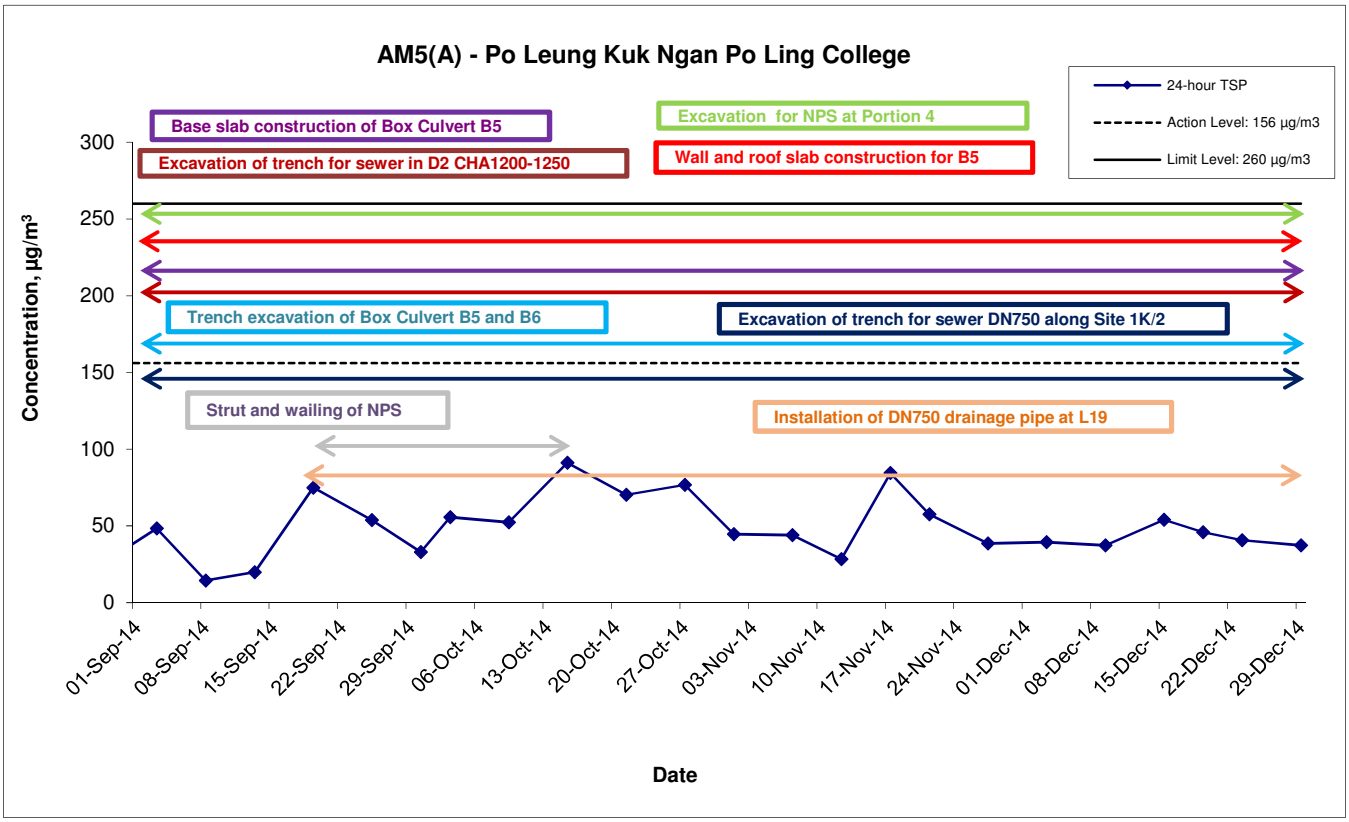


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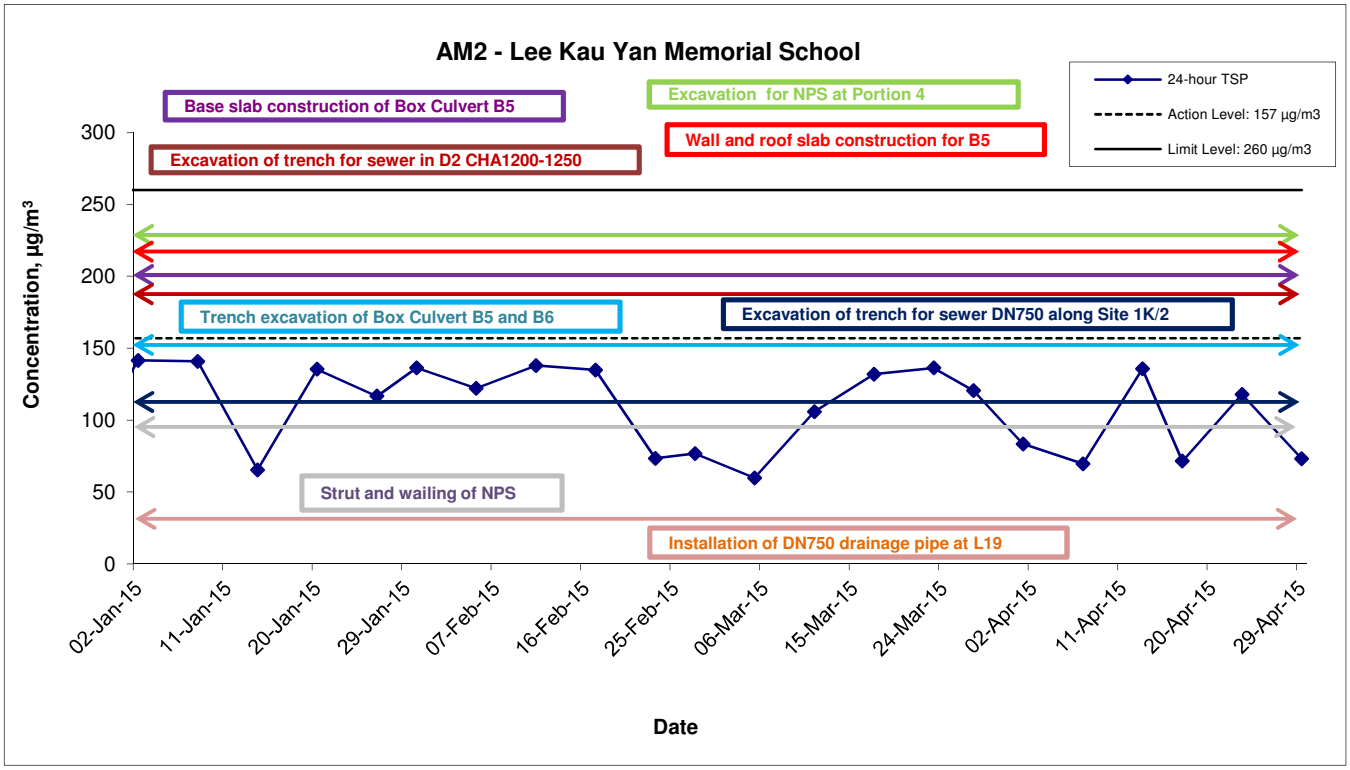


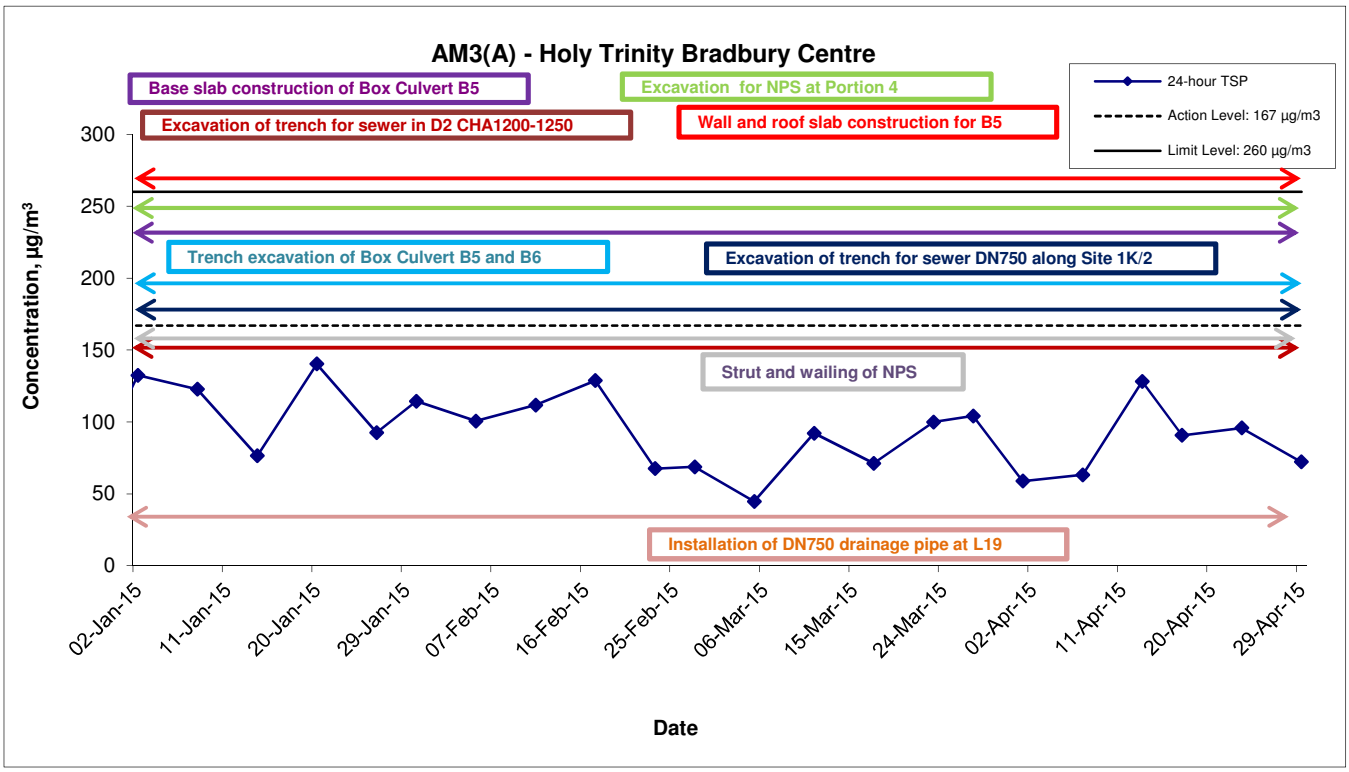


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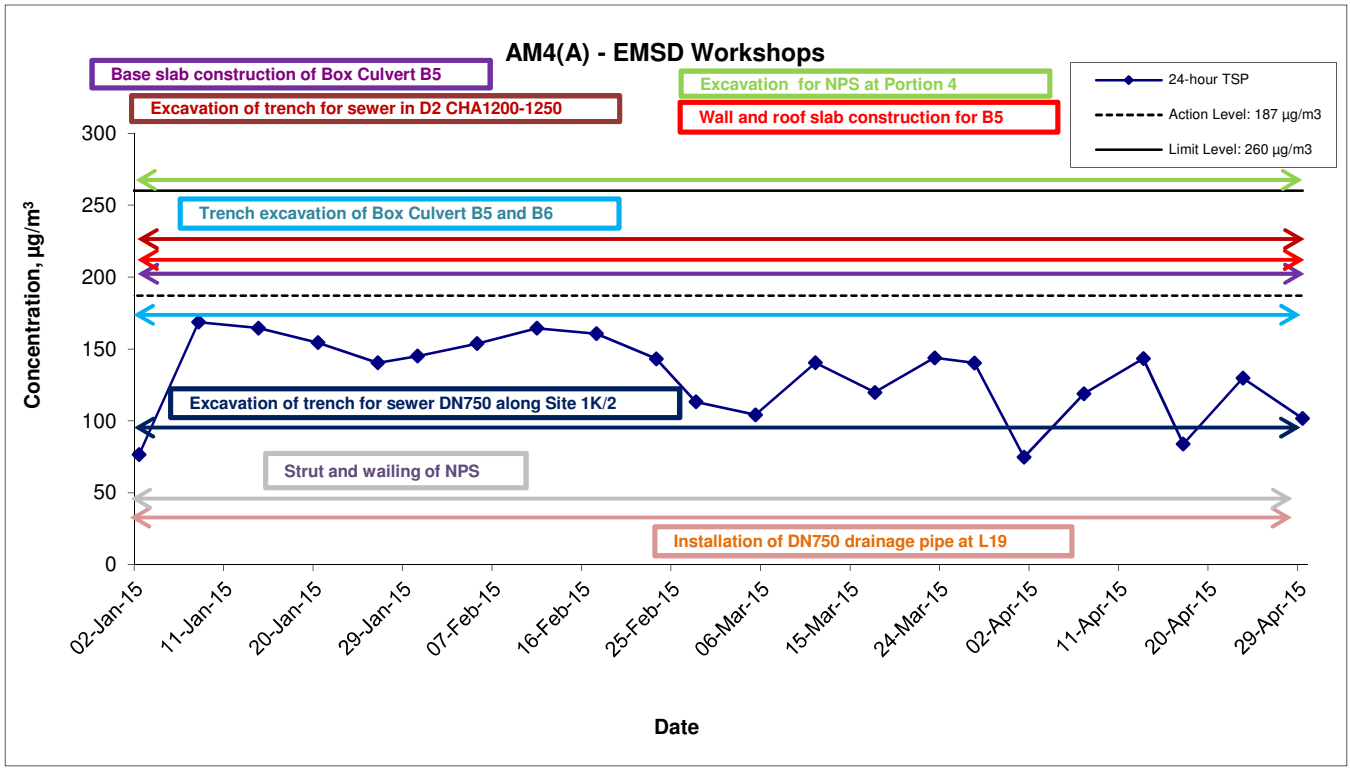
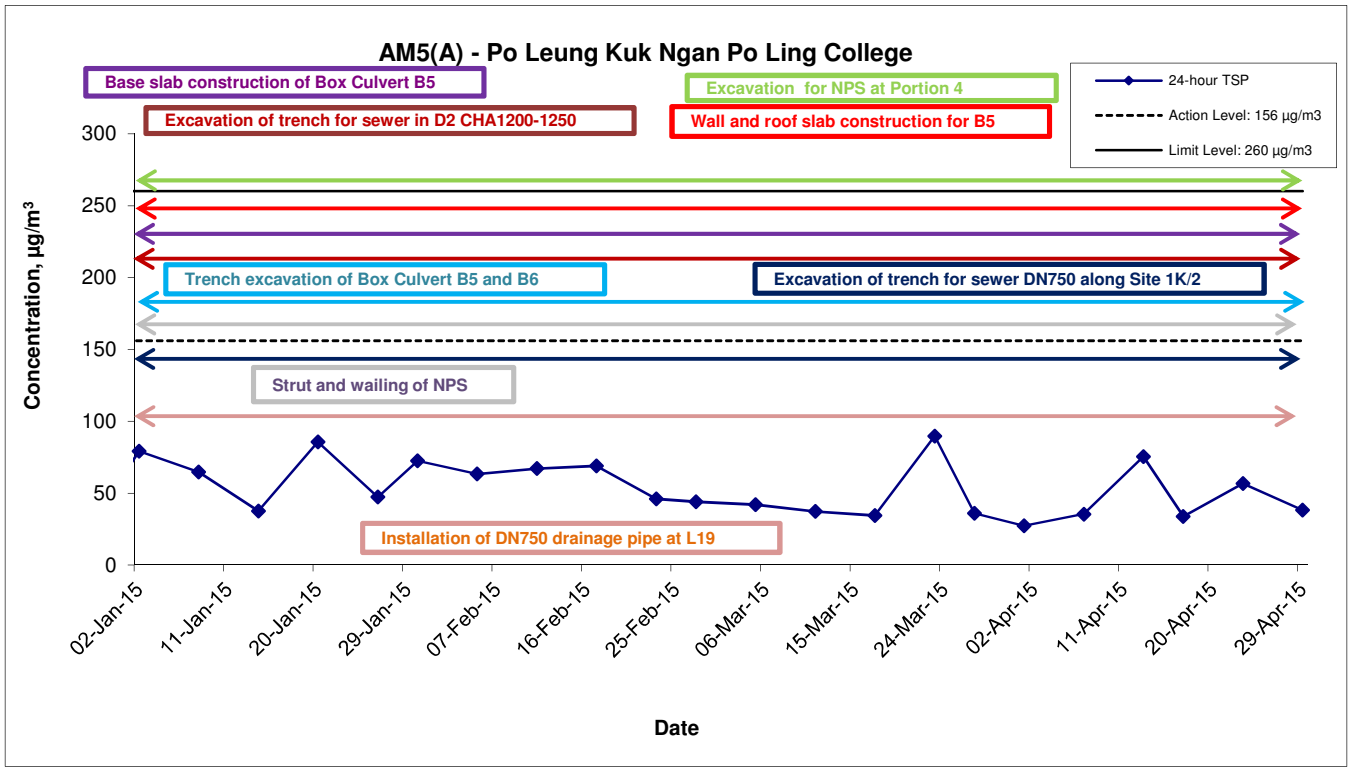
| | Date: Jan-Apr 15 | Appendix: D | |

## 24-hr TSP Concentration Levels

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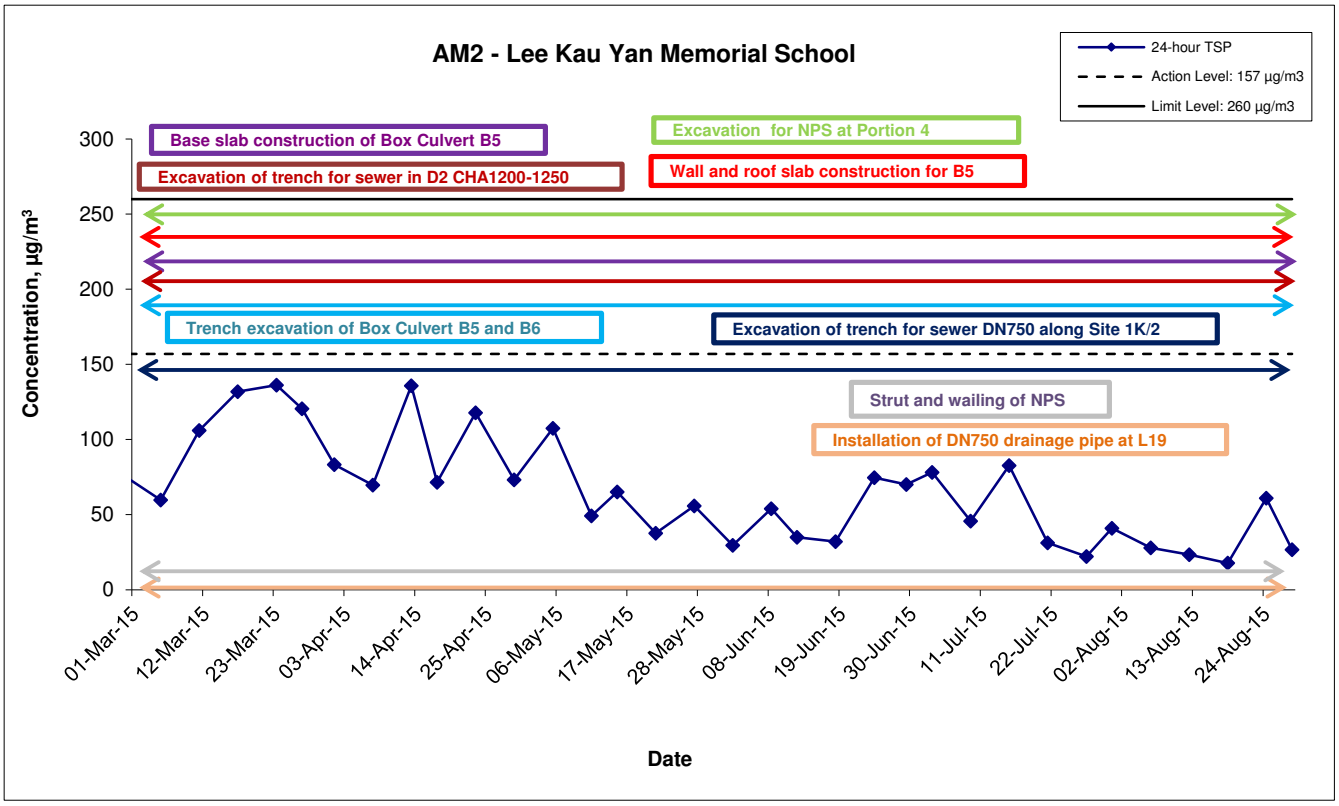


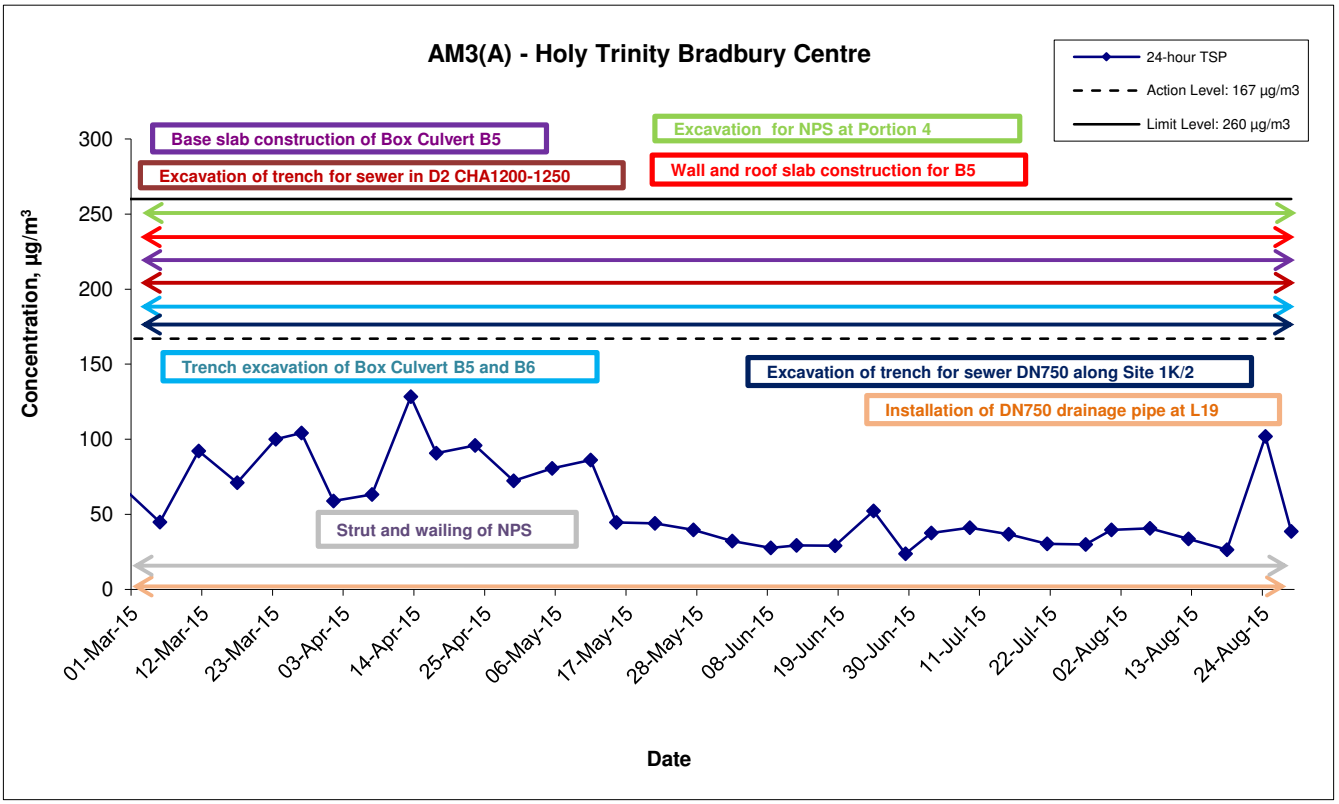


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| | Date: May-Aug 15 | Appendix: D | |

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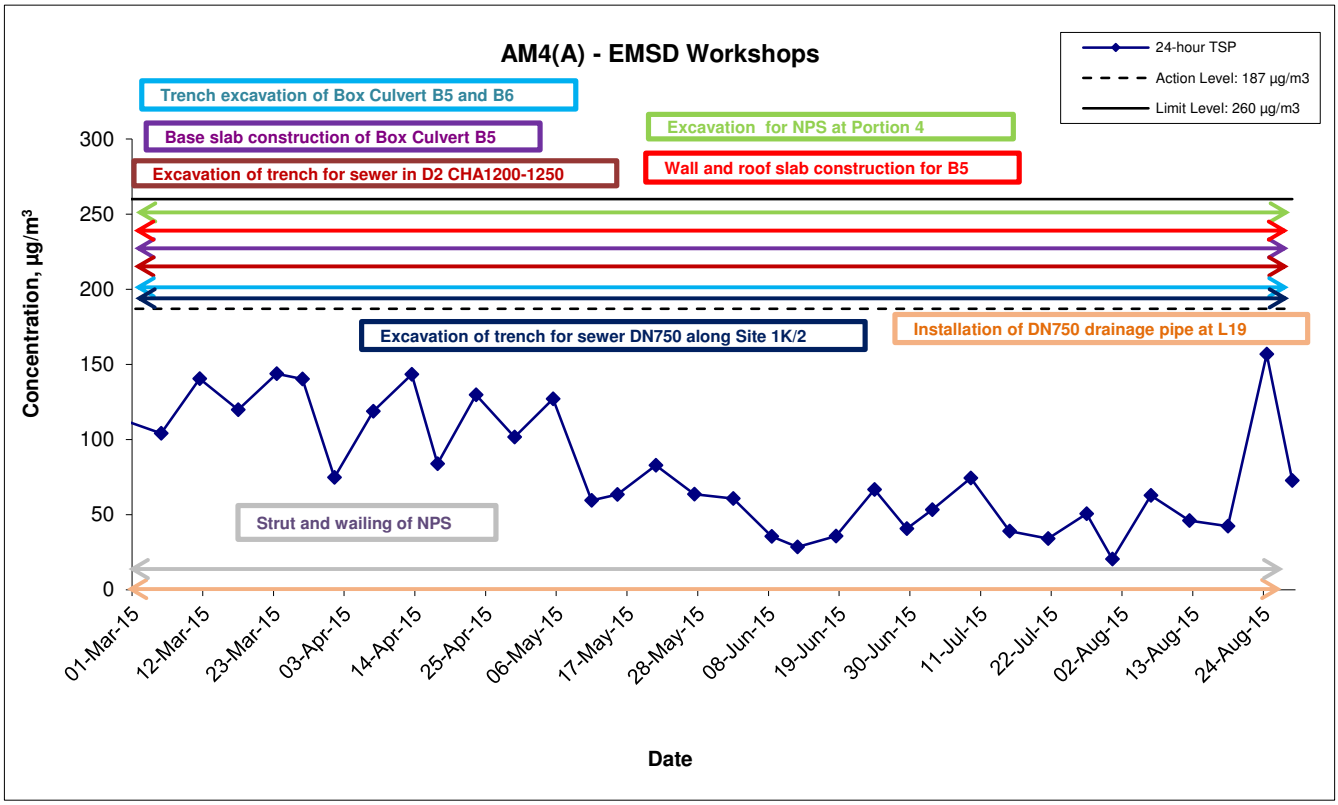


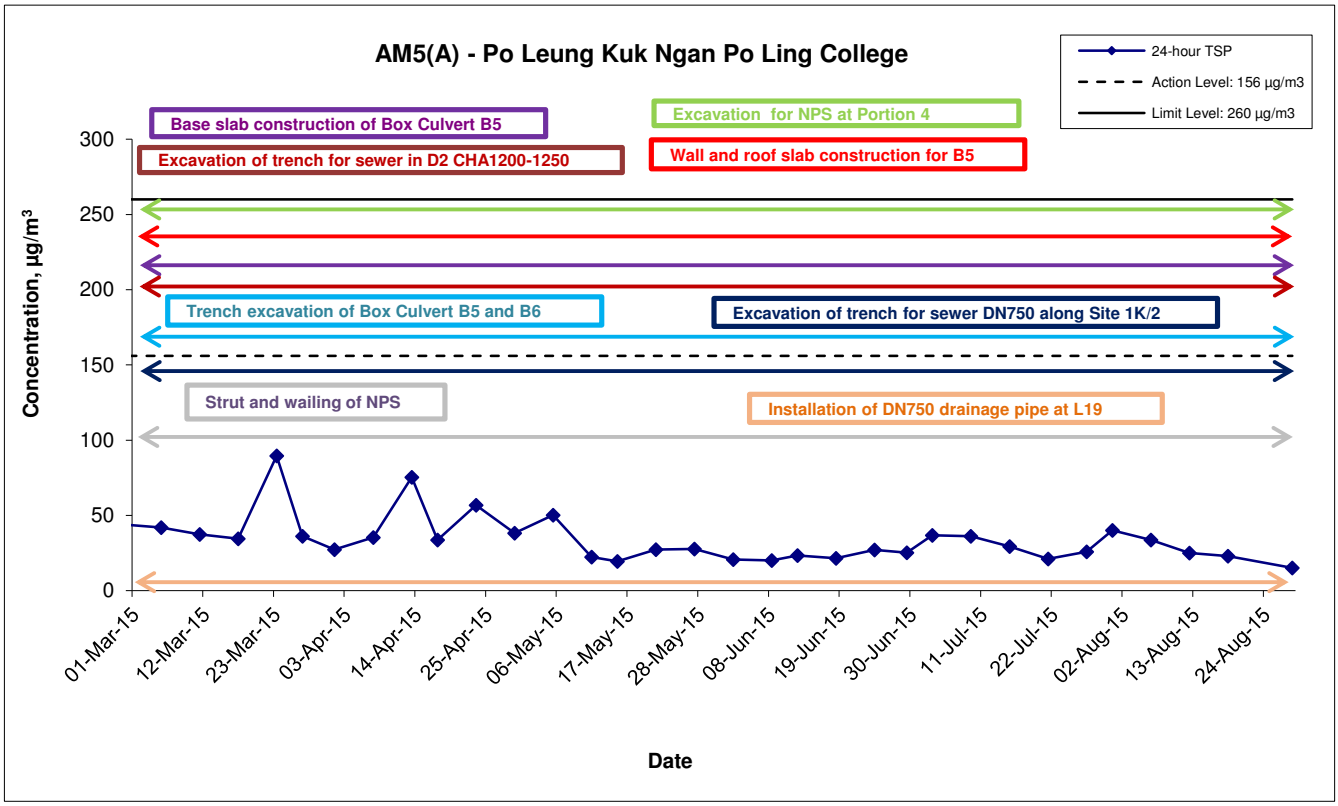


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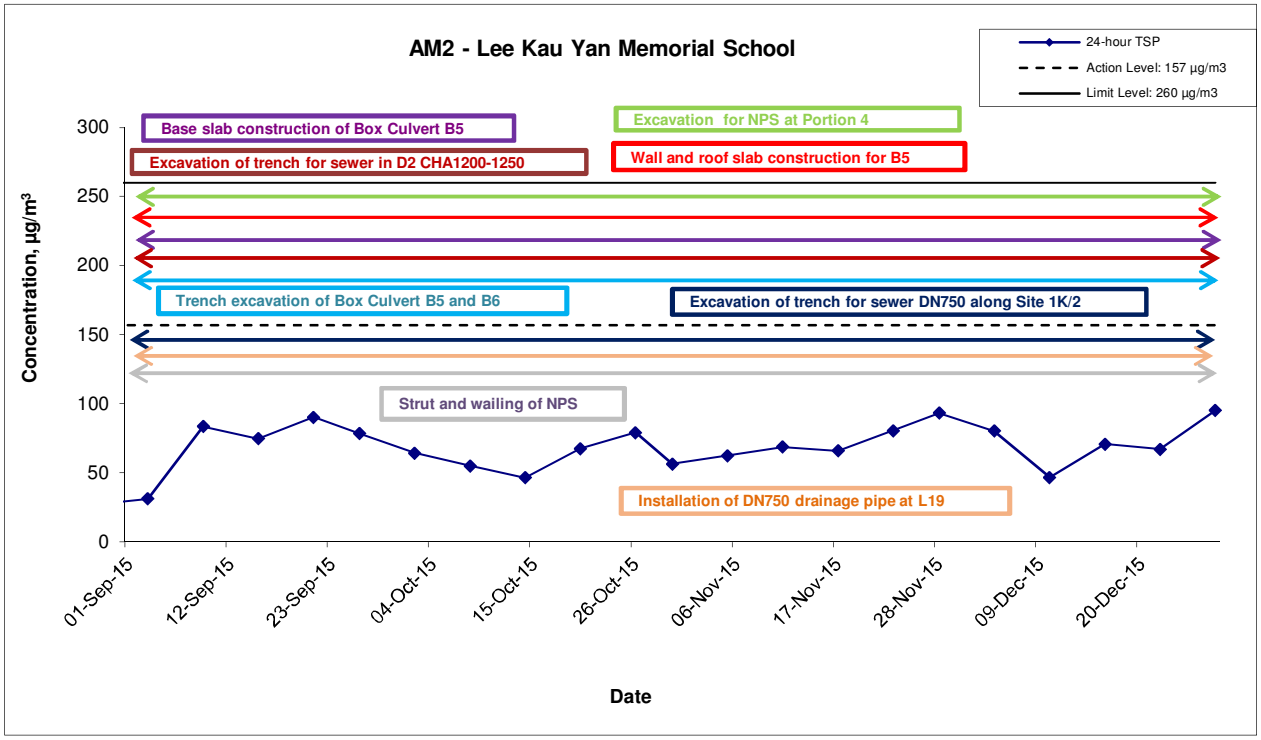


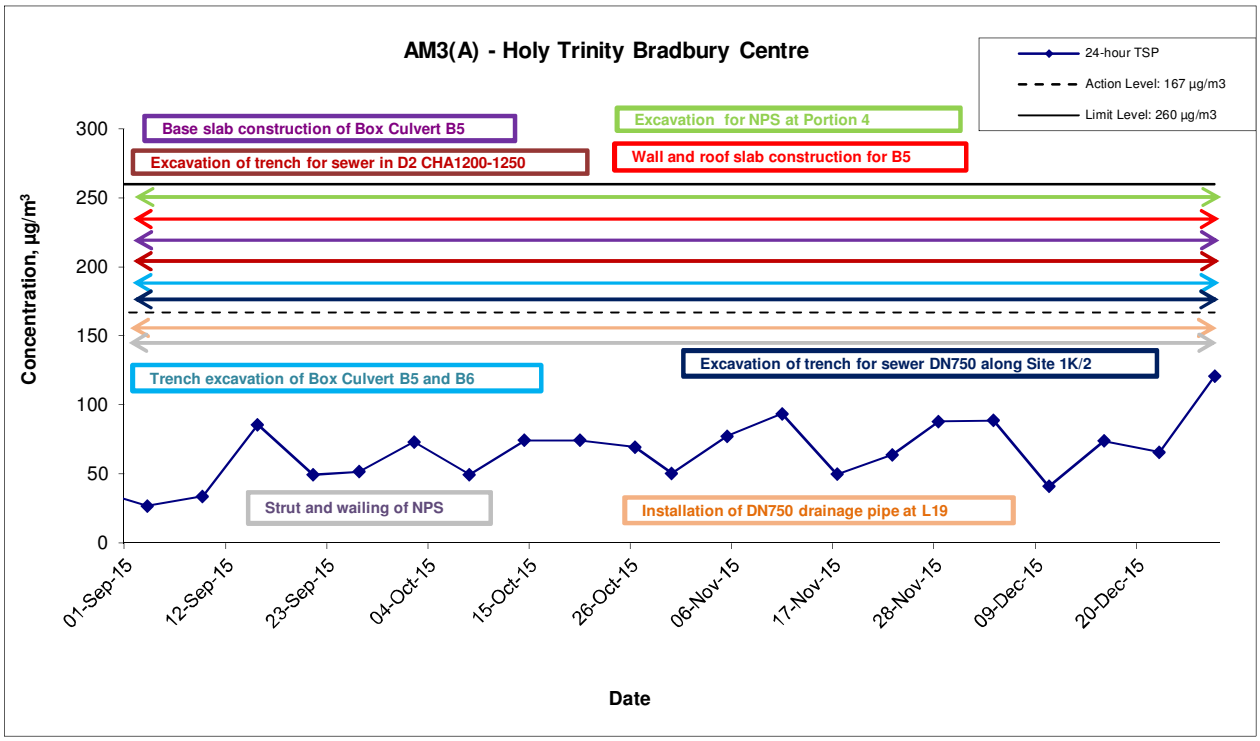


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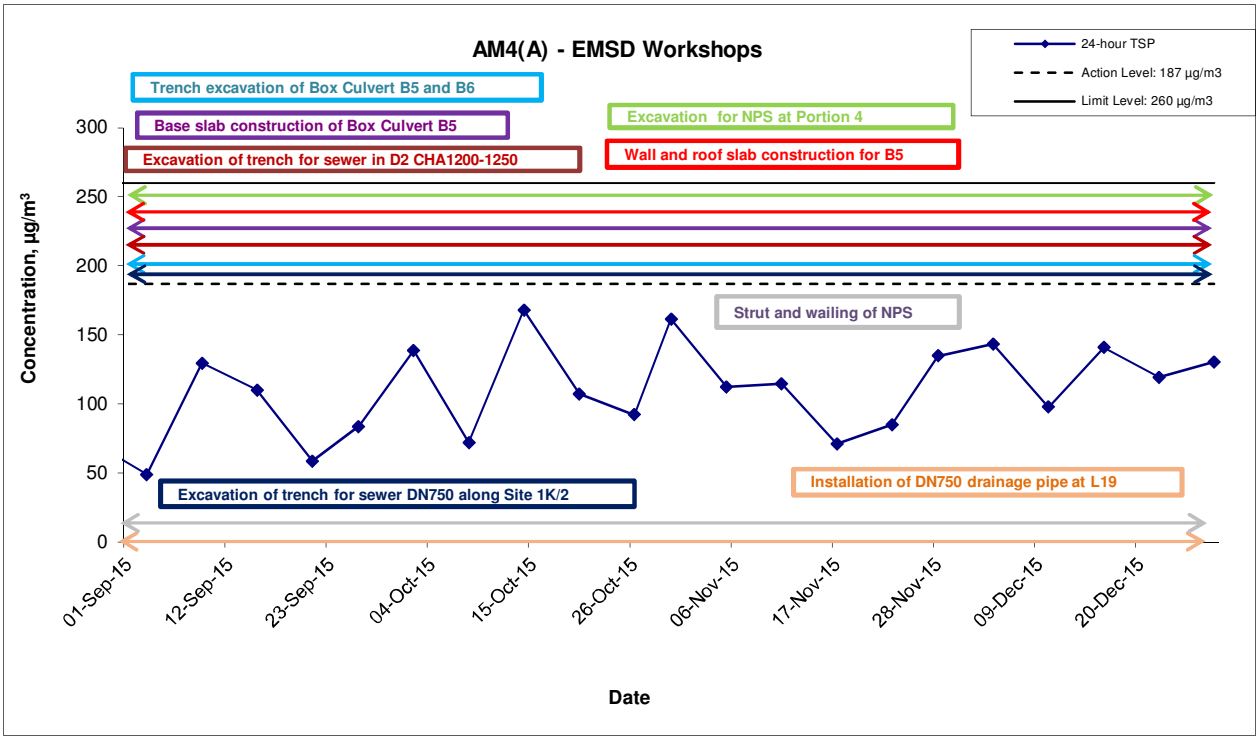


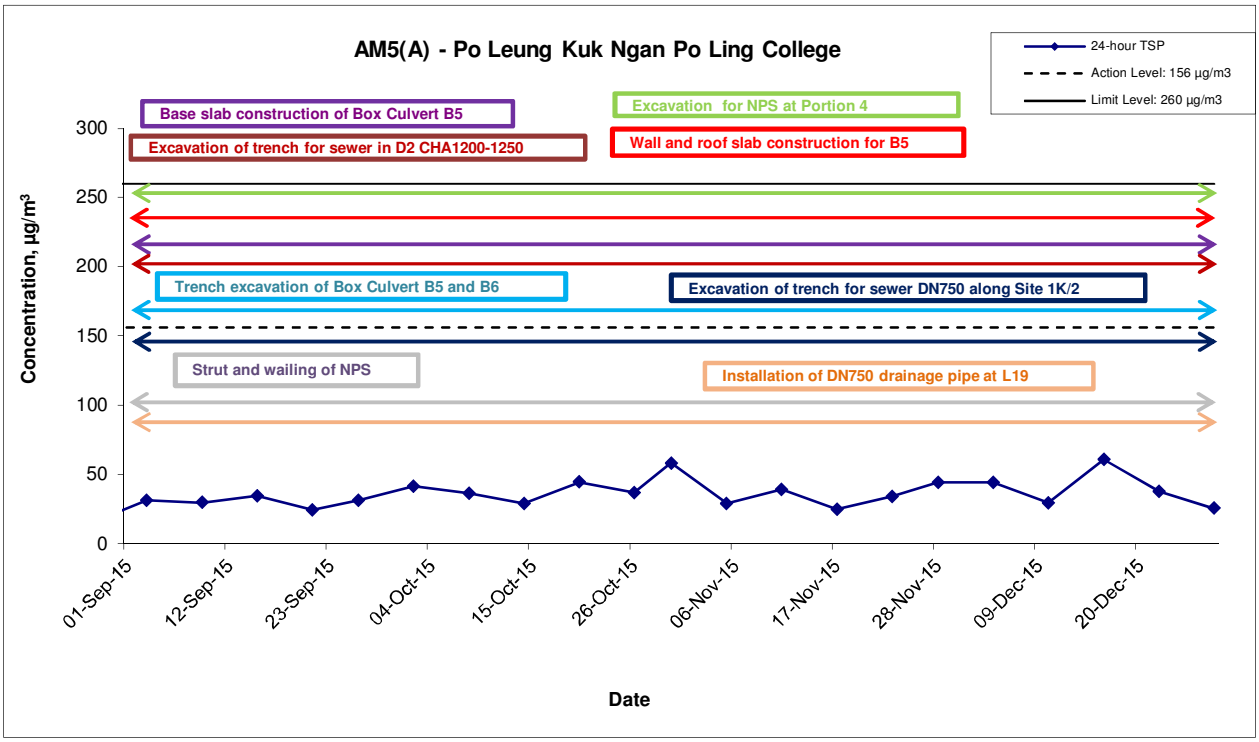


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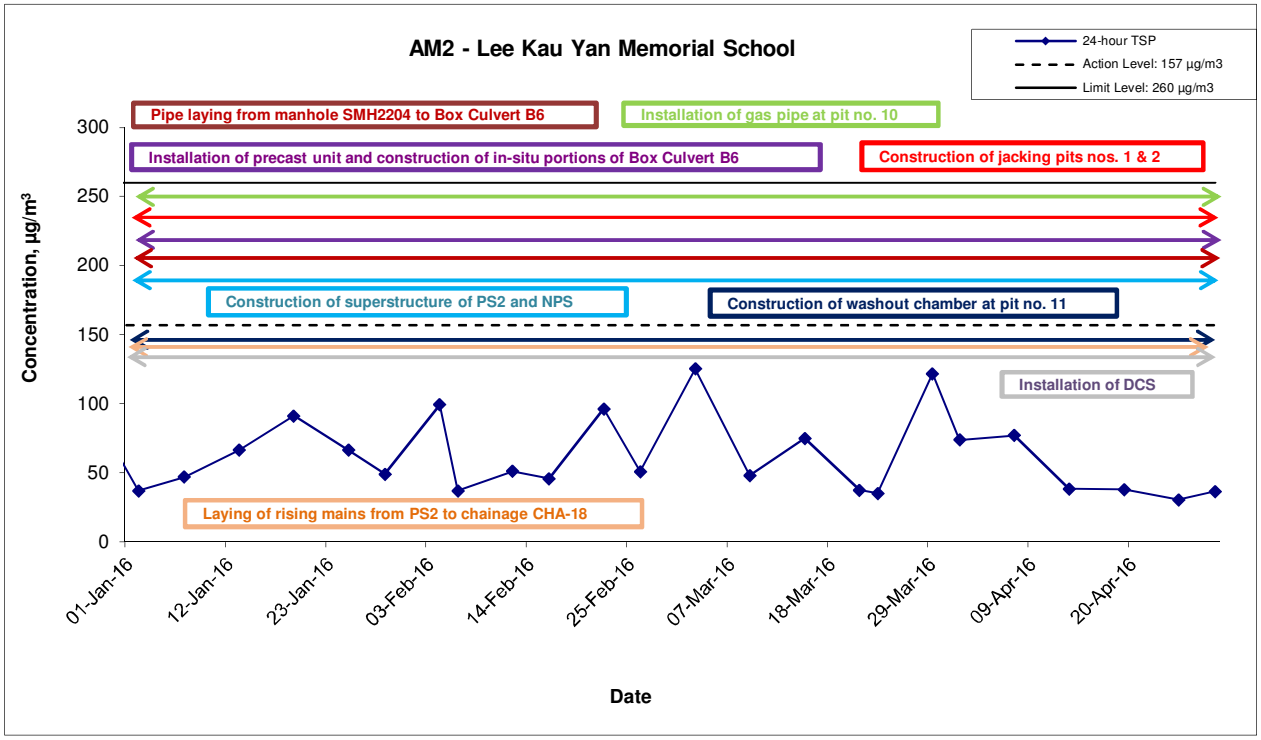


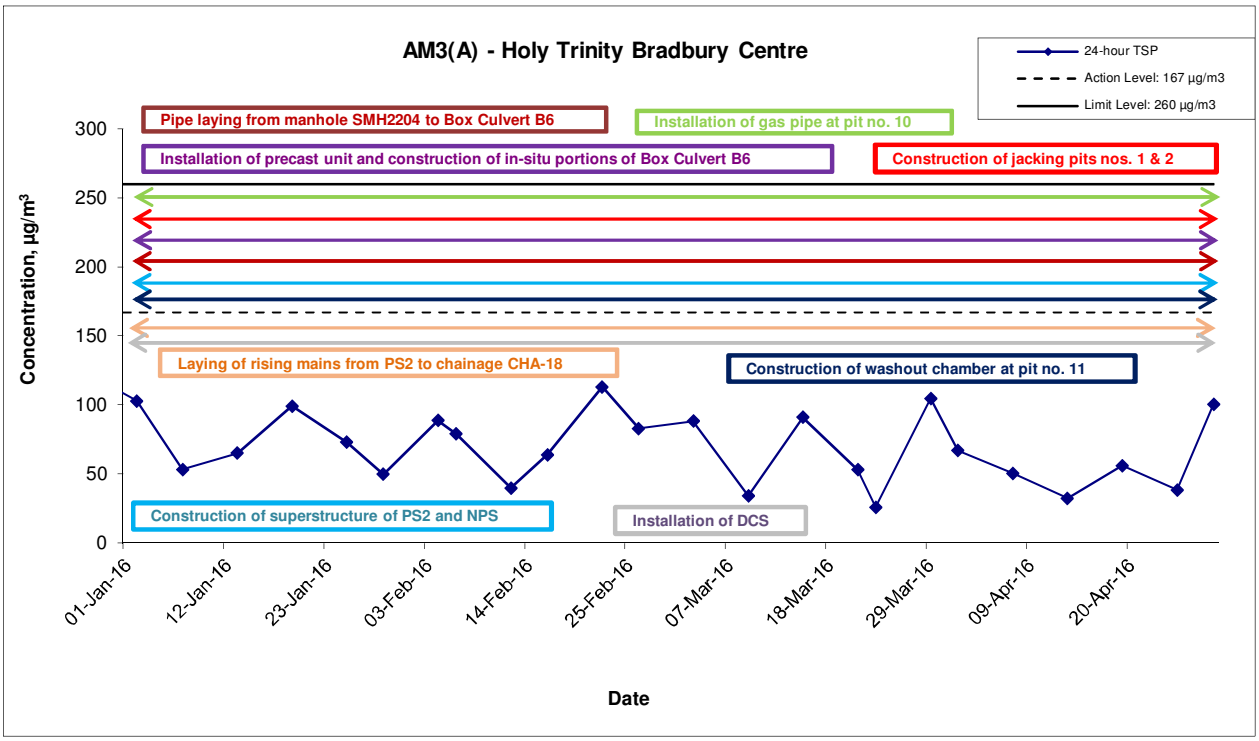


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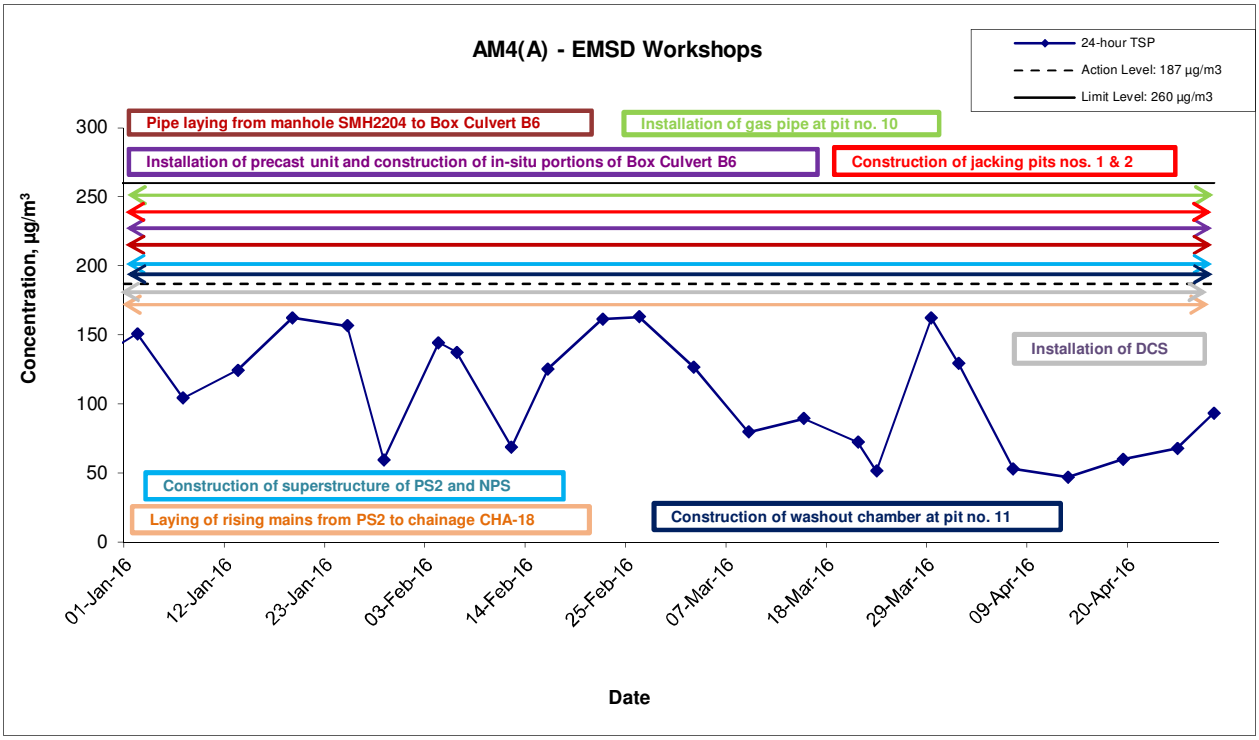


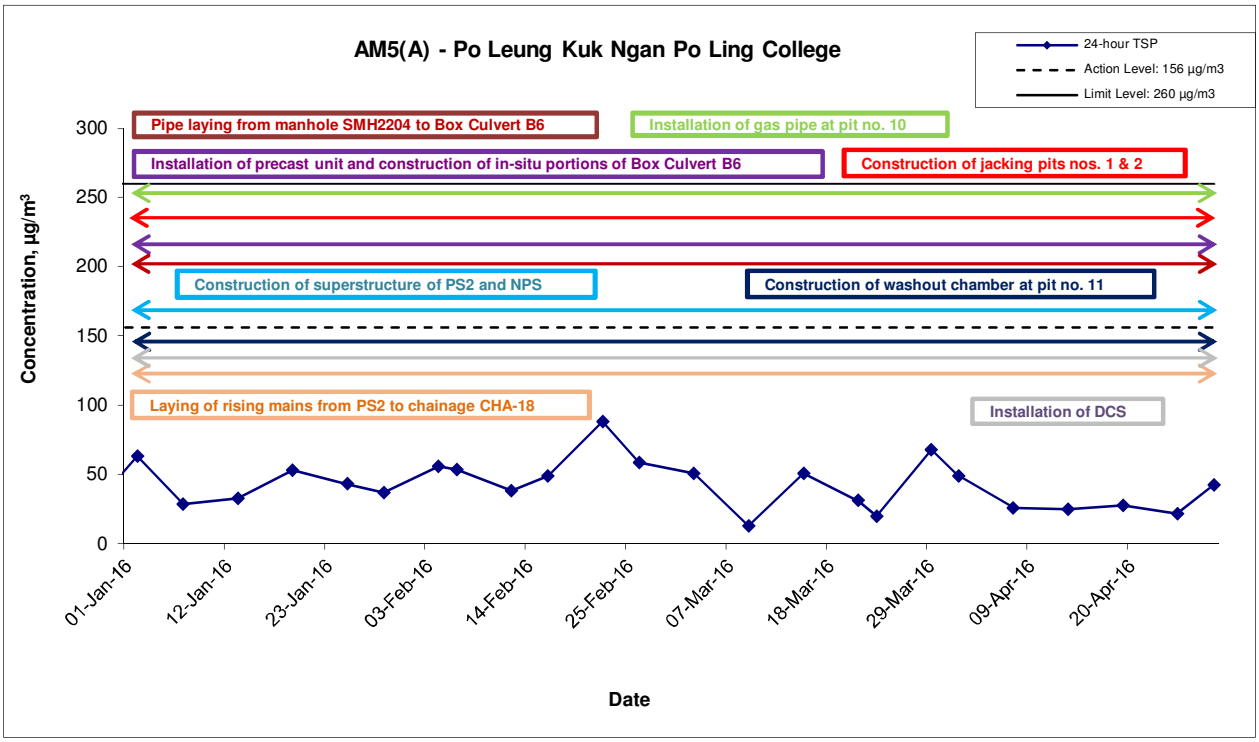


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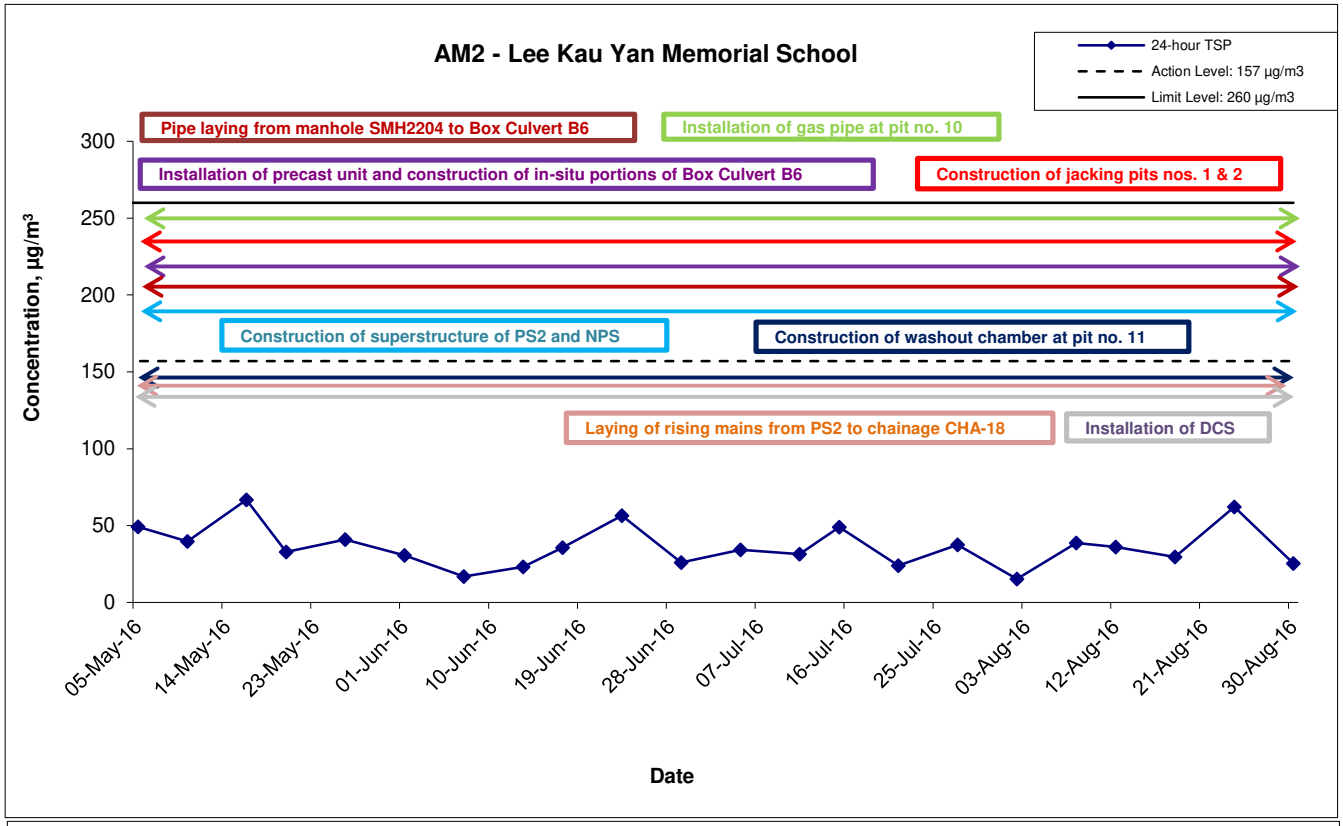


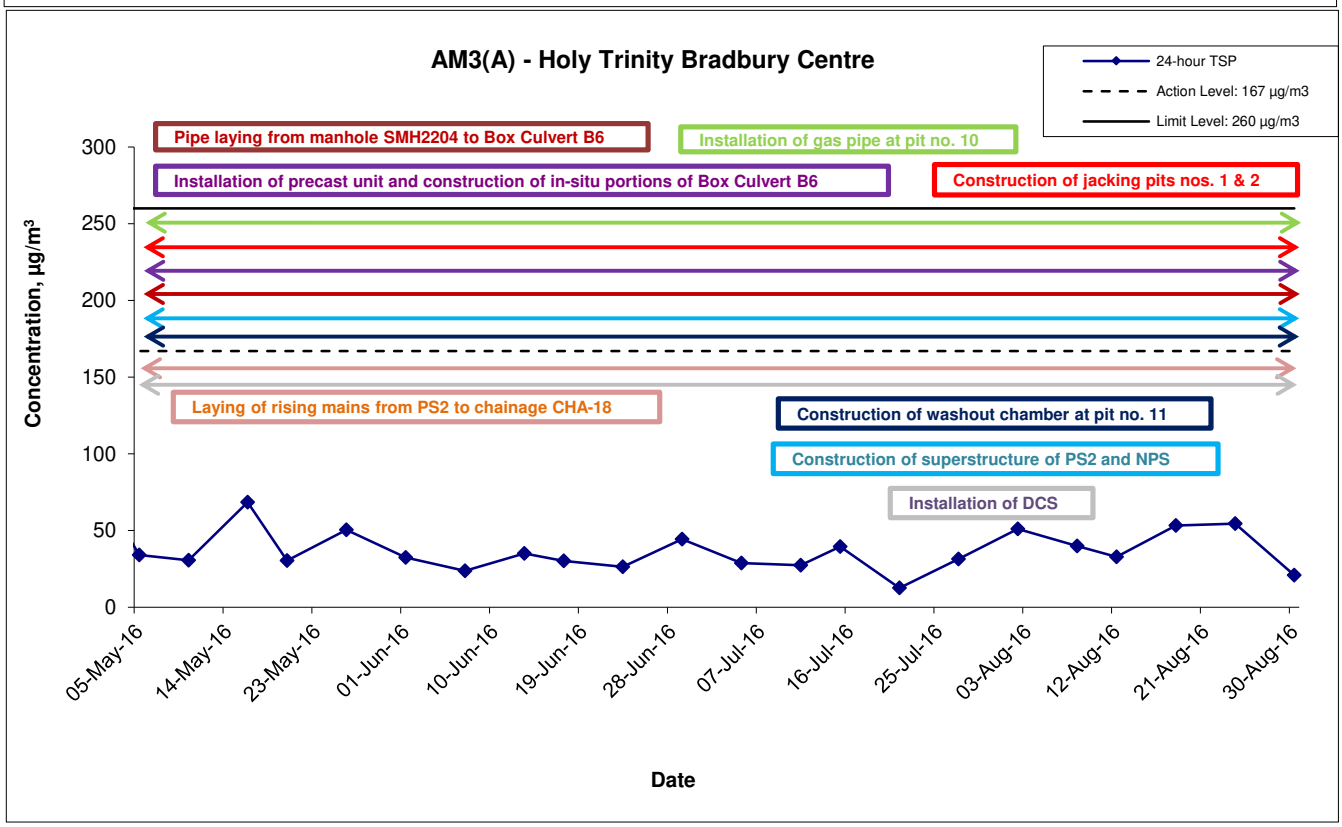


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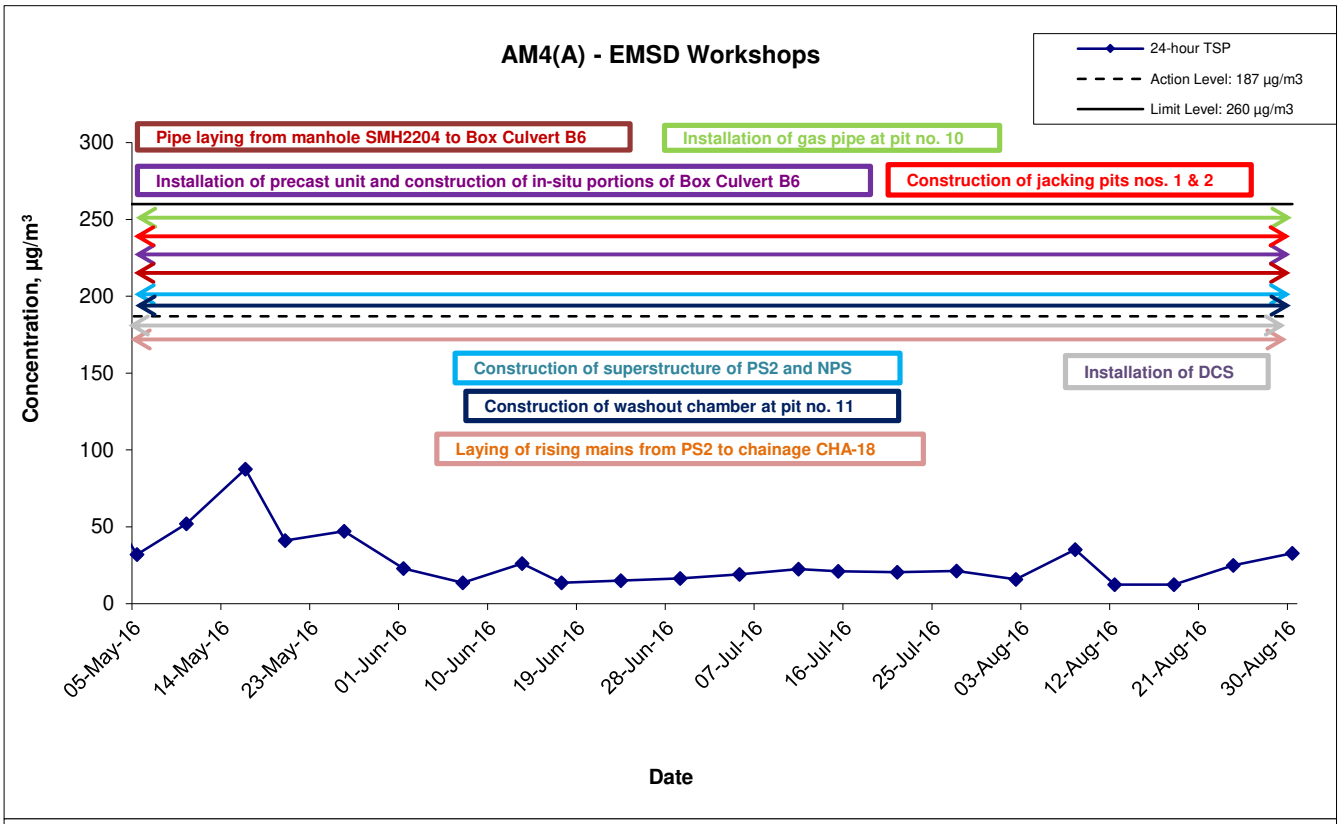


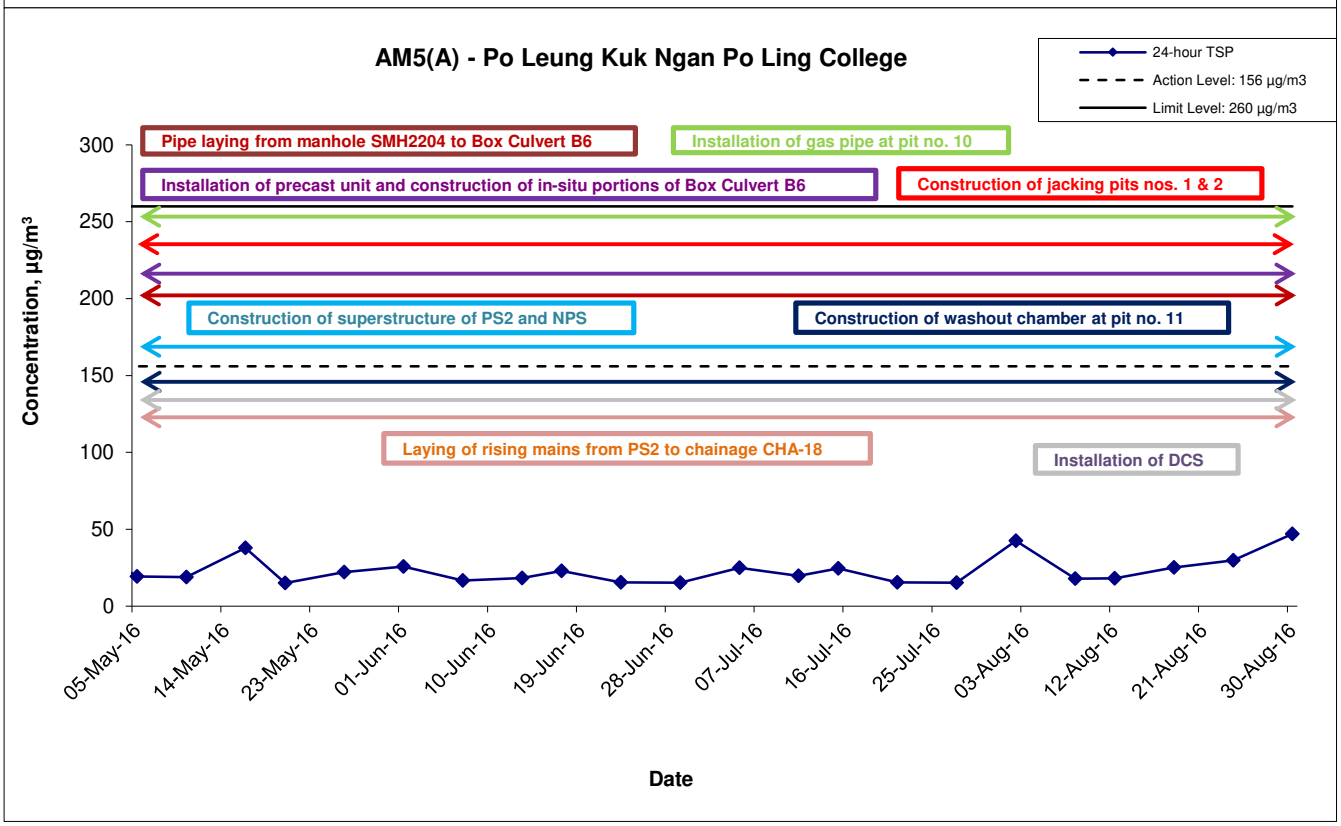


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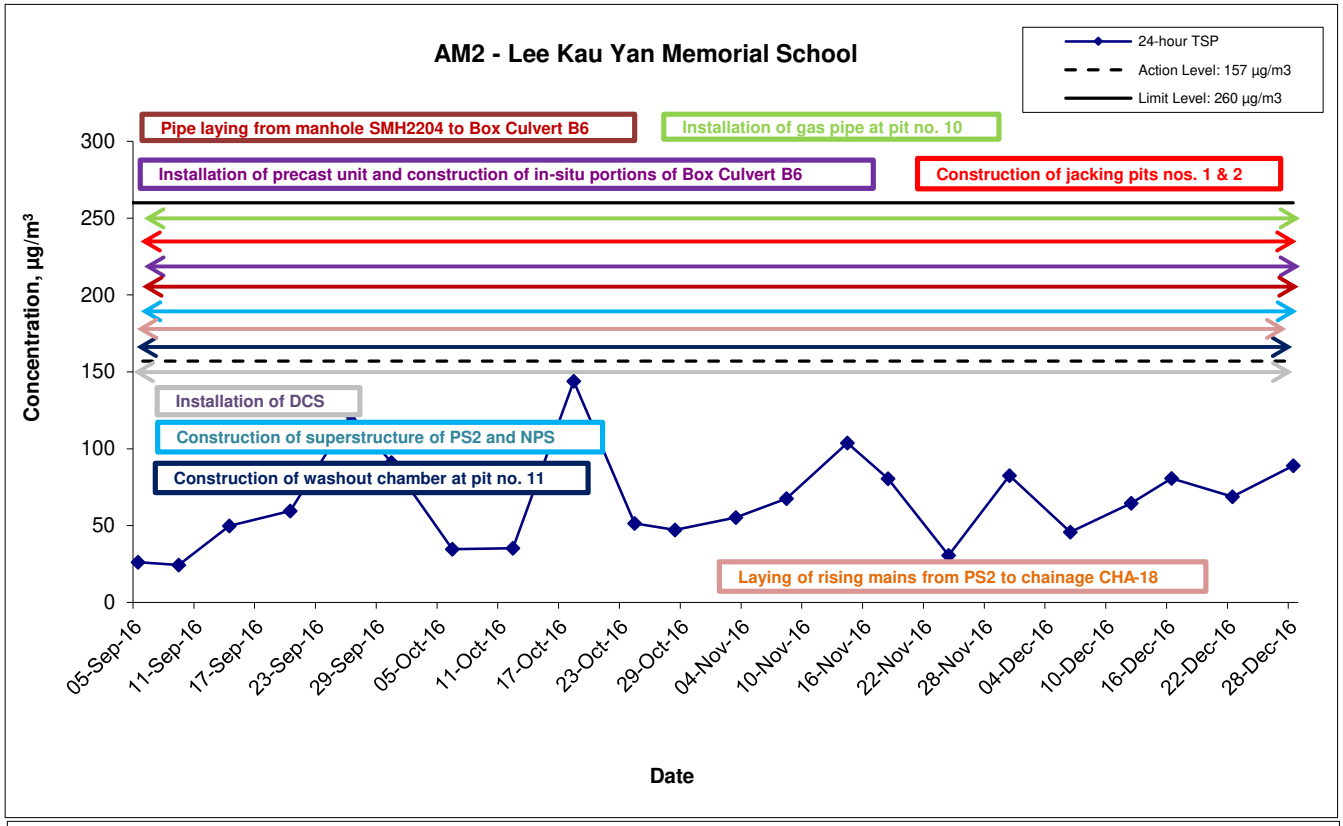


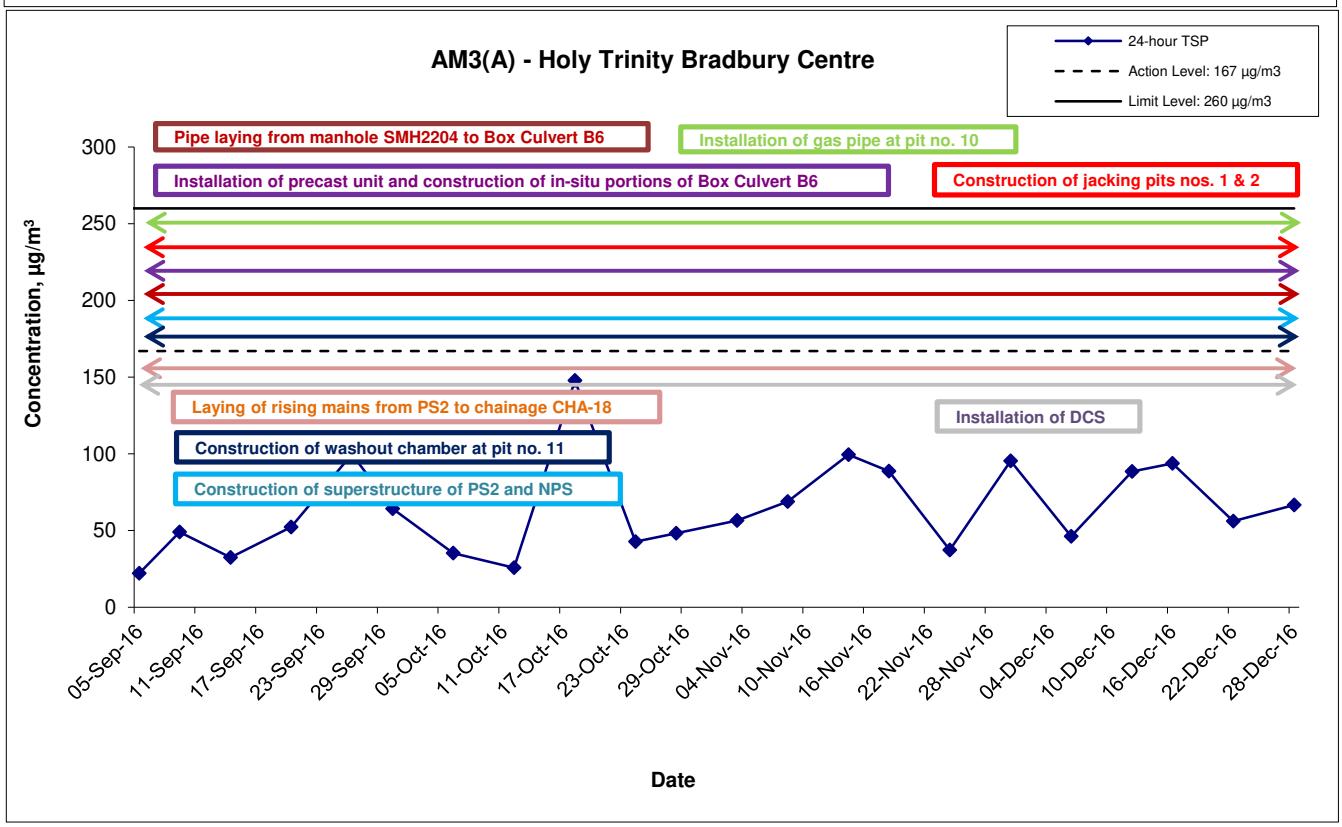


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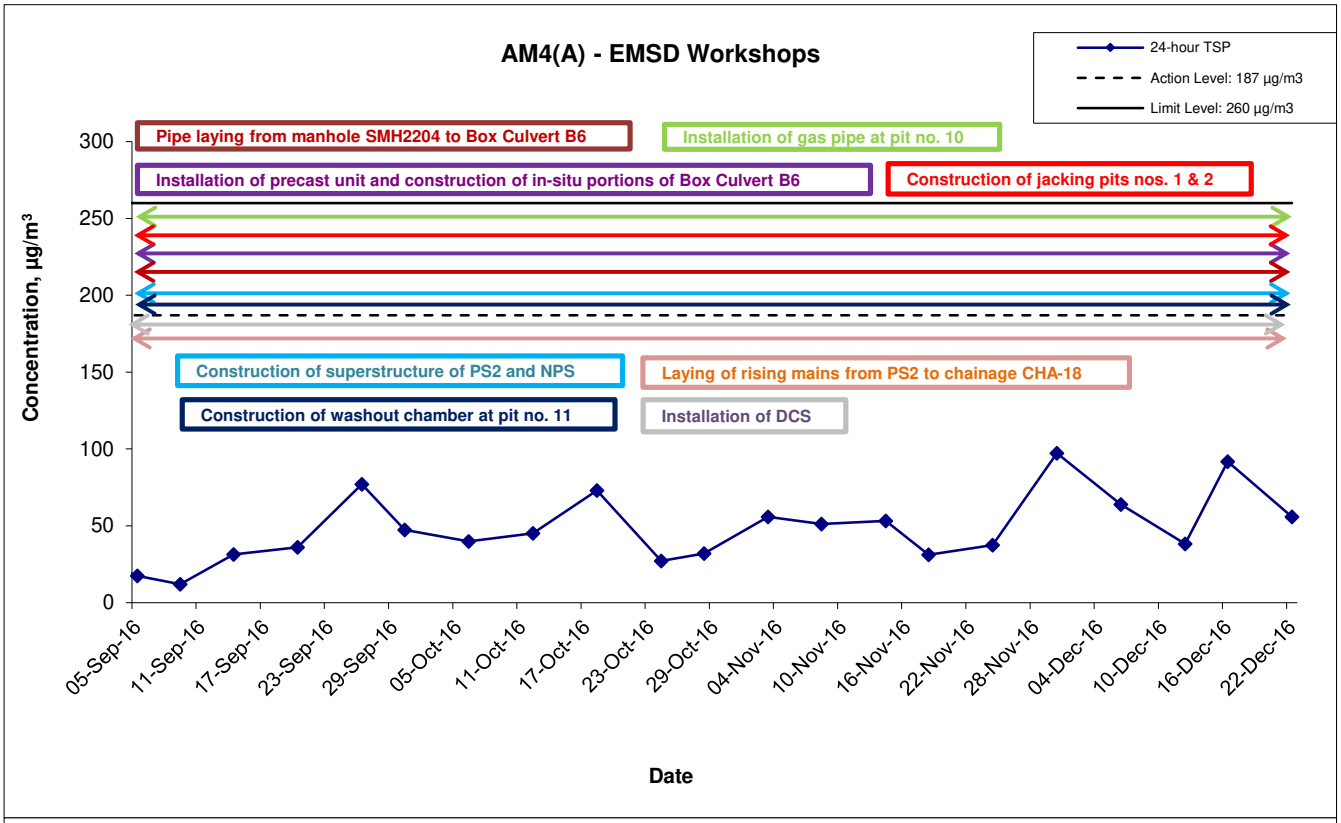


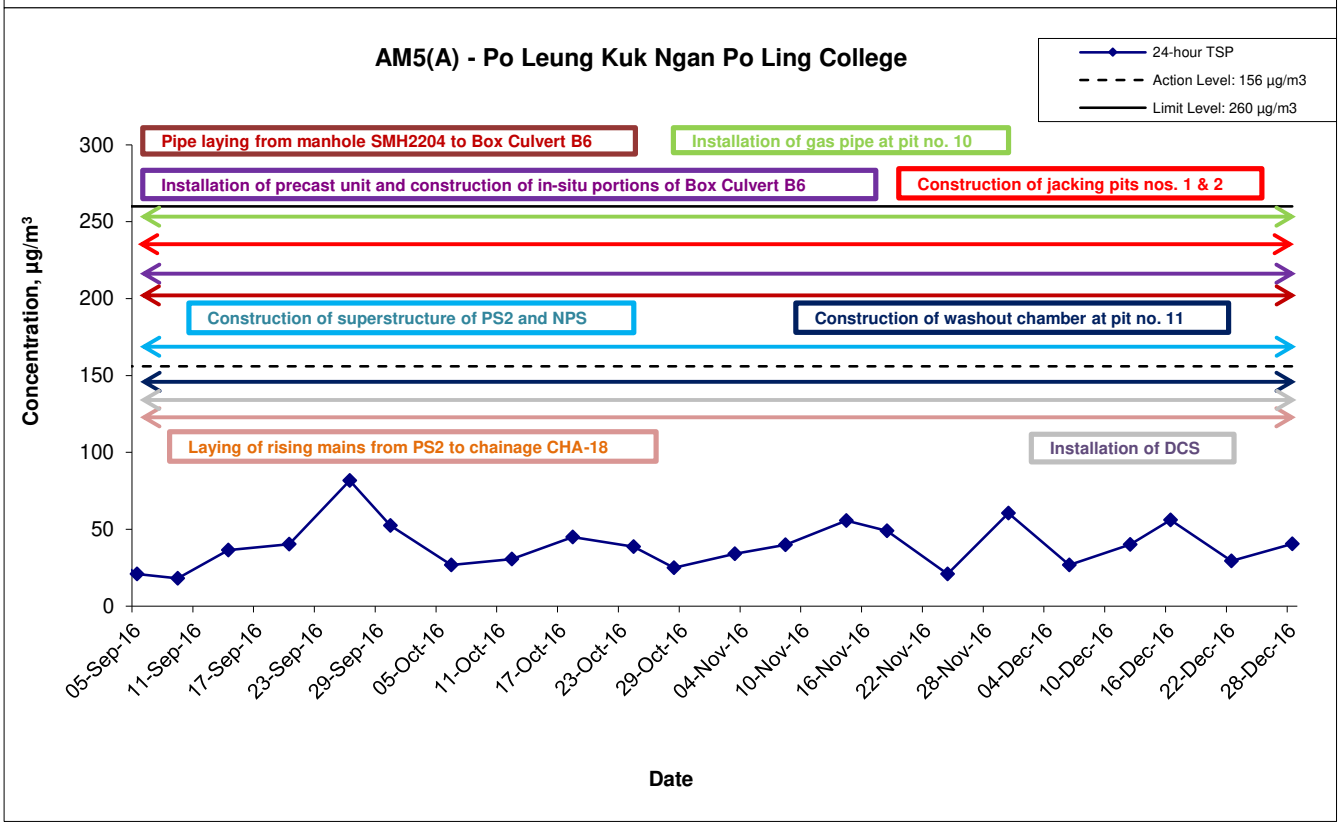


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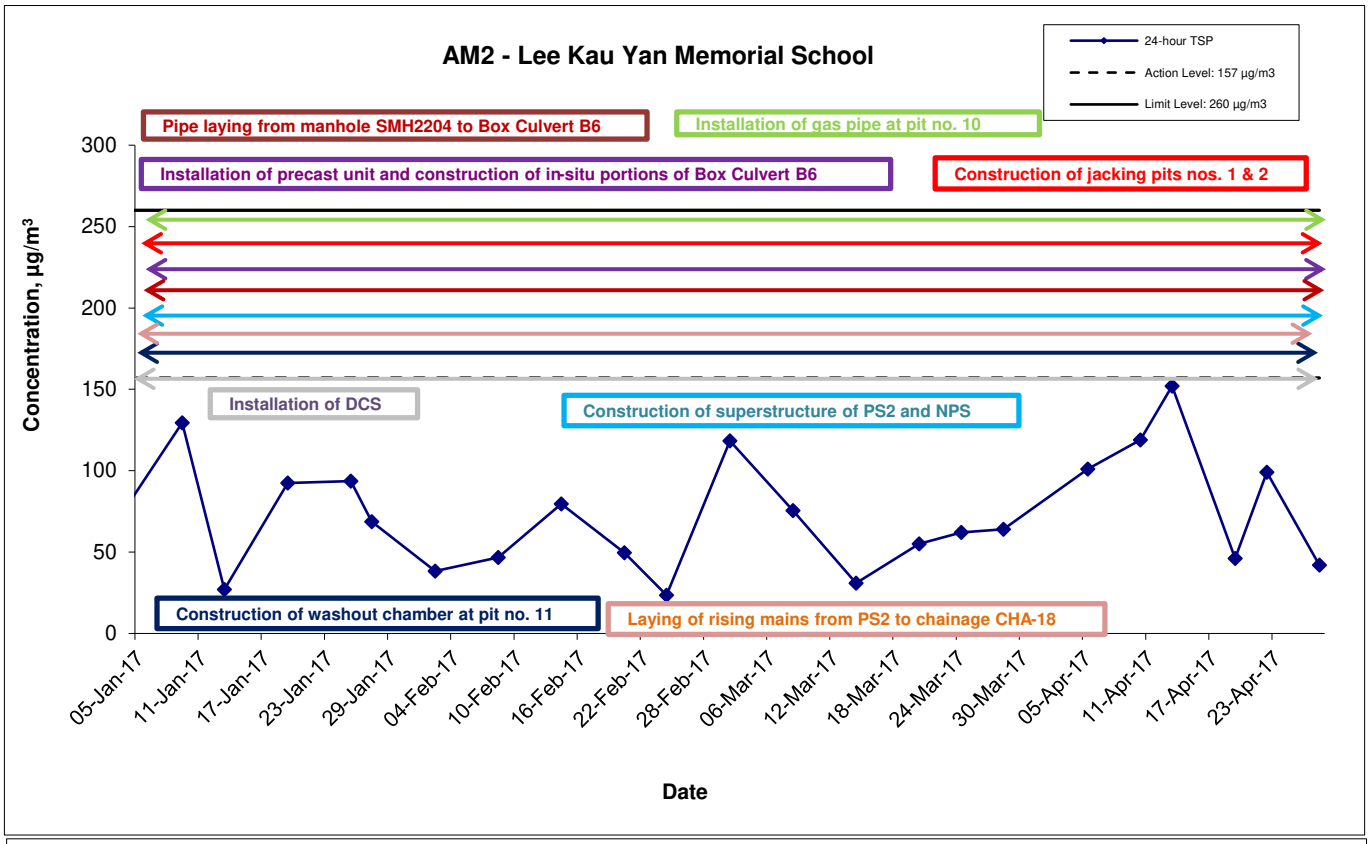


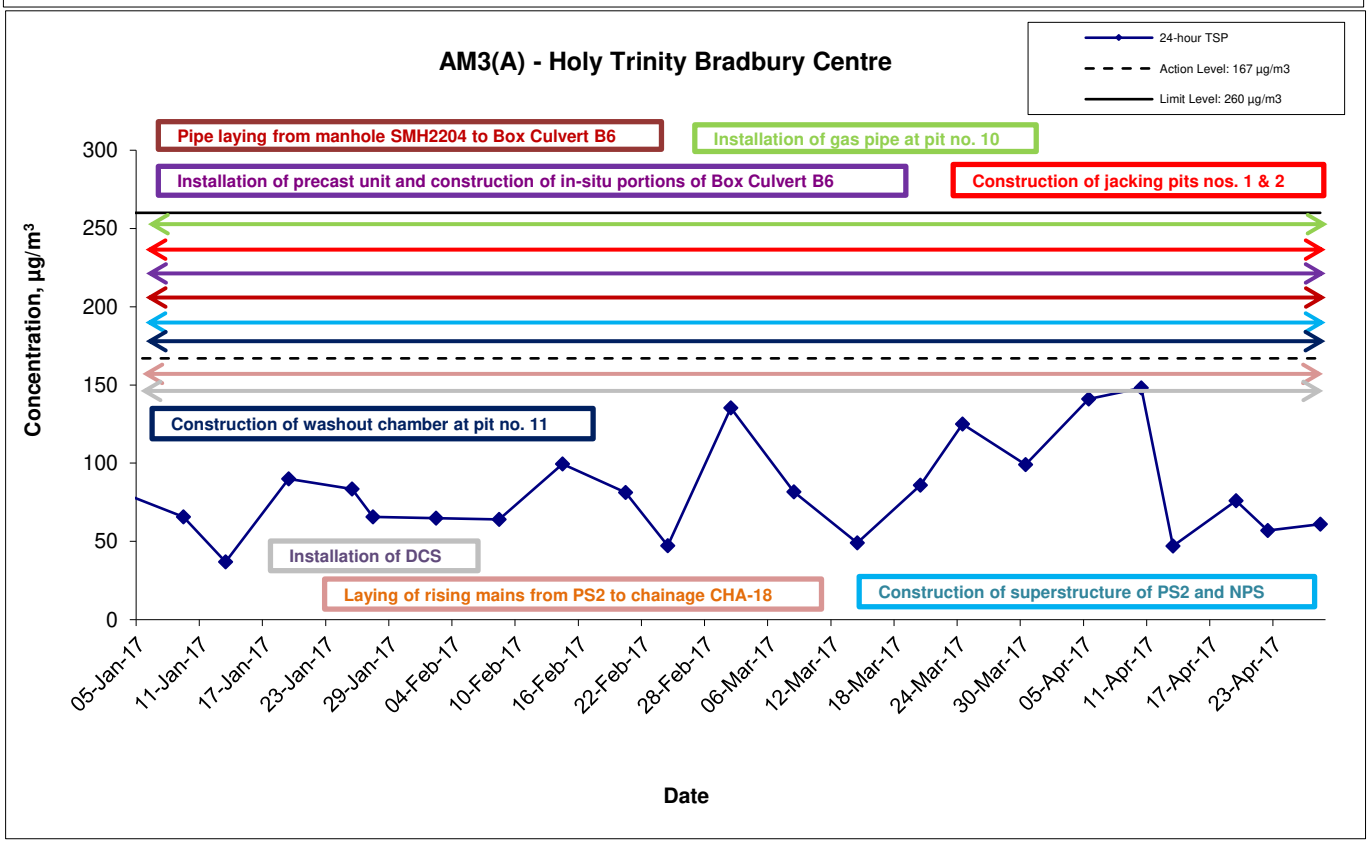


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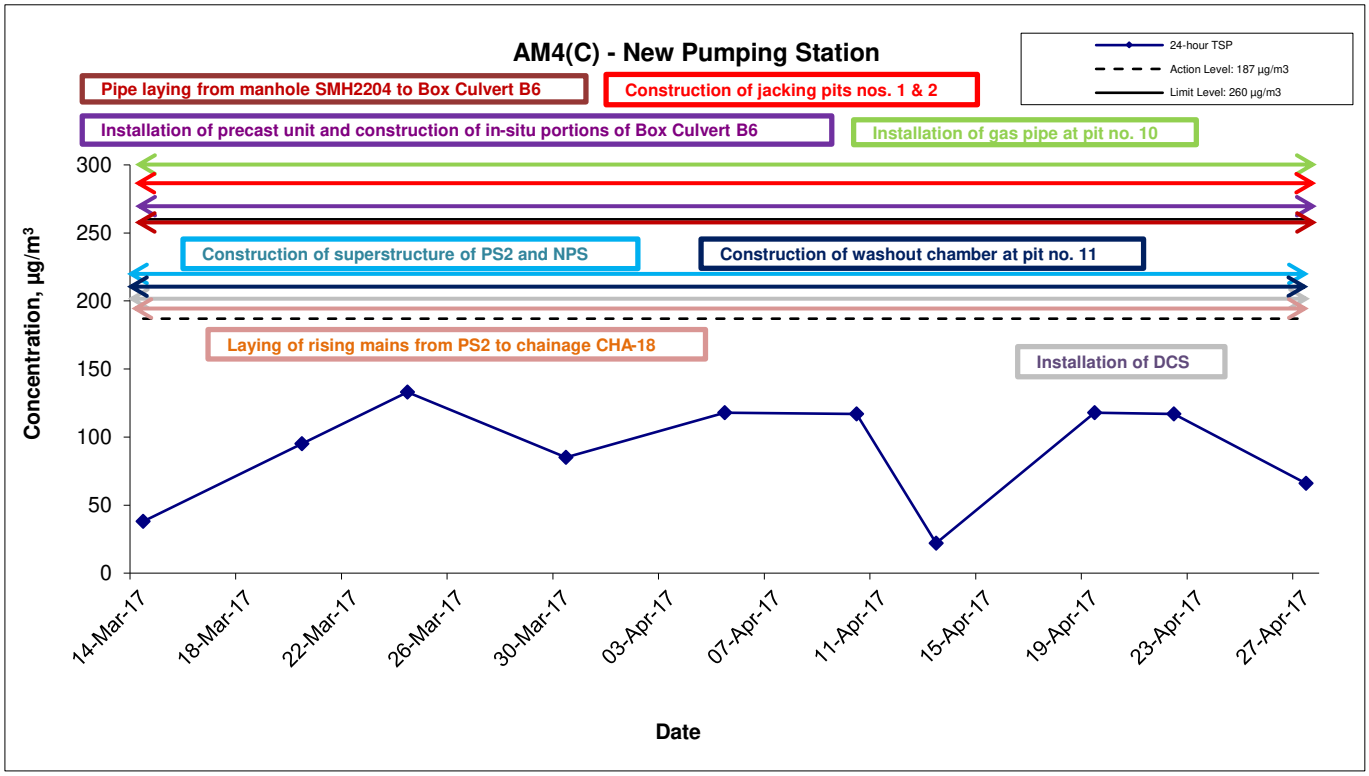


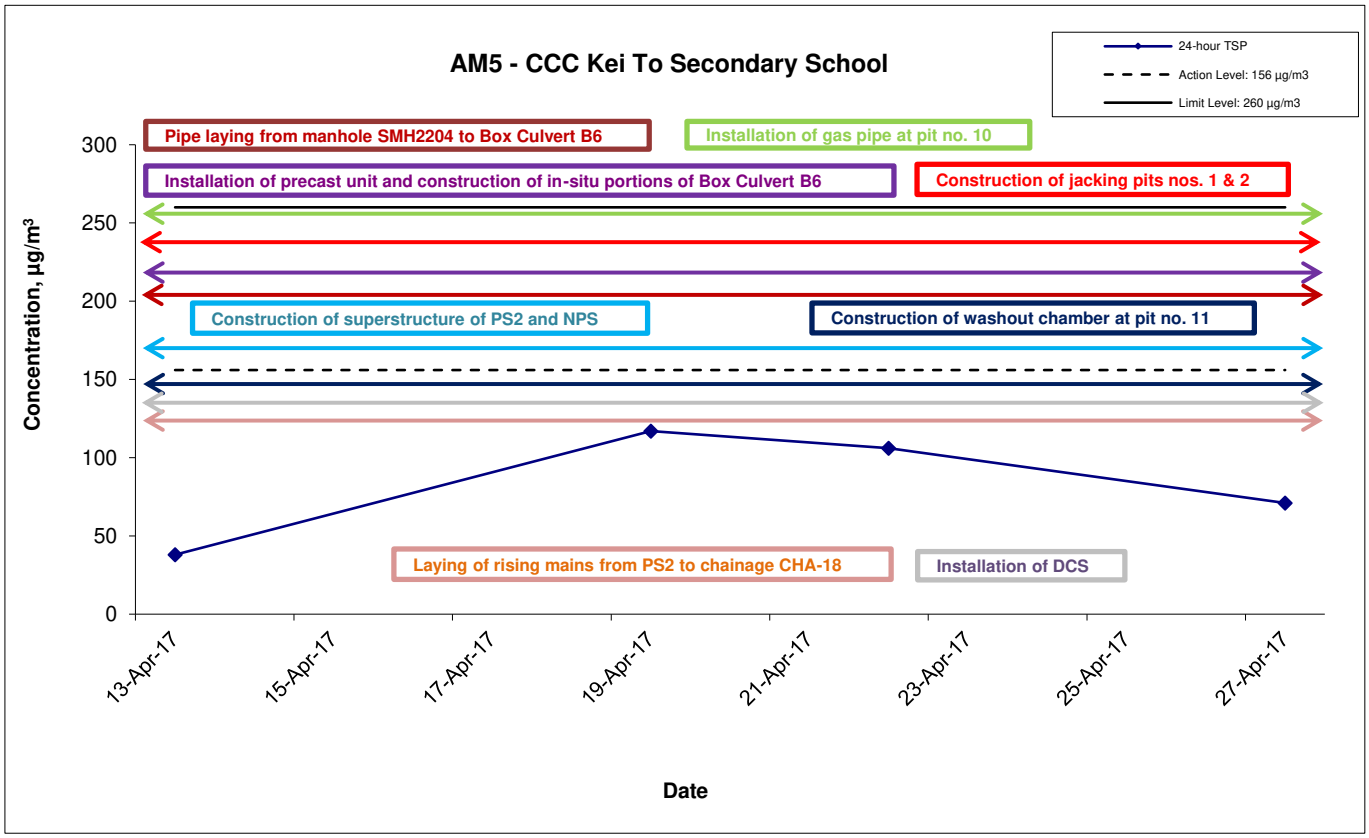


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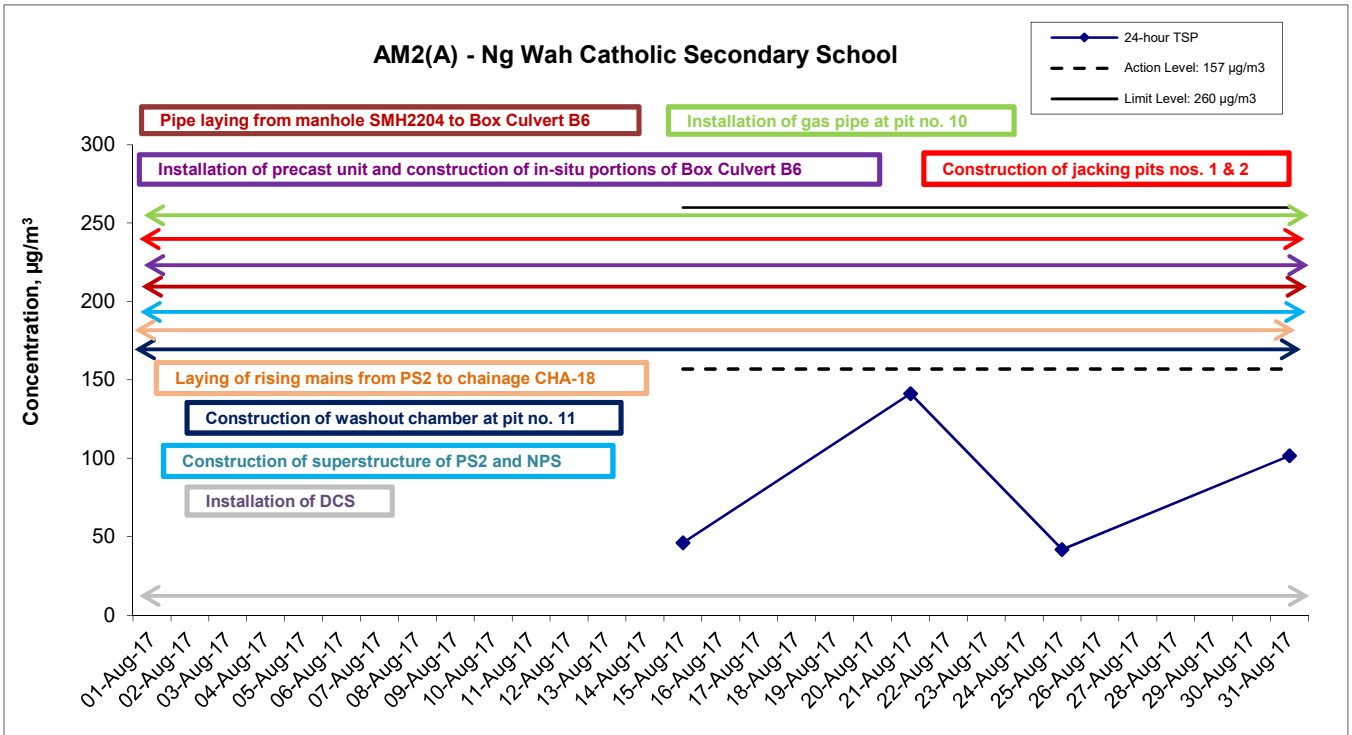


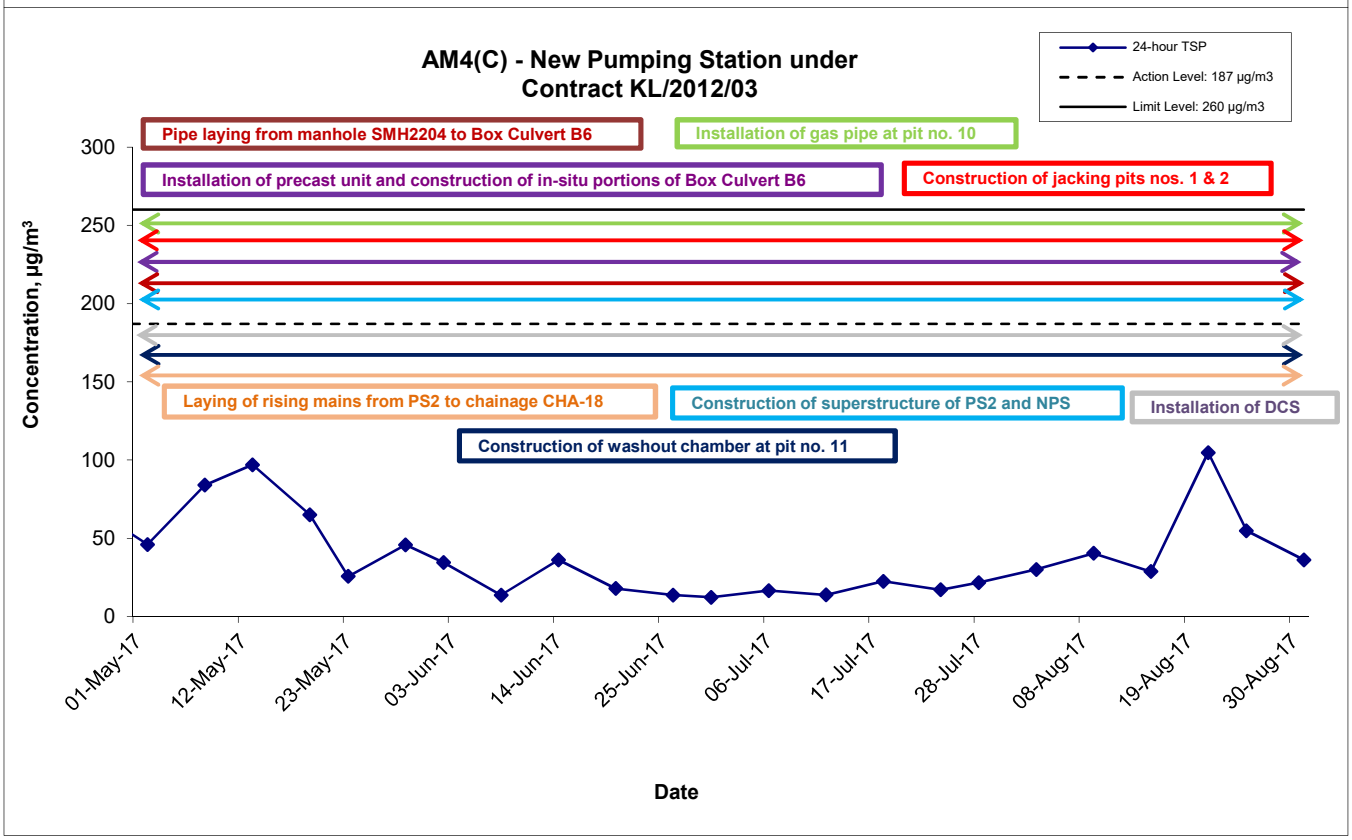


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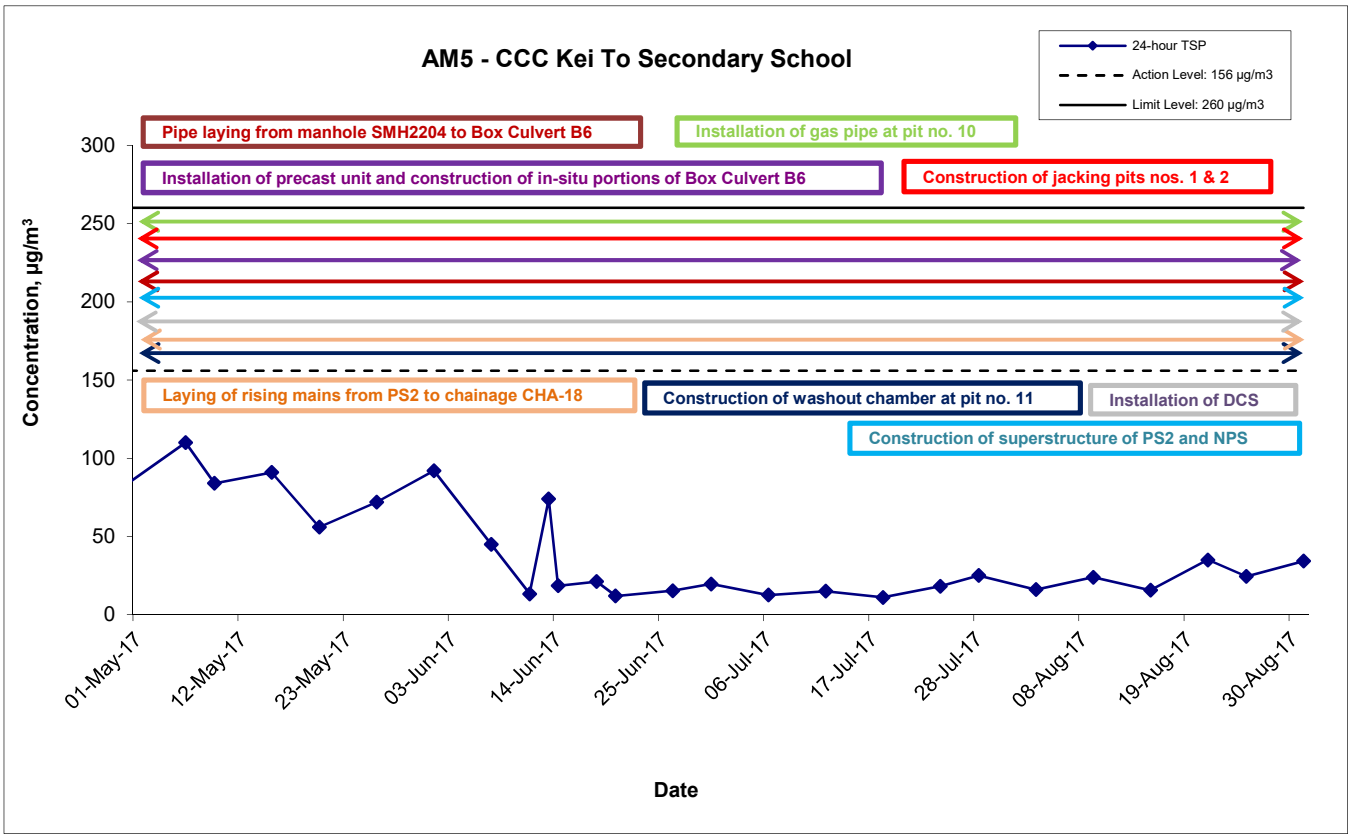


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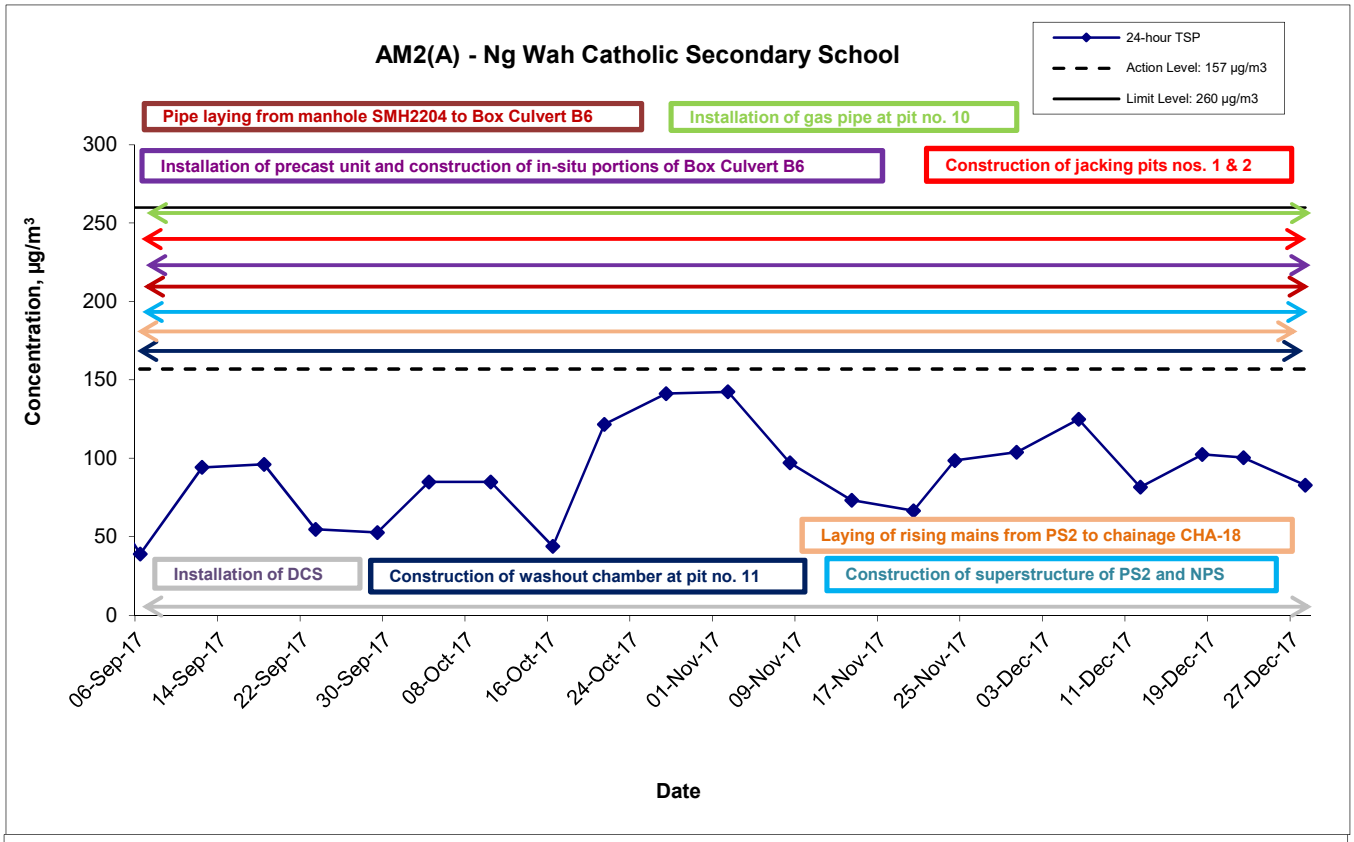


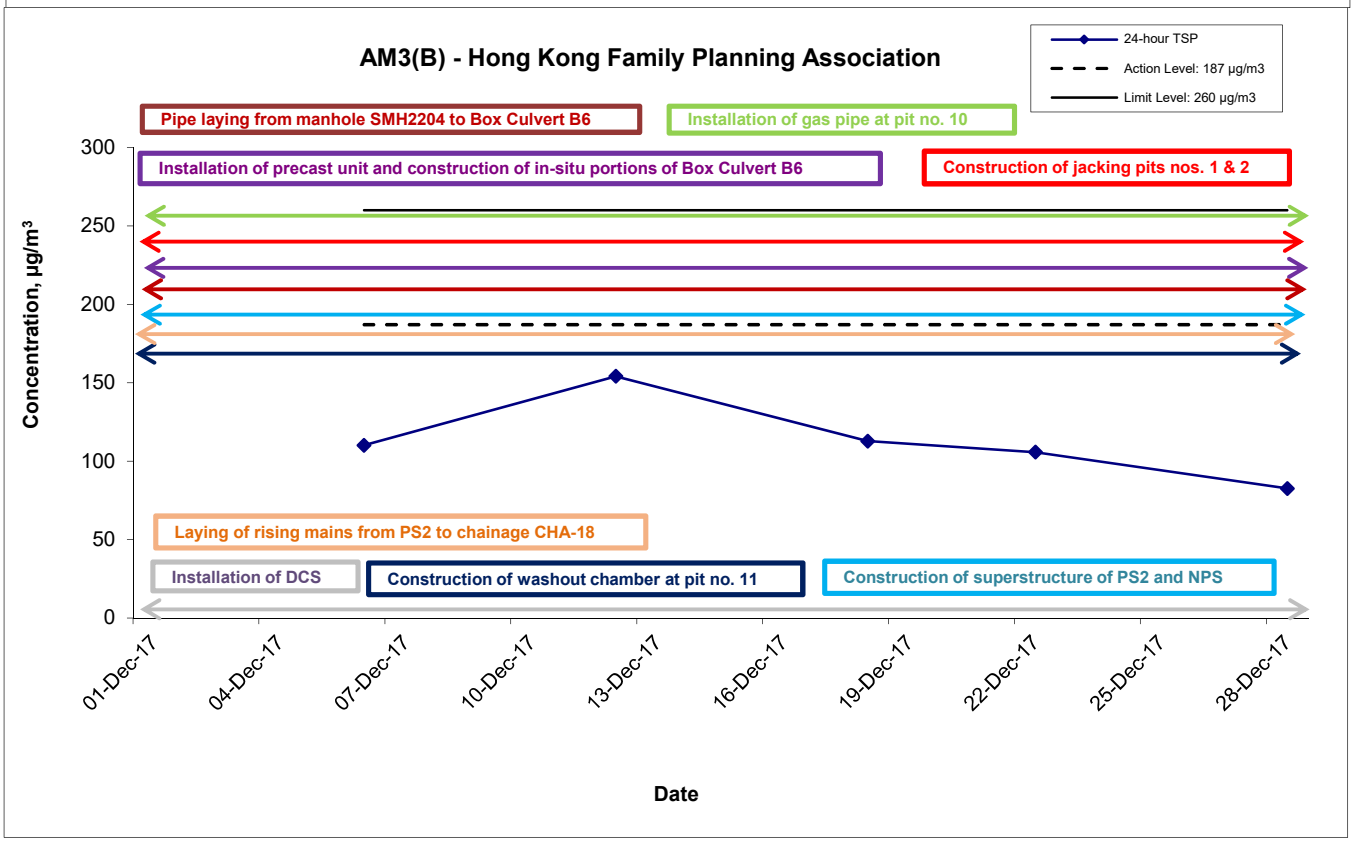


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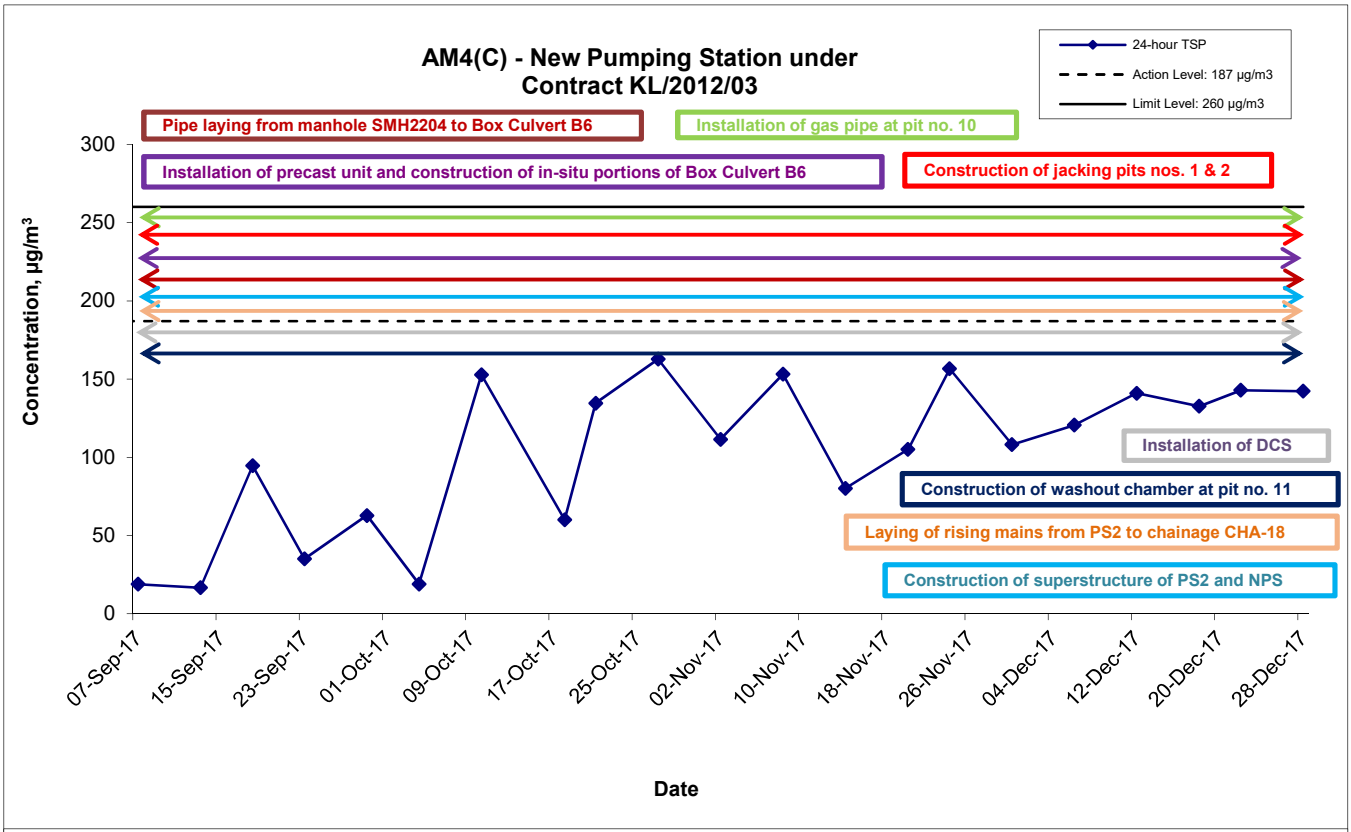


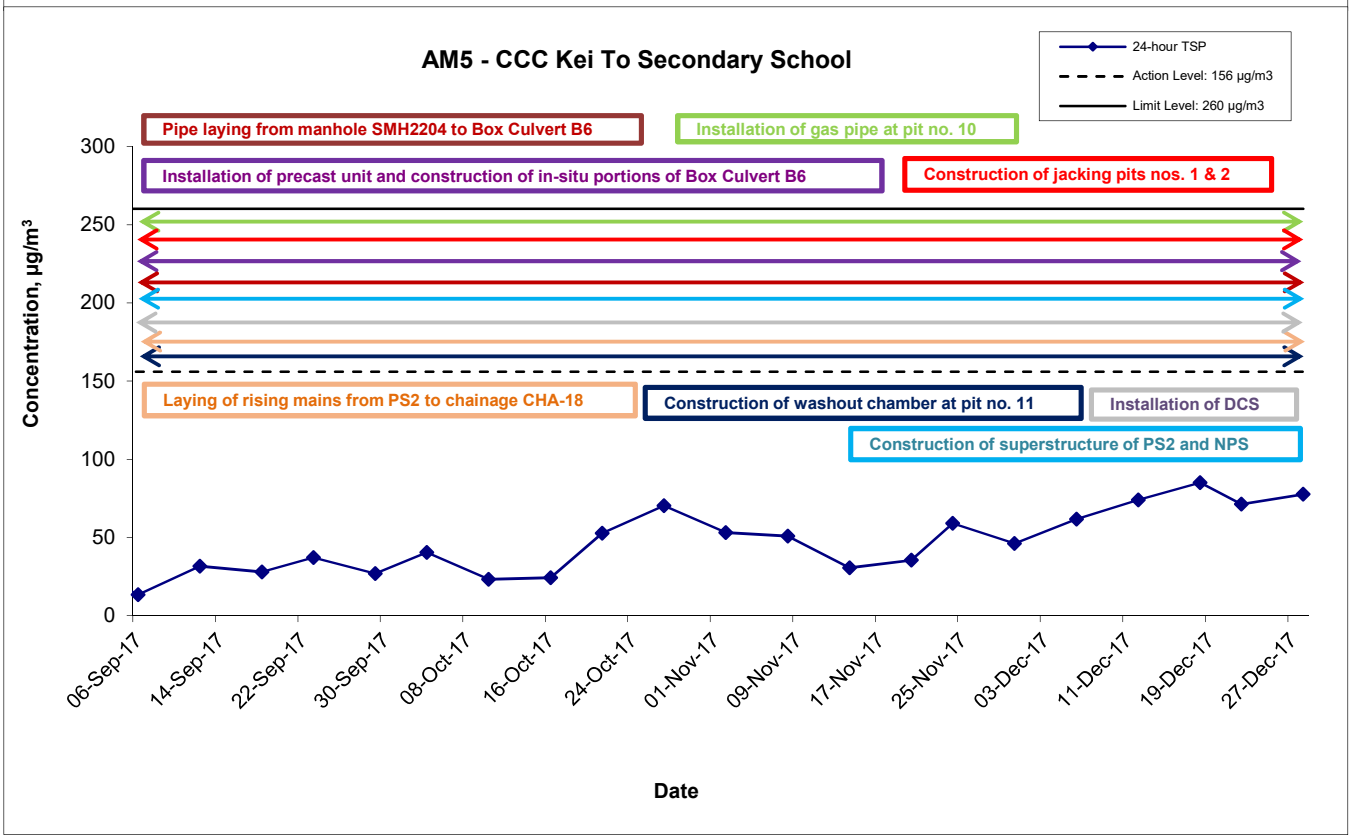


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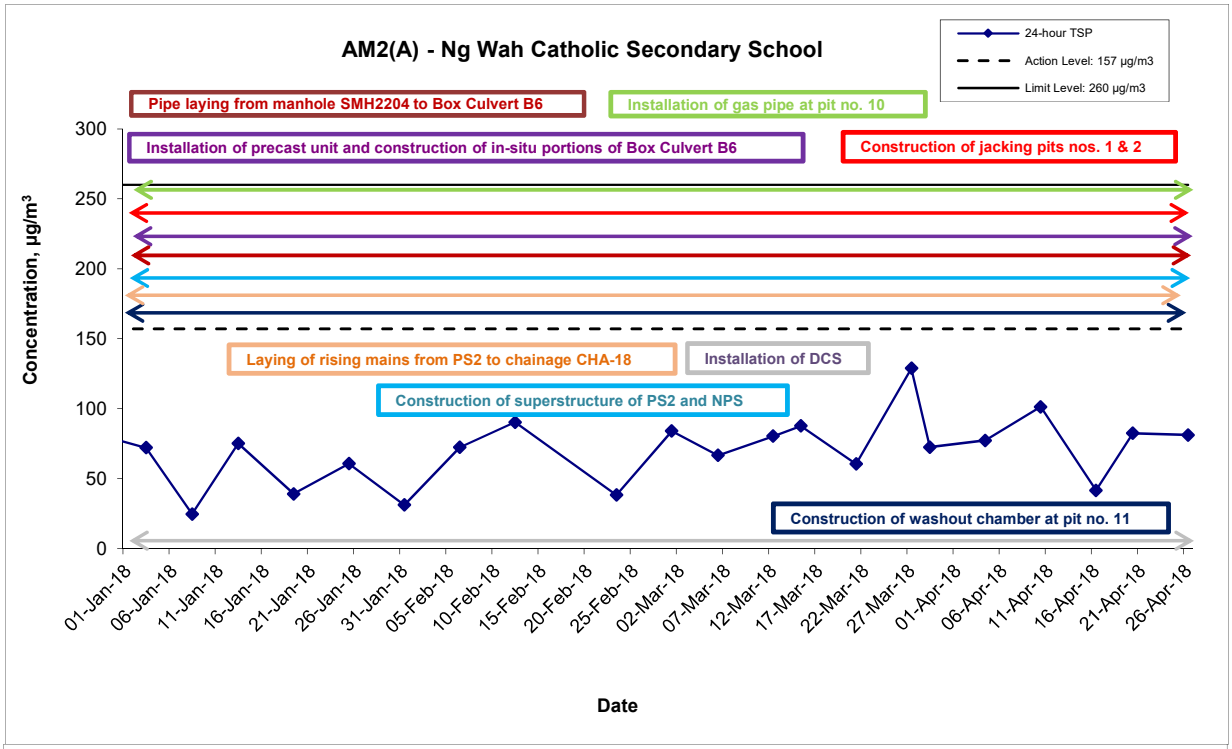
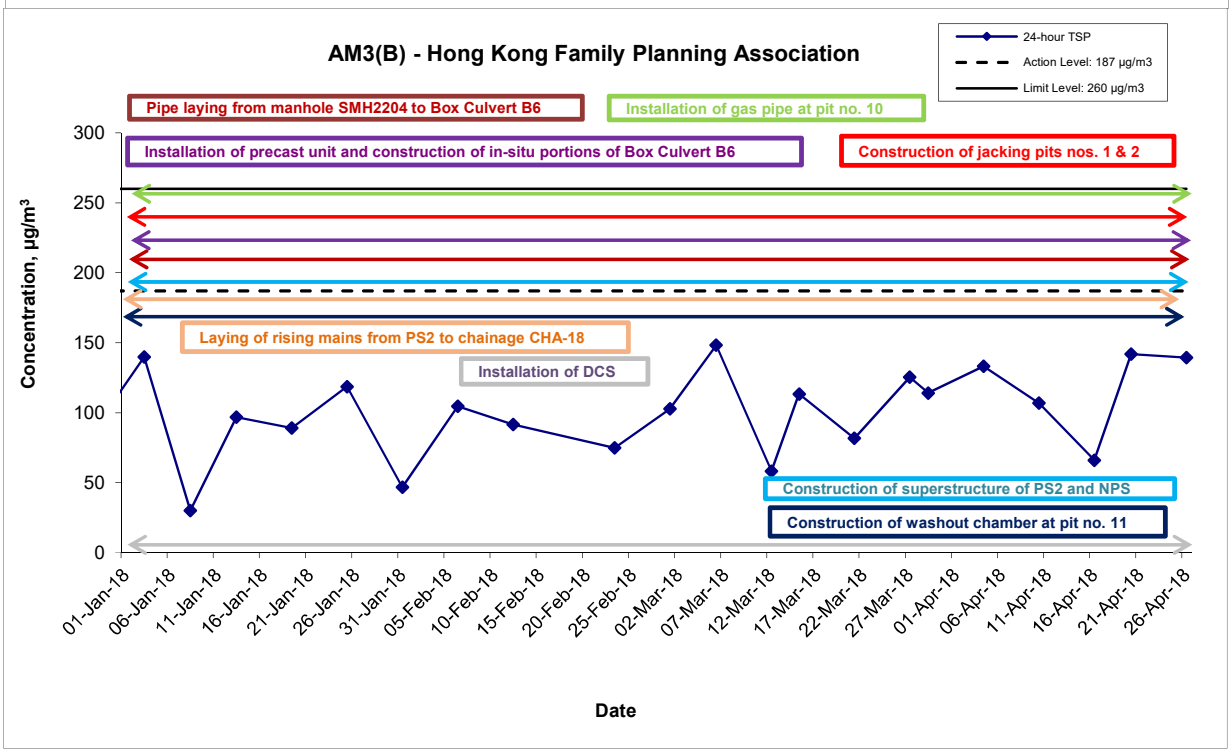
| Title: Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area<br>Graphical Presentation of 24-hour TSP Monitoring Results | Scale: N.T.S<br>Date: Sep-Dec 17 | Project No.: MA13056<br>Appendix: D | WELLAB 匯力 consulting . testing . research |

## 24-hr TSP Concentration Levels

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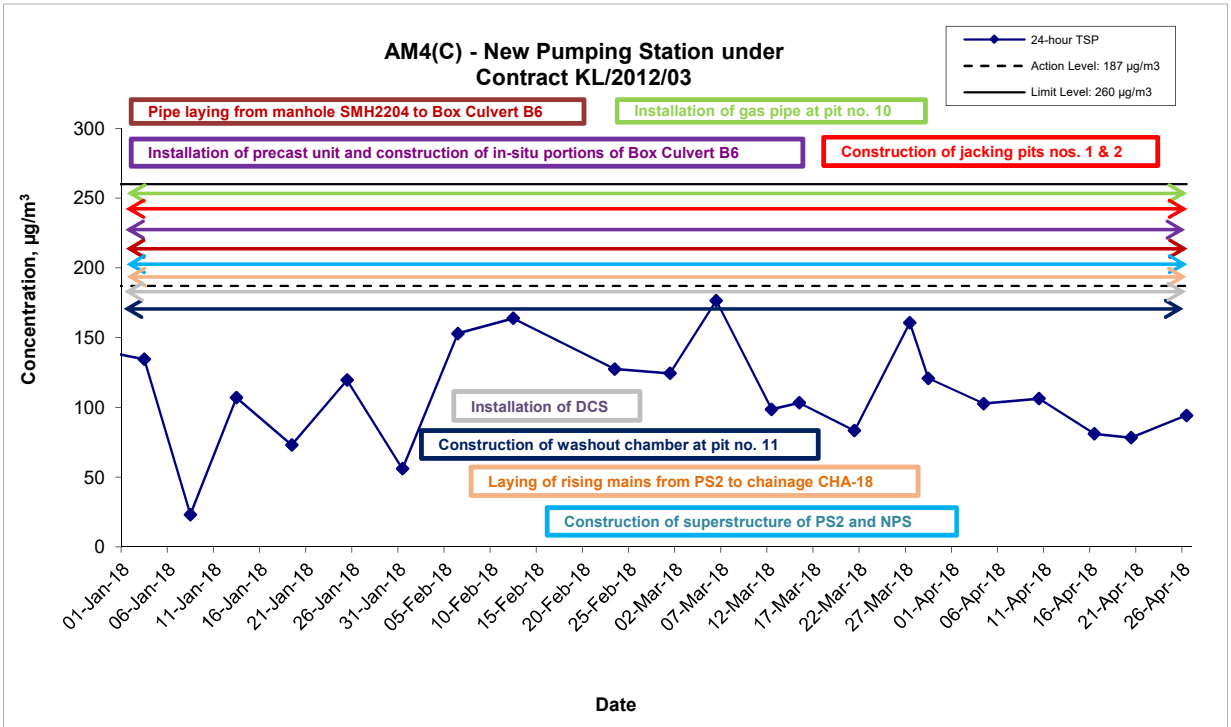
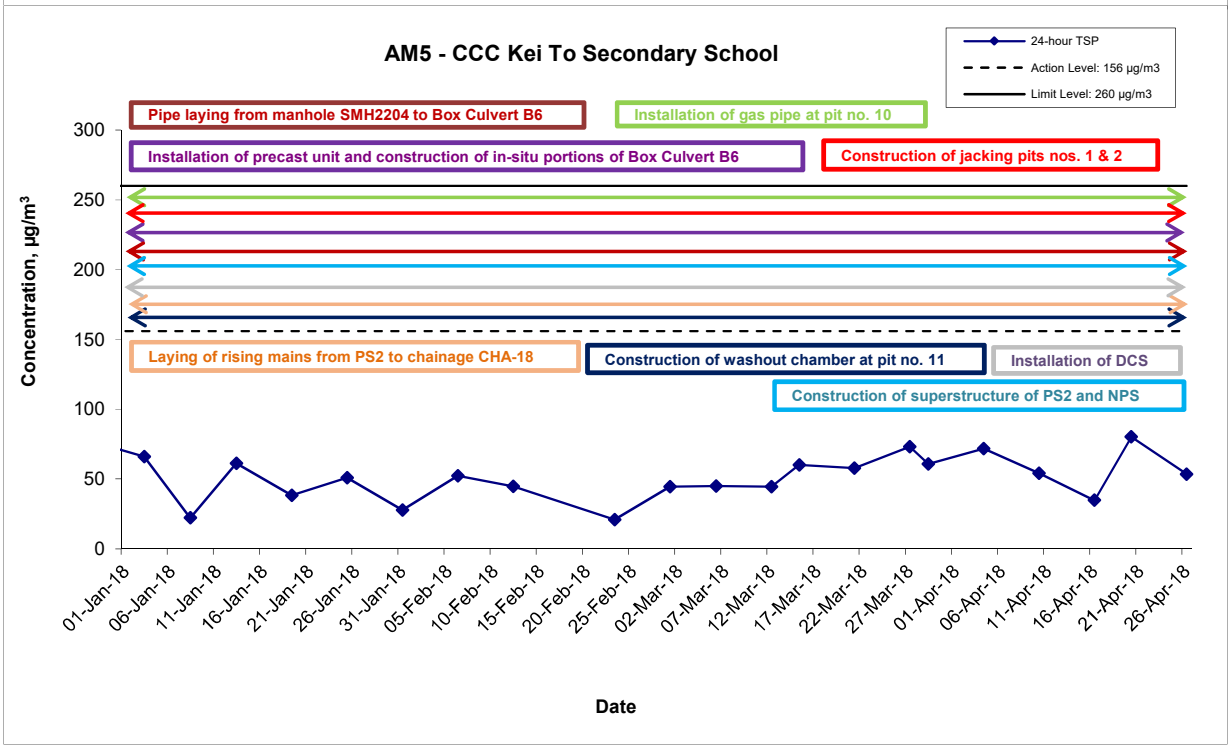
## 24-hr TSP Concentration Levels

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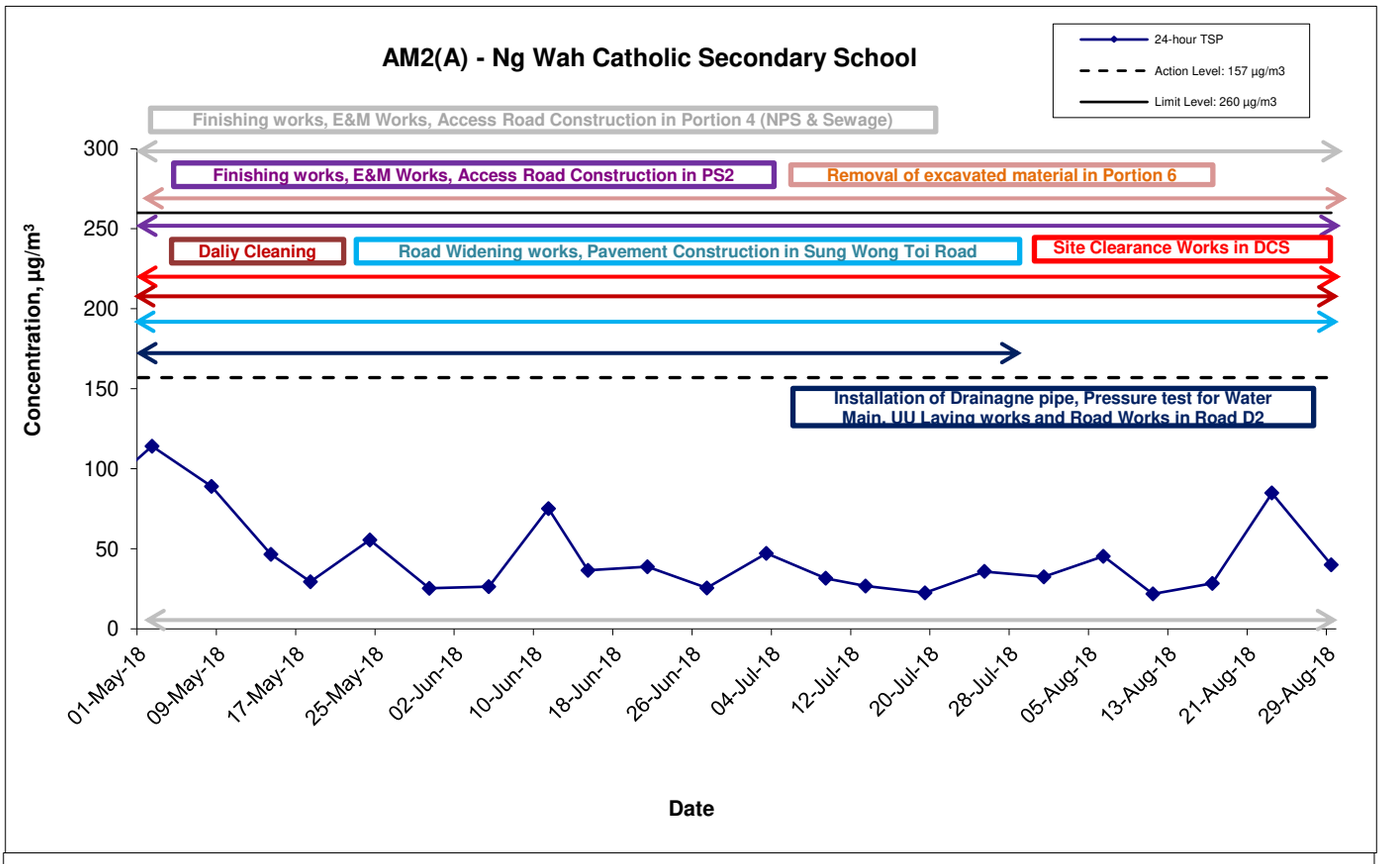
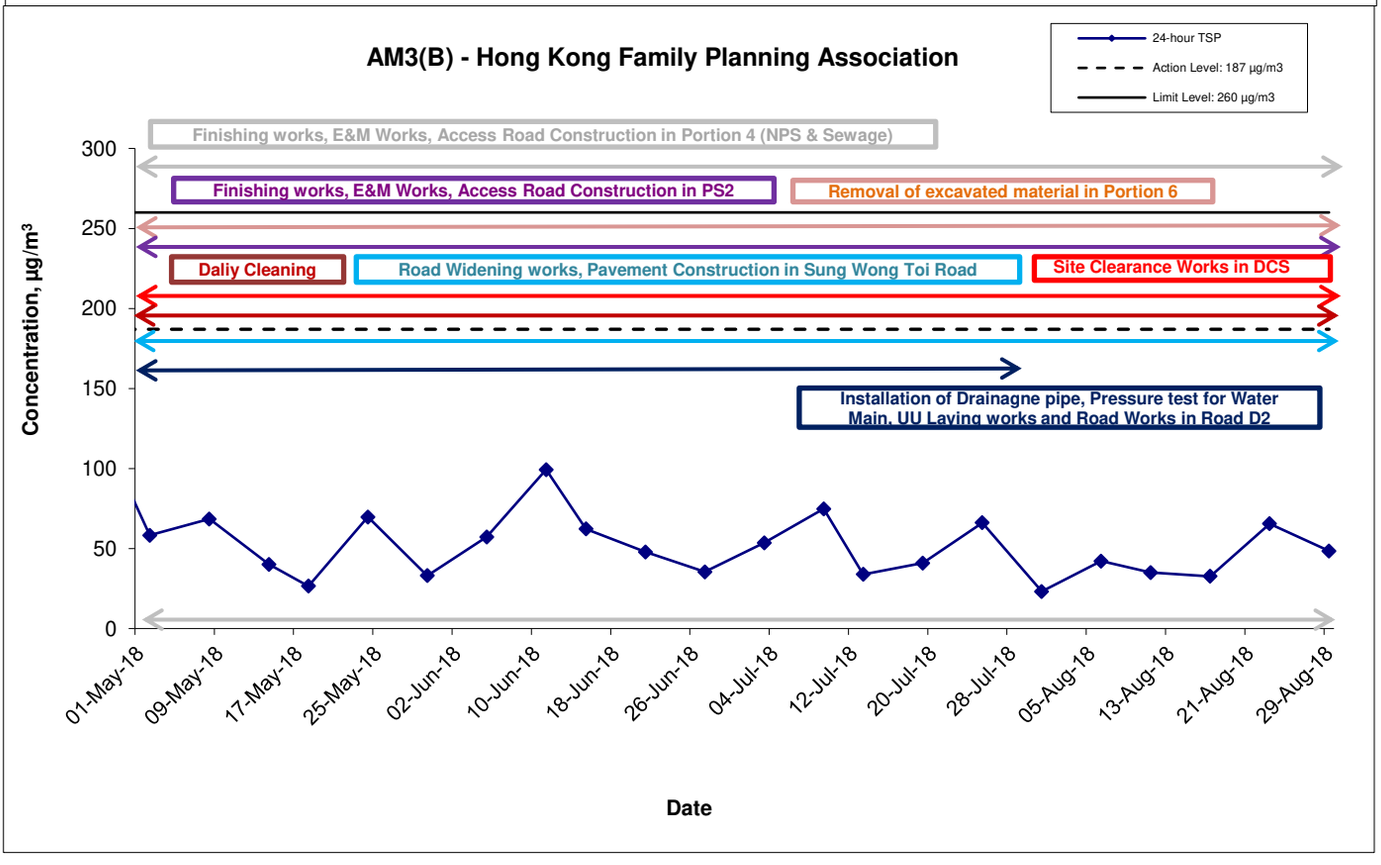
| | Date: *Jan-Apr 18* | Appendix: D | |

## 24-hr TSP Concentration Levels

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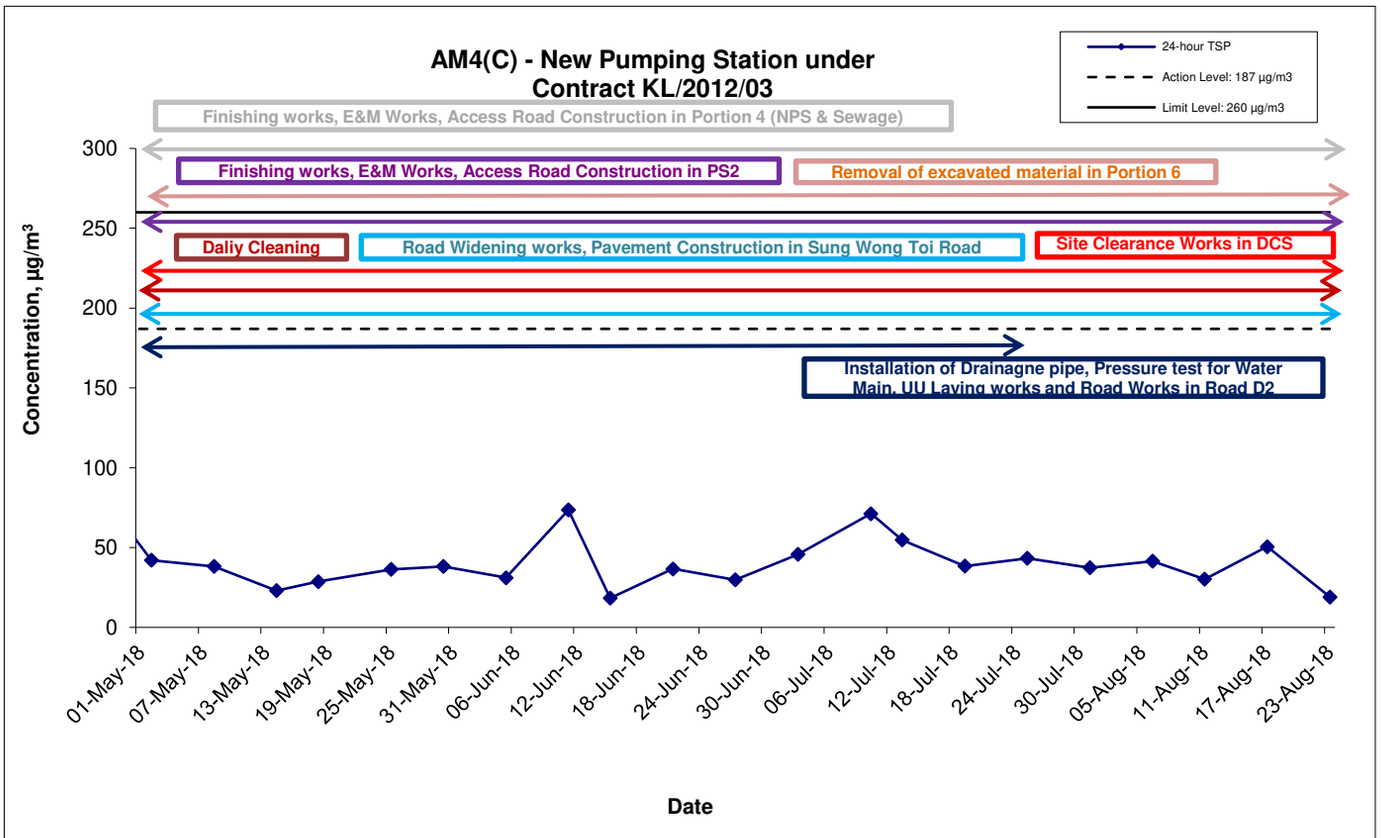
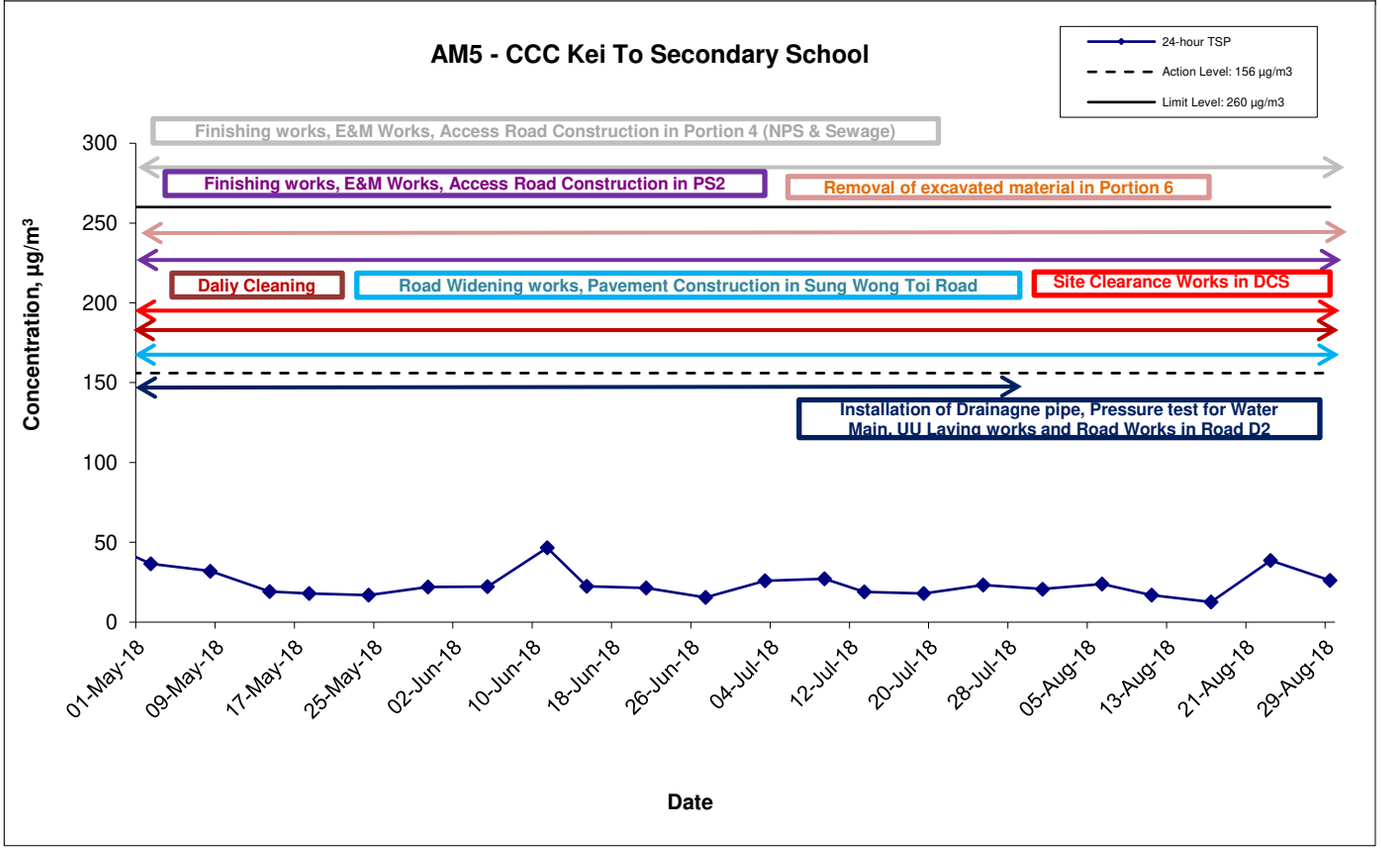
| | Date: May-Aug 18 | Appendix: D | |

## 24-hr TSP Concentration Levels

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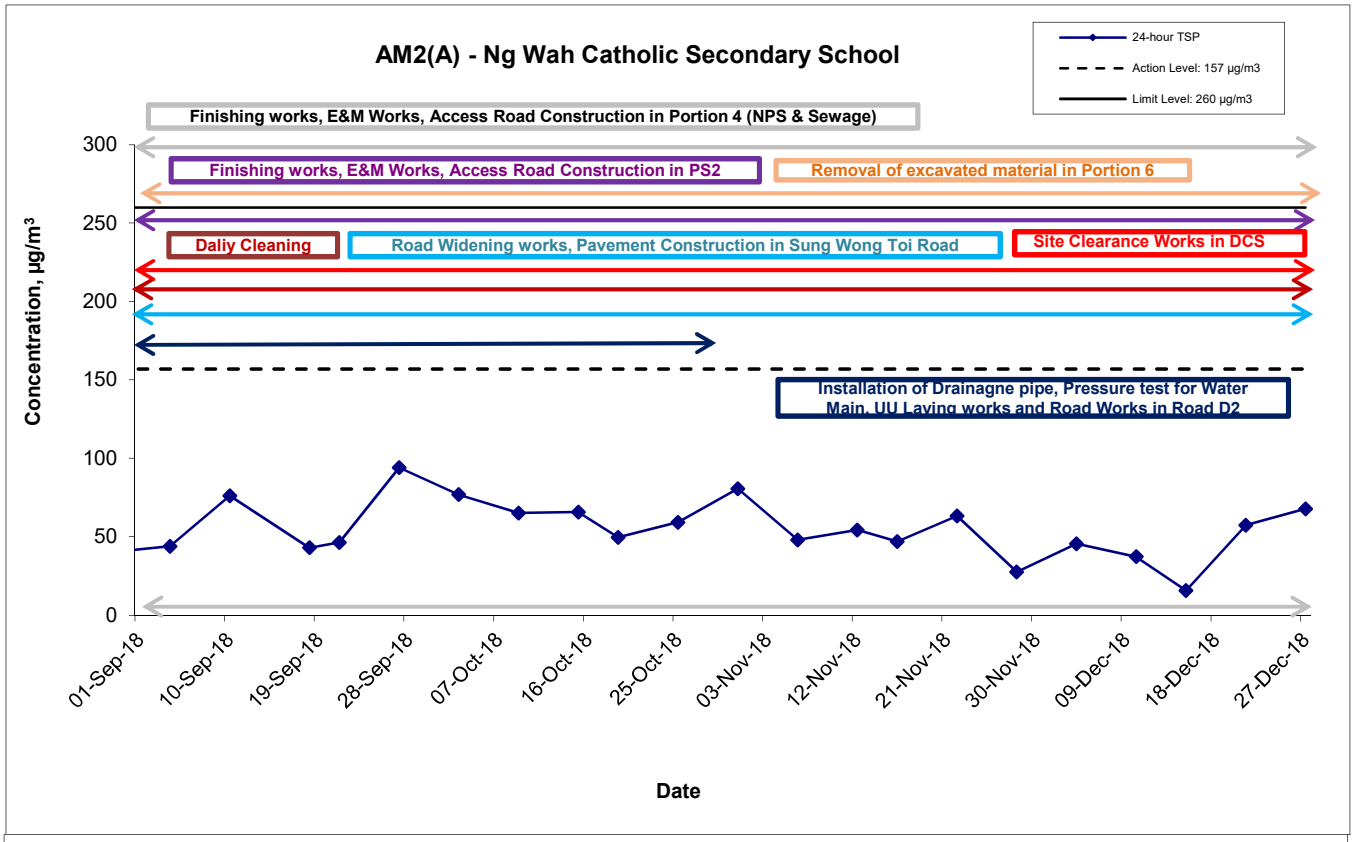
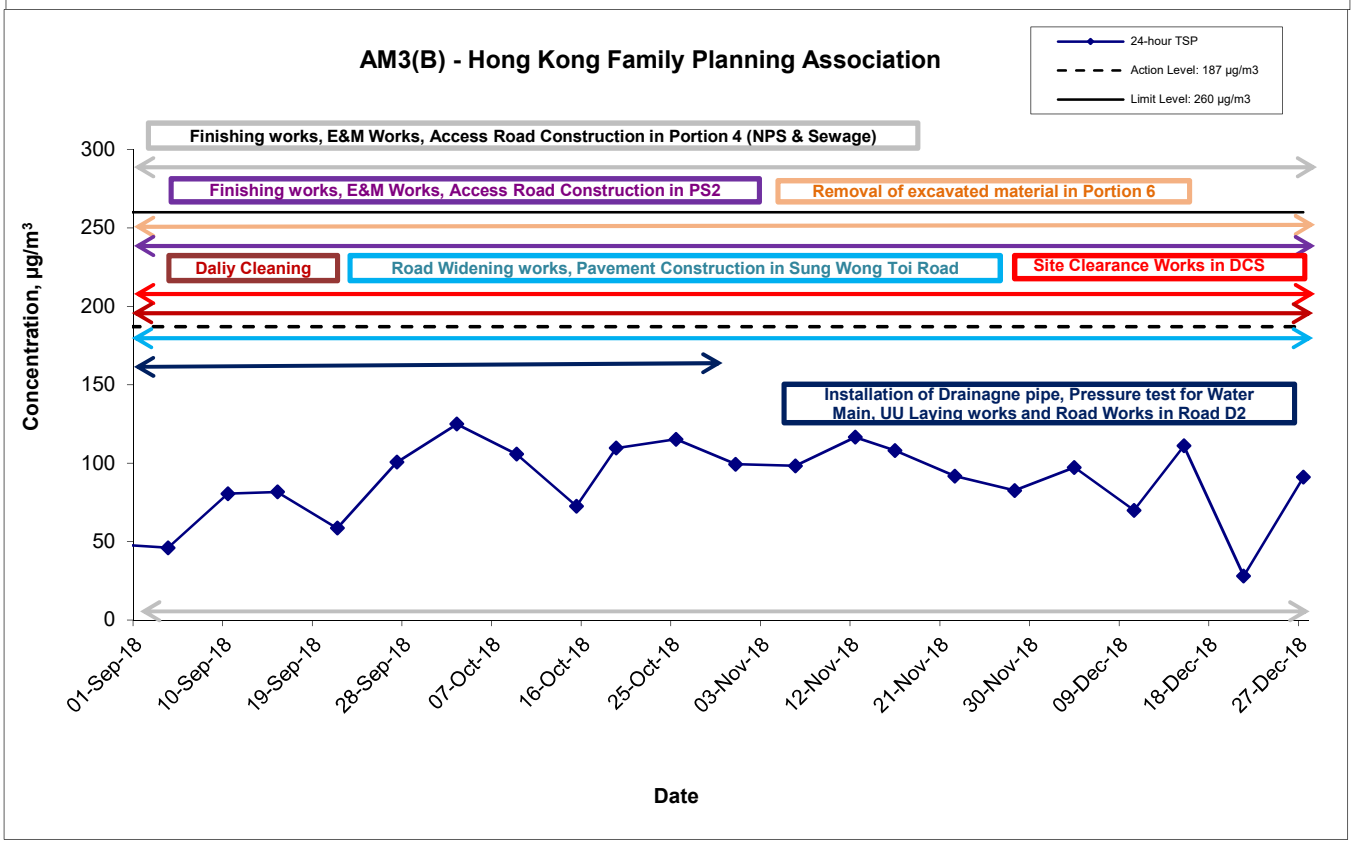
| | Date: May-Aug 18 | Appendix: D | |

## 24-hr TSP Concentration Levels

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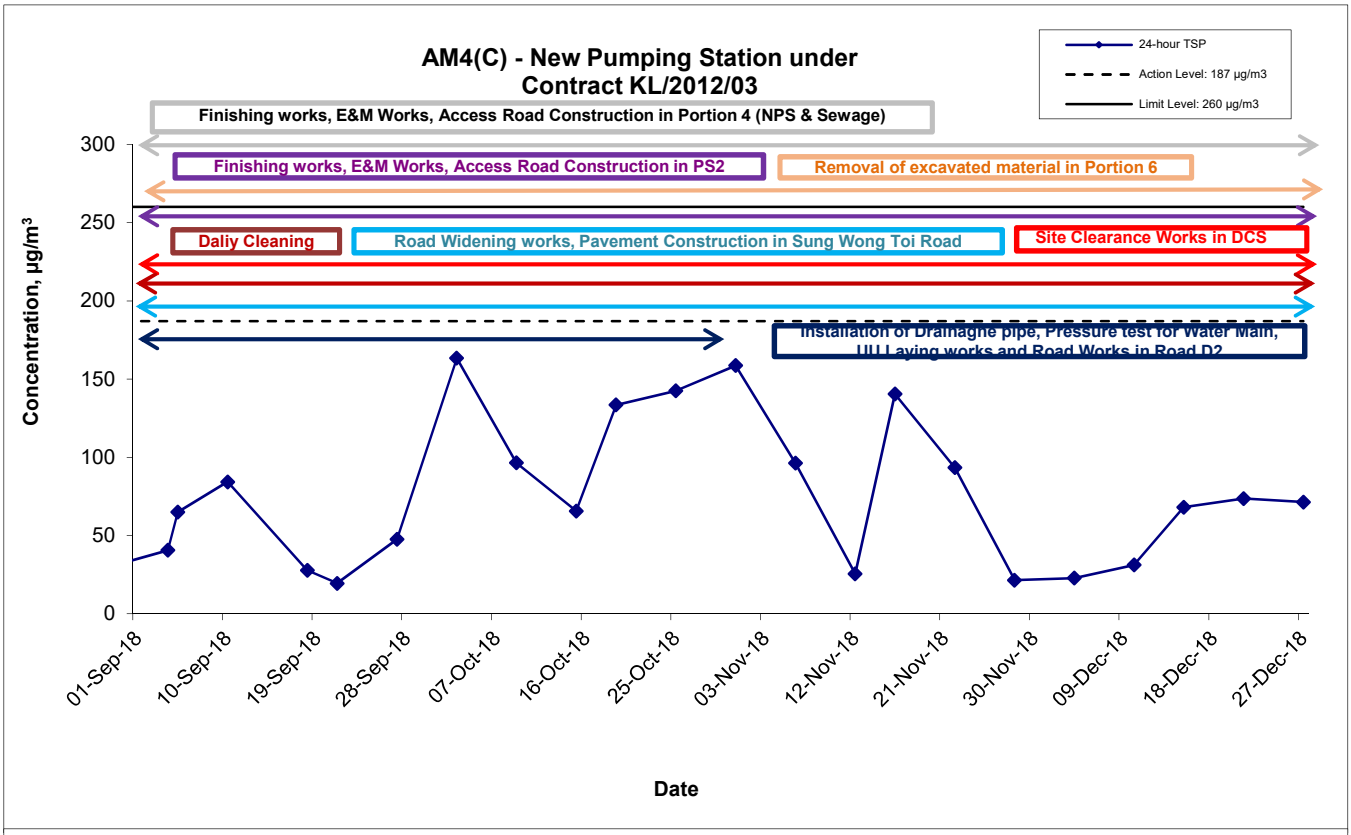
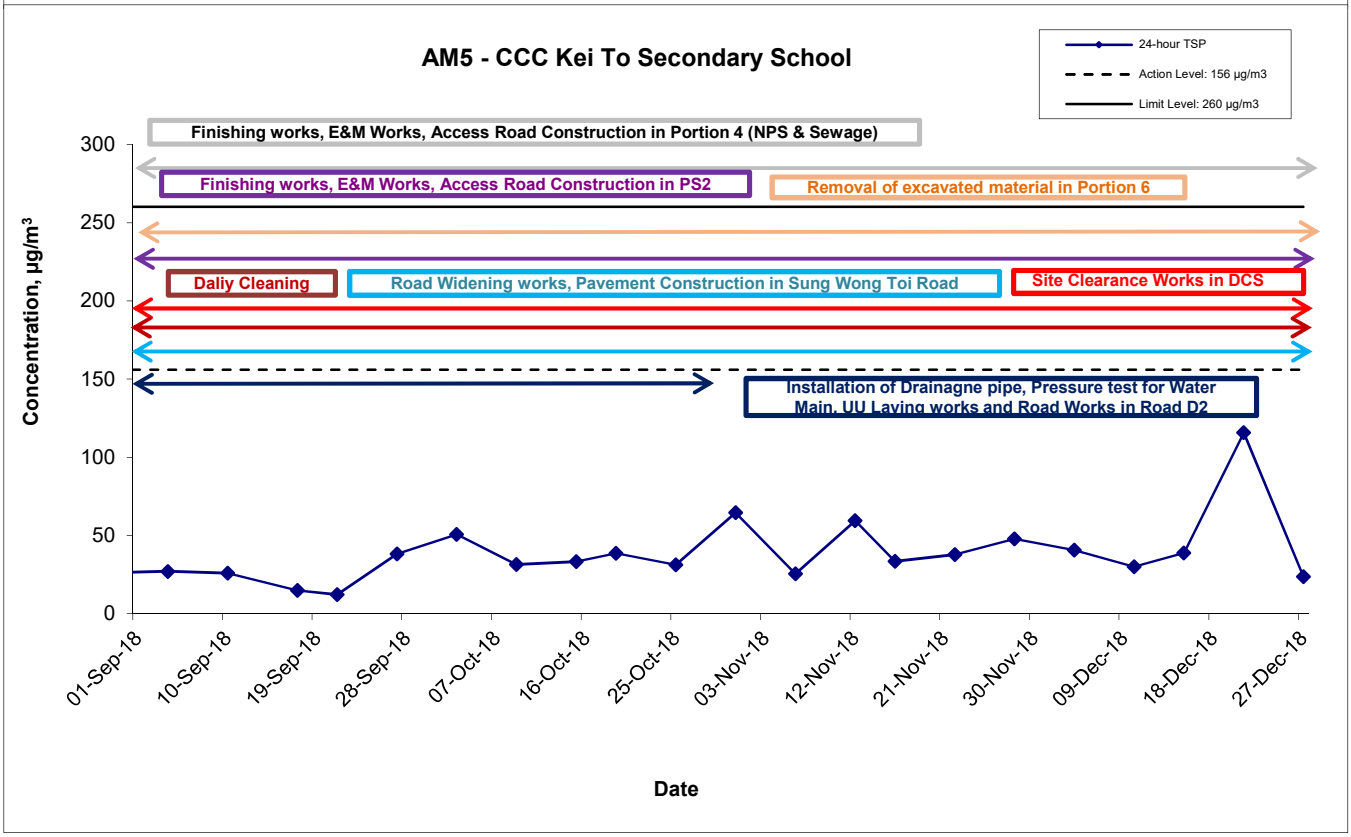
WELLAB 匯力 consulting . testing . research

## 24-hr TSP Concentration Levels

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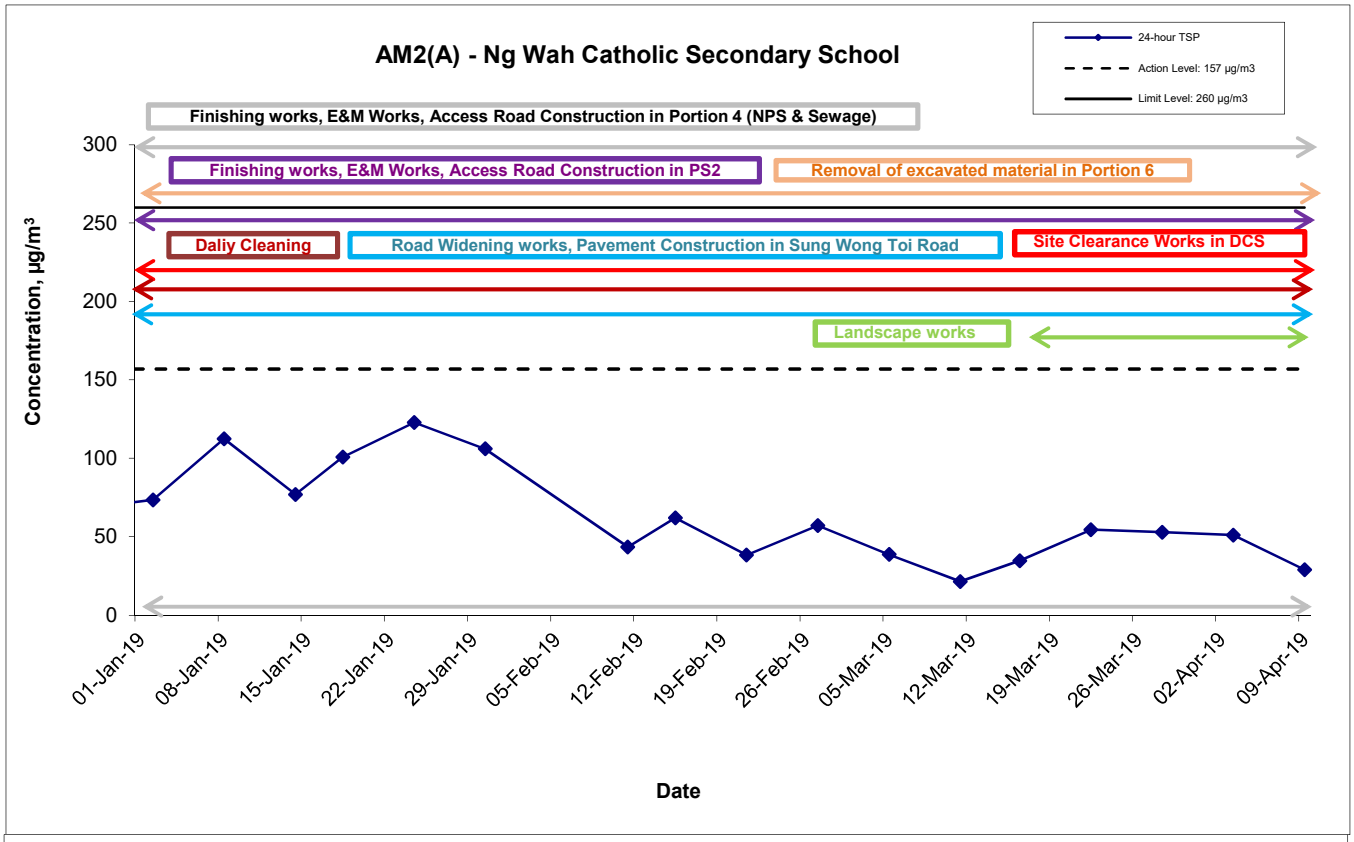
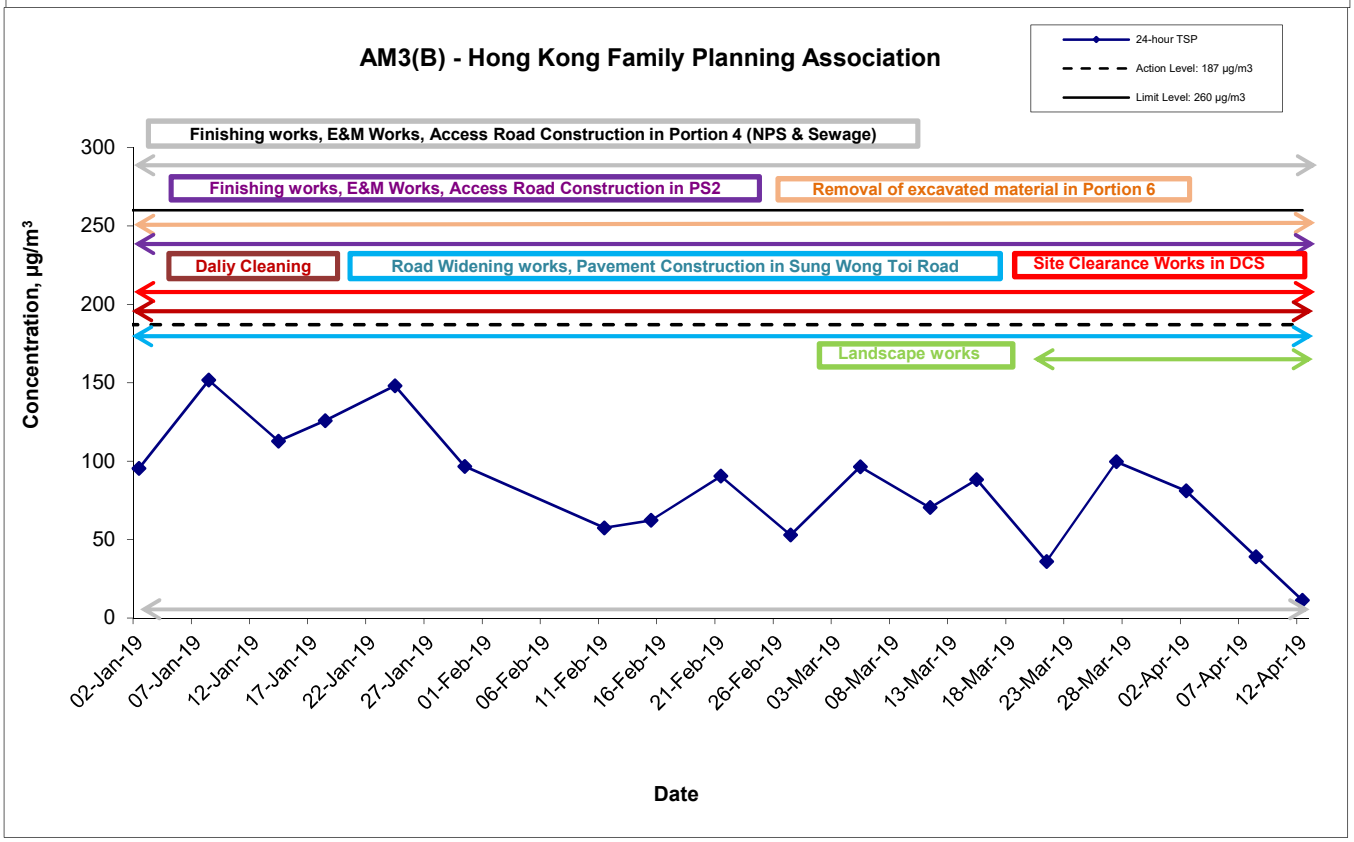
## 24-hr TSP Concentration Levels

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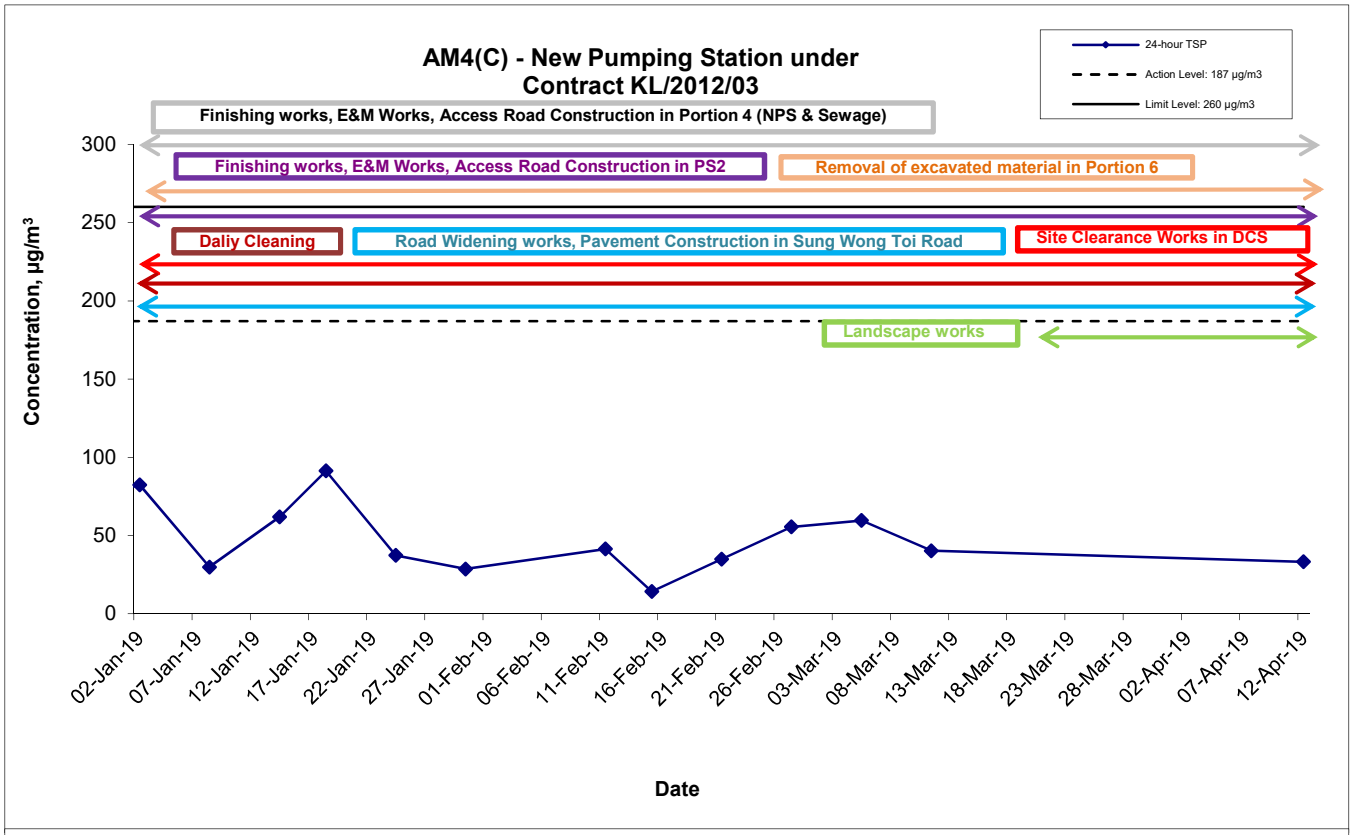
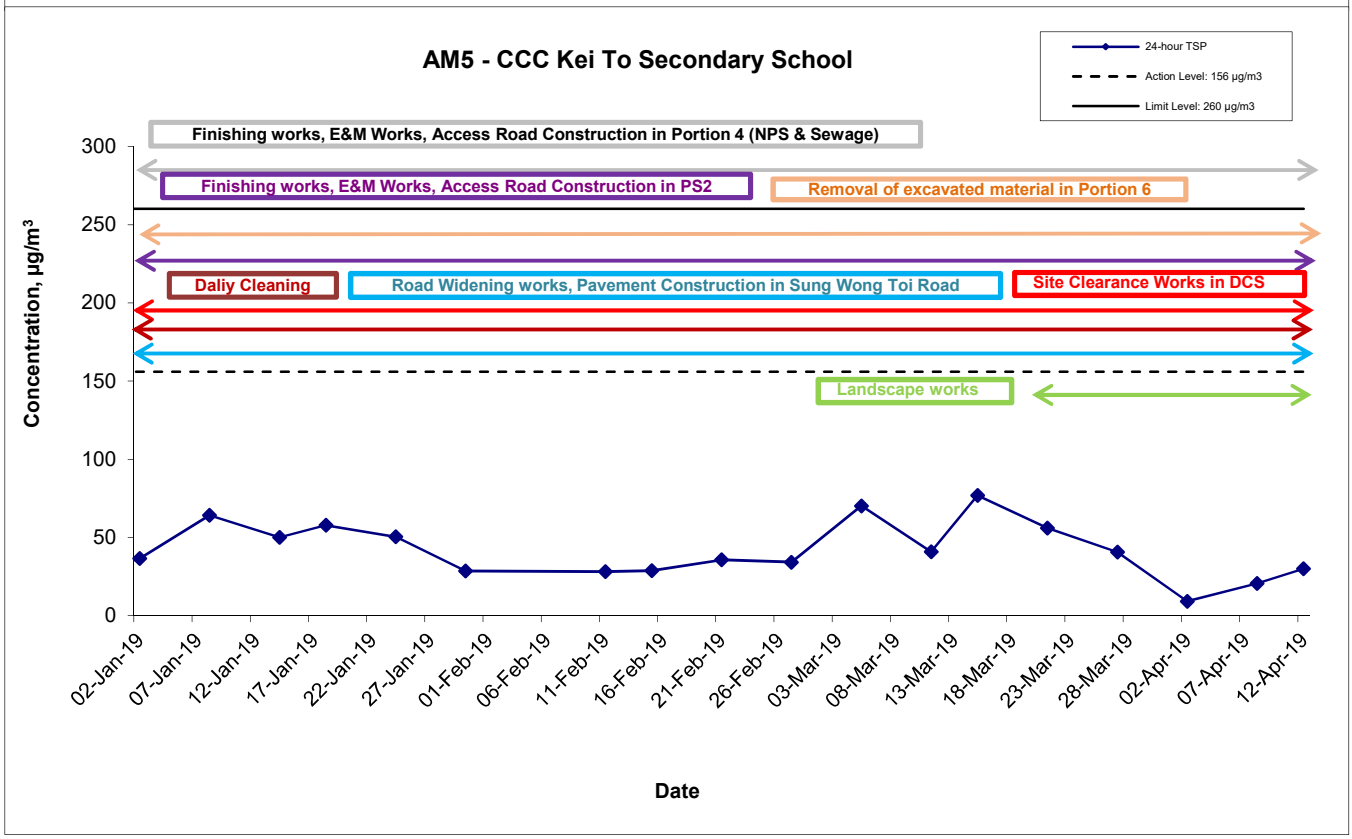
## 24-hr TSP Concentration Levels

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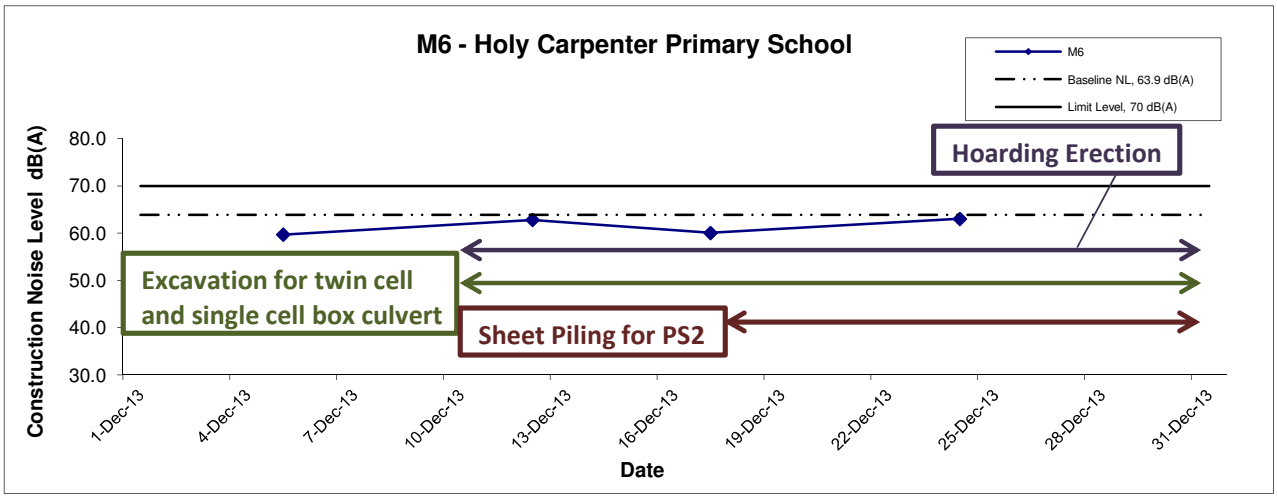
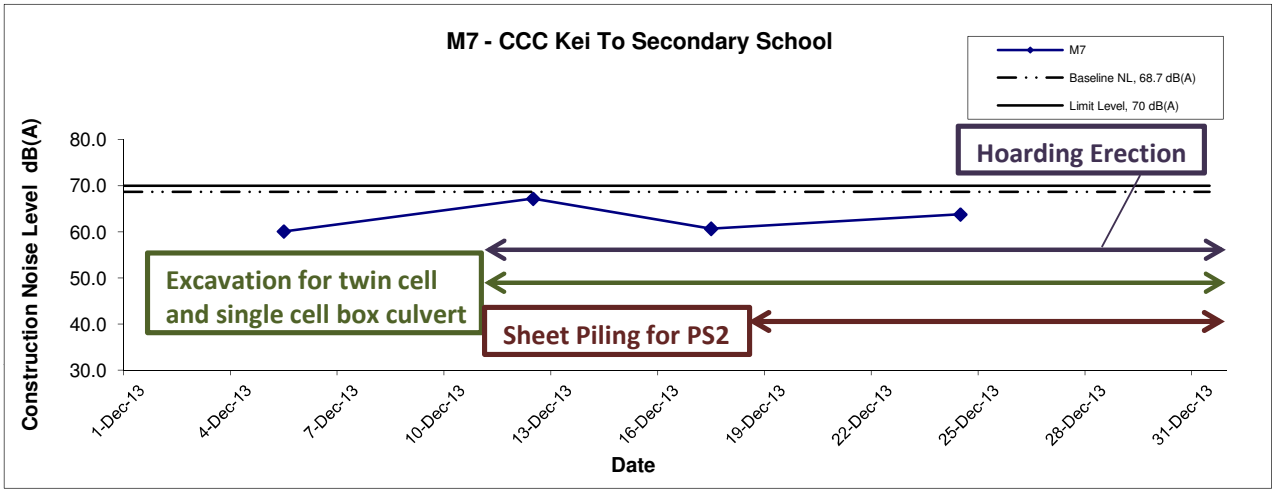
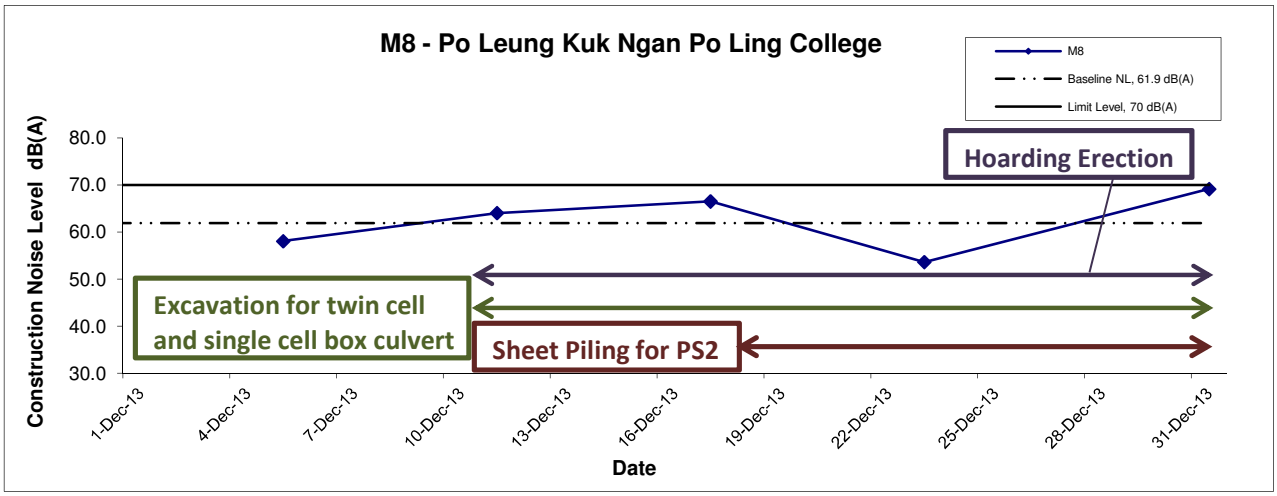
**APPENDIX E**
**GRAPHICAL PRFESENTATION FOR NOISE MONITORING**

# Noise Levels

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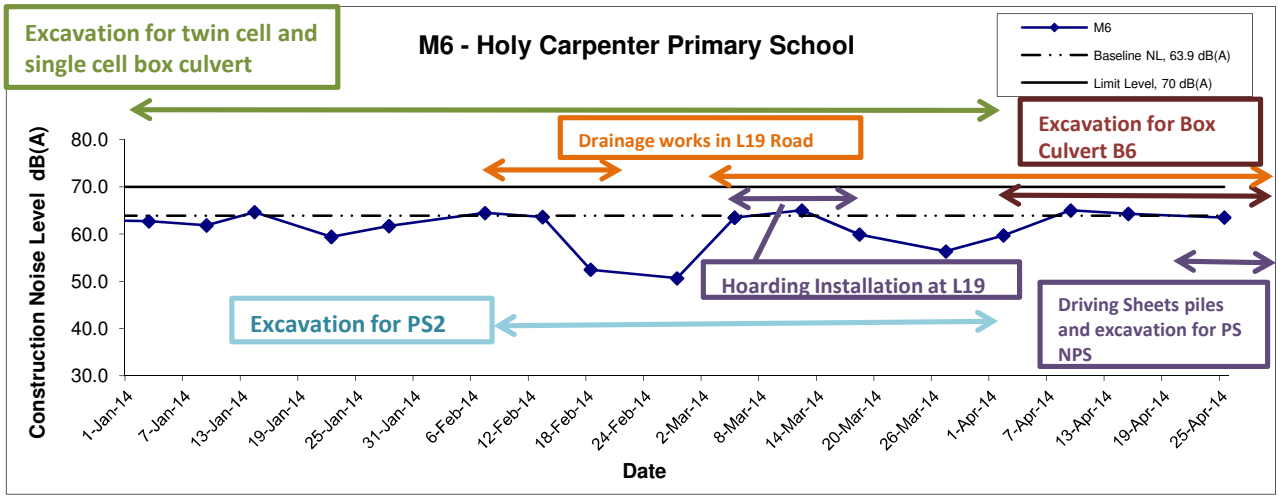
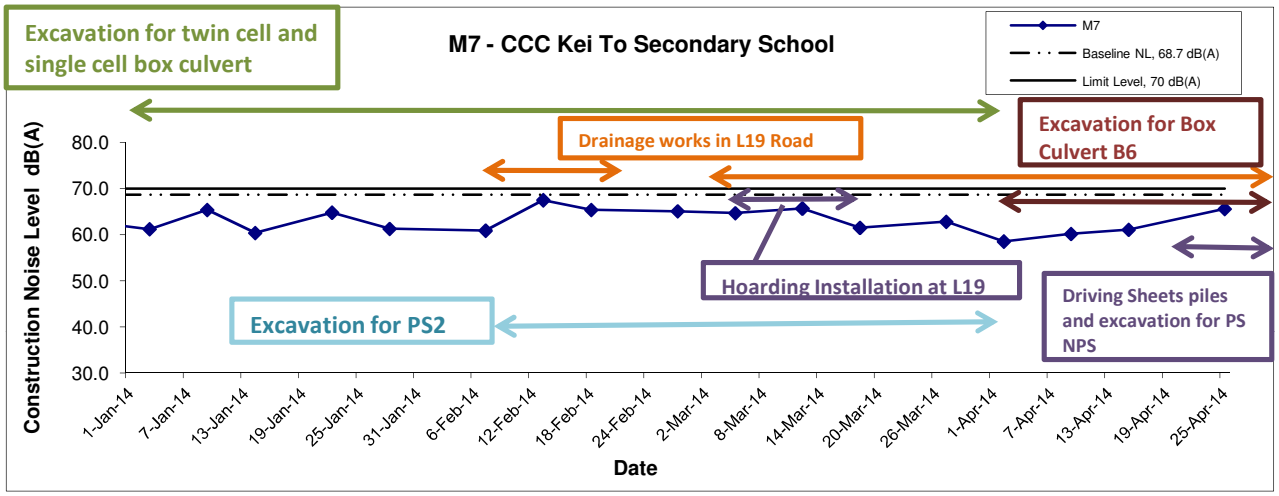
# Noise Levels

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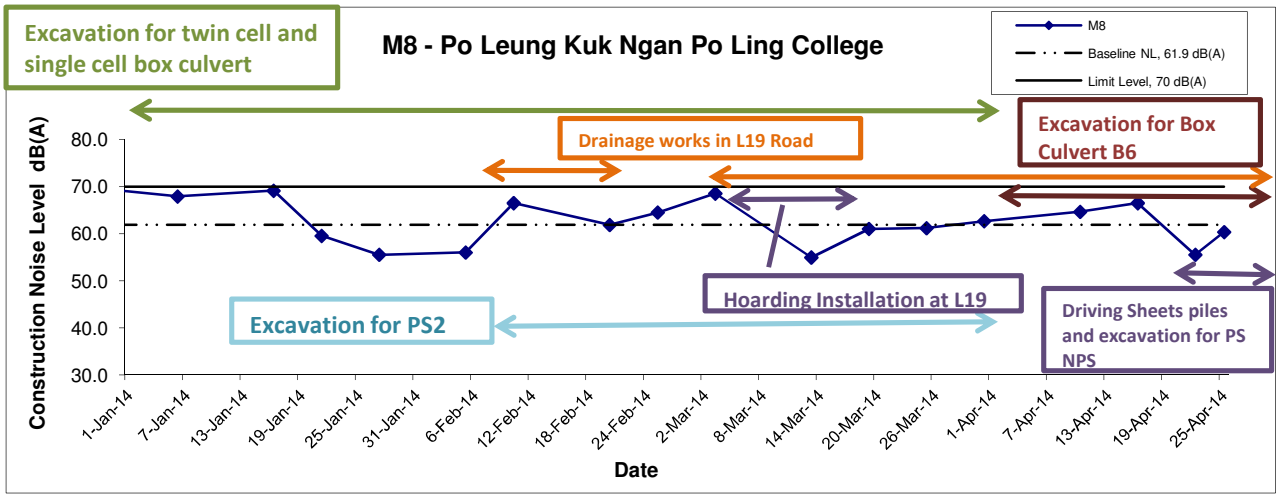
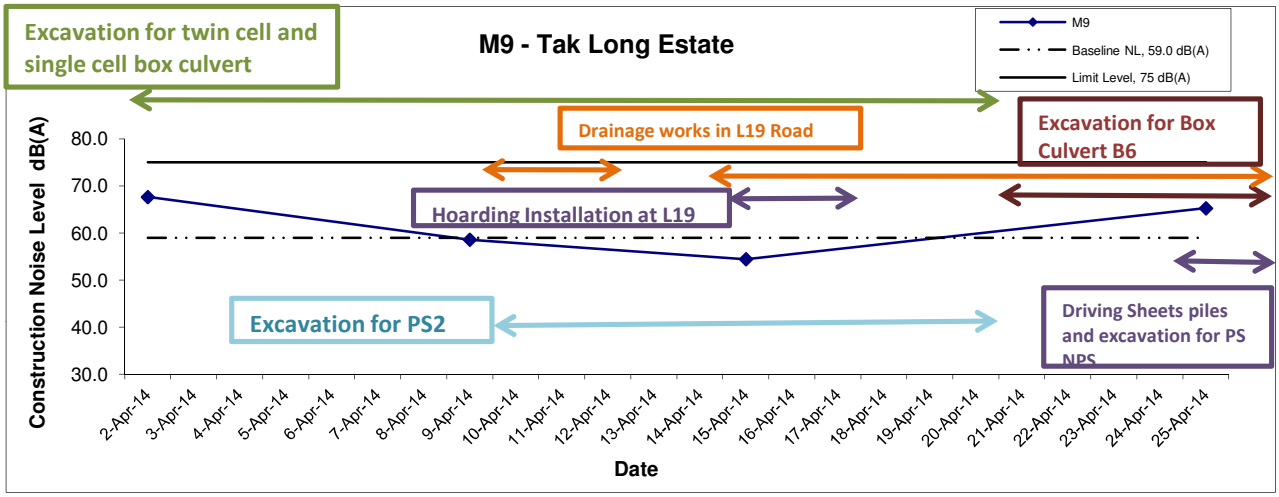
# Noise Levels

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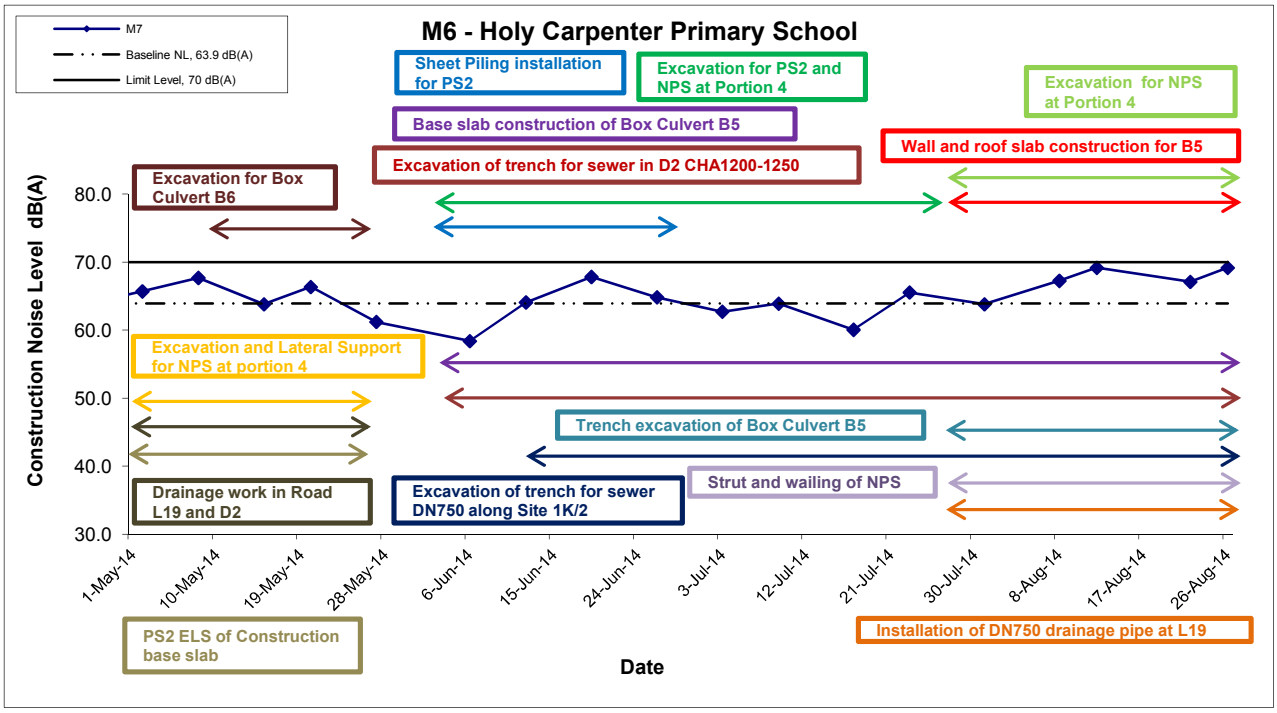
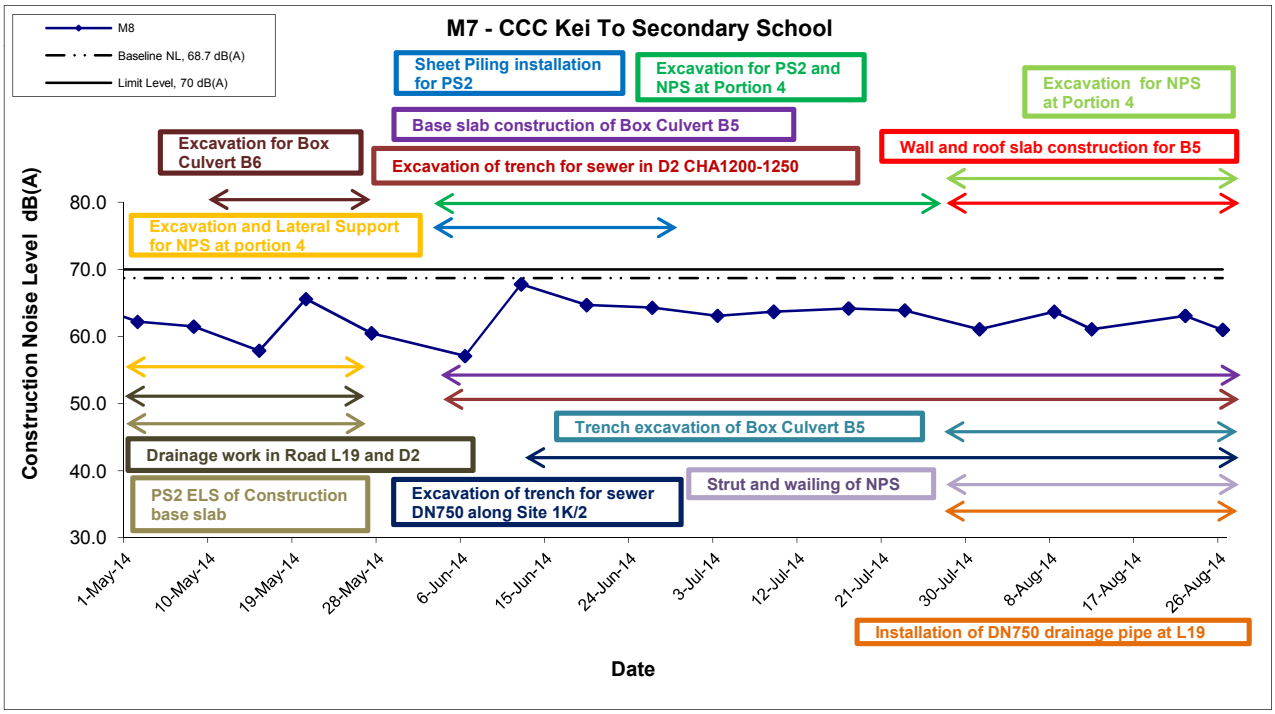
| | | Date<br>Jan-Apr 14 | Appendix<br>E | |

# Noise Levels

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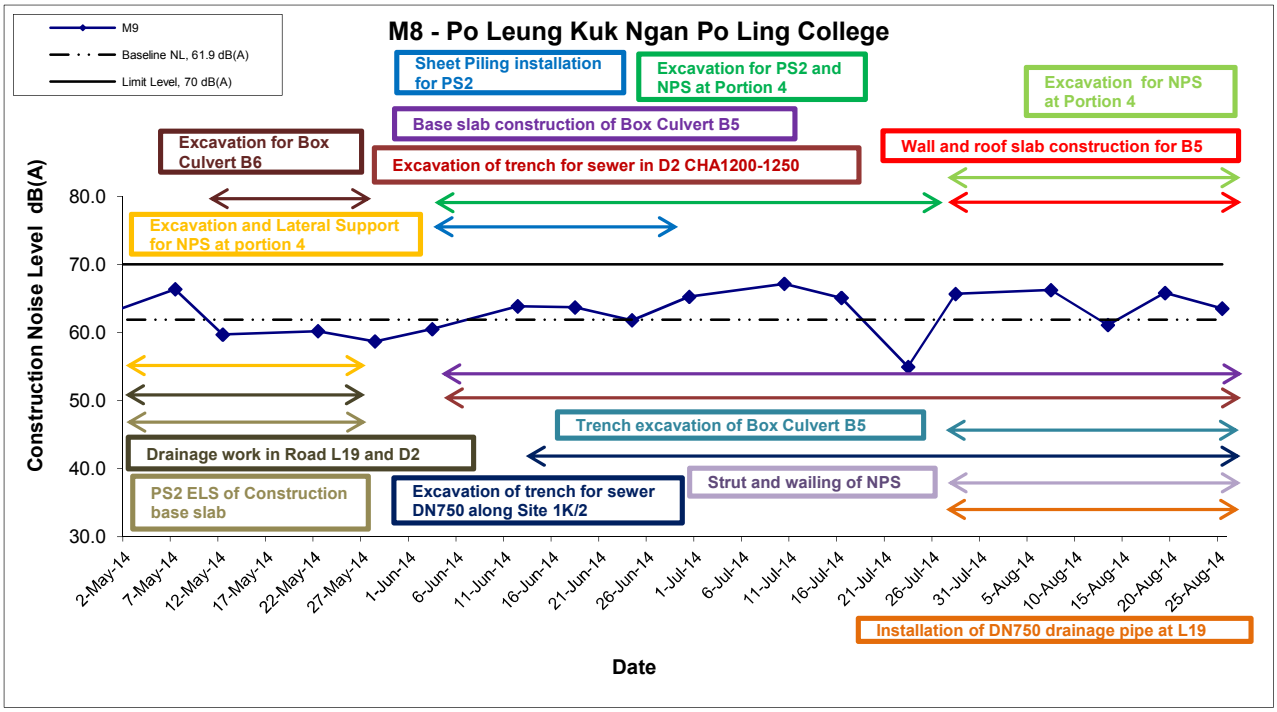
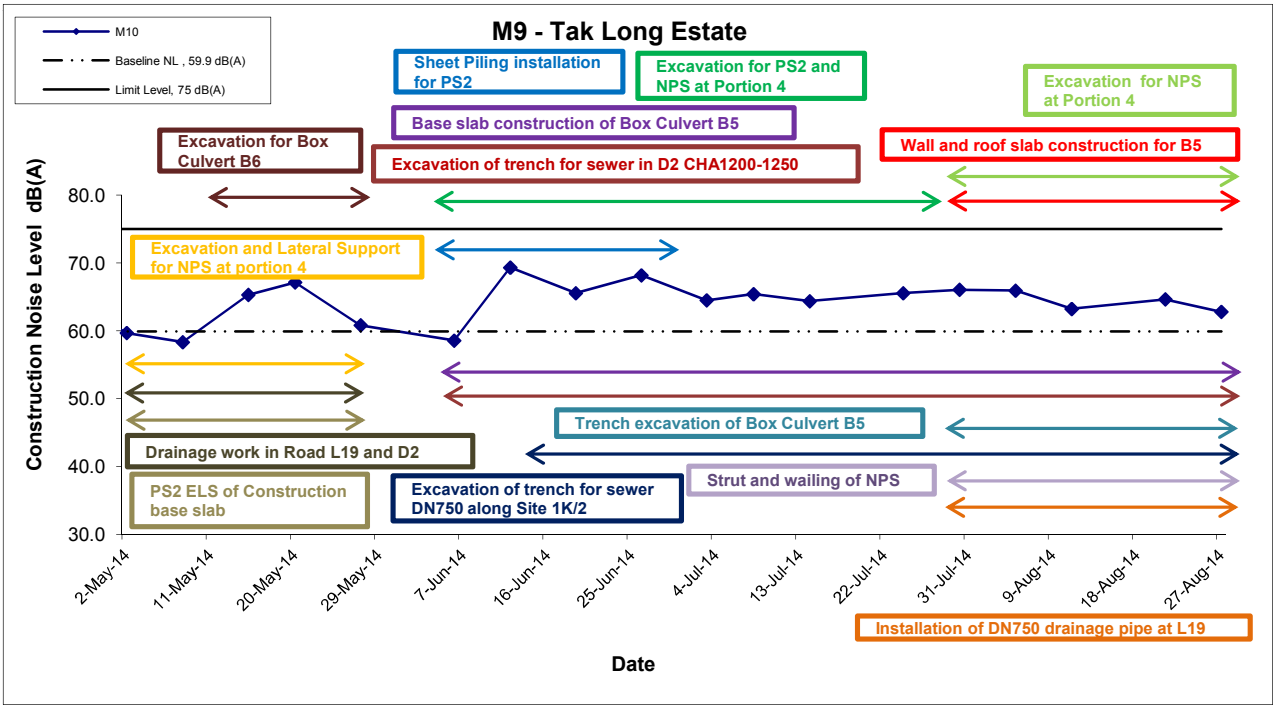
# Noise Levels

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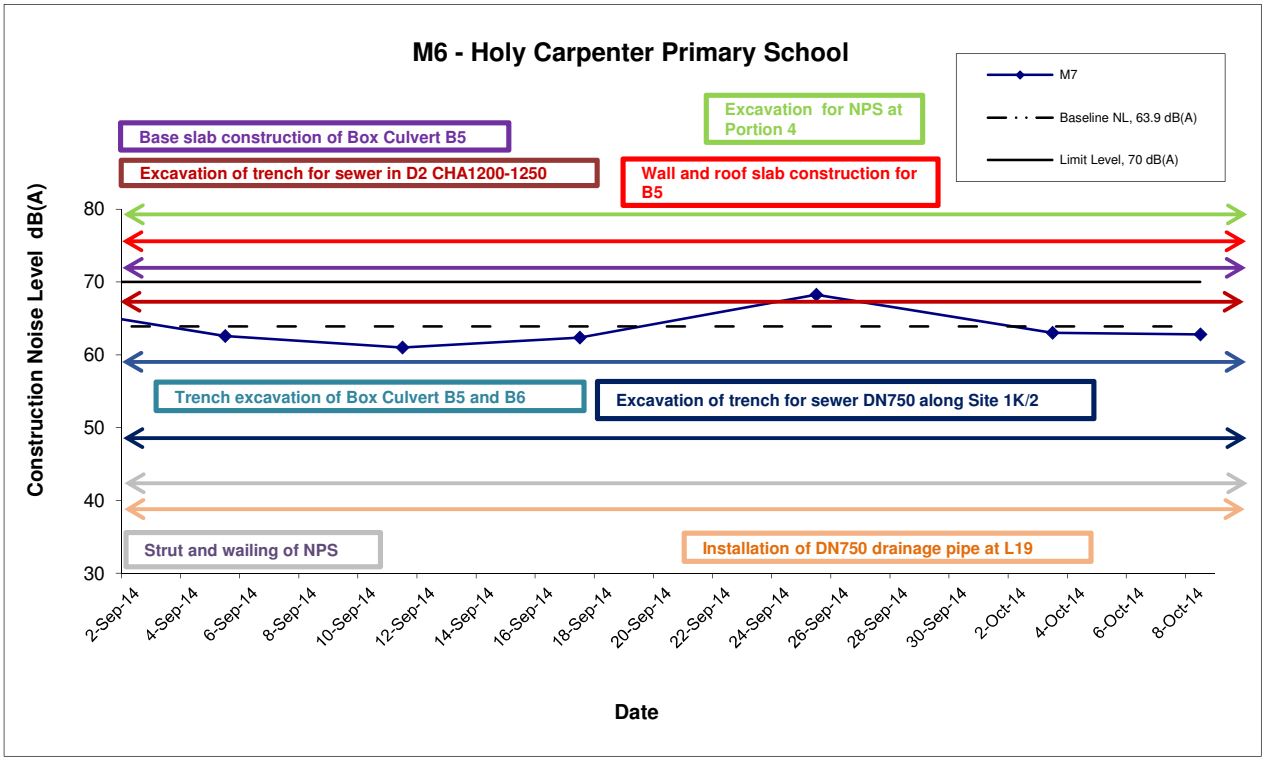
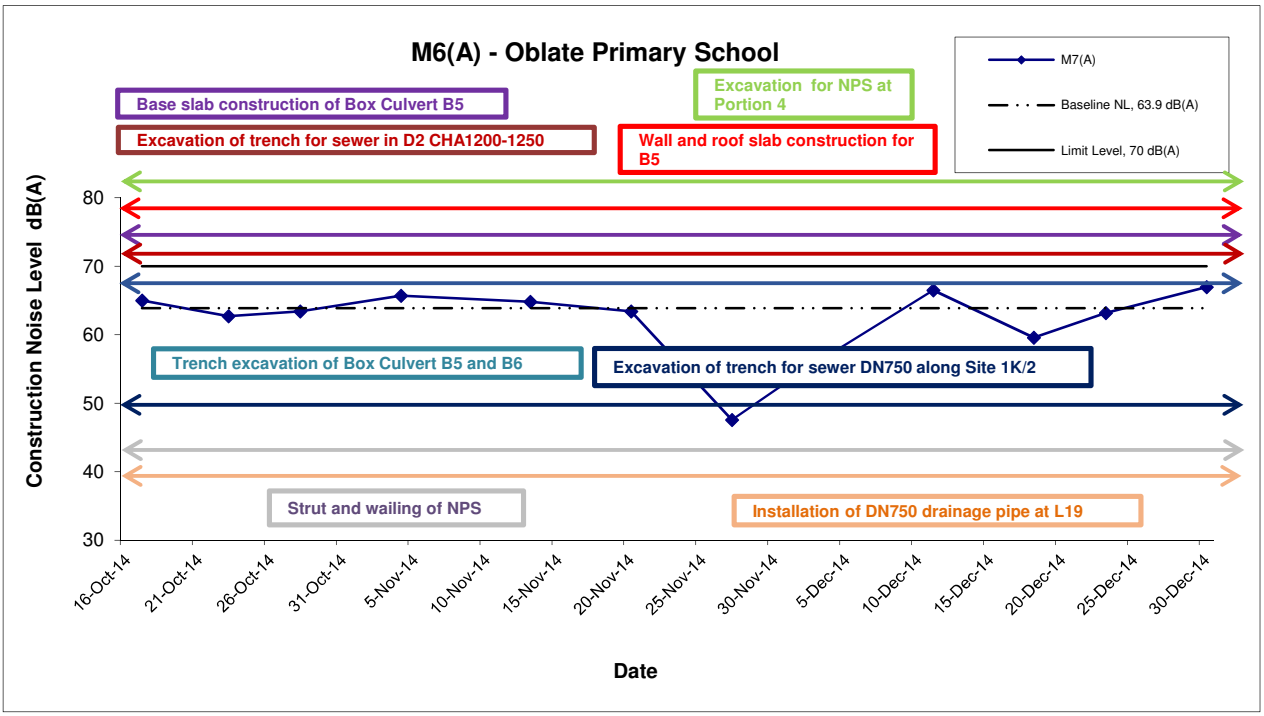
# Noise Levels

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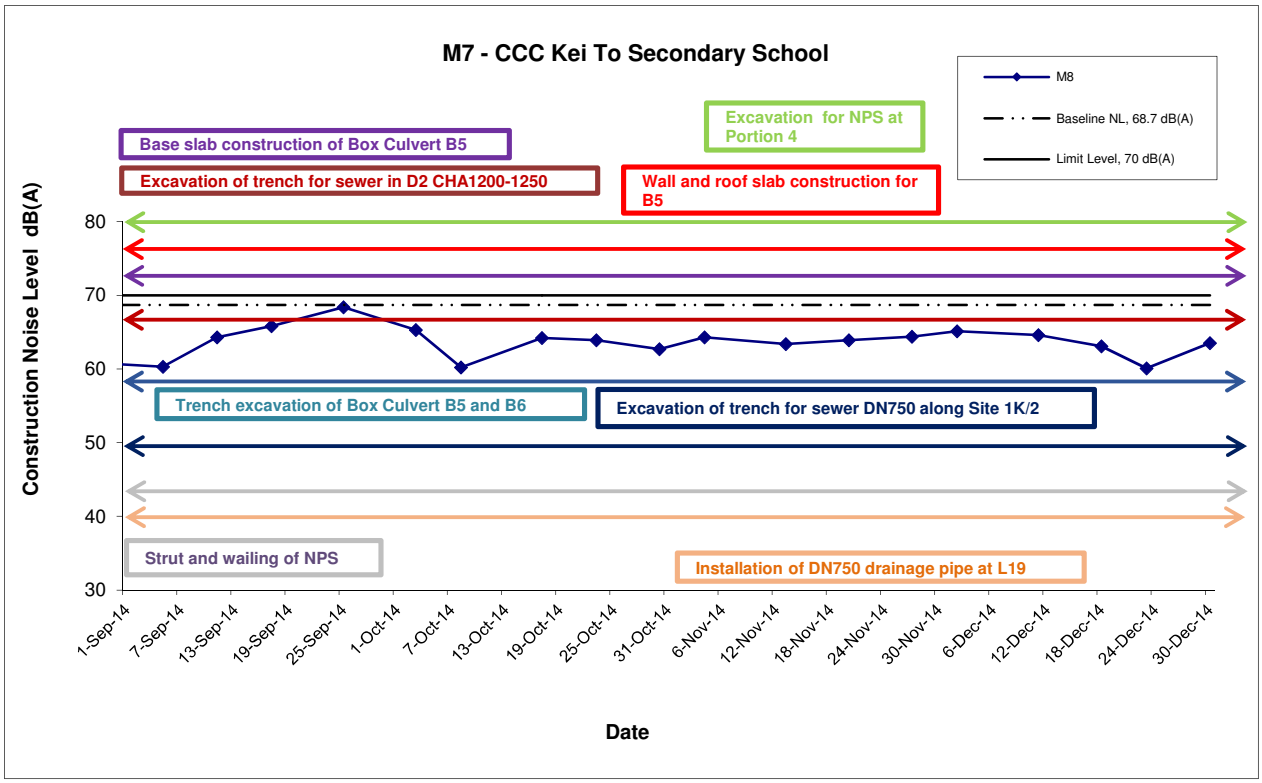
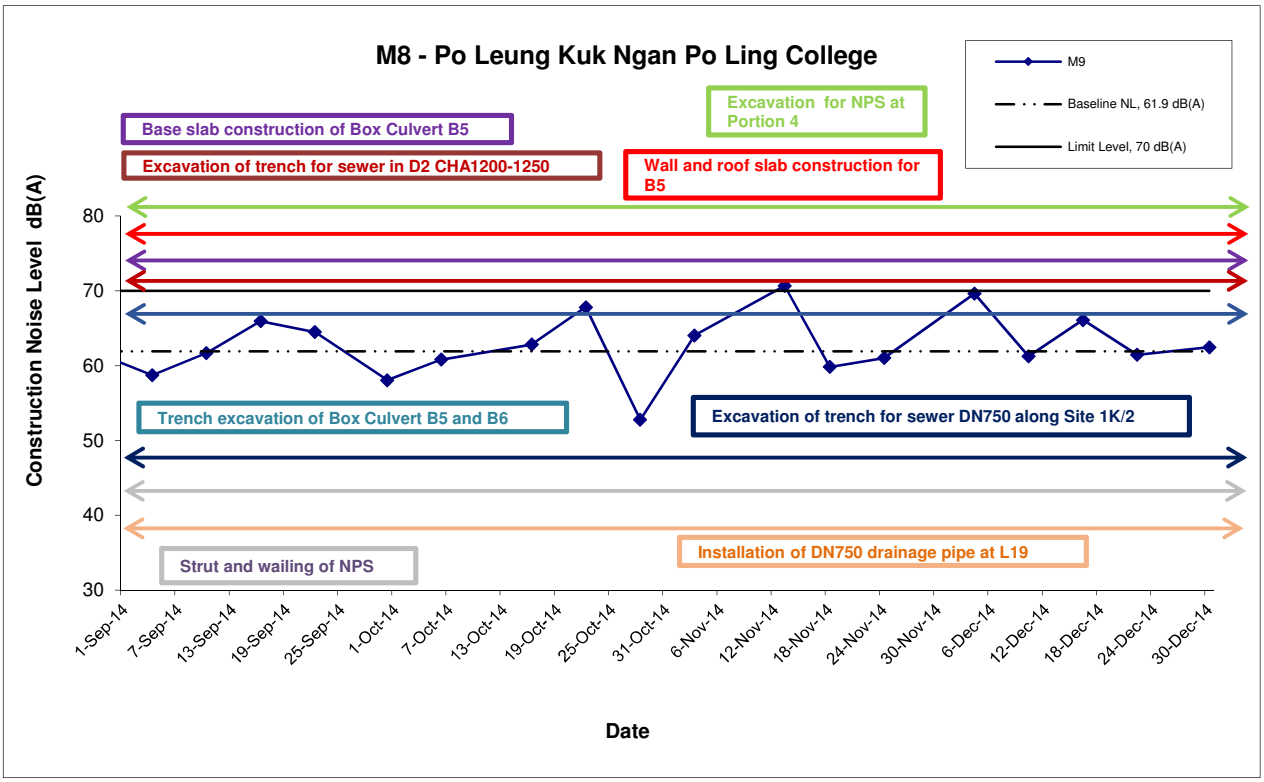
# Noise Levels

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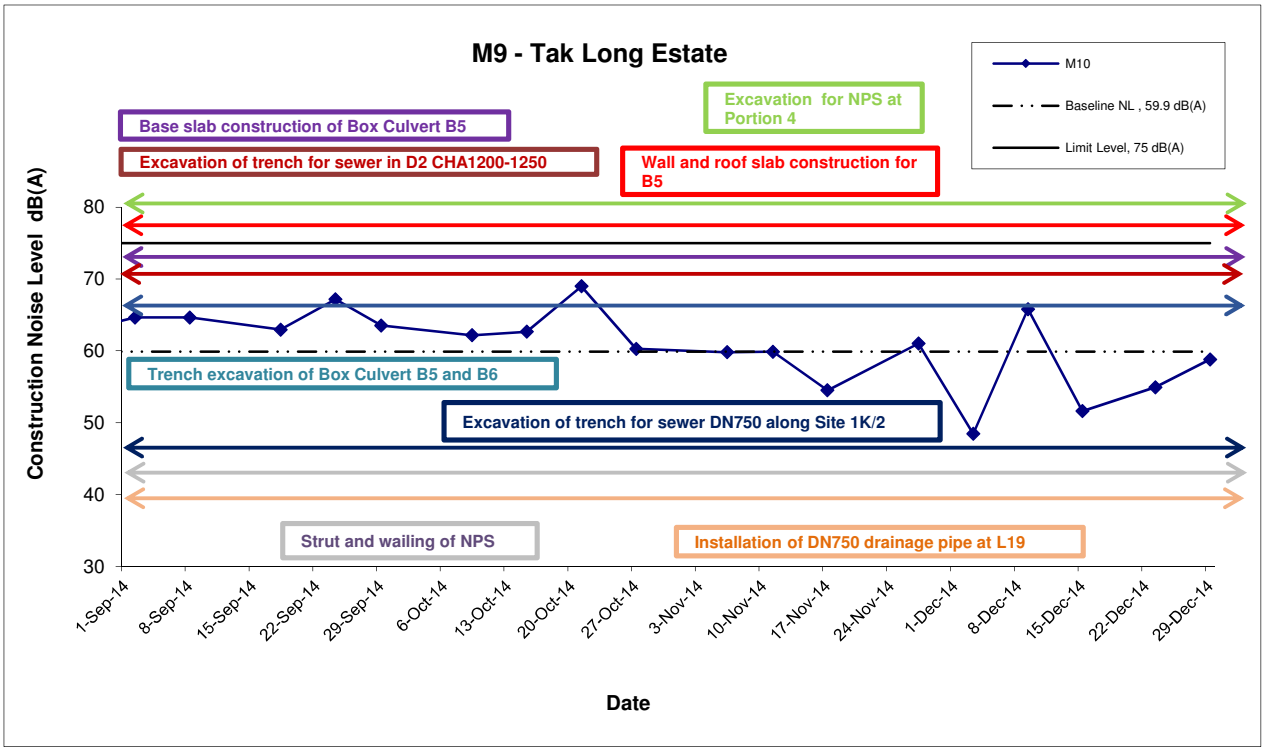
# Noise Levels

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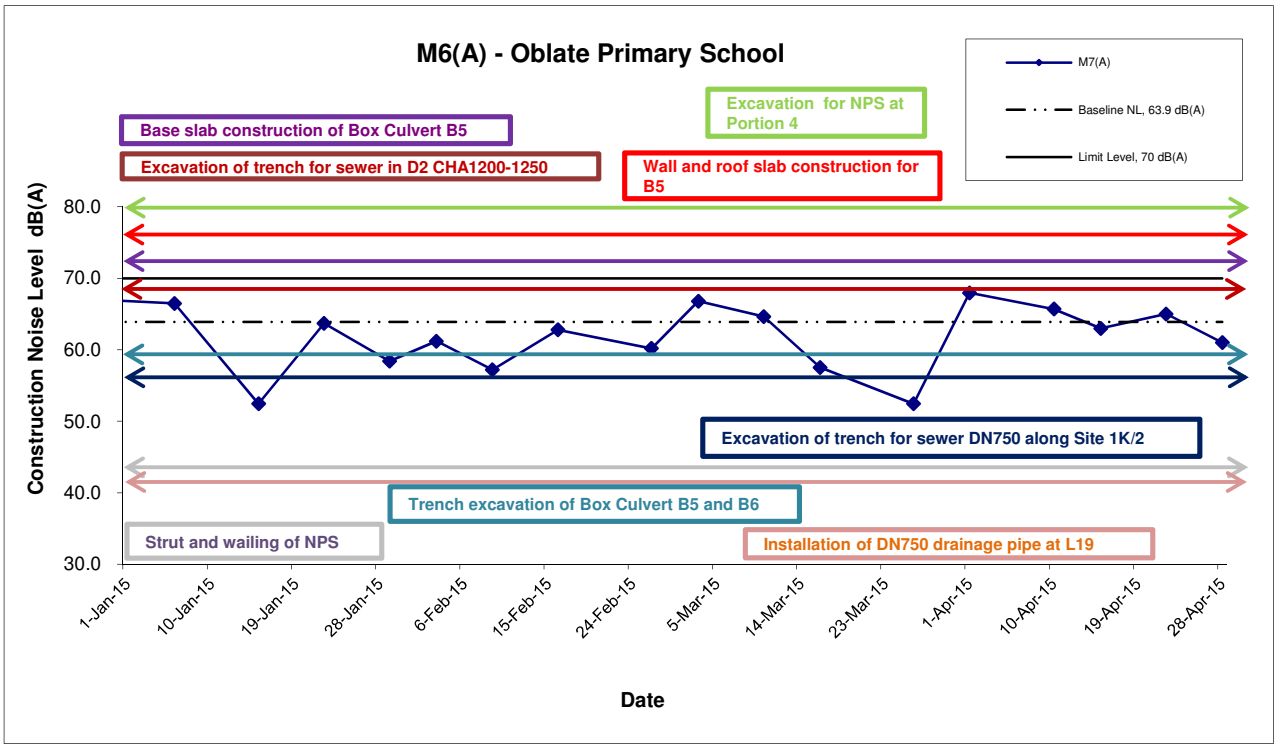
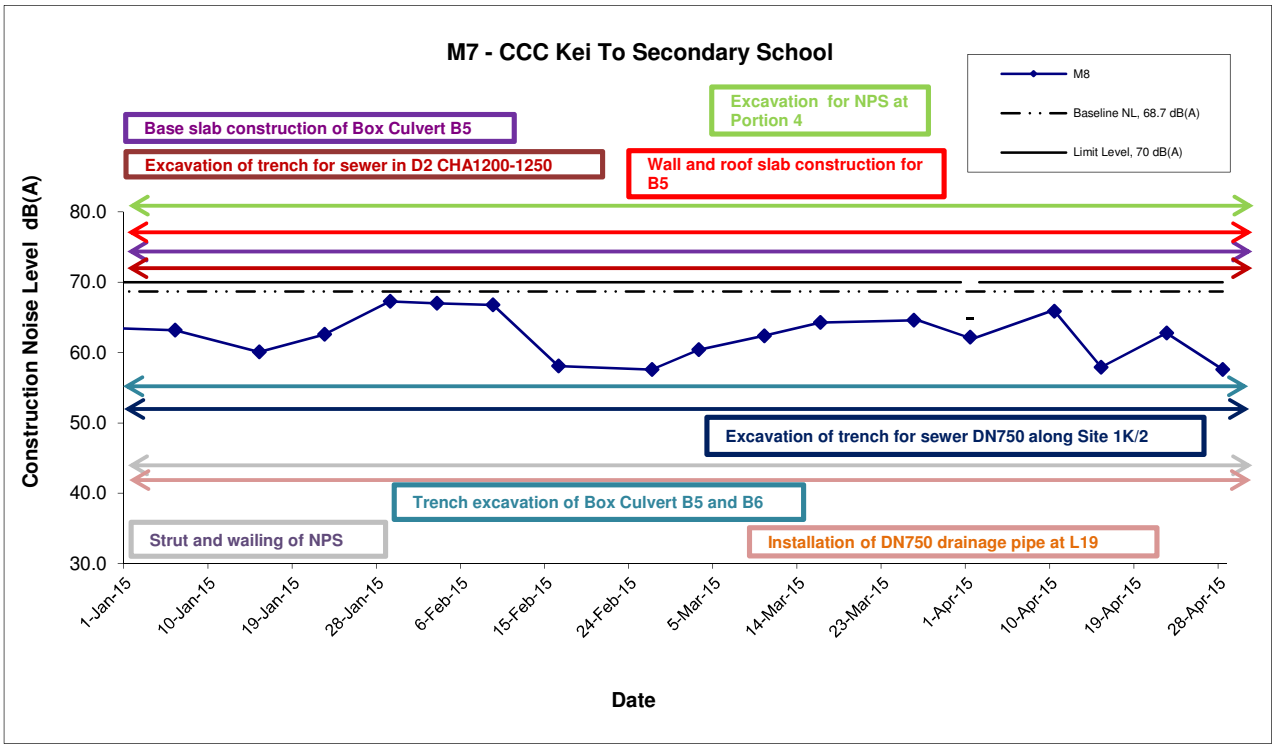
| | | Date<br>Sep-Dec 14 | Appendix<br>E | |

# Noise Levels

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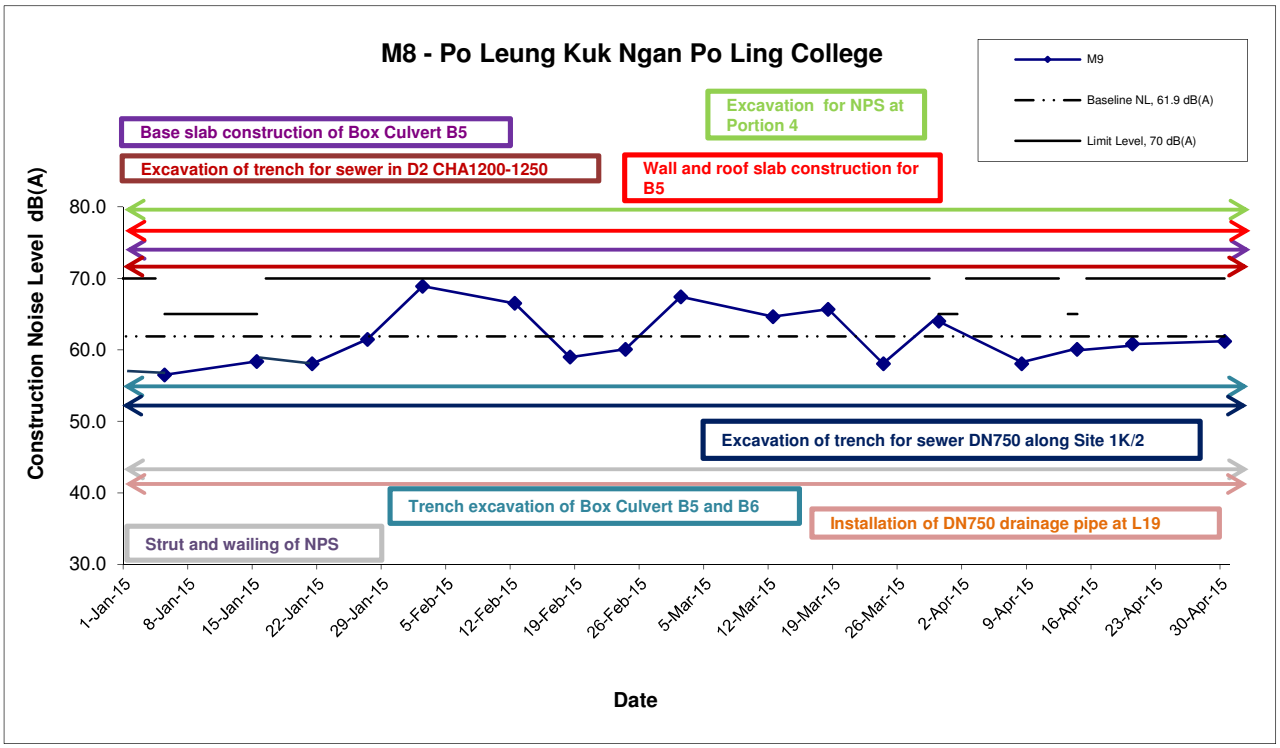
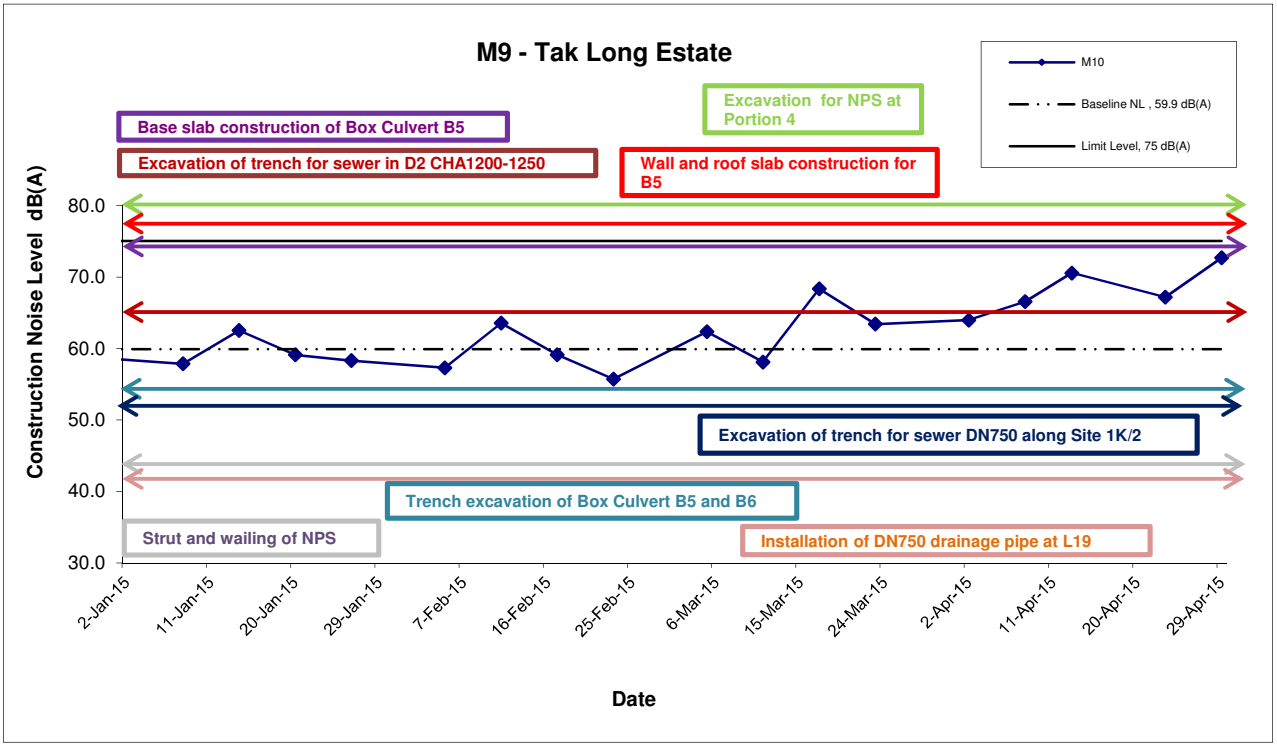
| | | Date Jan-Apr 15 | Appendix E | |

# Noise Levels

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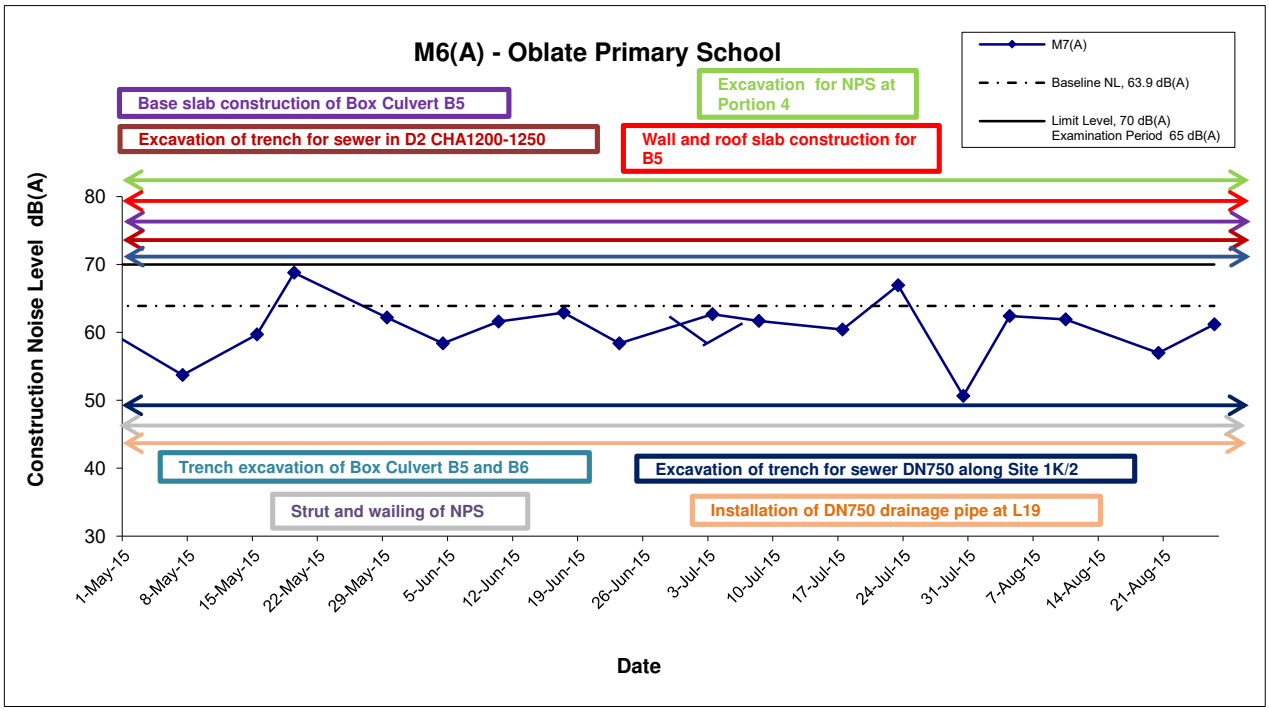
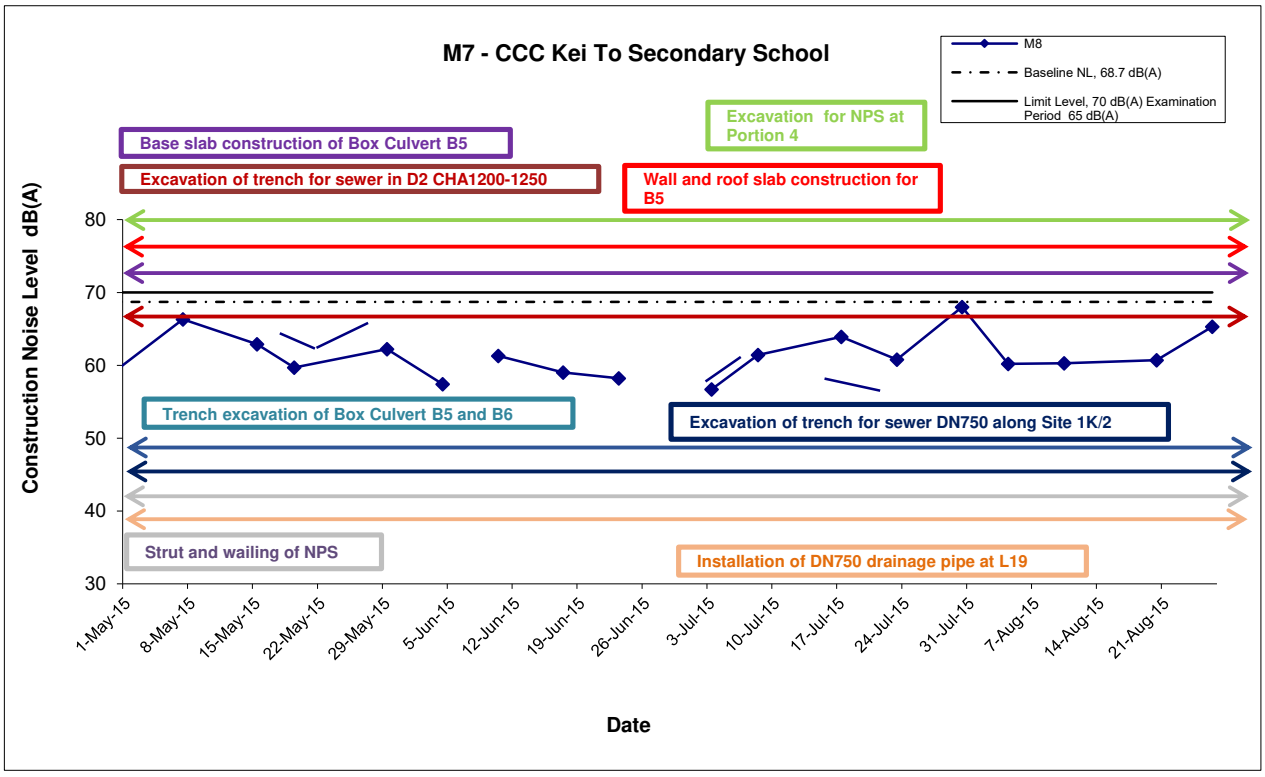
# Noise Levels

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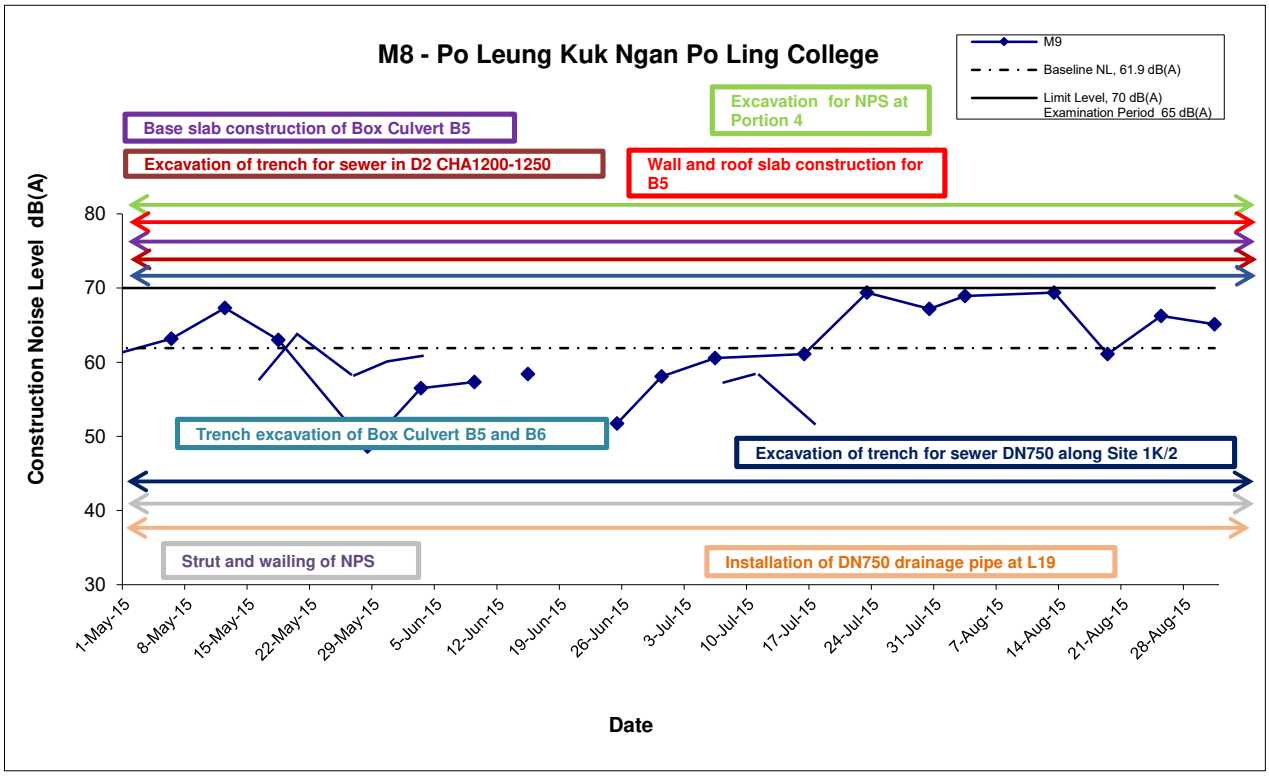
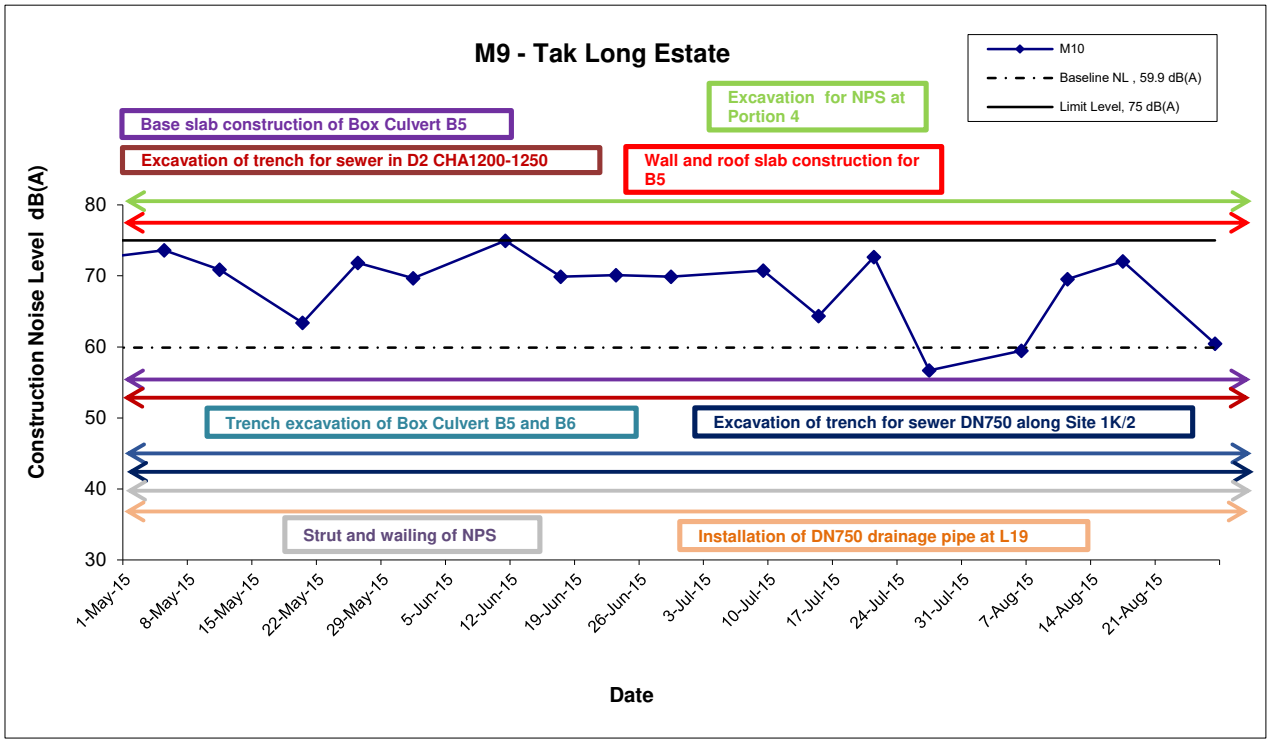
| | | Date<br>May-Aug 15 | Appendix<br>E | |

# Noise Levels

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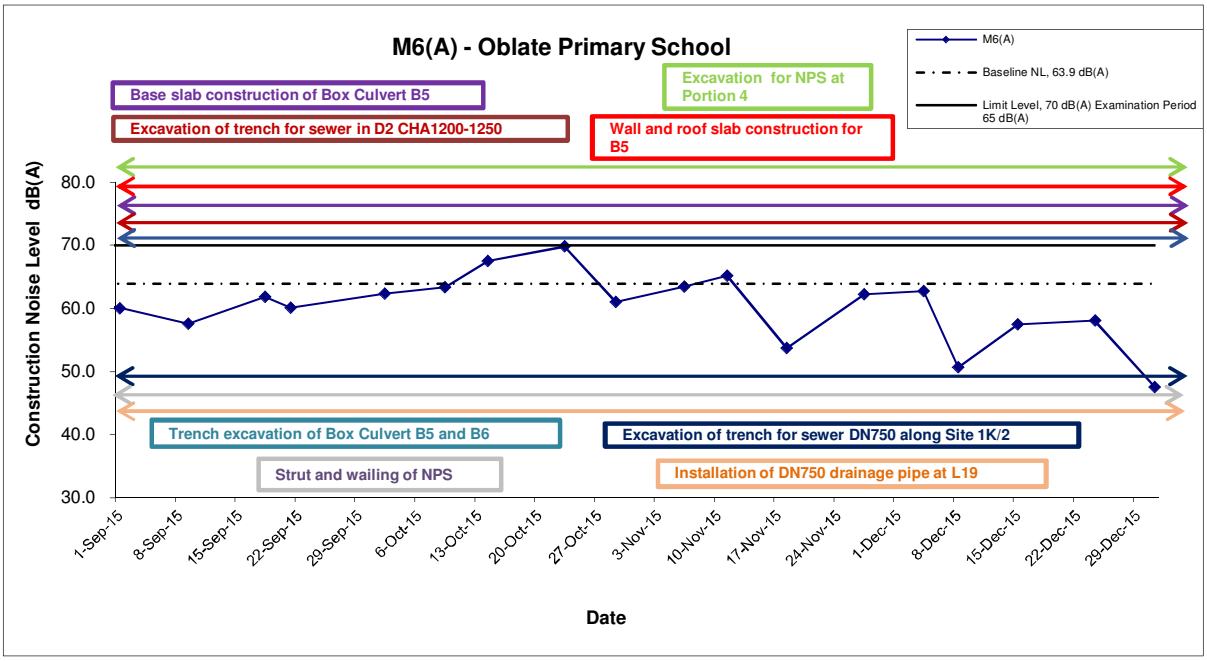
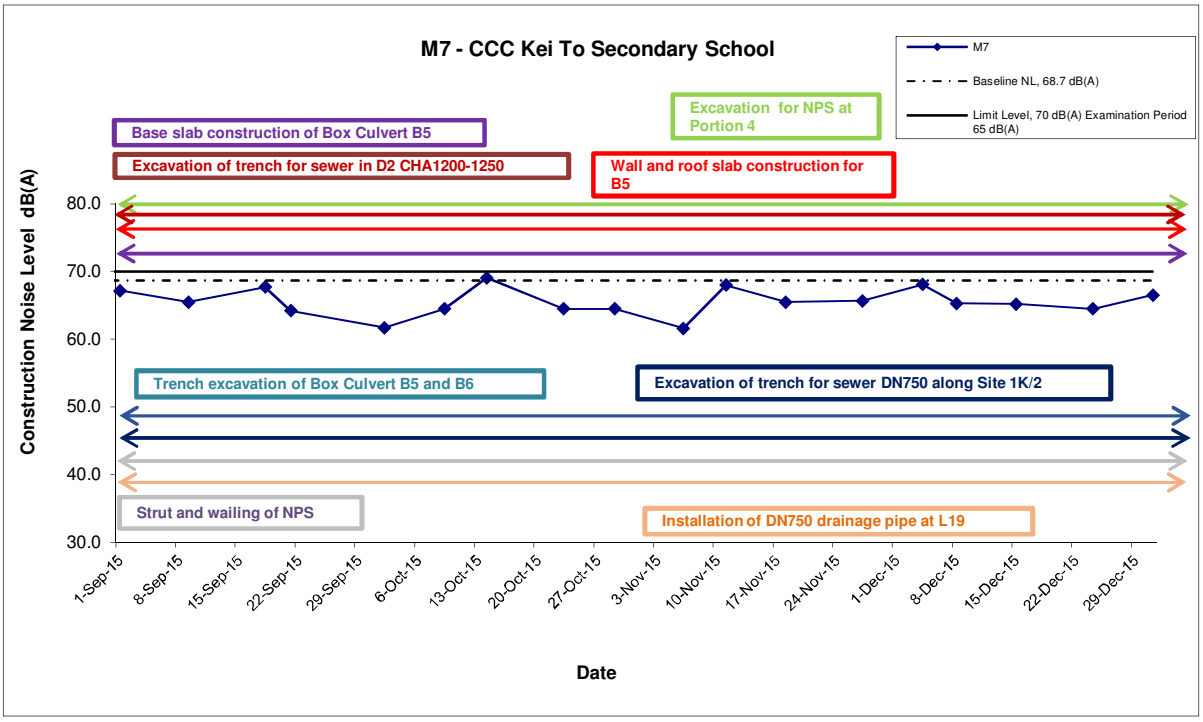
| | | Date<br>May-Aug 15 | Appendix<br>E | |

# Noise Levels

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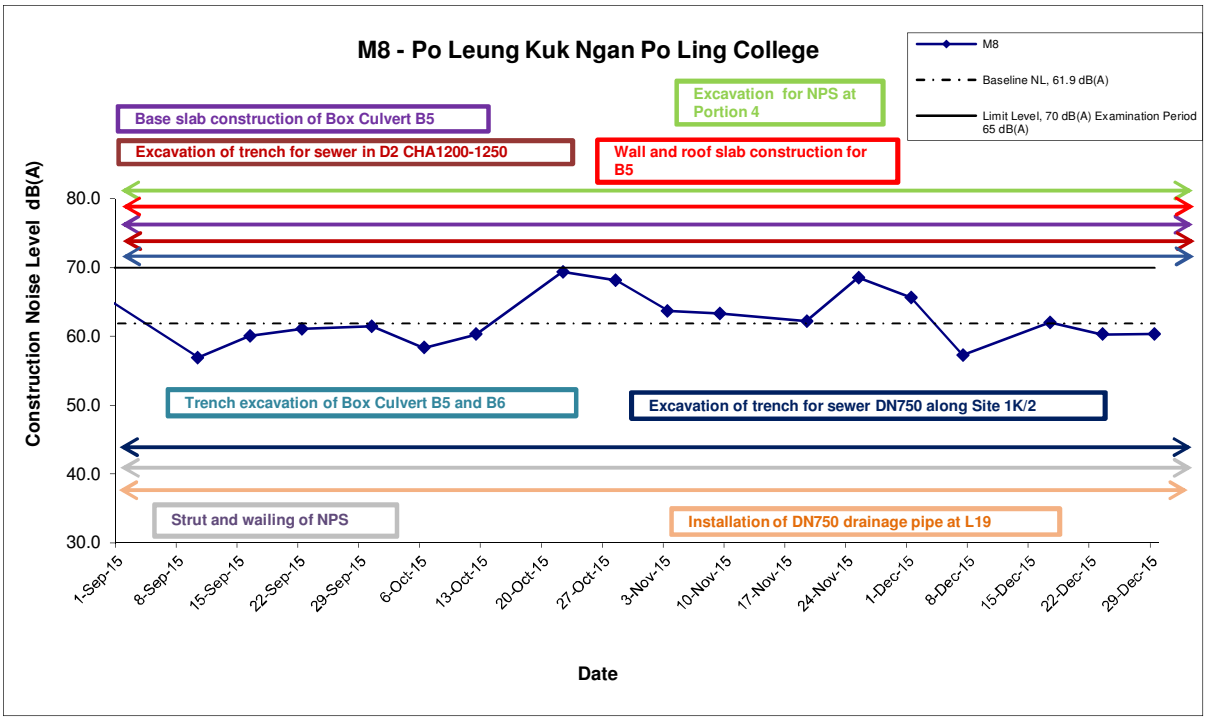
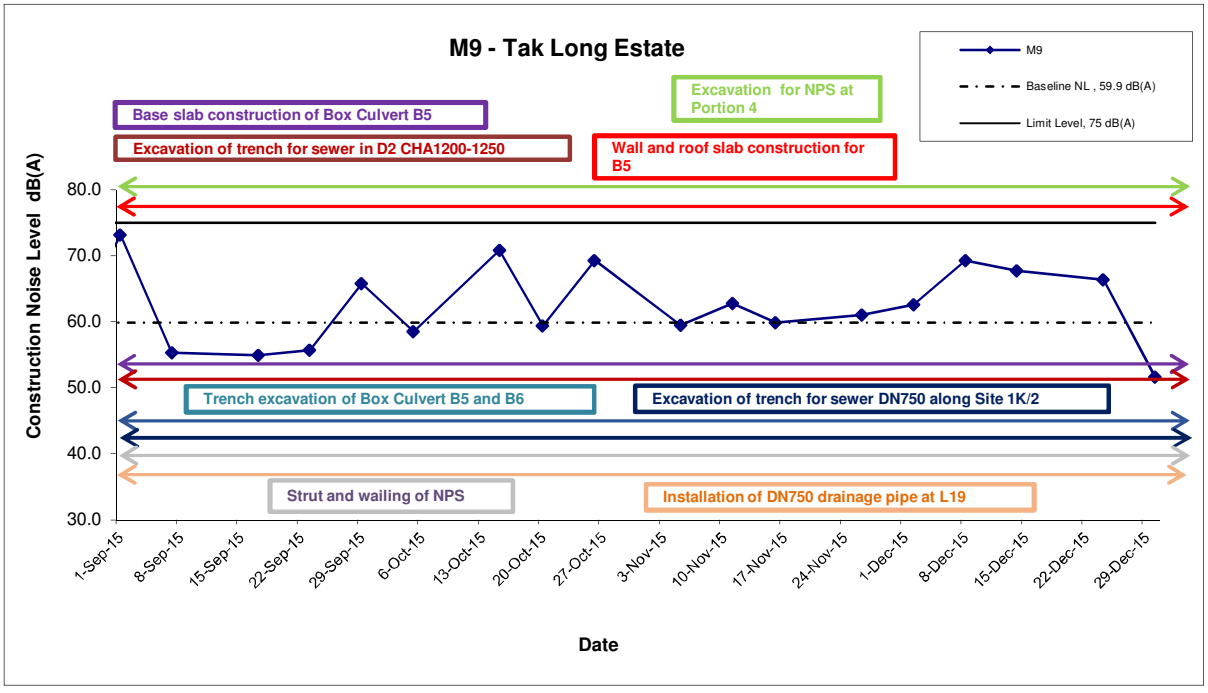
| | Date<br>Sep-Dec 15 | Appendix<br>E | |

# Noise Levels

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| | Date<br>Sep-Dec 15 | Appendix<br>E | |

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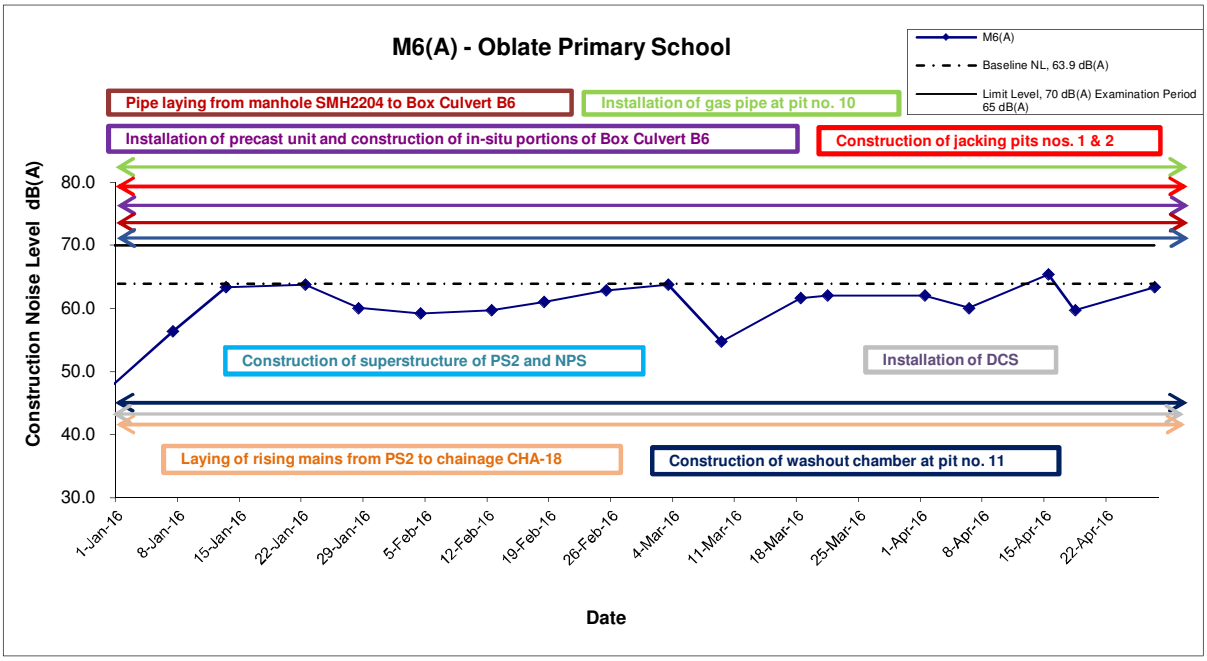


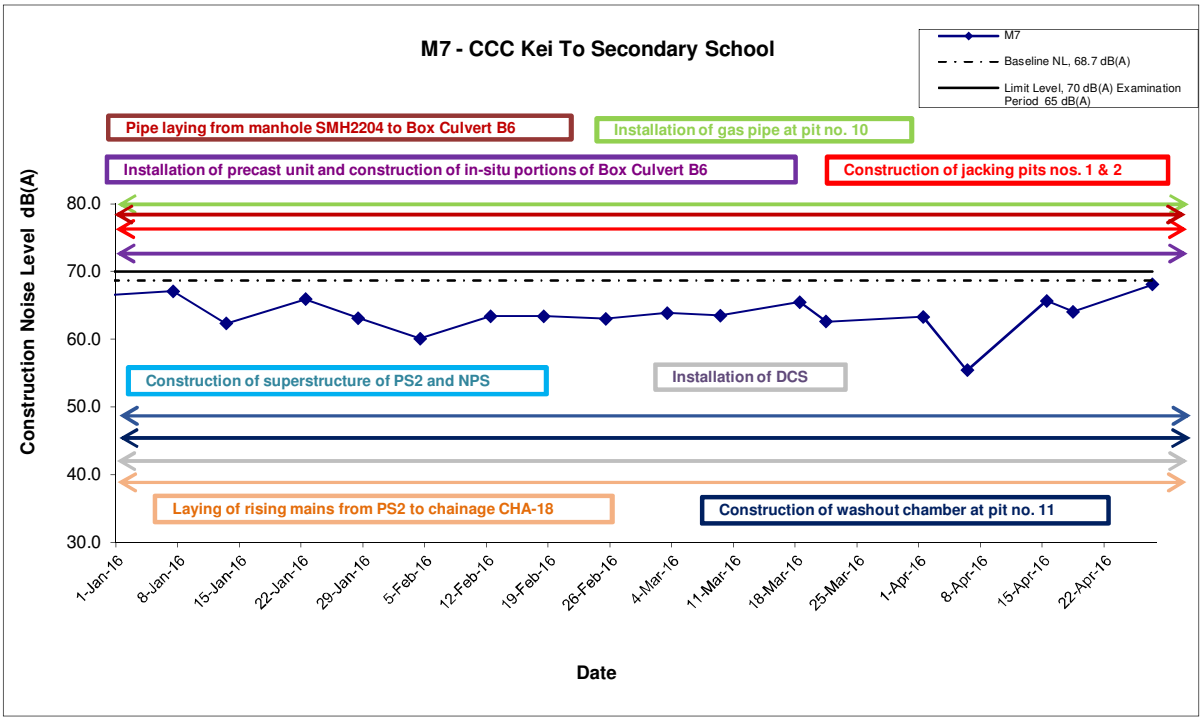


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| | Date<br>Jan-Apr 16 | Appendix<br>E | |

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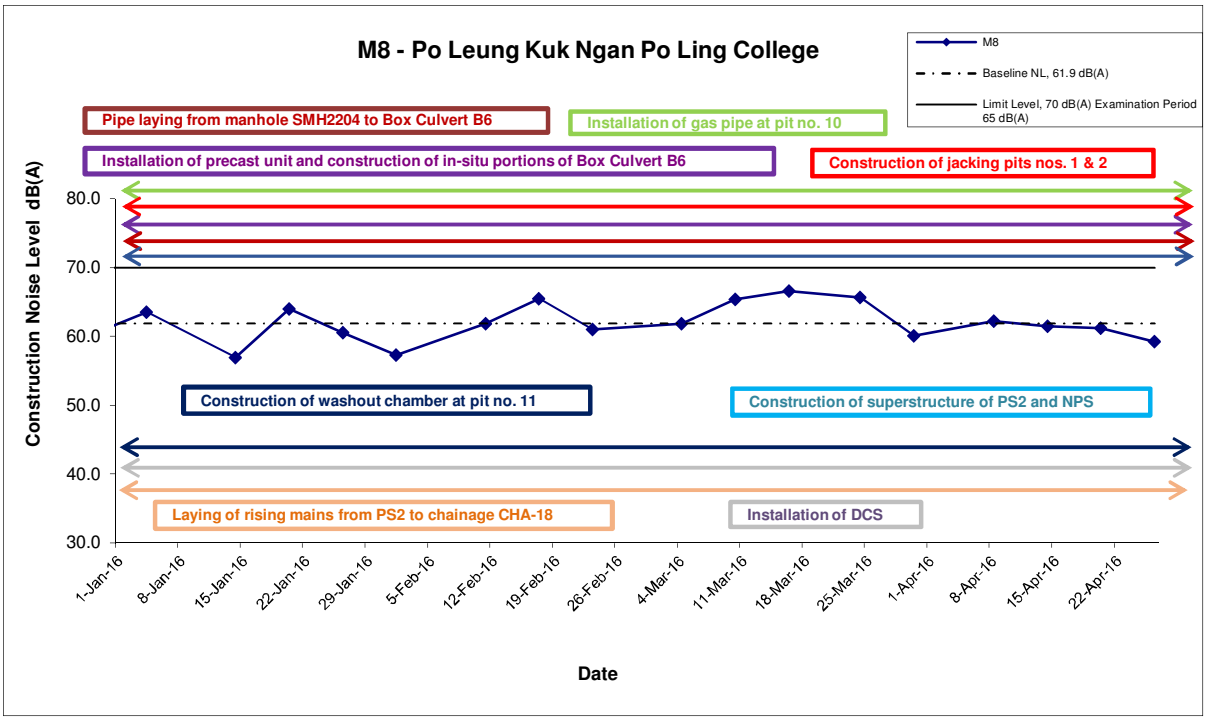


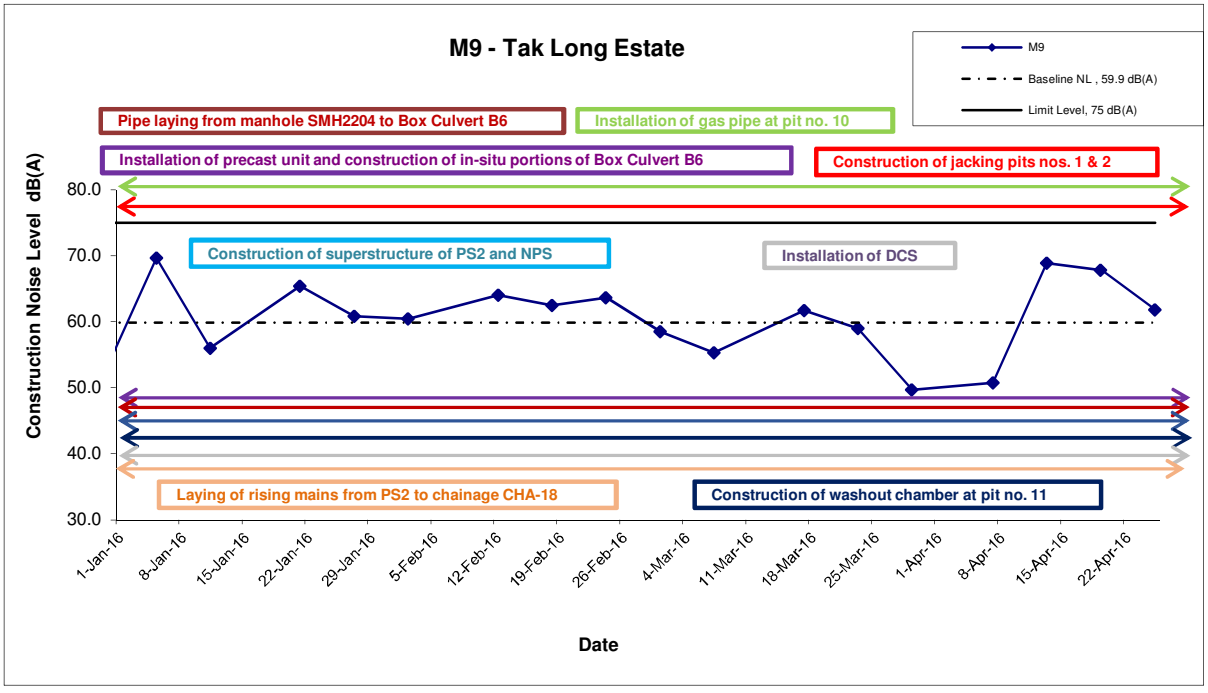


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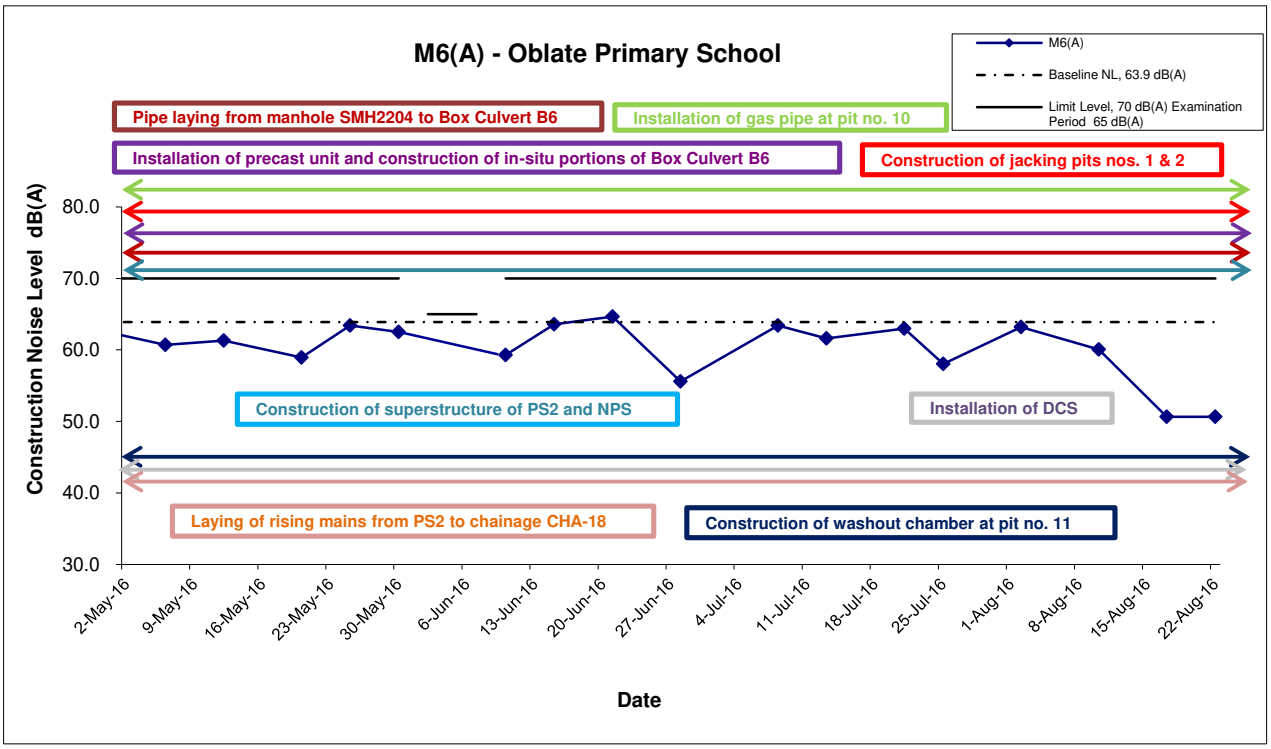


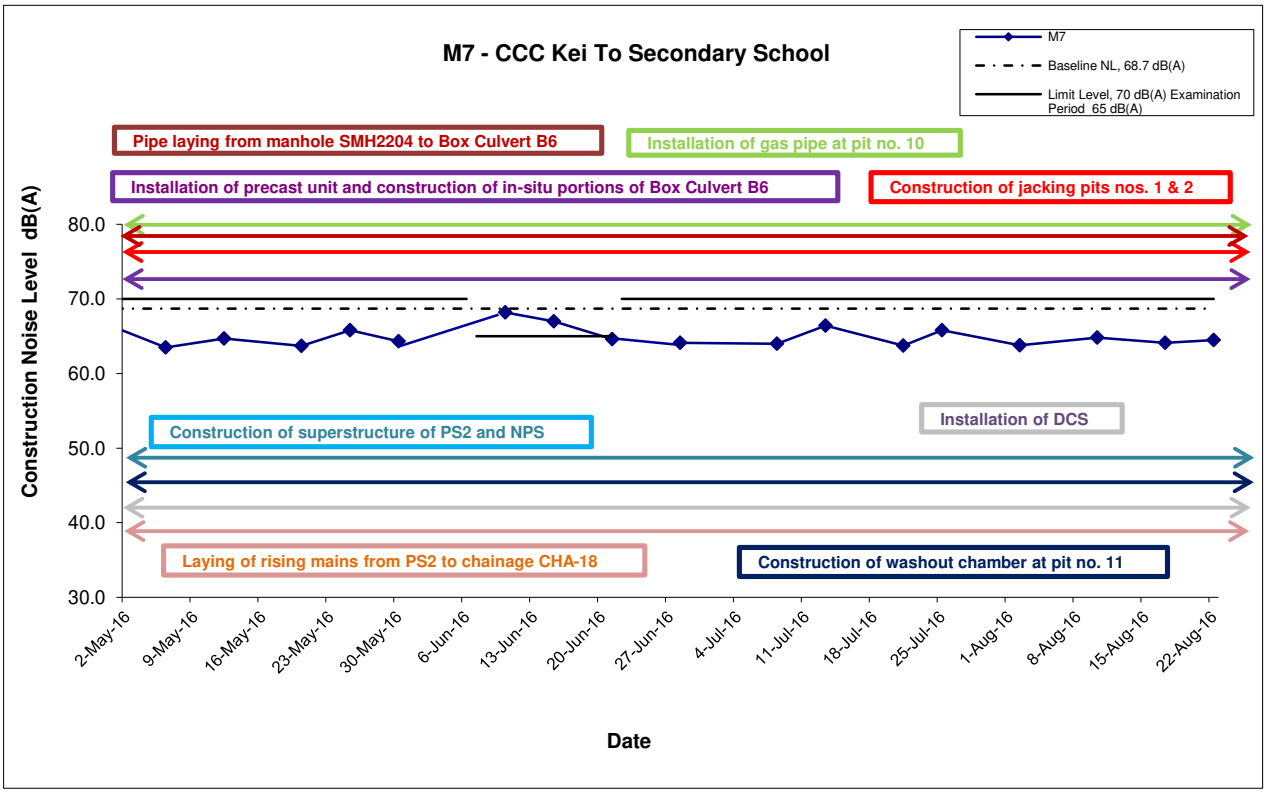


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| | | Date<br>May-Aug 16 | Appendix<br>E | |

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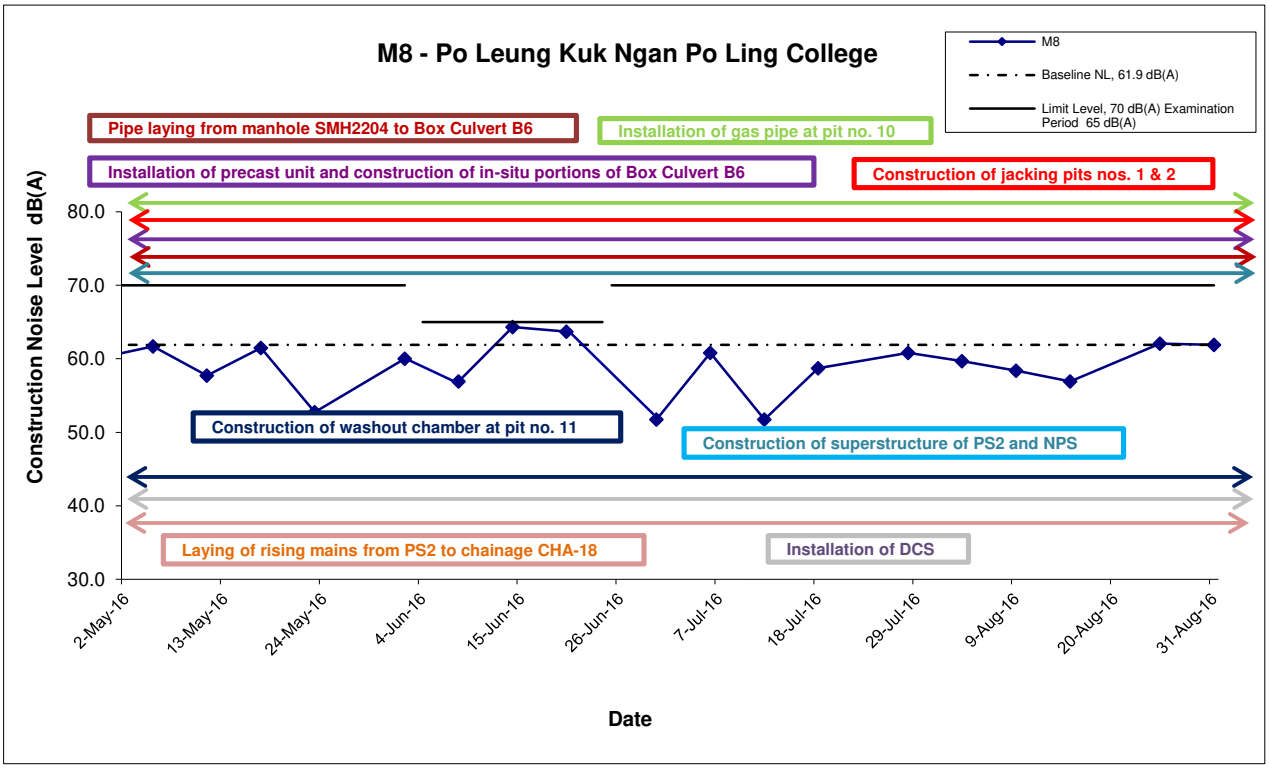


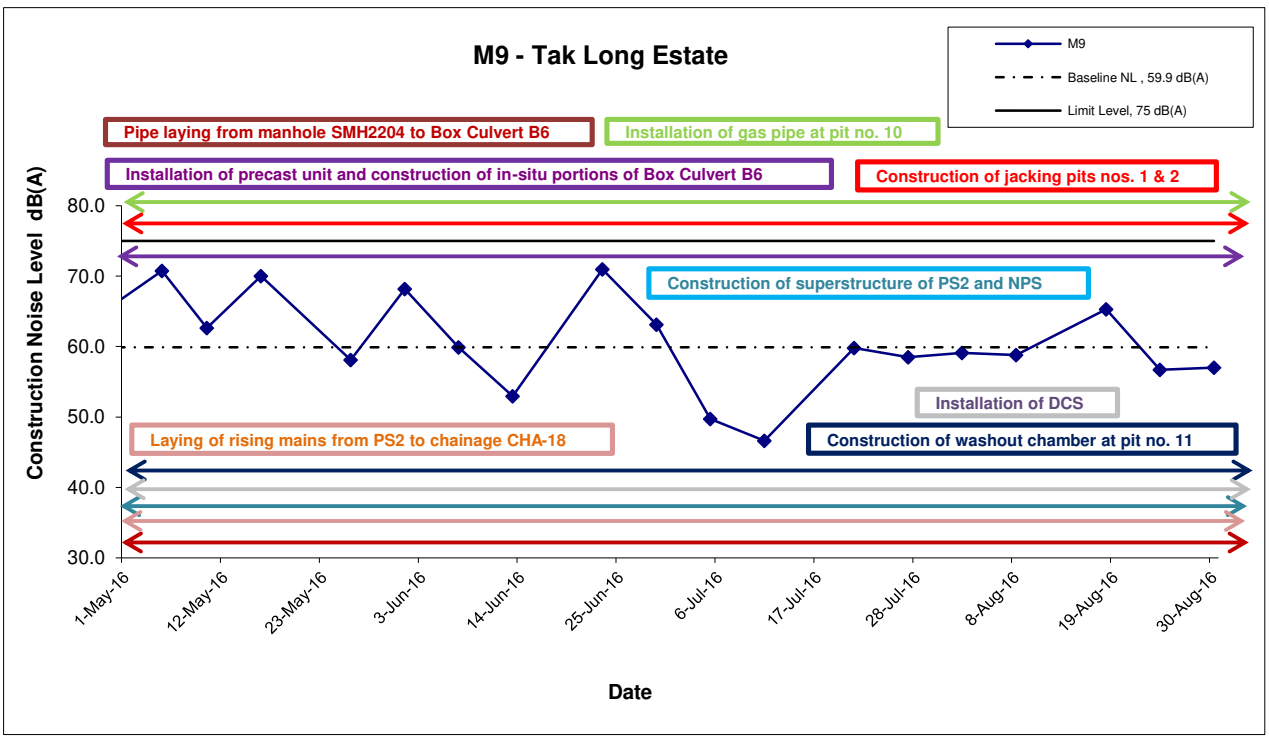


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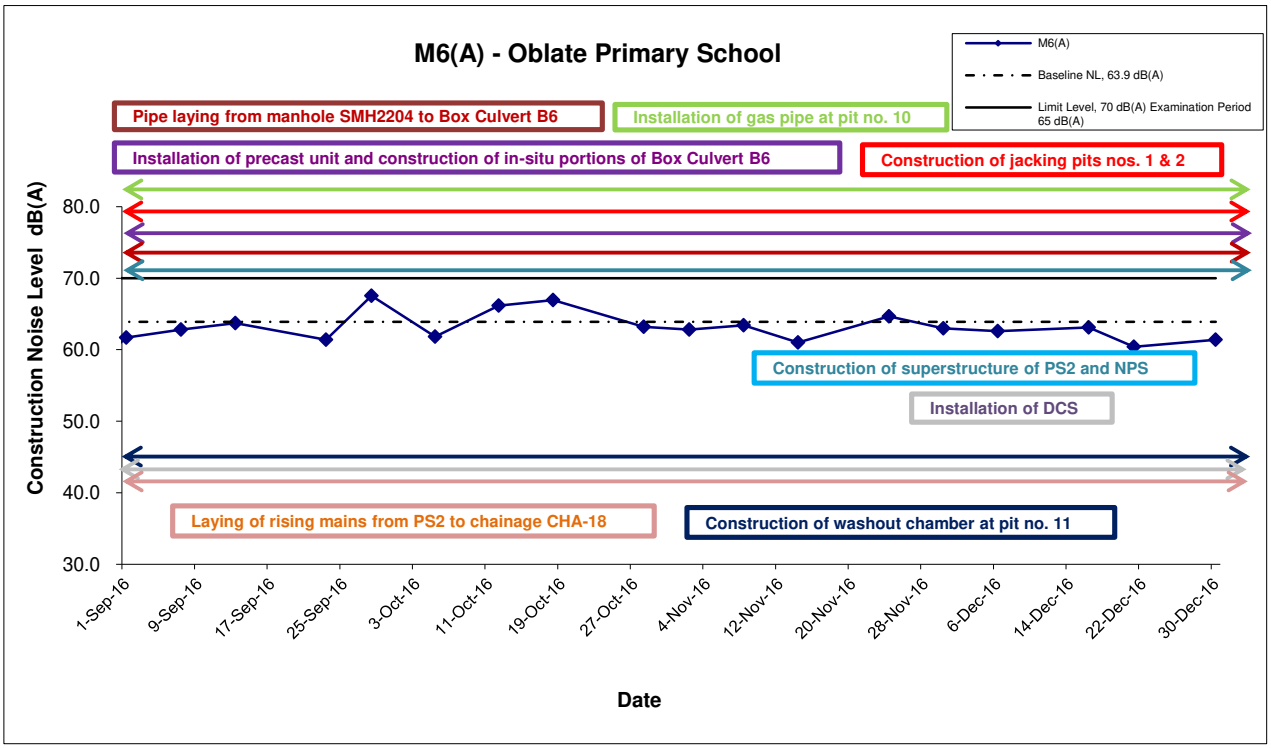


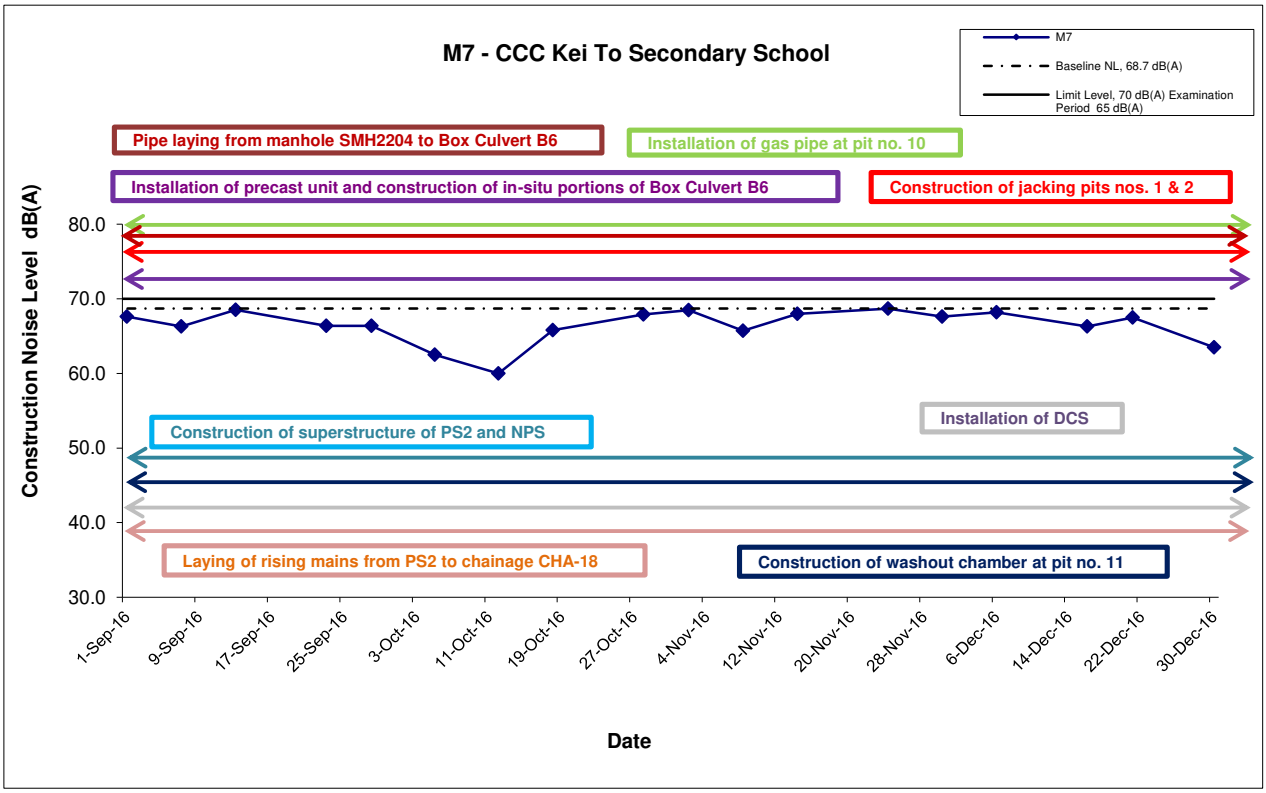


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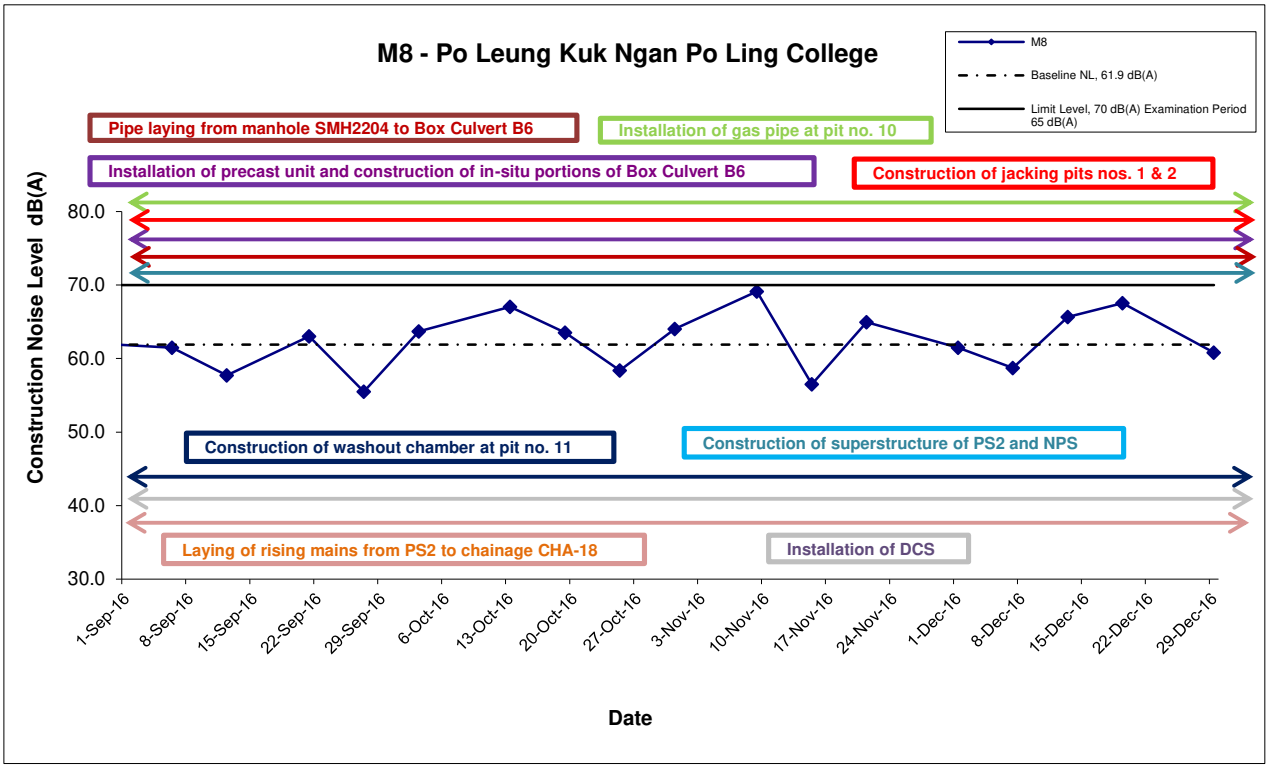


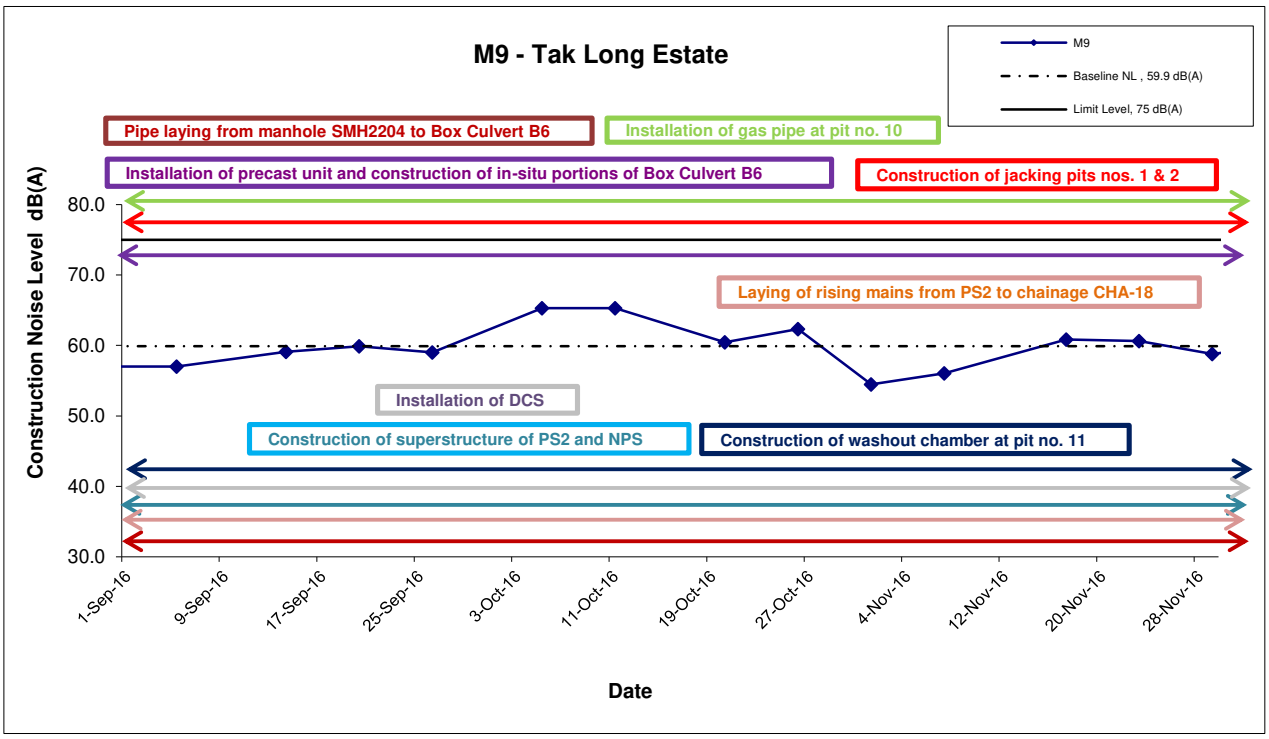


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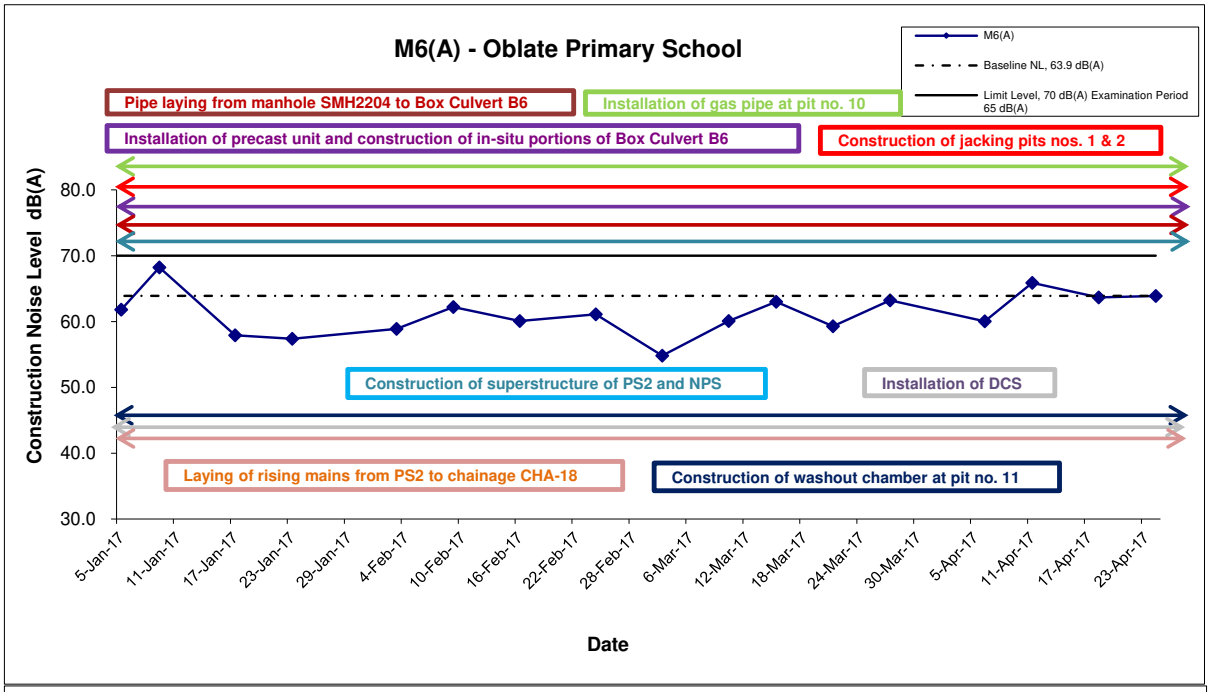


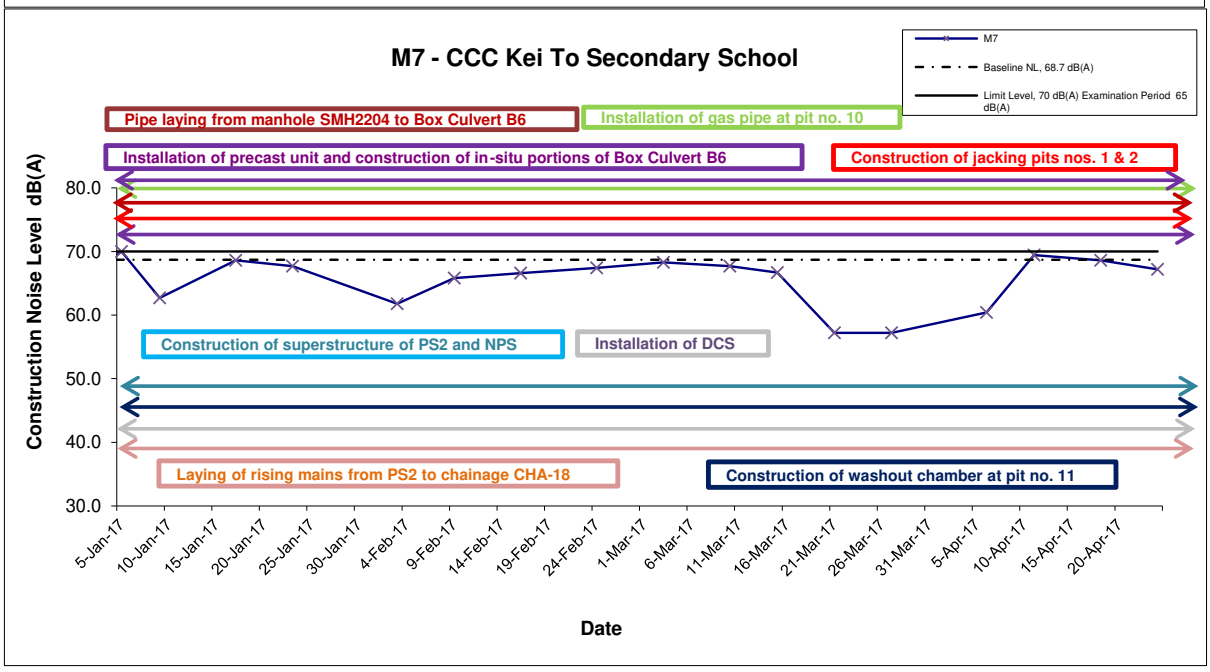


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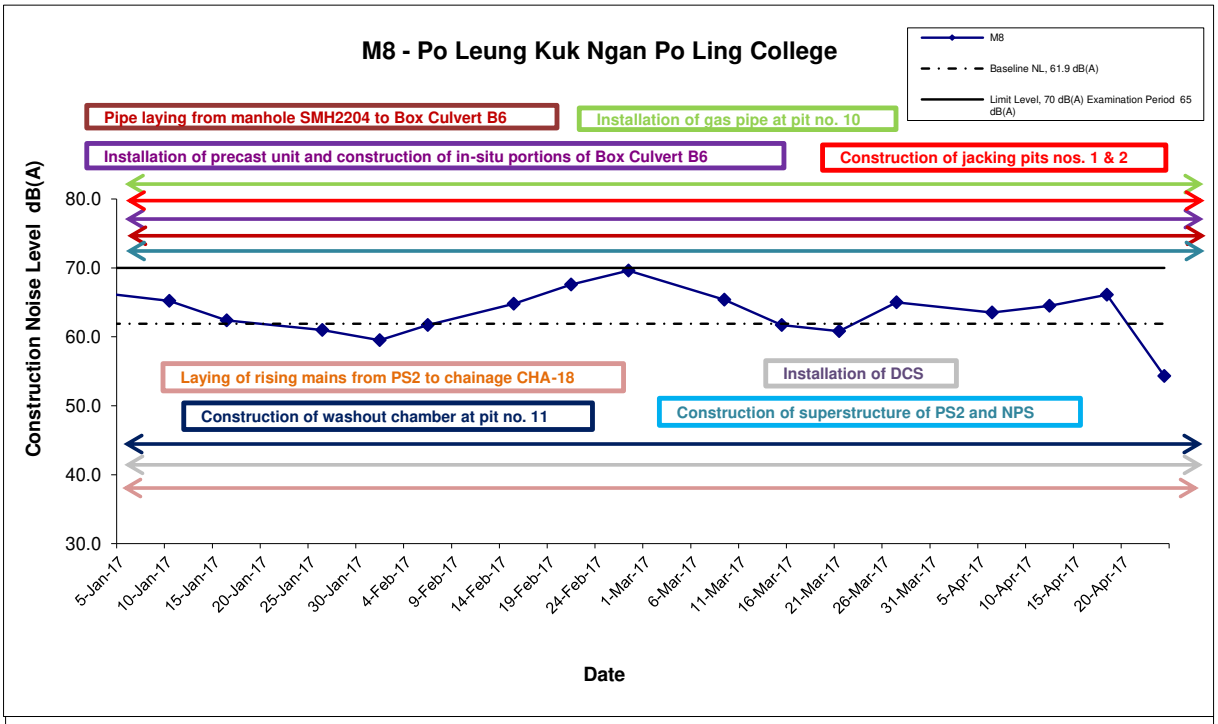
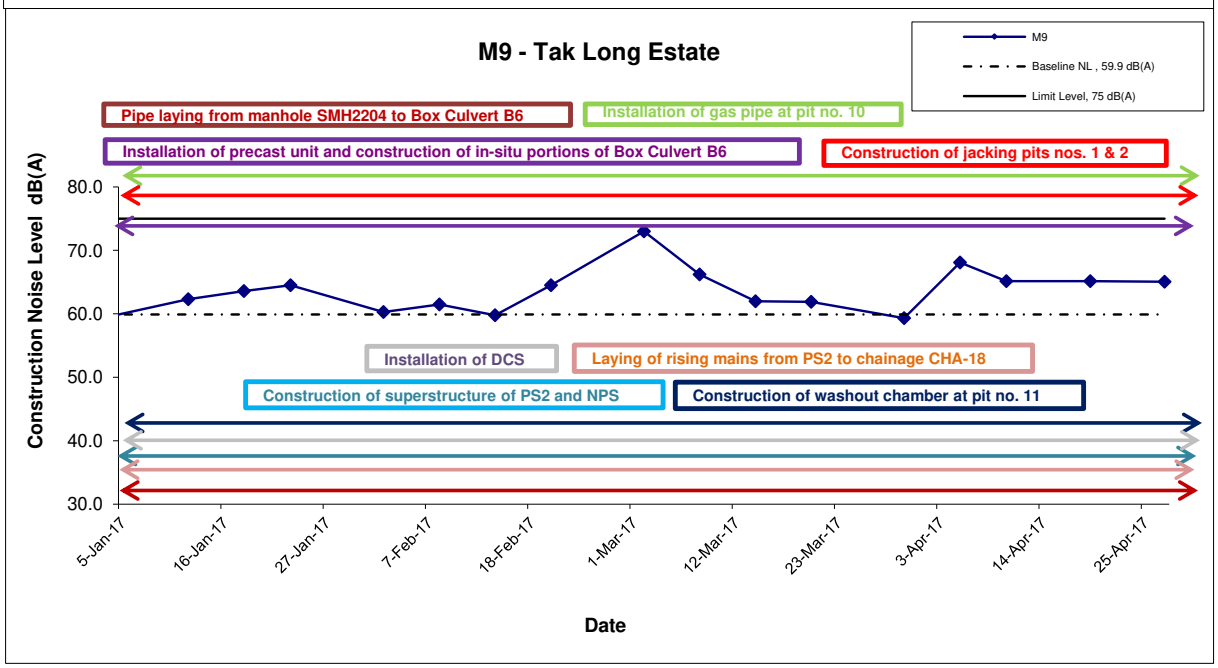
# Noise Levels

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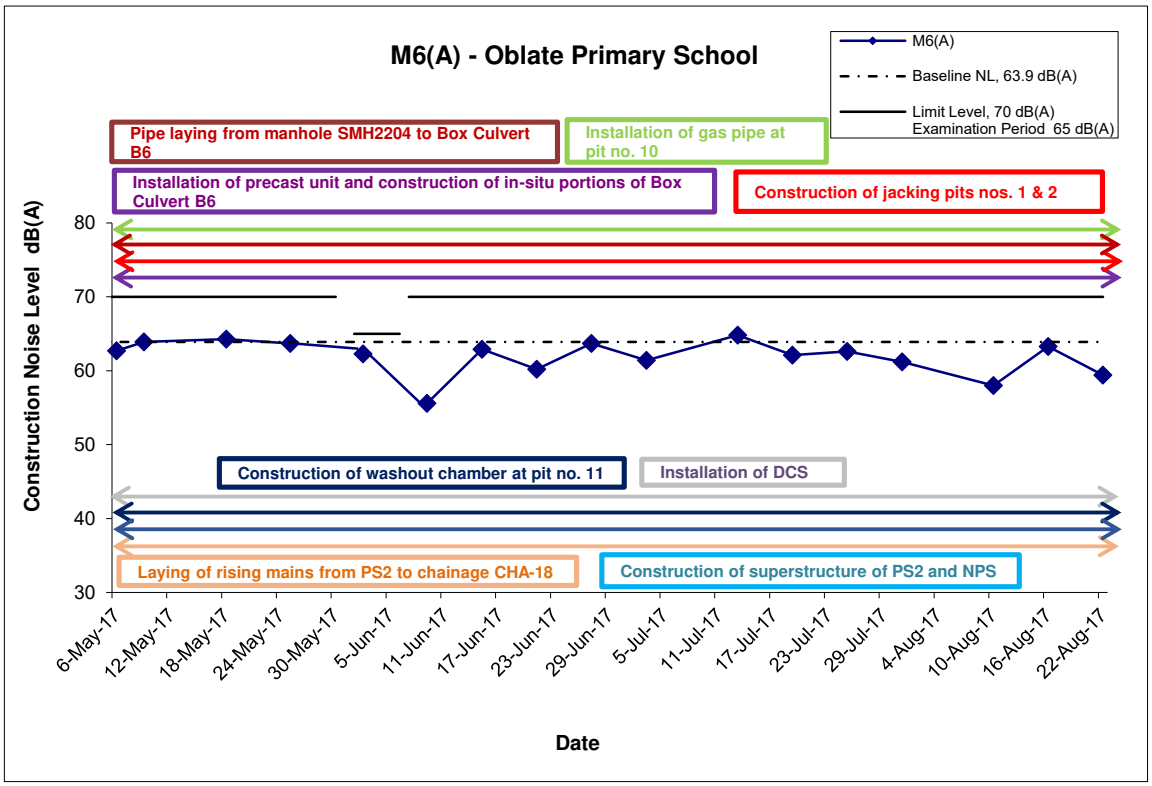


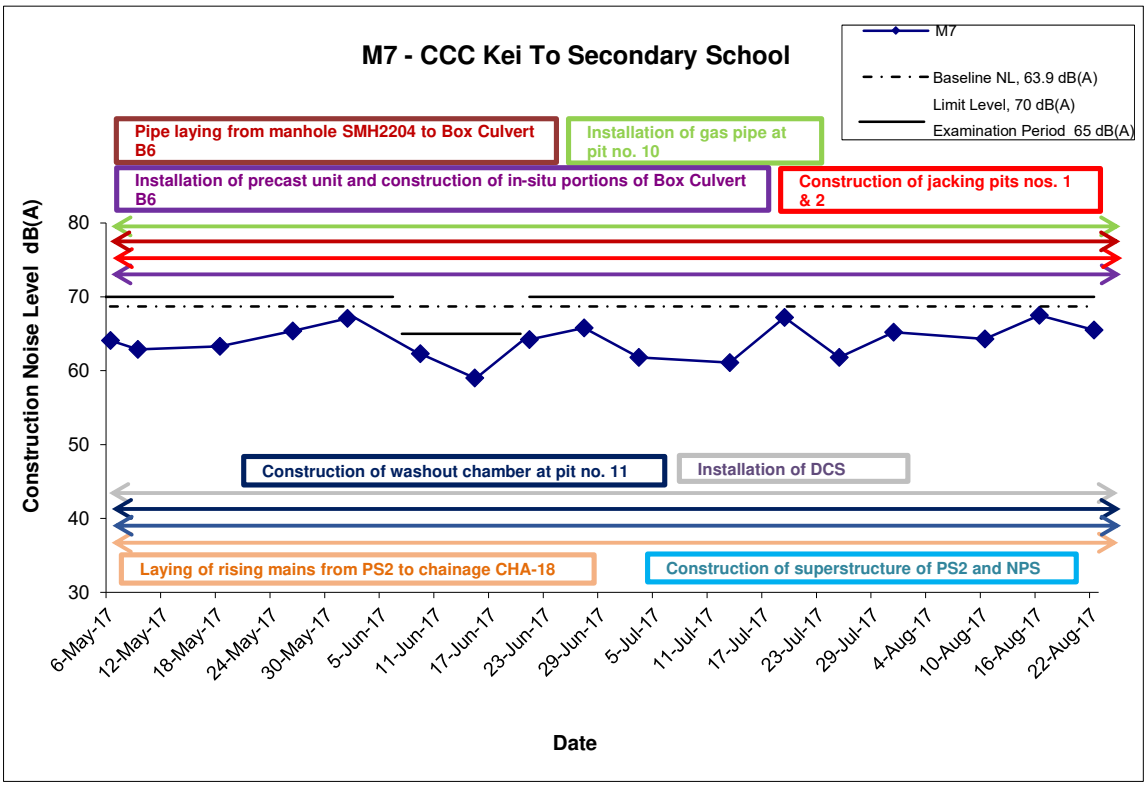


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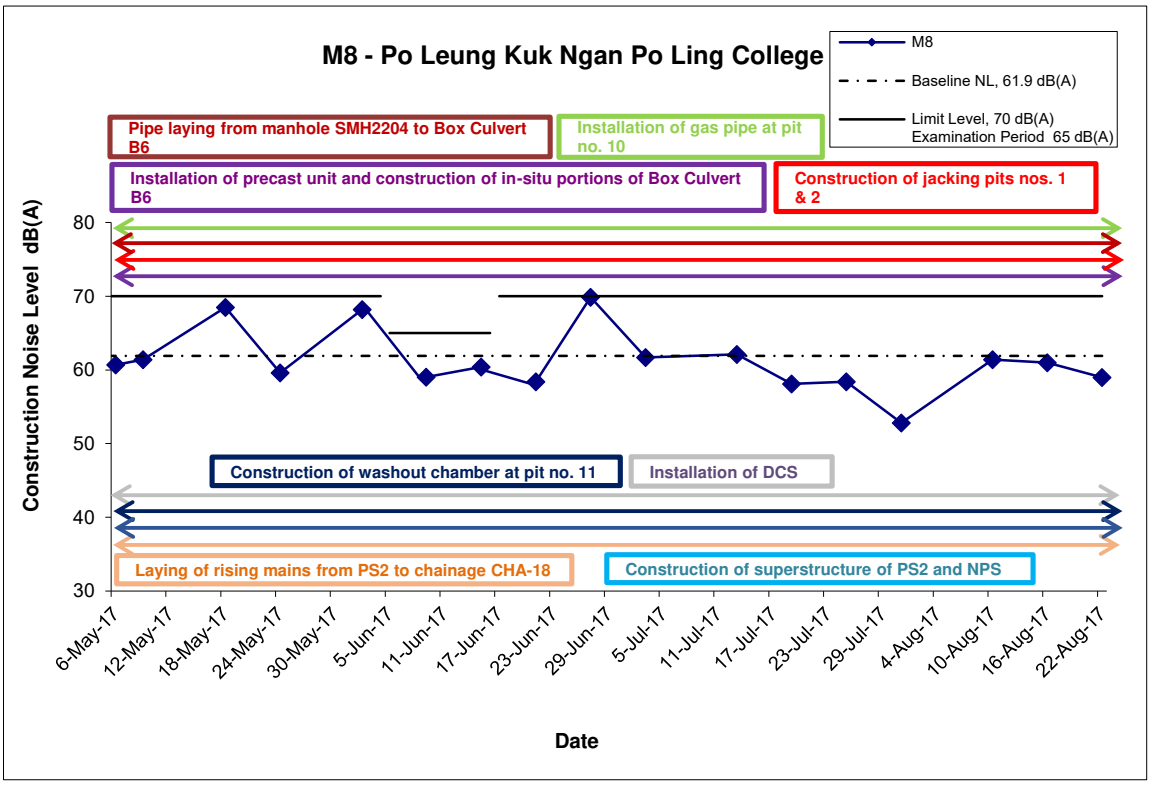


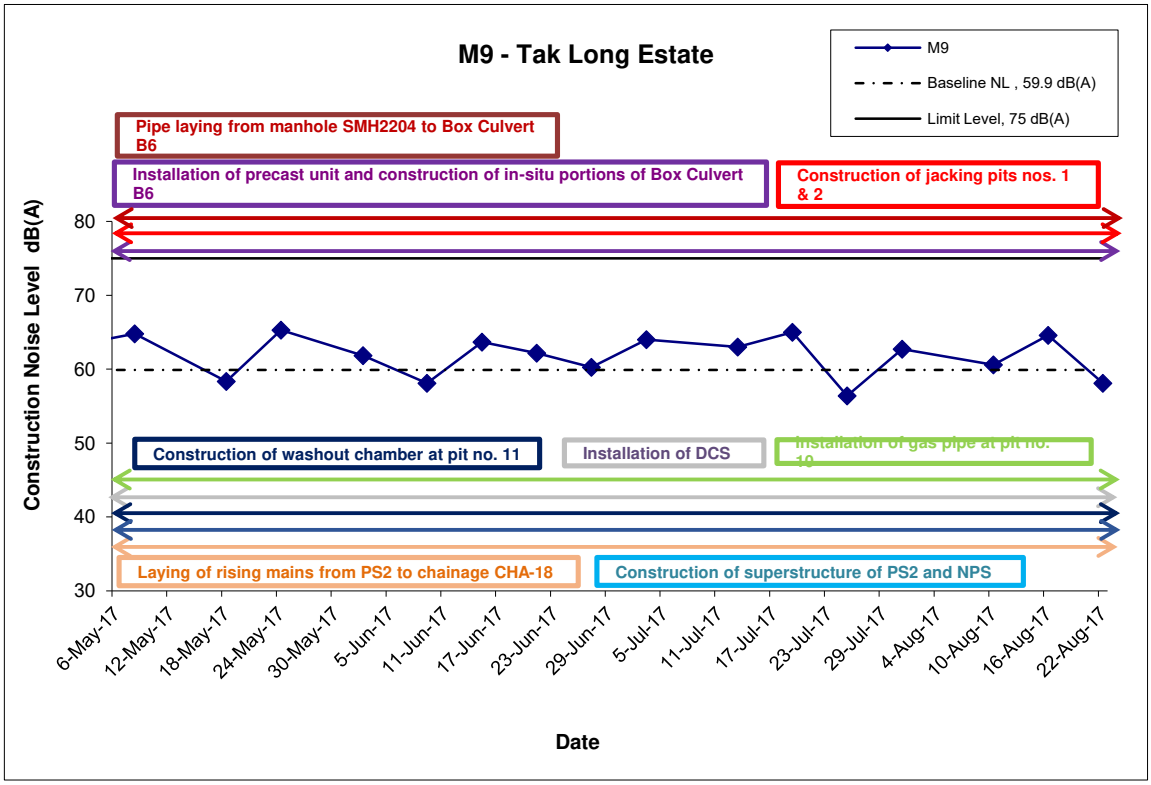


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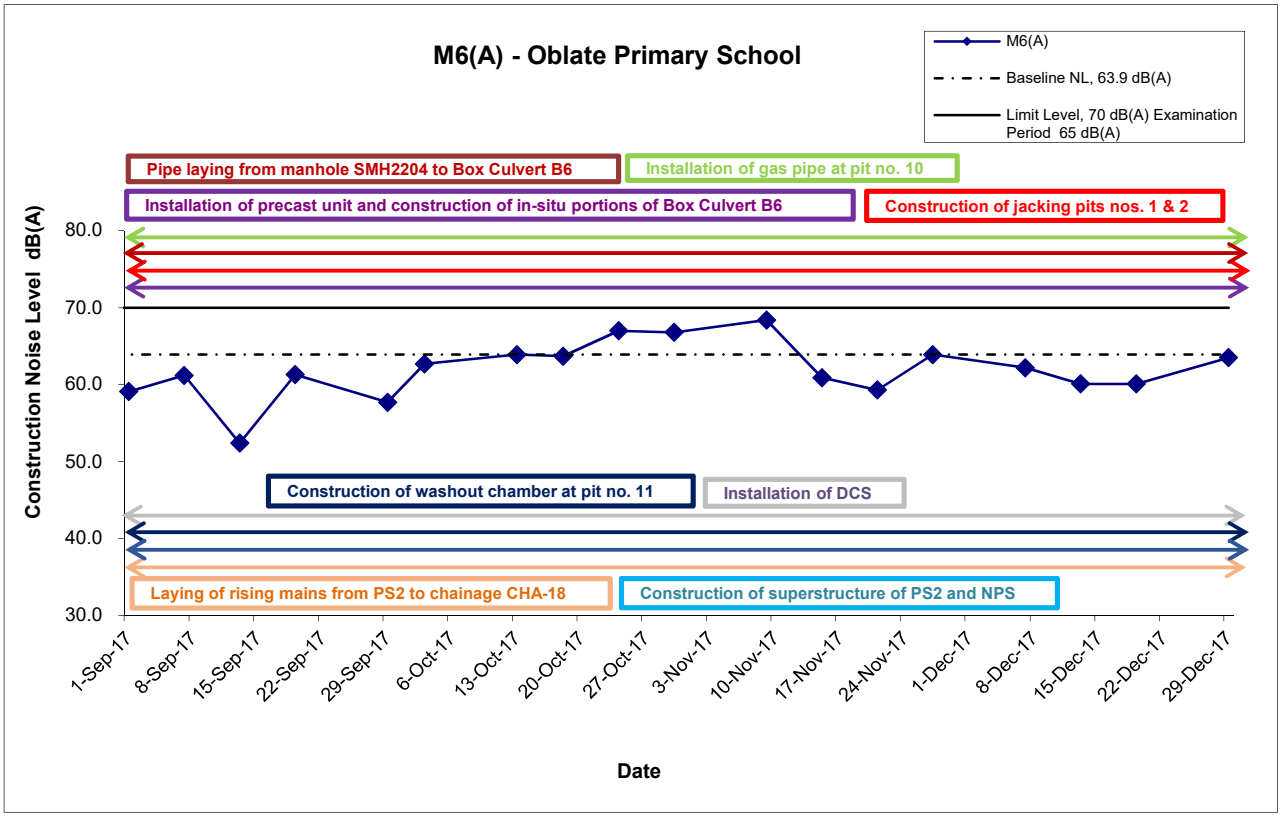


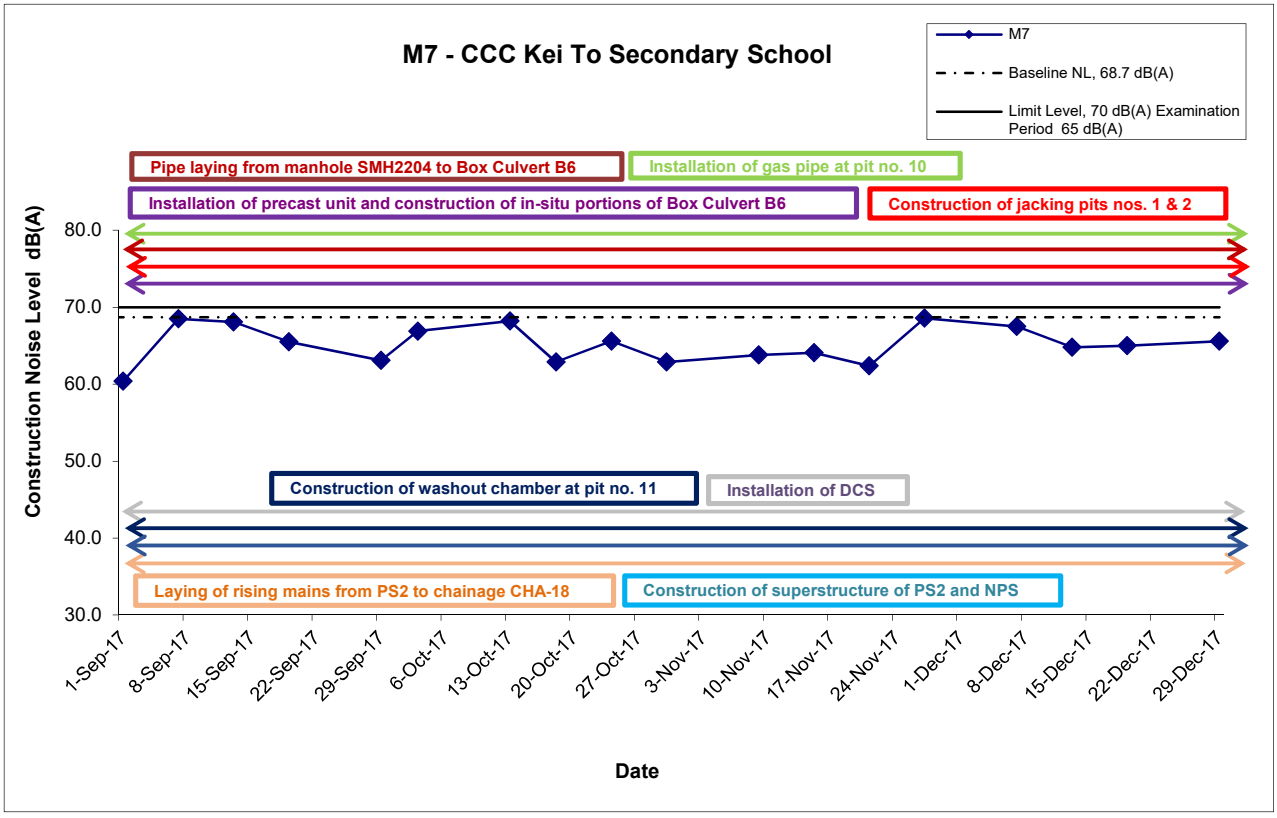


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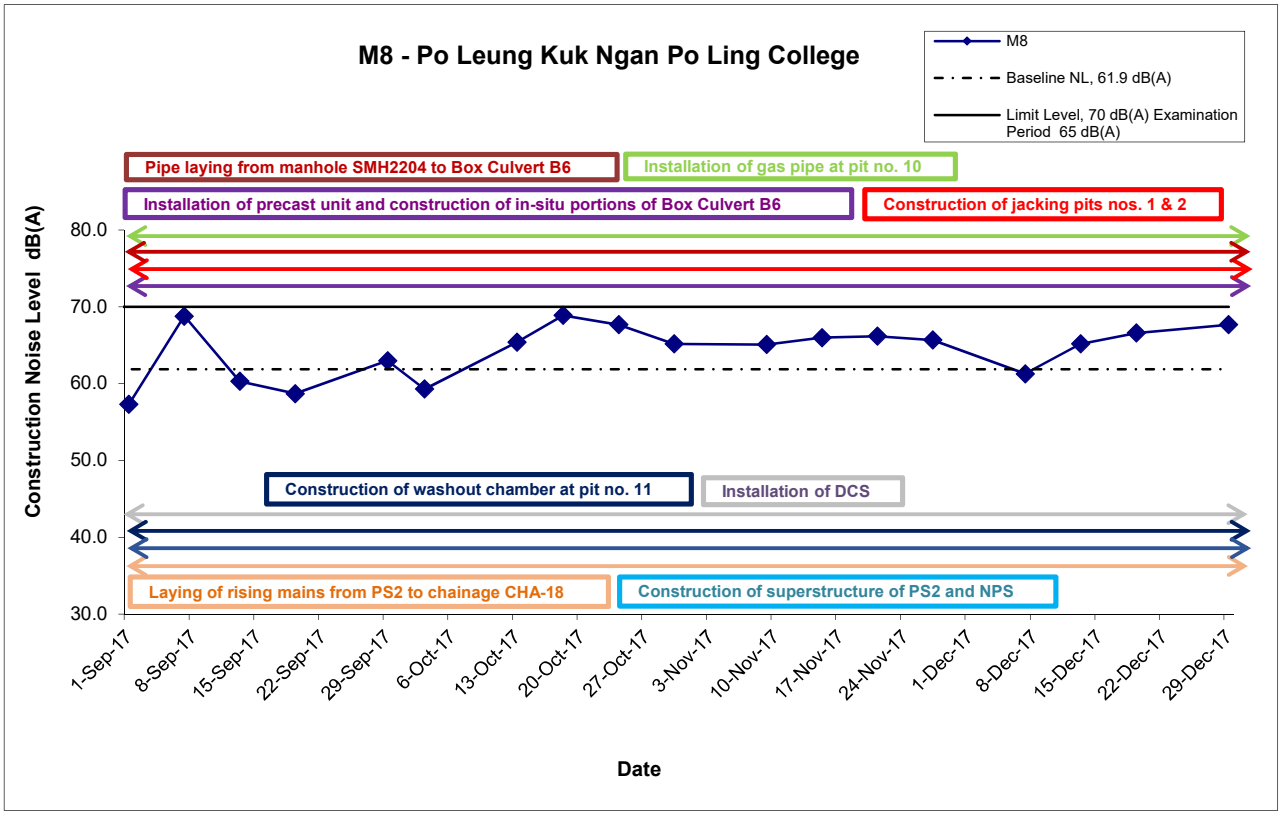


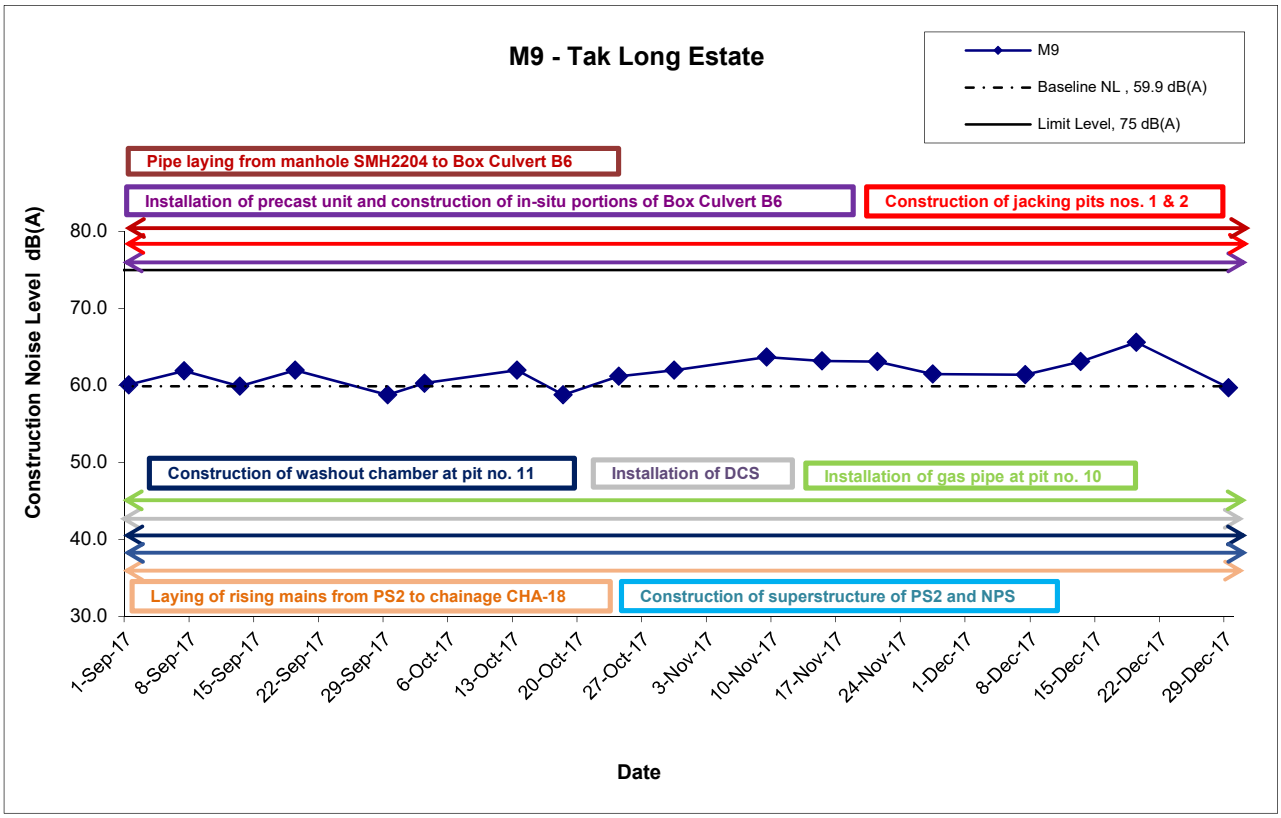


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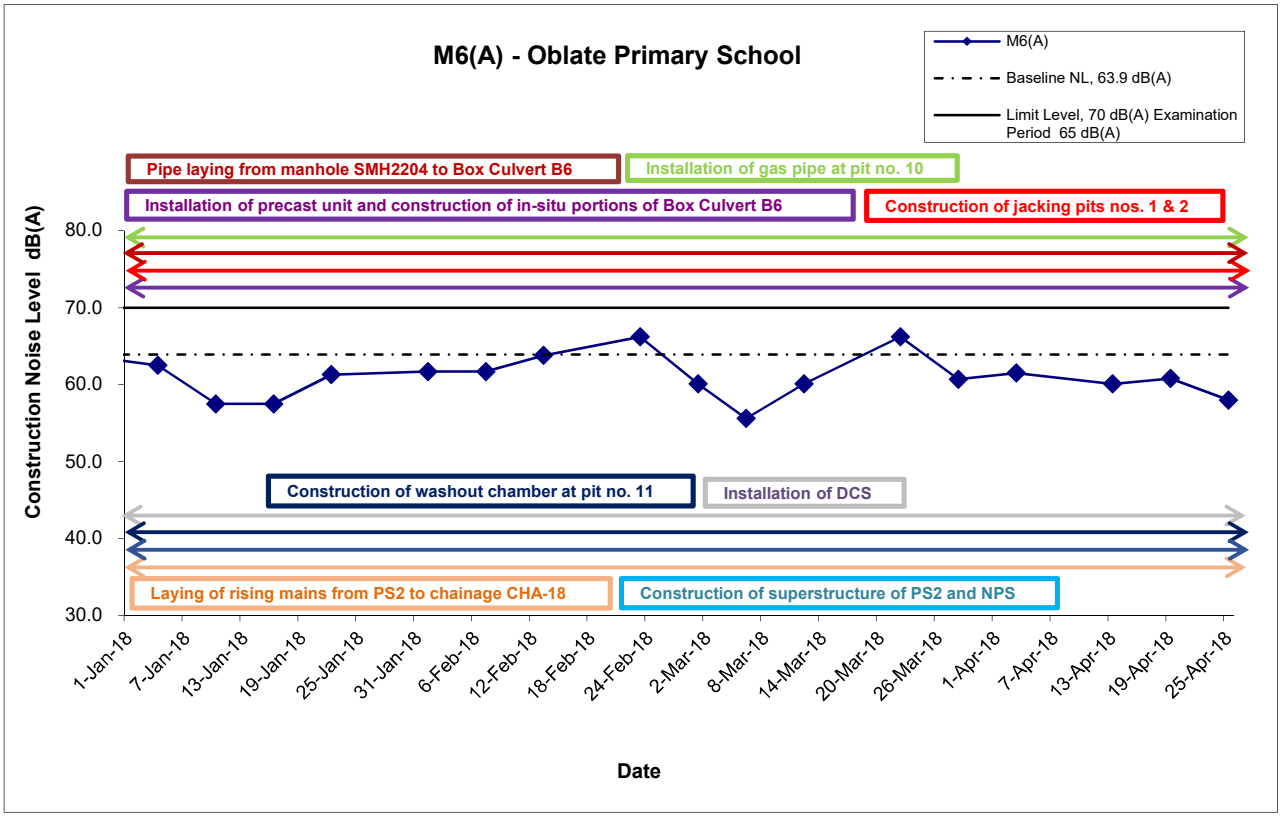


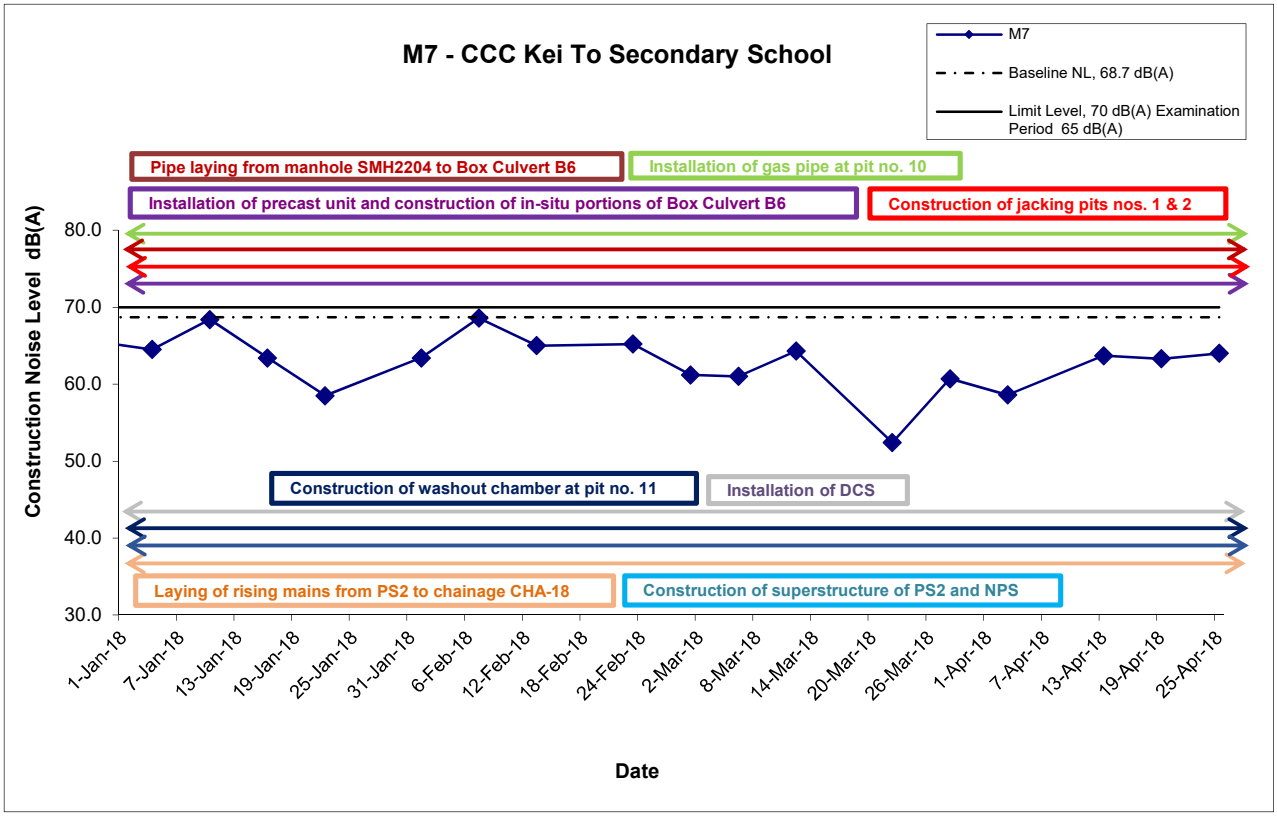


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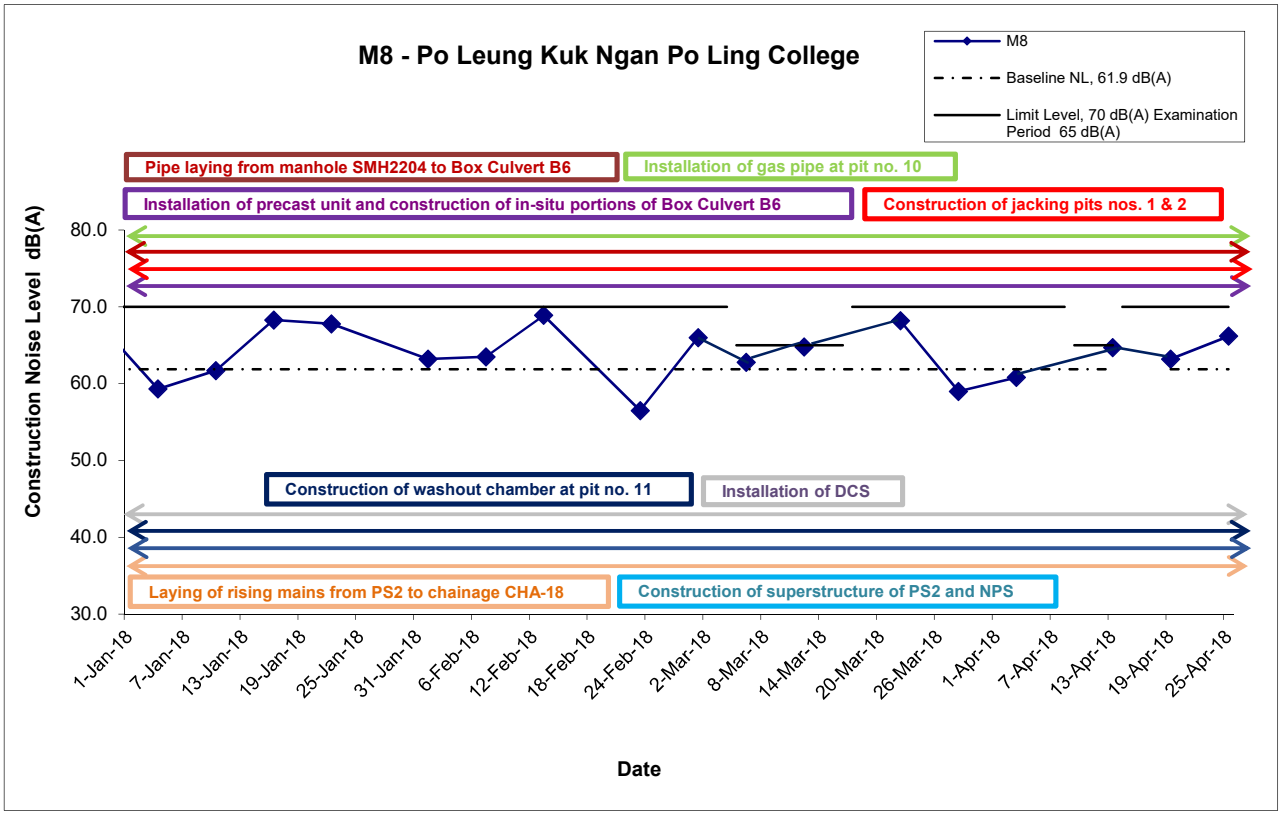


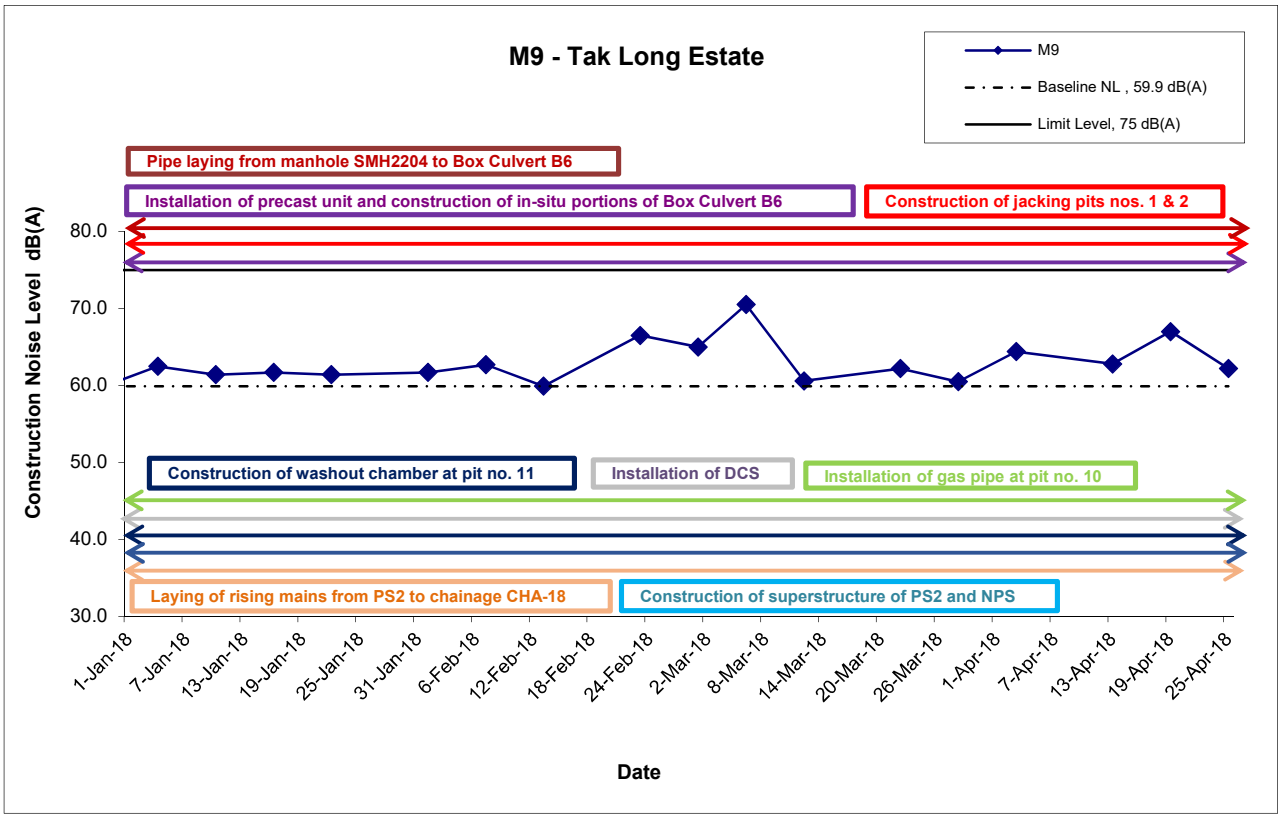


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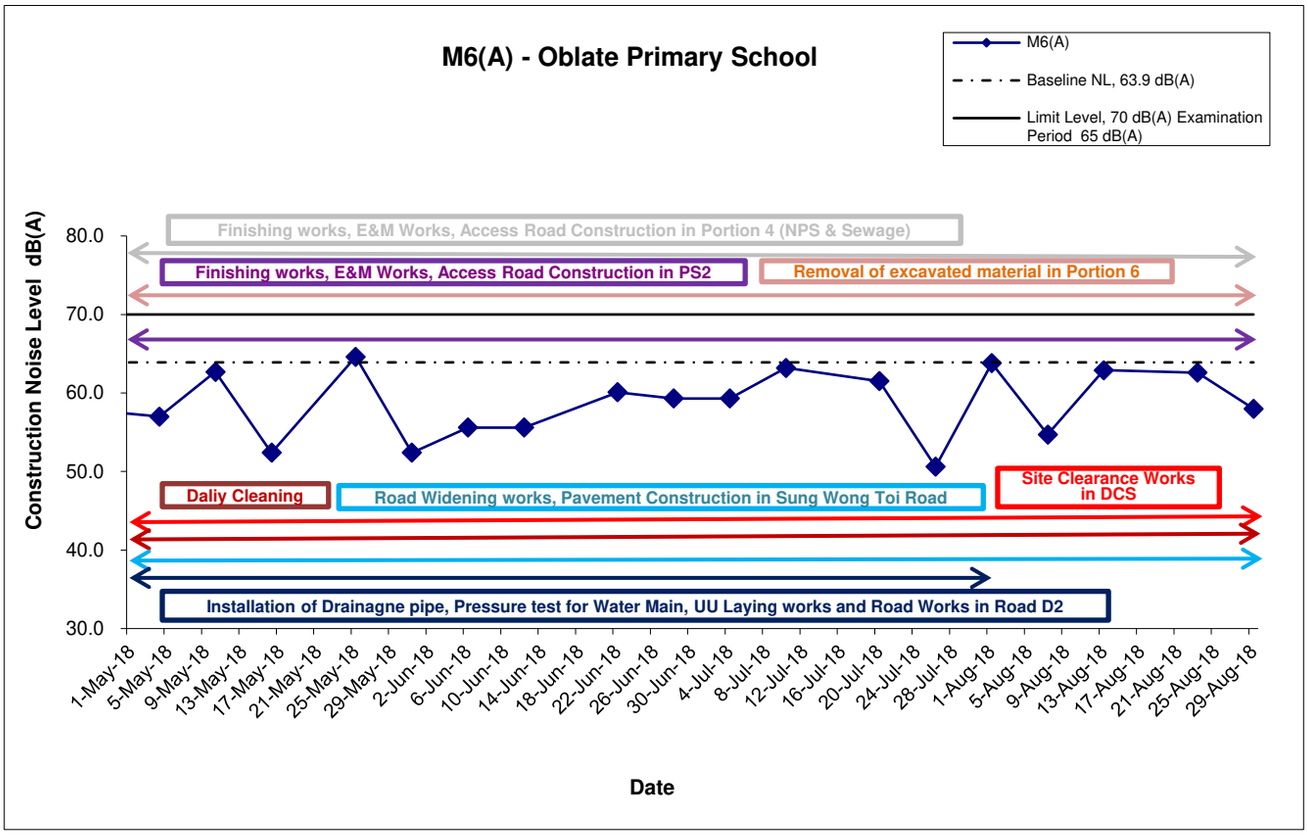


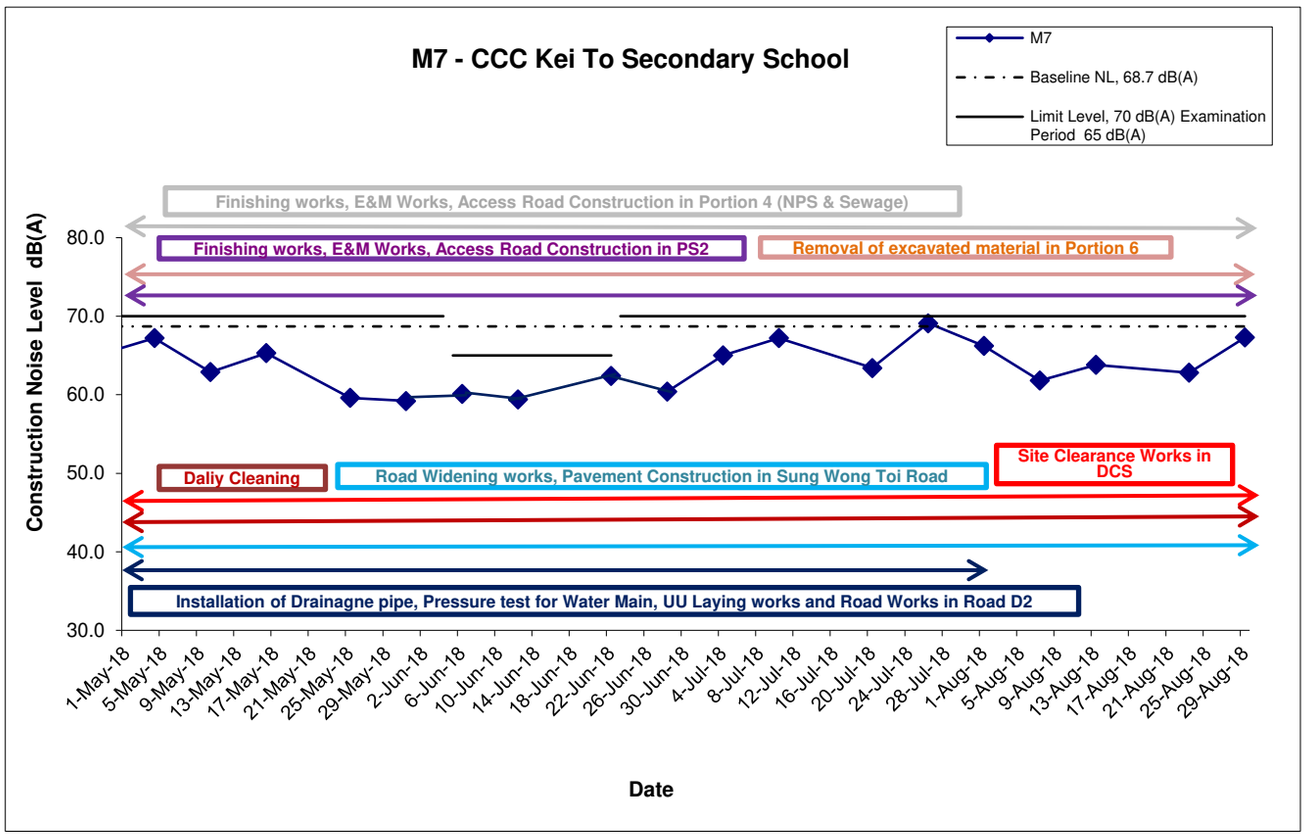


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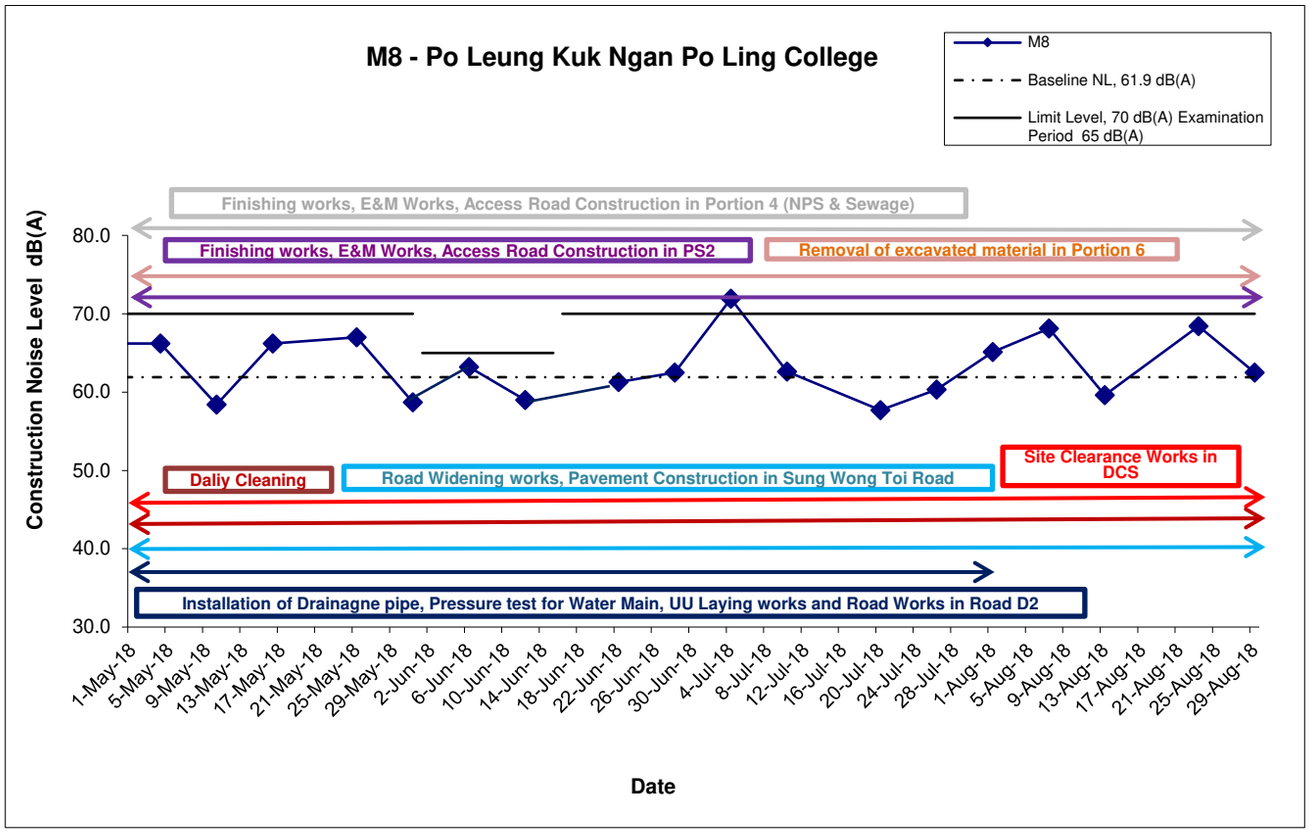


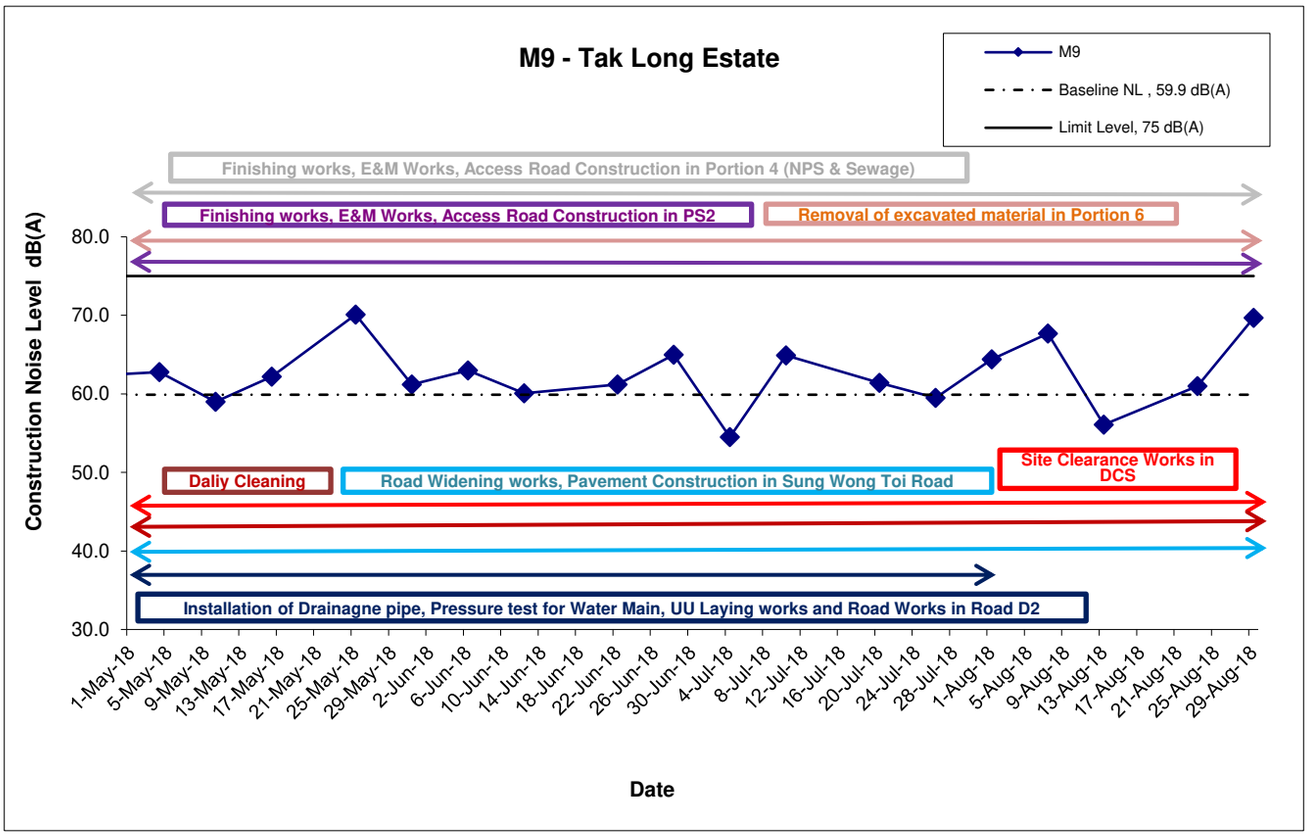


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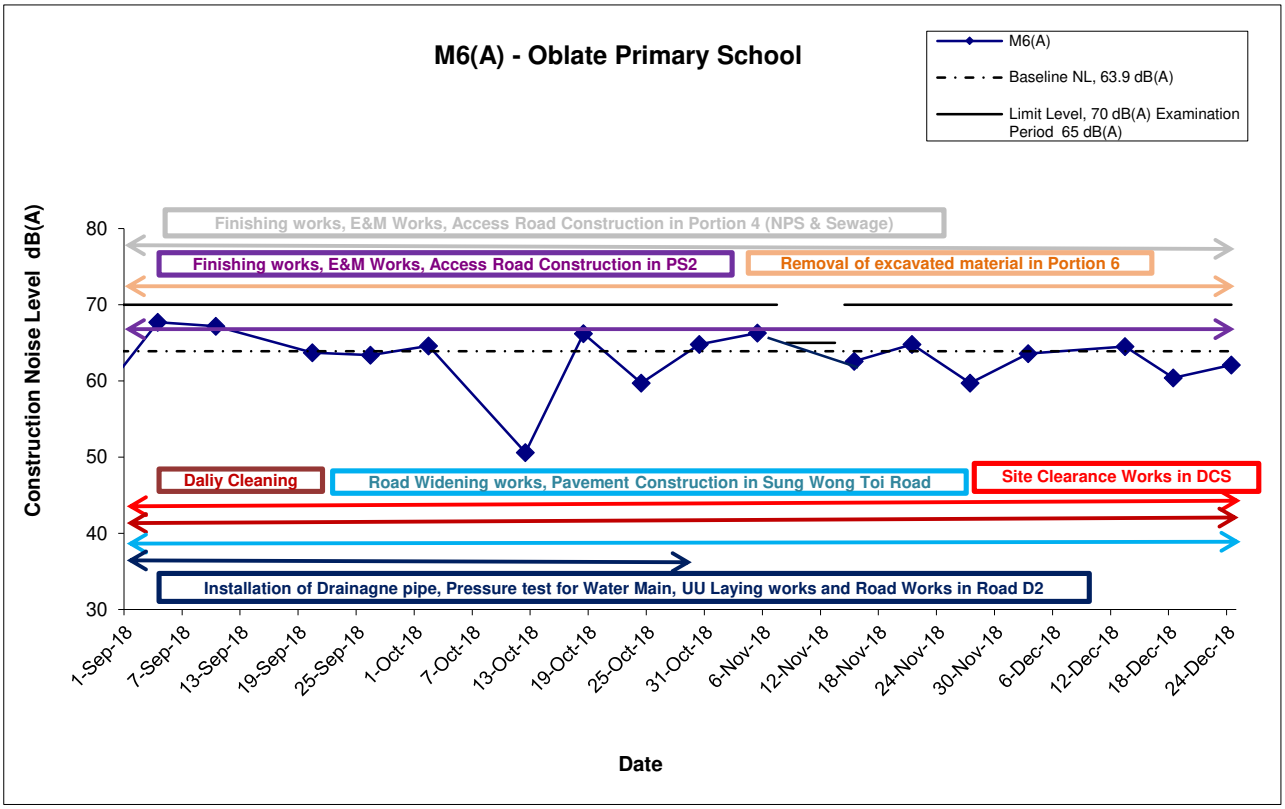


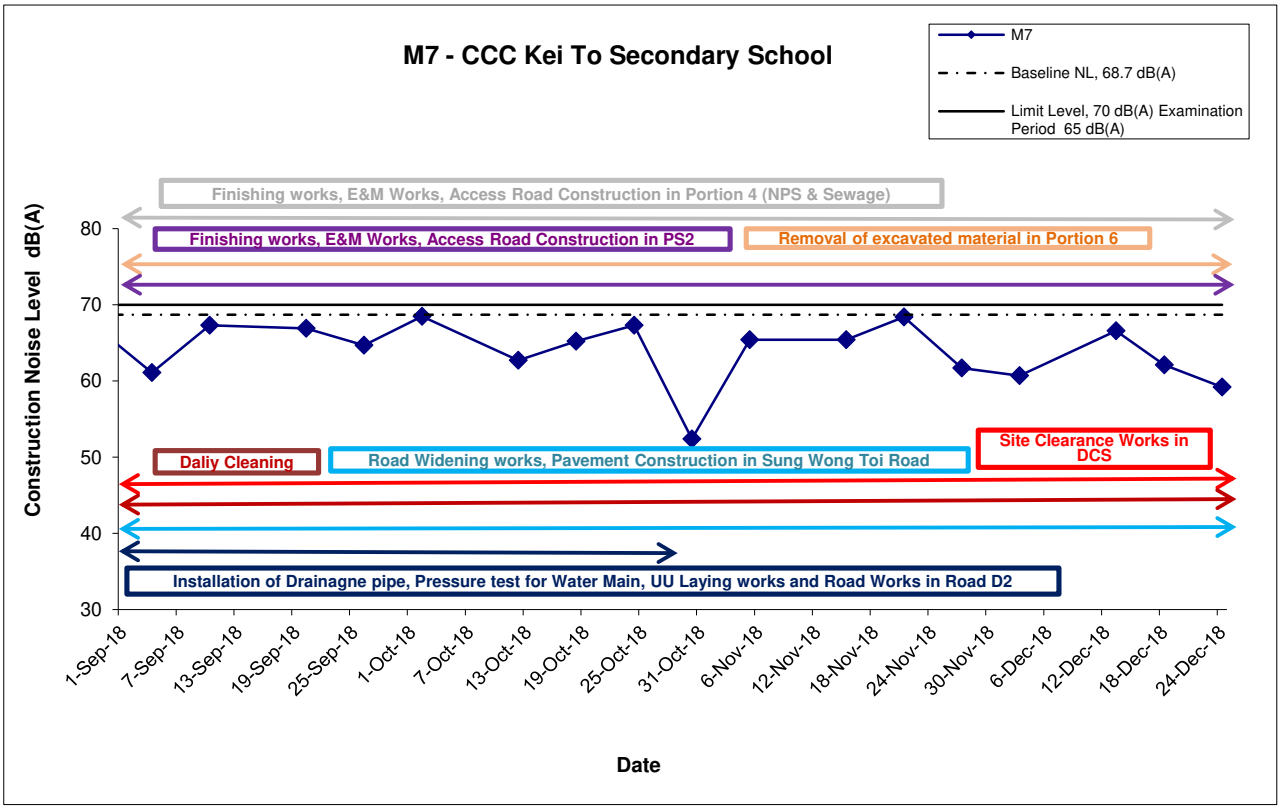


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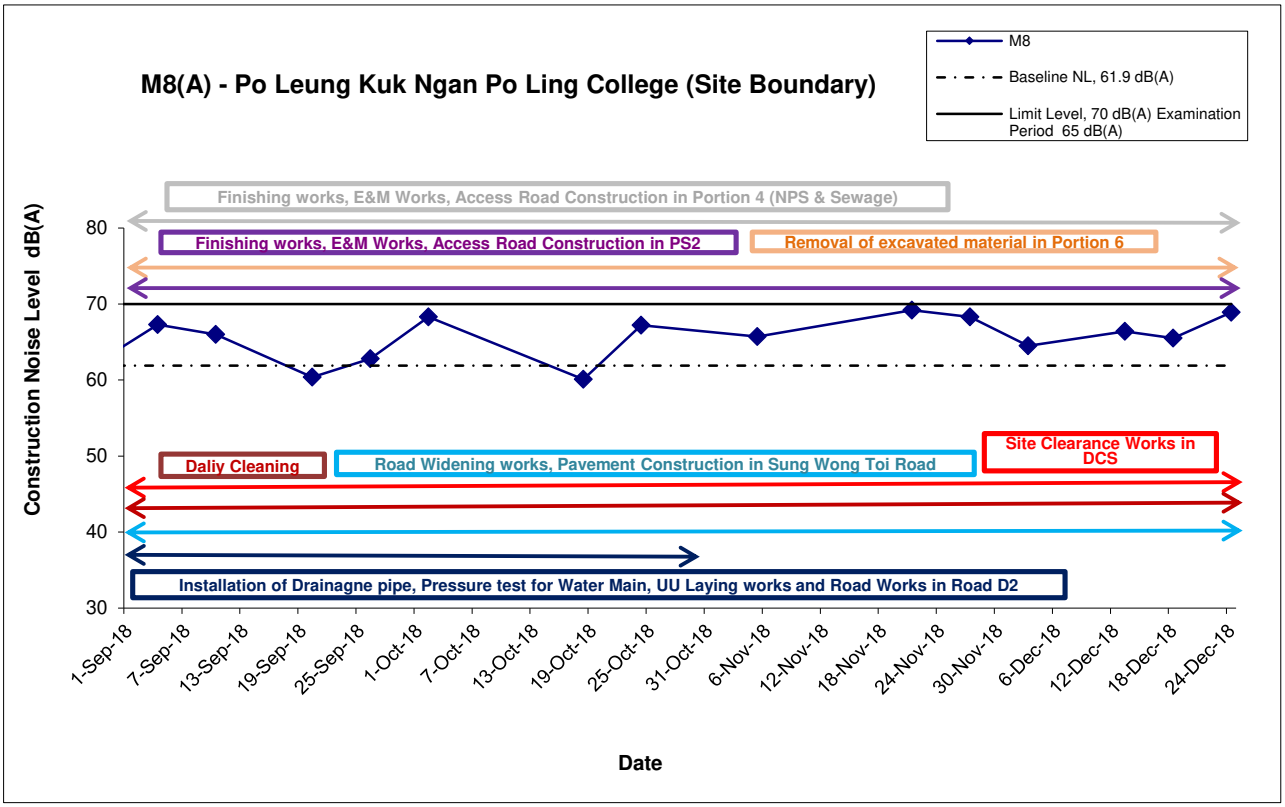


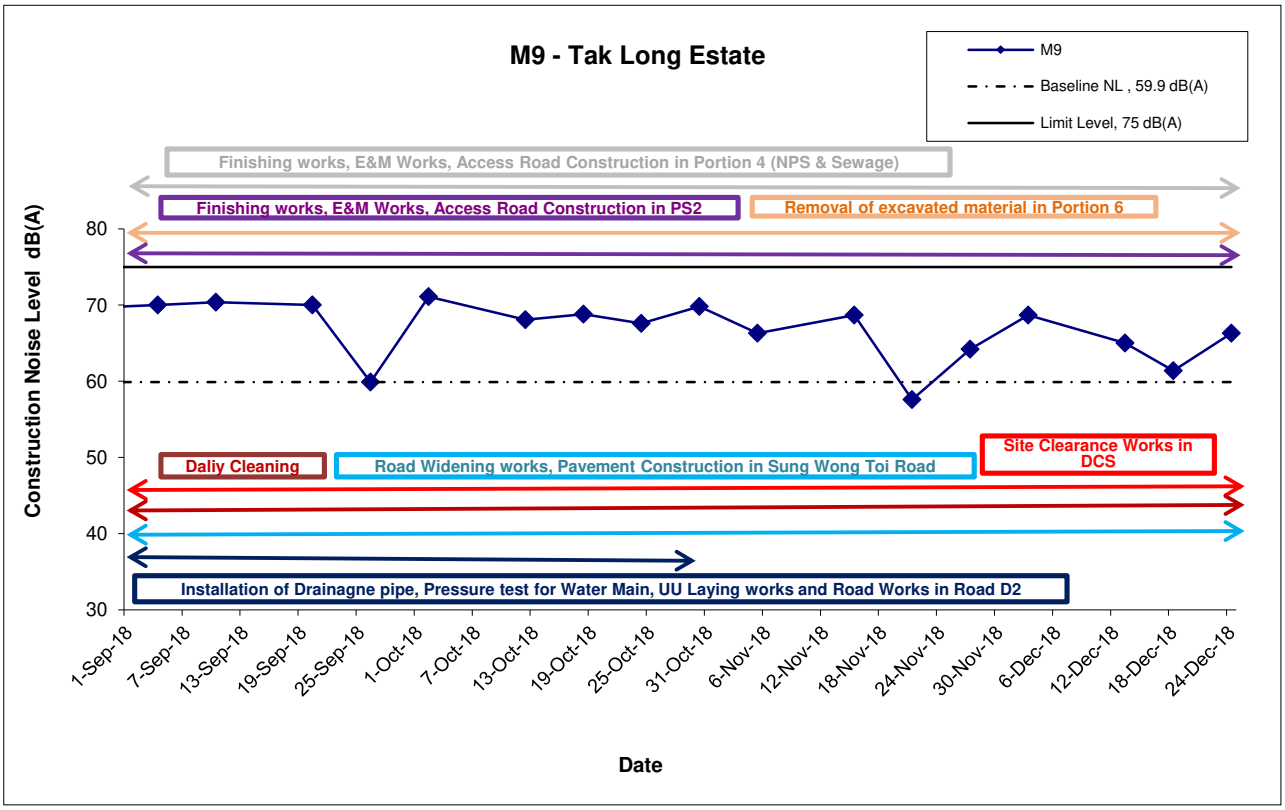


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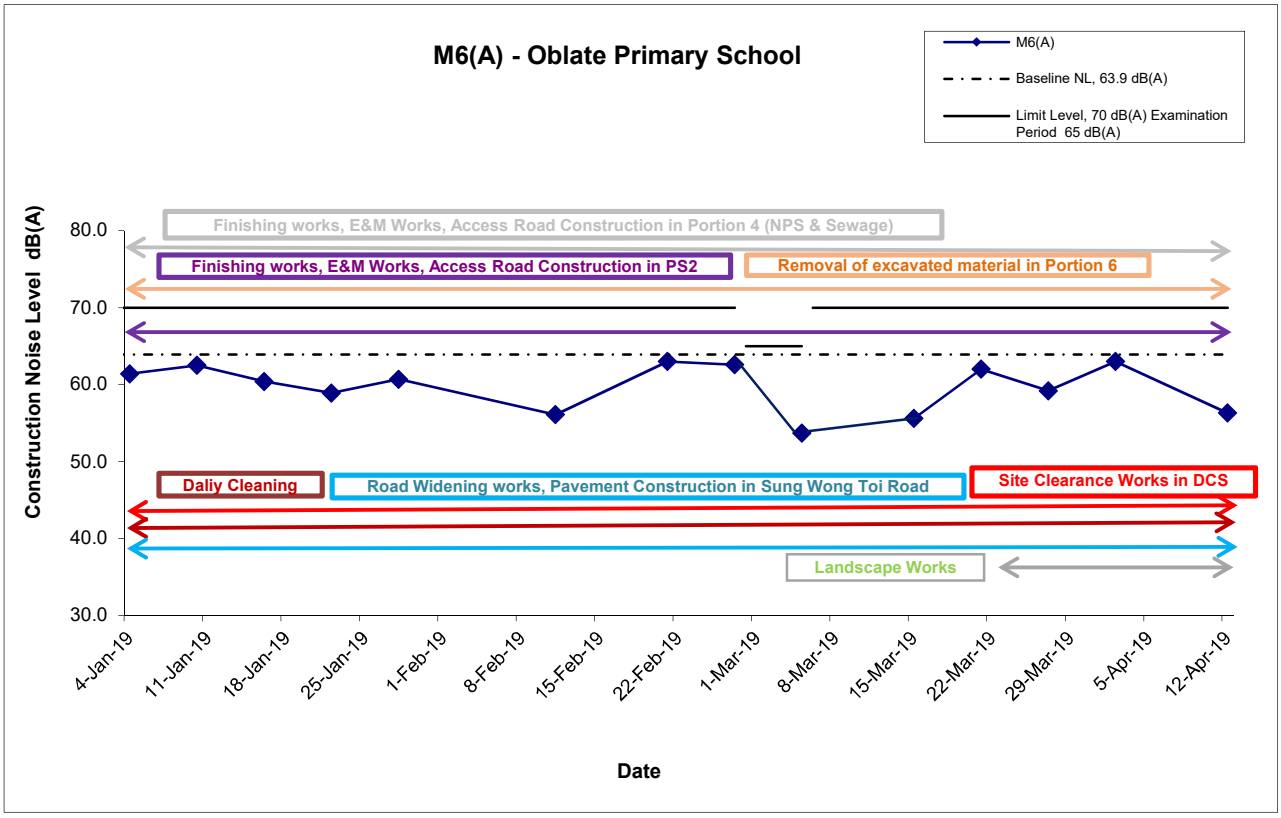


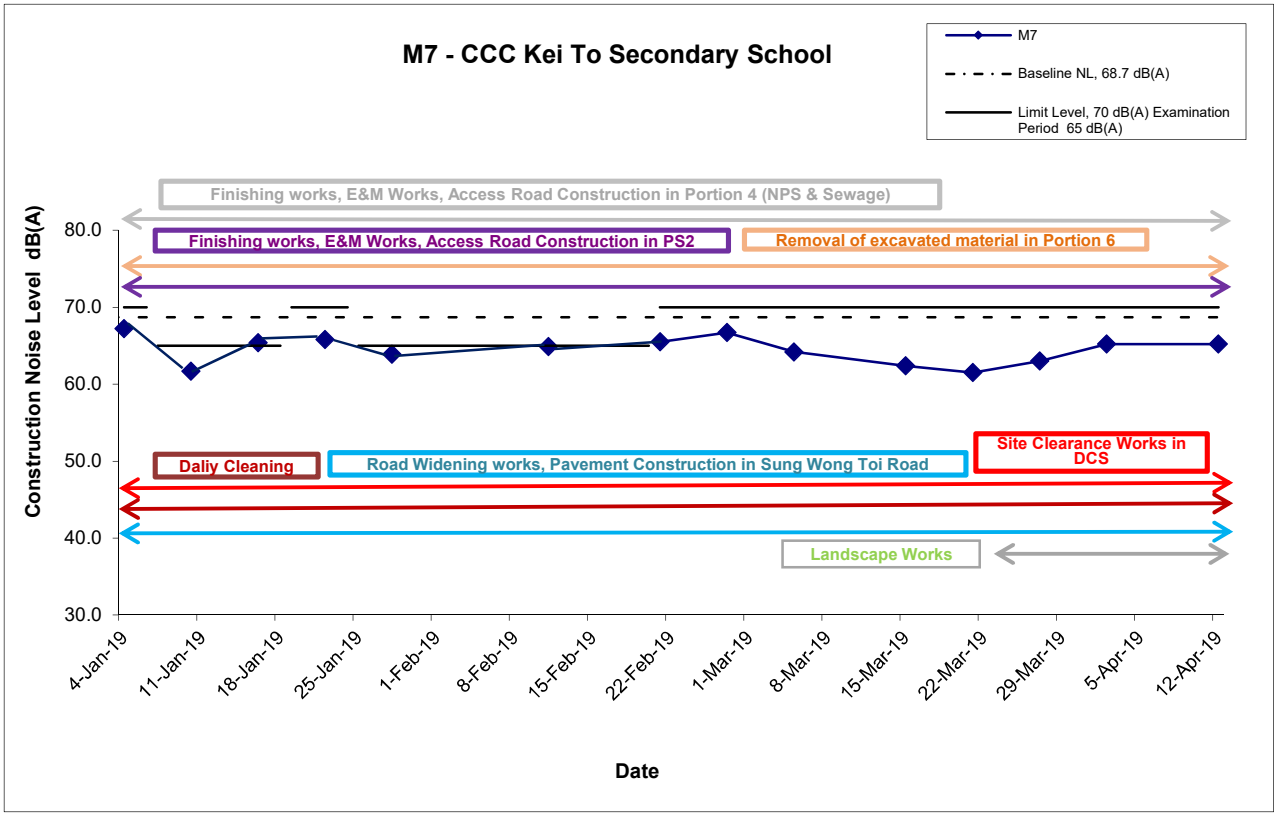


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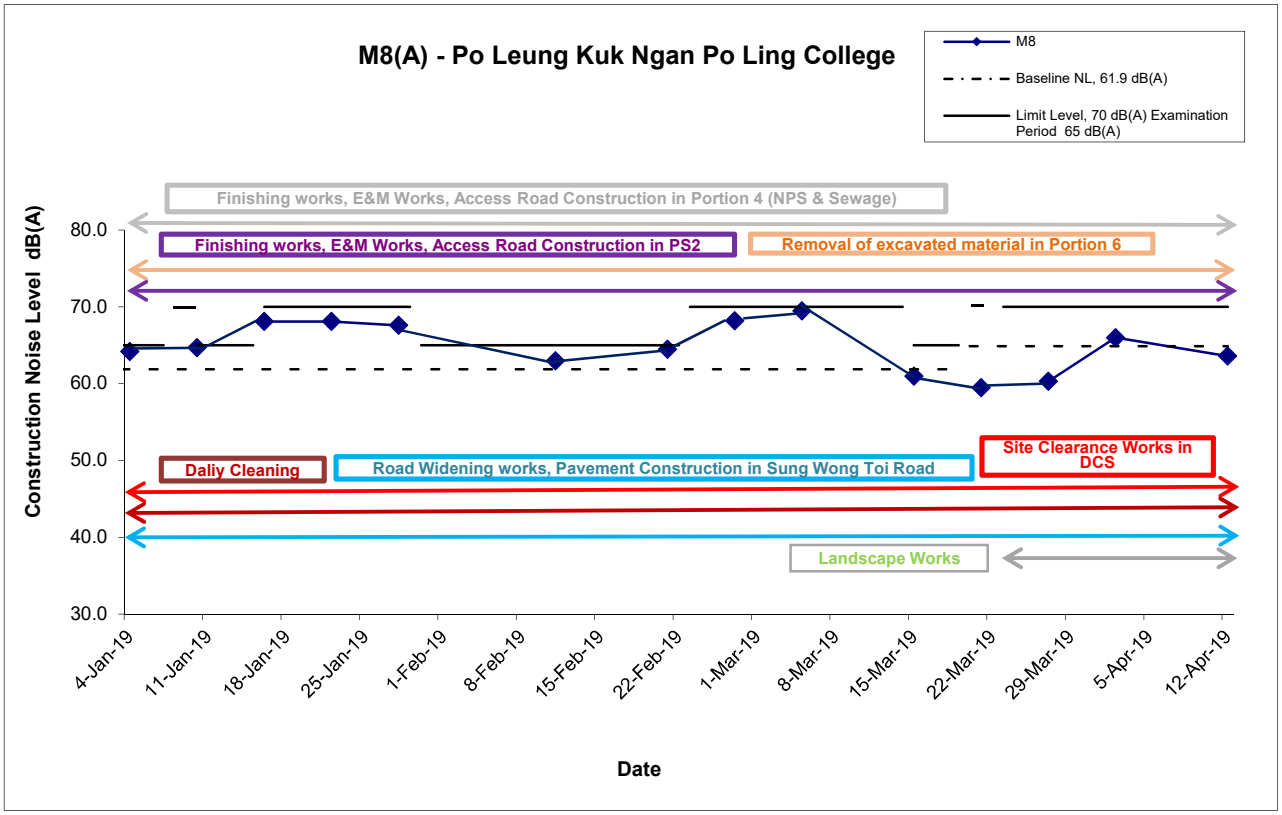


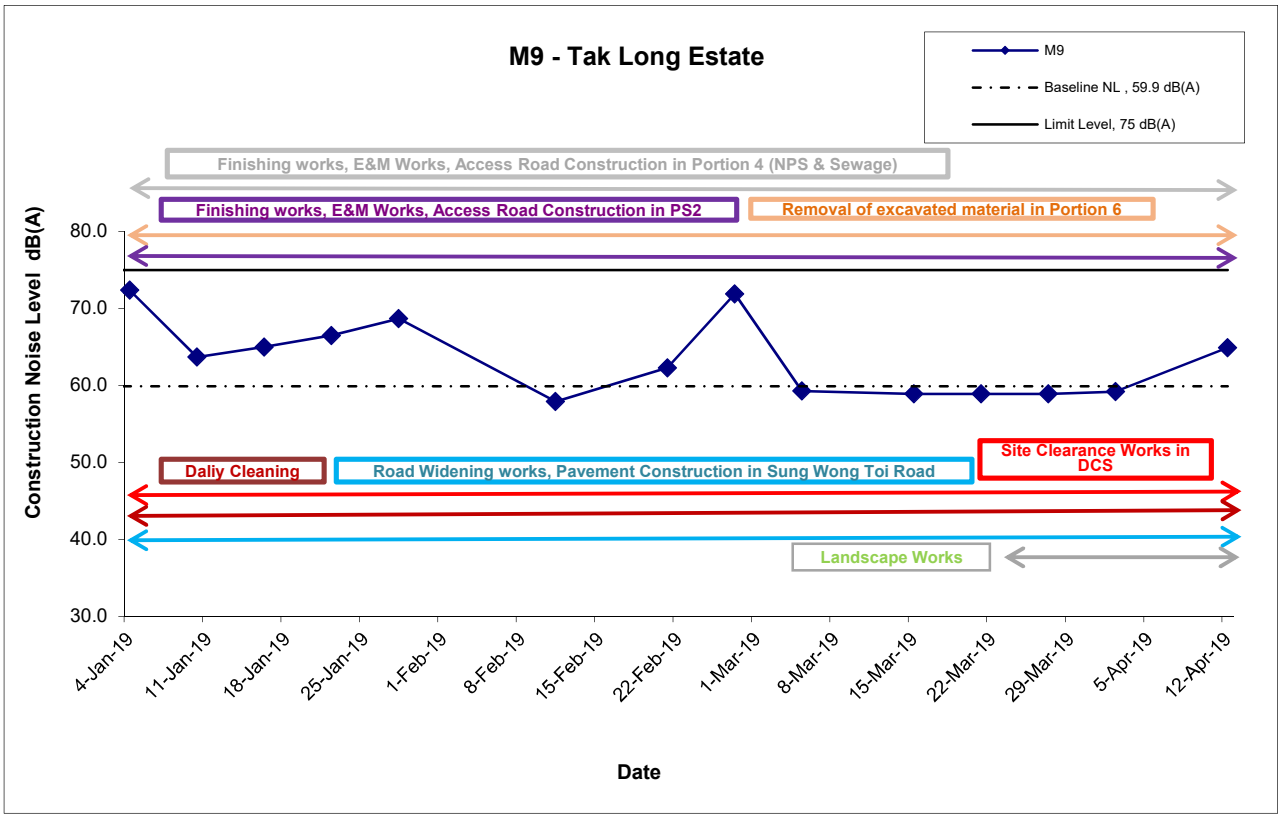


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**APPENDIX F**
**SUMMARY OF EXCEEDANCE**

# Civil Engineering and Development Department

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

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

Exceedance Report (January 2014)

(Version 1.0)

Approved By

(Environmental Team Leader)

REMARKS:

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

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

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Email: info@cinotech.com.hk

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# 1. INTRODUCTION

1.1 One limit level exceedance in noise was recorded by the Environmental Team (ET) of the Project on 6th January 2014 at noise monitoring station M8 - Po Leung Kuk Ngan Po Ling College.

1.2 In accordance with the Event and Action Plan in the Environmental Monitoring and Audit (EM&A) Manual of the Project, an exceedance investigation was carried out to identify the source and cause of exceedance. This report summarizes the findings during the investigation procedure.

# 2. STATEMENT OF EXCEEDANCE

2.1 Construction noise measured at M8 – Po Leung Kuk Ngan Po Ling College (as shown in Appendix A) exceeded the construction noise limit. The details are listed as below:

- Date of Measurement: 6th January 2014
- Time of Measurement: 11:27 a.m.

| Location | Parameter | Measured Level (Leq dB(A)) | Baseline Noise Level (Leq dB(A)) | Actual Construction Noise Level (Leq dB(A)) | Action Level ($\mu g/m^3$) | Limit Level (Leq dB(A)) | Level exceeded |
|---|---|---|---|---|---|---|---|
| M8 | Construction Noise | 68.9 | 61.9 | **67.9** | When one documented complaint is received | **65.0**(1) | Limit |

Remark:

(1) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

## 3. CAUSE OF EXCEEDANCE

3.1 The exceedance was considered non-related to the Project works:

- During the noise monitoring conducted at 11:27 a.m., mobile excavators were found operating in the open ground outside of the work areas of this Project as shown in Photo 1.
- According to field staffs' observation, major noise source identified was the loading and unloading works from the mobile excavator as shown in Photo 2.
- As the major noise source was located outside the work areas of this Project, the exceedance recorded at Station M8 - Po Leung Kuk Ngan Po Ling College was considered to be non-Project related.

Photo 1
(Construction works conducting outside KTD Project Area.)

Photo 2
(Mobile excavators were found operating)

## 4. REMEDIAL AND ADDITIONAL MITIGATION MEASURES

4.1 Although the limit level exceedance is considered to be non-Project related, the following remedial actions within the site areas of this Project had been taken or are proposed by the Contractor to minimize noise nuisance to the nearby noise sensitive receiver and avoid the re-occurance of limit level exceedance.

**Noise Mitigation Measures On-site**

4.2 The Contractor has carried out the below noise mitigation measures:

- Noise enclosures on top and three sides are provided to noisy Powered Mechanical Equipments (PME) such as generator to act as a noise barrier;
- Noisy works such as rock breaking are carried out intermittently and the PME are shut down between work periods; and
- Mobile PMEs are sited as far away from the noise sensitive receivers as possible.

4.3 The following noise mitigation measures are also proposed if there is any noise exceedance in the future.

- The head of the breaker should be wrapped up by noise absorptive materials;
- Sound proof sheets over the work locations of all breakers should be erected as practicable; and
- Hoardings should be provided along the site boundary to act as a noise barrier.

**Handling of Environmental Monitoring Data**

4.4 The Environmental Team (ET) had actively liaised with the schools where noise monitoring was conducted to obtain their examination timetables. The ET will take note of the examination period and conduct compliance check of noise monitoring with the accurate construction noise criteria.

4.5 The information was provided to the Contractor immediately. To avoid the reoccurrence of limit level exceedance in noise during examination period, noisy works will not be planned during the examination period of the schools.

4.6 Should there be any limit level exceedance in noise in the future, the following actions will be implemented by the ET according to the Event and Action Plan in the Environmental Monitoring & Audit (EM&A) Manual.

- Inform IEC, ER, Contractor and EPD;
- Repeat measurements to confirm findings;
- Increase monitoring frequency until exceedance stops;
- Identify source and investigate the cause of exceedance;

- Carry out analysis of Contractor's working procedures;
- Discuss with the IEC, Contractor and ER on remedial measures required;
- Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.

(The above actions will be taken within 2 working days after the exceedance is identified.)

4.7 The ET will also closely monitor the environmental monitoring data to identify any exceedance as soon as possible. Preliminary environmental monitoring data taken by the ET will be submitted to the Contractor, ER and the IEC according to the below schedule.

- 1-hr TSP and Noise: after 1 working day
- 24-hr TSP: after 3 working days

# 5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Based on the information gathered in the investigation, the exceedance was considered non-related to the Project works. Despite, the Contractor had carried out noise mitigation measures as listed in section 4.2 to minimize noise nuisance from their site areas as much as possible.

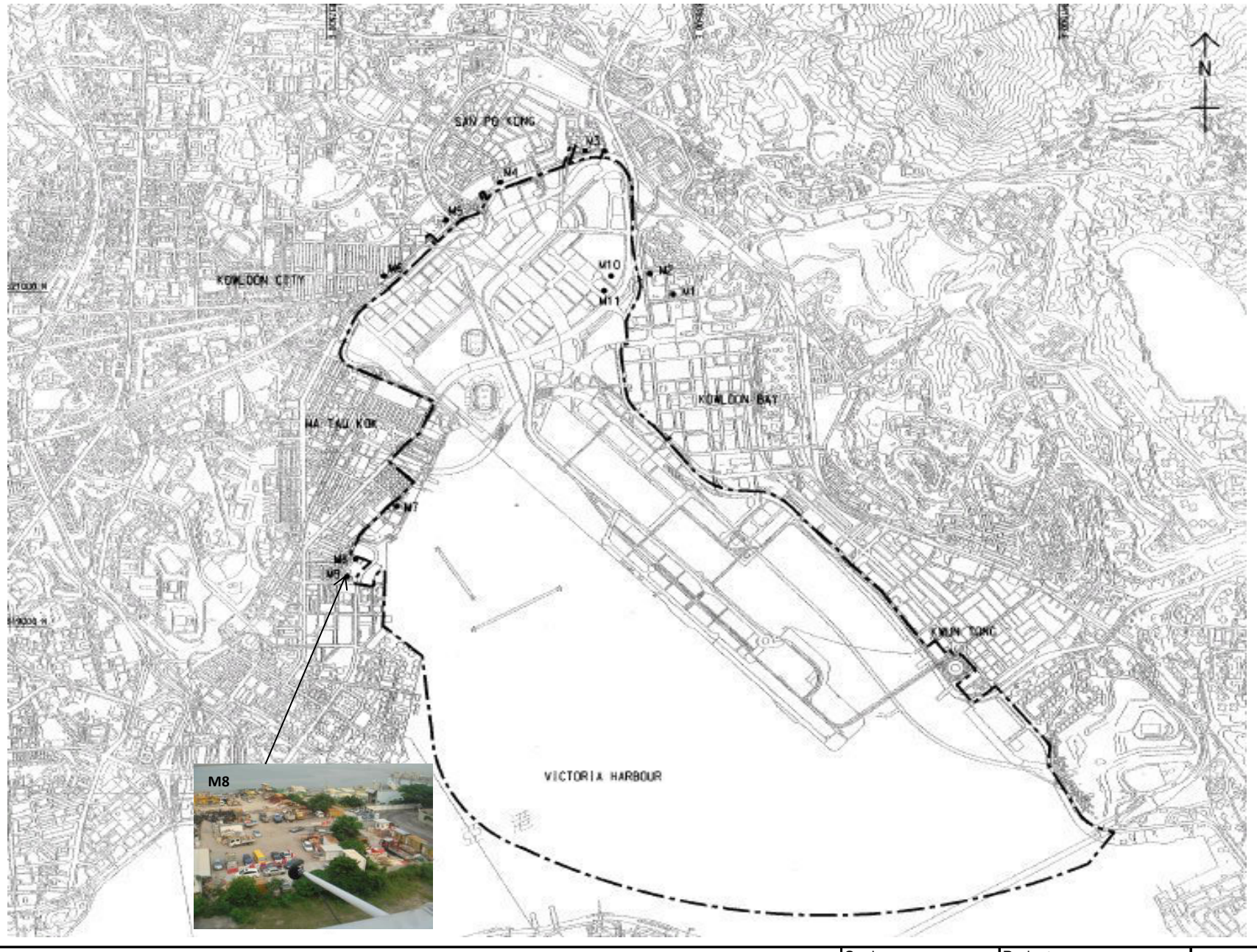
5.2 To identify any future exceedance in air quality or noise as soon as possible, the ET will submit preliminary environmental monitoring data according to the below schedule.

- 1-hr TSP and Noise: after 1 working day
- 24-hr TSP: after 3 working days

5.3 The Contractor was reminded to review the effectiveness of the implemented noise mitigation measures from time to time during different construction phases.

5.4 The environmental conditions of the site and effectiveness of the implementation of mitigation measures will be continuously reviewed and monitored by the Resident Site Staff and the Environmental Team.

**APPENDIX A**
**LOCATION OF MONITORING STATION M8**




| | | | |
|---|---|---|---|
| Title | | Scale | Project |
| Contract No. KL/2012/03<br>Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area | | N.T.S | No. MA13056 |
| LOCATION OF MONITORING STATION M8 | | Date<br>Jan-14 | Appendix<br>A |

CINOTECH

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

**Report No**. 141113_noise_M8

**Date of Measurement**: 13th November 2014
**Time of Measurement**: 13:15

| Location | Parameter | Measured Level (Leq dB(A)) | Baseline Noise Level (Leq dB(A)) | Actual Construction Noise Level (Leq dB(A)) | Action Level | Limit Level (Leq dB(A)) | Level exceeded |
|---|---|---|---|---|---|---|---|
| M8 | Construction Noise | 70.2 | 61.9 | **70.7** | When one documented complaint is received | **70.0**(1) | Limit |

Remark:

(1) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

**Remarks**

(a) Statement of exceedance(s)

Construction noise measured at M8 – Po Leung Kuk Ngan Po Ling College exceeded the construction noise limit.

(b) Cause of exceedance(s)

The exceedance was considered non-related to the Project works:

- During the noise monitoring conducted at 13:15, mobile cranes were found operating in the open ground outside Kai Tak Development Area.
- According to field staffs' observation, the major noise source came from the loading and unloading works from the mobile crane. (Shown in Photo 2.)
- As the major noise source was located outside the project area of Kai Tak Development, the exceedance recorded at Station M8 - Po Leung Kuk Ngan Po Ling College was considered to be non-Project related.

**Photographic Record of Site Activities:**

(Photo 1: Construction works conducting outside KTD Project Area.)

(Photo 2: Mobile excavators were found operating)

(c) ET's conclusions/recommendations for mitigation

- The exceedance was considered non-related to the Project works.
- No further mitigation measures would be required.

ETL Signature: _____ Date: 2nd December 2014

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

**Report No.** 180822_noise_M8

**Date of Measurement:** 4th July 2018
**Time of Measurement:** 13:00

| Location | Parameter | Measured Level (Leq dB(A)) | Baseline Noise Level (Leq dB(A)) | Actual Construction Noise Level (Leq dB(A)) | Action Level | Limit Level (Leq dB(A)) | Level exceeded |
|---|---|---|---|---|---|---|---|
| M8 | Construction Noise | 72.3 | 61.9 | **71.9** | When one documented complaint is received | **70.0**(1) | Limit |

Remark:
(1) 70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

**Remarks**

(a) Statement of exceedance(s)

Construction noise measured at M8 – Po Leung Kuk Ngan Po Ling College exceeded the Construction Noise Limit.

(b) Cause of exceedance(s)

The exceedance was considered non-related to the Project works:

- According to field staffs' observation during the noise monitoring, the major noise source came from the traffic activities and the operation of PMEs which is not related to this Contract.
- The construction works at L19 Road was completed by the Contractor and was handed over to Highways Department on 7th September 2017, the nearest construction works area (Sewage Pumping Station NPS) under this Contract is over 900m from the monitoring station M8.

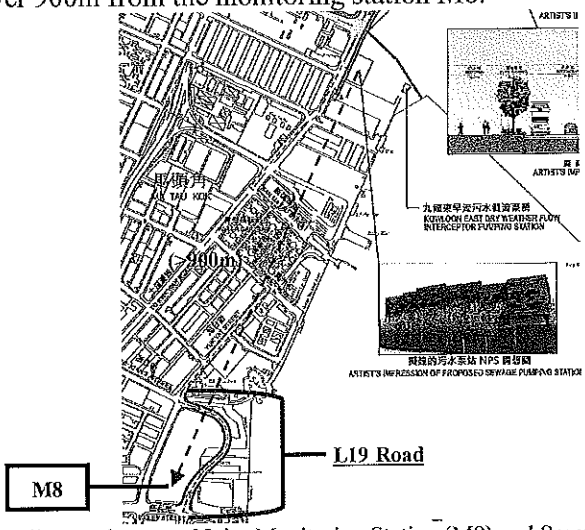



Figure 1 – The distance between Noise Monitoring Station (M8) and Sewage Pumping Station NPS

- As the nearest noise source from the Contractor's site area is over 900m from the monitoring station (M8), no noise impact from the Contractor's site area would be anticipated at this monitoring station, the Limit Level exceedance was considered to be non- related to this Contract.

(c) ET's conclusions/recommendations for mitigation

- The exceedance was considered non-related to this Contract works.
- No further mitigation measures would be implemented by the Contractor.

ETL Signature: _____ Date: 22 August 2018

**APPENDIX G**
**EVENT/ACTION PLAN**

# Appendix G - Event Action Plans

Event/Action Plan for Air Quality

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contactor, IEC and ER;<br>3. Repeat measurement to confirm finding. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method. | 1. Notify Contractor. | 1. Rectify any unacceptable practice;<br>2. Amend working methods if appropriate. |
| Action Level being exceeded by two or more consecutive sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC and ER;<br>3. Increase monitoring frequency to daily;<br>4. Discuss with IEC and Contractor on remedial actions required;<br>5. Assess the effectiveness of Contractor's remedial actions;<br>6. If exceedance continues, arrange meeting with IEC and ER;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures;<br>4. Advise the ER on the effectiveness of the proposed remedial measures. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | 1. Discuss with ET and IEC on proper remedial actions;<br>2. Submit proposals for remedial actions to ER and IEC within three working days of notification;<br>3. Implement the agreed proposals;<br>4. Amend proposal if appropriate. |
| Limit Level being exceeded by one sampling | 1. Identify source and investigate the causes of exceedance;<br>2. Inform Contractor, IEC, ER, and EPD;<br>3. Repeat measurement to confirm finding;<br>4. Assess effectiveness of Contractor's remedial actions and keep | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures; | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be | 1. Take immediate action to avoid further exceedance;<br>2. Discuss with ET and IEC on proper remedial actions;<br>3. Submit proposals for remedial actions to ER and IEC within three |

| | | | | |
|---|---|---|---|---|
| | EPD, IEC and ER informed of the results. | 4. Advise the ER on the effectiveness of the proposed remedial measures. | implemented;<br>4. Supervise implementation of remedial measures;<br>5. Conduct meeting with ET and IEC if exceedance continues. | working days of notification;<br>4. Implement the agreed proposals. |
| Limit Level being exceeded by two or more consecutive sampling | 1. Notify IEC, ER, Contractor and EPD;<br>2. Repeat measurement to confirm findings;<br>3. Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance;<br>4. Increase monitoring frequency to daily;<br>5. Arrange meeting with IEC, ER and Contractor to discuss the remedial actions to be taken;<br>6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and ER informed of the results;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. | 1. Confirm receipt of notification of exceedance in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise implementation of remedial measures;<br>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. | 1. Take immediate action to avoid further exceedance;<br>2. Discuss with ET, ER and IEC on proper remedial actions;<br>3. Submit proposals for remedial actions to IEC within three working days of notification;<br>4. Implement the agreed proposals;<br>5. Submit further remedial actions if problem still not under control;<br>6. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. |

# Appendix G - Event Action Plans

Event/Action Plan for Construction Noise

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded | 1. Notify ER, IEC and Contractor;<br>2. Carry out investigation;<br>3. Report the results of investigation to the IEC, ER and Contractor;<br>4. Discuss with the IEC and Contractor on remedial measures required;<br>5. Increase monitoring frequency to check mitigation effectiveness.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Review the investigation results submitted by the ET;<br>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;<br>3. Advise the ER on the effectiveness of the proposed remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise the implementation of remedial measures.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Submit noise mitigation proposals to IEC and ER;<br>2. Implement noise mitigation proposals.<br>(The above actions should be taken within 2 working days after the exceedance is identified) |
| Limit Level being exceeded | 1. Inform IEC, ER, Contractor and EPD;<br>2. Repeat measurements to confirm findings;<br>3. Increase monitoring frequency;<br>4. Identify source and investigate the cause of exceedance;<br>5. Carry out analysis of Contractor's working procedures;<br>6. Discuss with the IEC, Contractor | 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>4. Supervise the implementation of remedial measures;<br>5. If exceedance continues, | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;<br>3. Implement the agreed proposals;<br>4. Submit further proposal if problem still not under control;<br>5. Stop the relevant portion of works as instructed by the ER until |

| | | | | |
|---|---|---|---|---|
| | and ER on remedial measures required;<br>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;<br>8. If exceedance stops, cease additional monitoring.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | | consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.<br>(The above actions should be taken within 2 working days after the exceedance is identified) | the exceedance is abated.<br>(The above actions should be taken within 2 working days after the exceedance is identified) |

# Appendix G - Event Action Plans

Event/Action Plan for Landscape and Visual

| EVENT ACTION LEVEL | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Design Check | 1. Check final design conforms to the requirements of EP and prepare report. | 1. Check report.<br>2. Recommend remedial design if necessary | 1. Undertake remedial design if necessary | |
| Non-conformity on one occasion | 1. Identify Source<br>2. Inform IEC and ER<br>3. Discuss remedial actions with IEC, ER and Contractor<br>4. Monitor remedial actions until rectification has been completed | 1. Check report<br>2. Check Contractor's working method<br>3. Discuss with ET and Contractor on possible remedial measures<br>4. Advise ER on effectiveness of proposed remedial measures.<br>5. Check implementation of remedial measures. | 1. Notify Contractor<br>2. Ensure remedial measures are properly implemented | 1. Amend working methods<br>2. Rectify damage and undertake any necessary replacement |
| Repeated Non-conformity | 1. Identify Source<br>Inform IEC and ER<br>2. Increase monitoring frequency<br>3. Discuss remedial actions with IEC, ER | 1. Check monitoring report<br>2. Check Contractor's working method<br>3. Discuss with ET and Contractor on possible remedial measures | 1. Notify Contractor<br>2. Ensure remedial measures are properly implemented | 1. Amend working methods<br>2. Rectify damage and undertake any necessary replacement |

| | | | | |
|---|---|---|---|---|
| | and Contractor<br>4. Monitor remedial actions until rectification has been completed<br>5. If non-conformity stops, cease additional monitoring | 4. Advise ER on effectiveness of proposed remedial measures<br>5. Supervise implementation of remedial measures. | | |

**APPENDIX H**
**SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION**

**Contract No. KL/2012/03**

# Kai Tak Development –Stage 4 Infrastructure at Former North Apron Area

**Appendix H – Summary of environmental complaint, warning, summon and notification of successful prosecution**

**Contract No. KL/2012/03**

| Log Ref. | Location | Received Date | Details of Complaint/warning/summon and prosecution | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| N/A | Kwei Chow Street | 21st July 2014 | An occupant on ground floor of Oriental Daily News Building at Kwei Chow Street complained about the noise generated from works of driving sheet piles at Pit No.6 at Kwei Chow Street. | The Contractor has taken the following mitigation measures:<br>• Site hoardings was erected along the site boundary of Pit No. 6 at Kwei Chow Street to shield occupants of premise nearby from noisy works;<br>• Noisy sheetpile driving works are carried out intermittently and the sheet pile vibrator was shut down between work periods or throttled down to a minimum;<br>• The cover panel of the power unit of the sheet pile vibrator was closed during operation of the vibrator to further reduce noise nuisance; and<br>• Adopt Hydraulic operated equipment as alternative construction methods for sheet driving works to reduce construction noise and vibration nuisance | Closed |
| 15-14258 | No detail | 6th October 2015 | Complainant said dust emission from the construction work affecting him/her.<br>The stockpiles was not covered properly such that dust emission was observed. | Complaint cases referred to the Contractor. Investigation conducted by the Contract ET. The investigation results showed that no major construction activities were conducted at the time of complaint on the day – 10th June 2015. Since no marine works or land-based construction | Closed |

**Appendix H – Summary of environmental complaint, warning, summon and notification of successful prosecution**

| Log Ref. | Location | Received Date | Details of Complaint/warning/summon and prosecution | Investigation/Mitigation Action | Status |
|---|---|---|---|---|---|
| | | | Some muddy water was found in To Kwa Wan Typhoon Shelter. | activities near the To Kwa Wan Typhoon Shelter were conducted, muddy effluent discharged to the To Kwa Wan Typhoon Shelter is not anticipated.<br><br>The regular impact air monitoring results in the first three weeks of June 2015 were in full compliance with the Action and Limit levels. No major environmental deficiencies were observed related to the air quality and water quality, and the deficiencies as mentioned in the complaint were not recorded during the site inspections. | |
| N/A | Kwei Chow Street | 6th June 2017 | Complainant complained about waste disposal at Kwei Chow Street next to construction site area. | Complaint cases referred to the Contractor. Investigation conducted by the Contract ET. The investigation results showed that no major construction activities were conducted at Kwei Chow Street on 6th June 2017. No waste shall be generated from their site works.<br><br>No major environmental deficiencies were observed related to the waste management, and the deficiencies as mentioned in the complaint were not recorded during the site inspections. | Closed |

**APPENDIX I**
**SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS**

APPENDIX IV

**Monthly Summary Waste Flow Table**

(PS Clause 1.86)

Name of Department: CEDD

Contract No. : KL/2012/03

Monthly Summary Waste Flow Table for July 2020 (year) (in tons)

| Month | Total Disposal Loads | Total Quantity Generated | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Hard Rock & Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics (see Note 3) | Chemicals Waste | Others, e.g. general refuse |
| | (No.s) | (in tons) | 0 | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) | (in tons) |
| 2013 (Oct - Dec) Sub-Total | 108 | 463.69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 463.69 |
| 2014 (Jan – Dec) Sub-Total | 24 | 16925.7 | 0 | 0 | 16798.93 | 83.66 | 1804.27 | 0 | 0 | 0 | 0 | 43.11 |
| 2015 (Jan – Dec) Sub-Total | 284 | 81859.97 | 0 | 0 | 38291.91 | 43457.21 | 19920 | 0 | 0 | 0 | 0 | 310.26 |
| 2016 (Jan – Dec) Sub-Total | 3369 | 50762.64 | 0 | 0 | 0 | 49894.67 | 4020 | 0 | 0 | 0 | 0 | 867.95 |
| 2017 (Jan – Dec) Sub-Total | 2737 | 39615.16 | 0 | 0 | 0 | 38996.26 | 0 | 0 | 0 | 0 | 0 | 603.11 |
| 2018 (Jan – Dec) Sub-Total | 566 | 7483.57 | 0 | 0 | 0 | 6803.57 | 0 | 0 | 0 | 0 | 0 | 680 |
| 2019 (Jan – Dec) Sub-Total | 88 | 396.28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 396.28 |
| 2020 (Jan – Jun) Sub-Total | 10 | 26.33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26.33 |
| Jul-20 | 2 | 4.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.8 |
| Aug-20 | | | | | | | | | | | | |
| Sep-20 | | | | | | | | | | | | |
| Oct-20 | | | | | | | | | | | | |
| Nov-20 | | | | | | | | | | | | |
| Dec-20 | | | | | | | | | | | | |
| Total | 7188 | 197538.14 | 0 | 0 | 55090.84 | 139235.37 | 25744.27 | 0 | 0 | 0 | 0 | 3395.53 |

**APPENDIX J**
**ENVIRONMENTAL MITIGATION**
**IMPLEMENTATION SCHEDULE (EMIS)**

## Appendix J - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

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

| | | |
|---|---|---|
| **Construction Noise** | Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump | ^ |
| | Good Site Practice:<br>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. | ^ |
| | • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. | N/A(1) |
| | • Mobile plant, if any, should be sited as far away from NSRs as possible. | ^ |
| | • Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. | ^ |
| | • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. | ^ |
| | • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. | ^ |
| | Scheduling of Construction Works during School Examination Period | ^ |
| | (i) Provision of low noise surfacing in a section of Road L2; and | N/A |
| | (ii) Provision of structural fins | N/A |
| | (i) Avoid the sensitive façade of class room facing Road L2 and L4; and | N/A |
| | (ii) Provision of low noise surfacing in a section of Road L2 & L4 | N/A |
| | (i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 1I1; and | N/A |
| | (ii) Setback of building about 5m from site boundary. | N/A |
| | Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2. | N/A |
| | (i) avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and | N/A |
| | (ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window. | N/A |

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

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

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| | All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. | * |
| | *Drainage* | |
| | It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea. | ^ |
| | All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required. | * |
| | All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. | ^ |
| | *Sewage Effluent* | |
| | Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices. | ^ |
| | *Stormwater Discharges* | |
| | Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes | N/A |

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

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| | Supervisory staff should be assigned to station on site to closely supervise and monitor the works | ^ |
| | Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation. | ^ |
| | Good Site Practices<br>It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include: | |
| | • Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site | ^ |
| | • Training of site personnel in proper waste management and chemical waste handling procedures | ^ |
| | • Provision of sufficient waste disposal points and regular collection for disposal | ^ |
| | • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers | ^ |
| | • A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) | ^ |
| | Waste Reduction Measures<br>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: | |
| | • Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals | ^ |
| | • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal | * |
| | • Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force | ^ |
| | • Any unused chemicals or those with remaining functional capacity should be recycled | ^ |
| | • Proper storage and site practices to minimise the potential for damage or contamination of construction materials | ^ |

Construction and Demolition Material

Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include:

- Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles should be located away from waterfront or storm drains as far as possible ^
- Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric ^
- Skip hoist for material transport should be totally enclosed by impervious sheeting ^
- Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site ^
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores ^
- The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle ^
- All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet ^
- The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading ^

When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system. ^

Chemical Waste

After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation* *

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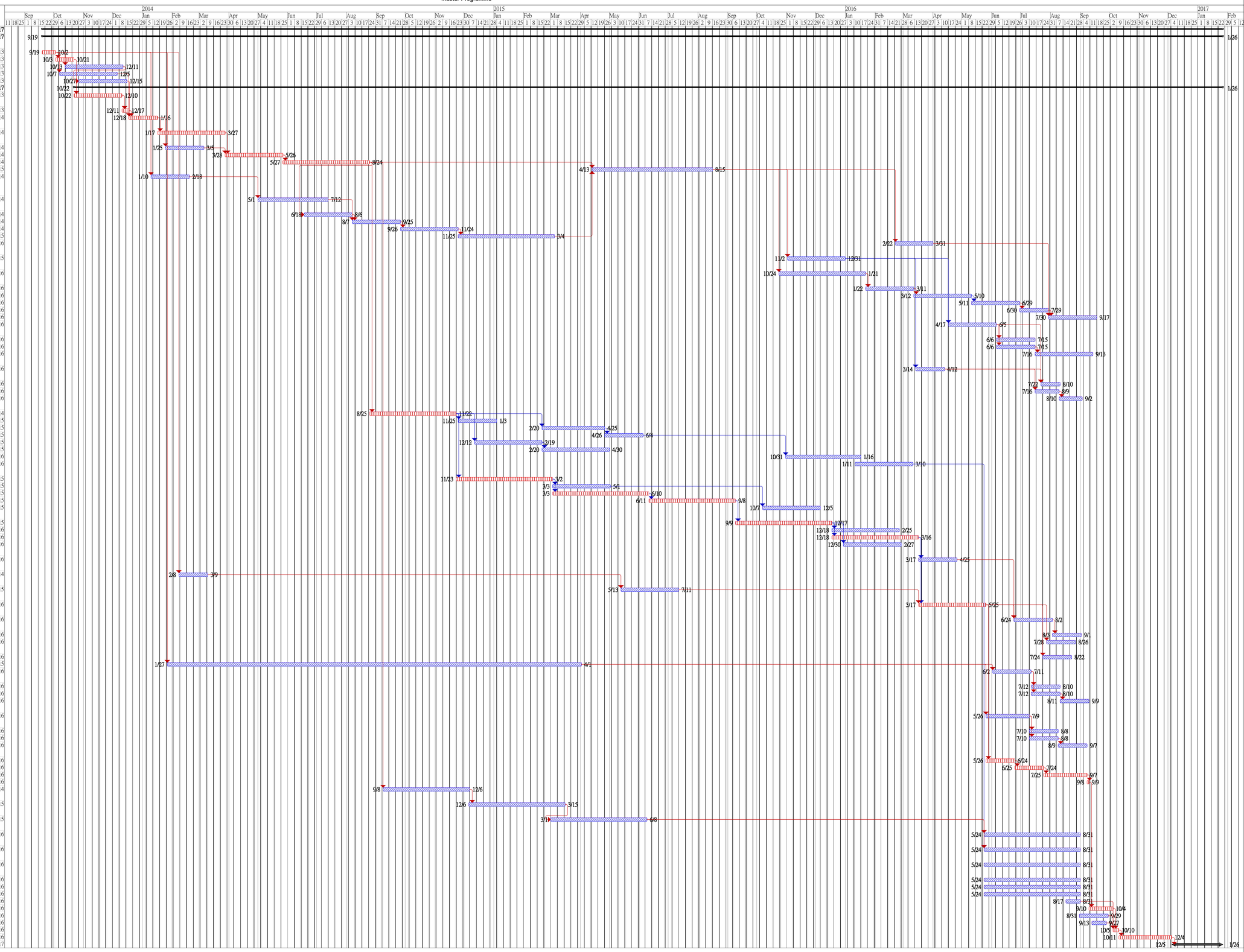
|---|---|---|
| | General Refuse<br><br>General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage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

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

**APPENDIX K**
**CONSTRUCTION PROGRAMME OF CONTRACT KL/2012/03**

# Master Programme

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1226 days** | **Thu Sep 19, '13** | **Thu Jan 26, '17** |
| 2 | **Section 1: Works within Portion 1 and 3** | **1226 days** | **Thu Sep 19, '13** | **Thu Jan 26, '17** |
| 3 | Site possession and preparation works | 14 days | Thu Sep 19, '13 | Wed Oct 2, '13 |
| 4 | Setting out site boundary and site clearance | 19 days | Thu Oct 3, '13 | Mon Oct 21, '13 |
| 5 | Initial joint survey | 60 days | Sun Oct 13, '13 | Wed Dec 11, '13 |
| 6 | Obtain underground utilities plans | 60 days | Mon Oct 7, '13 | Thu Dec 5, '13 |
| 7 | Erect hoarding, chain link fence and vehicular gate | 50 days | Sun Oct 27, '13 | Sun Dec 15, '13 |
| 8 | **Works for Road L6** | **1193 days** | **Tue Oct 22, '13** | **Thu Jan 26, '17** |
| 9 | Submission / approval of construction materials, method statements and temporary work design for box culverts B5 | 50 days | Tue Oct 22, '13 | Tue Dec 10, '13 |
| 10 | Plant mobilization | 7 days | Wed Dec 11, '13 | Tue Dec 17, '13 |
| 11 | Excavation to the formation level for B5 at CH48 - CH72 | 30 days | Wed Dec 18, '13 | Thu Jan 16, '14 |
| 12 | Excavation to the formation level for B5 at CH72 - CH221 | 70 days | Fri Jan 17, '14 | Thu Mar 27, '14 |
| 13 | Construct base slab of B5 at CH48 - CH72 | 40 days | Sat Jan 25, '14 | Wed Mar 5, '14 |
| 14 | Construct base slab of B5 at CH72 - CH221 | 60 days | Fri Mar 28, '14 | Mon May 26, '14 |
| 15 | Construct the wall and roof of B5 at CH48 - CH221 | 90 days | Tue May 27, '14 | Sun Aug 24, '14 |
| 16 | Backfilling to B5 at CH48 - CH221 | 125 days | Mon Apr 13, '15 | Sat Aug 15, '15 |
| 17 | Submission / approval of construction materials and delivery of materials and method statements and temporary works for stormdrain and sewerage drain | 40 days | Fri Jan 10, '14 | Tue Feb 18, '14 |
| 18 | Install 2x750mm dia sewerage drain from FMH10_345 to FMH10_350 under box culvert B5 | 73 days | Thu May 1, '14 | Sat Jul 12, '14 |
| 19 | Excavation to the formation level for B5 at CH0 - CH48 | 50 days | Wed Jun 18, '14 | Wed Aug 6, '14 |
| 20 | Construct the base slab of B5 at CH0 - CH48 | 50 days | Thu Aug 7, '14 | Thu Sep 25, '14 |
| 21 | Construct the wall and roof of B5 at CH0 - CH48 | 60 days | Fri Sep 26, '14 | Mon Nov 24, '14 |
| 22 | Backfilling to B5 at CH0 - CH48 | 100 days | Tue Nov 25, '14 | Wed Mar 4, '15 |
| 23 | Reconstruct manhole opening at B5 from CH0 - CH48 before wet season (Variation Order to be issued) | 39 days | Mon Feb 22, '16 | Thu Mar 31, '16 |
| 24 | Laying sewerage drain from FMH 1K3_1 to 345 and 1K1_1 to FMH10_340 | 60 days | Mon Nov 2, '15 | Thu Dec 31, '15 |
| 25 | Install 250mm, 300mm dia.FWM CHD200-CHD394 and 200mm SWM CHC200-CHC394 | 90 days | Sat Oct 24, '15 | Thu Jan 21, '16 |
| 26 | Install irrigation system above B5 | 50 days | Fri Jan 22, '16 | Fri Mar 11, '16 |
| 27 | Laying storm drain and manhole above B5 | 60 days | Sat Mar 12, '16 | Tue May 10, '16 |
| 28 | Construct road gully and gully pipe above B5 | 50 days | Wed May 11, '16 | Wed Jun 29, '16 |
| 29 | Construct road kerb | 30 days | Thu Jun 30, '16 | Fri Jul 29, '16 |
| 30 | Construct flexible carriageway | 50 days | Sat Jul 30, '16 | Sat Sep 17, '16 |
| 31 | Installation of utility by the utility undertakers along proposed footpath CHB150-400 | 50 days | Sun Apr 17, '16 | Sun Jun 5, '16 |
| 32 | Install street lighting | 40 days | Mon Jun 6, '16 | Fri Jul 15, '16 |
| 33 | Construct u-channel and drainpit at footpath | 40 days | Mon Jun 6, '16 | Fri Jul 15, '16 |
| 34 | Construct footpath, planting area and concrete run-in | 60 days | Sat Jul 16, '16 | Tue Sep 13, '16 |
| 35 | Installation of utility by the utility undertakers along proposed footpath CHC150-350 | 30 days | Mon Mar 14, '16 | Tue Apr 12, '16 |
| 36 | Install street lighting | 20 days | Fri Jul 22, '16 | Wed Aug 10, '16 |
| 37 | Construct u-channel and drainpit at footpath | 25 days | Sat Jul 16, '16 | Tue Aug 9, '16 |
| 38 | Construct footpath, planting area and concrete run-in | 24 days | Wed Aug 10, '16 | Fri Sep 2, '16 |
| 39 | Laying sewerage drain from FMH10_320 to 330 | 90 days | Mon Aug 25, '14 | Sat Nov 22, '14 |
| 40 | Construct manhole (FMH10_330) | 40 days | Tue Nov 25, '14 | Sat Jan 3, '15 |
| 41 | Laying sewerage drain from FMH10_310 to 320 | 65 days | Fri Feb 20, '15 | Sat Apr 25, '15 |
| 42 | Construct manhole (FMH10_310 & 320) | 40 days | Sun Apr 26, '15 | Thu Jun 4, '15 |
| 43 | Laying sewerage drain from FMH10_330 to 345 | 70 days | Fri Dec 12, '14 | Thu Feb 19, '15 |
| 44 | Construct manhole (FMH10_330 & 345) | 70 days | Fri Feb 20, '15 | Thu Apr 30, '15 |
| 45 | Laying storm drains and manhole from SMH1502 to B5 | 78 days | Sat Oct 31, '15 | Sat Jan 16, '16 |
| 46 | Laying storm drains and manhole from existing storm drain to SMH21 to B5 | 60 days | Mon Jan 11, '16 | Thu Mar 10, '16 |
| 47 | Laying sewerage drain from FMH10_360 to 370 | 100 days | Sun Nov 23, '14 | Mon Mar 2, '15 |
| 48 | Construct manhole (FMH10_360 & 370) | 60 days | Tue Mar 3, '15 | Fri May 1, '15 |
| 49 | Laying sewerage drain for FMH10_350 to 360 | 100 days | Tue Mar 3, '15 | Wed Jun 10, '15 |
| 50 | Construct manhole (FMH10_350) | 90 days | Thu Jun 11, '15 | Tue Sep 8, '15 |
| 51 | Laying sewerage drain for FMH10_370 to PS2 & FMH90_80 to FMH10_370 | 60 days | Wed Oct 7, '15 | Sat Dec 5, '15 |
| 52 | Laying storm drain and manhole (SMH1906 to 1909) | 100 days | Wed Sep 9, '15 | Thu Dec 17, '15 |
| 53 | Laying sewerage drain from FMH 2D1_1 to 350 | 70 days | Fri Dec 18, '15 | Thu Feb 25, '16 |
| 54 | Laying storm drain and manhole (SMH1904 to 1906) | 90 days | Fri Dec 18, '15 | Wed Mar 16, '16 |
| 55 | Laying storm drain and manhole from existing storm drain to SMH23 to 1910 | 60 days | Wed Dec 30, '15 | Sat Feb 27, '16 |
| 56 | Laying storm drain and manhole (SMH1901 to 1904 & 1921 to 1902) | 40 days | Thu Mar 17, '16 | Mon Apr 25, '16 |
| 57 | Submission / approval of construction materials and method statements for watermains | 30 days | Sat Feb 8, '14 | Sun Mar 9, '14 |
| 58 | Delivery of FWM and SWM pipes and fittings and valves | 60 days | Wed May 13, '15 | Sat Jul 11, '15 |
| 59 | Install 450mm dia.FWM CHD100-CHD200 and 200mm SWM CHC100-CHC200 | 70 days | Thu Mar 17, '16 | Wed May 25, '16 |
| 60 | Install 450mm dia.FWM CHD0-CHD100 and 200mm SWM CHC0-CHC100 | 40 days | Fri Jun 24, '16 | Tue Aug 2, '16 |
| 61 | Pressure test, swabbing, sterilization and connection | 30 days | Wed Aug 3, '16 | Thu Sep 1, '16 |
| 62 | Construct valve, air-valve and wash-out chambers and fire hyrdants for watermain | 30 days | Thu Jul 28, '16 | Fri Aug 26, '16 |
| 63 | Install irrigation system along road L6 | 30 days | Sun Jul 24, '16 | Mon Aug 22, '16 |
| 64 | Liaison meeting with UU | 430 days | Mon Jan 27, '14 | Wed Apr 1, '15 |
| 65 | Installation of utility by the utility undertakers along proposed footpath CHB0-150 | 40 days | Thu Jun 2, '16 | Mon Jul 11, '16 |
| 66 | Install street lighting along L6 (RHS) | 30 days | Tue Jul 12, '16 | Wed Aug 10, '16 |
| 67 | Construct u-channel and drainpit at footpath | 30 days | Tue Jul 12, '16 | Wed Aug 10, '16 |
| 68 | Construct footpath, planting area and concrete run-in | 30 days | Thu Aug 11, '16 | Fri Sep 9, '16 |
| 69 | Installation of utility by the utility undertakers along proposed footpath CHC0-150 | 45 days | Thu May 26, '16 | Sat Jul 9, '16 |
| 70 | Install street lighting (LHS) | 30 days | Sun Jul 10, '16 | Mon Aug 8, '16 |
| 71 | Construct u-channel and drainpit at footpath | 30 days | Sun Jul 10, '16 | Mon Aug 8, '16 |
| 72 | Construct footpath, planting area and concrete run-in | 30 days | Tue Aug 9, '16 | Wed Sep 7, '16 |
| 73 | Construct road gully and gully pipe at Road L6 | 30 days | Thu May 26, '16 | Fri Jun 24, '16 |
| 74 | Construct road kerb along Road L6 | 30 days | Sat Jun 25, '16 | Sun Jul 24, '16 |
| 75 | Construct flexible carriageway | 45 days | Mon Jul 25, '16 | Wed Sep 7, '16 |
| 76 | Road marking | 2 days | Thu Sep 8, '16 | Fri Sep 9, '16 |
| 77 | Laying stormwater drain at pedestrian street for SMH1701 to B5 | 90 days | Mon Sep 8, '14 | Sat Dec 6, '14 |
| 78 | Laying stormwater drain at pedestrian street for SMH1801 to B5 | 100 days | Sat Dec 6, '14 | Sun Mar 15, '15 |
| 79 | Laying stormwater drain at pedestrian street for SMH1601 to B5 | 100 days | Sun Mar 1, '15 | Mon Jun 8, '15 |
| 80 | Construct u-channel and drainpit at pedestrian street near and inside site 1L/2 & 3 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 81 | Construct u-channel and drainpit at pedestrian street near and inside site 1K/2 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 82 | Install irrigation system at pedestrian street near site 1L/2 & 3 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 83 | Install irrigation system at pedestrian street near site 1K/2 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 84 | Construct pedestrian street near site 1L/2 & 3 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 85 | Construct pedestrian street near site 1K/2 | 100 days | Tue May 24, '16 | Wed Aug 31, '16 |
| 86 | Installation of lighting system by HyD | 15 days | Wed Aug 17, '16 | Wed Aug 31, '16 |
| 87 | Road marking | 25 days | Sat Sep 10, '16 | Tue Oct 4, '16 |
| 88 | Plants delivery for landscaping works | 30 days | Wed Aug 31, '16 | Thu Sep 29, '16 |
| 89 | Preparatory works for landscaping works | 15 days | Tue Sep 13, '16 | Tue Sep 27, '16 |
| 90 | Hydroseeding | 6 days | Wed Oct 5, '16 | Mon Oct 10, '16 |
| 91 | Tree and shurb planting | 55 days | Tue Oct 11, '16 | Sun Dec 4, '16 |
| 92 | Terminal float | 53 days | Mon Dec 5, '16 | Thu Jan 26, '17 |




Critical tasks — Working days — Inactive Summary — Duration-only — Manual Summary — Finish-only — External Milestone

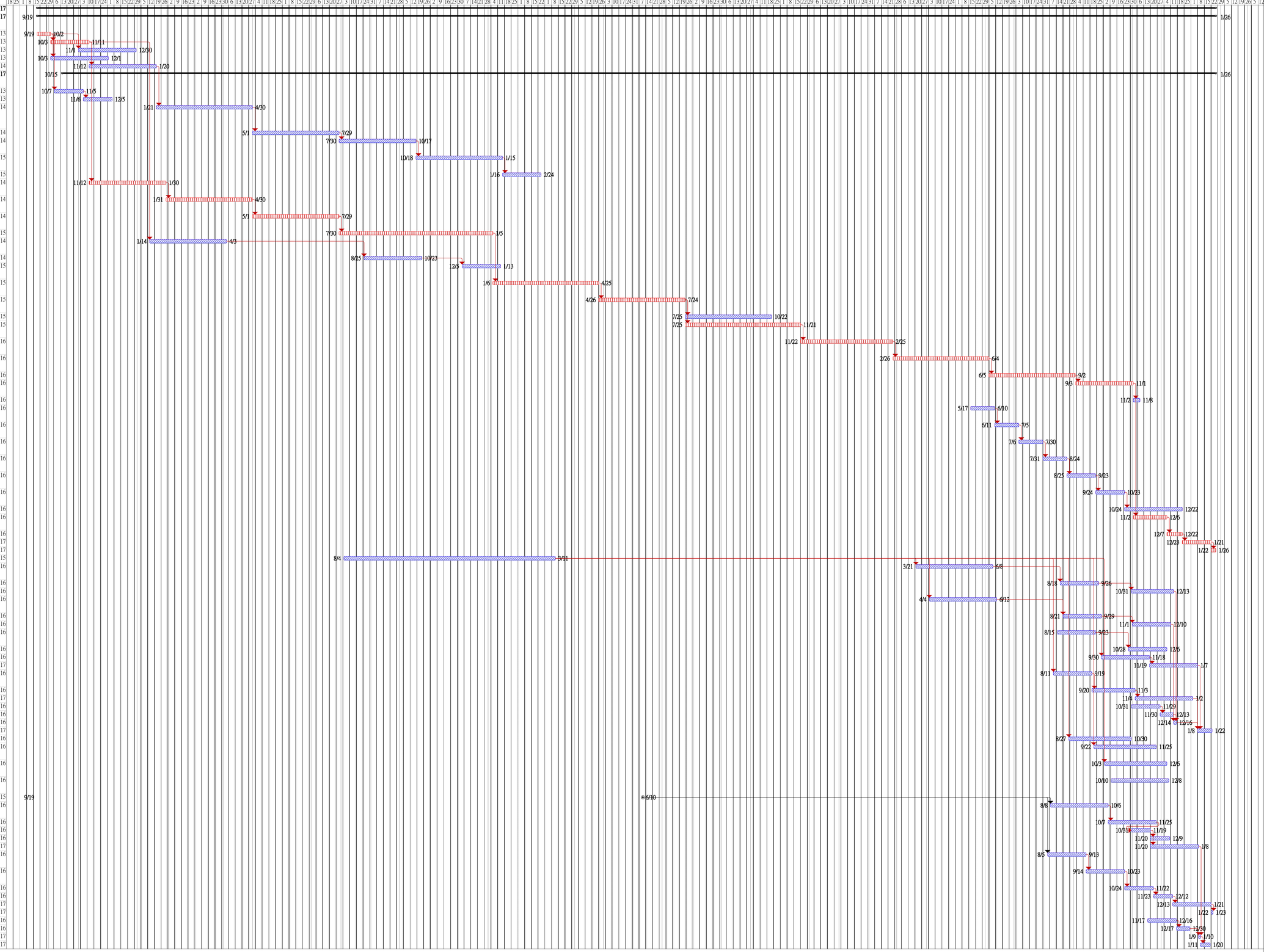
Non-critical Tasks — Inactive Milestone — Manual Task — Manual Summary Rollup — Start-only — External Tasks

Commencement Date: 19 September 2013
Completion Date: 2 September 2016
Revised Completion Date: 26 January 2017

updated on 22 July 2016

Master Programme

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1226 days** | **Thu Sep 19, '13** | **Thu Jan 26, '17** |
| 2 | **Section 1: Works within Portion 1 and 3** | **1226 days** | **Thu Sep 19, '13** | **Thu Jan 26, '17** |
| 3 | Site possession and preparation works | 14 days | Thu Sep 19, '13 | Wed Oct 2, '13 |
| 4 | Setting out site boundary and site clearance | 40 days | Thu Oct 3, '13 | Mon Nov 11, '13 |
| 5 | Initial joint survey | 60 days | Fri Nov 1, '13 | Mon Dec 30, '13 |
| 6 | Obtain underground utilities plans | 60 days | Thu Oct 3, '13 | Sun Dec 1, '13 |
| 7 | Erect hoarding, chain link fence and vehicular gate | 70 days | Tue Nov 12, '13 | Mon Jan 20, '14 |
| 8 | **Works for Northbound of Road D2** | **1200 days** | **Tue Oct 15, '13** | **Thu Jan 26, '17** |
| 9 | Submission of baseline monitoring for EPD approval | 30 days | Mon Oct 7, '13 | Tue Nov 5, '13 |
| 10 | Approval of baseline monitoring by EPD | 30 days | Wed Nov 6, '13 | Thu Dec 5, '13 |
| 11 | Submission / approval of construction materials and delivery of materials and method statements for stormwater drain and sewerage drain | 100 days | Tue Jan 21, '14 | Wed Apr 30, '14 |
| 12 | Delivery of materials for stormwater and sewerage drain | 90 days | Thu May 1, '14 | Tue Jul 29, '14 |
| 13 | Install sewerage drain and construct manhole (FMH90_20 to 40 and 50 to 65) | 80 days | Wed Jul 30, '14 | Fri Oct 17, '14 |
| 14 | Install storm drain and construct manhole (SMH3418 to 3422 and 3423 to 3426) | 90 days | Sat Oct 18, '14 | Thu Jan 15, '15 |
| 15 | Diversion of KO ROW | 40 days | Fri Jan 16, '15 | Tue Feb 24, '15 |
| 16 | Submission of condition survey for work within existing Kai Tak Tunnel | 80 days | Tue Nov 12, '13 | Thu Jan 30, '14 |
| 17 | Submission of trial pit records for work within existing Kai Tak Tunnel | 90 days | Fri Jan 31, '14 | Wed Apr 30, '14 |
| 18 | Submission of method statement for work within existing Kai Tak Tunnel | 90 days | Thu May 1, '14 | Tue Jul 29, '14 |
| 19 | Approval for work within existing Kai Tak Tunnel | 160 days | Wed Jul 30, '14 | Mon Jan 5, '15 |
| 20 | Submission / approval of construction materials and method statements for rising mains | 80 days | Tue Jan 14, '14 | Thu Apr 3, '14 |
| 21 | Delivery of materials for rising mains | 60 days | Mon Aug 25, '14 | Thu Oct 23, '14 |
| 22 | Install 2x500mm dia. HDPE rising main CHA120-CHA180 | 40 days | Fri Dec 5, '14 | Tue Jan 13, '15 |
| 23 | Breaking up existing concrete slab | 110 days | Tue Jan 6, '15 | Sat Apr 25, '15 |
| 24 | Install 2x500mm dia. HDPE rising main CHA70-100 & CHA180-350 and DC1 | 90 days | Sun Apr 26, '15 | Fri Jul 24, '15 |
| 25 | Install 2x500mm dia. HDPE rising main CHA0-CHA70 | 90 days | Sat Jul 25, '15 | Thu Oct 22, '15 |
| 26 | Install storm drain and construct manhole (SMH3101 to SMH3111 & SMH3401 to 3418) | 120 days | Sat Jul 25, '15 | Sat Nov 21, '15 |
| 27 | Install FWM CHC250-CHC630 and SWM CHB250-CHB630 | 96 days | Sun Nov 22, '15 | Thu Feb 25, '16 |
| 28 | Construct road gully and gully pipe up to the jointion of D2 & L6 | 100 days | Fri Feb 26, '16 | Sat Jun 4, '16 |
| 29 | Construct road kerb up to the jointion of D2 & L6 | 90 days | Sun Jun 5, '16 | Fri Sep 2, '16 |
| 30 | Construct flexible carriageway up to the jointion of D2 & L6 | 60 days | Sat Sep 3, '16 | Tue Nov 1, '16 |
| 31 | Road marking | 7 days | Wed Nov 2, '16 | Tue Nov 8, '16 |
| 32 | Install sewerage drain and construct manhole (FMH90_40 to 50) | 25 days | Tue May 17, '16 | Fri Jun 10, '16 |
| 33 | Install sewerage drain and construct manhole (FMH90_50 to 60) | 25 days | Sat Jun 11, '16 | Tue Jul 5, '16 |
| 34 | Install storm drain and construct manhole (SMH3422 to 3423) | 25 days | Wed Jul 6, '16 | Sat Jul 30, '16 |
| 35 | Install sewerage drain and construct manhole (1P1 to FMH90_20) | 25 days | Sun Jul 31, '16 | Wed Aug 24, '16 |
| 36 | Install FWM CHC630-CHC825 and SWM CHB630-CHB825 | 30 days | Thu Aug 25, '16 | Fri Sep 23, '16 |
| 37 | Construct valve, fire hydrant, air-valve and wash-out chamber for watermain | 30 days | Sat Sep 24, '16 | Sun Oct 23, '16 |
| 38 | Pressure test, swabbing, sterilization and connection | 60 days | Mon Oct 24, '16 | Thu Dec 22, '16 |
| 39 | Construct remaining stormdrain, sewer drain, road gully and gully pipe along D2 | 35 days | Wed Nov 2, '16 | Tue Dec 6, '16 |
| 40 | Construct road kerb | 16 days | Wed Dec 7, '16 | Thu Dec 22, '16 |
| 41 | Construct flexible carriageway | 30 days | Fri Dec 23, '16 | Sat Jan 21, '17 |
| 42 | Road marking | 5 days | Sun Jan 22, '17 | Thu Jan 26, '17 |
| 43 | Liaison meeting with UU | 220 days | Mon Aug 4, '14 | Wed Mar 11, '15 |
| 44 | Installation of utility by the utility undertakers along proposed footpath CH200-400 | 80 days | Mon Mar 21, '16 | Wed Jun 8, '16 |
| 45 | Construct drainpit and u-channel at footpath | 40 days | Thu Aug 18, '16 | Mon Sep 26, '16 |
| 46 | Construct footpath and concrete run-in | 44 days | Mon Oct 31, '16 | Tue Dec 13, '16 |
| 47 | Installation of utility by the utility undertakers along proposed footpath CH400-600 | 70 days | Mon Apr 4, '16 | Sun Jun 12, '16 |
| 48 | Construct drainpit and u-channel at footpath | 40 days | Sun Aug 21, '16 | Thu Sep 29, '16 |
| 49 | Construct footpath and concrete run-in | 40 days | Tue Nov 1, '16 | Sat Dec 10, '16 |
| 50 | Installation of utility by the utility undertakers along proposed footpath CH0-200 | 40 days | Mon Aug 15, '16 | Fri Sep 23, '16 |
| 51 | Install irrigation system | 40 days | Fri Oct 28, '16 | Tue Dec 6, '16 |
| 52 | Construct drainpit and u-channel at footpath | 50 days | Fri Sep 30, '16 | Fri Nov 18, '16 |
| 53 | Construct footpath, planting area and concrete run-in | 50 days | Sat Nov 19, '16 | Sat Jan 7, '17 |
| 54 | Installation of utility by the utility undertakers along proposed footpath CHA850-960 | 40 days | Thu Aug 11, '16 | Mon Sep 19, '16 |
| 55 | Construct drainpit and u-channel at footpath | 45 days | Tue Sep 20, '16 | Thu Nov 3, '16 |
| 56 | Construct footpath and concrete run-in | 60 days | Fri Nov 4, '16 | Mon Jan 2, '17 |
| 57 | Plants delivery for landscaping works | 30 days | Mon Oct 31, '16 | Tue Nov 29, '16 |
| 58 | Preparatory works for landscaping works | 14 days | Wed Nov 30, '16 | Tue Dec 13, '16 |
| 59 | Hydroseeding | 3 days | Wed Dec 14, '16 | Fri Dec 16, '16 |
| 60 | Tree and shurb planting | 15 days | Sun Jan 8, '17 | Sun Jan 22, '17 |
| 61 | Install traffic signal at the Junction of Road D2/ Road D3 | 65 days | Sat Aug 27, '16 | Sun Oct 30, '16 |
| 62 | Install traffic signal at the Junction of Road D2/ Slip Road of KCR | 65 days | Thu Sep 22, '16 | Fri Nov 25, '16 |
| 63 | Install traffic signal at the Junction of Road D2/ Eastern Access Road | 65 days | Mon Oct 3, '16 | Tue Dec 6, '16 |
| 64 | Construct sewerage drain pipes from FMH120_70 to FMH130_90 | 60 days | Mon Oct 10, '16 | Thu Dec 8, '16 |
| 65 | Awaiting for site possession at Portion 3 | 630 days | Thu Sep 19, '13 | Wed Jun 10, '15 |
| 66 | Installation of utility by the utility undertakers along proposed footpath CH0-CHG100 | 60 days | Mon Aug 8, '16 | Thu Oct 6, '16 |
| 67 | Construct drainpit and u-channel | 50 days | Fri Oct 7, '16 | Fri Nov 25, '16 |
| 68 | Install street lighting | 20 days | Mon Oct 31, '16 | Sat Nov 19, '16 |
| 69 | Installation of lighting system by HyD | 20 days | Sun Nov 20, '16 | Fri Dec 9, '16 |
| 70 | Construct footpath, planting area and concrete run-in | 50 days | Sun Nov 20, '16 | Sun Jan 8, '17 |
| 71 | Construct stormwater drain and manholes from SMH3426 to SMH3500 | 40 days | Fri Aug 5, '16 | Tue Sep 13, '16 |
| 72 | Install FWM CHC825-CHC921 and SWM CHB825-CHB920 | 40 days | Wed Sep 14, '16 | Sun Oct 23, '16 |
| 73 | Construct road gully with pipes | 30 days | Mon Oct 24, '16 | Tue Nov 22, '16 |
| 74 | Construct road kerb | 20 days | Wed Nov 23, '16 | Mon Dec 12, '16 |
| 75 | Construct flexible carriageway | 40 days | Tue Dec 13, '16 | Sat Jan 21, '17 |
| 76 | Road marking | 2 days | Sun Jan 22, '17 | Mon Jan 23, '17 |
| 77 | Plants delivery for landscaping works | 30 days | Thu Nov 17, '16 | Fri Dec 16, '16 |
| 78 | Preparatory works for landscaping works | 14 days | Sat Dec 17, '16 | Fri Dec 30, '16 |
| 79 | Hydroseeding | 2 days | Mon Jan 9, '17 | Tue Jan 10, '17 |
| 80 | Tree and shurb planting | 10 days | Wed Jan 11, '17 | Fri Jan 20, '17 |

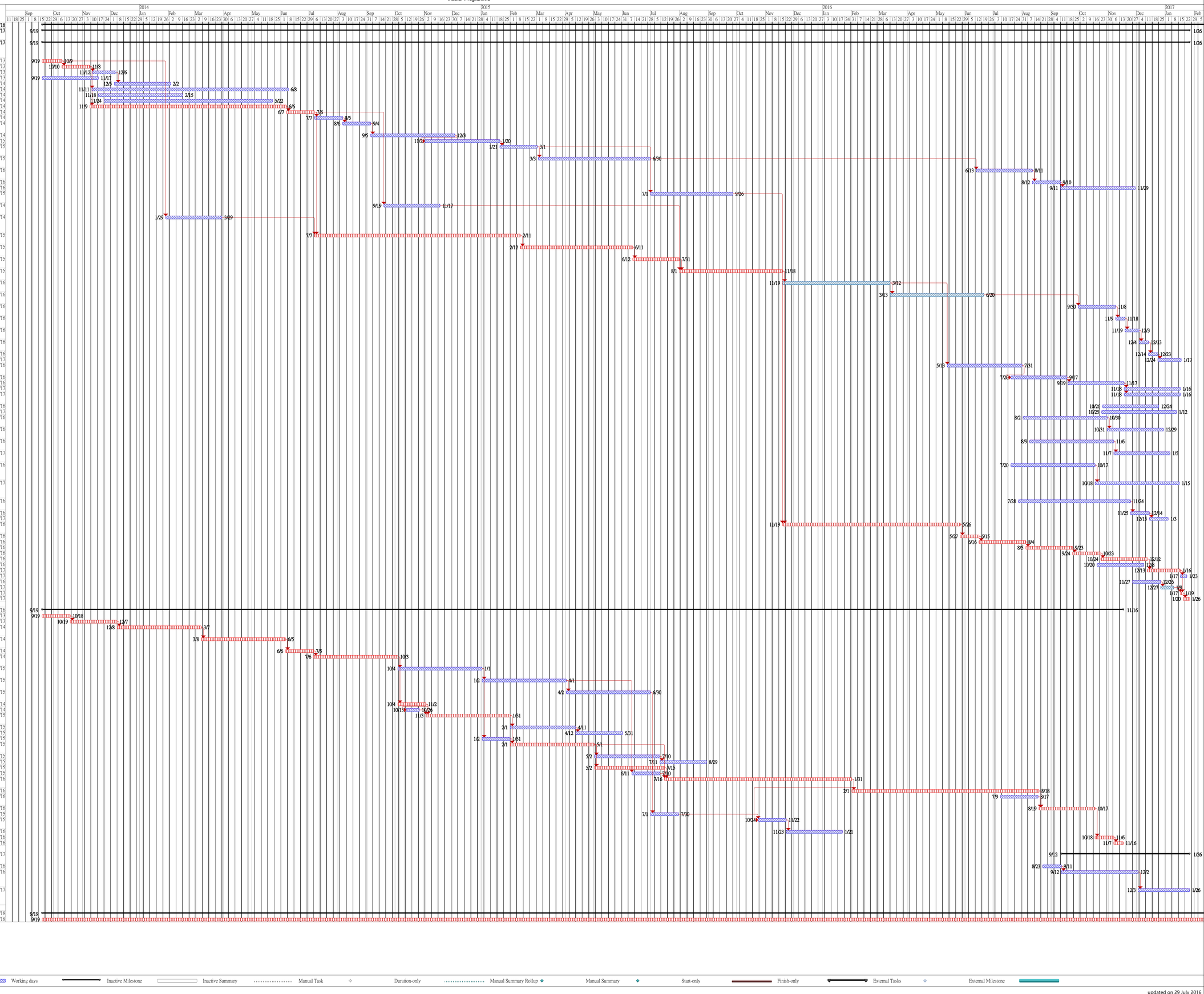



Critical tasks | Working days | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone
Non-critical tasks | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks

Commencement Date: 19 September 2013
Completion Date: 2 September 2016
Revised Completion Date: 26 January 2017

updated on 30 July 2016

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | Commence KL/2012/03 construction | 1591 days | Thu Sep 19, '13 | Fri Jan 26, '18 |
| 2 | Section 1: Works within Portion 1 and 3 | 1226 days | Thu Sep 19, '13 | Thu Jan 26, '17 |
| 3 | Widening of Existing Footpaths at Sung Wong Toi Road and To Kwa Wan Road | 1226 days | Thu Sep 19, '13 | Thu Jan 26, '17 |
| 4 | Site possession and preparation works | 21 days | Thu Sep 19, '13 | Wed Oct 9, '13 |
| 5 | Setting out site boundary and site clearance | 30 days | Thu Oct 10, '13 | Fri Nov 8, '13 |
| 6 | Initial joint survey | 25 days | Tue Nov 12, '13 | Fri Dec 6, '13 |
| 7 | Obtain underground utilities plans | 60 days | Thu Sep 19, '13 | Sun Nov 17, '13 |
| 8 | Erect hoarding, chain link fence and vehicular gate | 60 days | Thu Dec 5, '13 | Sun Feb 2, '14 |
| 9 | Apply XP for roadworks | 210 days | Mon Nov 11, '13 | Sun Jun 8, '14 |
| 10 | Approval of TTA drawings | 90 days | Mon Nov 18, '13 | Sat Feb 15, '14 |
| 11 | Liaison meeting with UU | 180 days | Sun Nov 24, '13 | Thu May 22, '14 |
| 12 | Application of tree felling permit | 210 days | Sat Nov 9, '13 | Fri Jun 6, '14 |
| 13 | Tree felling | 30 days | Sat Jun 7, '14 | Sun Jul 6, '14 |
| 14 | Site clearance for widening of existing footpath | 30 days | Mon Jul 7, '14 | Tue Aug 5, '14 |
| 15 | Awaiting for design of mass concrete wall (Additional works) | 30 days | Wed Aug 6, '14 | Thu Sep 4, '14 |
| 16 | Demolish existing security fence (Additional works) | 90 days | Fri Sep 5, '14 | Wed Dec 3, '14 |
| 17 | Construction of mass concrete wall (Additional works) | 80 days | Sun Nov 2, '14 | Tue Jan 20, '15 |
| 18 | Backfilling and completion to formation level for widening of existing footpath | 40 days | Wed Jun 21, '15 | Sun Mar 1, '15 |
| 19 | Installation of utility by the utility undertakers along proposed footpath CHD0-100 | 120 days | Tue Mar 3, '15 | Tue Jun 30, '15 |
| 20 | Install 400mm dia.FWM CHB200-CHB300 & 450mm dia. SWM CHA200-CHA300 | 60 days | Mon Jun 13, '16 | Thu Aug 11, '16 |
| 21 | Install street lighting CHD0-100 | 30 days | Fri Aug 12, '16 | Sat Sep 10, '16 |
| 22 | Construct new footpath | 80 days | Sun Sep 11, '16 | Tue Nov 29, '16 |
| 23 | Installation of utility by the utility undertakers along proposed footpath CHD100-250 | 88 days | Wed Jul 1, '15 | Sat Sep 26, '15 |
| 24 | Backfilling and compaction to formation level for construction of new footpath | 60 days | Fri Sep 19, '14 | Mon Nov 17, '14 |
| 25 | Submission / approval of construction materials and method statements for watermains | 60 days | Wed Jan 29, '14 | Sat Mar 29, '14 |
| 26 | Change of alignment and size of watermains by AECOM (Variation Order issued on 9 Feb 2015) | 220 days | Mon Jul 7, '14 | Wed Feb 11, '15 |
| 27 | Procument and delivery of materials for watermains (Variation Order) | 120 days | Thu Feb 12, '15 | Thu Jun 11, '15 |
| 28 | TTA approval along Sung Wong Toi Road | 50 days | Fri Jun 12, '15 | Fri Jul 31, '15 |
| 29 | Install 300mm dia.FWM CHB50-CHB100 & 450mm dia. SWM CHA50-CHA100 | 110 days | Sat Aug 1, '15 | Wed Nov 18, '15 |
| 30 | Install 300mm dia.FWM CHB100-CHB150 & 450mm dia. SWM CHA100-CHB150 | 115 days | Thu Nov 19, '15 | Sat Mar 12, '16 |
| 31 | Install 300mm dia.FWM CHB150-CHB200 & 450mm dia. SWM CHA150-CHB200 | 100 days | Sun Mar 13, '16 | Mon Jun 20, '16 |
| 32 | Install 300mm dia. FWM CHB450-CHB565 & 450mm dia. SWM CHA450-CHA565 (excluding CH480 to 500) | 40 days | Fri Sep 30, '16 | Tue Nov 8, '16 |
| 33 | Re-diversion of Gate 7 to the newly constructed carriageway under Section 3 | 10 days | Wed Nov 9, '16 | Fri Nov 18, '16 |
| 34 | Install 300mm dia. FWM CHB480-CHB500 & 450mm dia. SWM CHA480-CHA500 | 15 days | Sat Nov 19, '16 | Sat Dec 3, '16 |
| 35 | Installation of utility by the utility undertakers along proposed footpath CHD270-300 | 10 days | Sun Dec 4, '16 | Tue Dec 13, '16 |
| 36 | Install street lighting CHD270-300 | 10 days | Wed Dec 14, '16 | Fri Dec 23, '16 |
| 37 | Construct new footpath | 25 days | Sat Dec 24, '16 | Tue Jan 17, '17 |
| 38 | Install 300mm dia. FWM CHB0-CHB50 & 450mm dia. SWM CHA0-CHA50 | 80 days | Fri May 13, '16 | Sun Jul 31, '16 |
| 39 | Install 800mm dia. Salt water main CHD0-CHD25 | 60 days | Wed Jul 20, '16 | Sat Sep 17, '16 |
| 40 | Install 800mm dia. Salt water main CHD25-CHD52 | 60 days | Mon Sep 19, '16 | Thu Nov 17, '16 |
| 41 | Pressure test, swabbing, sterilization and connection | 60 days | Fri Nov 18, '16 | Mon Jan 16, '17 |
| 42 | Construct valve, fire hydrant, air-valve and wash-out chambers for watermain | 60 days | Fri Nov 18, '16 | Mon Jan 16, '17 |
| 43 | Install irrigation system | 60 days | Wed Oct 26, '16 | Sat Dec 24, '16 |
| 44 | Construct u-channel and drainpit | 80 days | Tue Oct 25, '16 | Thu Jan 12, '17 |
| 45 | Application of traffic signal at the Junction of Sung Wong Toi Road / To Kwa Wan Road by AECOM | 90 days | Tue Aug 2, '16 | Sun Oct 30, '16 |
| 46 | Install traffic signal at the Junction of Sung Wong Toi Road / To Kwa Wan Road | 60 days | Mon Oct 31, '16 | Thu Dec 29, '16 |
| 47 | Application of traffic signal at the Junction along Sung Wong Toi Road by AECOM | 90 days | Tue Aug 9, '16 | Sun Nov 6, '16 |
| 48 | Install traffic signal at the Junction along Sung Wong Toi Road | 60 days | Mon Nov 7, '16 | Thu Jan 5, '17 |
| 49 | Application for relocation of traffic signal and red light cameras at To Kwa Wan Road and Mok Cheong Street junction by AECOM | 90 days | Wed Jul 20, '16 | Mon Oct 17, '16 |
| 50 | Relocate traffic signal and red light cameras at To Kwa Wan Road and Mok Cheong Street junction (additional works to be covered by VO) | 90 days | Tue Oct 18, '16 | Sun Jan 15, '17 |
| 51 | Install ducting and draw pit for street lighting at N/B of Sung Wong Toi Road | 120 days | Thu Jul 28, '16 | Thu Nov 24, '16 |
| 52 | Install street lighting by HyD | 20 days | Fri Nov 25, '16 | Wed Dec 14, '16 |
| 53 | Demolition of existing street lighting by HyD | 20 days | Thu Dec 15, '16 | Tue Jan 3, '17 |
| 54 | Install 400mm dia.FWM CHB300-CHB450 & 450mm dia. SWM CHA300-CHA450 | 190 days | Thu Nov 19, '15 | Thu May 26, '16 |
| 55 | Install street lighting CHD100-250 | 20 days | Fri May 27, '16 | Wed Jun 15, '16 |
| 56 | Construct new footpath | 50 days | Thu Jun 16, '16 | Thu Aug 4, '16 |
| 57 | Construct road gully and gully pipe | 50 days | Fri Aug 5, '16 | Fri Sep 23, '16 |
| 58 | Construct road kerb | 30 days | Sat Sep 24, '16 | Sun Oct 23, '16 |
| 59 | Construct carriageway at the existing footpath | 50 days | Mon Oct 24, '16 | Mon Dec 12, '16 |
| 60 | Erect traffic sign | 50 days | Thu Oct 20, '16 | Thu Dec 8, '16 |
| 61 | Re-surface existing carriageway | 35 days | Tue Dec 13, '16 | Mon Jan 16, '17 |
| 62 | Road marking | 7 days | Tue Jan 17, '17 | Mon Jan 23, '17 |
| 63 | Plants delivery for landscaping works | 30 days | Sun Nov 27, '16 | Mon Dec 26, '16 |
| 64 | Preparatory works for landscaping works | 14 days | Tue Dec 27, '16 | Mon Jan 9, '17 |
| 65 | Hydroseeding | 3 days | Tue Jan 17, '17 | Thu Jan 19, '17 |
| 66 | Tree and shurb planting | 7 days | Fri Jan 20, '17 | Thu Jan 26, '17 |
| 67 | | | | |
| 68 | Construction of Box Culverts B6 | 1155 days | Thu Sep 19, '13 | Wed Nov 16, '16 |
| 69 | Site possession and preparation works | 30 days | Thu Sep 19, '13 | Fri Oct 18, '13 |
| 70 | Initial survey and site clearance | 50 days | Sat Oct 19, '13 | Sat Dec 7, '13 |
| 71 | Submission for change of construction method by precast box unit for box culverts B6 | 90 days | Sun Dec 8, '13 | Fri Mar 7, '14 |
| 72 | Approval for change of construction method by precast box unit for box culverts B6 | 90 days | Sat Mar 8, '14 | Thu Jun 5, '14 |
| 73 | Plant trial for precast units for box culvert B6 | 30 days | Fri Jun 6, '14 | Sat Jul 5, '14 |
| 74 | Production of precast units for box culvert B6 (batch 1 - approx. 15 nos.) | 90 days | Sun Jul 6, '14 | Fri Oct 3, '14 |
| 75 | Production of precast units for box culvert B6 (batch 2 - approx. 15 nos.) | 90 days | Sat Oct 4, '14 | Thu Jan 1, '15 |
| 76 | Production of precast units for box culvert B6 (batch 3 - approx. 15 nos) | 90 days | Fri Jan 2, '15 | Wed Apr 1, '15 |
| 77 | Production of precast units for box culvert B6 (batch 4 - approx. 15 nos) | 90 days | Thu Apr 2, '15 | Tue Jun 30, '15 |
| 78 | Delivery of precast unit batch no. 1 | 30 days | Sat Oct 4, '14 | Sun Nov 2, '14 |
| 79 | Plant mobilization | 14 days | Mon Oct 13, '14 | Sun Oct 26, '14 |
| 80 | Construct temporary works and excavation to the formation level for box culverts B6 CH50-100 | 90 days | Mon Nov 3, '14 | Sat Jan 31, '15 |
| 81 | Placing precast unit for box culvert for CH50-100 | 70 days | Sun Feb 1, '15 | Sat Apr 11, '15 |
| 82 | Soil backfilling works | 50 days | Sun Apr 12, '15 | Sun May 31, '15 |
| 83 | Delivery of precast unit batch no. 2 | 30 days | Fri Jan 2, '15 | Sat Jan 31, '15 |
| 84 | Construct temporary works and excavation to the formation level for box culverts B6 CH100-150 | 90 days | Sun Feb 1, '15 | Fri May 1, '15 |
| 85 | Placing precast unit for box culvert for CH100-150 | 70 days | Sat May 2, '15 | Fri Jul 10, '15 |
| 86 | Soil backfilling works | 50 days | Sat Jul 11, '15 | Sat Aug 29, '15 |
| 87 | Diversion of existing sewerage drain | 75 days | Sat May 2, '15 | Wed Jul 15, '15 |
| 88 | Delivery of precast unit batch no. 3 | 30 days | Thu Jun 11, '15 | Fri Jul 10, '15 |
| 89 | Construct temporary works and excavation to the formation level for box culverts B6 CH150-200 | 200 days | Thu Jul 16, '15 | Sun Jan 31, '16 |
| 90 | Placing precast unit for box culvert for CH150-200 | 200 days | Mon Feb 1, '16 | Thu Aug 18, '16 |
| 91 | Notification of Marine Department for construction of outfall | 40 days | Sat Jul 9, '16 | Wed Aug 17, '16 |
| 92 | Construction of outfall | 60 days | Fri Aug 19, '16 | Mon Oct 17, '16 |
| 93 | Delivery of precast unit batch no. 4 | 30 days | Wed Jul 1, '15 | Thu Jul 30, '15 |
| 94 | Construct temporary works and excavation to the formation level for box culverts B6 CH0-50 | 30 days | Sat Oct 24, '15 | Sun Nov 22, '15 |
| 95 | Placing precast unit for box culvert for CH0-50 | 60 days | Mon Nov 23, '15 | Thu Jan 21, '16 |
| 96 | Modification of seawall | 20 days | Tue Oct 18, '16 | Sun Nov 6, '16 |
| 97 | Soil backfilling works | 10 days | Mon Nov 7, '16 | Wed Nov 16, '16 |
| 98 | | | | |
| 99 | Demolition of Kowloon East DWFI pumping station | 137 days | Mon Sep 12, '16 | Thu Jan 26, '17 |
| 100 | Submission / approval of method statements | 20 days | Tue Aug 23, '16 | Sun Sep 11, '16 |
| 101 | Demolish super-structure of Kowloon East DWFI pumping station (To be carried out after completion of NPS) | 82 days | Mon Sep 12, '16 | Fri Dec 2, '16 |
| 102 | Demolish sub-structure of Kowloon East DWFI pumping station (To be carried out after completion of NPS) | 55 days | Sat Dec 3, '16 | Thu Jan 26, '17 |
| 103 | | | | |
| 104 | Section 1A | 1587 days | Thu Sep 19, '13 | Mon Jan 22, '18 |
| 105 | Establishment works for Section 1 | 1587 days | Thu Sep 19, '13 | Mon Jan 22, '18 |




Critical tasks | Non-critical tasks | Working days | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone

Commencement Date: 19 September 2013
Completion Date: 2 September 2016
Revised Completion Date: 26 January 2017

updated on 29 July 2016

Master Programme

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1454 days** | **Thu Sep 19, '13** | **Mon Sep 11, '17** |
| 2 | **Section 2: Works within Portion 1 and 4** | **1090 days** | **Thu Sep 19, '13** | **Mon Sep 12, '16** |
| 3 | Setting out site boundary | 30 days | Thu Sep 19, '13 | Fri Oct 18, '13 |
| 4 | Obtain underground utilities plans | 30 days | Thu Sep 19, '13 | Fri Oct 18, '13 |
| 5 | Site clearance | 30 days | Sat Oct 19, '13 | Sun Nov 17, '13 |
| 6 | Initial survey | 14 days | Mon Nov 18, '13 | Sun Dec 1, '13 |
| 7 | Erect hoarding, chain link fence and vehicular gate | 30 days | Mon Dec 2, '13 | Tue Dec 31, '13 |
| 8 | **Construction of Road L19** | **1090 days** | **Thu Sep 19, '13** | **Mon Sep 12, '16** |
| 9 | Application of XP and TTA for approval | 315 days | Fri Sep 20, '13 | Thu Jul 31, '14 |
| 10 | Submission / approval of construction materials, temporary works design and method statements for rising mains, stormwater drain and watermains | 30 days | Wed Nov 20, '13 | Thu Dec 19, '13 |
| 11 | Delivery of materials | 60 days | Tue Feb 25, '14 | Fri Apr 25, '14 |
| 12 | Install storm drain from SMH1 to SMH6 and construct manholes | 80 days | Fri Aug 1, '14 | Sun Oct 19, '14 |
| 13 | Install sewerage drain from DC2 to FMH7 and construct manholes | 90 days | Mon Oct 20, '14 | Sat Jan 17, '15 |
| 14 | Approval of TTA drawing at Bailey Street | 60 days | Sun Jan 18, '15 | Wed Mar 18, '15 |
| 15 | Install storm drain from SMH8 to SMH12 and 16 and manholes | 165 days | Thu Mar 19, '15 | Sun Aug 30, '15 |
| 16 | Install storm drain from SMH7 to existing manhole and construct manholes | 60 days | Tue Oct 6, '15 | Fri Dec 4, '15 |
| 17 | Inspection pit at Bailey Street for determining the alignment of sewer drain and construct protection concrete layer above existing manholes | 180 days | Thu Mar 19, '15 | Mon Sep 14, '15 |
| 18 | Install sewerage drain from FMH10 to existing manhole and construct manholes (VO) | 195 days | Tue Sep 15, '15 | Sun Mar 27, '16 |
| 19 | Notification of traffic advice and implementation of TTA at Bailey Street (VO) | 65 days | Mon Mar 28, '16 | Tue May 31, '16 |
| 20 | Construction of manhole FMH9 and 4 nos. DN600 DI pipes (VO) | 65 days | Wed Jun 1, '16 | Thu Aug 4, '16 |
| 21 | Application of traffic signal at Beiley Street (VO) | 180 days | Fri Feb 19, '16 | Tue Aug 16, '16 |
| 22 | Construct road kerb at CHE50-150 | 30 days | Fri Aug 5, '16 | Sat Sep 3, '16 |
| 23 | Installation of additional street lighting and traffic signals system at Bailey Street (VO) | 50 days | Fri Aug 5, '16 | Fri Sep 23, '16 |
| 24 | Install 200mm dia. Fresh water main CHE50-CHE100 | 25 days | Sat Sep 24, '16 | Tue Oct 18, '16 |
| 25 | Construct road kerb at CHE50-150 | 30 days | Wed Oct 19, '16 | Thu Nov 17, '16 |
| 26 | Construction of road pavement CHE50-150 | 35 days | Fri Nov 18, '16 | Thu Dec 22, '16 |
| 27 | UU liaison meeting | 200 days | Fri Jul 18, '14 | Mon Feb 2, '15 |
| 28 | Installation of utility by the utility undertakers along proposed footpath CHF50-150 | 43 days | Thu Jul 14, '16 | Thu Aug 25, '16 |
| 29 | Construct footpath | 30 days | Fri Aug 26, '16 | Sat Sep 24, '16 |
| 30 | Installation of utility by the utility undertakers along proposed footpath CHE50-150 | 42 days | Sun Jul 17, '16 | Sat Aug 27, '16 |
| 31 | Construct footpath | 30 days | Sun Aug 28, '16 | Mon Sep 26, '16 |
| 32 | Installation of utility by the utility undertakers along proposed footpath CHE150-250 | 40 days | Fri Jul 15, '16 | Tue Aug 23, '16 |
| 33 | Construct footpath | 30 days | Wed Aug 24, '16 | Thu Sep 22, '16 |
| 34 | Installation of utility by the utility undertakers along proposed footpath CHF150-250 | 43 days | Thu Jul 14, '16 | Thu Aug 25, '16 |
| 35 | Construct footpath | 30 days | Fri Aug 26, '16 | Sat Sep 24, '16 |
| 36 | Installation of utility by the utility undertakers along proposed footpath CHF250-340 | 43 days | Sat Jul 16, '16 | Sat Aug 27, '16 |
| 37 | Construct footpath | 30 days | Sun Aug 28, '16 | Mon Sep 26, '16 |
| 38 | Installation of utility by the utility undertakers along proposed footpath CHE250-340 | 30 days | Mon Jul 25, '16 | Tue Aug 23, '16 |
| 39 | Construct footpath | 30 days | Wed Aug 31, '16 | Thu Sep 29, '16 |
| 40 | Installation of utility by the utility undertakers along proposed footpath CHE0-50 | 30 days | Sat Sep 24, '16 | Sun Oct 23, '16 |
| 41 | Installation of utility by the utility undertakers along proposed footpath CHF0-50 | 30 days | Sat Sep 24, '16 | Sun Oct 23, '16 |
| 42 | Existing utilities diversion works by the UU | 40 days | Mon Aug 8, '16 | Fri Sep 16, '16 |
| 43 | Construct footpath | 20 days | Sat Sep 17, '16 | Thu Oct 6, '16 |
| 44 | Application and installation of traffic signal at Beiley Street (VO) | 180 days | Thu Mar 31, '16 | Mon Sep 26, '16 |
| 45 | Submission of ICE design for jacking pit 10 and 11 | 25 days | Fri Aug 1, '14 | Mon Aug 25, '14 |
| 46 | Construct jacking pit at pit no. 11 | 125 days | Tue Aug 26, '14 | Sun Dec 28, '14 |
| 47 | Submission of ICE design for common pit no. 10 (VO) | 30 days | Wed Aug 27, '14 | Thu Sep 25, '14 |
| 48 | Construct common pit at pit no. 10 (VO) | 55 days | Sat Sep 27, '14 | Thu Nov 20, '14 |
| 49 | Mobilization of equipment and set up | 10 days | Mon Dec 29, '14 | Wed Jan 7, '15 |
| 50 | Drilling for rising mains from pit 11 to 10 | 100 days | Thu Jan 8, '15 | Fri Apr 17, '15 |
| 51 | Delivery of rising mains for pit 11 to 10 | 60 days | Sat Apr 18, '15 | Tue Jun 16, '15 |
| 52 | Install rising mains from pit 11 and 10 | 75 days | Wed Jun 17, '15 | Sun Aug 30, '15 |
| 53 | Construct WO chamber at pit no. 11 | 320 days | Mon Aug 31, '15 | Fri Jul 15, '16 |
| 54 | Install storm drain from SMH13 to SMH15 and manholes | 20 days | Sat Jul 16, '16 | Thu Aug 4, '16 |
| 55 | Install 2x630mm dia. HDPE rising mains from WOC to DC2 (VO) | 355 days | Mon Aug 31, '15 | Fri Aug 19, '16 |
| 56 | Install 200mm dia fresh water main CHE200-CHE400 | 30 days | Sat Aug 20, '16 | Sun Sep 18, '16 |
| 57 | Install NS125 & NS63 salt water main CHE0-CHE100 | 25 days | Sat Aug 20, '16 | Tue Sep 13, '16 |
| 58 | Pressure test, swabbing,sterilization and connection | 30 days | Mon Sep 19, '16 | Tue Oct 18, '16 |
| 59 | Construct addition lay-by (VO) | 25 days | Mon Sep 19, '16 | Thu Oct 13, '16 |
| 60 | Construct road kerb | 13 days | Fri Oct 14, '16 | Wed Oct 26, '16 |
| 61 | Application of traffic signal at Chi Kiang Street (VO) | 120 days | Sun Jun 5, '16 | Sun Oct 2, '16 |
| 62 | Installation of traffic signals at Chi Kiang Street (VO) | 30 days | Thu Oct 27, '16 | Fri Nov 25, '16 |
| 63 | Construct flexible carriageway | 25 days | Sat Nov 26, '16 | Tue Dec 20, '16 |
| 64 | Installation of street lighting by HyD | 30 days | Fri Oct 14, '16 | Sat Nov 12, '16 |
| 65 | Road marking | 2 days | Wed Dec 21, '16 | Thu Dec 22, '16 |
| 66 | Relocate existing directional sign | 30 days | Thu Sep 22, '16 | Fri Oct 21, '16 |
| 67 | Construct footpath and planting area and irrigation system | 20 days | Fri Oct 28, '16 | Wed Nov 16, '16 |
| 68 | Plants delivery for landscaping works | 30 days | Thu Nov 3, '16 | Fri Dec 2, '16 |
| 69 | Preparatory works for landscaping works | 12 days | Sat Dec 3, '16 | Wed Dec 14, '16 |
| 70 | Hydroseeding | 1 day | Thu Dec 15, '16 | Thu Dec 15, '16 |
| 71 | Tree and shurb planting | 3 days | Fri Dec 16, '16 | Sun Dec 18, '16 |
| 72 | | | | |
| 73 | **Section 2A** | **1454 days** | **Thu Sep 19, '13** | **Mon Sep 11, '17** |
| 74 | **Establishment works for Section 2** | **1454 days** | **Thu Sep 19, '13** | **Mon Sep 11, '17** |

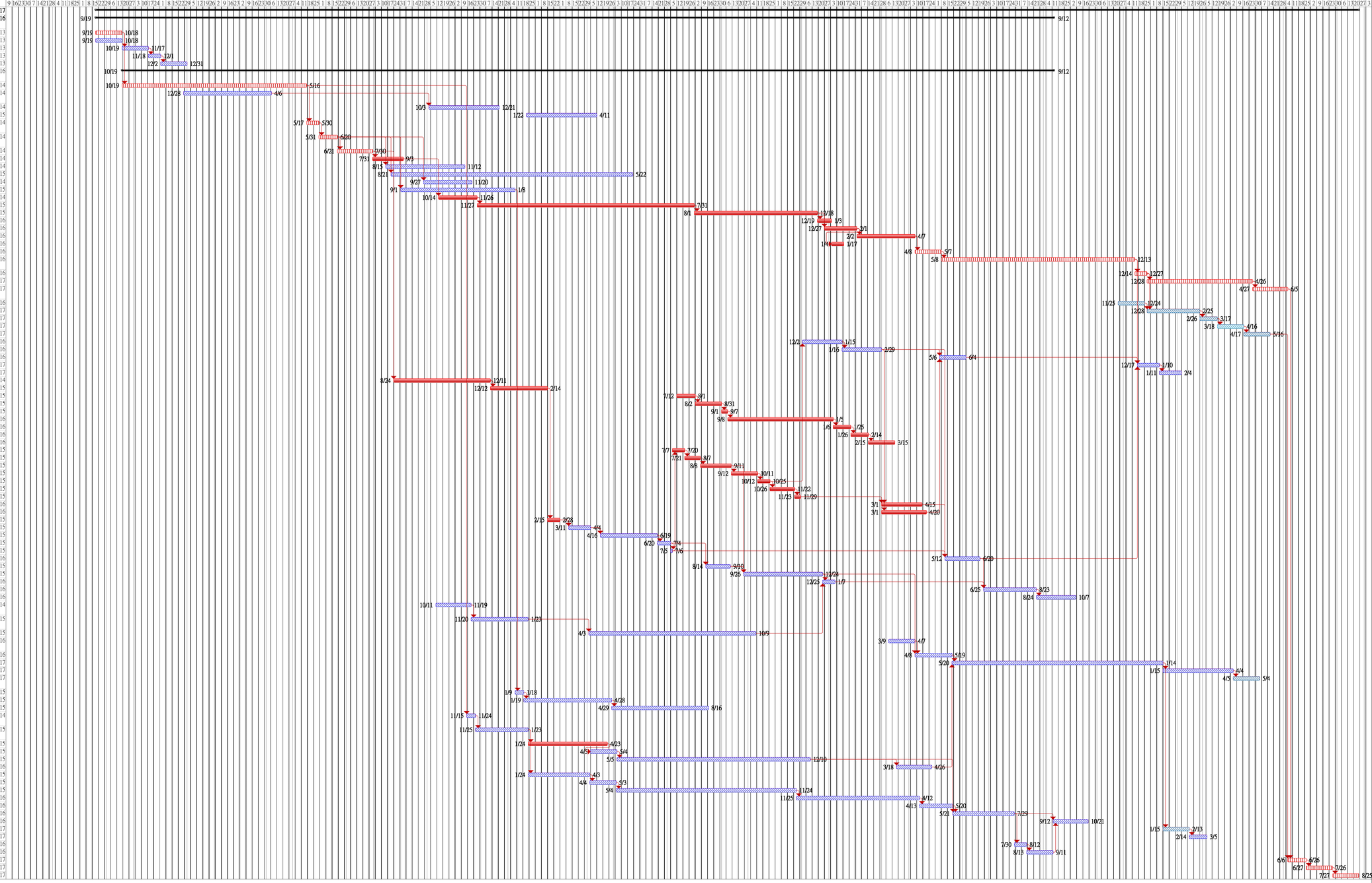



Critical tasks — Working days — Inactive Summary — Duration-only — Manual Summary — Finish-only — External Milestone
Non-critical tasks — Inactive Milestone — Manual Task — Manual Summary Rollup — Start-only — External Tasks

Commencement Date: 19 September 2013
Completion Date: 5 May 2016
Revised Completion Date: 12 September 2016

updated on 29 July 2016

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1437 days** | **Thu Sep 19, '13** | **Fri Aug 25, '17** |
| 2 | **Section 2: Works within Portion 1 and 4** | **1090 days** | **Thu Sep 19, '13** | **Mon Sep 12, '16** |
| 3 | Setting out site boundary | 30 days | Thu Sep 19, '13 | Fri Oct 18, '13 |
| 4 | Obtain underground utilities plans | 30 days | Thu Sep 19, '13 | Fri Oct 18, '13 |
| 5 | Site clearance | 30 days | Sat Oct 19, '13 | Sun Nov 17, '13 |
| 6 | Initial survey | 14 days | Mon Nov 18, '13 | Sun Dec 1, '13 |
| 7 | Erect hoarding, chain link fence and vehicular gate | 30 days | Mon Dec 2, '13 | Tue Dec 31, '13 |
| 8 | **Installation of rising main along To Kwa Wan Road** | 1060 days | Sat Oct 19, '13 | Mon Sep 12, '16 |
| 9 | Application of XP and TTA for approval | 210 days | Sat Oct 19, '13 | Fri May 16, '14 |
| 10 | Submission / approval of method statement, temporary works design | 100 days | Sat Dec 28, '13 | Sun Apr 6, '14 |
| 11 | Procurement of HDPE pipes and fittings | 80 days | Fri Oct 3, '14 | Sun Dec 21, '14 |
| 12 | Procurement of special fittings | 80 days | Thu Jan 22, '15 | Sat Apr 11, '15 |
| 13 | Inspection pits at pit no. 5, 6, 7, 9, 10 and 11 for determining the alignment of rising mains. | 14 days | Sat May 17, '14 | Fri May 30, '14 |
| 14 | Allow for utilities diversion works by the UU at pit no. 5, 6 ,7, 9, 10 and 11 | 21 days | Sat May 31, '14 | Fri Jun 20, '14 |
| 15 | Construct common pit at pit no.5 and 9 | 40 days | Sat Jun 21, '14 | Wed Jul 30, '14 |
| 16 | Handover common pit 5 and 9 for HKCG works | 35 days | Thu Jul 31, '14 | Wed Sep 3, '14 |
| 17 | Construct common pit at pit no. 6 | 90 days | Fri Aug 15, '14 | Wed Nov 12, '14 |
| 18 | Construct common pit at pit no. 7 | 275 days | Thu Aug 21, '14 | Fri May 22, '15 |
| 19 | Construct common pit at pit no. 10 | 55 days | Sat Sep 27, '14 | Thu Nov 20, '14 |
| 20 | Construct jacking pit at pit no. 11 | 130 days | Mon Sep 1, '14 | Thu Jan 8, '15 |
| 21 | Mobilization of equipment and set up at Pit 7 | 44 days | Tue Oct 14, '14 | Wed Nov 26, '14 |
| 22 | Drilling for gas mains from pit 9 to 7 by HKCG | 247 days | Thu Nov 27, '14 | Fri Jul 31, '15 |
| 23 | Install gas mains from pit 9 to 7 by HKCG | 140 days | Sat Aug 1, '15 | Fri Dec 18, '15 |
| 24 | Backfilling and handback pit 7 to KO | 16 days | Sat Dec 19, '15 | Sun Jan 3, '16 |
| 25 | Backfilling and handback pit 9 to KO | 37 days | Sun Dec 27, '15 | Mon Feb 1, '16 |
| 26 | Rectification works by HKCG at Pit 9 | 66 days | Tue Feb 2, '16 | Thu Apr 7, '16 |
| 27 | DSD contractor repair works near Pit 9 | 14 days | Mon Jan 4, '16 | Sun Jan 17, '16 |
| 28 | Mobilization of equipment and set up at pit 9 | 30 days | Fri Apr 8, '16 | Sat May 7, '16 |
| 29 | Drilling for rising mains from pit 9 to 7 (use DN1350 TBM and DN1650 steel sleeve pipe) (Rock head) | 220 days | Sun May 8, '16 | Tue Dec 13, '16 |
| 30 | Demobilization of equipment at Pit 9 | 14 days | Wed Dec 14, '16 | Tue Dec 27, '16 |
| 31 | Install rising mains (HDPE - 3m long) from pit 9 to 7 | 120 days | Wed Dec 28, '16 | Wed Apr 26, '17 |
| 32 | Procument of HDPE fittings and install rising mains at pit 7 and 9 | 40 days | Thu Apr 27, '17 | Mon Jun 5, '17 |
| 33 | Mobilization of equipment and set up at pit 10 | 30 days | Fri Nov 25, '16 | Sat Dec 24, '16 |
| 34 | Drilling for rising mains from pit 10 to 9 (Boulder head) | 60 days | Wed Dec 28, '16 | Sat Feb 25, '17 |
| 35 | Demobilization of equipment at Pit 10 | 20 days | Sun Feb 26, '17 | Fri Mar 17, '17 |
| 36 | Install rising mains from pit 10 and 9 | 30 days | Sat Mar 18, '17 | Sun Apr 16, '17 |
| 37 | Procument of HDPE fittings and install rising mains at pit 10 | 30 days | Mon Apr 17, '17 | Tue May 16, '17 |
| 38 | Mobilization of equipment and set up at pit 6 | 45 days | Wed Dec 2, '15 | Fri Jan 15, '16 |
| 39 | Drilling for rising mains from pit 6 to 7 (Rock Head) | 45 days | Sat Jan 16, '16 | Mon Feb 29, '16 |
| 40 | Install rising mains from pit 6 to 7 | 30 days | Fri May 6, '16 | Sat Jun 4, '16 |
| 41 | Procument of HDPE fittings and install rising mains at pit 6 | 25 days | Sat Dec 17, '16 | Tue Jan 10, '17 |
| 42 | Reinstatement of pit 6 | 25 days | Wed Jan 11, '17 | Sat Feb 4, '17 |
| 43 | Drilling for gas mains from pit 5 to 6 by HKCG | 110 days | Sun Aug 24, '14 | Thu Dec 11, '14 |
| 44 | Install gas mains from pit 5 and 6 by HKCG | 65 days | Fri Dec 12, '14 | Sat Feb 14, '15 |
| 45 | Mobilization of equipment and set up at Pit 10 | 21 days | Sun Jul 12, '15 | Sat Aug 1, '15 |
| 46 | Drilling for gas mains from pit 10 to 9 by HKCG | 30 days | Sun Aug 2, '15 | Mon Aug 31, '15 |
| 47 | Demobilization of equipment at Pit 10 | 7 days | Tue Sep 1, '15 | Mon Sep 7, '15 |
| 48 | Install gas mains from pit 10 and 9 by HKCG | 120 days | Tue Sep 8, '15 | Tue Jan 5, '16 |
| 49 | Riser installation at pit 10 | 20 days | Wed Jan 6, '16 | Mon Jan 25, '16 |
| 50 | Gas pipe Connection | 20 days | Tue Jan 26, '16 | Sun Feb 14, '16 |
| 51 | Backfilling and handback pit 10 to KO | 30 days | Mon Feb 15, '16 | Tue Mar 15, '16 |
| 52 | Mobilization of equipment and set up at Pit 6 by HKCG | 14 days | Tue Jul 7, '15 | Mon Jul 20, '15 |
| 53 | Drilling for gas mains from pit 6 to 7 by HKCG | 18 days | Tue Jul 21, '15 | Fri Aug 7, '15 |
| 54 | Demobilization of equipment at Pit 6 & 7 | 35 days | Sat Aug 8, '15 | Fri Sep 11, '15 |
| 55 | Install gas mains from pit 6 and 7 by HKCG | 30 days | Sat Sep 12, '15 | Sun Oct 11, '15 |
| 56 | Erect working platform by HKCG | 14 days | Mon Oct 12, '15 | Sun Oct 25, '15 |
| 57 | Gas pipe testing | 28 days | Mon Oct 26, '15 | Sun Nov 22, '15 |
| 58 | Gas pipe Connection | 7 days | Mon Nov 23, '15 | Sun Nov 29, '15 |
| 59 | Backfilling and handback pit 6 to KO | 46 days | Tue Mar 1, '16 | Fri Apr 15, '16 |
| 60 | Backfilling and handback pit 7 to KO | 51 days | Tue Mar 1, '16 | Wed Apr 20, '16 |
| 61 | Backfilling to the formation level for KO works at pit no. 5 | 14 days | Sun Feb 15, '15 | Sat Feb 28, '15 |
| 62 | Mobilization of equipment and set up at Pit 5 | 25 days | Wed Mar 11, '15 | Sat Apr 4, '15 |
| 63 | Drilling for rising mains from pit 5 to 6 (Boulder head) | 65 days | Thu Apr 16, '15 | Fri Jun 19, '15 |
| 64 | Demobilization of equipment at pit 5 | 15 days | Sat Jun 20, '15 | Sat Jul 4, '15 |
| 65 | Handover common pit 6 for HKCG works | 2 days | Sun Jul 5, '15 | Mon Jul 6, '15 |
| 66 | Install rising mains from pit 5 and 6 | 40 days | Thu May 12, '16 | Mon Jun 20, '16 |
| 67 | Mobilization of equipment and set up at pit 5 | 28 days | Fri Aug 14, '15 | Thu Sep 10, '15 |
| 68 | Drilling for rising mains from pit 5 to 4 (Rock head) | 90 days | Sat Sep 26, '15 | Thu Dec 24, '15 |
| 69 | Demobilization of equipment at Pit 4 and 5 | 14 days | Fri Dec 25, '15 | Thu Jan 7, '16 |
| 70 | Install rising mains from pit 5 to 4 | 60 days | Sat Jun 25, '16 | Tue Aug 23, '16 |
| 71 | Construct wash-out chamber at pit no.5 | 45 days | Wed Aug 24, '16 | Fri Oct 7, '16 |
| 72 | Inspection pits at pit no. 3 and 4 for determining the alignment of rising mains. | 40 days | Sat Oct 11, '14 | Wed Nov 19, '14 |
| 73 | Allow for utilities diversion works by the UU at pit no. 3 and 4 if necessary | 65 days | Thu Nov 20, '14 | Fri Jan 23, '15 |
| 74 | Construct jacking pit no. 4 | 190 days | Fri Apr 3, '15 | Fri Oct 9, '15 |
| 75 | Revised TTA at Pit 4 for TMLG approval and implementation of TTA | 30 days | Wed Mar 9, '16 | Thu Apr 7, '16 |
| 76 | Mobilization of equipment and set up at pit 4 | 42 days | Fri Apr 8, '16 | Thu May 19, '16 |
| 77 | Drilling for rising mains from pit 4 to 2 (Rock head) | 240 days | Fri May 20, '16 | Sat Jan 14, '17 |
| 78 | Install rising mains (HDPE - 4m long) from pit 4 to 2 | 80 days | Sun Jan 15, '17 | Tue Apr 4, '17 |
| 79 | Procument of HDPE fittings and install rising mains at pit 2 and 4 | 30 days | Wed Apr 5, '17 | Thu May 4, '17 |
| 80 | Mobilization of equipment and set up | 10 days | Fri Jan 9, '15 | Sun Jan 18, '15 |
| 81 | Drilling for rising mains from pit 11 to 10 | 100 days | Mon Jan 19, '15 | Tue Apr 28, '15 |
| 82 | Install rising mains from pit 11 and 10 | 110 days | Wed Apr 29, '15 | Sun Aug 16, '15 |
| 83 | Inspection pits at pit no. 2 for determining the alignment of rising mains. | 10 days | Sat Nov 15, '14 | Mon Nov 24, '14 |
| 84 | Inspection pits at pit no. 1 for determining the alignment of rising mains. | 60 days | Tue Nov 25, '14 | Fri Jan 23, '15 |
| 85 | DSD's Construction of Works | 90 days | Sat Jan 24, '15 | Thu Apr 23, '15 |
| 86 | Roadworks advice approved by RMO | 30 days | Sun Apr 5, '15 | Mon May 4, '15 |
| 87 | Allow for utilities diversion works by the UU at pit no. 2 | 220 days | Tue May 5, '15 | Thu Dec 10, '15 |
| 88 | Construct receiving pit no. 2 | 40 days | Fri Mar 18, '16 | Tue Apr 26, '16 |
| 89 | Remove existing EMSD hoarding | 70 days | Sat Jan 24, '15 | Fri Apr 3, '15 |
| 90 | Roadworks advice approved by RMO | 30 days | Sat Apr 4, '15 | Sun May 3, '15 |
| 91 | Allow for utilities diversion works by the UU at pit no. 1 | 205 days | Mon May 4, '15 | Tue Nov 24, '15 |
| 92 | Construct jacking pit no. 1 | 140 days | Wed Nov 25, '15 | Tue Apr 12, '16 |
| 93 | Mobilization of equipment and set up | 38 days | Wed Apr 13, '16 | Fri May 20, '16 |
| 94 | Drilling for rising mains from pit 1 to 2 (Boulder head) | 70 days | Sat May 21, '16 | Fri Jul 29, '16 |
| 95 | Install rising mains from pit 1 to 2 and pit 1 | 40 days | Mon Sep 12, '16 | Fri Oct 21, '16 |
| 96 | Procument of HDPE fittings and install rising mains at pit 1 | 30 days | Sun Jan 15, '17 | Mon Feb 13, '17 |
| 97 | Pit reinstatement at pit 1 | 20 days | Tue Feb 14, '17 | Sun Mar 5, '17 |
| 98 | Demobilization of equipment at Pit 1 | 14 days | Sat Jul 30, '16 | Fri Aug 12, '16 |
| 99 | Install rising mains from NPS to pit 1 | 30 days | Sat Aug 13, '16 | Sun Sep 11, '16 |
| 100 | CCTV inspection to completed pipeline | 21 days | Tue Jun 6, '17 | Mon Jun 26, '17 |
| 101 | Pressure test | 30 days | Tue Jun 27, '17 | Wed Jul 26, '17 |
| 102 | Road reinstatement at pit 7, 9 and 10 | 30 days | Thu Jul 27, '17 | Fri Aug 25, '17 |

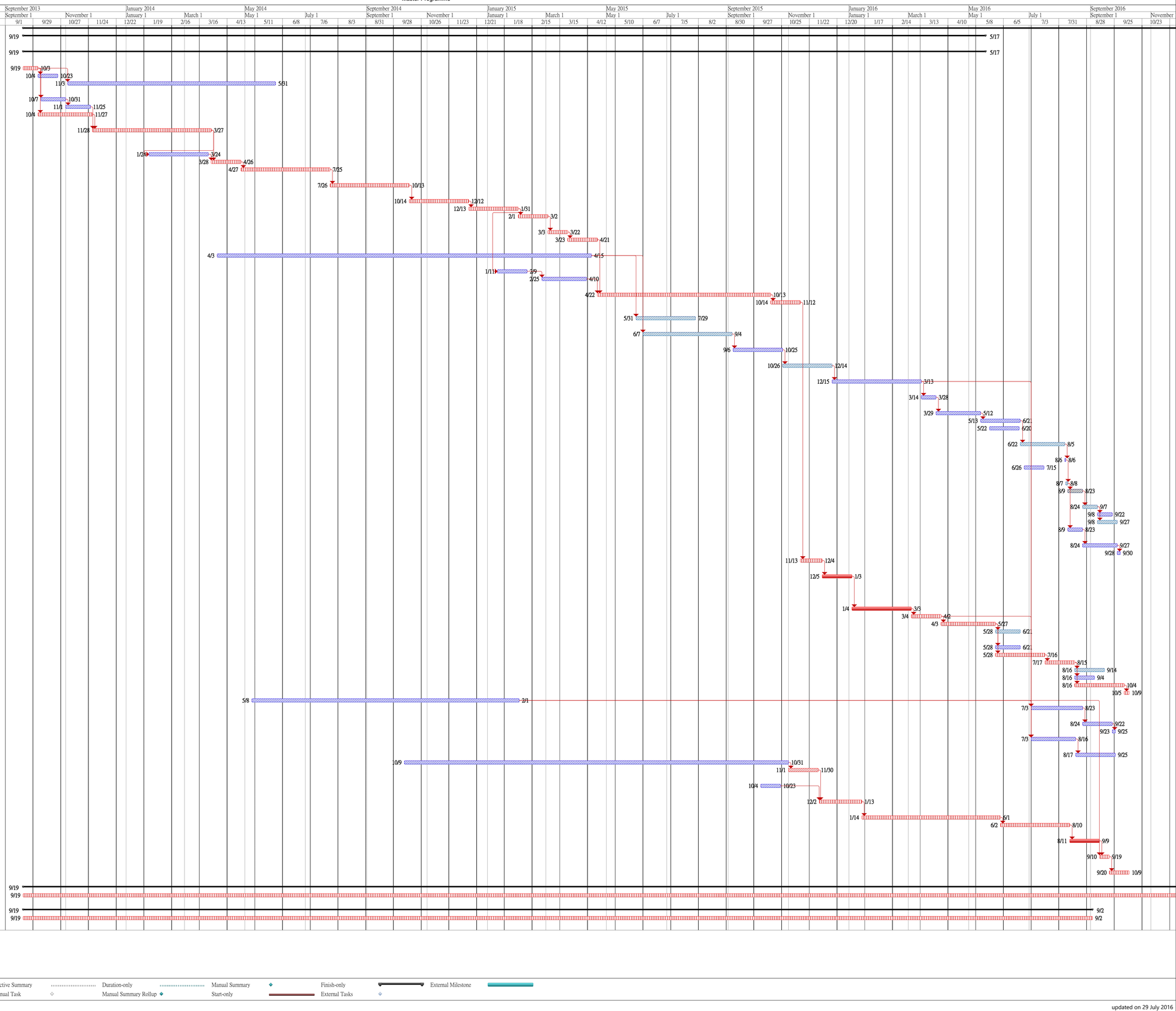



HKCG / DSD works | Non-critical tasks | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks
Critical tasks | Working days | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone

Commencement Date: 19 September 2013
Completion Date: 5 May 2016
Revised Completion Date: 12 September 2016

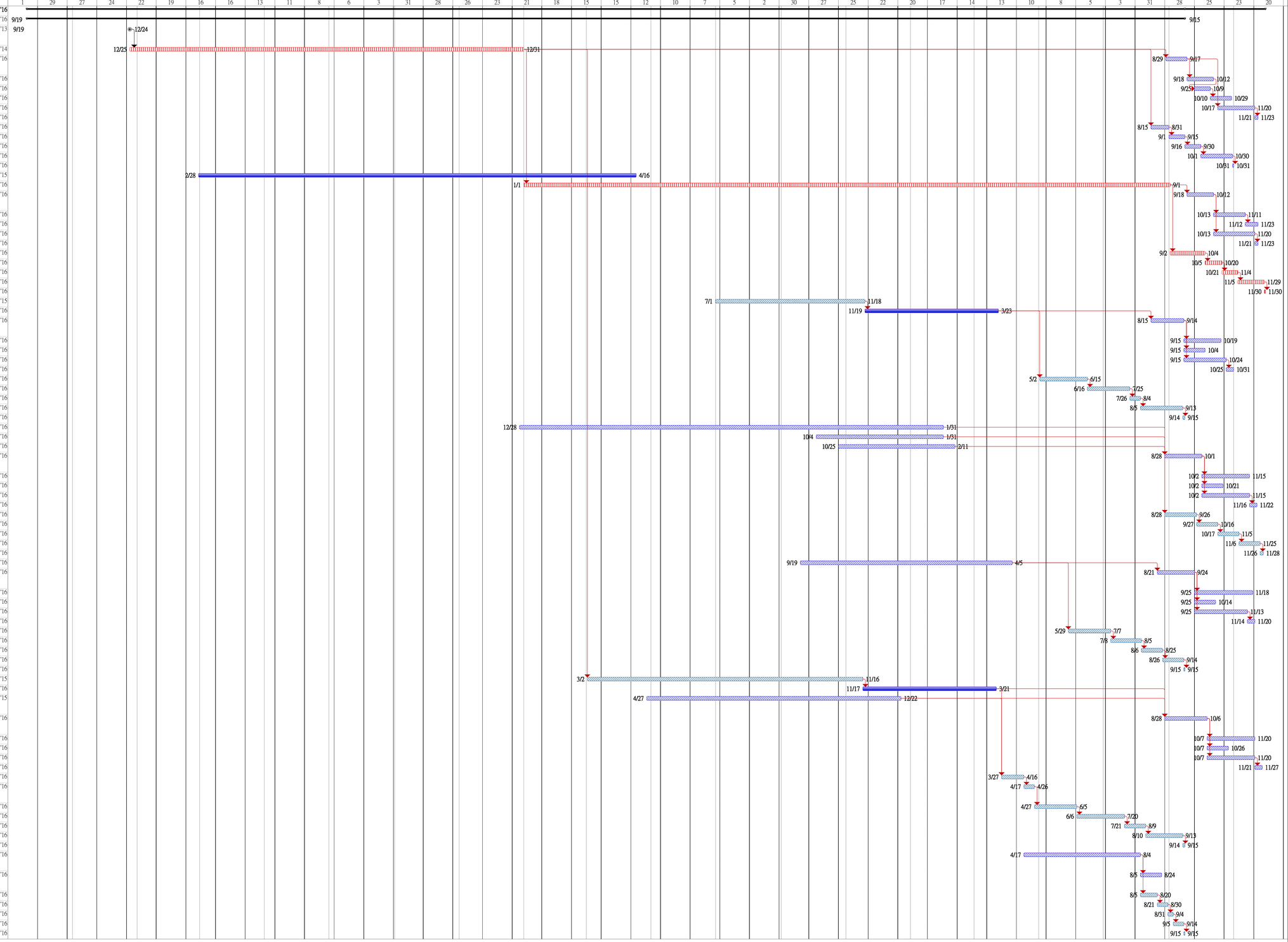
Updated on 29 July 2016

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1336 days** | **Thu Sep 19, '13** | **Tue May 16, '17** |
| 2 | **Section 3: Works within Portion 1** | **972 days** | **Thu Sep 19, '13** | **Tue May 17, '16** |
| 3 | **Works for Part of Road D2** | **972 days** | **Thu Sep 19, '13** | **Tue May 17, '16** |
| 4 | Site possession and preparation works | 15 days | Thu Sep 19, '13 | Thu Oct 3, '13 |
| 5 | Site clearance and setting out site boundary | 20 days | Fri Oct 4, '13 | Wed Oct 23, '13 |
| 6 | Apply XP for roadworks at junction of SWTR and TKWR and TTA approval | 210 days | Sun Nov 3, '13 | Sat May 31, '14 |
| 7 | Submission of baseline monitoring for EPD approval | 25 days | Mon Oct 7, '13 | Thu Oct 31, '13 |
| 8 | Approval of baseline monitoring by EPD | 25 days | Fri Nov 1, '13 | Mon Nov 25, '13 |
| 9 | Submission / approval of construction materials and method statements for sewerage drain | 55 days | Fri Oct 4, '13 | Wed Nov 27, '13 |
| 10 | Construct jacking / receiving pits for 2x750mm dia. Concrete pipes from FMH120_60 to 70 by trenchless method | 120 days | Thu Nov 28, '13 | Thu Mar 27, '14 |
| 11 | Delivery of materials for sewerage drain | 60 days | Fri Jan 24, '14 | Mon Mar 24, '14 |
| 12 | Mobilization of pipe jacking machine and setup | 30 days | Fri Mar 28, '14 | Sat Apr 26, '14 |
| 13 | Drilling and installation of concrete pipe for 2x750mm dia. | 90 days | Sun Apr 27, '14 | Fri Jul 25, '14 |
| 14 | Construct sewerage drain and construct manholes from FMH120_30 to 40 | 80 days | Sat Jul 26, '14 | Mon Oct 13, '14 |
| 15 | Construct manholes FMH120_60 and 70 | 60 days | Tue Oct 14, '14 | Fri Dec 12, '14 |
| 16 | Removal of existing hoarding | 50 days | Sat Dec 13, '14 | Sat Jan 31, '15 |
| 17 | Approval of TTA and implementation of TTA along SWTR and TKWR | 30 days | Sun Feb 1, '15 | Mon Mar 2, '15 |
| 18 | Removal of existing security fence | 20 days | Tue Mar 3, '15 | Sun Mar 22, '15 |
| 19 | Install storm drain from SMH2501 to 2503 and construct manholes for construction of road junction of D2/SWTR | 30 days | Mon Mar 23, '15 | Tue Apr 21, '15 |
| 20 | Completion of CLP works (Portion B) (width of occupied areas at northbound of D2 = approx. 20m) | 378 days | Thu Apr 3, '14 | Wed Apr 15, '15 |
| 21 | Installation of sheetpiling for CP3P3 1061-1115 | 30 days | Sun Jan 11, '15 | Mon Feb 9, '15 |
| 22 | Installation of waling and excavation to formation level for CP3P3 1061-1115 | 45 days | Wed Feb 25, '15 | Fri Apr 10, '15 |
| 23 | Construct DCS system at CP3P3 1061-1115 | 175 days | Wed Apr 22, '15 | Tue Oct 13, '15 |
| 24 | Trench backfilling at CP3P3 1061-1115 and removal of sheet piles | 30 days | Wed Oct 14, '15 | Thu Nov 12, '15 |
| 25 | Install storm drain from SMH2202 to 2204 and construct manholes | 60 days | Sun May 31, '15 | Wed Jul 29, '15 |
| 26 | Install storm drain from SMH3110 to3112 & 3113 to 3115 and construct manholes | 90 days | Sun Jun 7, '15 | Fri Sep 4, '15 |
| 27 | Construct sewerage drain and construct manholes from DC1 to FMH120_30 | 50 days | Sun Sep 6, '15 | Sun Oct 25, '15 |
| 28 | Install storm drain from SMH3112 to 3113 and construct manholes | 50 days | Mon Oct 26, '15 | Mon Dec 14, '15 |
| 29 | Install water main and wash-out chamber CHB200-CHB280 and CHC200-CHC280 | 90 days | Tue Dec 15, '15 | Sun Mar 13, '16 |
| 30 | Installation of utility by the utility undertakers at the junction of the realigned DLO ROW | 15 days | Mon Mar 14, '16 | Mon Mar 28, '16 |
| 31 | Install sewer drain from FMH120_10 to 20 | 45 days | Tue Mar 29, '16 | Thu May 12, '16 |
| 32 | Construct additional manhole FMH120_15 (VO) | 40 days | Fri May 13, '16 | Tue Jun 21, '16 |
| 33 | Modification of newly constructed sewer manholes and associated drain pipes for DC1 | 30 days | Sun May 22, '16 | Mon Jun 20, '16 |
| 34 | Construct flexible carriageway at the junction of realigned DLO ROW including wearing course | 45 days | Wed Jun 22, '16 | Fri Aug 5, '16 |
| 35 | Road marking | 1 day | Sat Aug 6, '16 | Sat Aug 6, '16 |
| 36 | Install traffic signal at the Junction of Road D2/ Western Access Road | 20 days | Sun Jun 26, '16 | Fri Jul 15, '16 |
| 37 | Re-diversion of DLO ROW | 2 days | Sun Aug 7, '16 | Mon Aug 8, '16 |
| 38 | Install water main CHB170-CHB200 and CHC170-CHC200 | 15 days | Tue Aug 9, '16 | Tue Aug 23, '16 |
| 39 | Construct road gully and gully pipe | 15 days | Wed Aug 24, '16 | Wed Sep 7, '16 |
| 40 | Construct road kerb | 15 days | Thu Sep 8, '16 | Thu Sep 22, '16 |
| 41 | Construct flexible carriageway | 20 days | Thu Sep 8, '16 | Tue Sep 27, '16 |
| 42 | Installation of utility by the utility undertakers along proposed footpath CH730-750 | 15 days | Tue Aug 9, '16 | Tue Aug 23, '16 |
| 43 | Construct u-channel and footpath | 35 days | Wed Aug 24, '16 | Tue Sep 27, '16 |
| 44 | Landscaping works | 3 days | Wed Sep 28, '16 | Fri Sep 30, '16 |
| 45 | Construct sewerage drain and construct manholes from FMH120_40 to 60 | 22 days | Fri Nov 13, '15 | Fri Dec 4, '15 |
| 46 | Proposed sewerage drain from FMH120_50 to 60 clash with CLP as-constructed CLP tunnel. Revised construction details was instructed by the Engineer on 30 Dec 15 | 30 days | Sat Dec 5, '15 | Sun Jan 3, '16 |
| 47 | Construct additional manhole FMH120_55 (VO) | 60 days | Mon Jan 4, '16 | Thu Mar 3, '16 |
| 48 | Construct sewerage drain from FMH120_50 to 55 to 60 | 30 days | Fri Mar 4, '16 | Sat Apr 2, '16 |
| 49 | Install storm drain from SMH3117 to SMH2304 | 55 days | Sun Apr 3, '16 | Fri May 27, '16 |
| 50 | Install storm drain from SMH3115 to 3117a and construct manholes | 25 days | Sat May 28, '16 | Tue Jun 21, '16 |
| 51 | Install water main CHB0-CHB170 and CHC0-CHC170 | 25 days | Sat May 28, '16 | Tue Jun 21, '16 |
| 52 | Construct road gully and gully pipe | 50 days | Sat May 28, '16 | Sat Jul 16, '16 |
| 53 | Construct road kerb | 30 days | Sun Jul 17, '16 | Mon Aug 15, '16 |
| 54 | Install irrigation system | 30 days | Tue Aug 16, '16 | Wed Sep 14, '16 |
| 55 | Installation of lighting system by HyD | 20 days | Tue Aug 16, '16 | Sun Sep 4, '16 |
| 56 | Construct flexible carriageway | 50 days | Tue Aug 16, '16 | Tue Oct 4, '16 |
| 57 | Planting works | 5 days | Wed Oct 5, '16 | Sun Oct 9, '16 |
| 58 | Liaison meeting with UU | 270 days | Thu May 8, '14 | Sun Feb 1, '15 |
| 59 | Installation of utility by the utility undertakers along proposed footpath CH550-730 | 52 days | Sun Jul 3, '16 | Tue Aug 23, '16 |
| 60 | Construct planting area, u-channel and footpath | 30 days | Wed Aug 24, '16 | Thu Sep 22, '16 |
| 61 | Landscaping works | 3 days | Fri Sep 23, '16 | Sun Sep 25, '16 |
| 62 | Installation of utility by the utility undertakers along proposed footpath CH750-810 | 45 days | Sun Jul 3, '16 | Tue Aug 16, '16 |
| 63 | Construct planting area, u-channel and footpath | 40 days | Wed Aug 17, '16 | Sun Sep 25, '16 |
| 64 | CLP T-junction at Portion C | 388 days | Thu Oct 9, '14 | Sat Oct 31, '15 |
| 65 | Installation of utility by the utility undertakers along proposed footpath CHA820-850 | 30 days | Sun Nov 1, '15 | Mon Nov 30, '15 |
| 66 | Submission on method statement for DWFI for DSD approval | 20 days | Sun Oct 4, '15 | Fri Oct 23, '15 |
| 67 | Awaiting for construction details for re-construction of box culvert | 43 days | Wed Dec 2, '15 | Wed Jan 13, '16 |
| 68 | Reconstruction of existing box culvert DWFI (VO) | 140 days | Thu Jan 14, '16 | Wed Jun 1, '16 |
| 69 | Construct sewer drain from box culvert to FMH140_10 and manhole | 70 days | Thu Jun 2, '16 | Wed Aug 10, '16 |
| 70 | Install FWM CHC1-0 to 50 & SWM CHF2-0 to 50 (VO 35A) | 30 days | Thu Aug 11, '16 | Fri Sep 9, '16 |
| 71 | Installation of utility by the utility undertakers along proposed footpath CHA820-850 | 10 days | Sat Sep 10, '16 | Mon Sep 19, '16 |
| 72 | Construct planting area, u-channel and footpath | 20 days | Tue Sep 20, '16 | Sun Oct 9, '16 |
| 73 | | | | |
| 74 | **Section 3A** | **1336 days** | **Thu Sep 19, '13** | **Tue May 16, '17** |
| 75 | Establishment works for Section 3 | 1336 days | Thu Sep 19, '13 | Tue May 16, '17 |
| 76 | | | | |
| 77 | **Section 4** | **1080 days** | **Thu Sep 19, '13** | **Fri Sep 2, '16** |
| 78 | Perservation and preotection of trees within Portions 1 to 4 | 1080 days | Thu Sep 19, '13 | Fri Sep 2, '16 |



# Master Programme

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1093 days** | **Thu Sep 19, '13** | **Thu Sep 15, '16** |
| 2 | **Section 5: Works for Southbound of Road D2** | 1093 days | Thu Sep 19, '13 | Thu Sep 15, '16 |
| 3 | Awaiting for the notifcation of commencement of works by the Engineer | 97 days | Thu Sep 19, '13 | Tue Dec 24, '13 |
| 4 | Completion of DCS works for CH3P3-970 to 1030 | 372 days | Wed Dec 25, '13 | Wed Dec 31, '14 |
| 5 | Installation of utility by the utility undertakers along proposed footpath | 20 days | Mon Aug 29, '16 | Sat Sep 17, '16 |
| 6 | Construct drainpit and u-channel | 25 days | Sun Sep 18, '16 | Wed Oct 12, '16 |
| 7 | Install street lighting | 15 days | Sun Sep 25, '16 | Sun Oct 9, '16 |
| 8 | Installation of lighting system by HyD | 20 days | Mon Oct 10, '16 | Sat Oct 29, '16 |
| 9 | Construct footpath, planting area and concrete run-in | 35 days | Mon Oct 17, '16 | Sun Nov 20, '16 |
| 10 | Landscape works | 3 days | Mon Nov 21, '16 | Wed Nov 23, '16 |
| 11 | Construct stormwater drain and manholes | 17 days | Mon Aug 15, '16 | Wed Aug 31, '16 |
| 12 | Construct road gully with pipes | 15 days | Thu Sep 1, '16 | Thu Sep 15, '16 |
| 13 | Construct road kerb | 15 days | Fri Sep 16, '16 | Fri Sep 30, '16 |
| 14 | Construct flexible carriageway | 30 days | Sat Oct 1, '16 | Sun Oct 30, '16 |
| 15 | Road marking | 1 day | Mon Oct 31, '16 | Mon Oct 31, '16 |
| 16 | Construct CLP tunnel by CLP Portion B | 413 days | Fri Feb 28, '14 | Thu Apr 16, '15 |
| 17 | Completion of DCS works for CH3P3-1030 to 1115 | 610 days | Thu Jan 1, '15 | Thu Sep 1, '16 |
| 18 | Installation of utility by the utility undertakers along proposed footpath | 25 days | Sun Sep 18, '16 | Wed Oct 12, '16 |
| 19 | Construct drainpit and u-channel | 30 days | Thu Oct 13, '16 | Fri Nov 11, '16 |
| 20 | Install street lighting | 12 days | Sat Nov 12, '16 | Wed Nov 23, '16 |
| 21 | Construct footpath, planting area and concrete run-in | 39 days | Thu Oct 13, '16 | Sun Nov 20, '16 |
| 22 | Landscape works | 3 days | Mon Nov 21, '16 | Wed Nov 23, '16 |
| 23 | Construct stormwater drain and manholes | 33 days | Fri Sep 2, '16 | Tue Oct 4, '16 |
| 24 | Construct road gully with pipes | 16 days | Wed Oct 5, '16 | Thu Oct 20, '16 |
| 25 | Construct road kerb | 15 days | Fri Oct 21, '16 | Fri Nov 4, '16 |
| 26 | Construct flexible carriageway | 25 days | Sat Nov 5, '16 | Tue Nov 29, '16 |
| 27 | Road marking | 1 day | Wed Nov 30, '16 | Wed Nov 30, '16 |
| 28 | Completion of DCS works for CH3P3-930 to 970 | 141 days | Wed Jul 1, '15 | Wed Nov 18, '15 |
| 29 | Construct CLP tunnel by CLP Portion F1 | 126 days | Thu Nov 19, '15 | Wed Mar 23, '16 |
| 30 | Installation of utility by the utility undertakers along proposed footpath | 31 days | Mon Aug 15, '16 | Wed Sep 14, '16 |
| 31 | Construct drainpit and u-channel | 35 days | Thu Sep 15, '16 | Wed Oct 19, '16 |
| 32 | Install street lighting | 20 days | Thu Sep 15, '16 | Tue Oct 4, '16 |
| 33 | Construct footpath, planting area and concrete run-in | 40 days | Thu Sep 15, '16 | Mon Oct 24, '16 |
| 34 | Landscape works | 7 days | Tue Oct 25, '16 | Mon Oct 31, '16 |
| 35 | Construct stormwater drain and manholes | 45 days | Mon May 2, '16 | Wed Jun 15, '16 |
| 36 | Construct road gully with pipes | 40 days | Thu Jun 16, '16 | Mon Jul 25, '16 |
| 37 | Construct road kerb | 10 days | Tue Jul 26, '16 | Thu Aug 4, '16 |
| 38 | Construct flexible carriageway | 40 days | Fri Aug 5, '16 | Tue Sep 13, '16 |
| 39 | Road marking | 2 days | Wed Sep 14, '16 | Thu Sep 15, '16 |
| 40 | Completion of DCS works for CH3P3-370 to 520 | 400 days | Sun Dec 28, '14 | Sun Jan 31, '16 |
| 41 | Completion of DCS works for CH3P3-350 to 370 | 120 days | Sun Oct 4, '15 | Sun Jan 31, '16 |
| 42 | Completion of DCS works for CH3P3-520 to 570 | 110 days | Sun Oct 25, '15 | Thu Feb 11, '16 |
| 43 | Installation of utility by the utility undertakers along proposed footpath | 35 days | Sun Aug 28, '16 | Sat Oct 1, '16 |
| 44 | Construct drainpit and u-channel | 45 days | Sun Oct 2, '16 | Tue Nov 15, '16 |
| 45 | Install street lighting | 20 days | Sun Oct 2, '16 | Fri Oct 21, '16 |
| 46 | Construct footpath, planting area and concrete run-in | 45 days | Sun Oct 2, '16 | Tue Nov 15, '16 |
| 47 | Landscape works | 7 days | Wed Nov 16, '16 | Tue Nov 22, '16 |
| 48 | Construct stormwater drain and manholes | 30 days | Sun Aug 28, '16 | Mon Sep 26, '16 |
| 49 | Construct road gully with pipes | 20 days | Tue Sep 27, '16 | Sun Oct 16, '16 |
| 50 | Construct road kerb | 20 days | Mon Oct 17, '16 | Sat Nov 5, '16 |
| 51 | Construct flexible carriageway | 20 days | Sun Nov 6, '16 | Fri Nov 25, '16 |
| 52 | Road marking | 3 days | Sat Nov 26, '16 | Mon Nov 28, '16 |
| 53 | Completion of DCS works for CH3P3-570 to 730 | 200 days | Sat Sep 19, '15 | Tue Apr 5, '16 |
| 54 | Installation of utility by the utility undertakers along proposed footpath | 35 days | Sun Aug 21, '16 | Sat Sep 24, '16 |
| 55 | Construct drainpit and u-channel | 55 days | Sun Sep 25, '16 | Fri Nov 18, '16 |
| 56 | Install street lighting | 20 days | Sun Sep 25, '16 | Fri Oct 14, '16 |
| 57 | Construct footpath, planting area and concrete run-in | 50 days | Sun Sep 25, '16 | Sun Nov 13, '16 |
| 58 | Landscape works | 7 days | Mon Nov 14, '16 | Sun Nov 20, '16 |
| 59 | Construct stormwater drain and manholes | 40 days | Sun May 29, '16 | Thu Jul 7, '16 |
| 60 | Construct road gully with pipes | 29 days | Fri Jul 8, '16 | Fri Aug 5, '16 |
| 61 | Construct road kerb | 20 days | Sat Aug 6, '16 | Thu Aug 25, '16 |
| 62 | Construct flexible carriageway | 20 days | Fri Aug 26, '16 | Wed Sep 14, '16 |
| 63 | Road marking | 1 day | Thu Sep 15, '16 | Thu Sep 15, '16 |
| 64 | Completion of DCS works for CH3P3-730 to 830 | 260 days | Mon Mar 2, '15 | Mon Nov 16, '15 |
| 65 | Cable duct block by CLP | 126 days | Tue Nov 17, '15 | Mon Mar 21, '16 |
| 66 | Completion of DCS works for CH3P3-830 to 930 (except 860 to 900) | 240 days | Mon Apr 27, '15 | Tue Dec 22, '15 |
| 67 | Installation of utility by the utility undertakers along proposed footpath | 40 days | Sun Aug 28, '16 | Thu Oct 6, '16 |
| 68 | Construct drainpit and u-channel | 45 days | Fri Oct 7, '16 | Sun Nov 20, '16 |
| 69 | Install street lighting | 20 days | Fri Oct 7, '16 | Wed Oct 26, '16 |
| 70 | Construct footpath, planting area and concrete run-in | 45 days | Fri Oct 7, '16 | Sun Nov 20, '16 |
| 71 | Landscape works | 7 days | Mon Nov 21, '16 | Sun Nov 27, '16 |
| 72 | Construct stormwater drain and manholes | 21 days | Sun Mar 27, '16 | Sat Apr 16, '16 |
| 73 | Proposed sewer drain FMH120_20 to 10 clash with as-constructed CLP's cable tunnel. Further instruction is required | 10 days | Sun Apr 17, '16 | Tue Apr 26, '16 |
| 74 | Construct additional manhole with backdrop (VO) | 40 days | Wed Apr 27, '16 | Sun Jun 5, '16 |
| 75 | Construct road gully with pipes | 45 days | Mon Jun 6, '16 | Wed Jul 20, '16 |
| 76 | Construct road kerb | 20 days | Thu Jul 21, '16 | Tue Aug 9, '16 |
| 77 | Construct flexible carriageway | 35 days | Wed Aug 10, '16 | Tue Sep 13, '16 |
| 78 | Road marking | 2 days | Wed Sep 14, '16 | Thu Sep 15, '16 |
| 79 | Completion of DCS works for CH3P3-860 to 900 for realignment of DLO ROW including wearing course | 110 days | Sun Apr 17, '16 | Thu Aug 4, '16 |
| 80 | Installation of utility by the utility undertakers along proposed footpath | 20 days | Fri Aug 5, '16 | Wed Aug 24, '16 |
| 81 | Construct stormwater drain and manholes | 16 days | Fri Aug 5, '16 | Sat Aug 20, '16 |
| 82 | Construct road gully with pipes | 10 days | Sun Aug 21, '16 | Tue Aug 30, '16 |
| 83 | Construct road kerb | 5 days | Wed Aug 31, '16 | Sun Sep 4, '16 |
| 84 | Construct flexible carriageway | 10 days | Mon Sep 5, '16 | Wed Sep 14, '16 |
| 85 | Road marking | 1 day | Thu Sep 15, '16 | Thu Sep 15, '16 |

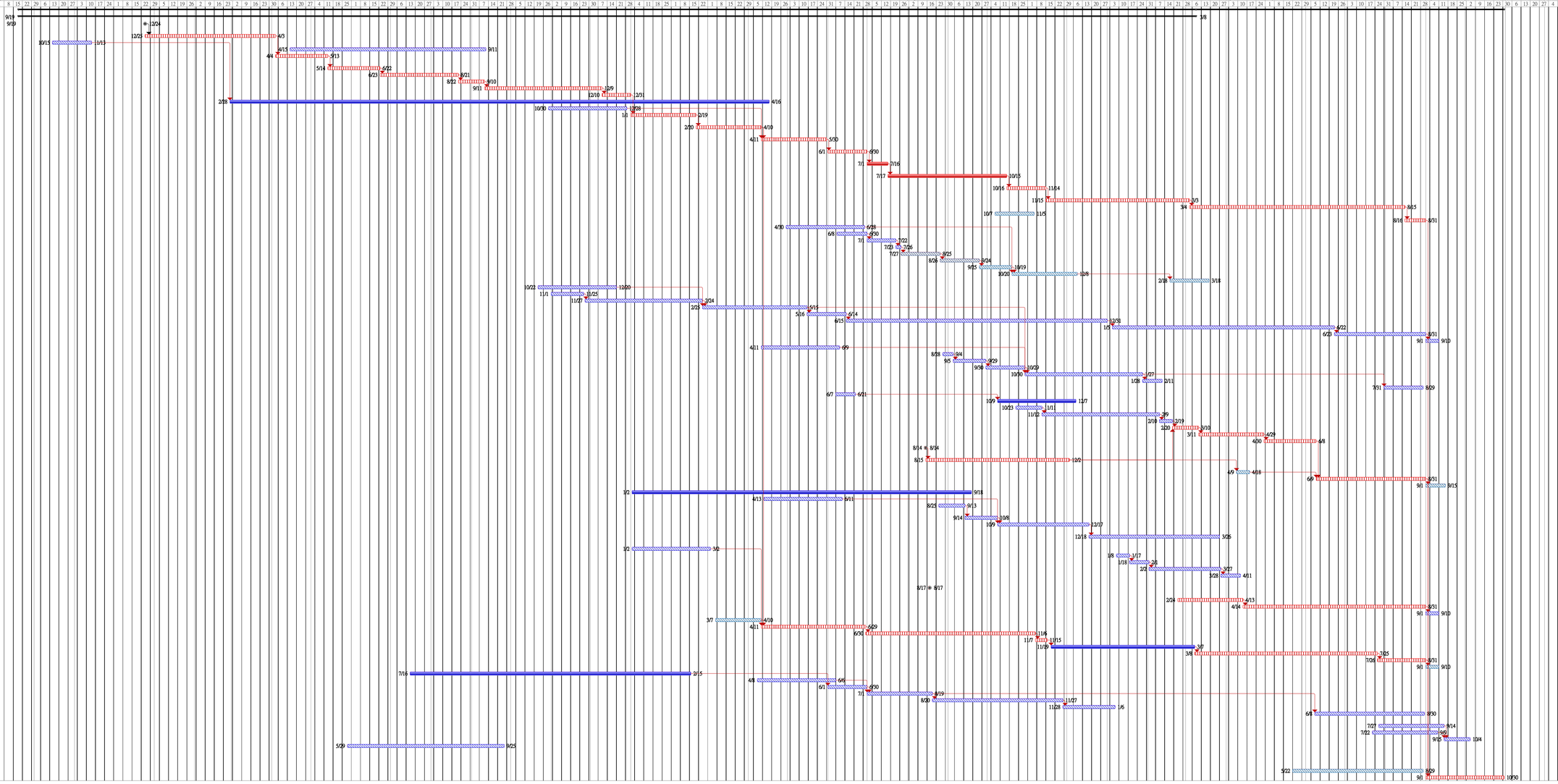



Critical tasks | Working days | Inactive Summary | Duration-only | Manual Summary | Finish-only | External Milestone

Non-critical tasks | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | External Tasks

Updated on 29 July 2016

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | 902 days | Thu Sep 19, '13 | Tue Mar 8, '16 |
| 2 | **Section 7A: Works for Southbound of Road D2** | 902 days | Thu Sep 19, '13 | Tue Mar 8, '16 |
| 3 | Awaiting for the notification of commencement of works by the Engineer | 97 days | Thu Sep 19, '13 | Tue Dec 24, '13 |
| 4 | Submission for approval of DCS materials | 100 days | Wed Dec 25, '13 | Thu Apr 3, '14 |
| 5 | Interface works meeting with CLP | 30 days | Tue Oct 15, '13 | Wed Nov 13, '13 |
| 6 | Deliver DCS materials batch no. 1 | 150 days | Tue Apr 15, '14 | Thu Sep 11, '14 |
| 7 | Submission for approval of method statement and temp work design | 40 days | Fri Apr 4, '14 | Tue May 13, '14 |
| 8 | Installation of sheetpiles for CH3P5-970 to 1030 | 40 days | Wed May 14, '14 | Sun Jun 22, '14 |
| 9 | Installation of wailing and excavation for CH3P5-970 to 1030 | 60 days | Mon Jun 23, '14 | Thu Aug 21, '14 |
| 10 | Grade 200 rock fill (SD) | 20 days | Fri Aug 22, '14 | Wed Sep 10, '14 |
| 11 | Construct DCS system at CH3P5-970 to 1030 | 90 days | Thu Sep 11, '14 | Tue Dec 9, '14 |
| 12 | Trench backfilling at CH3P5-970 to 1030 | 22 days | Wed Dec 10, '14 | Wed Dec 31, '14 |
| 13 | Construct CLP tunnel by CLP Portion B | 413 days | Fri Feb 28, '14 | Thu Apr 16, '15 |
| 14 | Deliver DCS materials batch no. 3 | 60 days | Thu Oct 30, '14 | Sun Dec 28, '14 |
| 15 | Installation of sheetpiles for CH3P5-1030 to CP3P3-1087 & CP3P2-1115 | 50 days | Thu Jan 1, '15 | Thu Feb 19, '15 |
| 16 | Installation of waling and excavation for CH3P5-1030 to CP3P3-1087 & CP3P2-1115 | 50 days | Fri Feb 20, '15 | Fri Apr 10, '15 |
| 17 | Construct DCS system at CH3P5-1060 to CP3P3-1087 & CP3P2-1115 | 50 days | Sat Apr 11, '15 | Sat May 30, '15 |
| 18 | Cut CLP sheetpiles and additional infill in CLP structure for installation of seawater pipes | 30 days | Mon Jun 1, '15 | Tue Jun 30, '15 |
| 19 | Trench excavation for WSD permanent diversion of existing watermain at CH3P3-1000 (additional works) | 16 days | Wed Jul 1, '15 | Thu Jul 16, '15 |
| 20 | Permanent diversion of existing watermain at CH3P3-1000 by WSD (additional works) | 91 days | Fri Jul 17, '15 | Thu Oct 15, '15 |
| 21 | Remove existing watermain and then installation of waling and excavation for CH3P5-1030 to 1050 | 30 days | Fri Oct 16, '15 | Sat Nov 14, '15 |
| 22 | Construct DCS system at CH3P5-1030 to CP3P3-1087 | 110 days | Sun Nov 15, '15 | Thu Mar 3, '16 |
| 23 | Construct sectional valve chambers (SV-N-09) | 165 days | Fri Mar 4, '16 | Mon Aug 15, '16 |
| 24 | Trench backfilling at CP3P3-1087 to CP3P2-1115 | 30 days | Wed Oct 7, '15 | Thu Nov 5, '15 |
| 25 | Trench backfilling at CH3P3-1030 to CP3P3-1087 | 16 days | Tue Aug 16, '16 | Wed Aug 31, '16 |
| 26 | Deliver DCS materials batch no. 5 | 60 days | Thu Apr 30, '15 | Sun Jun 28, '15 |
| 27 | Proposed UU works to be laid at DLO ROW | 23 days | Mon Jun 8, '15 | Tue Jun 30, '15 |
| 28 | Re-diversion of DLO ROW | 22 days | Wed Jul 1, '15 | Wed Jul 22, '15 |
| 29 | Break up existing hard materials for sheetpiling works | 4 days | Thu Jul 23, '15 | Sun Jul 26, '15 |
| 30 | Installation of sheetpiles for CH3P5-930 to 970 | 30 days | Mon Jul 27, '15 | Tue Aug 25, '15 |
| 31 | Temporary support existing watermain | 30 days | Wed Aug 26, '15 | Thu Sep 24, '15 |
| 32 | Install waling and excavate for CH3P5-930 to 970 | 25 days | Fri Sep 25, '15 | Mon Oct 19, '15 |
| 33 | Construct DCS system at CH3P5-930 to 970 | 50 days | Tue Oct 20, '15 | Tue Dec 8, '15 |
| 34 | Trench backfilling at CH3P5-930 to 970 | 30 days | Thu Feb 18, '16 | Fri Mar 18, '16 |
| 35 | Deliver DCS materials batch no. 2 | 60 days | Wed Oct 22, '14 | Sat Dec 20, '14 |
| 36 | Installation of sheetpiling for CH3P3-370 to 520 | 25 days | Sat Nov 1, '14 | Tue Nov 25, '14 |
| 37 | Installation of wailing and excavation for CH3P3-370 to 520 | 90 days | Thu Nov 27, '14 | Tue Feb 24, '15 |
| 38 | Construct DCS system at CH3P3-370 to 450 | 80 days | Wed Feb 25, '15 | Fri May 15, '15 |
| 39 | Trench backfilling at CH3P3-370 to 450 | 30 days | Sat May 16, '15 | Sun Jun 14, '15 |
| 40 | Construct DCS system at CH3P3-450 to 520 | 200 days | Mon Jun 15, '15 | Thu Dec 31, '15 |
| 41 | Construct sectional valve chambers (SV-N-10) | 170 days | Tue Jun 5, '16 | Wed Jun 22, '16 |
| 42 | Construct bend block concrete at CHC3P3-450 to 520 | 70 days | Thu Jun 23, '16 | Wed Aug 31, '16 |
| 43 | Trench backfilling at CH3P3-450 to 520 | 10 days | Thu Sep 1, '16 | Sat Sep 10, '16 |
| 44 | Deliver DCS materials batch no. 5 | 60 days | Sat Apr 11, '15 | Tue Jun 9, '15 |
| 45 | Divert ROW | 8 days | Fri Aug 28, '15 | Fri Sep 4, '15 |
| 46 | Installation of sheetpiles for CH3P3-350 to 370 | 25 days | Sat Sep 5, '15 | Tue Sep 29, '15 |
| 47 | Installation of wailing and excavation for CH3P3-350 to 370 | 30 days | Wed Sep 30, '15 | Thu Oct 29, '15 |
| 48 | Construct DCS system at CH3P3-350 to 370 | 90 days | Fri Oct 30, '15 | Wed Jan 27, '16 |
| 49 | Trench backfilling at CH3P3-350 to 370 | 15 days | Thu Jan 28, '16 | Thu Feb 11, '16 |
| 50 | Construct tee-off gate valve chambers (S-1L4) | 30 days | Sun Jul 31, '16 | Mon Aug 29, '16 |
| 51 | Diversion of MTR ROW | 15 days | Sun Jun 7, '15 | Sun Jun 21, '15 |
| 52 | CLP cable duck block | 60 days | Fri Oct 9, '15 | Mon Dec 7, '15 |
| 53 | Trench excavation at CH3P3-520 to 570 | 20 days | Fri Oct 23, '15 | Wed Nov 11, '15 |
| 54 | Construct DCS system at CH3P3-520 to 570 | 90 days | Thu Nov 12, '15 | Tue Feb 9, '16 |
| 55 | Trench backfilling at CH3P3-520 to 570 | 10 days | Wed Feb 10, '16 | Fri Feb 19, '16 |
| 56 | Diversion of MTR ROW | 20 days | Sat Feb 20, '16 | Thu Mar 10, '16 |
| 57 | Construct DCS system at CH3P3-570 to 590 | 50 days | Fri Mar 11, '16 | Fri Apr 29, '16 |
| 58 | Construct bend block concrete at CHC3P3-570 to 590 | 40 days | Sat Apr 30, '16 | Wed Jun 8, '16 |
| 59 | VO49 additional 3 nos. tee-off pipes at CH3P3-560 issued on 14 Aug 15 | 1 day | Fri Aug 14, '15 | Fri Aug 14, '15 |
| 60 | VO49 materials production, IIB, insulation layer and delivery to site | 110 days | Sat Aug 15, '15 | Wed Dec 2, '15 |
| 61 | VO49 trench excavation | 10 days | Sat Apr 9, '16 | Mon Apr 18, '16 |
| 62 | VO49 pipe laying for 3 nos. CWP | 84 days | Thu Jun 9, '16 | Wed Aug 31, '16 |
| 63 | VO49 trench backfilling | 15 days | Thu Sep 1, '16 | Thu Sep 15, '16 |
| 64 | Construct CLP tunnel by CLP Portion A3-A5 | 260 days | Fri Jan 2, '15 | Fri Sep 18, '15 |
| 65 | Deliver DCS materials batch no. 4 | 60 days | Mon Apr 13, '15 | Thu Jun 11, '15 |
| 66 | Trench excavation for 4 nos. seawater pipes and 1 no. DN500 CWP CH3P3-590 to 730 | 20 days | Tue Aug 25, '15 | Sun Sep 13, '15 |
| 67 | Laying miradrain and steel plate above KTT (addition works) | 25 days | Mon Sep 14, '15 | Thu Oct 8, '15 |
| 68 | Pipe laying for 4 nos. seawater pipes and 1 no. DN500 CWP CH3P3-590 to 730 | 70 days | Fri Oct 9, '15 | Thu Dec 17, '15 |
| 69 | Concrete surround (addition works) and laying steel plate above KTT | 100 days | Fri Dec 18, '15 | Sat Mar 26, '16 |
| 70 | Deliver DCS materials batch no. 4 | 60 days | Fri Jan 2, '15 | Mon Mar 2, '15 |
| 71 | Trench excavation for 2 nos. DN1000 CWP CH3P5-590 to 730 | 10 days | Fri Jan 8, '16 | Sun Jan 17, '16 |
| 72 | Laying miradrain and steel plate above KTT (addition works) | 15 days | Mon Jan 18, '16 | Mon Feb 1, '16 |
| 73 | Pipe laying for 2 nos. DN1000 CWP CH3P5-590 to 730 | 55 days | Tue Feb 2, '16 | Sun Mar 27, '16 |
| 74 | Concrete surround (addition works) and laying steel plate above KTT | 15 days | Mon Mar 28, '16 | Mon Apr 11, '16 |
| 75 | VO58 additional 2 nos. tee-off pipes at CH3P3-720, issued on 17 Aug 15, materials provided by client | 1 day | Mon Aug 17, '15 | Mon Aug 17, '15 |
| 76 | Installation of sheetpiles and excavation works | 50 days | Wed Feb 24, '16 | Wed Apr 13, '16 |
| 77 | VO58 tee-off laying works | 140 days | Thu Apr 14, '16 | Wed Aug 31, '16 |
| 78 | Trench backfilling | 10 days | Thu Sep 1, '16 | Sat Sep 10, '16 |
| 79 | Installation of sheetpiling for CH3P3-730 to 830 | 35 days | Sat Mar 7, '15 | Fri Apr 10, '15 |
| 80 | Installation of wailing and excavation for CH3P3-730 to 830 | 80 days | Sat Apr 11, '15 | Mon Jun 29, '15 |
| 81 | Construct DCS system at CH3P3-730 to 830 | 130 days | Tue Jun 30, '15 | Fri Nov 6, '15 |
| 82 | Trench backfilling at CH3P3-730 to 830 | 9 days | Sat Nov 7, '15 | Sun Nov 15, '15 |
| 83 | Cable duct block by CLP | 110 days | Thu Nov 19, '15 | Mon Mar 7, '16 |
| 84 | Construct tee-off gate valve chambers (S-2D1) | 140 days | Tue Mar 8, '16 | Mon Jul 25, '16 |
| 85 | Construct bend block concrete at CH3P3-730 to 830 | 37 days | Tue Jul 26, '16 | Wed Aug 31, '16 |
| 86 | Trench backfilling at CH3P3-750-770 | 10 days | Thu Sep 1, '16 | Sat Sep 10, '16 |
| 87 | Construct CLP tunnel by CLP Portion F2a | 215 days | Wed Jul 16, '14 | Sun Feb 15, '15 |
| 88 | Deliver DCS materials batch no. 5 | 60 days | Wed Apr 8, '15 | Sat Jun 6, '15 |
| 89 | Installation of sheetpiling for CH3P3-830 to 930 | 30 days | Mon Jun 1, '15 | Tue Jun 30, '15 |
| 90 | Installation of wailing and excavation for CH3P3-830 to 930 | 50 days | Wed Jul 1, '15 | Wed Aug 19, '15 |
| 91 | Construct DCS system at CH3P3-830 to 930 | 100 days | Thu Aug 20, '15 | Fri Nov 27, '15 |
| 92 | Trench backfilling at CH3P3-830 to 930 | 40 days | Sat Nov 28, '15 | Wed Jan 6, '16 |
| 93 | DCS pipe laying works and construct tee-off gate valve chambers (S-2D1L) | 84 days | Wed Jun 8, '16 | Tue Aug 30, '16 |
| 94 | Delivery of optical fibers | 50 days | Wed Jul 27, '16 | Wed Sep 14, '16 |
| 95 | Construction of cable ducts and drawpits | 50 days | Fri Jul 22, '16 | Fri Sep 9, '16 |
| 96 | Laying and testing optical fibers | 20 days | Thu Sep 15, '16 | Tue Oct 4, '16 |
| 97 | Interfacing works with EMSD 1020EM12A Contractor for connection of the proposed four seawater pipes and three chilled water pipes in Section C to their construction of seawater pipes and chilled water pipes | 120 days | Thu May 29, '14 | Thu Sep 25, '14 |
| 98 | CCTV for DCS pipes | 100 days | Sun May 22, '16 | Mon Aug 29, '16 |
| 99 | Swabbing, pressure test and chemical test for DCS Pipes | 60 days | Thu Sep 1, '16 | Sun Oct 30, '16 |

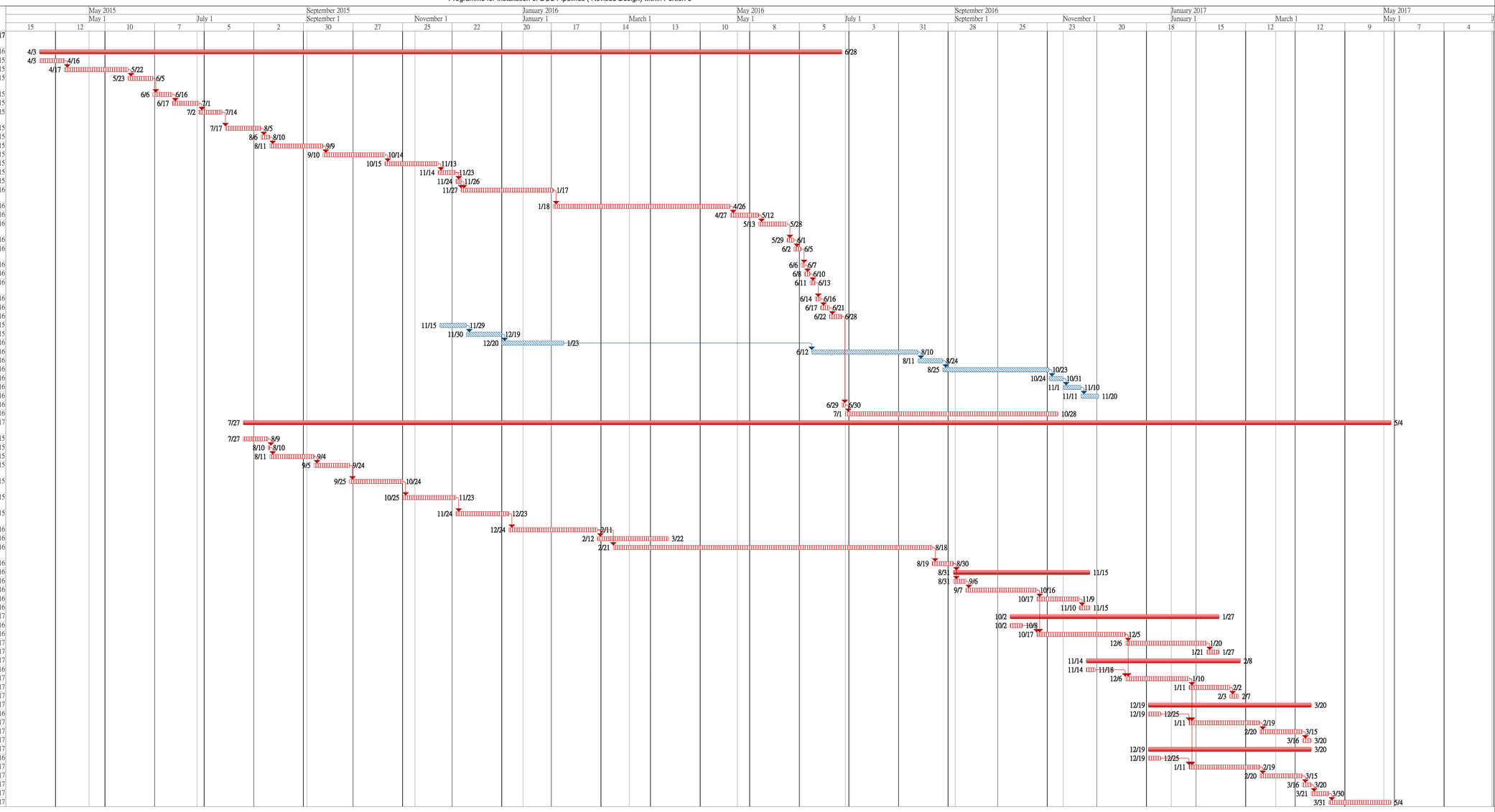



Critical tasks | Non-critical tasks | Working days | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone

Updated on 29 July 2016

Programme for Installation of DCS Pipelines ( Revised Design) within Portion 3

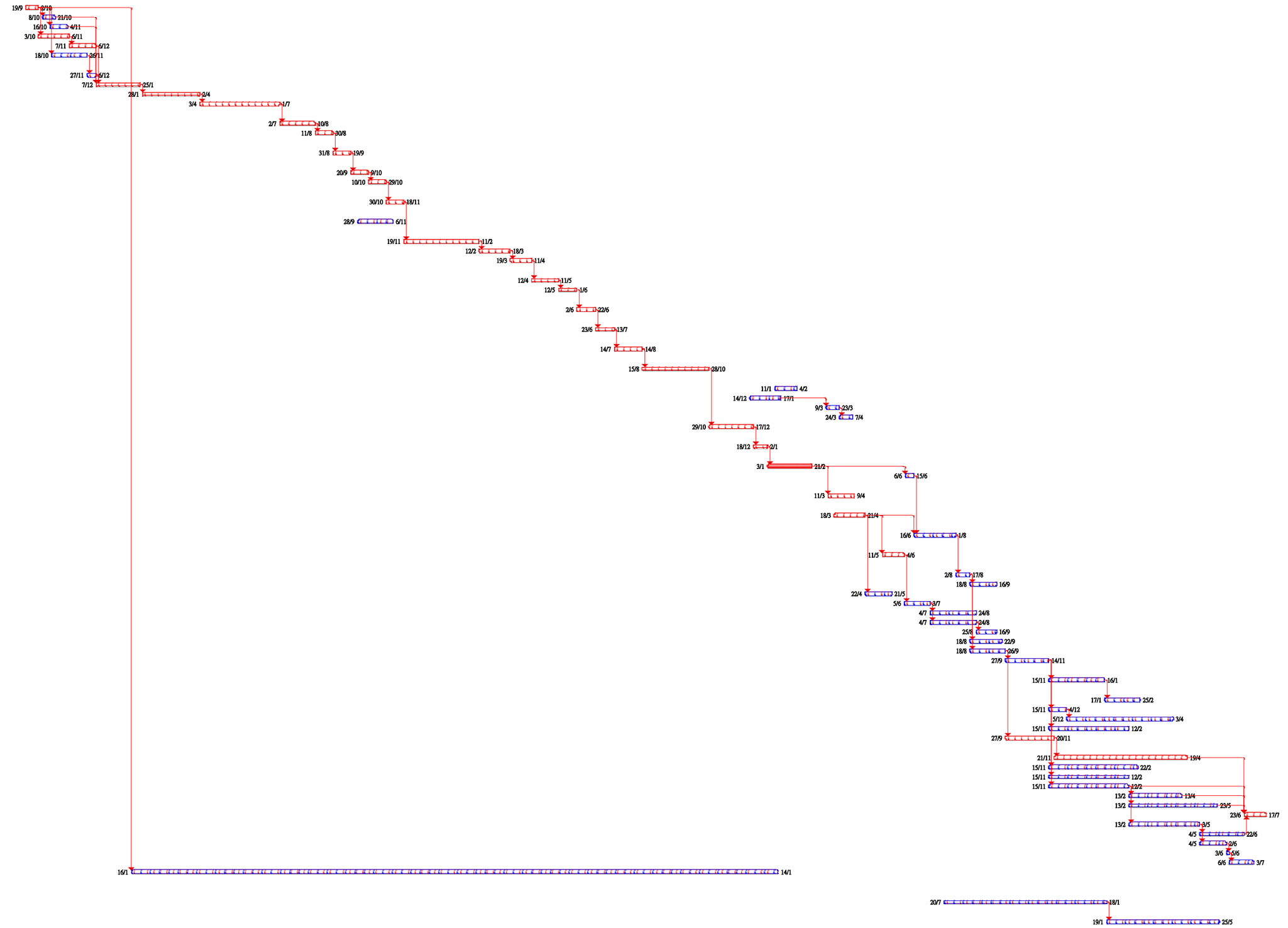
| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Section 7B: Open Cut Section and Heading Section** | **763 days** | **Fri Apr 3, '15** | **Thu May 4, '17** |
| 2 | **Western Approach** | 453 days | Fri Apr 3, '15 | Tue Jun 28, '16 |
| 3 | Submission for temporary ELS system and approval | 14 days | Fri Apr 3, '15 | Thu Apr 16, '15 |
| 4 | Install sheet piles at formation level | 36 days | Fri Apr 17, '15 | Fri May 22, '15 |
| 5 | Submission for revised temporary ELS system and approval | 14 days | Sat May 23, '15 | Fri Jun 5, '15 |
| 6 | Install waling | 11 days | Sat Jun 6, '15 | Tue Jun 16, '15 |
| 7 | Install strut | 15 days | Wed Jun 17, '15 | Wed Jul 1, '15 |
| 8 | Trench excavation down to 2m and 8m long for drilling horizontal pipe-piles | 13 days | Thu Jul 2, '15 | Tue Jul 14, '15 |
| 9 | Submission for heading method | 20 days | Fri Jul 17, '15 | Wed Aug 5, '15 |
| 10 | Comment on heading method | 5 days | Thu Aug 6, '15 | Mon Aug 10, '15 |
| 11 | Mobilization and set up for drilling works | 30 days | Tue Aug 11, '15 | Wed Sep 9, '15 |
| 12 | Drilling for 219 dia. pipe-piles | 35 days | Thu Sep 10, '15 | Wed Oct 14, '15 |
| 13 | Review design for heading method | 30 days | Thu Oct 15, '15 | Fri Nov 13, '15 |
| 14 | Grout trial to obtain design parameter | 10 days | Sat Nov 14, '15 | Mon Nov 23, '15 |
| 15 | Update method statement for heading method | 3 days | Tue Nov 24, '15 | Thu Nov 26, '15 |
| 16 | Upon grout trial successful, proceed with drilling for all grout holes and grouting | 52 days | Fri Nov 27, '15 | Sun Jan 17, '16 |
| 17 | Rectification of existing ELS system | 100 days | Mon Jan 18, '16 | Tue Apr 26, '16 |
| 18 | Release of suspension of works order | 16 days | Wed Apr 27, '16 | Thu May 12, '16 |
| 19 | Fixing bottom layer reinforcement bar (Additional works - no steel bar shown on original design) | 16 days | Fri May 13, '16 | Sat May 28, '16 |
| 20 | Concreting up to bottom level of sleeve pipe | 4 days | Sun May 29, '16 | Wed Jun 1, '16 |
| 21 | Install 1 no. DN2800 dia sleeve pipe and 4 nos. DN2100 dia. Sleeve pipe | 4 days | Thu Jun 2, '16 | Sun Jun 5, '16 |
| 22 | Concreting up to middle level of sleeve pipe | 2 days | Mon Jun 6, '16 | Tue Jun 7, '16 |
| 23 | Concreting up to top level of sleeve pipe | 3 days | Wed Jun 8, '16 | Fri Jun 10, '16 |
| 24 | Fixing top layer reinforcement bar (Additional works - no steel bar shown on original design) | 3 days | Sat Jun 11, '16 | Mon Jun 13, '16 |
| 25 | Concreting up to final level of concrete surround | 3 days | Tue Jun 14, '16 | Thu Jun 16, '16 |
| 26 | Backfilling and remove stage 1 strut and waling | 5 days | Fri Jun 17, '16 | Tue Jun 21, '16 |
| 27 | Remove sheetpiles and filling the gap | 7 days | Wed Jun 22, '16 | Tue Jun 28, '16 |
| 28 | Grade 400 rock fill (additional works) | 15 days | Sun Nov 15, '15 | Sun Nov 29, '15 |
| 29 | Blinding layer for PJ-N-02 | 20 days | Mon Nov 30, '15 | Sat Dec 19, '15 |
| 30 | Construct base slab of PJ-N-02 | 35 days | Sun Dec 20, '15 | Sat Jan 23, '16 |
| 31 | Construct wall of PJ-N-02 up to +3mPD | 60 days | Sun Jun 12, '16 | Wed Aug 10, '16 |
| 32 | Soil Backfilling up to +2.8mPD | 14 days | Thu Aug 11, '16 | Wed Aug 24, '16 |
| 33 | Construct top slab of PJ-N-02 | 60 days | Thu Aug 25, '16 | Sun Oct 23, '16 |
| 34 | Soil Backfilling up to formation level | 8 days | Mon Oct 24, '16 | Mon Oct 31, '16 |
| 35 | Remove strut and waling | 10 days | Tue Nov 1, '16 | Thu Nov 10, '16 |
| 36 | Remove sheetpiles and filling the gap | 10 days | Fri Nov 11, '16 | Sun Nov 20, '16 |
| 37 | Hand back the site to CCC's | 2 days | Wed Jun 29, '16 | Thu Jun 30, '16 |
| 38 | Construction of remaining box culvert by CCC's. | 120 days | Fri Jul 1, '16 | Fri Oct 28, '16 |
| 39 | **Section 7B: Open-cut Section & Heading from Eastern Approach** | 648 days | Mon Jul 27, '15 | Thu May 4, '17 |
| 40 | Submission for temporary ELS system and approval | 14 days | Mon Jul 27, '15 | Sun Aug 9, '15 |
| 41 | Site possession | 1 day | Mon Aug 10, '15 | Mon Aug 10, '15 |
| 42 | Install sheet piles | 25 days | Tue Aug 11, '15 | Fri Sep 4, '15 |
| 43 | Install 1st layer waling and strut and excavate to 2nd layer | 20 days | Sat Sep 5, '15 | Thu Sep 24, '15 |
| 44 | Install 2nd layer waling and strut and excavate to 3rd layer | 30 days | Fri Sep 25, '15 | Sat Oct 24, '15 |
| 45 | Install 3rd layer waling and strut and excavate to 4th layer | 30 days | Sun Oct 25, '15 | Mon Nov 23, '15 |
| 46 | Install 4th layer waling and strut and excavate to formation level | 30 days | Tue Nov 24, '15 | Wed Dec 23, '15 |
| 47 | Drilling for 50 dia. grout holes at 2 layers and grouting | 50 days | Thu Dec 24, '15 | Thu Feb 11, '16 |
| 48 | Strengthening existing ELS system | 40 days | Fri Feb 12, '16 | Tue Mar 22, '16 |
| 49 | Preparation of method statement for hand-shield construction and approval | 180 days | Sun Feb 21, '16 | Thu Aug 18, '16 |
| 50 | Mobilize equipment & materials | 12 days | Fri Aug 19, '16 | Tue Aug 30, '16 |
| 51 | **Pipeline 1 - DN2100** | 77 days | Wed Aug 31, '16 | Tue Nov 15, '16 |
| 52 | Ground treatment works | 7 days | Wed Aug 31, '16 | Tue Sep 6, '16 |
| 53 | Pipe jacking | 40 days | Wed Sep 7, '16 | Sun Oct 16, '16 |
| 54 | DN1400 installation works | 24 days | Mon Oct 17, '16 | Wed Nov 9, '16 |
| 55 | Annulus grout | 6 days | Thu Nov 10, '16 | Tue Nov 15, '16 |
| 56 | **Pipeline 5 - DN2800** | 118 days | Sun Oct 2, '16 | Fri Jan 27, '17 |
| 57 | Ground treatment works | 7 days | Sun Oct 2, '16 | Sat Oct 8, '16 |
| 58 | Pipe jacking | 50 days | Mon Oct 17, '16 | Mon Dec 5, '16 |
| 59 | CWP installation works | 46 days | Tue Dec 6, '16 | Fri Jan 20, '17 |
| 60 | Annulus grout | 7 days | Sat Jan 21, '17 | Fri Jan 27, '17 |
| 61 | **Pipeline 3 - DN2100** | 87 days | Mon Nov 14, '16 | Wed Feb 8, '17 |
| 62 | Ground treatment works | 5 days | Mon Nov 14, '16 | Fri Nov 18, '16 |
| 63 | Pipe jacking | 36 days | Tue Dec 6, '16 | Tue Jan 10, '17 |
| 64 | DN1400 installation works | 23 days | Wed Jan 11, '17 | Thu Feb 2, '17 |
| 65 | Annulus grout | 5 days | Fri Feb 3, '17 | Tue Feb 7, '17 |
| 66 | **Pipeline 2 - DN2100** | 92 days | Mon Dec 19, '16 | Mon Mar 20, '17 |
| 67 | Ground treatment works | 7 days | Mon Dec 19, '16 | Sun Dec 25, '16 |
| 68 | Pipe jacking | 40 days | Wed Jan 11, '17 | Sun Feb 19, '17 |
| 69 | DN1400 installation works | 24 days | Mon Feb 20, '17 | Wed Mar 15, '17 |
| 70 | Annulus grout | 5 days | Thu Mar 16, '17 | Mon Mar 20, '17 |
| 71 | **Pipeline 4 - DN2100** | 92 days | Mon Dec 19, '16 | Mon Mar 20, '17 |
| 72 | Ground treatment works | 7 days | Mon Dec 19, '16 | Sun Dec 25, '16 |
| 73 | Pipe jacking | 40 days | Wed Jan 11, '17 | Sun Feb 19, '17 |
| 74 | DN1400 installation works | 24 days | Mon Feb 20, '17 | Wed Mar 15, '17 |
| 75 | Annulus grout | 5 days | Thu Mar 16, '17 | Mon Mar 20, '17 |
| 76 | Removal of plant | 10 days | Tue Mar 21, '17 | Thu Mar 30, '17 |
| 77 | Backfilling and removal ELS system | 35 days | Fri Mar 31, '17 | Thu May 4, '17 |




Site Activity

Master Programme

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1398 days** | **Thu 19/9/13** | **Mon 17/7/17** |
| 2 | **Section 1: Works within Portion 1 and 3** | **1345 days** | **Thu 19/9/13** | **Thu 25/5/17** |
| 3 | **Construction of Sewerage Pumping Station PS2** | 1345 days | Thu 19/9/13 | Thu 25/5/17 |
| 4 | Site possession and preparation works | 14 days | Thu 19/9/13 | Wed 2/10/13 |
| 5 | Site clearance and setting out pumping station | 14 days | Tue 8/10/13 | Mon 21/10/13 |
| 6 | Initial survey | 20 days | Wed 16/10/13 | Mon 4/11/13 |
| 7 | Submission of baseline monitoring for EPD approval | 35 days | Thu 3/10/13 | Wed 6/11/13 |
| 8 | Approval of baseline monitoring by EPD | 30 days | Thu 7/11/13 | Fri 6/12/13 |
| 9 | Submission / approval of method statements and temporary works design | 40 days | Fri 18/10/13 | Tue 26/11/13 |
| 10 | Mobilization of plant and delivery of materials | 10 days | Wed 27/11/13 | Fri 6/12/13 |
| 11 | Construct sheet piling system | 50 days | Sat 7/12/13 | Sat 25/1/14 |
| 12 | Install waling and strut, excavation to -1 mPD | 65 days | Tue 28/1/14 | Wed 2/4/14 |
| 13 | Install waling and strut, excavation to the formation level | 90 days | Thu 3/4/14 | Tue 1/7/14 |
| 14 | Construct the base slab | 40 days | Wed 2/7/14 | Sun 10/8/14 |
| 15 | Construct 1st layer lower wall Grid C to D and Grid 2 to 5 | 20 days | Mon 11/8/14 | Sat 30/8/14 |
| 16 | Construct 1st layer lower wall Grid E to H and Grid 2 to 4 | 20 days | Sun 31/8/14 | Fri 19/9/14 |
| 17 | Construct the remaining base slab | 20 days | Sat 20/9/14 | Thu 9/10/14 |
| 18 | Construct 1 st layer lower wall Grid D to E and Grid 2 to 3 | 20 days | Fri 10/10/14 | Wed 29/10/14 |
| 19 | Construct 1st layer lower wall Grid D to E and Grid 3 to 5 | 20 days | Thu 30/10/14 | Tue 18/11/14 |
| 20 | Submission of ICE design for removal of 1st and 2nd layers of waling and strut | 40 days | Sun 28/9/14 | Thu 6/11/14 |
| 21 | Backfilling behind the wall up to -1.3mPD | 85 days | Wed 19/11/14 | Wed 11/2/15 |
| 22 | Removal of 2nd layer of waling and struts | 35 days | Thu 12/2/15 | Wed 18/3/15 |
| 23 | Construct 2nd layer lower wall Grid E to H and Grid 2 to 4 | 24 days | Thu 19/3/15 | Sat 11/4/15 |
| 24 | Removal of 2nd and 3rd layer of waling and struts | 30 days | Sun 12/4/15 | Mon 11/5/15 |
| 25 | Construct 2nd layer lower wall Grid D to E and Grid 2 to 3 | 21 days | Tue 12/5/15 | Mon 1/6/15 |
| 26 | Construct 2nd layer lower wall Grid D to E and Grid 3 to 5 | 21 days | Tue 2/6/15 | Mon 22/6/15 |
| 27 | Construct 2nd layer lower wall Grid C to D and Grid 2 to 5 | 21 days | Tue 23/6/15 | Mon 13/7/15 |
| 28 | Remove 1st layer waling and struts and then remove sheetpiles | 32 days | Tue 14/7/15 | Fri 14/8/15 |
| 29 | Construct ground floor slab except ground slab above intake and overflow pipe | 75 days | Sat 15/8/15 | Wed 28/10/15 |
| 30 | Install rising main CHA0-CHA15 | 25 days | Mon 11/1/16 | Thu 4/2/16 |
| 31 | Construct intake pipes | 35 days | Mon 14/12/15 | Sun 17/1/16 |
| 32 | Construct overflow pipes | 15 days | Wed 9/3/16 | Wed 23/3/16 |
| 33 | Construct remaining ground slab | 15 days | Thu 24/3/16 | Thu 7/4/16 |
| 34 | Construct wall, column, beam and roof Grid A to E and 1 to 2 and A to C and 2 to 5 | 50 days | Thu 29/10/15 | Thu 17/12/15 |
| 35 | Construct wall, column, beam and roof Grid C to E and 2 to 5 | 16 days | Fri 18/12/15 | Sat 2/1/16 |
| 36 | Revoking SN's | 50 days | Sun 3/1/16 | Sun 21/2/16 |
| 37 | Water tightness test for lower roof at transformer room at Grid D to E and 1 to 2 | 10 days | Mon 6/6/16 | Wed 15/6/16 |
| 38 | Construct wall, column, beam and roof Grid C to D and 2 to 5 | 30 days | Fri 11/3/16 | Sat 9/4/16 |
| 39 | Construct wall, column, beam and roof Grid D to E and 2 to 5 | 35 days | Fri 18/3/16 | Thu 21/4/16 |
| 40 | Construct double roof Grid A to E and 1 to 2 and A to C and 2 to 5 | 47 days | Thu 16/6/16 | Mon 1/8/16 |
| 41 | Construct wall, column, beam and roof Grid E to H and 1 to 5 | 25 days | Wed 11/5/16 | Sat 4/6/16 |
| 42 | Construct Double slab & fence wall | 16 days | Tue 2/8/16 | Wed 17/8/16 |
| 43 | Construct roof plinth & fence wall | 30 days | Thu 18/8/16 | Fri 16/9/16 |
| 44 | Construct corbel C to D | 30 days | Fri 22/4/16 | Sat 21/5/16 |
| 45 | Construct corbel E to F | 29 days | Sun 5/6/16 | Sun 3/7/16 |
| 46 | Construct plinth DO room | 52 days | Mon 4/7/16 | Wed 24/8/16 |
| 47 | Construct plinth screen room | 52 days | Mon 4/7/16 | Wed 24/8/16 |
| 48 | Construct plinth room for water booster system | 23 days | Thu 25/8/16 | Fri 16/9/16 |
| 49 | Staircase No.2 at Dry Well | 36 days | Thu 18/8/16 | Thu 22/9/16 |
| 50 | Working platform at wet well, drt well, screen channel | 40 days | Thu 18/8/16 | Mon 26/9/16 |
| 51 | Follow up defect works before architecural finish & mobilization | 49 days | Tue 27/9/16 | Mon 14/11/16 |
| 52 | Water tightness test for inlet chamber, screen channel and wet wells | 63 days | Tue 15/11/16 | Mon 16/1/17 |
| 53 | Install protective liner at the retaining structure | 40 days | Tue 17/1/17 | Sat 25/2/17 |
| 54 | Water tightness test for upper roof at transformer room | 20 days | Tue 15/11/16 | Sun 4/12/16 |
| 55 | Construct green roof system | 120 days | Mon 5/12/16 | Mon 3/4/17 |
| 56 | Architectural finishes (internal) | 90 days | Tue 15/11/16 | Sun 12/2/17 |
| 57 | Submission of method statement and preparation works for erection of cladding | 55 days | Tue 27/9/16 | Sun 20/11/16 |
| 58 | Erect cladding (external) | 150 days | Mon 21/11/16 | Wed 19/4/17 |
| 59 | Erect door, roller shutter etc. | 100 days | Tue 15/11/16 | Wed 22/2/17 |
| 60 | Erect handrailing, louvre etc. | 90 days | Tue 15/11/16 | Sun 12/2/17 |
| 61 | Construct storm drain and manholes | 90 days | Tue 15/11/16 | Sun 12/2/17 |
| 62 | Construct cable ducts and draw pits for PCCW | 60 days | Mon 13/2/17 | Thu 13/4/17 |
| 63 | Construct u-channel with cover along access road | 100 days | Mon 13/2/17 | Tue 23/5/17 |
| 64 | Construct access road inside PS | 25 days | Fri 23/6/17 | Mon 17/7/17 |
| 65 | Erect fence wall and mini bollard light | 80 days | Mon 13/2/17 | Wed 3/5/17 |
| 66 | Erect vehicular and man access | 50 days | Thu 4/5/17 | Thu 22/6/17 |
| 67 | Plants delivery for landscaping works | 30 days | Thu 4/5/17 | Fri 2/6/17 |
| 68 | Hydroseeding | 3 days | Sat 3/6/17 | Mon 5/6/17 |
| 69 | Tree and shurb planting | 28 days | Tue 6/6/17 | Mon 3/7/17 |
| 70 | Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately) | 729 days | Thu 16/1/14 | Thu 14/1/16 |
| 71 | E&M building service installation. (Detailed programme will be submitted separately) | 183 days | Wed 20/7/16 | Wed 18/1/17 |
| 72 | E&M building service testing & comissioning. (Detailed programme will be submitted separately) | 127 days | Thu 19/1/17 | Thu 25/5/17 |



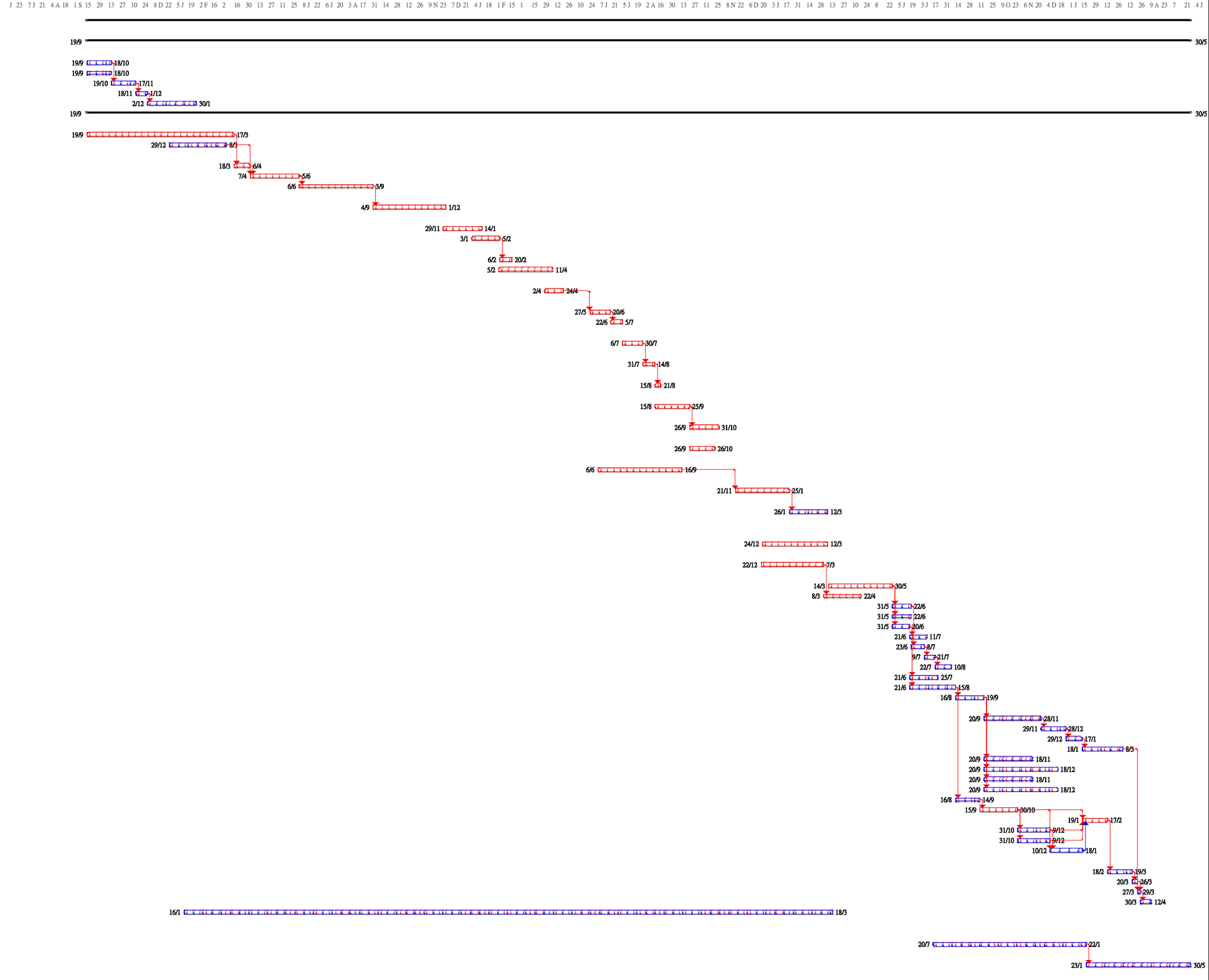

Critical tasks  Non-critical tasks  Working days

Commencement Date: 19 September 2013
Completion Date: 2 September 2016
Revised Completion Date: 25 May 2017

updated on 20 July 2016

Master Programme

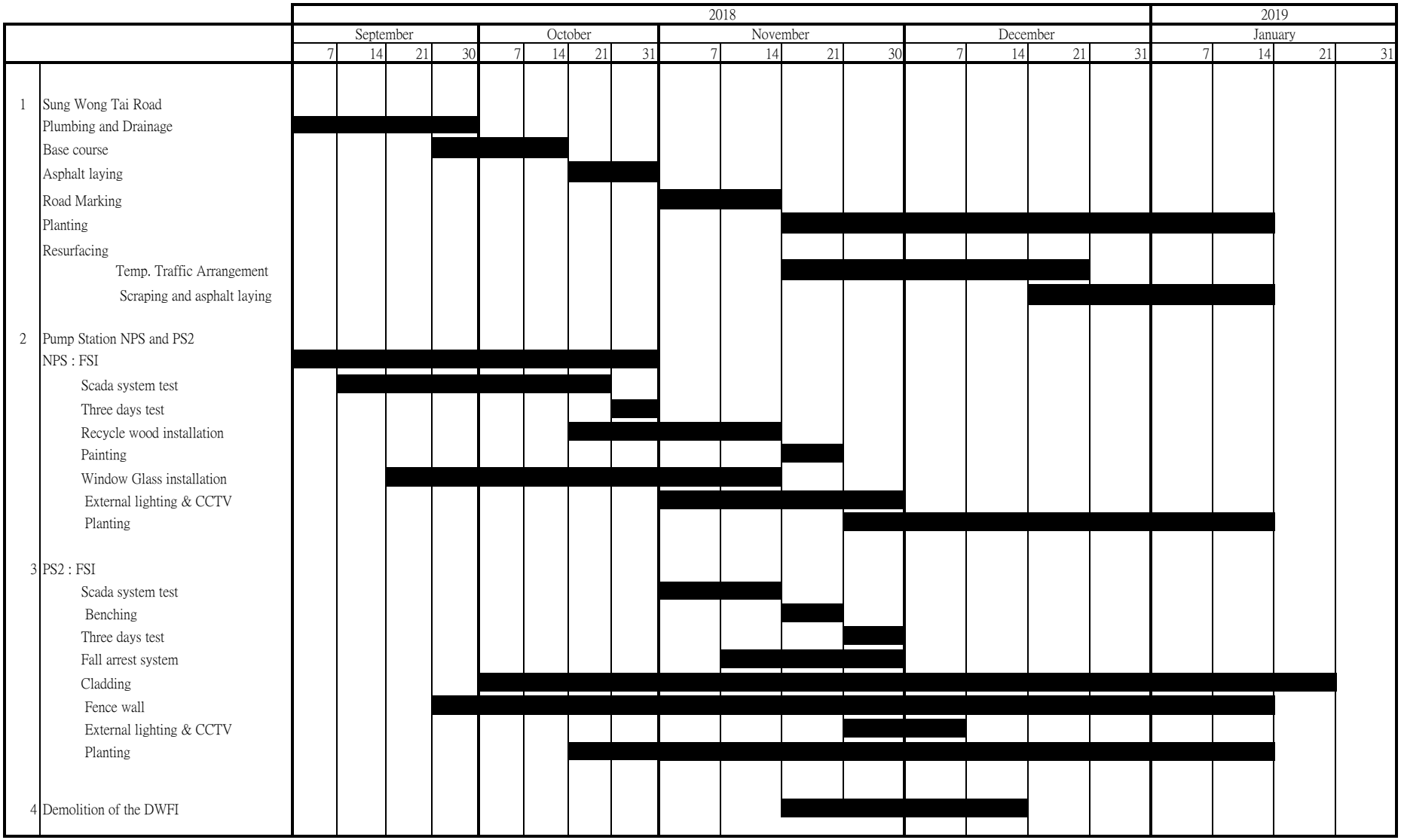
| ID | Task Name | Duration | Start | Finish | Predecessors |
|---|---|---|---|---|---|
| 1 | **Commence KL/2012/03 construction** | **1350 days** | **Thu 19/9/13** | **Tue 30/5/17** | |
| 2 | Commence KL/2012/03 construction | 0 days | Thu 19/9/13 | Thu 19/9/13 | |
| 3 | **Section 2: Works within Portion 1 and 4** | **1350 days** | **Thu 19/9/13** | **Tue 30/5/17** | |
| 4 | Setting out site boundary | 30 days | Thu 19/9/13 | Fri 18/10/13 | |
| 5 | Obtain underground utilities plans | 30 days | Thu 19/9/13 | Fri 18/10/13 | |
| 6 | Site clearance | 30 days | Sat 19/10/13 | Sun 17/11/13 | 4 |
| 7 | Initial survey | 14 days | Mon 18/11/13 | Sun 1/12/13 | 6 |
| 8 | Erect hoarding, chain link fence and vehicular gate | 60 days | Mon 2/12/13 | Thu 30/1/14 | 7 |
| 9 | **Construction of sewerage pumping station NPS** | **1350 days** | **Thu 19/9/13** | **Tue 30/5/17** | |
| 10 | Site Possession | 180 days | Thu 19/9/13 | Mon 17/3/14 | |
| 11 | Submission / approval of method statements and temporary work design | 70 days | Sun 29/12/13 | Sat 8/3/14 | |
| 12 | Mobilization | 20 days | Tue 18/3/14 | Sun 6/4/14 | 10 |
| 13 | Construct sheet piling system | 60 days | Mon 7/4/14 | Thu 5/6/14 | 12,11 |
| 14 | Install waling and strut, excavation to the formation level (1st and 2nd layers) | 90 days | Fri 6/6/14 | Wed 3/9/14 | 13 |
| 15 | Install waling and strut, excavation to the formation level (3rd layer) | 89 days | Thu 4/9/14 | Mon 1/12/14 | 14 |
| 16 | Construct the base slab | 47 days | Sat 29/11/14 | Wed 14/1/15 | |
| 17 | Construct the external and internal wall Grid E to G and Grid 2 to 3 up to -1.25 mPD | 34 days | Sat 3/1/15 | Thu 5/2/15 | |
| 18 | Backfilling works behind completed base slab and wall | 15 days | Fri 6/2/15 | Fri 20/2/15 | 17 |
| 19 | Construct the external wall Grid C to E and Grid 2 to 4 up to -0.95 mPD | 66 days | Thu 5/2/15 | Sat 11/4/15 | |
| 20 | Construct the external wall Grid C to E and Grid 1 to 2 up to -0.95 mPD | 23 days | Thu 2/4/15 | Fri 24/4/15 | |
| 21 | Construct the internal wall Grid D to E up to -0.95 mPD | 25 days | Wed 27/5/15 | Sat 20/6/15 | 20 |
| 22 | Backfilling works behind constructed wall and remove 2nd layer of waling and strut | 14 days | Mon 22/6/15 | Sun 5/7/15 | 21 |
| 23 | Construct the external wall Grid C to E and Grid 2 to 4 up to +2.25 mPD | 25 days | Mon 6/7/15 | Thu 30/7/15 | |
| 24 | Construct the external wall Grid C to E and Grid 1 to 2 up to +2..25 mPD | 15 days | Fri 31/7/15 | Fri 14/8/15 | 23 |
| 25 | Construct the internal wall Grid D to E up to +2.25 mPD | 7 days | Sat 15/8/15 | Fri 21/8/15 | 24 |
| 26 | Backfilling works behind constructed wall and remove 1st layer of waling and strut and sheetpiles | 42 days | Sat 15/8/15 | Fri 25/9/15 | |
| 27 | Construct the external and internal wall Grid A to E and Grid 1 to 2 up to +4.7 mPD | 36 days | Sat 26/9/15 | Sat 31/10/15 | 26 |
| 28 | Construct the external and internal wall Grid A to E and Grid 2 to 4 up to +4.7 mPD | 31 days | Sat 26/9/15 | Mon 26/10/15 | |
| 29 | Construct the external and internal wall Grid E to G and Grid 2 to 3 up to +4.7 mPD | 103 days | Sat 6/6/15 | Wed 16/9/15 | |
| 30 | Construct upper wall and column up to beam level Grid A to C and 1 to 5 | 66 days | Sat 21/11/15 | Mon 25/1/16 | 29 |
| 31 | Construct the beam and roof Grid A to C and 1 to 5, Only double ceiling will be divided into two layers for construction | 47 days | Tue 26/1/16 | Sat 12/3/16 | 30 |
| 32 | Construct upper wall and column up to beam level Grid E to G and 1 to 5 | 80 days | Thu 24/12/15 | Sat 12/3/16 | |
| 33 | Construct upper wall and column up to beam level Grid C to E and 1 to 5 | 77 days | Tue 22/12/15 | Mon 7/3/16 | |
| 34 | Construct the beam and roof Grid E to G and 1 to 5 | 78 days | Mon 14/3/16 | Mon 30/5/16 | |
| 35 | Construct the beam and roof Grid C to E and 1 to 5 | 46 days | Tue 8/3/16 | Fri 22/4/16 | 33 |
| 36 | Construct roof plinth and fence wall | 23 days | Tue 31/5/16 | Wed 22/6/16 | 34 |
| 37 | Construct ventilation house | 23 days | Tue 31/5/16 | Wed 22/6/16 | 34 |
| 38 | Construct corbel Grid Cto D | 21 days | Tue 31/5/16 | Mon 20/6/16 | 34 |
| 39 | Construct corbel Grid E to F | 21 days | Tue 21/6/16 | Mon 11/7/16 | 38 |
| 40 | Construct Plinth DO room 1 | 16 days | Thu 23/6/16 | Fri 8/7/16 | 36 |
| 41 | Construct Plinth DO room 2 | 13 days | Sat 9/7/16 | Thu 21/7/16 | 40 |
| 42 | Construct Plinth Room for waterbooster system | 20 days | Fri 22/7/16 | Wed 10/8/16 | 41 |
| 43 | Staircase No1 at Dry Well | 35 days | Tue 21/6/16 | Mon 25/7/16 | 38 |
| 44 | Working plantform at Wet well, Dry weel, screen channel | 56 days | Tue 21/6/16 | Mon 15/8/16 | 38 |
| 45 | Follow up defect works before arcectural finish works & mobilization | 35 days | Tue 16/8/16 | Mon 19/9/16 | 44 |
| 46 | Water tightness test for retaining structure | 70 days | Tue 20/9/16 | Mon 28/11/16 | 45 |
| 47 | Install protective liner at the retaining structure | 30 days | Tue 29/11/16 | Wed 28/12/16 | 46 |
| 48 | Water tightness test for the double ceiling | 20 days | Thu 29/12/16 | Tue 17/1/17 | 47 |
| 49 | Establishment of green roof system | 50 days | Wed 18/1/17 | Wed 8/3/17 | 48 |
| 50 | Architectural finishes (internal) | 60 days | Tue 20/9/16 | Fri 18/11/16 | 45 |
| 51 | Erect granite tile | 90 days | Tue 20/9/16 | Sun 18/12/16 | 45 |
| 52 | Erect louvre and door | 60 days | Tue 20/9/16 | Fri 18/11/16 | 45 |
| 53 | Erect handrailing and roller shutter etc. | 90 days | Tue 20/9/16 | Sun 18/12/16 | 45 |
| 54 | Install rising main | 30 days | Tue 16/8/16 | Wed 14/9/16 | 44 |
| 55 | Construct sewerage, drainage drain and manhole | 46 days | Thu 15/9/16 | Sun 30/10/16 | 54 |
| 56 | Construct assess road | 30 days | Thu 19/1/17 | Fri 17/2/17 | 59,55,58,57 |
| 57 | Construct cable ducts and draw pits for PCCW and CLP | 40 days | Mon 31/10/16 | Fri 9/12/16 | 55 |
| 58 | Construct u-channel with cover along access road | 40 days | Mon 31/10/16 | Fri 9/12/16 | 55 |
| 59 | Erect  vehicular and man access and mini bollard light | 40 days | Sat 10/12/16 | Wed 18/1/17 | 55,58,57 |
| 60 | Plants delivery for landscaping works | 30 days | Sat 18/2/17 | Sun 19/3/17 | 56 |
| 61 | Preparatory works for landscaping works | 7 days | Mon 20/3/17 | Sun 26/3/17 | 60 |
| 62 | Hydroseeding | 3 days | Mon 27/3/17 | Wed 29/3/17 | 61,49 |
| 63 | Tree and shurb planting | 14 days | Thu 30/3/17 | Wed 12/4/17 | 62 |
| 64 | Submission / approval of E&M services materials and delivery (Detailed programme will be submitted separately) | 793 days | Thu 16/1/14 | Fri 18/3/16 | |
| 65 | E&M building service installation. (Detailed programme will be submitted separately) | 187 days | Wed 20/7/16 | Sun 22/1/17 | |
| 66 | E&M building service Testing & Commissioning (Detailed programme will be submitted separately) | 128 days | Mon 23/1/17 | Tue 30/5/17 | 65 |




Critical tasks  Non-critical tasks  Working days

Commencement Date: 19 September 2013
Completion Date: 5 May 2016
Revised Completion Date: 30 May 2017

updated on 20 July 2016


2018
2019
September
October
November
December
January
7
14
21
30
31
1 Sung Wong Tai Road
Plumbing and Drainage
Base course
Asphalt laying
Road Marking
Planting
Resurfacing
Temp. Traffic Arrangement
Scraping and asphalt laying
2 Pump Station NPS and PS2
NPS : FSI
Scada system test
Three days test
Recycle wood installation
Painting
Window Glass installation
External lighting & CCTV
Planting
3 PS2 : FSI
Scada system test
Benching
Three days test
Fall arrest system
Cladding
Fence wall
External lighting & CCTV
Planting
4 Demolition of the DWFI

| | | 2019 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January | | | | February | | | | March | | | |
| | | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 28 | 7 | 14 | 21 | 31 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | |
| 4 | Road L6 footpath | | | | | | | | | | | | |

| | | 2019 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | April | | | | May | | | | June | | | | July | | | |
| | | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| 4 | Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

| | | 2019 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jul | | | | Aug | | | | Sept | | | | Oct | | | |
| | | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| 4 | Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

| | | 2019 | | | | | | | | | | | | | | | |
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| | | Aug | | | | Sept | | | | Oct | | | | Nov | | | |
| | | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Painting cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 4 | Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

| | | 2019 | | | | | | | | 2020 | | | | | | | |
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| | | Nov | | | | Dec | | | | Jan | | | | Feb | | | |
| | | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 29 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Painting cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 4 | Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

| | | 2020 | | | | | | | | | | | | | | | |
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| | | Feb | | | | Mar | | | | Apr | | | | May | | | |
| | | 7 | 14 | 21 | 29 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Painting cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 4 | Landscaping (Patch up) | | | | | | | | | | | | | | | | |
| 5 | Road L6 footpath | | | | | | | | | | | | | | | | |

| | | 2020 | | | | | | | | | | | | | | | |
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| | | May | | | | June | | | | July | | | | August | | | |
| | | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 | 7 | 14 | 21 | 30 | 7 | 14 | 21 | 31 |
| 1 | Sung Wong Tai Road | | | | | | | | | | | | | | | | |
| | Plumbing and Drainage | | | | | | | | | | | | | | | | |
| | Base course | | | | | | | | | | | | | | | | |
| | Asphalt laying | | | | | | | | | | | | | | | | |
| | Road Marking | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Resurfacing | | | | | | | | | | | | | | | | |
| | Temp. Traffic Arrangement | | | | | | | | | | | | | | | | |
| | Scraping and asphalt laying | | | | | | | | | | | | | | | | |
| 2 | Pump Station NPS and PS2 | | | | | | | | | | | | | | | | |
| | NPS : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Recycle wood installation | | | | | | | | | | | | | | | | |
| | Painting | | | | | | | | | | | | | | | | |
| | Window Glass installation | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
| | Made good defects | | | | | | | | | | | | | | | | |
| | Installing steel platforms | | | | | | | | | | | | | | | | |
| 3 | PS2 : FSI | | | | | | | | | | | | | | | | |
| | Scada system test | | | | | | | | | | | | | | | | |
| | Benching | | | | | | | | | | | | | | | | |
| | Three days test | | | | | | | | | | | | | | | | |
| | Fall arrest system | | | | | | | | | | | | | | | | |
| | Cladding | | | | | | | | | | | | | | | | |
| | Painting cladding | | | | | | | | | | | | | | | | |
| | Fence wall | | | | | | | | | | | | | | | | |
| | External lighting & CCTV | | | | | | | | | | | | | | | | |
| | Planting | | | | | | | | | | | | | | | | |
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