



Development at West Kowloon Cultural District

Monthly Environmental Monitoring and Audit
(EM&A) Report for February 2018

March 2018

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This Monthly EM&A Report has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).

Certified by:

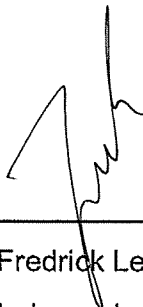


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13 Mar 2018

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Executive Summary

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex including the Foundation Works (Contract No.: CC/2015/3A/014) and L1 Contract (Contract No. CC/2017/3A/030) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCD). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 3 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/B (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO.

This Monthly EM&A Report presents the monitoring works at both the main works of M+ Museum and Lyric Theatre Complex conducted from 1 February to 28 February 2018.

Exceedance of Action and Limit Levels

There was no breach of Action or Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in this reporting month.

Implementation of Mitigation Measures

Construction phase weekly site inspections were carried out on 1, 8, 13 and 23 February 2018 for M+ Museum and 7, 14, 21, and 28 February 2018 for Lyric Theatre Complex to confirm the implementation measures undertaken by the Contractors in the reporting month. The outcomes are presented in Section 4 and the status of implementation of mitigation measures in the site is shown in **Appendix J**.

Landscape and visual impact inspections were conducted as part of the abovementioned weekly site inspections during the reporting month. No adverse comment on landscape and visual aspects was made during these inspections.

Record of Complaints

No environmental complaints were recorded in the reporting month.

Record of Notification of Summons and Successful Prosecutions

No notification of summons and successful prosecution were recorded in the reporting month.

Future Key Issues

The major site works at M+ Museum scheduled to be commissioned in the coming month include:

- M+ Main Works (Podium) construction of
 - B1/F Columns & Walls to G/F Slab
 - G/F Columns & Walls to 1/F & 1M/F Slab

- 1/F Columns & Walls to 2/F Slab
- 2/F Columns & Walls 3/F Slab
- M+ Building Construction (Tower) for M1, M2 & M3
- RDE Building Construction (Tower) of Zone A & B
- CSF Building Construction (Tower) of Zone A & B
- External Works for Seawater Outfall Pipe & DCS Chiller Pipes

The major site works for Lyric Theatre Complex scheduled to be commissioned in the coming month include:

- Excavation and lateral support works at area L06 and main cofferdam;
- Construction steel platform;
- Operation of barge; and
- Prepare PIW works.

Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

1 Introduction

1.1 Background

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex including the Foundation Works (Contract No.: CC/2015/3A/014) and L1 Contract (Contract No. CC/2017/3A/030) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCDA). The construction works and EM&A programme for M+ Museum and Lyric Theatre Complex commenced on 31 October 2015 and 1 March 2016 respectively.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 3 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/B (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO. The captioned projects include part of the abovementioned underpass road located within the site boundary also falls under this same category.

The M+ museum development aims to provide an iconic presence for the M+ museum, semi-transparent vertical plane, housing education facilities, a public restaurant and museum offices. At ground and lower levels, generous access will be provided to the park and other West Kowloon Cultural District facilities, alongside a public resource centre, theatres, retail and dining, and back-of-house functions.

The 1,200-seat Lyric Theatre Complex will be Hong Kong’s first world-class facility for dance performances, including ballet, contemporary and Chinese dance forms. In the run up to the opening of further major performing arts venues in the WKCD, it will also be used for a wide variety of performing arts events including drama, opera and musical performances. The Lyric Theatre Complex will act as a platform for Hong Kong’s leading arts organisations, and be a new major venue to show programmes from Asia and worldwide.

The Monthly EM&A Report is prepared in accordance with the Condition 3.4 of the Environmental Permit No. EP-453/2013/B. This Monthly EM&A Report presents the monitoring works at both the main works of M+ Museum and Lyric Theatre Complex conducted from 1 February to 28 February 2018. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

1.2 Project Organisation

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

1.3 Environmental Status in the Reporting Period

During the reporting period, construction works at M+ Museum undertaken include:

- M+ Construction Main Works of walls & columns, external walls, slab and beam construction on B1/F, G/F, 1/F to 1M/F, 2/F, 3/F, 4/F to 5/F

- RDE building construction of column, walls and beams from 1/F to 4/F
- CSF building construction of columns, walls and beams from 3/F to 4/F slab
- External works for seawater outfall pipe and DCS chiller pipe

During the reporting period, construction works at Lyric Theatre Complex undertaken include:

- King post installation; and
- Excavation and lateral support works at area L06

The Construction Works Programmes of M+ Museum and Lyric Theatre Complex are provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**. Please refer to **Table 4.3** on the status of the environmental licenses.

1.4 Summary of EM&A Requirements

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

A summary of impact EM&A requirements is presented in **Table 1.1**.

Table 1.1: Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies
Air Quality	24-Hour TSP	AM1 - International Commerce Centre	At least once every 6 days
	1-Hour TSP	AM1 - International Commerce Centre	At least 3 times every 6 days
	24-Hour TSP	AM2A – Austin Road West opposite to The Harbourside Tower 1	At least once every 6 days
	1-Hour TSP	AM2A – Austin Road West opposite to The Harbourside Tower 1	At least 3 times every 6 days
Noise	Leq, 30 minutes	NM1A- Podium level of The Harbourside Tower 1	Weekly
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly

Given that the Project covers only a small part of the whole WKCD area (i.e. M+ Museum, Lyric Theatre Complex and respective portions of underpass road), it was proposed that the EM&A programme for the Project should only require 1 noise monitoring station and 2 air quality monitoring stations located closest to the Project area. Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1, AM2 and NM1 were set up. Other monitoring locations are too far away (i.e. AM3 to AM5 and NM2 to NM5) are not included in this EM&A programme until the construction of the corresponding area commences.

The Harbourside management office formally rejected our proposal of setting up air quality and noise monitoring equipment on its premises at the podium level of Tower 1 (AM2/NM1) on 10 November 2015. Alternative noise monitoring location was identified at The Arch (NM2), however The Arch management office formally rejected our proposal of setting up noise monitoring equipment on its premises on 23 November 2015. Nevertheless, suitable air quality monitoring location at AM2 was identified on the ground floor in front of The Harbourside Tower 1, which is at the same location as that of baseline monitoring for consistency. No management approval is required at the ground floor for conducting the air monitoring. However, the electricity supply at AM2 was suspended from 31 August 2016 and was no longer available. In order to have a more secure electricity supply, an alternative air monitoring location (AM2A) was identified at Austin Road West opposite to The Harbourside Tower 1, which is close to Lyric Theatre Complex site entrance. This alternative air monitoring location was approved by EPD on 28 September 2016. Noise monitoring at G/F of Harbourside will not be

representative. Approval from the management office of the International Commerce Centre has been granted on 29 February 2016 for conducting noise monitoring at the alternative noise monitoring location identified at the podium floor (NM1A) which is free from screening to the construction activities. Therefore, 2 air quality monitoring stations and 1 noise impact monitoring station were confirmed for the impact monitoring.

The Environmental Quality Performance Limits for air quality and noise are shown in **Appendix C**.

The Event and Action Plan for air quality, construction noise, landscape and visual are shown in **Appendix D**.

The EM&A programme followed the recommended mitigation measures in the EM&A Manual. The EM&A requirements as well as the summary of implementation status of the environmental mitigation measures are provided in **Appendix J**.

2 Impact Monitoring Methodology

2.1 Introduction

For air quality and noise, the monitoring methodology, including the monitoring locations, monitoring equipment used, monitoring parameters, and frequency and duration etc., for air quality and noise are detailed in this Section. The environmental monitoring schedules for the reporting period and the tentative monitoring Schedule for the coming month are provided in **Appendix E**.

For landscape and audit impact, the relevant EM&A monitoring requirements and details are also presented in this Section.

2.2 Air Quality

2.2.1 Monitoring Parameters, Frequency and Duration

Table 2.1 summarizes the monitoring parameters, frequency and duration of the TSP monitoring.

Table 2.1: Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency	Duration
24-hour TSP	At least once in every six-days	24 hours
1-hour TSP	At least 3 times every six-days	60 minutes

2.2.2 Monitoring Locations

Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring stations AM1 and AM2A were set up at the proposed locations in accordance with updated EM&A Manual. Location of the monitoring station is given in **Table 2.2** and shown in **Figure 1**.

Table 2.2: Air Quality Monitoring Station

Monitoring Station	Location
AM1	International Commerce Centre (ICC)
AM2A	Austin Road West opposite to The Harbourside Tower 1

2.2.3 Monitoring Equipment

Continuous 24-hour TSP air quality monitoring was conducted using High Volume Sampler (HVS) (Model: TE-5170) located at the designated monitoring station. The HVS meets all the requirements stated in of the EM&A Manual. Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. **Table 2.3** summarizes the equipment used in the impact air quality monitoring. Copies of the calibration certificates for the HVS, calibration kit and portable dust meters are attached in **Appendix F**.

Table 2.3: TSP Monitoring Equipment

Equipment	Model
24-hour TSP monitoring	
High Volume Sampler	TE-5170 (Serial No.: 0767 and 8919)
Calibrator	TE-5025A (Orifice I.D.: 2454)
1-hour TSP monitoring	
Portable direct reading dust meter	Sibata LD-3B (Serial No.: 245833 and 276015)

Calibration of the HVS (five point calibration) using Calibration Kit was carried out every two months. The HVS calibration orifice will be calibrated annually. Calibration certificate of the TE-5025A Calibration Kit and the HVS are provided in **Appendix F**

The 1-hour TSP monitoring should be determined periodically (e.g. annually) by the HVS to check the validity and accuracy of the results measured by direct reading method.

2.2.4 Monitoring Methodology

24-hour TSP Monitoring

Installation

The HVS was installed at the site boundary. The following criteria were considered in the installation of the HVS.

- A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
- The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
- A minimum of 2 metres separation from walls, parapets and penthouse was required for rooftop sampler.
- A minimum of 2 metres separation from any supporting structure, measured horizontally was required.
- No furnace or incinerator flues or building vent were nearby.
- Airflow around the sampler was unrestricted.
- The sampler has been more than 20 metres from any drip line.
- Permission was obtained to set up the sampler and to obtain access to the monitoring station.
- A secured supply of electricity is needed to operate the sampler.

Preparation of Filter Papers

- Glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected.
- The filters used are specified to have a minimum collection efficiency of 99 percent for 0.3 µm (DOP) particles.
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C with relative humidity (RH) < 50% and was not variable by more than ±5 %. A convenient working RH was 40%. All preparation of filters was done by Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory.

Field Monitoring Procedures

- The power supply was checked to ensure the HVS works properly.
- The filter holder and the area surrounding the filter were cleaned.
- The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges.
- The shelter lid was closed and was secured with the aluminium strip.
- The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flow rate record sheet was set into the flow recorder.
- The flow rate of the HVS was checked and adjusted at around 1.3 m³/min. The range specified in the EM&A Manual was between 0.6-1.7 m³/min.

- The programmable timer was set for a sampling period of 24 hours, and the starting time, weather condition and the filter number were recorded.
- The initial elapsed time was recorded.
- At the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- It was then placed in a clean plastic envelope and sealed.
- All monitoring information was recorded on a standard data sheet.
- Filters were sent to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory for analysis.

Maintenance and Calibration

- The HVS and its accessories are maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVSs were calibrated upon installation and thereafter at bi-monthly intervals. The calibration kits were calibrated annually.
- Calibration records for HVS and calibration kit are shown in **Appendix F**.

1-hour TSP Monitoring

Field Monitoring

The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

- Turn the power on.
- Close the air collecting opening cover.
- Push the "TIME SETTING" switch to [BG].
- Push "START/STOP" switch to perform background measurement for 6 seconds.
- Turn the knob at SENSI ADJ position to insert the light scattering plate.
- Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- Pull out the knob and return it to MEASURE position.
- Setting time period of 1 hour for the 1-hour TSP measurement.
- Push "START/STOP" to start the 1-hour TSP measurement.
- Regular checking of the time period setting to ensure monitoring time of 1 hour.

Maintenance and Calibration

- The 1-hour dust meter would be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of the air quality monitoring.
- Calibration records for direct dust meters are shown in **Appendix F**.

Weather Condition

- Meteorological data extracted from Hong Kong Observatory for the reporting month is provided in **Appendix H**.

2.3 Noise

2.3.1 Monitoring Parameters, Frequency and Duration

Table 2.4 summarizes the monitoring parameters, frequency and duration of noise monitoring. The noise in A-weighted levels L_{eq} , L_{10} and L_{90} are recorded in a 30-minute interval between 0700 and 1900 hours.

Table 2.4: Noise Monitoring Parameters, Period and Frequency

Time Period	Parameters	Frequency
Daytime on normal weekdays (0700-1900 hours)	$L_{eq}(30 \text{ min})$, $L_{90}(30 \text{ min})$ & $L_{10}(30 \text{ min})$	Once every week

2.3.2 Monitoring Location

Currently, the works under the captioned project are confined in the western part of the WKCD site. Therefore, only the monitoring station NM1A was set up at the proposed location in accordance with updated EM&A Manual. Location of the monitoring station is given in **Table 2.5** and shown in **Figure 1**.

Table 2.5: Noise Monitoring Station

Monitoring Station	Location
NM1A	Podium floor of International Commerce Centre (ICC)

2.3.3 Monitoring Equipment

Integrating Sound Level Meter was used for noise monitoring. It was a Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{Aeq}) and percentile sound pressure level (L_x). They comply with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). **Table 2.6** summarizes the noise monitoring equipment model being used.

Table 2.6: Noise Monitoring Equipments

Monitoring Station	Equipment Model	
	Integrating Sound Level Meter	Calibrator
NM1A	Rion NL-18 (Serial No.00360030)	Rion NC-73 (Serial No.10486660)

2.3.4 Monitoring Methodology

Field Monitoring

- The microphone of the Sound Level Meter was set at least 1.2 m above the ground.
- Free Field measurement was made at the monitoring locations.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting: A
 - time weighting: Fast
 - time measurement: 30 minutes intervals (between 0700-1900 on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1 kHz. If the difference in the calibration level before and after measurement was more than 1 dB, the measurement would be considered invalid and has to be repeated after re-calibration or repair of the equipment.
- During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, any site observations and noise sources were recorded on a standard record sheet.
- A correction of +3dB(A) was made to the free field measurements.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.

- The sound level meter and calibrator are sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- Calibration records are shown in **Appendix F**.

Weather Condition

- Meteorological data extracted from Hong Kong Observatory for the reporting month is provided in **Appendix H**.

2.4 Landscape and Visual

2.4.1 Monitoring Program

Table 2.7 details the monitoring program (as proposed in the WKCD EIA report) for landscape and visual impact during the construction phase.

Table 2.7: Monitoring Program for Landscape and Visual Impact during Construction Phase

Stage	Monitoring Task	Frequency	Report	Approval
Construction	Monitor implementation of proposed mitigation measures during the construction stage.	Bi-weekly	ET to report on Contractor's compliance	Counter-signed by IEC

During the landscape and visual impact monitoring, any changes in relation to the landscape and visual amenity should be monitored with reference to the baseline conditions of the site. In addition, mitigation measures were proposed in the WKCD EIA report to minimise the landscape and visual impacts during the construction phase. The proposed mitigation measures as shown in Table 9.1 and Table 9.2 of the EM&A Manual should be checked for proper implementation.

3 Monitoring Results

3.1 Impact Monitoring

Construction impact monitoring for air quality, noise and landscape and visual impact was undertaken in compliance with the EM&A Manual during the reporting month.

3.2 Air Quality Monitoring

3.2.1 1-hour TSP

Results of 1-hour TSP at the monitoring location AM1 and AM2A are summarised in **Table 3.1**. Graphical plots of the monitoring results are shown in **Appendix G**.

Table 3.1: Summary of 1-hour TSP monitoring results

Monitoring Station	Monitoring Date	Start Time	1-hour TSP ($\mu\text{g}/\text{m}^3$)			Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Result	2nd Result	3rd Result			
AM1	01-Feb-18	10:50	75	83	91	41-91	273.7	500
	07-Feb-18	10:52	62	49	55			
	13-Feb-18	10:47	49	55	56			
	15-Feb-18	7:50	71	68	66			
	21-Feb-18	10:52	77	84	91			
	26-Jan-18	10:32	41	48	50			
AM2A	01-Feb-18	11:02	77	87	96	59-101	274.2	500
	07-Feb-18	11:04	101	92	90			
	13-Feb-18	11:02	69	78	71			
	15-Feb-18	8:02	91	81	70			
	21-Feb-18	11:04	79	86	93			
	26-Feb-18	10:46	64	61	59			

3.2.2 24-hour TSP

Results of 24-hour TSP at the monitoring location AM1 and AM2A are summarised in **Table 3.2**. Graphical plots of the monitoring results are shown in **Appendix G**.

Table 3.2: Summary of 24-hour TSP monitoring results

Monitoring Station	Monitoring Date	Start Time	Monitoring Results ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM1	01-Feb-18	14:40	39	34-43	143.6	260
	07-Feb-18	10:50	43			
	13-Feb-18	10:45	38			
	15-Feb-18	07:48	43			
	21-Feb-18	10:50	41			
	26-Jan-18	10:30	34			
AM2A	01-Feb-18	11:00	88	54-98	151.1	260
	07-Feb-18	11:02	85			
	13-Feb-18	11:00	79			

Monitoring Station	Monitoring Date	Start Time	Monitoring Results ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
	15-Feb-18	08:00	54			
	21-Feb-18	11:02	98			
	26-Feb-18	10:44	69			

No exceedance of 1-hour and 24-hour TSP (Action or Limit Level) was recorded in the reporting period.

3.3 Noise Monitoring

The construction noise monitoring results at the monitoring location NM1A are summarized in **Table 3.3**. Graphical plots of the monitoring data and the station set-up of a free-field measurement are shown in **Appendix G**.

Table 3.3: Summary of noise monitoring results during normal weekdays

Monitoring Date	Start Time	End Time	Leq (30 mins), dB(A)	Limit Level for Leq (dB(A))
01-Feb-18	14:00	14:30	70	
07-Feb-18	14:00	14:30	67	
13-Feb-18	14:00	14:30	68	75
21-Feb-18	14:00	14:30	68	
26-Feb-18	14:00	14:30	68	

Remarks:

+3dB (A) correction was applied to free-field measurement.

No exceedance (Action/Limit Level) of construction noise was recorded in the reporting period as no noise related environmental complaint was received during the reporting period and noise levels recorded during the monitoring period were below 75 dB(A).

Construction works were extended to holidays on 4, 11, 18 and 25 February 2018. In accordance with the EM&A Manual, additional monitoring was carried out during the restricted hours on 4, 11, 18 and 25 February 2018. All the L_{eq} (5 mins) is in the range of 59-61 dB(A). Major noise source includes traffic. Construction Noise Permits for the works carried out during restricted hours were obtained and listed in **Table 4.3**.

3.4 Landscape and Visual Impact

Landscape and visual impact inspections were conducted as part of the weekly site inspections on 1 and 13 February 2018 for M+ Museum and 14 and 28 February 2018 for Lyric Theatre Complex during the reporting month. As reviewed by the registered Landscape Architect, no adverse comment on landscape and visual aspects was made during these inspections.

The landscape and visual mitigation measures were implemented during the reporting period. The summary of implementation status of the environmental mitigation measures are provided in **Appendix J**.

4 Environmental Site Inspection

4.1 Site Inspection

4.1.1 M+ Museum

Construction phase weekly site inspections were carried out on 1, 8, 13 and 23 February 2018. The joint site inspection with IEC, ET, ER and Contractor was held on 23 February 2018. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. The key observations from the site inspections and associated recommendations are summarized in **Table 4.1**.

Table 4.1: Summary of Site Inspections and Recommendations for M+ Museum

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
1 Feb 2018	Air quality	Cement bags at B2 were found without proper cover. The contractor was reminded to cover them with impervious sheeting to reduce dust impact.	The contractor has covered the cement bags at B2 with impervious sheeting.	6 Feb 2018
1 Feb 2018	Water quality	Effluent quality at wetsep no. 4 was checked. It was found visually clear when comparing with standard solution and within proper pH range. The contractor was reminded to provide maintenance log book and drainage layout plan for wetsep no.1 and 2.	The contractor has provided maintenance record and drainage layout plan for wetsep no.1 and 2.	8 Feb 2018
8 Feb 2018	Water quality	The pH of wetsep no.2 was found marginally higher than 9. Though wetsep no. 2 was not in use, the contractor was reminded to check the pH sensor to ensure its proper function.	The contractor has checked wetsep no.2 and the pH level was found within proper range.	12 Feb 2018
8 Feb 2018	Air quality	Cement bags at B2 were found only partially covered by impervious sheeting. The contractor was reminded to well cover all cement bags with impervious sheeting to reduce dust impact.	The contractor has covered the cement bags at B2 with impervious sheeting.	12 Feb 2018
8 Feb 2018	Water quality	Effluent quality at wetsep no. 1 was checked. It was found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A
13 Feb 2018	Waste management	A chemical container was found without drip tray at CSF G/F. The contractor was reminded to provide drip tray for the chemical or remove it if not in use.	The contractor has removed the chemical container previously found without drip tray.	21 Feb 2018
13 Feb 2018	Air quality	Cement bags were found without proper cover at B1. The contractor was reminded to well cover it with impervious sheeting to reduce dust impact.	The contractor has removed the cement bags at B1.	21 Feb 2018
13 Feb 2018	Water quality	Effluent quality of wetsep no.1 was checked. It was found visually clear when comparing	N/A	N/A

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
		with standard solution and within proper pH range.		
23 Feb 2018	Air quality	Uncovered cement bags were found at B2. The contractor was reminded to well cover them with imperious sheeting to reduce dust impact.	The cement bags at B2 were covered with imperious sheeting.	27 Feb 2018
23 Feb 2018	Waste management	Chemical containers were found without drip tray at B2. The contractor was reminded to provide drip tray for the chemical containers or remove them if not in use.	The chemical containers at B2 were removed.	27 Feb 2018
23 Feb 2018	Water quality	Effluent quality of wetsep no.1 was checked. They were found visually clear when comparing with standard solution and within proper pH range.	N/A	N/A

4.1.2 Lyric Theatre Complex

Construction phase weekly site inspections were carried out on 7, 14, 21, and 28 February 2018. The joint site inspection with IEC, ET, ER and Contractor was held on 14 February 2018. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary.

The key observations from the site inspections and associated recommendations are summarized in **Table 4.2**.

Table 4.2: Summary of Site Inspections and Recommendations for Lyric Theatre Complex

Inspection Date	Parameter	Observation / Recommendation	Contractor's Responses / Action(s) Undertaken	Close-out (Date)
31 Jan 2018	Water quality	Turbid water at wetsep. The Contractor was reminded to clear the turbid substance to keep good quality of discharge water.	Turbid substance was cleared to keep good quality of discharge water.	1 Feb 2018
14 Feb 2018	Air quality	Dry haul road was observed near car park. The Contractor was reminded to increase water spraying frequency to avoid dust impact.	Water spraying frequency had been increased to avoid dust impact.	20 Feb 2018
14 Feb 2018	Water quality	The Contractor was reminded to enhance the bunding along the seafront to prevent potential muddy runoff.	Bunding along the seafront was enhanced to prevent potential muddy runoff.	20 Feb 2018
28 Feb 2018	Water quality	No net was observed at the new Wetsep. The Contractor was reminded to install a net at the outlet of Wetsep in order to screen the suspended object if any.	Follow-up status will be provided in the next reporting month.	On-going

4.2 Advice on the Solid and Liquid Waste Management Status

The Contractors have been registered as a chemical waste producer for the Project. Construction and demolition (C&D) material sorting will be carried out on site. A sufficient number of receptacles were available for general refuse collection.

4.2.1 M+ Museum

As advised by the Contractor, 43.01 tonnes, 77.23 tonnes and 488.05 tonnes of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tuen Mun Area 38 and Tseung

Kwan O Area 137 Public Fill respectively, while 154.9 tonnes of general refuse were disposed of at SENT landfill. 34.0 tonnes of metals, 1.0 tonne of paper/cardboard packaging, 0 tonne of plastic and 100.0 tonnes of timber were collected by recycling contractors in the reporting month. 0 tonne of inert C&D materials was reused on site. 0 tonne of inert C&D materials were reused in other projects and 239.3 tonnes of inert C&D materials were disposed to sorting facility. 0 tonne of chemical waste was collected by licensed contractors in the reporting period.

The actual amounts of different types of waste generated by the activities of construction works at M+ Museum in the reporting month are shown in **Appendix I**.

4.2.2 Lyric Theatre Complex

As advised by the Contractor, no inert C&D material were disposed of as public fill to Tseung Kwan O Area 137 and Tuen Mun Area 38, while 1.5 tonnes of general refuse were disposed of at SENT landfill. 0 tonne of metals, 0 tonne of paper/cardboard packaging, 0 tonne of plastic and 0 tonne of timber were collected by recycling contractors in the reporting month. 0 tonne of inert C&D materials was reused on site. 0 tonnes of inert C&D materials were reused in other projects and 0 tonne of inert C&D materials were disposed to sorting facility. 0 tonne of chemical waste was collected by licensed contractors in the reporting period.

The actual amounts of different types of waste generated by the activities of construction works at Lyric Theatre Complex in the reporting month are shown in **Appendix I**.

4.3 Status of Environmental Licenses and Permits

The environmental permits, licenses, and/or notifications on environmental protection for this Project which were valid during the period are summarised in **Table 4.3-4.4**.

4.3.1 M+ Museum

Table 4.3: Status of Environmental Submissions, Licenses and Permits for M+ Museum

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Chemical Waste Producer Registration				
5213-217-H2913-45	05-Nov-15	--	Valid	--
Billing Account Construction Waste Disposal				
7023393	13-Oct-15	--	Account Active	--
Construction Noise Permit				
GW-RE0999-17	2-Jan-18	1-Apr-18	Valid	--
Wastewater Discharge License				
WT00023633-2016	4-Mar-16	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
394083	7-Oct-15	--	Notified	--

4.3.2 Lyric Theatre Complex

Table 4.4: Status of Environmental Submissions, Licenses and Permits for Lyric Theatre Complex

Permit / License No. / Notification / Reference No.	Valid Period		Status	Remarks
	From	To		
Chemical Waste Producer Registration				
5213-217-G2347-39	17-Feb-16	--	Valid	--
Billing Account Construction Waste Disposal				
7029925	22-Jan-18	--	Account Active	--
Construction Noise Permit				
GW-RE0844-17	14-Nov-17	13-May-18	Valid	--
Wastewater Discharge License				
WT00023648-2016	24-Jul-17	31-Mar-21	Valid	--
Notification under Air Pollution Control (Construction Dust) Regulation				
429708	16-Jan-18	--	Notified	--

4.4 Recommended Mitigation Measures

The EM&A programme followed the recommended mitigation measures in the EM&A Manual. The EM&A requirements as well as the summary of implementation status of the environmental mitigation measures are provided in **Appendix J**. In particular, the following mitigation measures were brought to attention during the site inspections:

4.4.1 M+ Museum

Chemical and Waste Management

- Oil drums and chemical containers should be provided with drip trays to prevent leakage of chemical wastes.

Air Quality

- Maintain high standard of housekeeping to prevent emission of fugitive dust.
- Stockpile of dusty materials/ cement bags should be well covered by impervious sheeting to reduce dust impact.

Water Quality

- Regular checking of pH sensor should be conducted for all wetsep units, so as to ensure the treatment performance of the wetsep units.
- Provide maintenance log book and drainage layout plan for all wetsep units for easier checking

4.4.2 Lyric Theatre Complex

Air Quality

- Regular water spraying for haul roads should be provided for dust suppression.

Water Quality

- Regular maintenance should be provided to all wetsep units, including installation of a net outlet, so as to ensure the treatment performance of the wetsep units.
Cannels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities.

5 Compliance with Environmental Permit

The status of the required submission under the EP during the reporting period is summarized in **Table 5.1**.

Table 5.1: Status of Submissions under the Environmental Permit

EP Condition	Submission	Submission Date
Condition 3.4	Monthly EM&A Report for January 2018	14 February 2018

6 Report in Non-compliance, Complaints, Notification of Summons and Successful Prosecutions

6.1 Record on Non-compliance of Action and Limit Levels

There was no breach of Action or Limit Levels for Air Quality and Noise monitoring in the reporting month.

6.2 Record on Environmental Complaints Received

No environmental complaints were recorded in the reporting month. The cumulative statistics on complaints were provided in **Appendix K**.

6.3 Record on Notifications of Summons and Successful Prosecution

No notifications of summons or successful prosecution were received this month. The cumulative statistics on notifications of summons and successful prosecutions were provided in **Appendix K**.

7 Future Key Issues

7.1 Construction Works for the Coming Month(s)

7.1.1 M+ Museum

The major site works scheduled to be commissioned in the coming month include:

- M+ Main Works (Podium) construction of
 - B1/F Columns & Walls to G/F Slab
 - G/F Columns & Walls to 1/F & 1M/F Slab
 - 1/F Columns & Walls to 2/F Slab
 - 2/F Columns & Walls 3/F Slab
 - M+ Building Construction (Tower) for M1, M2 & M3
 - RDE Building Construction (Tower) of Zone A & B
 - CSF Building Construction (Tower) of Zone A & B
 - External Works for Seawater Outfall Pipe & DCS Chiller Pipes

7.1.2 Lyric Theatre Complex

The major site works for Lyric Theatre Complex scheduled to be commissioned in the coming month include:

- Excavation and lateral support works at area L06 and main cofferdam;
- Construction steel platform;
- Operation of barge; and
- Prepare PIW works.

7.2 Key Issues for the Coming Month

7.2.1 M+ Museum

Key issues to be considered in the coming month include:

- Generation of dust from construction works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.

7.2.2 Lyric Theatre Complex

Key issues to be considered in the coming month include:

- Generation of dust from construction works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.

7.3 Monitoring Schedule for the Coming Month

The environmental site inspection and environmental monitoring will be continued in the coming month. Impact monitoring for air quality and noise in accordance with the approved EM&A Manual has commenced since 31 October 2015 and 5 March 2016 respectively. The tentative monitoring schedule for the coming month is shown in the **Appendix E**.

8 Conclusions and Recommendations

8.1 Conclusions

The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction of M+ Museum main works commenced on 31 October 2015, and the construction of Lyric Theatre Complex commenced on 1 March 2016.

Monitoring of air quality and noise with respect to the Projects is underway. In particular, the 1-hour TSP, 24-hour TSP, noise level (as Leq, 30 minutes) under monitoring have been checked against established Action and Limit levels. There was no breach of Action and Limit Levels for 1-hour TSP, 24-hour TSP and noise in the reporting month.

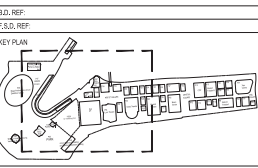
No environmental complaints were recorded in the reporting month. No notifications of summons or successful prosecution were received during the reporting month.

Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting month as required. It was observed that the Contractors had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.

8.2 Recommendations

Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

Figure 1 **Site Layout Plan and Monitoring Stations**



- NOTES:
- WKCD BOUNDARY
 - M+ MUSEUM BOUNDARY
 - LYRIC THEATRE BOUNDARY
 - BOUNDARY OF UNDERPASS ROAD SERVING THE PLANNED WKCD
 - CONSTRUCTION AIR/NOISE MONITORING STATION

REV.	DATE	DESCRIPTION	INITIAL

JOB TITLE: **M+ MUSEUM FOR VISUAL CULTURE (MAIN CONTRACT WORKS) & LYRIC THEATRE COMPLEX**

DRAWING TITLE: **PROPOSED LOCATIONS OF CONSTRUCTION AIR/NOISE MONITORING STATIONS**

SCALE	1:100	PRINTED	A1
CHECKED		DATE	
APPROVED		DATE	
DRAWN	TY	DATE	16-10-2015

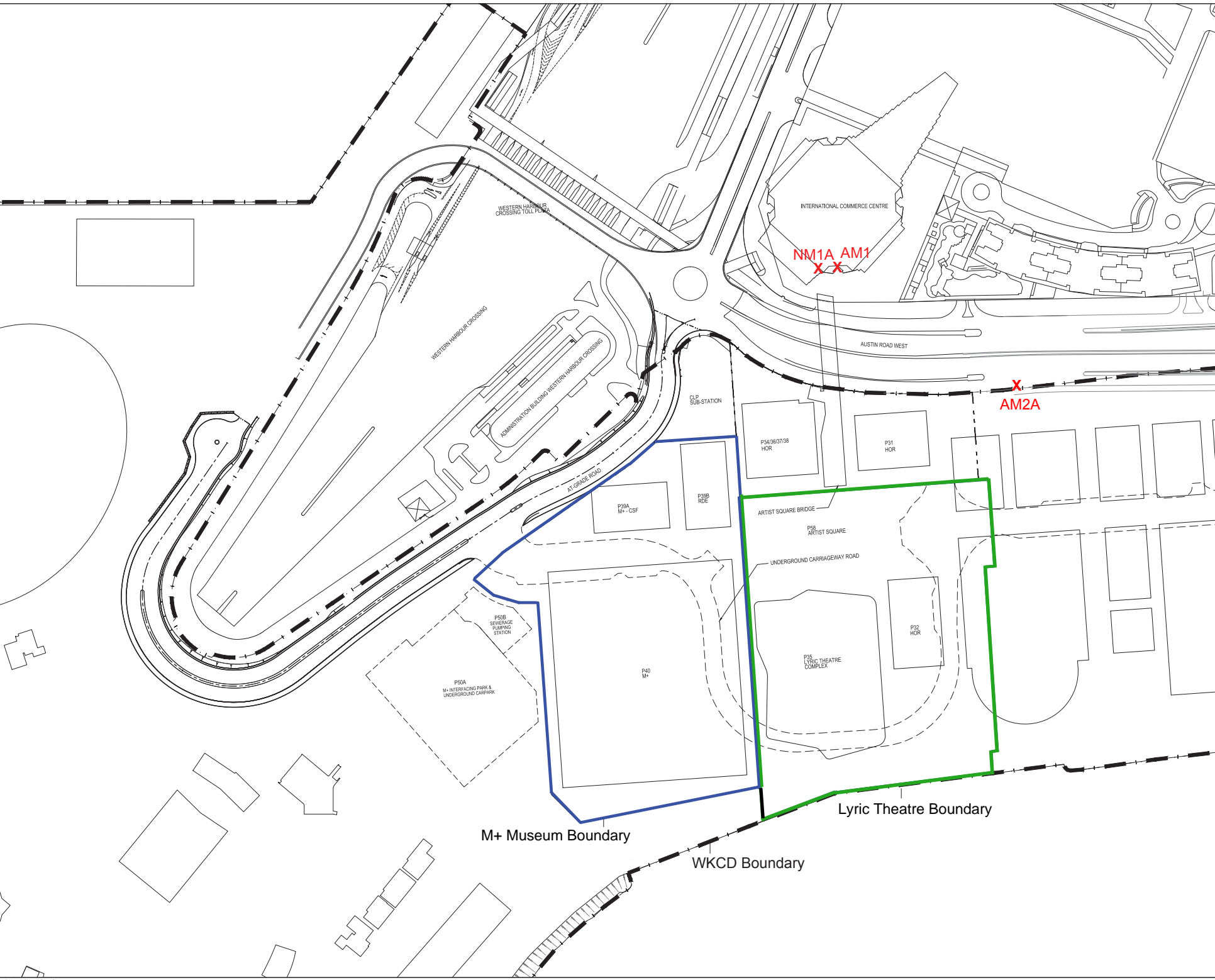
CONTRACT NO.

DRAWING NO.	FIGURE 1	REV.	XA
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CAD REF NAME: XXXXX\AUT-PMS-DWG-POU\001000-XXX.dwg

AUTHORITY

westKowloon
西九文化區



Appendices

- A. Project Organisation
- B. Tentative Construction Programme
- C. Action and Limit Levels for Construction Phase
- D. Event and Action Plan for Air Quality, Noise, Landscape and Visual Impact
- E. Monitoring Schedule
- F. Calibration Certifications
- G. Graphical Plots of the Monitoring Results
- H. Meteorological Data Extracted from Hong Kong Observatory
- I. Waste Flow table
- J. Environmental Mitigation Measures – Implementation Status
- K. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

A. Project Organisation

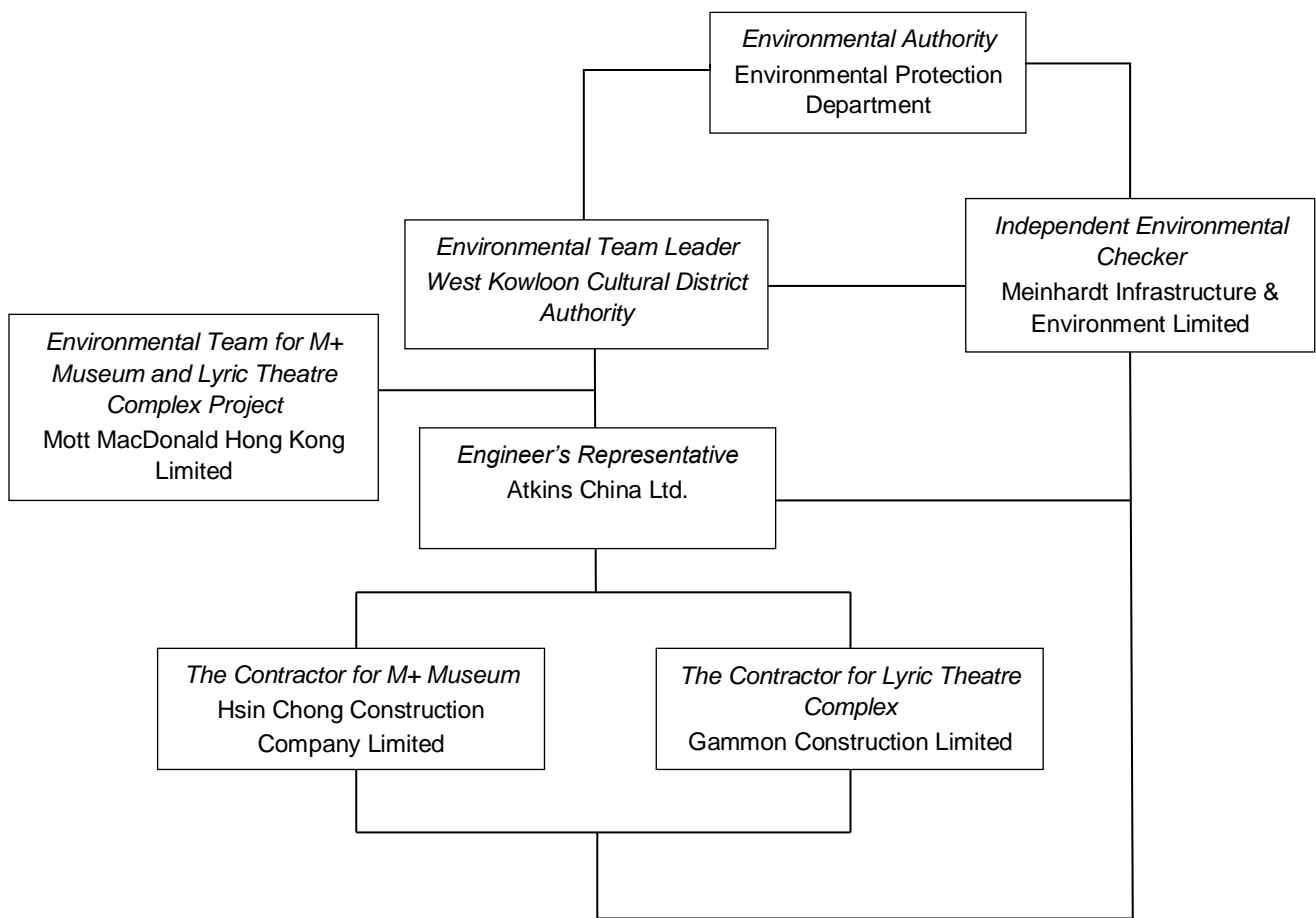


Table A-1: Contact information

Company Name	Role	Name	Telephone
Atkins China Ltd.	Assistant Resident Engineer	Ms. Gloria Lui	5506 6361
Meinhardt Infrastructure & Environment Limited	Independent Environmental Checker	Mr. Fredrick Leong	2859 1739
Hsin Chong Construction Company Limited	Environmental Manager	Mr. Andy Leung	9016 2503
Gammon Construction Limited	Environmental Manager	Ms. Michelle Tang	9267 8866
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr Brandon Wong	2828 5875
West Kowloon Cultural District Authority	Senior Environmental Specialist	Mr. Brian Tam	2200 0059

B. Tentative Construction Programme

M+ Museum

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP - R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
3MRP-29 Three Months Rolling Programme Status at 28 Feb 2018																									
Forecast Completion Dates																									
KD01	Sewage Pumping Station (SPS) - Practical Completion for H/	0		11-Dec-17		◆ Sewage Pumping Station (SPS) - Practical Completion for H/O to DSD,																			
M+ Podium & Tower FACADE Preliminaries																									
SHOP DRAWING SUBMISSIONS FACADE SYSTEM & EMBEDS																									
SHOP DRAWING - Metal Cladding FAC-LV-01a/FAC-LV-01b (Additional Scope)																									
A51420	2nd Shopdrawing Submission	5	20-Oct-17	25-Oct-17	Dec-17																				
A51430	2nd Shopdrawing Submission - Review & Approval	7	25-Oct-17	01-Nov-17	Feb-18																				
BD SUBMISSIONS FACADE SYSTEM & EMBEDS																									
BD Submission - Garden Gallery Ceramic Cladding System & Embed																									
A51790	Garden Gallery Ceramic - Consent	10	10-Nov-17	20-Nov-17	Feb-18																				
A51780	Garden Gallery Ceramic - BD Approval	21	20-Oct-17	10-Nov-17	Apr-17																				
BD Submission - Glass Wall with T Mullion System & Embed																									
A51830	2nd Submission - Review & Approval by MJV (w/ RSE Endo	1	20-Oct-17	21-Oct-17	Jun-17																				
A51860	Glass Wall with T Mullion - BD Approval	3	20-Oct-17	23-Oct-17	Jun-17																				
A51870	Glass Wall with T Mullion - Consent	2	23-Oct-17	25-Oct-17	Jun-17																				
BD Submission - Strip Glazing at Skylight Gallery & Plaza Skylight at L3 System & Embed																									
A51950	Strip Glazing at Skylight Gallery & Plaza Skylight - Consent	10	20-Oct-17	30-Oct-17	Sep-17																				
BD Submission - Glass Wall with Ceramic/Precast Concrete Mullion, Concrete Tube & Perforated Claddin																									
A51980	2nd Submission	5	20-Oct-17	25-Oct-17	Dec-17																				
A51990	2nd Submission - Review & Approval by MJV (w/ RSE Endo	7	25-Oct-17	01-Nov-17	Jan-18																				
A52010	Glass Wall with Ceramic & Precast Concrete Mullion - BD App	20	01-Nov-17	21-Nov-17	Mar-18																				
A52020	Glass Wall with Ceramic & Precast Concrete Mullion - Conce	10	21-Nov-17	01-Dec-17	Mar-18																				
A52000	Glass Wall with Ceramic & Precast Concrete Mullion - Submi	0		01-Nov-17		◆ Glass Wall with Ceramic & Precast Concrete Mullion - Submission to BD,																			
SHOPDRAWING SUBMISSIONS - FACADE DOORS																									
Facade Doors Package #1 - Glazed door between Ceramic Concrete Mullion - Total No. of Doors = 53																									
A65210	1st Shopdrawing Submission	0			Feb-18	A65210																			
A52120	1st Shopdrawing Submission (Initial)	10	20-Oct-17	30-Oct-17	Jan-18																				
A52130	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Mar-18																				
Facade Doors Package #2 - Sliding door at L3 Storefront - Total No. of Doors = 4																									
A52170	1st Shopdrawing Submission	11	20-Oct-17	31-Oct-17	Jan-18																				
A52180	1st Shopdrawing Submission - Review & Approval	7	31-Oct-17	07-Nov-17	Feb-18																				
A52200	2nd Shopdrawing - Review & Approval	7	12-Nov-17	19-Nov-17	Feb-18																				
A52190	2nd Shopdrawing Submission	5	07-Nov-17	12-Nov-17	Feb-18																				
Facade Doors Package #3 - Swing Door at L3 Cafe- Total No. of Doors = 1																									
A52210	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18																				
A52220	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18																				
A52230	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18																				
A52250	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18																				
Facade Doors Package #4 - Swing Door mounted in GW with T Mullion - Total No. of Doors = 29																									
A52260	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18																				
A52270	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18																				
A52280	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18																				
A52290	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18																				
Facade Doors Package #5 - Large double door at B1 Transformer Room - Total No. of Doors = 1																									
A52300	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18																				
A52310	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18																				
A52320	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18																				
A52340	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18																				
Facade Doors Package #6 - B1 Exit Door - Total No. of Doors = 7 (7 x Manual)																									
A52350	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18																				
A52360	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18																				
A52370	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18																				
A52380	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18																				
Facade Doors Package #7 - Garden Gallery Door - Total No. of Doors = 2 (2 x Manual)																									

	Remaining Level of Effort		Actual Milestone
	Actual Level of Effort		Project Baseline
	Milestone		Project LoE Baseline
	Critical Milestone		Baseline Milestone
	Actual Work		
	Remaining Work		
	Critical Remaining Work		

West Kowloon Cultural District Authority
M+ Contractor's Main Works Programme CMWP -
(Rev. 0 - Draft 8)

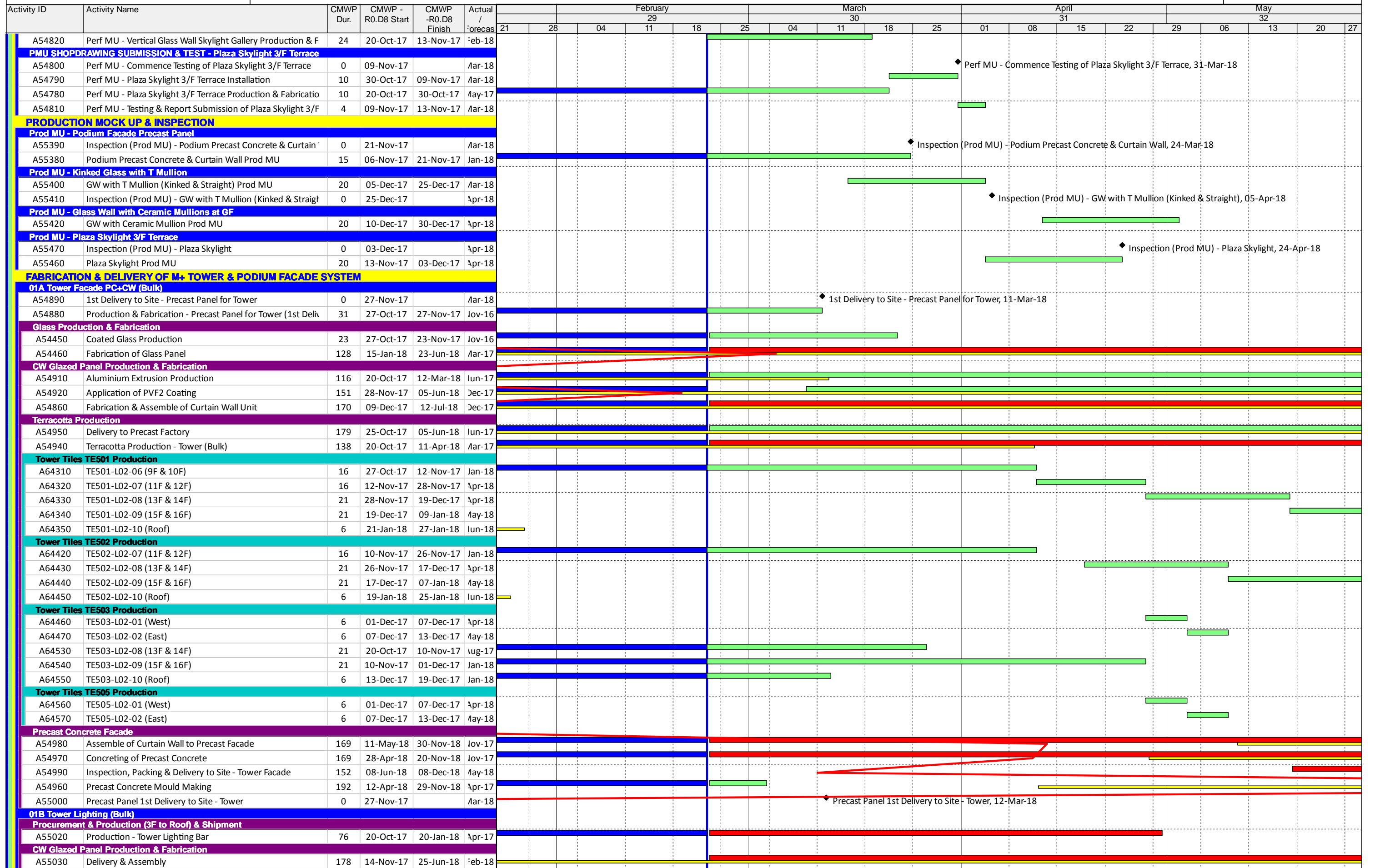


Date	Revision	Checked	Approved
31-Oct-17	3MRP-M25_31 Oct 17	Sam T	Chris Chau / Ricky Lau
30-Nov-17	3MRP-M26_30 Nov 17	Robby Y.	Chris Chau / Ricky Lau
31-Dec-17	3MRP-M27_31 Dec 17	Robby Y.	Chris Chau / Ricky Lau
30-Jan-18	3MRP-M28_30 Jan 18	Robby Y.	Chris Chau / Ricky Lau
28-Feb-18	3MRP-Mth29_28 Feb 18	Robby Y	Chris Chau / Ricky Lau

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP - R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
A52390	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18	[Gantt bar: 20-Oct-17 to 30-Oct-17]																			
A52400	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18	[Gantt bar: 30-Oct-17 to 06-Nov-17]																			
A52410	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18	[Gantt bar: 06-Nov-17 to 11-Nov-17]																			
A52430	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18	[Gantt bar: 11-Nov-17 to 18-Nov-17]																			
Facade Doors Package #8 - Doors located in Metal Cladding - Total No.of Doors =20 (20 x Manual)																									
A52440	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18	[Gantt bar: 20-Oct-17 to 30-Oct-17]																			
A52450	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18	[Gantt bar: 30-Oct-17 to 06-Nov-17]																			
A52460	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18	[Gantt bar: 06-Nov-17 to 11-Nov-17]																			
A52470	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18	[Gantt bar: 11-Nov-17 to 18-Nov-17]																			
Facade Doors Package #9 - GF Lobby Access Door in Ceramic Tube - Total No.of Doors = 8																									
A52480	1st Shopdrawing Submission	10	20-Oct-17	30-Oct-17	Jan-18	[Gantt bar: 20-Oct-17 to 30-Oct-17]																			
A52490	1st Shopdrawing Submission - Review & Approval	7	30-Oct-17	06-Nov-17	Feb-18	[Gantt bar: 30-Oct-17 to 06-Nov-17]																			
A52500	2nd Shopdrawing Submission	5	06-Nov-17	11-Nov-17	Feb-18	[Gantt bar: 06-Nov-17 to 11-Nov-17]																			
A52520	2nd Shopdrawing Submission - Review & Approval	7	11-Nov-17	18-Nov-17	Feb-18	[Gantt bar: 11-Nov-17 to 18-Nov-17]																			
Facade Doors Package #10 - B1 Carriageway Access Panel & Doors - Total No. of Doors = 24																									
A52530	1st Shopdrawing Submission	10	30-Oct-17	09-Nov-17	Jan-18	[Gantt bar: 30-Oct-17 to 09-Nov-17]																			
A52540	1st Shopdrawing Submission - Review & Approval	7	09-Nov-17	16-Nov-17	Feb-18	[Gantt bar: 09-Nov-17 to 16-Nov-17]																			
A52550	2nd Shopdrawing Submission	5	16-Nov-17	21-Nov-17	Feb-18	[Gantt bar: 16-Nov-17 to 21-Nov-17]																			
A52560	2nd Shopdrawing Submission - Review & Approval	7	21-Nov-17	28-Nov-17	Feb-18	[Gantt bar: 21-Nov-17 to 28-Nov-17]																			
Facade Doors Package #12 - B1 Smoke Vent Panel - Total No. of Doors = 1																									
A52580	1st Shopdrawing Submission	10	15-Nov-17	25-Nov-17	Jan-18	[Gantt bar: 15-Nov-17 to 25-Nov-17]																			
A52590	1st Shopdrawing Submission - Review & Approval	7	25-Nov-17	02-Dec-17	Feb-18	[Gantt bar: 25-Nov-17 to 02-Dec-17]																			
A52600	2nd Shopdrawing Submission	5	02-Dec-17	07-Dec-17	Feb-18	[Gantt bar: 02-Dec-17 to 07-Dec-17]																			
A52610	2nd Shopdrawing Submission - Review & Approval	7	07-Dec-17	14-Dec-17	Feb-18	[Gantt bar: 07-Dec-17 to 14-Dec-17]																			
PERFORMANCE TEST - SHOPDRAWING SUBMISSION, FABRICATION, INSTALLATION & TEST																									
PMU SHOPDRAWING SUBMISSION & TEST - Tower Facade Precast Panel																									
A54645	Perf MU - Testing & Report Submission of Tower Precast Coi	10	27-Oct-17	06-Nov-17	Nov-17	[Gantt bar: 27-Oct-17 to 06-Nov-17]																			
PMU SHOPDRAWING SUBMISSION & TEST - Podium Facade Precast Panel																									
A54670	Perf MU - Commence Testing of Podium Facade PC+CW	0	28-Oct-17		Mar-18	◆ Perf MU - Commence Testing of Podium Facade PC+CW, 08-Mar-18																			
A54660	Perf MU - Podium Facade Precast Concrete + Curtain Wall In	8	20-Oct-17	28-Oct-17	Jan-18	[Gantt bar: 20-Oct-17 to 28-Oct-17]																			
A54680	Perf MU - Testing & Report Submission of Podium Facade Pt	6	31-Oct-17	06-Nov-17	Mar-18	[Gantt bar: 31-Oct-17 to 06-Nov-17]																			
PMU SHOPDRAWING SUBMISSION & TEST - Kinked Glass with T Mullion																									
A55210	Perf MU - 1st GW with T Mullion Test Proposal Review & Ap	7	07-Nov-17	14-Nov-17	Feb-18	[Gantt bar: 07-Nov-17 to 14-Nov-17]																			
A55200	Perf MU - 1st GW with T Mullion Test Proposal Submission	5	02-Nov-17	07-Nov-17	Jan-18	[Gantt bar: 02-Nov-17 to 07-Nov-17]																			
A52720	Perf MU - 1st Shopdrawing Submission - Review & Approval	1	20-Oct-17	21-Oct-17	May-17	[Gantt bar: 20-Oct-17 to 21-Oct-17]																			
A55230	Perf MU - 2nd GW with T Mullion Test Proposal Review & Ap	7	19-Nov-17	26-Nov-17	Mar-18	[Gantt bar: 19-Nov-17 to 26-Nov-17]																			
A55220	Perf MU - 2nd GW with T Mullion Test Proposal Submission	5	14-Nov-17	19-Nov-17	Mar-18	[Gantt bar: 14-Nov-17 to 19-Nov-17]																			
A52730	Perf MU - 2nd Shopdrawing Submission	5	21-Oct-17	26-Oct-17	Dec-17	[Gantt bar: 21-Oct-17 to 26-Oct-17]																			
A52740	Perf MU - 2nd Shopdrawing Submission - Review & Approv.	7	26-Oct-17	02-Nov-17	Feb-18	[Gantt bar: 26-Oct-17 to 02-Nov-17]																			
A54720	Perf MU - Commence Testing of GW with T Mullion + Reflect	0	29-Nov-17		Mar-18	◆ Perf MU - Commence Testing of GW with T Mullion + Reflective Glass, 06-Mar-18																			
A54710	Perf MU - GW with T Mullion + Reflective Glass Installation	7	22-Nov-17	29-Nov-17	Feb-18	[Gantt bar: 22-Nov-17 to 29-Nov-17]																			
A54700	Perf MU - GW with T Mullion + Reflective Glass Ordering & P	20	02-Nov-17	22-Nov-17	May-17	[Gantt bar: 02-Nov-17 to 22-Nov-17]																			
A54730	Perf MU - Testing & Report Submission of GW with T Mullio	6	29-Nov-17	05-Dec-17	Mar-18	[Gantt bar: 29-Nov-17 to 05-Dec-17]																			
PMU SHOPDRAWING SUBMISSION & TEST - Glass Wall with Ceramic Mullions at GF																									
A55250	Perf MU - 1st GW with Ceramic Mullion Test Proposal Revie	7	01-Nov-17	08-Nov-17	Mar-18	[Gantt bar: 01-Nov-17 to 08-Nov-17]																			
A55240	Perf MU - 1st GW with Ceramic Mullion Test Proposal Subm	4	28-Oct-17	01-Nov-17	Jan-18	[Gantt bar: 28-Oct-17 to 01-Nov-17]																			
A55270	Perf MU - 2nd GW with Ceramic Mullion Test Proposal Revie	7	13-Nov-17	20-Nov-17	Mar-18	[Gantt bar: 13-Nov-17 to 20-Nov-17]																			
A55260	Perf MU - 2nd GW with Ceramic Mullion Test Proposal Subn	5	08-Nov-17	13-Nov-17	Mar-18	[Gantt bar: 08-Nov-17 to 13-Nov-17]																			
A52770	Perf MU - 2nd Shopdrawing Submission	1	20-Oct-17	21-Oct-17	May-17	[Gantt bar: 20-Oct-17 to 21-Oct-17]																			
A52780	Perf MU - 2nd Shopdrawing Submission - Review & Approv.	7	21-Oct-17	28-Oct-17	Feb-18	[Gantt bar: 21-Oct-17 to 28-Oct-17]																			
A54760	Perf MU - Commence Testing of GW with Ceramic Mullion G	0	05-Dec-17		Mar-18	◆ Perf MU - Commence Testing of GW with Ceramic Mullion G/F, 22-Mar-18																			
A54750	Perf MU - GW with Ceramic Mullion G/F Installation	9	26-Nov-17	05-Dec-17	Feb-18	[Gantt bar: 26-Nov-17 to 05-Dec-17]																			
A54740	Perf MU - GW with Ceramic Mullion G/F Production & Fabri	34	23-Oct-17	26-Nov-17	Nov-17	[Gantt bar: 23-Oct-17 to 26-Nov-17]																			
A54770	Perf MU - Testing & Report Submission of GW with Ceramic	5	05-Dec-17	10-Dec-17	Mar-18	[Gantt bar: 05-Dec-17 to 10-Dec-17]																			
PMU SHOPDRAWING SUBMISSION & TEST - Vertical Glass Wall at Skylight Gallery																									
A55310	Perf MU - 2nd Vertical GW Skylight Gallery Test Proposal Rev	7	25-Oct-17	01-Nov-17	Mar-18	[Gantt bar: 25-Oct-17 to 01-Nov-17]																			
A55300	Perf MU - 2nd Vertical GW Skylight Gallery Test Proposal Sut	5	20-Oct-17	25-Oct-17	Dec-17	[Gantt bar: 20-Oct-17 to 25-Oct-17]																			
A54840	Perf MU - Commence Testing of Vertical Glass Wall Skylight t	0	25-Nov-17		Mar-18	◆ Perf MU - Commence Testing of Vertical Glass Wall Skylight Gallery, 31-Mar-18																			
A54850	Perf MU - Testing & Report Submission of Vertical Glass Wal	4	25-Nov-17	29-Nov-17	Mar-18	[Gantt bar: 25-Nov-17 to 29-Nov-17]																			
A54830	Perf MU - Vertical Glass Wall Skylight Gallery Installation	12	13-Nov-17	25-Nov-17	Mar-18	[Gantt bar: 13-Nov-17 to 25-Nov-17]																			

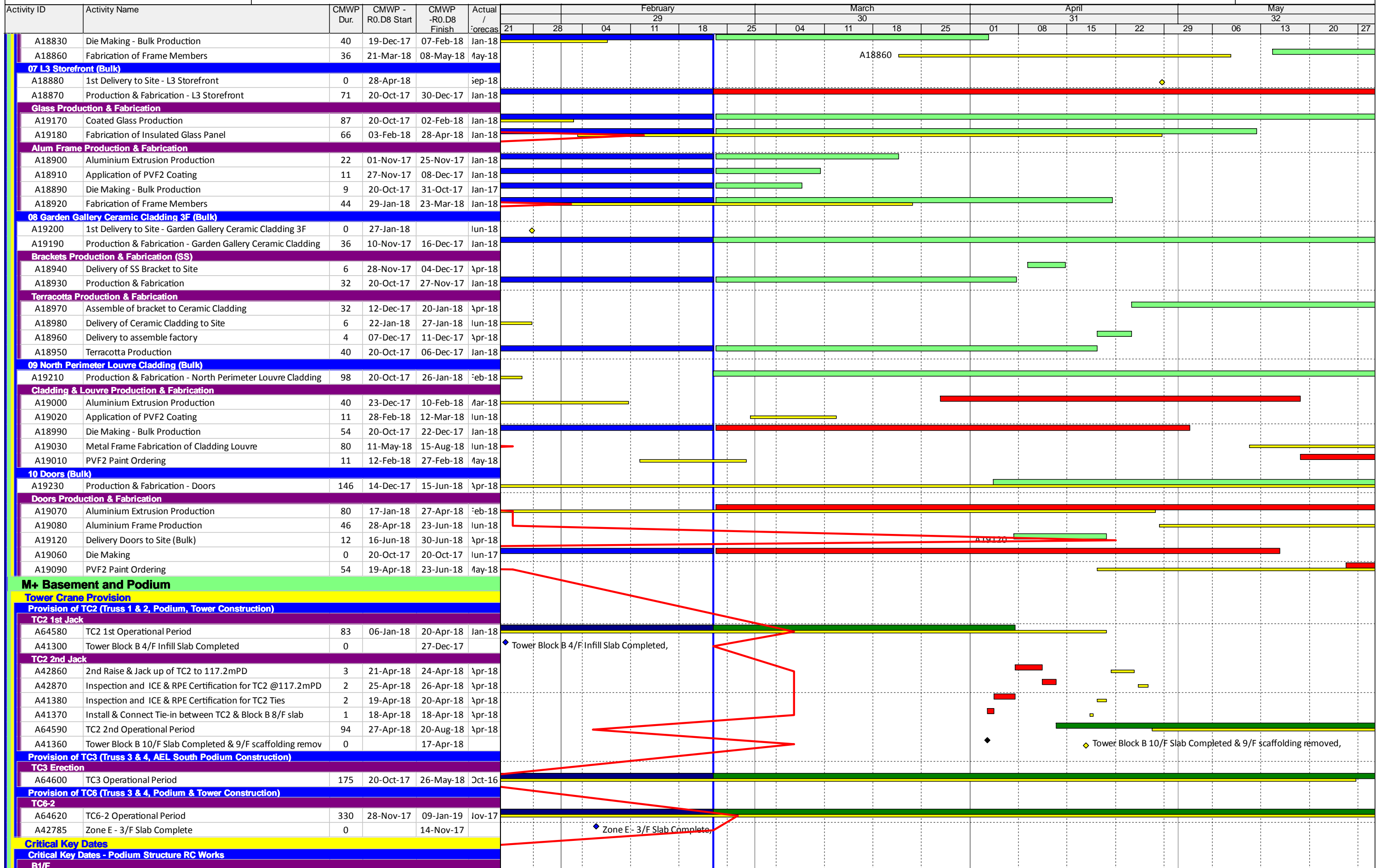
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Activity ID	Activity Name	CMWP Dur.	CMWP - RO.D8 Start	CMWP -RO.D8 Finish	Actual / Forecasts	February							March				April				May					
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27		
A10000	IQC Inspection	169	28-Nov-17	27-Jun-18	Mar-18	[Gantt Bar]																				
A10010	OQC Inspection	169	06-Dec-17	07-Jul-18	Mar-18	[Gantt Bar]																				
02 Podium Facade PC + CW (Bulk)																										
A54480	1st Delivery to Site - Precast Panel for Podium	0	27-Dec-17		Mar-18	[Gantt Bar]																				
A54470	Production & Fabrication - Precast Panel for Podium	66	20-Oct-17	25-Dec-17	Dec-16	[Gantt Bar]																				
Glass Production & Fabrication																										
A10030	Fabrication of Insulated Glass Panel	155	21-Nov-17	05-May-18	Jan-18	[Gantt Bar]																				
A10020	Ordering of Coated Glass	31	20-Oct-17	20-Nov-17	Dec-16	[Gantt Bar]																				
CW Glazed Panel Production & Fabrication																										
A10050	Aluminium Extrusion Production	116	15-Jan-18	09-Jun-18	Jan-18	[Gantt Bar]																				
A10060	Application of PVF2 Coating	129	26-Jan-18	09-Jul-18	Jan-18	[Gantt Bar]																				
A10040	Die Making - Bulk Production	6	08-Jan-18	15-Jan-18	Feb-17	[Gantt Bar]																				
A10070	Fabrication & Assemble of Curtain Wall Unit	145	03-Feb-18	08-Jul-18	Jan-18	[Gantt Bar]																				
Terracotta Production																										
A10170	1st Lot Arrived (By Ship) Podium Bulk to Precast Concrete Fa	0	02-Feb-18		Feb-18	[Gantt Bar]																				
A10160	Delivery of Terracotta to Precast Factory from Italy (by ship)	100	23-Dec-17	02-May-18	Jun-17	[Gantt Bar]																				
A10100	Terracotta Production - Podium (Bulk)	130	20-Oct-17	28-Mar-18	Apr-17	[Gantt Bar]																				
Precast Concrete Facade																										
A10130	Assemble of Curtain Wall to Precast Facade	116	24-Mar-18	26-Jul-18	Jan-18	[Gantt Bar]																				
A10120	Concreting of Precast Concrete	119	07-Mar-18	12-Jul-18	Jan-18	[Gantt Bar]																				
A10180	Curing of 1st Lot	6	17-Mar-18	24-Mar-18	Jan-18	[Gantt Bar]																				
A10140	Inspection, Packing & Delivery to Site - Podium Facade	116	09-Apr-18	07-Aug-18	Feb-18	[Gantt Bar]																				
A10110	Precast Concrete Mould Making	106	02-Feb-18	15-Jun-18	Jun-17	[Gantt Bar]																				
A10150	Precast Panel 1st Delivery to Site - Podium	0	27-Dec-17		Mar-18	[Gantt Bar]																				
03 GW with T Mullion (Kinked & Straight B1F to GF) (Bulk)																										
A54490	Production & Fabrication - GW with T Mullion (Kinked & Str	63	12-Nov-17	14-Jan-18	May-18	[Gantt Bar]																				
Glass Production & Fabrication																										
A10190	Coated Glass Production	84	13-Nov-17	24-Feb-18	May-18	[Gantt Bar]																				
A10300	Delivery of Glass Panel to Site	46	28-Mar-18	28-May-18	May-18	[Gantt Bar]																				
A10200	Fabrication of Insulated Glass Panel	67	26-Feb-18	19-May-18	May-18	[Gantt Bar]																				
Alum Section Production & Fabrication																										
A10220	Aluminium Extrusion Production	34	09-Feb-18	24-Mar-18	Apr-18	[Gantt Bar]																				
A10230	Application of PVF2 Coating	6	24-Mar-18	04-Apr-18	May-18	[Gantt Bar]																				
A10210	Die Making - Bulk Production	34	30-Dec-17	09-Feb-18	Jan-18	[Gantt Bar]																				
A10240	Fabrication & Assemble of Curtain Wall Unit	35	04-Apr-18	17-May-18	May-18	[Gantt Bar]																				
T Painted GMS Mullions, Transoms & Brackets																										
A10290	1st Delivery - T-Mullion G/F to 1/F	0	23-Mar-18		Jul-18	[Gantt Bar]																				
A10280	1st Delivery T-Mullion B1	0	20-Mar-18		Apr-18	[Gantt Bar]																				
A10250	GMS Fabrication	109	06-Jan-18	24-May-18	Jan-18	[Gantt Bar]																				
A10270	Packing & Delivery	81	13-Mar-18	23-Jun-18	Apr-18	[Gantt Bar]																				
A10260	Painting	88	13-Feb-18	06-Jun-18	Feb-18	[Gantt Bar]																				
04A GW with PC Mullion at 2F Courtyard (Bulk)																										
A54530	1st Delivery to Site - GW with PC Mullion at 2F Courtyard	0	30-Jan-18		Jul-18	[Gantt Bar]																				
A54520	Production & Fabrication - GW with PC Mullion at 2F Courty	50	11-Dec-17	30-Jan-18	Jan-18	[Gantt Bar]																				
Glass Production & Fabrication																										
A10450	1st Delivery to Site - Glass Panel	0	12-Apr-18		Jul-18	[Gantt Bar]																				
A10310	Coated Glass Production	79	30-Dec-17	18-Mar-18	Jan-18	[Gantt Bar]																				
A10330	Delivery of Glass Panel to Site	2	12-Apr-18	13-Apr-18	May-18	[Gantt Bar]																				
A10320	Fabrication of Insulated Glass Panel	24	19-Mar-18	11-Apr-18	May-18	[Gantt Bar]																				
Alum Frame Production & Fabrication																										
A10420	1st Delivery to Site - AL & Frame Members	0	29-Jan-18		Apr-18	[Gantt Bar]																				
A10350	Aluminium Extrusion Production	15	20-Dec-17	04-Jan-18	Jan-18	[Gantt Bar]																				
A10360	Application of PVF2 Coating	4	04-Jan-18	08-Jan-18	Apr-18	[Gantt Bar]																				
A10430	Delivery of Aluminium Frame to Site	2	29-Jan-18	30-Jan-18	Apr-18	[Gantt Bar]																				
A10440	Delivery of Frame Members to Site	3	28-Jan-18	31-Jan-18	Apr-18	[Gantt Bar]																				
A10340	Die Making - Bulk Production	20	11-Dec-17	31-Dec-17	Jan-18	[Gantt Bar]																				
A10370	Fabrication of Aluminium Frame to Site	20	08-Jan-18	28-Jan-18	Apr-18	[Gantt Bar]																				
Precast Concrete Facade																										
A10410	1st Delivery to Site - Precast Concrete	0	07-Apr-18		Sep-18	[Gantt Bar]																				
A10380	Concreting of Precast Concrete	45	29-Jan-18	24-Mar-18	Apr-18	[Gantt Bar]																				
A10390	Curing	7	26-Mar-18	06-Apr-18	Jun-18	[Gantt Bar]																				

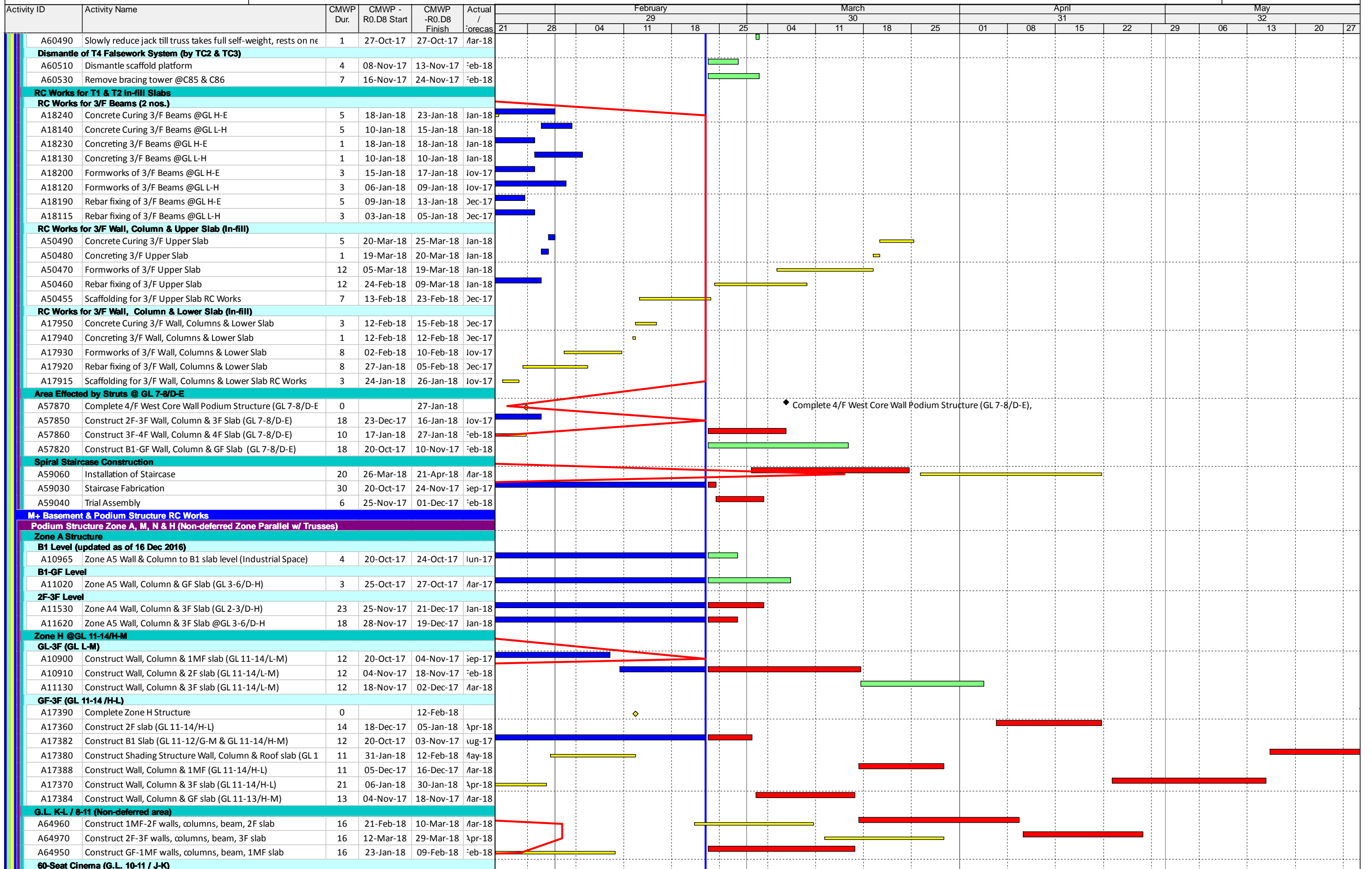
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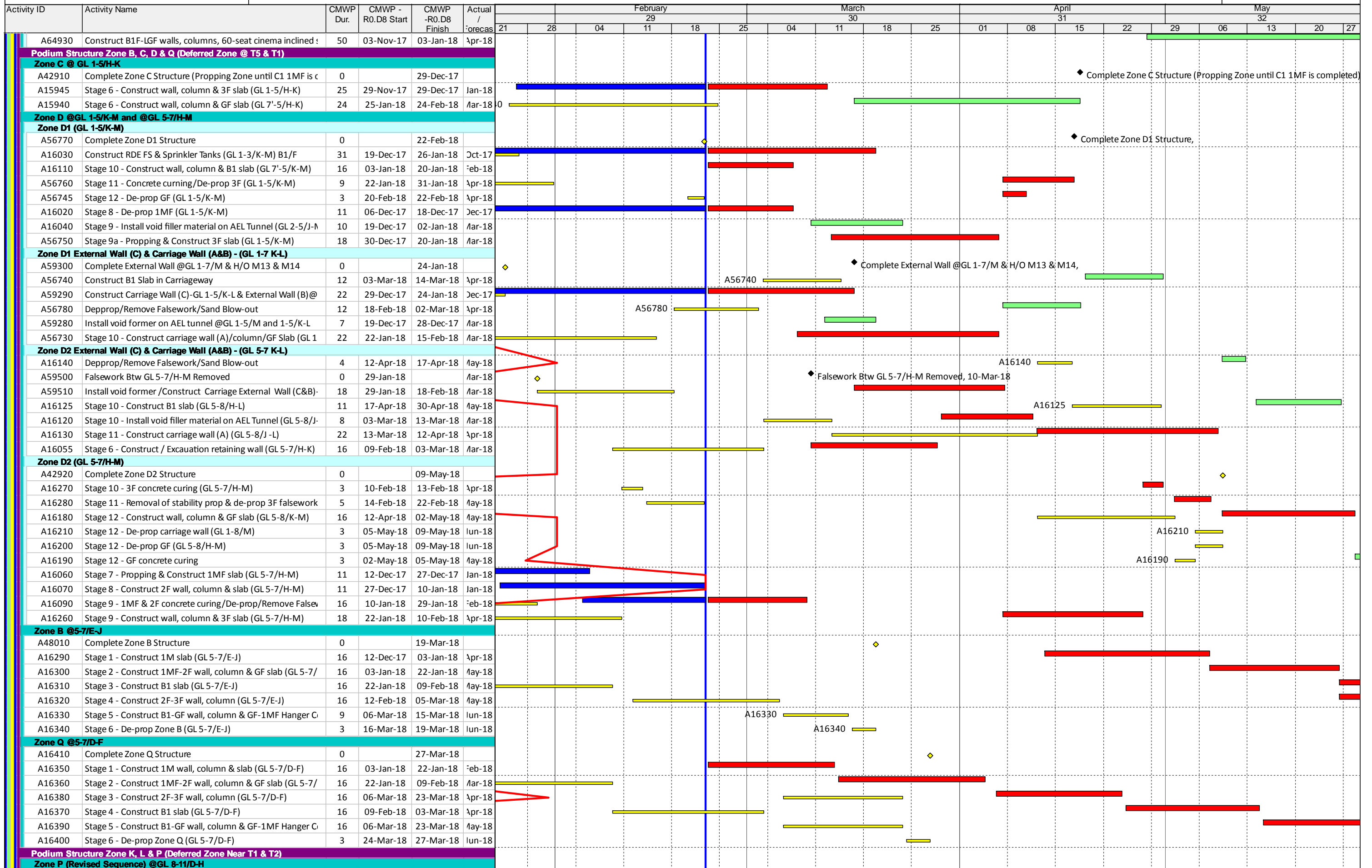
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP - R0.D8 Finish	Actual / Recas	February					March					April				May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27
Critical Key Dates - Lifts & Escalators																								
LT10630	LT12 Ready for Permant Use	0		24-Apr-18																				
LT10680	LT14 Ready for Permant Use	0		24-Apr-18																				
LT10860	LT21 & LT22 Ready for Permant Use	0		13-Mar-18																				
Critical Key Dates - M+ Podium External Envelope Works																								
A13250	Complete Zone A - 1M/F Facade Panel	0		28-Feb-18																				
A13270	Complete Zone A - 2/F Facade Panel	0		07-Mar-18																				
A13280	Complete Zone M - 1M/F Facade Panel	0		05-May-18																				
A13290	Complete Zone M - 2/F Facade Panel	0		17-May-18																				
M+ Basement & Podium Structure Construction																								
CSF & RDE Sub-Structure RC Works																								
G/F Level																								
North Zoning @ Portion - R (B1/F to G/F)																								
Portion GFR5b & GFR4 @ GL E-H / 7'-2 (EVA - Part 2)																								
A49450	Remove scaffolds & cleaning	3	20-Oct-17	23-Oct-17	Jan-18																			
Portion GFR2 @ GL F-I' / 6'-7' (EVA - Part N4)																								
A49300	Concrete Curing period EVA - Part N3	3	07-Mar-18	10-Mar-18	Feb-18																			
A49290	Construct beams & slab (G/F) @ GL F'-H' / 5'-1	11	23-Feb-18	07-Mar-18	Jan-18																			
A49310	Remove scaffolds & cleaning	3	12-Mar-18	14-Mar-18	Feb-18																			
Portion GFR1 @ GL I'-J' / 6'-7' (EVA - Part N5)																								
A49275	Complete EVA Zone R @ GL A-J' / 6'-2	0		28-Mar-18																				
A49260	Concrete Curing period EVA - Part N5	3	22-Mar-18	25-Mar-18	Mar-18																			
A49250	Construct beams & slab (G/F) @ GL I'-J' / 5'-1	16	03-Mar-18	22-Mar-18	Feb-18																			
A49240	Construct Columns & Walls & Cols B1/F to G/F @ GL I'-J' / 5'	3	20-Oct-17	23-Oct-17	Feb-17																			
A49270	Remove scaffolds & cleaning	3	26-Mar-18	28-Mar-18	Mar-18																			
North Zoning @ Portion - S (B1/F to G/F)																								
Portion GFS1 & GFS2 @ GL A / 6'-2 (EVA - Part 3)																								
A64090	Complete EVA Zone S @ GL A / 7'-2 for G/F Access	0		08-Nov-17																				
A64080	Remove scaffolds & cleaning	3	06-Nov-17	08-Nov-17	Feb-18																			
M+ Mega Truss Site Construction																								
Site Construction of Truss 1																								
T1 Steel Erection (incl. Modular Towers & Working Platform)																								
Temporary Supports & Modular Towers																								
MT5160	Install tie to T1 bottom chord for temporary support towers	1	28-Jun-17	28-Jun-17	May-17																			
RC Works East Core Wall (incl. to +28.3mPD for T5-N04A & T5-N04B)																								
A37555	Construct 4/F Infill slab at East Core Wall (4/F slab)	6	20-Oct-17	26-Oct-17	Sep-17																			
Mega Truss Infill Construction (Zone F @ GL 7-8/D-M)																								
Removal of Modular Towers																								
Truss 1&2 GL7-8/M-J																								
A17965	Removal of T1-T2 Middle-Side Towers & Bracing @ GL M-L	2	25-Oct-17	26-Oct-17	Feb-18																			
Truss Deprop & Removal of T5 Falseworks																								
Dismantle of T5 Falseworks System (by TC2)																								
A60370	Dismantle scaffold platform	4	01-Nov-17	04-Nov-17	Mar-18																			
A60360	Remove tie beams & working platform between 9M trusses	5	25-Oct-17	31-Oct-17	Feb-18																			
Truss Deprop & Removal of T3 Falseworks																								
Dismantle of T3 Falsework System (by TC2 & TC3)																								
A60460	Remove bracing tower @C85 & C86	7	03-Nov-17	10-Nov-17	Feb-18																			
Truss Deprop & Removal of T1 & T2 Falseworks																								
Depropping of Truss 1																								
A60880	Jack up ram jacks, cut & lower support by 50mm	3	21-Oct-17	25-Oct-17	Feb-18																			
A60870	Setup depropping system @T1	3	20-Oct-17	23-Oct-17	Feb-18																			
A60890	Slowly reduce jack till truss takes full self-weight, rests on ne	1	24-Oct-17	25-Oct-17	Feb-18																			
Depropping of Truss 2																								
A60560	Jack up ram jacks, cut & lower support by 50mm	3	23-Oct-17	25-Oct-17	Feb-18																			
A60570	Load ram jack & slowly reduce jack till truss takes full self-w	1	24-Oct-17	24-Oct-17	Feb-18																			
A60550	Setup depropping system @T2	2	20-Oct-17	21-Oct-17	Sep-17																			
Dismantle of T1 & T2 Falsework System (13-Jun-2017 update)																								
A60640	Erect levelling scaffold platform	5	18-Nov-17	24-Nov-17	Mar-18																			
A60650	Lower down 9/18M trusses (6 nos.)	1	24-Nov-17	25-Nov-17	Mar-18																			
A60660	Remove 9/18M	12	25-Nov-17	09-Dec-17	Mar-18																			
A60630	Remove all PERI Tower underneath T1 & T2	9	10-Nov-17	21-Nov-17	Dec-17																			
Truss Deprop & Removal of T4 Falseworks																								
Depropping of Truss 4																								
A60480	Jack up ram jacks cut & lower support by 50mm	3	24-Oct-17	26-Oct-17	Feb-18																			
A60010	Setup depropping system @T4	3	20-Oct-17	23-Oct-17	Feb-18																			

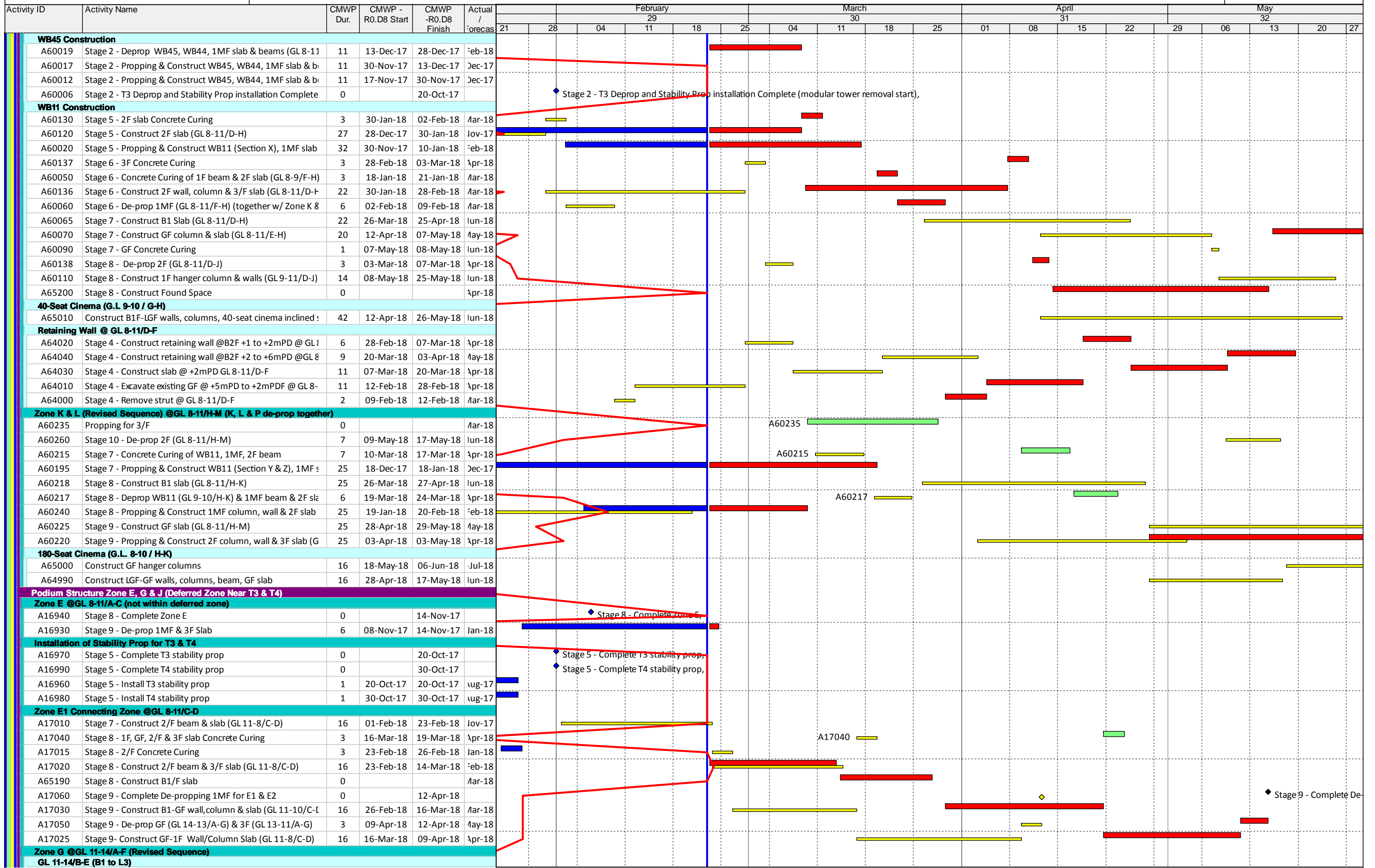
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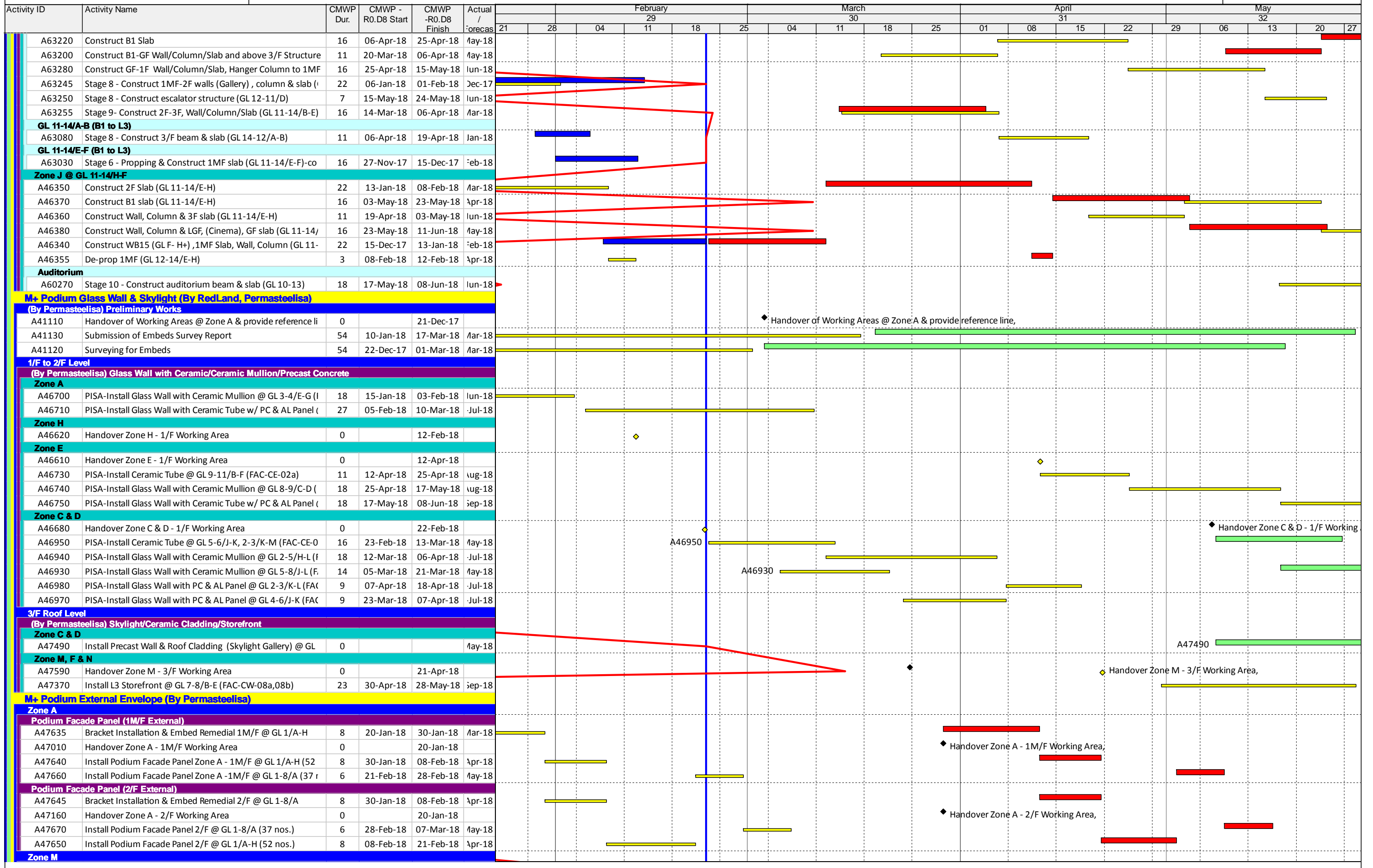
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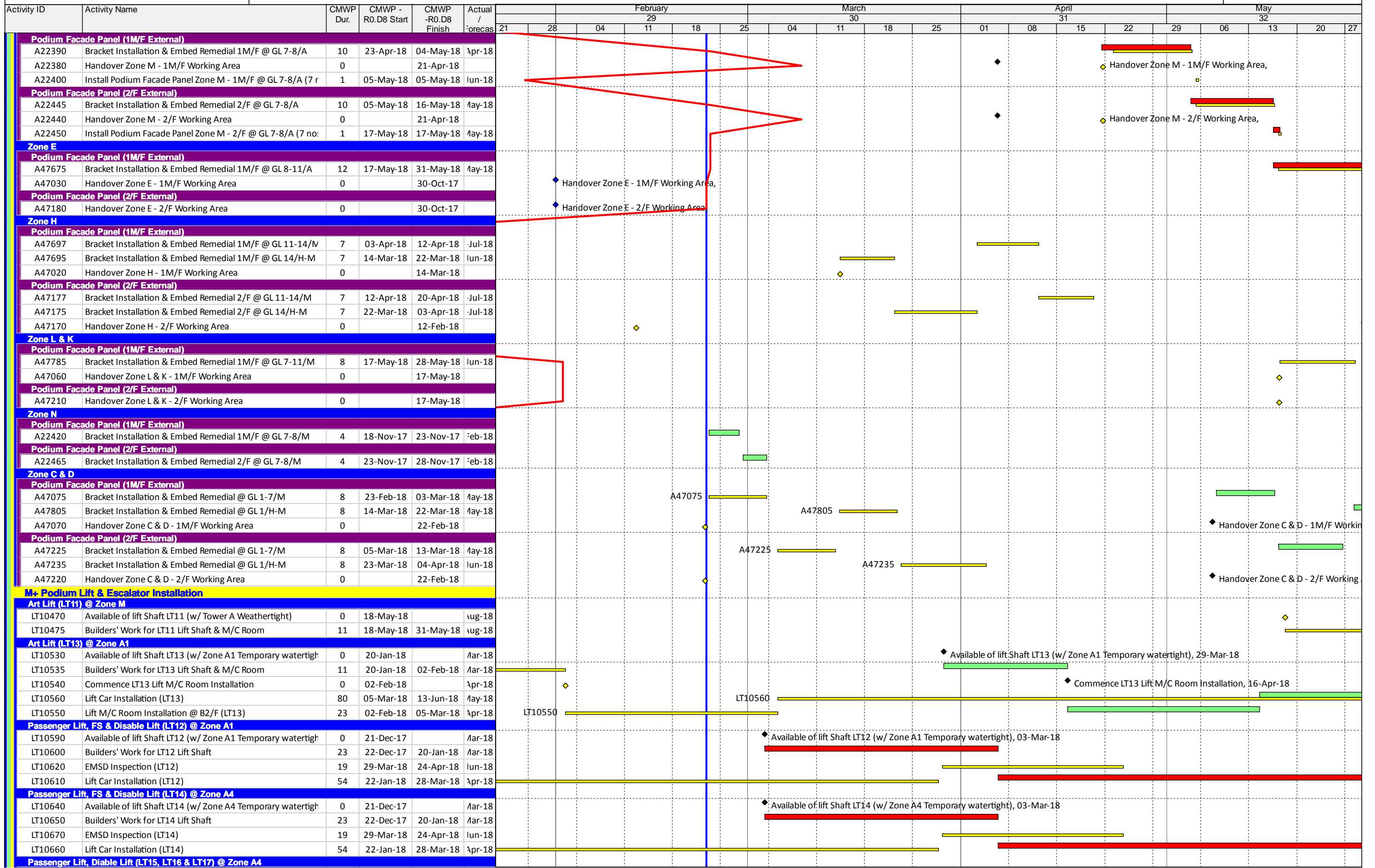
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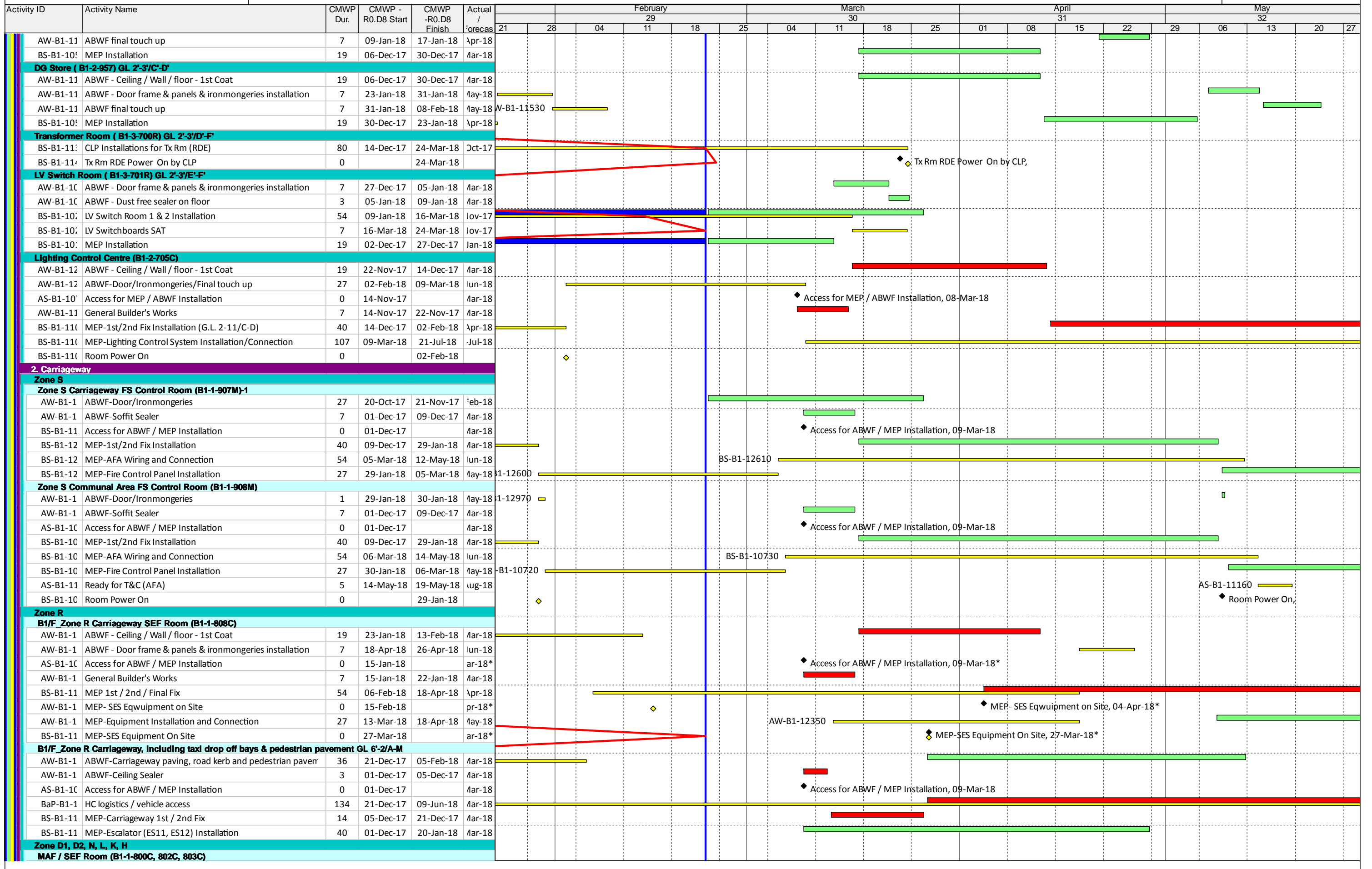
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecasts	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
BS-B2-11	MEP - water pump on site	0	20-Feb-18		Jul-18																				
BS-B2-10	MEP 1st/2nd Installation/FS Pumps Set/Pipework/LMCC	50	16-Dec-17	20-Feb-18	May-18																				
BS-B2-10	MEP- FS Pump Set/System Self-test/Start up	7	21-Mar-18	29-Mar-18	Aug-18																				
BS-B2-10	MEP- Room Power On	0		21-Mar-18																					
BS-B2-10	MEP-Pumps/LMCC Installation/Connection	25	20-Feb-18	21-Mar-18	Jul-18																				
AS-B2-10	Ready for System T&C	0		29-Mar-18																					
2. Zone A, M, E, C																									
General Areas: Corridor, Workshop, BOH office, Other Rooms																									
Corridors/Lobbys																									
AW-B2-1	ABWF-Soffit Sealer	7	01-Dec-17	09-Dec-17	Dec-17																				
AW-B2-1	ABWF-Wearing Slab (GL 1-3)	13	29-Jan-18	13-Feb-18	Dec-17																				
AW-B2-1	ABWF-Wearing Slab (GL 3-6)	13	20-Mar-18	09-Apr-18	Apr-18																				
AW-B2-1	ABWF-Wearing Slab (GL 6-10)	13	09-Apr-18	24-Apr-18	Apr-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering (GL 1-3)	54	13-Feb-18	25-Apr-18	Apr-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering (GL 3-6)	54	09-Apr-18	13-Jun-18	Apr-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering (GL 6-10)	40	25-Apr-18	13-Jun-18	Jun-18																				
BS-B2-10	MEP- 2nd Fix (Cabling)	54	25-Apr-18	30-Jun-18	Feb-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 1-3)	40	09-Dec-17	29-Jan-18	Jan-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 3-6)	40	29-Jan-18	20-Mar-18	Jan-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 6-10)	27	20-Mar-18	25-Apr-18	Jan-18																				
BOH Workshop, Office and Facilities Rooms																									
AW-B2-1	ABWF-H/L Steel Platform (GL 1-6)	54	12-May-18	18-Jul-18	Apr-18																				
AW-B2-1	ABWF-Wearing Slab (GL 1-3)	13	13-Jan-18	29-Jan-18	Apr-18																				
AW-B2-1	ABWF-Wearing Slab (GL 3-6)	13	05-Mar-18	20-Mar-18	Apr-18																				
AW-B2-1	ABWF-Wearing Slab (GL 6-10)	13	10-Apr-18	25-Apr-18	May-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering/sealer (GL 1	54	30-Jan-18	11-Apr-18	May-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering/sealer (GL 3	54	24-Nov-17	30-Jan-18	Feb-18																				
AW-B2-1	ABWF-Wet Trade; T-Post/Block Wall/Rendering/sealer (GL 6	27	25-Apr-18	29-May-18	Jul-18																				
BS-B2-10	MEP Ceiling mounted AHU Installation/Connection (GL 1-6,	54	05-Mar-18	12-May-18	Feb-18																				
BS-B2-10	MEP- 2nd Fix (Cabling)-(GL 1-10)	54	25-Apr-18	30-Jun-18	Jan-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 1-3)	40	24-Nov-17	13-Jan-18	Jan-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 3-6)	40	13-Jan-18	05-Mar-18	Jan-18																				
BS-B2-10	MEP-1st/2nd Fix Installation (GL 6-10)	27	05-Mar-18	10-Apr-18	Jan-18																				
Toilets & Toilet Lobby																									
Public Toilet at GL 6,D																									
AW-B2-:	ABWF-Block Wall	7	20-Oct-17	27-Oct-17	Dec-17																				
AW-B2-:	ABWF-Ceiling Close up/Ceiling Finish	7	19-Dec-17	28-Dec-17	Mar-18																				
AW-B2-:	ABWF-Ceiling Grid/Ceiling Panel with Service Openings	7	07-Dec-17	14-Dec-17	Mar-18																				
AW-B2-:	ABWF-Cublic Partition	7	29-Dec-17	06-Jan-18	Mar-18																				
AW-B2-:	ABWF-Final Fix-Sanitaryware/Sink/Door	5	08-Jan-18	12-Jan-18	Mar-18																				
AW-B2-:	ABWF-Floor screeding/Wall Plastering/Tiling/Counter Steel	13	22-Nov-17	06-Dec-17	Dec-17																				
AS-B2-1	ABWF/MEP Installation Completed	0		21-Jan-18																					
BS-B2-1	MEP Dropper	3	15-Dec-17	18-Dec-17	Feb-18																				
BS-B2-1	MEP Final Fix	7	13-Jan-18	20-Jan-18	Apr-18																				
BS-B2-1	MEP-Low Level P&D Pipework, H/L 1st/2nd Fix	13	30-Oct-17	13-Nov-17	Jan-18																				
Staff Toilet at GL 6, C																									
AW-B2-	ABWF/MEP Installation in Toilet (Detail refer to Public Toilet :	72	14-Nov-17	08-Feb-18	Feb-18																				
Staff Toilet at GL 2, C																									
AW-B2-	ABWF/MEP Installation in Toilet (Detail refer to Public Toilet :	72	21-Nov-17	20-Feb-18	Feb-18																				
Security Control Room & Security Equipmetn Rack Room (B2-1-048 & 049)																									
AW-B2-1C	ABWF-Ceiling Frame w/service panels	7	05-Dec-17	12-Dec-17	Mar-18																				
AW-B2-1C	ABWF-Raised Floor Panel Close-up	3	30-Dec-17	03-Jan-18	Apr-18																				
AW-B2-1C	ABWF-Raised Floor Setting out/Padestal/Grid/Door	3	16-Dec-17	19-Dec-17	Mar-18																				
AW-B2-1C	ABWF-Wall Final Paint/Carpet	3	04-Jan-18	06-Jan-18	Apr-18																				
AW-B2-1C	ABWF-Wet Trade (up to 1st coat painting) - Ceiling/Wall/Flo	19	20-Oct-17	11-Nov-17	Dec-17																				
AS-B2-10	ABWF/MEP Installation Completed	0		10-Jan-18																					
BS-B2-10	MEP H/L and Wall 1st/2nd Fix MEP Installation	19	13-Nov-17	04-Dec-17	Jan-18																				
BS-B2-10	MEP- H/L Dropper	3	13-Dec-17	15-Dec-17	Mar-18																				
BS-B2-10	MEP-Final Fix	2	08-Jan-18	09-Jan-18	Apr-18																				
BS-B2-10	MEP-Floor Mounted Installation	7	20-Dec-17	29-Dec-17	Apr-18																				

◆ ABWF/MEP Installation Completed,

◆ ABWF/MEP Installation Completed,

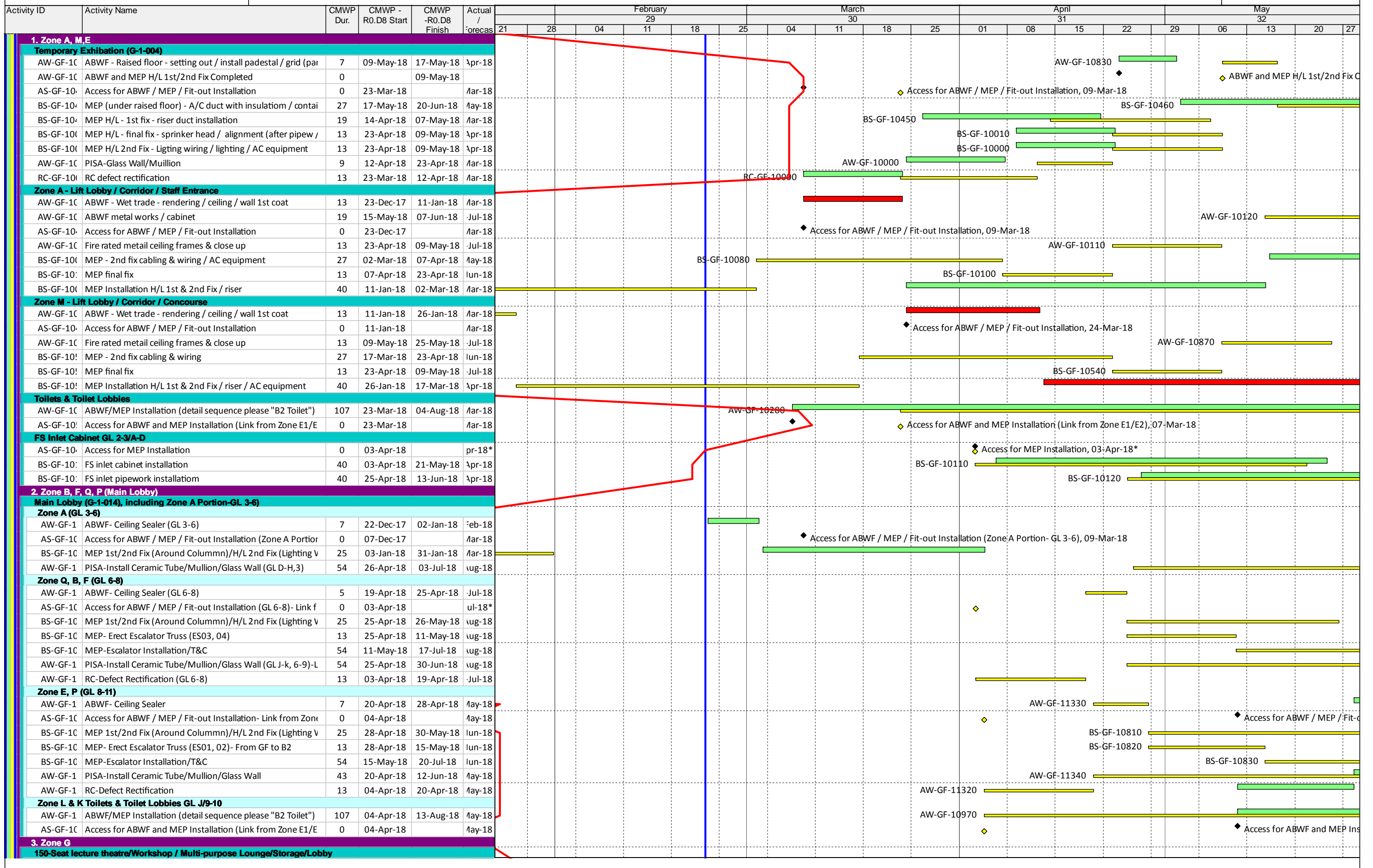
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018



Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast	21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27
AW-B1-10	AWBF/MEP Installation in Central Control Centre (Detail ref)	63	29-Mar-18	19-Jun-18	May-18																			
AW-B1-10	AWBF/MEP Installation in Network Operation Centre (Detail ref)	63	18-Apr-18	04-Jul-18	May-18																			
AS-B1-10	Access for ABWF/MEP Installation	0	29-Mar-18		May-18																			
Cafe kitchen (B1-1-044) GL 10-12/A-E & Catering Kitchen (G.L. 10 / B)																								
AW-B1-10	ABWF-Waterproofing & floor screeding/Rendering/Tile	25	04-May-18	04-Jun-18	Mar-18																			
AS-B1-10	Access for ABWF/MEP Installation	0	29-Mar-18		Feb-18																			
BS-B1-10	KIT-Installation Kitchen Equipment	38	04-Jun-18	20-Jul-18	Apr-18																			
BS-B1-10	MEP 1st / 2nd fix	19	29-Mar-18	25-Apr-18	Feb-18																			
BS-B1-11	MEP- Install Floor Drain/Wall Concealed Pipework	7	25-Apr-18	04-May-18	Mar-18																			
BS-B1-11	MEP-2nd fix-connection to Kitchen Equipment/Cabling	38	20-Jun-18	03-Aug-18	May-18																			
5. Zone C, D1																								
BOH Corridor along G.L.J																								
AW-B1-12	ABWF-Sealer paint	3	07-Mar-18	10-Mar-18	Apr-18																			
AS-B1-10	Access for ABWF/MEP Installation	0	07-Mar-18		Apr-18																			
BS-B1-11	MEP 1stFix-Main Chilled Water Header Installation/Connect	54	10-Mar-18	18-May-18	Apr-18																			
BS-B1-11	MEP-1st/2nd Fix-PD/FS pipe/Containment/Wiring/CHW Pip	54	18-May-18	24-Jul-18	Jul-18																			
BS-B1-11	Ready for System Flushing	0		18-May-18																				
ICT Riser Room																								
AW-B1-12	ABWF-Door/Iromongaries	3	26-Mar-18	29-Mar-18	May-18																			
AW-B1-12	ABWF-Sealer paint	3	07-Mar-18	10-Mar-18	Apr-18																			
AS-B1-10	Access for ABWF/MEP Installation	0	07-Mar-18		Apr-18																			
BS-B1-11	MEP 1st/2nd Fix	13	10-Mar-18	26-Mar-18	Apr-18																			
AS-B1-10	Ready for DC Access	0		29-Mar-18																				
ELV Room																								
AW-B1-12	ABWF Sealer paint	3	07-Mar-18	10-Mar-18	Apr-18																			
AW-B1-12	ABWF-Door / Ironmongeries	3	26-Mar-18	29-Mar-18	May-18																			
AS-B1-10	Access for ABWF/MEP Installation	0	07-Mar-18		Apr-18																			
BS-B1-11	ELV- Equipment Ract / Cabling / Connection	27	29-Mar-18	05-May-18	May-18																			
BS-B1-11	MEP 1st/2nd Fix	13	10-Mar-18	26-Mar-18	Apr-18																			
AS-B1-11	Ready for ELV system T&C	0		05-May-18																				
7. Zone H																								
Transformer Room C																								
AW-B1-13	ABWF - Ceiling / Wall / floor - 1st Coat/ Installation of cable	19	06-Nov-17	27-Nov-17	Mar-18																			
AW-B1-13	ABWF - Door / Louvre Installation	7	13-Dec-17	21-Dec-17	Feb-18																			
AW-B1-13	ABWF - Dust free sealer on floor	7	14-Dec-17	22-Dec-17	Feb-18																			
BS-B1-12	CLP Installation Period	80	18-Jan-18	30-Apr-18	Mar-18																			
BS-B1-12	CLP Power On	0		30-Apr-18																				
AW-B1-13	General Builder's Works, including floor screeding	13	20-Oct-17	04-Nov-17	Feb-18																			
AW-B1-13	H/O Tx Rms to CLP	0		18-Jan-18																				
AW-B1-13	Inspection by CLP	20	22-Dec-17	18-Jan-18	Mar-18																			
LG/F																								
CSF/RDE Zone																								
Carpark Area																								
AW-LG-10	ABWF - Wet Trade / Block wall / rendering / Ceiling / Floor	19	15-Jan-18	06-Feb-18	Feb-18																			
AS-LG-10	Access for ABWF and MEP Installation	0	15-Jan-18		Feb-18																			
BaP-LG-10	HC-Construction Logistic/Temporary Site Storage Period	143	24-Mar-18	17-Sep-18	Apr-18																			
BS-LG-10	MEP 2nd Fix Installation-Cabling	54	24-Mar-18	02-Jun-18	Apr-18																			
BS-LG-10	MEP H/L 1st Fix Installation	50	22-Jan-18	24-Mar-18	Nov-17																			
LV Switch Room (LG-3-700R) GL 4-5/H-I																								
BS-LG-10	LV Switch Room Installation (Refer to B1/F LV Switch Room)	73	15-Jan-18	18-Apr-18	Jan-18																			
BS-LG-10	Ready for Power On	0		18-Apr-18																				
RDE Stair Pressurization (LG-3-800R)																								
AW-LG-10	ABWF - Ceiling / Wall / floor - 1st Coat	19	23-Jan-18	14-Feb-18	Mar-18																			
AW-LG-10	ABWF - Door frame & panels & ironmongeries installation	7	18-Apr-18	26-Apr-18	Jun-18																			
AW-LG-10	ABWF final touch up/Door	7	26-Apr-18	05-May-18	Jun-18																			
AS-LG-10	Access for ABWF/MEP Installation	0	03-Jan-18		Mar-18																			
AW-LG-10	BW-Plinth	7	15-Jan-18	23-Jan-18	Mar-18																			
BS-LG-10	MEP 1st/2nd Fix Installation	54	06-Feb-18	18-Apr-18	Apr-18																			
BS-LG-10	MEP Stair pressuation installation	54	18-Apr-18	23-Jun-18	Jun-18																			
BS-B2-11	MEP-Stair pressurization equipment on site	0	18-Apr-18		Jun-18*																			
G/F																								

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

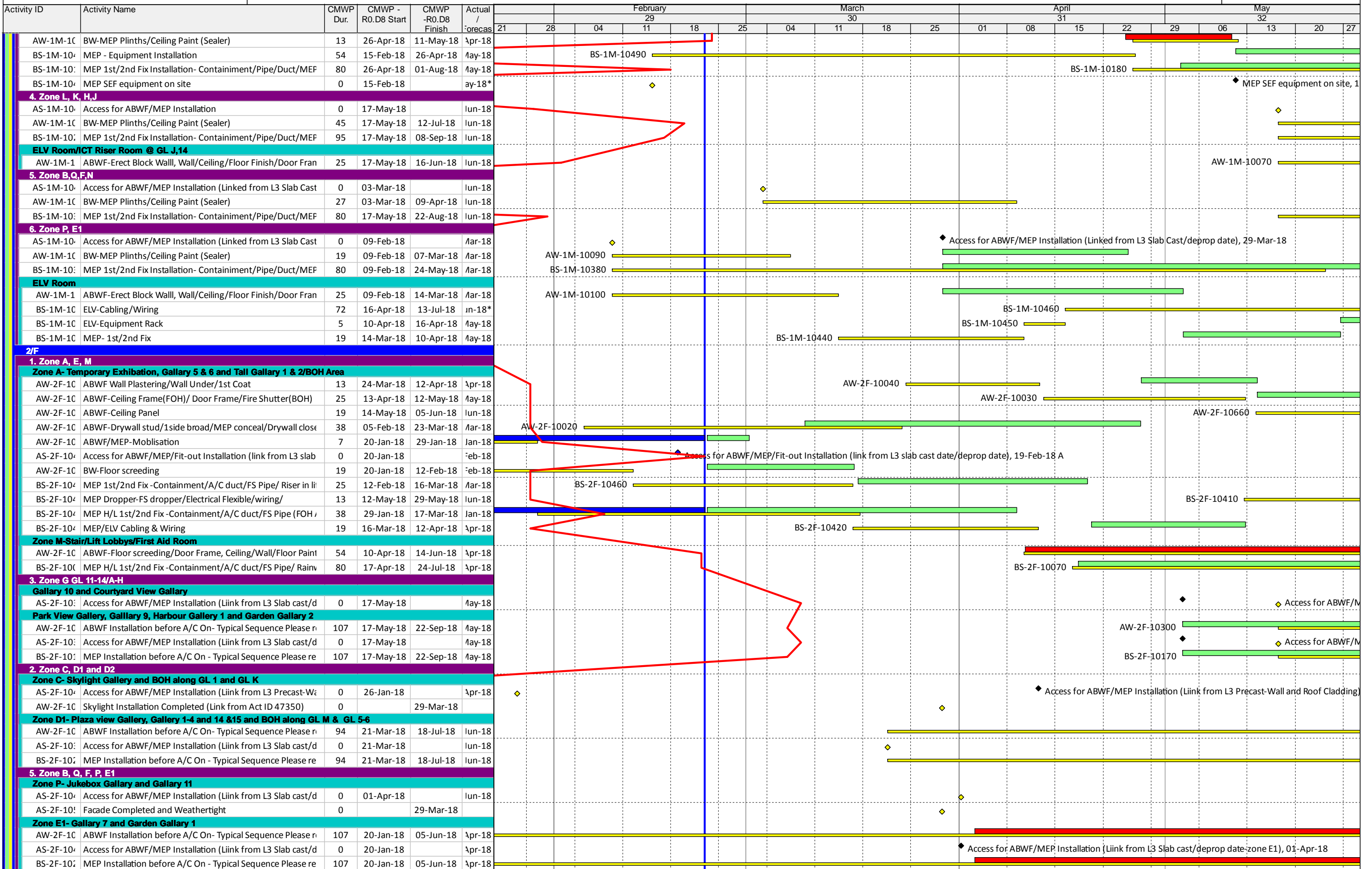


Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

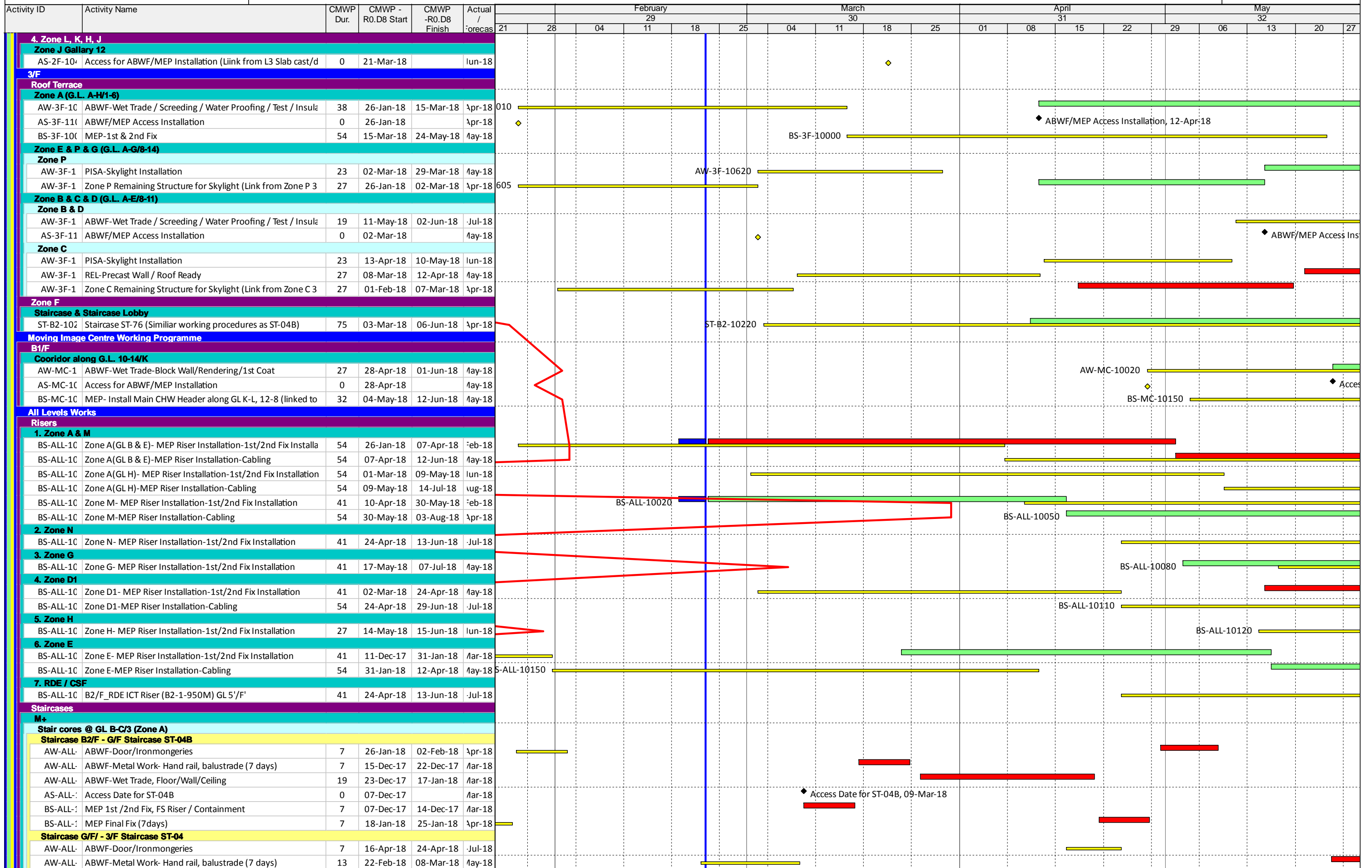
Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February						March						April					May						
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27					
AW-GF-1C	ABWF-dry wall installation	25	17-May-18	16-Jun-18	Jun-18																								
AW-GF-1C	ABWF-Isolated floor on structure floor slab at the 150-seat	19	24-Apr-18	17-May-18	May-18																								
AW-GF-11	ABWF-Patching up the tie-bolt hole	9	24-Apr-18	05-May-18	May-18																								
AS-GF-10!	Access for ABWF / MEP / Fit-out Installation	0	24-Apr-18		May-18																								
BS-GF-10!	MEP 1st / 2nd fix HL	25	17-May-18	16-Jun-18	Jun-18																								
4. Zone C, D1, D2 and N																													
Zone D, N - Lift Lobby / Corridor / Concourse (GL 5 and 7)																													
AW-GF-1C	ABWF - Wet trade - rendering / ceiling / wall 1st coat	13	03-Feb-18	22-Feb-18	Mar-18																								
AS-GF-10!	Access for ABWF / MEP / Fit-out Installation	0	03-Feb-18		Mar-18																								
BS-GF-10!	MEP - 2nd fix cabling & wiring	27	14-Apr-18	17-May-18	May-18																								
BS-GF-10!	MEP final fix	13	17-May-18	02-Jun-18	Jun-18																								
BS-GF-10!	MEP Installation H/L 1st & 2nd Fix / riser	40	22-Feb-18	14-Apr-18	Apr-18																								
Fire Control Room (G-1-057)																													
AW-GF-1C	ABWF - Ceiling / Wall / floor - 1st Coat	13	10-Jan-18	25-Jan-18	Mar-18																								
AW-GF-1C	ABWF - Door frame & panels & ironmongeries installation	7	20-Feb-18	28-Feb-18	May-18																								
AW-GF-1C	ABWF final touch up	7	03-Mar-18	12-Mar-18	May-18																								
AS-GF-10!	Access for ABWF/MEP Installation	0	22-Dec-17		Mar-18																								
AW-GF-1C	General Builder's Works	13	22-Dec-17	10-Jan-18	Mar-18																								
BS-GF-10!	MEP Cabling & Wiring	7	08-Feb-18	20-Feb-18	Apr-18																								
BS-GF-10!	MEP Installation H/L 1st & 2nd Fix	19	17-Jan-18	08-Feb-18	Apr-18																								
BS-GF-10!	MEP-Fire Control System Installation/Connection	80	12-Mar-18	21-Jun-18	May-18																								
Museum shop / Other Area																													
AW-GF-1C	ABWF-Ceiling/Wall Sealer	7	09-May-18	17-May-18	Jun-18																								
AD-GF-10	Access for ABWF / MEP / Fit-out Installation	0	09-May-18		Jun-18																								
BS-GF-10!	MEP 1st/2nd Fix-Containment/A/C/duct/FS Pipe/ Riser	25	17-May-18	16-Jun-18	Jun-18																								
AD-GF-10	PISA-Glass Wall/Ceramic Mullion	23	17-May-18	14-Jun-18	Jun-18																								
5. Pedestrian Pavement Works (Around M+ Podium)																													
PW-M-101	Access for ABWF / MEP Installation (GL A, 1-7)	0	03-Feb-18		Mar-18																								
PW-M-101	Concrete bedding & precast concrete bench (GL A, 1-7)	19	16-Mar-18	12-Apr-18	May-18																								
PW-M-101	MEP P/D & ELE / ELV 1st & 2nd fix (GL A,1-7)	13	01-Mar-18	16-Mar-18	Apr-18																								
PW-M-104	Pavement Work (GL A, 7-14)- (Detail Sequence refer to Act I	32	21-May-18	29-Jun-18	Jul-18																								
PW-M-102	Pavement Work (GL A-E, 1-3)- (Detail Sequence refer to Act	32	12-Apr-18	21-May-18	May-18																								
PW-M-103	Pavement Work (GL E-M, 1-3)- (Detail Sequence refer to Act	32	21-May-18	29-Jun-18	Jul-18																								
PW-M-101	Waterproofing / test / insulation layer / screeding (GL A,1-7)	19	03-Feb-18	01-Mar-18	Mar-18																								
1/F																													
Zone C & D (Shop / office / Lobby)																													
BaP-1F-10	ABWF / MEP - Completed for FS inspection (refer ro G/F Mu:	121	09-May-18	03-Oct-18	Jun-18																								
1M/F																													
1. Zone A,C,E,M																													
AW-1M-1C	BW-MEP Plinths/Ceiling Paint (Sealer)	27	15-Nov-17	15-Dec-17	Feb-18																								
BS-1M-10!	MEP 1st/2nd Fix Installation- Containment/Pipe/Duct/MEP	54	16-Dec-17	23-Feb-18	Mar-18																								
BS-1M-10!	MEP-A/C equipment On Site	0	15-Feb-18		Feb-18																								
BS-1M-10!	MEP-Equipment Connection	54	24-Feb-18	03-May-18	Jun-18																								
BS-1M-10!	MEP-Floor Power On (Partial)	0		24-Feb-18																									
BS-1M-10!	MEP-Smoke Extraction System T&C	27	04-May-18	05-Jun-18	Aug-18																								
ELV Room/ICT Riser Room @ GL B,4																													
AW-1M-1	ABWF-Erect Block Wall, Wall/Ceiling/Floor Finish/Door Fran	25	16-Dec-17	17-Jan-18	Jan-18																								
BS-1M-1C	ELV-Cabling/Wiring	80	27-Mar-18	06-Jul-18	Jul-18*																								
BS-1M-1C	ELV-Equipment Rack	7	09-Feb-18	20-Feb-18	Apr-18																								
BS-1M-1C	MEP- 1st/2nd Fix	19	18-Jan-18	08-Feb-18	Mar-18																								
2. Zone D1, D2																													
AS-1M-10!	Access for ABWF/MEP Installation (Linked from L3 Slab Cast	0	29-Jan-18		Mar-18																								
AW-1M-1C	BW-MEP Plinths/Ceiling Paint (Sealer)	13	29-Jan-18	13-Feb-18	Mar-18																								
BS-1M-10!	MEP 1st/2nd Fix Installation- Containment/Pipe/Duct/MEP	80	13-Feb-18	28-May-18	Mar-18																								
ELV Room/ICT Riser Room @ GL K,4																													
AW-1M-1	ABWF-Erect Block Wall, Wall/Ceiling/Floor Finish/Door Fran	25	29-Jan-18	02-Mar-18	Mar-18																								
BS-1M-1C	ELV-Cabling/Wiring	72	03-Apr-18	30-Jun-18	May-18*																								
BS-1M-1C	ELV-Equipment Rack	5	24-Mar-18	03-Apr-18	May-18																								
BS-1M-1C	MEP- 1st/2nd Fix	19	02-Mar-18	24-Mar-18	Apr-18																								
3. Zone G																													
AS-1M-10!	Access for ABWF/MEP Installation (Linked from L3 Slab Cast	0	26-Apr-18		Apr-18																								

◆ Access for ABWF/MEP Installation (Linked from L3 Slab Cast)

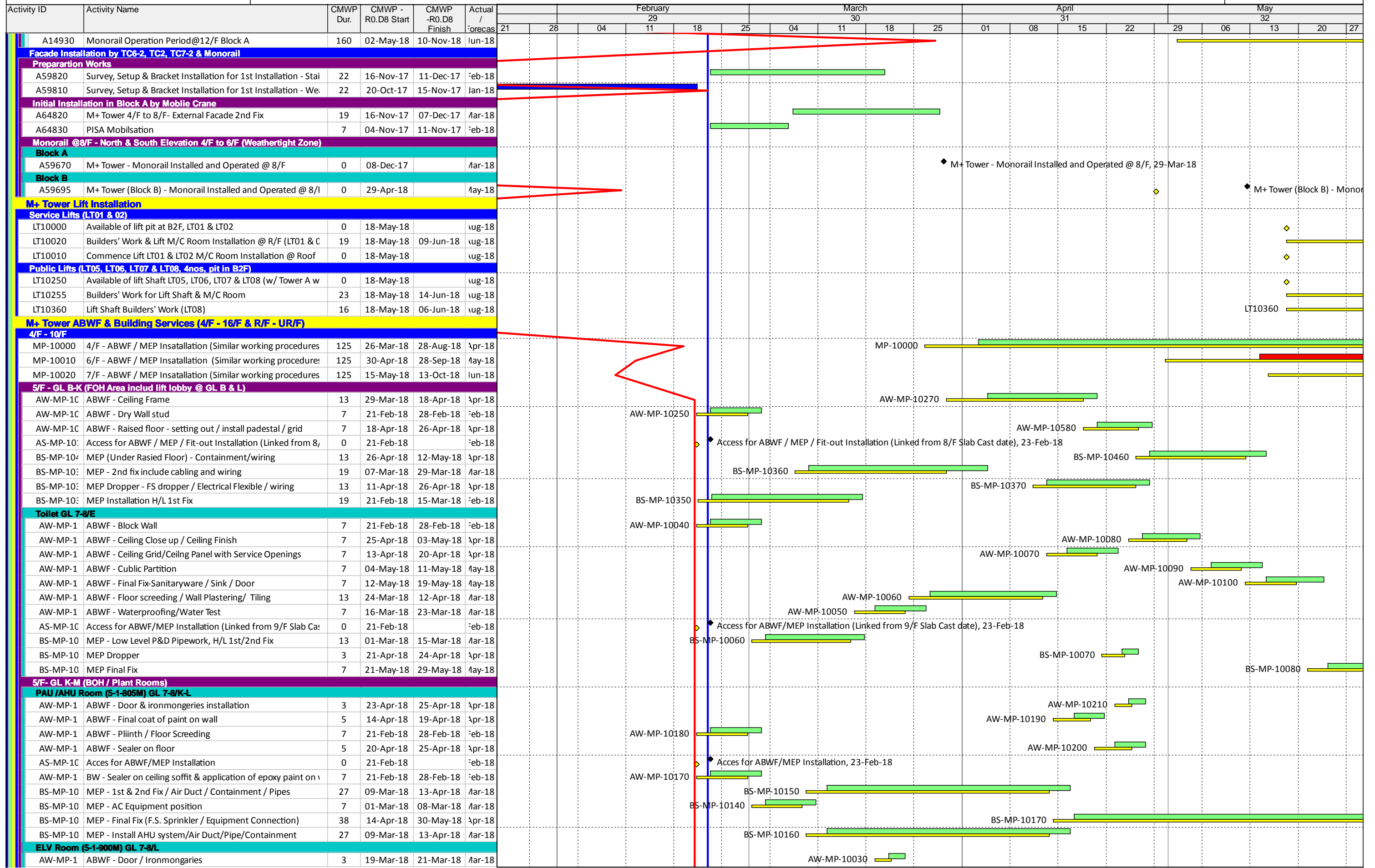
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018



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Activity ID	Activity Name	CMWP Dur.	CMWP - RO.D8 Start	CMWP -RO.D8 Finish	Actual / Forecast	February							March							April							May						
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27									
AW-MP-1	ABWF - Sealer paint	3	21-Feb-18	23-Feb-18	Feb-18																												
AS-MP-10	Access for ABWF/MEP Installation (Linked from 9/F Slab Ca	0	21-Feb-18	Feb-18	Feb-18																												
BS-MP-10	MEP - 1st / 2nd / Final Fix	19	24-Feb-18	17-Mar-18	Feb-18																												
BS-MP-10	MEP - ELV- Equipment Ract / Cabling / Connection	27	22-Mar-18	26-Apr-18	Mar-18																												
AS-MP-10	Ready for ELV system T&C	0		27-Apr-18																													
MEP (EL) Room (5-1-803M) @ GL 7-8/L																																	
AW-MP-1	ABWF - Door / Ironmongeries	3	22-Mar-18	24-Mar-18	Mar-18																												
AS-MP-10	Access for ABWF/MEP Installation	0	21-Feb-18	Feb-18	Feb-18																												
BS-MP-11	MEP - 1st & 2nd & Final Fix	25	21-Feb-18	21-Mar-18	Feb-18																												
5/F - GL A-B (BOH / Plant Rooms)																																	
ELV Room (5-1-901M) GL 7-8/A-B																																	
AW-MP-1	ABWF Sealer paint	3	16-Apr-18	19-Apr-18	Apr-18																												
AW-MP-1	ABWF-Door / Ironmongeries	3	05-May-18	09-May-18	May-18																												
AS-MP-10	Access for ABWF/MEP Installation (Linked from 9/F Slab Ca	0	16-Apr-18	Apr-18	Apr-18																												
BS-MP-10	MEP - ELV- Equipment Ract / Connection	27	09-May-18	11-Jun-18	May-18																												
BS-MP-10	MEP 1st / 2nd/final Fix	13	19-Apr-18	05-May-18	Apr-18																												
MEP (EL) Room (5-1-806M) & (5-1-800M) @ GL 7-8/A-B																																	
AW-MP-1	ABWF-Ceiling/Wall/ Sealer	5	21-Feb-18	26-Feb-18	Feb-18																												
AS-MP-10	Access for ABWF/MEP Installation	0	21-Feb-18	Feb-18	Feb-18																												
BS-MP-10	MEP - 1st Fix	25	27-Feb-18	27-Mar-18	Mar-18																												
BS-MP-10	MEP - 2nd & Final Fix	54	28-Mar-18	05-Jun-18	Apr-18																												
M+ Tower Testing & Commissioning (4/F - 16/F & R/F - UR/F)																																	
MEP System T&C																																	
Electrical																																	
EL-CLP-10:	TX Room A CLP power on (M+ & CSF)	0		24-Mar-18																													
EL-CLP-10:	TX Room B CLP power on (M+ & CSF)	0		24-Mar-18																													
CSF Tower																																	
Tower Crane Provision																																	
Provision of TC4 (CSF, Entrance Portal & AEL North Podium Construction)																																	
TC4 Erection																																	
A64650	TC4 Operational Period	255	20-Oct-17	30-Aug-18	Apr-17																												
CSF Tower RC Structure Construction (G/F - 8/F & R/F)																																	
CSF Super-Structure RC Works																																	
CSF Building																																	
CSF Structure @ Portion - T (G/F to 8/F)																																	
Grid Line B' to F' / 4' to 6'																																	
A50810	Complete CSF Structure (IPSMS B7: 31 July 2017 rev to Jun	0		20-Apr-18																													
A50750	CSF - 3/F to 4/F Construction (Incl envelope)	15	20-Nov-17	06-Dec-17	Dec-17																												
A50760	CSF - 4/F to 5/F Construction (Incl envelope)	14	07-Dec-17	22-Dec-17	Jan-18																												
A50770	CSF - 5/F to 6/F Construction (Incl envelope)	14	23-Dec-17	11-Jan-18	Mar-18																												
A50780	CSF - 6/F to 7/F Construction	14	12-Jan-18	27-Jan-18	Apr-18																												
A50790	CSF - 7/F to 8/F Construction	14	29-Jan-18	13-Feb-18	May-18																												
A50795	CSF - 8/F to +61.13/62.0 Construction	14	14-Feb-18	05-Mar-18	Jun-18																												
A50800	CSF - 8/F to R/F Construction	36	06-Mar-18	20-Apr-18	Jul-18																												
CSF Building Temporary Works																																	
CF10910	Material Hoist Erection (Initial)(LT-53 Shaft)	8	07-Dec-17	15-Dec-17	Jan-18																												
CF10940	Material Hoist Operation period	197	16-Dec-17	18-Aug-18	Feb-18																												
CSF Building FACADE Preliminaries																																	
ENGINEERING & APPROVAL - CSF																																	
SHOPDRAWING - Facade Doors Package #11 - CSF Doors - Total No. = 2																																	
A19290	1st Shopdrawing Submission	86	20-Oct-17	01-Feb-18	Jan-18																												
A19300	1st Shopdrawing Submission - Review & Approval	19	02-Feb-18	27-Feb-18	May-18																												
A19310	2nd Shopdrawing Submission	13	28-Feb-18	14-Mar-18	Jun-18																												
A19320	2nd Shopdrawing Submission - Review & Approval	19	15-Mar-18	10-Apr-18	Jun-18																												
SHOPDRAWING - CSF Roof Louvre Wall																																	
A19360	3rd Shopdrawing Submission & Comment	16	20-Oct-17	08-Nov-17	Dec-17																												
PERFORMANCE TEST - SHOPDRAWING SUBMISSION, FABRICATION, INSTALLATION & TEST																																	
PERFORMANCE TEST & MOCK UP - CSF																																	
A19470	Handover CSF Roof Louvre Wall Working Areas, Provide Acc	0		30-Apr-18																													
A19460	Installation Performance Mock up	37	13-Mar-18	30-Apr-18	May-18																												
A19450	Ordering & Production of Material	95	15-Nov-17	13-Mar-18	Mar-17																												
PMU SHOPDRAWING SUBMISSION & TEST - CSF Building																																	
A19540	Perf MU - Commence Testing of CSF Facade	0		24-Mar-18																													
A19530	Perf MU - CSF Facade Installation	38	06-Feb-18	24-Mar-18	Jun-18																												

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
A19520	Perf MU - CSF Facade Ordering & Production	89	20-Oct-17	05-Feb-18	Feb-18	[Gantt bar: Feb 21 - Feb 25]																			
A19550	Perf MU - Testing & Report Submission of CSF Facade	11	26-Mar-18	11-Apr-18	Jul-18	[Gantt bar: Mar 25 - Apr 01]																			
PRODUCTION MOCK UP & INSPECTION																									
Prod MU - CSF Facade Panel																									
A55480	CSF Facade Panel Prod MU	54	12-Apr-18	15-Jun-18	Aug-18	[Gantt bar: Apr 15 - Apr 22]																			
Fabrication & Delivery of CSF Facade System																									
A19570	Glass Production and Fabrication	113	07-Dec-17	30-Apr-18	Mar-18	[Gantt bar: Mar 18 - Mar 25]																			
A19560	Glass Wall Production and Fabrication	187	06-Nov-17	26-Jun-18	Feb-18	[Gantt bar: Feb 25 - Mar 04]																			
A19580	Roof Louvre Wall Production & Fabrication	144	03-Jan-18	03-Jul-18	Apr-18	[Gantt bar: Apr 01 - Apr 08]																			
Glass Production & Fabrication																									
A19600	Fabrication of Insulated Glass Panel	54	03-Jan-18	09-Mar-18	May-18	[Gantt bar: Mar 25 - Apr 01]																			
A19590	Ordering of Coated Glass	60	20-Oct-17	02-Jan-18	Jul-17	[Gantt bar: Feb 25 - Mar 04]																			
Glass Wall Production & Fabrication																									
A19620	Aluminium Extrusion Production	22	17-Nov-17	12-Dec-17	Mar-18	[Gantt bar: Mar 18 - Mar 25]																			
A19640	Application of PVF2 Coating	16	24-Jan-18	12-Feb-18	Apr-18	[Gantt bar: Apr 01 - Apr 08]																			
A19610	Die Making	10	06-Nov-17	16-Nov-17	Mar-17	[Gantt bar: Mar 18 - Mar 25]																			
A19630	PVF2 Paint Ordering	38	07-Dec-17	24-Jan-18	Oct-17	[Gantt bar: Feb 25 - Mar 04]																			
A19650	Steel Frame Fabrication - Roof Louvre	66	14-Mar-18	06-Jun-18	May-18	[Gantt bar: Apr 15 - Apr 22]																			
Roof Louvre Wall Production & Fabrication																									
A19700	Aluminium Extrusion Production	27	10-Mar-18	16-Apr-18	Apr-18	[Gantt bar: Apr 01 - Apr 08]																			
A19720	Application of PVF2 Coating	11	16-Apr-18	28-Apr-18	May-18	[Gantt bar: Apr 15 - Apr 22]																			
A19690	Die Making	54	03-Jan-18	10-Mar-18	Jan-18	[Gantt bar: Mar 18 - Mar 25]																			
A19730	Fabrication & Assemble of Louvre Units	54	28-Apr-18	05-Jul-18	Jun-18	[Gantt bar: Apr 22 - Apr 29]																			
A19710	PVF2 Paint Ordering	27	10-Mar-18	16-Apr-18	Apr-18	[Gantt bar: Apr 01 - Apr 08]																			
A19680	Steel Frame Fabrication - Roof Louvre	107	03-Jan-18	17-May-18	Apr-18	[Gantt bar: Apr 01 - Apr 08]																			
CSF External Envelope																									
CSF Structure Milestones																									
A19830	CSF - Wall, Column & 6/F to 7/F Slab Complete	0		27-Jan-18		[Milestone: Jan 27]																			
A19840	CSF - Wall, Column & 7/F to 8/F Slab Complete	0		13-Feb-18		[Milestone: Feb 13]																			
A19850	CSF - Wall, Column & R/F Slab Complete	0		20-Apr-18		[Milestone: Apr 20]																			
FACADE INSTALLATION - by Permasteelisa																									
A19860	Access for PISA Survey (6/F to 8/F)	0		09-Feb-18		[Milestone: Feb 09]																			
A20020	Handover of Working Area (7/F to R/F)	0		24-Apr-18		[Milestone: Apr 24]																			
A19961	PISA-Embed Survey/Report/Remedial/Bracket Installation	7	09-Feb-18	21-Feb-18	Jun-18	[Gantt bar: Feb 25 - Mar 04]																			
A64790	PISA-Embed Survey/Report/Remedial/Bracket Installation	69	25-Apr-18	18-Jul-18	Aug-18	[Gantt bar: Apr 15 - Apr 22]																			
A19951	PISA-Embed Survey/Report/Remedial/Bracket Installation	57	21-Nov-17	30-Jan-18	Feb-18	[Gantt bar: Feb 25 - Mar 04]																			
A20220	PISA-Embed Survey/Report/Remedial/Bracket Installation	65	25-Apr-18	14-Jul-18	Aug-18	[Gantt bar: Apr 15 - Apr 22]																			
MEP Vertical Louvre Screen Wall - South Elevation (East to West)																									
A20140	Access for PISA Survey (R/F, GL 4'-5' / B'-F')	0		25-Apr-18		[Milestone: Apr 25]																			
CSF Building Lift Installation																									
Platform Lifts (LT30, LT31 & LT32) @ Zone T																									
LT10880	Available of lift Shaft LT30, LT31 & LT32	0	20-Apr-18		Aug-18	[Milestone: Apr 20]																			
LT10890	Builders' Work for LT30, LT31 & LT32 Lift Shaft	23	21-Apr-18	18-May-18	Aug-18	[Gantt bar: Apr 22 - Apr 29]																			
LT10900	Lifts Car Installation (LT30, LT31 & LT32)	54	19-May-18	24-Jul-18	Sep-18	[Gantt bar: Apr 29 - May 06]																			
CSF Fireman & Disable Lifts (LT51) @ Zone T																									
LT10930	Available of Lift Shaft LT51	0	04-May-18		Sep-18	[Milestone: May 04]																			
LT10940	Builders' Work for LT51 Lift Shaft	13	04-May-18	19-May-18	Sep-18	[Gantt bar: May 06 - May 13]																			
LT10950	LT51-Lift Installation & T&C	67	19-May-18	09-Aug-18	Sep-18	[Gantt bar: May 13 - May 20]																			
CSF Lifts (LT52) @ Zone T																									
LT11030	Available of lift Shaft LT52 (after AHU Transported G/F to 7/I	0	20-Apr-18		Aug-18	[Milestone: Apr 20]																			
LT11040	Builders' Work for LT52 Lift Shaft & M/C Room	13	21-Apr-18	07-May-18	Aug-18	[Gantt bar: Apr 22 - Apr 29]																			
LT11045	LT52-Lift Installation & T&C	67	08-May-18	27-Jul-18	Sep-18	[Gantt bar: Apr 29 - May 06]																			
CSF Tower ABWF & Building Services (G/F - 8/F & R/F)																									
CSF Tower GF-1F, 3-6F																									
CSF-10350	1/F BOH /FOH ABWF/MEP Installation	85	23-Dec-17	12-Apr-18	Mar-18	[Gantt bar: Mar 18 - Mar 25]																			
CSF-10310	3/F BOH /FOH ABWF/MEP Installation	85	29-Jan-18	16-May-18	May-18	[Gantt bar: Apr 01 - Apr 08]																			
CSF-10320	4/F BOH /FOH ABWF/MEP Installation	85	14-Feb-18	02-Jun-18	Jun-18	[Gantt bar: Apr 08 - Apr 15]																			
CSF-10330	5/F BOH /FOH ABWF/MEP Installation	85	06-Mar-18	20-Jun-18	Jul-18	[Gantt bar: Apr 15 - Apr 22]																			
CSF-10340	6/F BOH /FOH ABWF/MEP Installation	85	21-Apr-18	02-Aug-18	Aug-18	[Gantt bar: Apr 22 - Apr 29]																			
CSF-10370	G/F BOH /FOH ABWF/MEP Installation	85	07-Dec-17	22-Mar-18	Feb-18	[Gantt bar: Feb 25 - Mar 04]																			
2/F																									
2/F, GL B'-F' (FOH Area)																									

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
AW-CSF-12	ABWF-Ceiling Close-up	7	10-Mar-18	17-Mar-18	Jun-18																				
AW-CSF-12	ABWF-Ceiling Frame	7	22-Feb-18	01-Mar-18	Jun-18																				
AW-CSF-12	ABWF-Door/Ironmogaries	6	21-Apr-18	27-Apr-18	Jul-18																				
AW-CSF-12	ABWF-Dry Wall Close-up/	7	10-Feb-18	21-Feb-18	May-18																				
AW-CSF-12	ABWF-Dry Wall Stud	7	12-Jan-18	19-Jan-18	Apr-18																				
AW-CSF-12	ABWF-Wall/Ceiling/Floor Final Finishing	25	19-Mar-18	20-Apr-18	Jun-18																				
AS-CSF-10	Access for ABWF/MEP Installation	0	12-Jan-18		Apr-18																				
BS-CSF-11	MEP Final Fix	7	21-Apr-18	28-Apr-18	Jul-18																				
BS-CSF-11	MEP- MEP Dropper	7	02-Mar-18	09-Mar-18	Jun-18																				
BS-CSF-11	MEP-1st/2nd Fix-Duct/Containment/ Pipe/FCU	25	12-Jan-18	09-Feb-18	Apr-18																				
2/F- GL B-C (BOH/Plant Room Area)																									
AW-CSF-12	ABWF - Block Wall / Rendering / Floor Screeding	19	12-Jan-18	02-Feb-18	Apr-18																				
AW-CSF-12	ABWF- Wall / Ceiling 1st Coat	7	12-Feb-18	22-Feb-18	May-18																				
AS-CSF-10	Access for ABWF/ MEP Installation	0	12-Jan-18		Apr-18																				
AW-CSF-12	BW - Equipment Plinth	7	03-Feb-18	10-Feb-18	May-18																				
BS-CSF-11	MEP - AHU Room Installation-1st / 2nd / Final Fix Installatio	54	23-Feb-18	02-May-18	Jun-18																				
BS-CSF-11	MEP - ICT Room Installation - 1st / 2nd / Final Fix Installaion	25	23-Feb-18	23-Mar-18	Jun-18																				
AS-CSF-10	MEP - Riser Installation (Linked from 8/F Access Date)	54	06-Mar-18	12-May-18	Jul-18																				
BS-CSF-11	MEP/ ELV-ELV Room Installation-1st / 2nd / Final Fix Installa	54	23-Feb-18	02-May-18	Jun-18																				
7/F																									
7/F, GL B'-F' (FOH Area)																									
AW-CSF-12	ABWF - Dry Wall Stud	7	21-Apr-18	28-Apr-18	Aug-18																				
AW-CSF-12	ABWF - Metal Ceiling Panel frame installation	19	21-Apr-18	14-May-18	Aug-18																				
AS-CSF-10	Access for ABWF / MEP Installation	0	21-Apr-18		Aug-18																				
AW-CSF-12	Common Scaffold Erection @ 7/F Painting Studio	13	21-Apr-18	07-May-18	Aug-18																				
BS-CSF-11	MEP - 1st / 2nd fix (HL) / Containment / A/C duct / FS Pipe	19	15-May-18	06-Jun-18	Sep-18																				
BS-CSF-11	MEP - 1st / 2nd Fix-Duct / Containment / Pipe / FCU	25	08-May-18	06-Jun-18	Sep-18																				
AW-CSF-12	PISA - Glass Curtain Wall Installation (Along GL 4')	13	21-Apr-18	07-May-18	Aug-18																				
7/F- GL B-C (BOH/Plant Room Area)																									
AW-CSF-12	ABWF - Block Wall/Rendering/Floor Screeding	19	07-May-18	29-May-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation	0	06-May-18		Sep-18																				
AS-CSF-10	MEP- Riser Installation (Linked from 8/F Access Date)	54	07-May-18	11-Jul-18	Sep-18																				
8/F																									
8/F Chiller Plant Room																									
AW-CSF-12	ABWF-Roof Insulation/screeding/Floor Finishing	19	15-May-18	06-Jun-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation (linked from CSF Roof str	0	21-Apr-18		Aug-18																				
AW-CSF-12	BW- Water Proofing/Test/Floating Slab/ Plinth	19	21-Apr-18	14-May-18	Aug-18																				
BS-CSF-11	MEP- Position Chiller/Heat Pump/ Water Pumps Equipment	7	15-May-18	23-May-18	Sep-18																				
8F-PAU Room																									
AW-CSF-12	ABWF-Block Wall Erection	7	09-May-18	16-May-18	Sep-18																				
AW-CSF-12	ABWF-Water Proofing/Test/Screeding	7	17-May-18	25-May-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation (linked from CSF Roof str	0	09-May-18		Sep-18																				
AW-CSF-12	BW- Equipment Plinth Construction/Water Proofing/Test/Sc	7	09-May-18	16-May-18	Sep-18																				
8F Chilled Water Pumps Room																									
AW-CSF-12	ABWF-Block Wall Erection	7	09-May-18	16-May-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation (linked from CSF Roof str	0	09-May-18		Sep-18																				
AW-CSF-12	BW- Floating Slab/Plinth Construction/Water Proofing/Test/	19	17-May-18	08-Jun-18	Sep-18																				
8F- Chiller/Heat Pump Control Room																									
AW-CSF-12	ABWF-Block Wall Erection	7	17-May-18	25-May-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation (linked from CSF Roof str	0	09-May-18		Sep-18																				
8F- Water Tank and Pumps Room																									
AW-CSF-12	ABWF-Block Wall Erection	7	17-May-18	25-May-18	Sep-18																				
AS-CSF-10	Access for ABWF/MEP Installation (linked from CSF Roof str	0	21-Apr-18		Aug-18																				
Roof																									
AW-CSF-12	ABWF-Cast-in Bolt for Fall Arrested System	7	21-Apr-18	28-Apr-18	Aug-18																				
AW-CSF-12	ABWF-Waterproof	7	30-Apr-18	08-May-18	Sep-18																				
AW-CSF-12	RL- Install Pre-cast RC Panel	54	09-May-18	13-Jul-18	Sep-18																				
AW-CSF-12	RL-Cast-in Bolt for Pre-cast RC Panel	7	21-Apr-18	28-Apr-18	Aug-18																				
RC-CSF-10C	Roof Structure Completed	0		21-Apr-18																					
All Level																									
Stricase (ST 52 & ST-51) (GL 6/B' & 4/F')																									

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Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
SHOP DRAWINGS + DESIGN CALCULATION																									
SHOPDRAWING + DESIGN CALCULATION - by Redland																									
A53490	3rd Shopdrawing for PreCast Tubes, Columns and Roof Pan	13	20-Oct-17	04-Nov-17	Jan-18	[Gantt bar: Jan-18 to Feb-18]																			
A53500	3rd Shopdrawing for PreCast Tubes, Columns and Roof Pan	13	06-Nov-17	20-Nov-17	Feb-18	[Gantt bar: Feb-18 to Mar-04]																			
SHOPDRAWING + DESIGN CALCULATION - by PISA																									
A53710	2nd Shopdrawing for Window Wall, Facade Window, Louver	13	20-Oct-17	04-Nov-17	Dec-17	[Gantt bar: Dec-17 to Jan-18]																			
A53720	2nd Shopdrawing for Window Wall, Facade Window, Louver	13	09-Nov-17	23-Nov-17	Dec-17	[Gantt bar: Dec-17 to Jan-18]																			
A53860	3rd Shopdrawing for Window Wall & Louver at 15F to RF - f	13	09-Dec-17	23-Dec-17	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
A53800	3rd Shopdrawing for Window Wall & Louver at 2F to 14F - f	13	20-Oct-17	04-Nov-17	Dec-17	[Gantt bar: Dec-17 to Jan-18]																			
A53680	3rd Shopdrawing Cast-in Embed for Window Wall & Louver	13	24-Nov-17	08-Dec-17	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
A53620	3rd Shopdrawing Cast-in Embed for Window Wall & Louver	16	20-Oct-17	08-Nov-17	Mar-17	[Gantt bar: Mar-17 to Mar-18]																			
A53730	3rd Shopdrawing for Window Wall, Facade Window, Louver	13	24-Nov-17	08-Dec-17	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
A53740	3rd Shopdrawing for Window Wall, Facade Window, Louver	13	09-Dec-17	23-Dec-17	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
PERFORMANCE MOCK UP TEST																									
PERFORMANCE MOCK UP TEST - by PISA																									
A54020	2nd Performance Mock Up Test Design Submission of Wind	13	21-Nov-17	05-Dec-17	Dec-17	[Gantt bar: Dec-17 to Jan-18]																			
A54030	3rd Performance Mock Up Test Design Submission of Wind	13	06-Dec-17	20-Dec-17	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
A54040	3rd Performance Mock Up Test Design Submission of Wind	13	21-Dec-17	08-Jan-18	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
BD DRAWING + DESIGN CALCULATION																									
BD DRAWING + DESIGN CALCULATION - by PISA																									
A54220	1st BD Submission Cast-in Embed for Window Wall & Louve	11	20-Oct-17	02-Nov-17	Mar-17	[Gantt bar: Mar-17 to Mar-18]																			
A54240	2nd BD Submission Cast-in Embed for Window Wall & Louve	13	18-Nov-17	02-Dec-17	Dec-17	[Gantt bar: Dec-17 to Jan-18]																			
A54440	3rd BD Submission for Window Wall & Louver at 15F to RF -	13	09-Jan-18	23-Jan-18	Jan-18	[Gantt bar: Jan-18 to Feb-04]																			
RDE External Envelope																									
RDE Structure																									
A21260	RDE - Wall, Column & 7/F Slab Complete	0		18-Mar-18		[Gantt bar: Mar-18 to Mar-18]																			
FACADE INSTALLATION - by Permasteelisa																									
NORTH ELEVATION - Glazed Glass Curtain Wall (FC-WW-03a, 03b, 04, 05a & 05b)																									
A21290	Handover of Working Area (after completion of 7/F Slab)	0		19-Mar-18		[Gantt bar: Mar-18 to Mar-18]																			
A21310	RDE - 2/F to 3/F Install Window Curtain Wall (2 wks per floc	3	07-Apr-18	10-Apr-18	Jun-18	[Gantt bar: Apr-18 to Jun-18]																			
A21320	RDE - 3/F to 4/F Install Window Curtain Wall	3	21-Apr-18	24-Apr-18	Jul-18	[Gantt bar: Apr-18 to Jul-18]																			
A21330	RDE - 4/F to 5/F Install Window Curtain Wall	3	07-May-18	09-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A21340	RDE - 5/F to 6/F Install Window Curtain Wall	3	21-May-18	24-May-18	Aug-18	[Gantt bar: May-18 to Aug-18]																			
A21295	RDE - Survey & Setting Out G/F to 7/F (North Elevation)	13	19-Mar-18	06-Apr-18	Jun-18	[Gantt bar: Mar-18 to Jun-18]																			
WEST ELEVATION - Glazed Glass Curtain Wall (FC-WW-03a, 03b, 04, 05a & 05b)																									
A21450	Handover of Working Area (after completion of 7/F Slab)	0		19-Mar-18		[Gantt bar: Mar-18 to Mar-18]																			
A21470	RDE - 2/F to 3/F Install Window Curtain Wall	3	11-Apr-18	13-Apr-18	Jun-18	[Gantt bar: Apr-18 to Jun-18]																			
A21480	RDE - 3/F to 4/F Install Window Curtain Wall	3	25-Apr-18	27-Apr-18	Jul-18	[Gantt bar: Apr-18 to Jul-18]																			
A21490	RDE - 4/F to 5/F Install Window Curtain Wall	3	10-May-18	12-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A64730	RDE - Survey & Setting Out G/F to 7/F (West Elevation)	13	19-Mar-18	06-Apr-18	Jun-18	[Gantt bar: Mar-18 to Jun-18]																			
SOUTH ELEVATION - Glazed Glass Curtain Wall (FC-WW-03a, 03b, 04, 05a & 05b)																									
A21640	Handover of Working Area (after completion of 7/F Slab)	0		19-Mar-18		[Gantt bar: Mar-18 to Mar-18]																			
A21660	RDE - 2/F to 3/F Install Window Curtain Wall	3	14-Apr-18	17-Apr-18	Jun-18	[Gantt bar: Apr-18 to Jun-18]																			
A21670	RDE - 3/F to 4/F Install Window Curtain Wall	3	28-Apr-18	02-May-18	Jul-18	[Gantt bar: Apr-18 to Jul-18]																			
A21680	RDE - 4/F to 5/F Install Window Curtain Wall	3	14-May-18	16-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A64740	RDE - Survey & Setting Out G/F to 7/F (South Elevation)	13	19-Mar-18	06-Apr-18	Jun-18	[Gantt bar: Mar-18 to Jun-18]																			
EAST ELEVATION - Glazed Glass Curtain Wall (FC-WW-03a, 03b, 04, 05a & 05b)																									
A21800	Handover of Working Area (after completion of 7/F Slab)	0		19-Mar-18		[Gantt bar: Mar-18 to Mar-18]																			
A21820	RDE - 2/F to 3/F Install Window Curtain Wall	3	18-Apr-18	20-Apr-18	Jun-18	[Gantt bar: Apr-18 to Jun-18]																			
A21830	RDE - 3/F to 4/F Install Window Curtain Wall	3	03-May-18	05-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A21840	RDE - 4/F to 5/F Install Window Curtain Wall	3	17-May-18	19-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A64750	RDE - Survey & Setting Out G/F to 7/F (East Elevation)	13	19-Mar-18	06-Apr-18	Jun-18	[Gantt bar: Mar-18 to Jun-18]																			
FACADE INSTALLATION - by ISP																									
SOUTH ELEVATION - Facade Mesh Balustrade (FC-BA-02)																									
A22020	RDE - 2/F Install Facade Mesh Balustrade (FC-BA-02)	11	21-Apr-18	04-May-18	Jul-18	[Gantt bar: Apr-18 to Jul-18]																			
A22030	RDE - 3/F Install Facade Mesh Balustrade (FC-BA-02)	11	07-May-18	18-May-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			
A22040	RDE - 4/F Install Facade Mesh Balustrade (FC-BA-02)	11	21-May-18	02-Jun-18	Aug-18	[Gantt bar: May-18 to Aug-18]																			
RDE Tower ABWF & Building Services (GF - 15M/F & UR/F)																									
RDE Tower GF - 14F, Excluding 2F, 5F, 15F & 15MF																									
RDE-10120	3/F - ABWF / MEP Installation (Similar working procedures &	94	13-Mar-18	09-Jul-18	May-18	[Gantt bar: Mar-18 to May-18]																			
RDE-10130	4/F - ABWF / MEP Installation (Similar working procedures &	94	29-Mar-18	25-Jul-18	Jun-18	[Gantt bar: Mar-18 to Jun-18]																			
RDE-10150	6/F - ABWF / MEP Installation (Similar working procedures &	86	07-May-18	17-Aug-18	Jul-18	[Gantt bar: May-18 to Jul-18]																			

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP - R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
RDE-10140	G/F - ABWF / MEP Installation (Similar working procedures :	86	19-Jan-18	08-May-18	Apr-18	[Gantt bar spanning from 19-Jan-18 to 08-May-18]																			
2F																									
Toilets (GL 2'-3'/H')																									
AW-RDE-11	ABWF - Block Wall	13	24-Feb-18	10-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 10-Mar-18]																			
AW-RDE-11	ABWF - Ceiling Close up / Ceiling Finish	7	14-May-18	21-May-18	Jul-18	[Gantt bar from 14-May-18 to 21-May-18]																			
AW-RDE-11	ABWF - Ceiling Grid/Ceiling Panel with Service Openings	7	02-May-18	09-May-18	Jul-18	[Gantt bar from 02-May-18 to 09-May-18]																			
AW-RDE-11	ABWF - Floor screeding / Wall Plastering/ Tiling	19	09-Apr-18	30-Apr-18	Jun-18	[Gantt bar from 09-Apr-18 to 30-Apr-18]																			
AW-RDE-11	ABWF - Waterproofing/Water Test	7	27-Mar-18	07-Apr-18	Jun-18	[Gantt bar from 27-Mar-18 to 07-Apr-18]																			
AS-RDE-10	Access for ABWF/MEP Installation (Linked from 5/F Slab Ca:	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
BS-RDE-10	MEP - Low Level P&D Pipework, H/L 1st/2nd Fix	13	12-Mar-18	26-Mar-18	May-18	[Gantt bar from 12-Mar-18 to 26-Mar-18]																			
BS-RDE-10	MEP Dropper	3	10-May-18	12-May-18	Jul-18	[Gantt bar from 10-May-18 to 12-May-18]																			
FOH (GL 2'-6'/G'-J') (including lobby)																									
AW-RDE-11	ABWF - Block Wall	13	24-Feb-18	10-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 10-Mar-18]																			
AW-RDE-11	ABWF - Ceiling Close Up	7	25-Apr-18	04-May-18	Jul-18	[Gantt bar from 25-Apr-18 to 04-May-18]																			
AW-RDE-11	ABWF - Ceiling Frame	13	10-Apr-18	25-Apr-18	Jun-18	[Gantt bar from 10-Apr-18 to 25-Apr-18]																			
AW-RDE-11	ABWF - Wall Final Finish	13	18-May-18	04-Jun-18	Aug-18	[Gantt bar from 18-May-18 to 04-Jun-18]																			
AS-RDE-10	Access for ABWF / MEP / Fit-out Installation (Linked from 5,	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
AW-RDE-11	Facade Completion and watertight	0		10-Apr-18		[Gantt bar from 10-Apr-18 to 10-Apr-18]																			
BS-RDE-10	MEP - 2nd fix include cabling and wiring	19	14-Mar-18	10-Apr-18	May-18	[Gantt bar from 14-Mar-18 to 10-Apr-18]																			
BS-RDE-10	MEP - Final Fix	13	03-May-18	18-May-18	Jul-18	[Gantt bar from 03-May-18 to 18-May-18]																			
BS-RDE-10	MEP Dropper - FS dropper / Electrical Flexible / wiring	13	17-Apr-18	03-May-18	Jun-18	[Gantt bar from 17-Apr-18 to 03-May-18]																			
BS-RDE-10	MEP Installation H/L 1st Fix	19	03-Mar-18	26-Mar-18	May-18	[Gantt bar from 03-Mar-18 to 26-Mar-18]																			
AS-RDE-10	Ready for T&C (FS)	0		18-May-18		[Gantt bar from 18-May-18 to 18-May-18]																			
Kitchen (GL 1'-2'/G'-J')																									
AW-RDE-11	ABWF - Ceiling Close Up	7	14-Apr-18	23-Apr-18	Jun-18	[Gantt bar from 14-Apr-18 to 23-Apr-18]																			
AW-RDE-11	ABWF - Ceiling Frame	7	06-Apr-18	14-Apr-18	Jun-18	[Gantt bar from 06-Apr-18 to 14-Apr-18]																			
AW-RDE-11	ABWF - Close Dry Wall	7	19-Mar-18	27-Mar-18	Jun-18	[Gantt bar from 19-Mar-18 to 27-Mar-18]																			
AW-RDE-11	ABWF - Dry Wall stud	7	24-Feb-18	03-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 03-Mar-18]																			
AW-RDE-11	ABWF - Wall Final Finish	13	09-May-18	25-May-18	Jul-18	[Gantt bar from 09-May-18 to 25-May-18]																			
AS-RDE-10	Access for ABWF / MEP / Fit-out Installation (Linked from 5,	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
AW-RDE-11	Facade Completion and watertight	0		19-Mar-18		[Gantt bar from 19-Mar-18 to 19-Mar-18]																			
BS-RDE-10	MEP - 2nd fix include cabling and wiring	19	10-Mar-18	06-Apr-18	May-18	[Gantt bar from 10-Mar-18 to 06-Apr-18]																			
BS-RDE-10	MEP - Final Fix	13	23-Apr-18	09-May-18	Jul-18	[Gantt bar from 23-Apr-18 to 09-May-18]																			
BS-RDE-10	MEP Dropper - FS dropper / Electrical Flexible / wiring	7	14-Apr-18	23-Apr-18	Jun-18	[Gantt bar from 14-Apr-18 to 23-Apr-18]																			
BS-RDE-10	MEP Installation 1st Fix	19	24-Feb-18	19-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 19-Mar-18]																			
AS-RDE-10	Ready for T&C (FS)	0		09-May-18		[Gantt bar from 09-May-18 to 09-May-18]																			
ELE Room (GL 2'-3'/H')																									
AS-RDE-10	ABWF - Ceiling/Wall Sealer	5	24-Feb-18	01-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 01-Mar-18]																			
AW-RDE-11	ABWF - Door / Ironmongeries	2	08-May-18	09-May-18	Jul-18	[Gantt bar from 08-May-18 to 09-May-18]																			
AS-RDE-10	Access for ABWF / MEP Installation (Linked from 5/F Slab Ca:	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
BS-RDE-10	MEP - 1st Fix	25	02-Mar-18	03-Apr-18	May-18	[Gantt bar from 02-Mar-18 to 03-Apr-18]																			
BS-RDE-10	MEP - 2nd & Final Fix	27	04-Apr-18	07-May-18	Jun-18	[Gantt bar from 04-Apr-18 to 07-May-18]																			
ELV Room (GL 3'-A'-B')																									
AW-RDE-11	ABWF Sealer paint	3	24-Feb-18	27-Feb-18	May-18	[Gantt bar from 24-Feb-18 to 27-Feb-18]																			
AW-RDE-11	ABWF-Door / Ironmongeries	3	15-Mar-18	17-Mar-18	Jun-18	[Gantt bar from 15-Mar-18 to 17-Mar-18]																			
AS-RDE-10	Access for ABWF/MEP Installation (Linked from 5/F Slab Ca:	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
BS-RDE-10	MEP - ELV- Equipment Rack / Cabling / Connection	27	19-Mar-18	23-Apr-18	Jun-18	[Gantt bar from 19-Mar-18 to 23-Apr-18]																			
BS-RDE-10	MEP 1st / 2nd Fix	13	28-Feb-18	14-Mar-18	May-18	[Gantt bar from 28-Feb-18 to 14-Mar-18]																			
AS-RDE-10	Ready for ELV system T&C	0		24-Apr-18		[Gantt bar from 24-Apr-18 to 24-Apr-18]																			
FS Lift Lobby & Corridor @GL 4'/G'																									
AW-RDE-11	ABWF - Floor Screeding, Wall/Ceiling 1st coat	7	24-Feb-18	03-Mar-18	May-18	[Gantt bar from 24-Feb-18 to 03-Mar-18]																			
AW-RDE-11	ABWF-Door Ironmongeries	5	17-May-18	23-May-18	Jul-18	[Gantt bar from 17-May-18 to 23-May-18]																			
AW-RDE-11	ABWF-FR Ceiling Close-up	13	02-May-18	16-May-18	Jul-18	[Gantt bar from 02-May-18 to 16-May-18]																			
AW-RDE-11	ABWF-FR Ceiling Frame	13	07-Apr-18	21-Apr-18	Jun-18	[Gantt bar from 07-Apr-18 to 21-Apr-18]																			
AW-RDE-11	ABWF-Wall Final Finishing	5	17-May-18	23-May-18	Jul-18	[Gantt bar from 17-May-18 to 23-May-18]																			
AS-RDE-10	Access for ABWF/MEP Installation (Structure and Non struc	0	24-Feb-18		May-18	[Gantt bar from 24-Feb-18 to 24-Feb-18]																			
BS-RDE-11	MEP - 1st / 2nd Fix Installation	25	05-Mar-18	06-Apr-18	May-18	[Gantt bar from 05-Mar-18 to 06-Apr-18]																			
BS-RDE-11	MEP-Dropper	7	23-Apr-18	30-Apr-18	Jul-18	[Gantt bar from 23-Apr-18 to 30-Apr-18]																			
BS-RDE-11	MEP-Final Fix	7	17-May-18	25-May-18	Jul-18	[Gantt bar from 17-May-18 to 25-May-18]																			
5F																									

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
A1480	Blockwall + Plastering and Painting _ Intake Fan Rm 2 (5)	0			Dec-17																				
A1470	Blockwall + Plastering and Painting _ Storage Rm (5A)	0			Nov-17																				
A1400	Chinese New Year 2018	0			Feb-18																				
Area A - GLAa - Da																									
A1240	Blockwall installations + Plastering (Around cavity wall)	0			Nov-17																				
A1250	Floor Screeding + Protection	0			Feb-18																				
Area B - GLDa - Ga																									
A1280	Blockwall installations + Plastering (Around cavity walls)	0			Nov-17																				
A1290	Floor Screeding + Protection	0			Feb-18																				
Area C - GLGa - La																									
A1320	Blockwall installations + Plastering (Around cavity walls)	0			Nov-17																				
A1330	Floor Screeding + Protection	0			Feb-18																				
Area D - GLEa - Ka																									
A1360	Blockwall installations + Plastering (Around cavity walls)	0			Dec-17																				
A1370	Floor Screeding + Protection	0			Feb-18																				
Fitting out works																									
A1670	Ceiling Installation	0			Mar-18																				
A1660	Final Builders installations including doors and Road Signage	0			Apr-18																				
A1850	Fire damper & Enclosure Installation	0			May-18																				
A1830	FRR Ceiling & Door Installation	0			Apr-18																				
A1840	FS Shutter Installation	0			Apr-18																				
A1640	Wall and Ceiling finishes _ PAINTING + Road marking B1	0			Feb-18																				
A1650	Wall and Ceiling finishes _ PAINTING + Road marking B2	0			Feb-18																				
Building Services																									
ICP Transformer Room																									
A1510	Power energization	0			Mar-18																				
MEP Installation - 1st fix																									
B1/F																									
A1515	B1 Drive Way - MEP 1st Fix	0			Nov-17																				
A1525	B1 Parking Areas - MEP 1st Fix	0			Jan-18																				
A1915	MEP 1st Fix _ Clear Wtr/Flush Wtr Pump Rm & Security Rm	0			Feb-18																				
A1880	MEP 1st Fix _ ELV Room and ICT at B1 (14, 15)	0			Jan-18																				
A1890	MEP 1st Fix _ Emer. Generator Set Room (13)	0			Feb-18																				
A1860	MEP 1st Fix _ Ex. Fan 2 (17)	0			Jan-18																				
A1910	MEP 1st Fix _ FS Pump Rm (8)	0			Mar-18																				
A1900	MEP 1st Fix _ FS/Spr. inlet cab., FS Control Ctr & Water Mtr C	0			Feb-18																				
A1920	MEP 1st Fix _ Intake ex. Fan Rm (6)	0			Jan-18																				
A1865	MEP 1st Fix _ Sprinkler Room (17)	0			Jan-18																				
B2/F																									
A1520	Area A - MEP 1st Fix	0			Jan-18																				
A1530	Area B - MEP 1st Fix	0			Feb-18																				
A1540	Area C - MEP 1st Fix	0			Jan-18																				
A1550	Area D - MEP 1st Fix	0			Jan-18																				
A2010	MEP 1st Fix _ ELV Room and ICT (4, 5)	0			Feb-18																				
A2000	MEP 1st Fix _ Exhaust Fan Room 3 (1)	0			Feb-18																				
A2030	MEP 1st Fix _ Intake Fan Room (5)	0			Feb-18																				
A2020	MEP 1st Fix _ Storage Room (5A)	0			Feb-18																				
MEP Installation - 2nd fix																									
B1/F																									
A1555	B1 Drive Way - MEP 2nd Fix	0			Feb-18																				
A1985	MEP 2nd Fix _ Clear Wtr/Flush Wtr Pump Rm & Security Rm	0			Apr-18																				
A1960	MEP 2nd Fix _ E. Generator Set Room (13)	0			Apr-18																				
A1950	MEP 2nd Fix _ ELV Room and ICT at B1 (14, 15)	0			Apr-18																				
A1930	MEP 2nd Fix _ Ex. Fan (17)	0			Apr-18																				
A1970	MEP 2nd Fix _ FS/Spr. inlet cab., FS Control Ctr & Water Mtr	0			Apr-18																				
A1990	MEP 2nd Fix _ Intake ex. Fan Rm (6)	0			Apr-18																				
A1935	MEP 2nd Fix _ Sprinkler Room (17)	0			Apr-18																				
A1945	MEP 2nd Fix _ Switch Room (12)	0			Feb-18																				
B2/F																									
A1560	Area A - MEP 2nd Fix	0			Apr-18																				
A1570	Area B - MEP 2nd Fix	0			Apr-18																				

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Recas	February					March					April					May				
						29					30					31					32				
						21	28	04	11	18	04	11	18	25	01	08	15	22	29	06	13	20	27		
A1580	Area C - MEP 2nd Fix	0			Apr-18																				
A1590	Area D - MEP 2nd Fix	0			Apr-18																				
A2050	MEP 2nd Fix_ ELV Room and ICT (4, 5)	0			Apr-18																				
A2040	MEP 2nd Fix_ Exhaust Fan Room 3 (1)	0			Apr-18																				
A2070	MEP 2nd Fix_ Intake Fan Room (5)	0			Apr-18																				
A2060	MEP 2nd Fix_ Storage Room (5A)	0			Apr-18																				
Lift Installation																									
A1610	Lift Installation	0			Mar-18																				
ICP Statutory Approval																									
A2170	Direct Link Complete (By PCCW)	0																							
EMSD																									
A1630	Issue of use permit	0			May-18*																				
A1620	LE5 Submission	0																							
FSD																									
TOP (excluding Roof Landscaping Works)																									
A2110	FSD Approval of VAC 314	0			Mar-18																				
A2090	FSD inspection	0			May-18																				
A2120	Submission of Form FS501 for FSD inspection	0			May-18																				
A2100	VAC 314 layout & Form 314 submission	0			Mar-18*																				
WSD																									
Portable Water																									
A1770	Complete meter installation & water main connection (Porta	0			Apr-18																				
A1750	Issue Water Sample Report (Portable Water)	0			Mar-18																				
A1740	WSD Inspection	0			Mar-18																				
A1730	WWO46 Part IV Submission (Portable Water)	0			Mar-18*																				
A1760	WWO46 Part V Submission (Portable Water)	0																							
FS Water																									
A1820	Complete meter installation & water main connection (FS W	0			Apr-18																				
A1800	Issue Water Sample Report (FS Water)	0			Mar-18																				
A1790	WSD Inspection	0			Mar-18																				
A1780	WWO46 Part IV Submission (FS Water)	0			Mar-18*																				
A1810	WWO46 Part V Submission (FS Water)	0																							
IPA Area Completion and Handover Programme																									
Milestone Dates																									
IPA.MS.01	IPA-01 Complete Removal of HCC CSO	0																							
IPA.MS.02	IPA-02 Complete HCC scope and Ready for Handover to SFK	0																							
CSO Area																									
IPA.AC.170	Complete Removal of HCC CSO (IPA-01)	0			Apr-18																				
IPA.AC.190	Construct CSO footprint	0			Apr-18																				
IPA.AC.40	Remove CSO Office	0			Feb-18*																				
IPA Area A - Earthwork																									
Low level																									
Backfill																									
Low level (Area 1)																									
IPA.AA.4	Backfill with soil & SRT	0			Mar-18																				
IPA.AA.2	Construct conc encase	0			Feb-18																				
IPA.AA.2	Construct light weight conc	0			Mar-18																				
IPA.AA.3	Place conc blocks	0			Mar-18																				
Backfill-1																									
Low level (Area 2)																									
IPA.AA.2	Backfill with soil & SRT	0			Jan-18																				
IPA.AA.4	Form access road at low level	0			Mar-18																				
High level																									
Backfill																									
IPA.AA.2	Backfill with soil & SRT	0			Mar-18																				
IPA.AA.2	Construct RC encasement	0			Jan-18																				
IPA.AA.2	Place conc blocks	0			Mar-18																				
Construction of IPA works																									
IPA.AA.420	Complete HCC scope and Ready for Handover of Area A to F	0																							
IPA.AA.360	Construct irrigation system	0			Mar-18																				
IPA.AA.320	Construct Cable ducts & Draw pits i.e ICT, ELV, FTNS, lighting	0			Mar-18																				
IPA.AA.340	Construct district wide CLP cable ducts & Draw pits	0			Mar-18																				
IPA.AA.310	Construct drainage, catch pits & UC	0			Mar-18																				

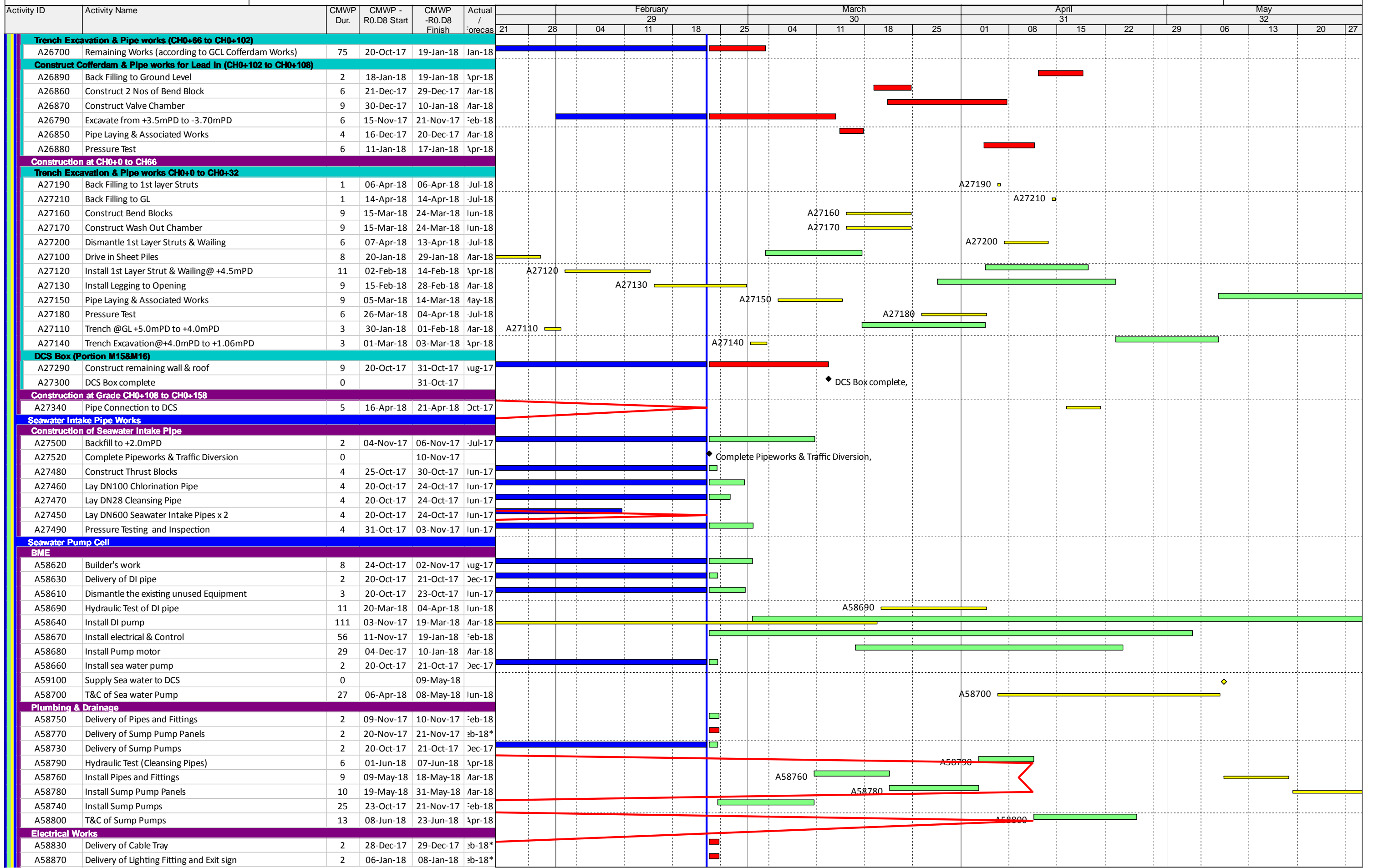
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
IPA.AA.390	Construct fencing	0			Mar-18																				
IPA.AA.380	Construct fire mains	0			Mar-18																				
IPA.AA.350	Construct light ducts & pole footings	0			Mar-18																				
IPA.AA.370	Construct main path & secondary path	0			Mar-18																				
IPA.AA.330	Construct Root Barriers	0			Mar-18																				
IPA Area B - Earthwork																									
Clear up & water proofing ICP & use as facade yard (High level - South)																									
IPA.AB.90	Clear up Area B	0			Apr-18																				
IPA.AB.70	Install water proofing, test, pour screeding (2 bays)	0			Jan-18																				
IPA.AB.80	Local backfill & level the ground for formwork yard & facade	0			Mar-18																				
Backfill to future formation level																									
IPA.AB.120	Backfill with soil	0			Apr-18																				
IPA.AB.110	Construct light weight concrete	0			Apr-18																				
IPA.AB.100	Install ASC block and RC encase	0			Apr-18																				
Construction of UU																									
IPA.AB.130	Construct drainage, catch pits & UC	0			May-18																				
IPA Area C - Earthwork																									
Backfill of soil as per temp profile																									
IPA.AC.230	Backfill to design profile (deferred area)	0			Apr-18																				
Construction of Storm Drain																									
Between SE2.7 - DM52C (-39m)																									
IPA.AC.1	Backfill & SRT	0			Mar-18																				
IPA.AC.60	Excavate & install 1st strut	0			Feb-18																				
IPA.AC.70	Excavate & install 2nd strut	0			Mar-18																				
IPA.AC.80	Excavate to formation & SRT & blinding	0			Mar-18																				
IPA.AC.90	Install 1200mm pipes	0			Mar-18																				
IPA.AC.50	Install sheet piles	0			Feb-18																				
IPA.AC.1	Plug off manhole SE2.7 & DM52C	0			Mar-18																				
IPA.AC.1	Remove sheet piles	0			Mar-18																				
IPA.AC.1	Testing	0			Mar-18																				
Construction of Sewer Drain																									
Between F2.1E - SM19																									
IPA.AC.2	Backfill & SRT & remove ELS	0			Apr-18																				
IPA.AC.1	Excavate to formation & SRT & blinding	0			Mar-18																				
IPA.AC.1	Excavate & install ELS (1st layer)	0			Mar-18																				
IPA.AC.1	Install 300DI pipes	0			Apr-18																				
IPA.AC.1	Install sheet piles	0			Mar-18																				
IPA.AC.2	Plug off manhole F2.1E & SM19	0			Apr-18																				
IPA.AC.2	Testing	0			Apr-18																				
Construction of remaining UU																									
IPA.AC.240	Construct drainage, catch pits & UC	0			Apr-18																				
Construct district wide CLP ducts																									
IPA.AC.3	Backfill & SRT	0			May-18																				
IPA.AC.3	Lay ducts	0			May-18																				
IPA.AC.2	Open cut to formation & SRT & blinding	0			Apr-18																				
Construct light ducts & pole footings																									
IPA.AC.2	Excavate to formation & SRT & blinding	0			Apr-18																				
IPA.AC.2	Install ducts & backfill	0			Apr-18																				
Lighting cable ducts																									
IPA.AC.3	Construct lighting base	0			May-18																				
IPA.AC.2	Excavate to formation & SRT & blinding	0			Apr-18																				
IPA.AC.3	Install ducts & backfill	0			Apr-18																				
Construction of EVA																									
South side																									
IPA.AC.3	Lay kerbs	0			Apr-18																				
IPA.AC.3	Lay path base	0			May-18																				
IPA.AC.3	Lay path surface	0			May-18																				
IPA.AC.2	Prepare formation and SRT	0			Apr-18																				
Construction of remaining paths & EVA																									
IPA.AC.380	Lay kerbs	0			May-18																				
IPA.AC.390	Lay path base	0			May-18																				
IPA.AC.360	Open cut to formation & SRT & blinding	0			May-18																				

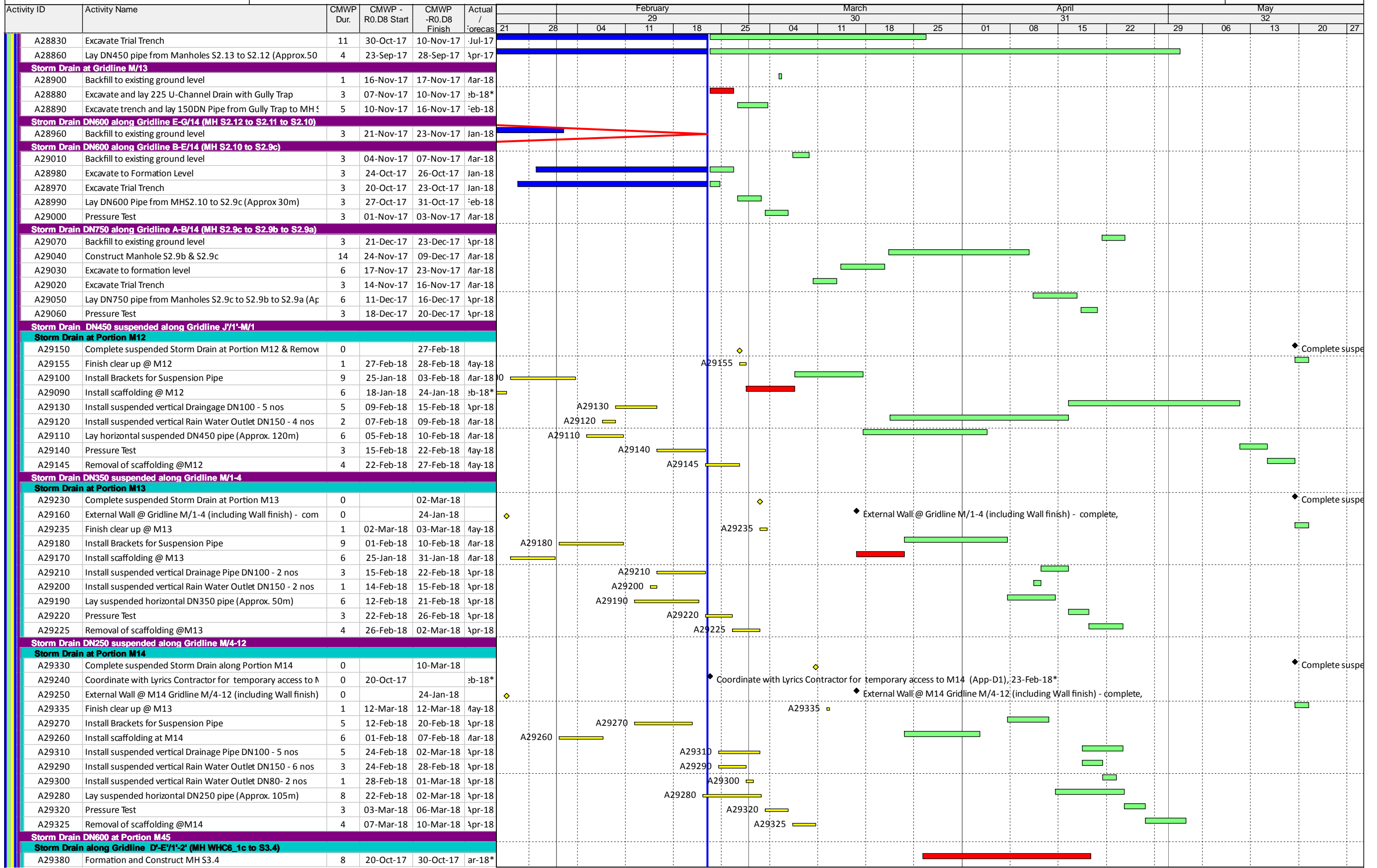
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

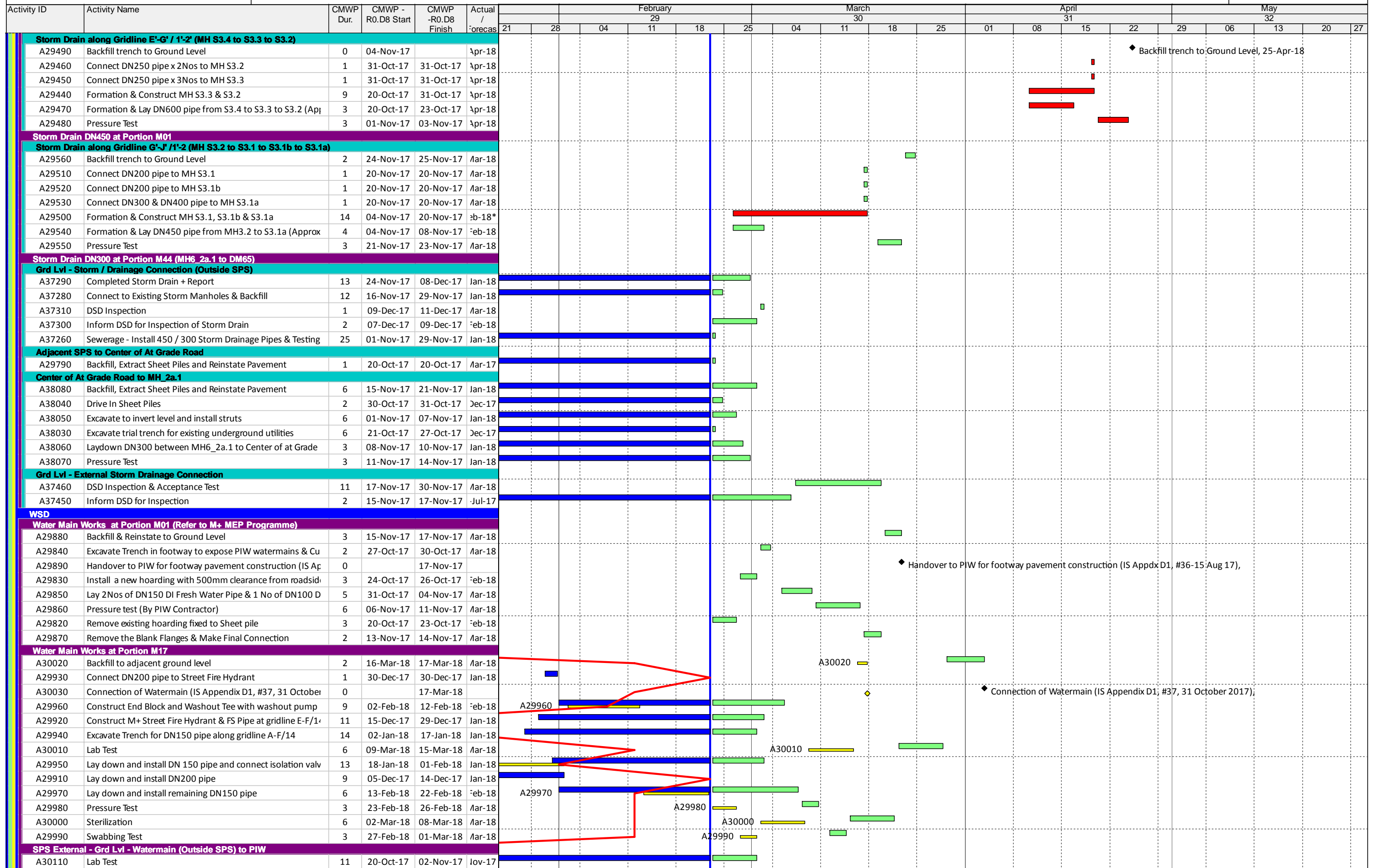
Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
SPS & Interface Carpark Interface w/ Park																									
A26500	Complete Access Road to SPS for FS Inpection (Park above ICP)	0		02-Nov-17		◆ Complete Access Road to SPS for FS Inpection (Park above ICP),																			
A26510	Obtain necessary OP for ICP	0		09-Nov-18																					
A26490	SPS Complete H/O to DSD	0		11-Dec-17		◆ SPS Complete H/O to DSD,																			
A26470	SPS Test & Commissioning Complete	0		11-Nov-17		◆ SPS Test & Commissioning Complete,																			
Telecoms Interface w/ Park PIW (W of M+)																									
A26530	Allow Access to Park Contractor to connect ELV Cable Ducts	0	20-Oct-17		Feb-18	◆ Allow Access to Park Contractor to connect ELV Cable Ducts to M+ Draw-pit; 23-Feb-18																			
A26520	Allow Access to Park Contractor to connect ICT Cable Ducts	0	20-Oct-17		Feb-18	◆ Allow Access to Park Contractor to connect ICT Cable Ducts to M+ Draw-pit; 23-Feb-18																			
A26540	Allow Access to Park Contractor to construct & connect FTN	0	20-Oct-17		Feb-18	◆ Allow Access to Park Contractor to construct & connect FTNS Cable Ducts at M+ GLA/6-7; 23-Feb-18																			
CLP																									
A26570	Handover DCS - Transformer Room Trx C to CLP	0		01-May-18		◆ Handover DCS - Transformer Room Trx C to CLP,																			
Pre-Construction Works																									
Shop Drawings Submission & Approval																									
PC-SDSA-1C	Shop drawings	164	20-Oct-17	12-May-18	Oct-16																				
Method Statement & ITP Submission & Approval																									
PC-MSSA-1	Method statement & ITP	164	20-Oct-17	12-May-18	Oct-16																				
Materials Submission & Approval																									
General Items																									
PC-MTSA-	General materials	164	20-Oct-17	12-May-18	Oct-16																				
Long Lead Items																									
PC-MTSA-	Carpet, linoleum & mats	216	14-Nov-17	09-Aug-18	Feb-18																				
PC-MTSA-	Door Ironmongeries	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Doors	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Fabric	211	31-Jan-18	19-Oct-18	May-17																				
PC-MTSA-	FF&E Items (seating/ cushion, curtain, blinds, etc)	174	19-Jan-18	23-Aug-18	Feb-18																				
PC-MTSA-	Fire shutters	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Fixed & loose furniture	177	14-May-18	12-Dec-18	Feb-18	PC-MTSA-1150																			
PC-MTSA-	Glazing works	156	25-Nov-17	09-Jun-18	Mar-17																				
PC-MTSA-	Metal ceiling	126	29-Dec-17	06-Jun-18	Apr-17																				
PC-MTSA-	Raised floor system	160	15-Jan-18	02-Aug-18	Apr-17																				
PC-MTSA-	Security shutters (Lateral sliding type)	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Security shutters (Top-mounted)	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Smoke curtain	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Tiling works	164	20-Oct-17	12-May-18	Oct-16																				
PC-MTSA-	Timber (floor, wall & ceiling)	134	01-Nov-17	18-Apr-18	Feb-17																				
Procurement																									
General Items																									
PC-MTPR-	General items	203	07-Dec-17	16-Aug-18	Nov-16																				
Long Lead Items																									
Doors																									
PC-MTPR-	Priority Doors (for Mechanical Rooms)	80	03-Nov-17	08-Feb-18	Feb-18																				
PC-MTPR-	Remaining Doors	116	19-Jan-18	14-Jun-18	May-18																				
PC-MTPR-	Transformer Room Doors	23	03-Mar-18	03-Apr-18	Feb-17																				
Ironmongeries																									
PC-MTPR-	Priority Door Ironmongeries (for Mechanical Rooms)	80	03-Nov-17	08-Feb-18	Feb-18																				
PC-MTPR-	Remaining Door Ironmongeries	116	19-Jan-18	14-Jun-18	May-18																				
PC-MTPR-	Transformer Room Door Ironmongeries	23	03-Mar-18	03-Apr-18	Feb-17																				
Tiling Works																									
PC-MTPR-	Other Tiling Areas	107	30-Jan-18	14-Jun-18	Apr-18	MTPR-1020b																			
Timber (Floor, Wall & Ceiling)																									
PC-MTPR-	Timber for Benchmark Toilet/ Toilet Lobby @ B2/F)	169	22-Jan-18	18-Aug-18	May-17																				
Other Long Lead Items																									
PC-MTPR-	FF&E Items (seating/ cushion, curtain, blinds, etc)	107	27-Oct-18	08-Mar-19	Mar-18	PC-MTPR-1130																			
PC-MTPR-	Fire shutters	54	06-Mar-18	12-May-18	May-18	PC-MTPR-1030																			
PC-MTPR-	Fixed & loose furniture	149	13-Dec-18	19-Jun-19	Mar-18	PC-MTPR-1150																			
PC-MTPR-	Glazing works	107	06-Apr-18	13-Aug-18	May-18	PC-MTPR-1070																			
PC-MTPR-	Metal ceiling	80	29-Mar-18	09-Jul-18	Apr-18	PC-MTPR-1090																			
PC-MTPR-	Security shutters (Lateral sliding type)	80	23-Feb-18	04-Jun-18	May-18	PC-MTPR-1140																			
PC-MTPR-	Security Shutters (Top mounted)	107	30-Jan-18	14-Jun-18	Apr-18	MTPR-1050																			
PC-MTPR-	Smoke curtain	54	06-Mar-18	12-May-18	May-18	PC-MTPR-1040																			
Construction																									
Seawater Outfall Pipe																									
Construction at CH0+66 to CH0+108																									

Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018

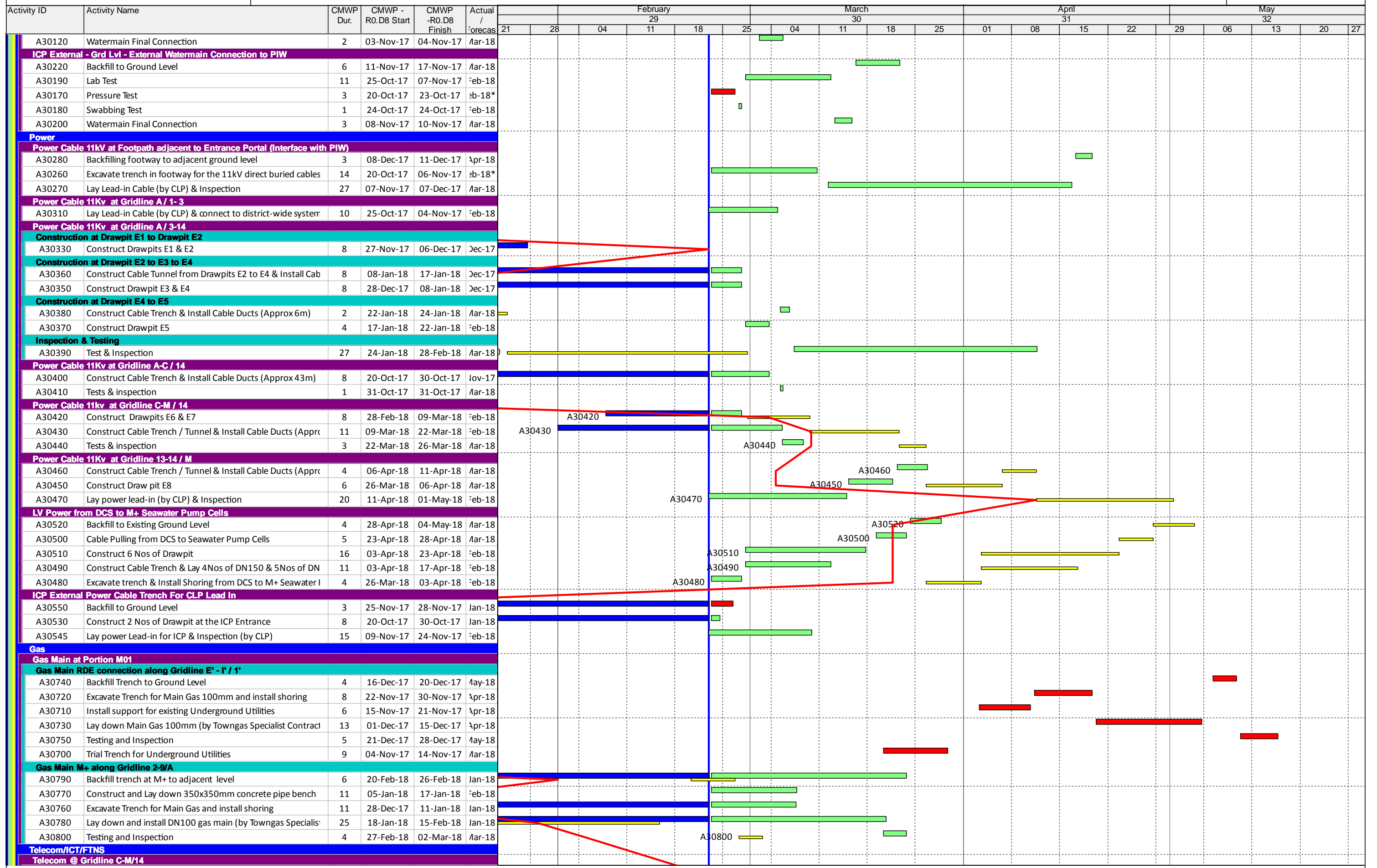


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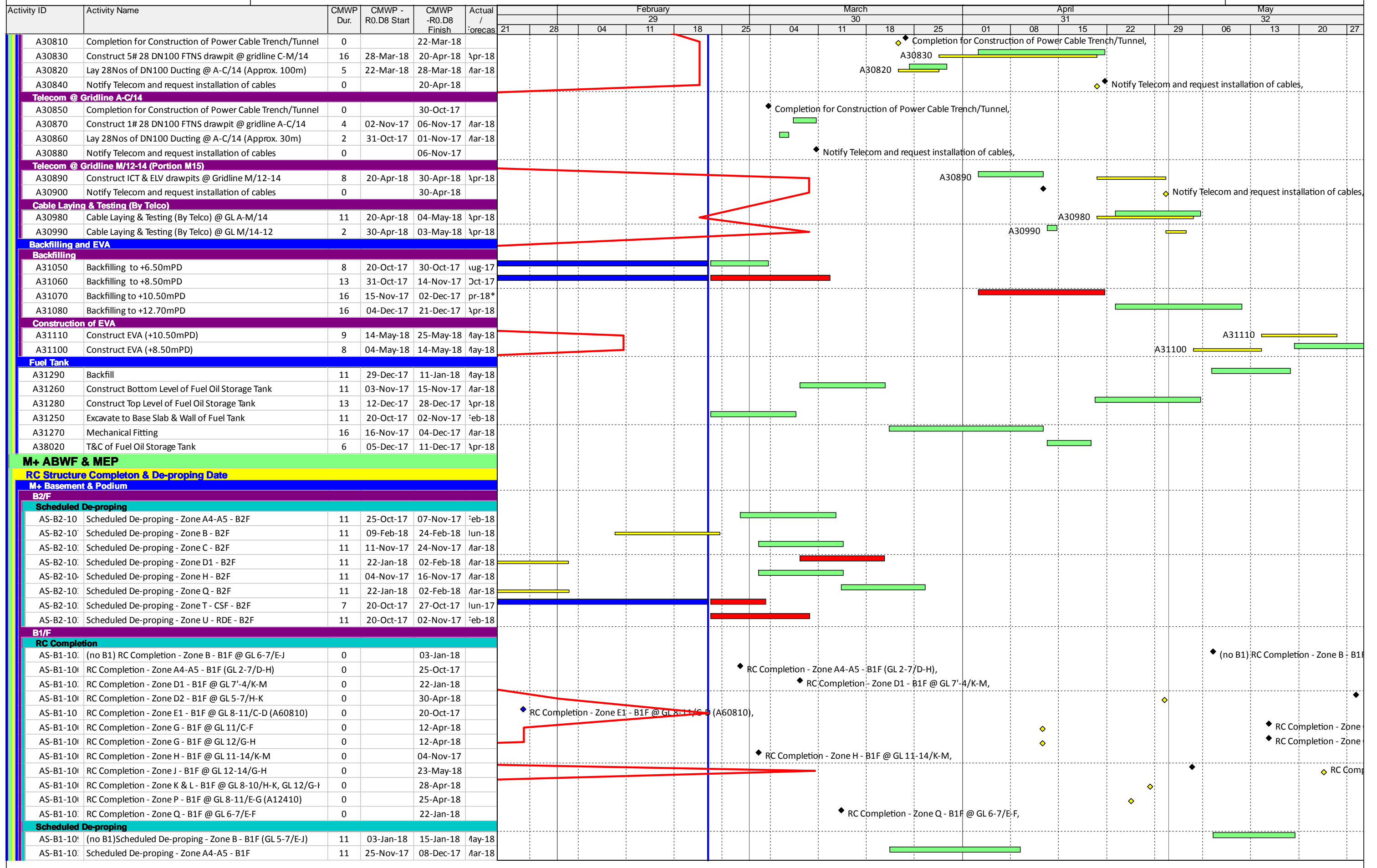




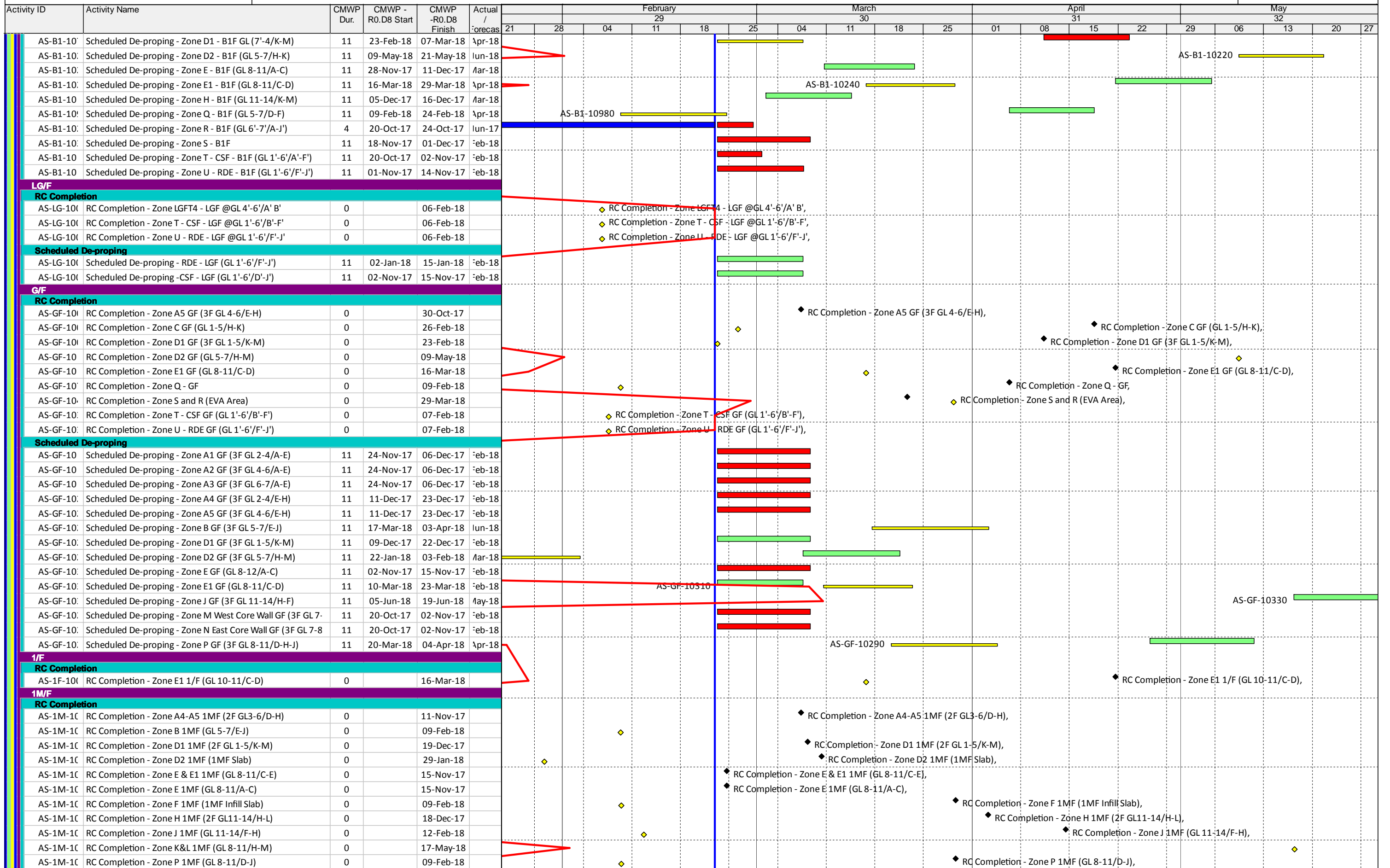
Three Months Rolling Programme (3MRP) - Mth 29 - 28 February 2018



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Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
AS-CS-10080	8/F to +61mPD Curing & Falseworks Stripping	0		06-Mar-18																					
AS-CS-10090	8/F Curing & Falseworks Stripping	0		21-Apr-18																					
RDE RC Structure																									
AS-RD-100	3/F Curing & Falseworks Stripping	0		19-Jan-18																					
AS-RD-100	5/F Curing & Falseworks Stripping	0		24-Feb-18																					
AS-RD-100	6/F Curing & Falseworks Stripping	0		13-Mar-18																					
AS-RD-100	7/F Curing & Falseworks Stripping	0		29-Mar-18																					
AS-RD-100	8/F Curing & Falseworks Stripping	0		19-Apr-18																					
AS-RD-100	9/F Curing & Falseworks Stripping	0		07-May-18																					
Watertight Achieved																									
M+ Podium																									
WA-PD-10	Zone A Facade Installation Completed (2F GL1-8/A & 1/A-H)	0		07-Mar-18																					
WA-PD-10	Zone M Facade Installation Completed (2F GL7-8/A-D)	0		18-May-18																					
WA-PD-10	Zone P Plaza Skylight Installation Completed (3F GL6-7/E-H)	0		29-Mar-18																					
M+ MEP Preliminaries																									
M+ Electrical																									
A65070	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	Dec-15																				
M+ HVAC																									
A65060	Shop Drawing Submission and Approval (M+ HVAC)	120	20-Oct-17	17-Feb-18	Nov-15																				
M+ FS																									
A65090	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	Jun-16																				
M+ P&D																									
A65080	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	Mar-16																				
CSF MEP Preliminaries																									
M+ HVAC																									
A65100	Shop Drawing Submission and Approval (CSF HVAC)	120	20-Oct-17	17-Feb-18	Apr-17																				
M+ Electrical																									
A65110	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	Dec-15																				
M+ FS																									
A65130	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	Jun-16																				
M+ P&D																									
A65120	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	Nov-16																				
RDE MEP Preliminaries																									
M+ Electrical																									
A65170	Shop Drawing Submission and Approval (Electrical)	120	20-Oct-17	17-Feb-18	Dec-15																				
M+ FS																									
A65150	Shop Drawing Submission and Approval (Fire Services)	120	20-Oct-17	17-Feb-18	Jun-16																				
M+ HVAC																									
A65140	Shop Drawing Submission and Approval (RDE HVAC)	120	20-Oct-17	17-Feb-18	Nov-16																				
M+ P&D																									
A65160	Shop Drawing Submission and Approval (Plumbing and Dra	120	20-Oct-17	17-Feb-18	Dec-16																				
Provisional Items Cost Centre G (FS / OP non related items tentative for reference)																									
1A) Fixed & loose furniture at Conservation & Storage Facilities																									
P1A6000	CAI for Fixed & loose furniture at Conservation & Storage Fa	0			Mar-18																				
P1A6050	Fixed & loose furniture at Conservation & Storage Facilities C	0			May-18																				
P1A6010	Fixed & loose furniture at Conservation & Storage Facilities s	0			Mar-18																				
1B) Fixed & loose furniture at M+ Tower																									
P1B6000	CAI for Fixed & loose furniture at M+ Tower	0			Mar-18																				
P1B6060	Fixed & loose furniture at M+ Tower Design/Shop drawing st	0			May-18																				
P1B6010	Fixed & loose furniture at M+ Tower subletting	0			Mar-18																				
1C) Fixed & loose furniture at M+ Galleries																									
P1C6000	CAI for Fixed & loose furniture at M+ Galleries	0			Mar-18																				
P1C6050	Fixed & loose furniture at M+ Galleries Design/Shop drawing	0			May-18																				
P1C6010	Fixed & loose furniture at M+ Galleries subletting	0			Mar-18																				
1D) Juke Box equipment system & machinery																									
P1D6000	CAI for Juke Box equipment system & machinery	0			Mar-18																				
P1D6060	Fixed & loose furniture at M+ Galleries Design/Shop drawing	0			May-18																				
P1D6010	Juke Box equipment system & machinery subletting	0			Mar-18																				
1E) Fixed & loose furniture for Learning Centre																									
P1E6000	CAI for Fixed & loose furniture for Learning Centre	0			Feb-18																				
P1E6060	Fixed & loose furniture at M+ Galleries Design/Shop drawing	0			May-18																				
P1E6010	Fixed & loose furniture for Learning Centre subletting	0			Mar-18																				
1F) Fixed & loose furniture for Moving Image Centre																									

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Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecast	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
P1F6000	CAI for Fixed & loose furniture for Moving Image Centre	0			Mar-18																				
P1F6070	Fixed & loose furniture for Moving Image Centre Design/Shc	0			May-18																				
P1F6010	Fixed & loose furniture for Moving Image Centre subletting	0			Mar-18																				
1G) Fixed & loose furniture at M+ Workshop & BOH Area																									
P1G6000	CAI for Fixed & loose furniture at M+ Workshop & BOH Area	0			Mar-18																				
P1G6080	Fixed & loose furniture at M+ Workshop & BOH Area Design	0			May-18																				
P1G6010	Fixed & loose furniture at M+ Workshop & BOH Area sublett	0			Mar-18																				
1H) Fitting out works for cafes at B1/F & L3/F																									
P1H6000	CAI for Fitting out works for cafes at B1/F & L3/F	0			Feb-18																				
P1H6090	Fitting out works for cafes at B1/F & L3/F Design/Shop draw	0			May-18																				
P1H6010	Fitting out works for cafes at B1/F & L3/F subletting	0			Mar-18																				
1K) Fixed & loose furniture at M+ Shop including Espresso Bar																									
P1K6000	CAI for Fixed & loose furniture at M+ Shop including Espresso	0			Mar-18																				
P1K6100	Fixed & loose furniture at M+ Shop including Espresso Bar D	0			May-18																				
P1K6010	Fixed & loose furniture at M+ Shop including Espresso Bar st	0			Mar-18																				
2A) Non digital way-finding signage & digital signage																									
P2A6000	CAI for Non digital way finding signage & digital signage	0			Feb-18																				
P2A6110	Non digital way finding signage & digital signage Design/Shc	0			May-18																				
P2A6010	Non digital way finding signage & digital signage subletting	0			Mar-18																				
2B) Street lighting & accessories for CCTV & Wi Fi																									
P2B6000	CAI for Street lighting & accessories for CCTV & Wi Fi	0			Mar-18																				
P2B6120	Street lighting & accessories for CCTV & Wi Fi Design/Shop d	0			May-18																				
P2B6010	Street lighting & accessories for CCTV & Wi Fi subletting	0			Mar-18																				
2C) Elements Cooling Main access modification																									
P2C6000	CAI for Elements Cooling Main access modification	0			Mar-18																				
P2C6010	Elements Cooling Main access modification subletting	0			Mar-18																				
2E) MEP & Misc building works assoc. District Cooling System intake pump cell																									
P2E6000	CAI for MEP & Misc building works assoc. District Cooling Sy	0			Feb-18																				
P2E6010	MEP & Misc building works assoc. District Cooling System in	0			Mar-18																				
2F) BWIC / basic MEP provision for CLP transformer rooms																									
P2F6150	BWIC / basic MEP provision for CLP transformer rooms Desi	0			May-18																				
P2F6010	BWIC / basic MEP provision for CLP transformer rooms subl	0			Mar-18																				
P2F6000	CAI for BWIC / basic MEP provision for CLP transformer roo	0			Feb-18																				
Contractor's Summary Works Programme																									
Milestone Dates																									
Cost Centre A - Preliminaries & General Requirements																									
MSA.12	Compliance Review to the CA's satisfaction on Project Time	0																							
MSA.13i	Compliance Review to the CA's satisfaction on Project Time	0																							
MSA.14	Compliance Review to the CA's satisfaction on Project Time	0																							
Cost Centre D2 - Interfacing Car Park Works																									
MSD2.03	Complete all necessary works for the submission of Form 501	0																							
MSD2.06	Complete all work necessary for practical completion (t=M4)	0																							
MSD2.05	Complete the integrated testing and commissioning of all sy	0																							
MSD2.04	Obtain FS certificate (t=M33)	0																							
Cost Centre B - M+ Museum & CSF																									
MSB.12i	CLP Power-on (Tr=M28)	0																							
MSB.06.e	Complete 3F slab at Zone A1 to A5, Zone E and Zone H (Tr=M27)	0																							
MSB.06.d	Complete 4F and 2F infill slab between truss 1 and 2 (Tr=M27)	0																							
MSB.09iii	Complete Data Centre, ICT, ELV and TBE Rooms ready for Ha	0																							
MSB.12iii	Complete installation of DCS plant and equipment (Tr=M31)	0																							
MSB.09i	Handover TX Rooms for CLP installation (Tr=M26)	0																							
Cost Centre C - Public Works and Tunnel Protection Works																									
MSC.06	Complete Plant Rooms associated with the Underpass Road	0																							
Cost Centre J - RDE Building																									
MSJ.01-2	1F Structure Complete to 100% (Tr=M23)	0																							
MSJ.01a	4F Structure Complete (Tr=M28)	0																							
M+																									
SUM-1600	M+ Podium External Envelope (By Permasteelisa)	265	18-Nov-17	12-Oct-18	Feb-18																				
SUM-1500	M+ Podium Glass Wall & Skylight (By RedLand, Permasteelis	232	21-Oct-17	04-Aug-18	Nov-17																				
SUM-1100	M+ Podium Structure RC Works	204	20-Oct-17	03-Jul-18	Sep-16																				
SUM-1400	M+ Podium Tower Facade Preliminaries	184	20-Oct-17	06-Jun-18	Mar-16																				

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Activity ID	Activity Name	CMWP Dur.	CMWP - R0.D8 Start	CMWP -R0.D8 Finish	Actual / Forecas	February					March					April					May				
						21	28	04	11	18	25	04	11	18	25	01	08	15	22	29	06	13	20	27	
SUM-1700	M+ Tower External Envelope (By Permasteelisa)	368	20-Oct-17	16-Jan-19	Jan-17																				
SUM-1300	M+ Tower Structure RC Works	248	20-Oct-17	22-Aug-18	Jul-17																				
CSF & RDE Construction																									
SUM-2200	CSF Building Facade Preliminaries	200	20-Oct-17	26-Jun-18	Mar-17																				
SUM-2300	CSF External Envelope	255	20-Oct-17	30-Aug-18	Jun-17																				
SUM-2100	CSF Super-Structure RC Works	146	20-Oct-17	20-Apr-18	Mar-17																				
SUM-2500	RDE Building FACADE Preliminaries	78	20-Oct-17	23-Jan-18	Oct-16																				
SUM-2600	RDE External Envelope	210	07-Apr-18	15-Dec-18	Jun-18																				
SUM-2400	RDE Super-Structure RC Works	281	20-Oct-17	02-Oct-18	Mar-17																				
ABWF & Building Services																									
SUM-3200	ABWF & Building Services Installation	443	20-Oct-17	23-Apr-19	Apr-17																				
SUM-3000	Lifts and Escalators	309	22-Dec-17	09-Jan-19	Mar-18																				
ICP & SPS																									
SUM-4200	External Works	134	20-Oct-17	06-Apr-18	Dec-16																				
SUM-4100	ICP WORKS (Interfacing Car Park)	312	20-Oct-17	09-Nov-18	Oct-16																				
SUM-4000	SPS WORKS (Sewerage Pumping Station)	43	20-Oct-17	11-Dec-17	Jul-16																				
Co-ordinated External Works & Utilities Services Installation																									
SUM-5100	Construction	311	20-Oct-17	07-Nov-18	Jul-16																				
SUM-5000	Interface Dates	497	20-Oct-17	27-Jun-19	Jan-15																				

Lyric Theatre Complex

Activity ID	Activity Name	Start Date	Finish Date	2018			
				Feb 2	Mar 3	Apr 4	May 5
L1 Contract for Lyric Theatre Complex (3MRP)							
Cost Centre B - Excavation and Lateral Support (ELS) Stage 2							
Preliminaries and Monitoring							
CB162220	Construct AISO Office Extension	01-Mar-18	30-May-18		[Green bar]		
Marine Transport Proposal							
CB120400	Set Up Barge Facility for Marine Transportation	06-Apr-18	04-May-18			[Green bar]	
King Posts (For Platform & ELS Works)							
CB130700	Drilling for King Posts - Rig 1 (31 nr)	08-Jan-18 A	28-Feb-18 A	[Blue bar]			
CB130750	Drilling for King Posts - Rig 2 (31 nr)	11-Jan-18 A	28-Feb-18 A	[Blue bar]			
CB130800	Drilling for King Posts - Rig 3 (30 nr)	15-Jan-18 A	28-Feb-18 A	[Blue bar]			
CB130810	Install King Posts & Grout (92 nr)	11-Jan-18 A	10-Mar-18	[Blue bar]	[Green bar]		
Temporary Steel Platform							
CB140200	Erect Decking of Temporary Steel Platform	08-May-18	19-Jul-18				[Green bar]
Excavation and ELS Works (Stage 2)							
CB160200	PIW1 Complete Diversion of Existing KGO Cooling Main (by Others)		31-Mar-18*			[Milestone diamond]	
CB160400	[South Portion] Excavate to +3.0mPD & Install 1st Layer of Strut	08-May-18	12-Jun-18				[Red bar]
CB161300	[North Portion] Excavate to +3.0mPD & Install 1st Layer of Strut	26-May-18	05-Jul-18				[Red bar]

C. Action and Limit Levels for Construction Phase

Air Quality

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

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

Monitoring Station	Action Level (mg/m ³)	Limit Level (mg/m ³)
AM1	273.7	500
AM2A	274.2	500

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

Monitoring Station	Action Level (µg/m ³)	Limit Level (µg/m ³)
AM1	143.6	260
AM2A	151.1	260

Noise

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

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

Time Period & Monitoring Locations	Action Level	Limit Level
NM1A		
0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)

D. Event and Action Plan for Air Quality, Noise, Landscape and Visual Impact

Air Quality

In case the Action and Limit Levels are not complied during construction stage, the following Event and Action Plan should be followed:

Table D-1: Event and Action Plan for Air Quality

Event	Action			
	ET	IEC	WKCD A	Contractor
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and WKCD A; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC and WKCD A; 3. Advise the WKCD A on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and WKCD A; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Monitor the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial to WKCD A within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform WKCD A, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD A informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the WKCD A on the effectiveness of the proposed remedial measures; 5. Monitor the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.

Event**Action**

2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none">1. Notify IEC, WKCDA, Contractor and EPD;2. Identify source;3. Repeat measurement to confirm findings;4. Increase monitoring frequency to daily;5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;6. Arrange meeting with IEC and WKCDA to discuss the remedial actions to be taken;7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCDA informed of the results;8. If exceedance stops, cease additional monitoring.	<ol style="list-style-type: none">1. Check monitoring data submitted by ET;2. Check Contractor's working method;3. Discuss amongst WKCDA, ET, and Contractor on the potential remedial actions;4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCDA accordingly;5. Monitor the implementation of remedial measures.	<ol style="list-style-type: none">1. Confirm receipt of notification of failure in writing;2. Notify Contractor;3. In consolidation with the IEC, agree on the remedial measures to be implemented;4. Ensure remedial measures properly implemented;5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	<ol style="list-style-type: none">1. Take immediate action to avoid further exceedance;2. Submit proposals for remedial actions to IEC within three working days of notification;3. Implement the agreed proposals;4. Resubmit proposals if problem still not under control;5. Stop the relevant portion of works as determined by the WKCDA until the exceedance is abated.
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Construction Noise

In case the Action and Limit Levels are not complied during construction stage, the following Event and Action Plan should be followed:

Table D-2: Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	WKCD	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify WKCD, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, WKCD and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the WKCD accordingly; 3. Advise the WKCD on the effectiveness of the proposed remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and WKCD; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Inform IEC, WKCD, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and WKCD on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and WKCD informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst WKCD, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the WKCD accordingly. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and WKCD within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the WKCD until the exceedance is abated.

Landscape and Visual Impact

In case of non-compliance of landscape and visual impacts, procedures in accordance with the Event and Action Plan should be followed:

Table D-3: Event and Action Plan for Landscape and Visual Impact

Event	Action			
	ET	IEC	WKCD A	Contractor
Design Check	<ol style="list-style-type: none"> 1. Design check to make sure the design complies with all the proposed mitigation measures in the EIA report; 2. Prepare and submit report. 	<ol style="list-style-type: none"> 1. Check report submitted by ET; 2. Recommend remedial design if necessary. 	<ol style="list-style-type: none"> 1. Undertake remedial design if necessary. 	-
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Identify source of non-conformity; 2. Report to IEC and WKCD A; 3. Discuss remedial actions with IEC, WKCD A and Contractor; 4. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check and verify source of non-conformity; 2. Discuss remedial actions with ET and Contractor; 3. Advise WKCD A on effectiveness of proposed remedial actions; 4. Check implementation of remedial actions. 	<ol style="list-style-type: none"> 1. Notify Contractor; 2. Ensure remedial actions are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.
Repeated conformity	<ol style="list-style-type: none"> 1. Identify source of non-conformity; 2. Report to IEC and WKCD A; 3. Increase monitoring frequency; 4. Discuss remedial actions with IEC, WKCD A and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity rectified, reduce monitoring frequency back to normal. 	<ol style="list-style-type: none"> 1. Check and verify source of non-conformity; 2. Check Contractor's working method; 3. Discuss remedial actions with ET and Contractor; 4. Advise WKCD A on effectiveness of proposed remedial actions; 5. Supervise implementation of remedial actions. 	<ol style="list-style-type: none"> 1. Notify Contractor; 2. Ensure remedial actions are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method as necessary; 2. Rectify damage and undertake necessary replacement and remedial actions.

E. Monitoring Schedule

FEBRUARY 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	2	3
4	5	6	7 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	8	9	10
11	12	13 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	14	15 AM1, AM2A - 24hrTSP, 1hr TSP x3	16	17
18	19	20	21 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	22	23	24
25	26 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	27	28			
		Notes: AM1 - International Commerce Centre (ICC) AM2A - Austin Road West (Opposite to The Harbourside) NM1A - International Commerce Centre (ICC)				

MARCH 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3 AM1, AM2A - 24hrTSP, 1hr TSP x3
4	5	6	7	8	9 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	10
11	12	13	14	15 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	16	17
18	19	20	21 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	22	23	24
25	26	27 AM1, AM2A - 24hrTSP, 1hr TSP x3 NM1A - Noise Impact Monitoring	28	29 AM1, AM2A - 24hrTSP, 1hr TSP x3	30	31
		Notes: AM1 - International Commerce Centre (ICC) AM2A - Austin Road West (Opposite to The Harbourside) NM1A - International Commerce Centre (ICC)				

F. Calibration Certifications

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM1(ICC)
 Calibrated by : K.T.Ho
 Date : 12/12/2017

Sampler

Model : TE-5170
 Serial Number : S/N 0767

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition


Pa (hpa) : 1018
 Ta(K) : 293

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.4	3.413	1.655	58	58.64
2 13 holes	8.8	2.999	1.456	48	48.53
3 10 holes	6.6	2.597	1.264	40	40.44
4 7 holes	4.6	2.168	1.058	30	30.33
5 5 holes	2.8	1.692	0.829	18	18.20

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 48.372 Intercept(b): -21.355 Correlation Coefficient(r): 0.9993

Checked by: 
 Magnum Fan

Date: 14/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM1(ICC)
 Calibrated by : K.T.Ho
 Date : 12/02/2018

Sampler

Model : TE-5170
 Serial Number : S/N 0767

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1022
 Ta(K) : 290

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.2	3.408	1.652	58	59.06
2 13 holes	8.2	2.916	1.416	50	50.91
3 10 holes	6.2	2.535	1.234	42	42.76
4 7 holes	4.4	2.136	1.042	34	34.62
5 5 holes	2.6	1.642	0.805	22	22.40

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 43.329 Intercept(b): -11.344 Correlation Coefficient(r): 0.9972

Checked by: 
 Magnum Fan

Date: 13/02/2018

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM2A (Harbourside)
 Calibrated by : K.T.Ho
 Date : 12/12/2017

Sampler

Model : TE-5170
 Serial Number : S/N 8919

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition


Pa (hpa) : 1018
 Ta(K) : 293

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	12.6	3.589	1.739	62	62.68
2 13 holes	9.4	3.100	1.505	50	50.55
3 10 holes	7.2	2.713	1.319	42	42.46
4 7 holes	4.6	2.168	1.058	32	32.35
5 5 holes	3.0	1.751	0.858	24	24.26

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \sqrt{Pa/Pstd}(Tstd/Ta)$

Sampler Calibration Relationship

Slope(m): 42.986 Intercept(b): -13.233 Correlation Coefficient(r): 0.9980

Checked by: 
 Magnum Fan

Date: 14/12/2017

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM2A (Harbourside)
 Calibrated by : K.T.Ho
 Date : 12/02/2018

Sampler

Model : TE-5170
 Serial Number : S/N 8919

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 20 Mar 2017
 Slope (m) : 2.08464
 Intercept (b) : -0.03684
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition


Pa (hpa) : 1022
 Ta(K) : 290

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (chart)	Y (corrected)
1 18 holes	11.4	3.438	1.667	62	63.13
2 13 holes	9.0	3.055	1.483	56	57.02
3 10 holes	6.4	2.576	1.253	48	48.87
4 7 holes	4.2	2.087	1.019	36	36.65
5 5 holes	2.2	1.510	0.742	26	26.47

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 40.581 Intercept(b): -3.598 Correlation Coefficient(r): 0.9973

Checked by: 

 Magnum Fan

Date: 13/02/2018



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE
 VILLAGE OF CLEVES, OH
 45002
 513.467.9000
 877.263.7610 TOLL FREE
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 20, 2017 Rootsmeter S/N 0438320 Ta (K) - 293
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 759.46

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER	ORFICE
					DIFF Hg (mm)	DIFF H2O (in.)
1	NA	NA	1.00	1.4390	3.2	2.00
2	NA	NA	1.00	1.0240	6.4	4.00
3	NA	NA	1.00	0.9170	7.9	5.00
4	NA	NA	1.00	0.8730	8.8	5.50
5	NA	NA	1.00	0.7200	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0120	0.7033	1.4257	0.9958	0.6920	0.8784
1.0078	0.9842	2.0163	0.9916	0.9683	1.2423
1.0057	1.0967	2.2543	0.9895	1.0791	1.3889
1.0045	1.1507	2.3643	0.9884	1.1322	1.4567
0.9992	1.3878	2.8514	0.9831	1.3654	1.7568
Qstd slope (m) = 2.08464			Qa slope (m) = 1.30537		
intercept (b) = -0.03684			intercept (b) = -0.02270		
coefficient (r) = 0.99994			coefficient (r) = 0.99994		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b}
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}

CALIBRATION CERTIFICATE

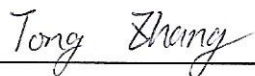
Date: July 27, 2017

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	245833
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	711CPM
Scale Setting	:	Jul 25, 2017

We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.



Tong Zhang

Overseas Sales Division



REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

REPORT NO. : HK1710682
 PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017

CUSTOMER : Envirotech Services Company
 ADDRESS : Rm. 113, 1/F., MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.


REPORT NO. : HK1710682
 PROJECT ITEM NO. : HK1710682-01
PERFORMANCE CHECK / CALIBRATED EQUIPMENT
 TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 245833
 EQUIPMENT NO. : ---
 RECEIPT DATE : 18/8/2017
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

PERFORMANCE CHECK / CALIBRATION Information

CODE	Calibration Parameter	Method Procedure	Reference Method
Dust PC/CAL	Performance Check / Calibration of Dust Meter	CAL003	General Technical Requirements of Environmental Monitoring, Environmental Monitoring & Audit Guidelines for Development Projects in HK

- Notes : 1. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 2. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Approved Signatory

: 

 Wong Po Yan Pauline
 (Assistant Laboratory Manager)

Issue Date: 21/8/2017


REPORT OF PERFORMANCE CHECK / CALIBRATION

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017
 REPORT NO. : HK1710682

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 245833
 EQUIPMENT NO. : ---
 SENSITIVITY ADJUSTMENT : ---
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

STANDARD EQUIPMENT

TYPE : HIGH VOLUME AIR SAMPLER
 MANUFACTURER : TISCH
 MODEL NO. : TE-5170
 EQUIPMENT REF NO. : PTL_HV002
 LAST CALIBRATION DATE : 31/7/2017

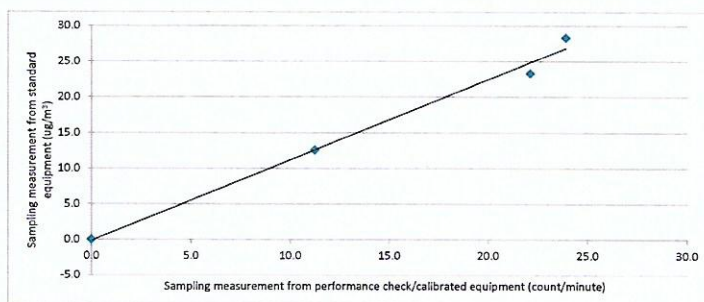
EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): $\frac{712}{712}$ CPM
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): $\frac{712}{712}$ CPM

Trial no. in 1-hr period	Time	Mean Temp (°C)	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard equipment) (Y - Axis)	Total Count ² (Performance Check / Calibrated equipment)	Concentration in Count/Minute ³ (Performance Check / Calibrated equipment) (X - Axis)
Zero Check ¹	18/8/2017,1:15:00 PM	30.4	1010	0	0	0
1	18/8/2017,2:19:00 PM	30.4	1010	23	1327	22
2	18/8/2017,3:24:00 PM	30.4	1010	28	1434	24
3	18/8/2017,4:29:00 PM	30.4	1010	13	674	11

Linear Regression of Y on X

Slope (K- factor) : $\frac{1.1}{0.9953}$
 Correlation Coefficient : $\frac{0.9953}{18/8/2018}$
 Validity of Performance Check / Calibration Record : $\frac{18/8/2018}{18/8/2018}$



- Notes : 1. Zero check conducted as per CAL003 SOP and manufacturer's manual as appropriate.
 2. Total Count was measured by Digital Dust Indicator.
 3. Count/minute was calculated by (Total Count/60)
 4. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 5. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Operator: Lau, Natalie Signature: *Natalie* Date: 18/8/2017

Checked by: Wong Po Yan, Pauline Signature: *Wong Po Yan* Date: 21/8/2017

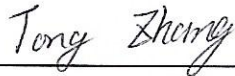
CALIBRATION CERTIFICATE

Date: July 27, 2017

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	276015
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	721CPM
Scale Setting	:	Jul 6, 2017

We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Tong Zhang

Overseas Sales Division


REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

REPORT NO. : HK1710683
PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
DATE OF ISSUE : 21/8/2017
CUSTOMER : Envirotech Services Company
ADDRESS : Rm. 113, 1/F., MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.

REPORT NO. : HK1710683
PROJECT ITEM NO. : HK1710683-01
PERFORMANCE CHECK / CALIBRATED EQUIPMENT
TYPE : Digital Dust Indicator
MANUFACTURER : SIBATA
MODEL NO. : LD-3B
SERIAL NO. : 276015
EQUIPMENT NO. : ---
RECEIPT DATE : 18/8/2017
PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

PERFORMANCE CHECK / CALIBRATION Information

CODE	Calibration Parameter	Method Procedure	Reference Method
Dust PC/CAL	Performance Check / Calibration of Dust Meter	CAL003	General Technical Requirements of Environmental Monitoring, Environmental Monitoring & Audit Guidelines for Development Projects in HK

- Notes : 1. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 2. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Approved Signatory

Wong Po Yan Pauline
(Assistant Laboratory Manager)

Issue Date:

21/8/2017



REPORT OF PERFORMANCE CHECK / CALIBRATION

PROJECT NAME : PERFORMANCE CHECK / CALIBRATION OF DUST METER
 DATE OF ISSUE : 21/8/2017
 REPORT NO. : HK1710683

PERFORMANCE CHECK / CALIBRATED EQUIPMENT

TYPE : Digital Dust Indicator
 MANUFACTURER : SIBATA
 MODEL NO. : LD-3B
 SERIAL NO. : 276015
 EQUIPMENT NO. : ---
 SENSITIVITY ADJUSTMENT : ---
 PERFORMANCE CHECK / CALIBRATION DATE : 18/8/2017

STANDARD EQUIPMENT

TYPE : HIGH VOLUME AIR SAMPLER
 MANUFACTURER : TISCH
 MODEL NO. : TE-5170
 EQUIPMENT REF NO. : PTL_HV002
 LAST CALIBRATION DATE : 31/7/2017

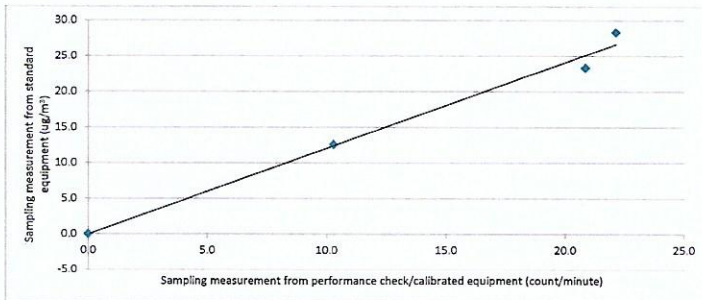
EQUIPMENT PERFORMANCE CHECK / CALIBRATION RESULTS:

Sensitivity Adjustment Scale Setting (Before Performance check / Calibration): 721 CPM
 Sensitivity Adjustment Scale Setting (After Performance check / Calibration): 721 CPM

Trial no. in 1-hr period	Time	Mean Temp (C)	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard equipment) (Y - Axis)	Total Count ² (Performance Check / Calibrated equipment)	Concentration in Count/Minute ³ (Performance Check / Calibrated equipment) (X - Axis)
Zero Check ¹	18/8/2017,1:15:00 PM	30.4	1010	0	0	0
1	18/8/2017,2:19:00 PM	30.4	1010	23	1252	21
2	18/8/2017,3:24:00 PM	30.4	1010	28	1329	22
3	18/8/2017,4:29:00 PM	30.4	1010	13	618	10

Linear Regression of Y on X

Slope (K- factor) : 1.2
 Correlation Coefficient : 0.9937
 Validity of Performance Check / Calibration Record : 18/8/2018



- Notes : 1. Zero check conducted as per CAL003 SOP and manufacturer's manual as appropriate.
 2. Total Count was measured by Digital Dust Indicator.
 3. Count/minute was calculated by (Total Count/60)
 4. This report shall not be reproduced, except in full, without prior approval from Pilot Testing Limited.
 5. Performance Check / Calibration result relates to performance check / calibration item(s) as received.

Operator: Lau, Natalie Signature: *Natalie* Date: 18/8/2017

Checked by: Wong Po Yan, Pauline Signature: *Wong Po Yan* Date: 21/8/2017



Certificate of Calibration

校正證書

Certificate No. : C174093
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-1613) Date of Receipt / 收件日期 : 11 July 2017
Description / 儀器名稱 : Precision Integrating Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-18
Serial No. / 編號 : 00360030
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 22 July 2017

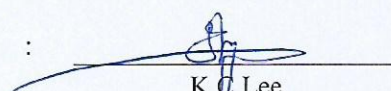
TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification. (after adjustment)
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By : 
測試 : H T Wong
Technical Officer

Certified By : 
核證 : K C Lee
Engineer

Date of Issue : 24 July 2017
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C174093

證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
2. Self-calibration using the internal standard (After Adjustment) was performed before the test from 6.1.1.2 to 6.4.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	* 92.9	± 0.7

* Out of IEC 60651 Type 1 Spec.

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
60 - 120	LA	A	Fast	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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Certificate of Calibration

校正證書

Certificate No. : C174093
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.1	Ref.
			Slow			94.0	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
50 - 110	LA	A	Fast	106.00	Continuous	106.0	Ref.
	LAmx				200 ms	105.1	-1.0 ± 1.0
	LA	Slow	Continuous		106.0	Ref.	
	LAmx		500 ms		102.4	-4.1 ± 1.0	

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LA	A	Fast	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.7	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.4	$+1.2 \pm 1.0$
					4 kHz	95.1	$+1.0 \pm 1.0$
					8 kHz	93.0	$-1.1 (+1.5 ; -3.0)$
12.5 kHz	89.8	$-4.3 (+3.0 ; -6.0)$					

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C174093
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LC	C	Fast	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.2	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	94.0	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)					

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)	
Range (dB)	Mode	Frequency Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)			
50 - 110	LAeq	A	10 sec.	4	1	1/10	110	100	100.1	± 0.5	
								90	90.1	± 0.5	
			60 sec.					1/10 ³	80	79.5	± 1.0
			5 min.					1/10 ⁴	70	69.8	± 1.0

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C174093

證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307435

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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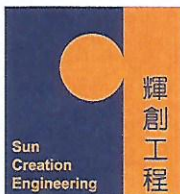
Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel 電話: 2927 2606 Fax 傳真: 2744 8986 E-mail 電郵: callab@suncreation.com Website 網址: www.suncreation.com



Certificate of Calibration 校正證書

Certificate No. : C171447
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0633) Date of Receipt / 收件日期 : 16 March 2017

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10486660
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(55 \pm 20)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

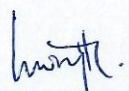
DATE OF TEST / 測試日期 : 17 March 2017

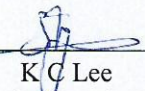
TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

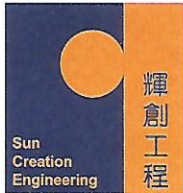
Tested By : 
測試 : H T Wong
Technical Officer

Certified By : 
核證 : K C Lee
Project Engineer

Date of Issue : 23 March 2017
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C171447

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

- Test procedure : MA100N.

- Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.6	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.987	1 kHz ± 2 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 – 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606

Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com

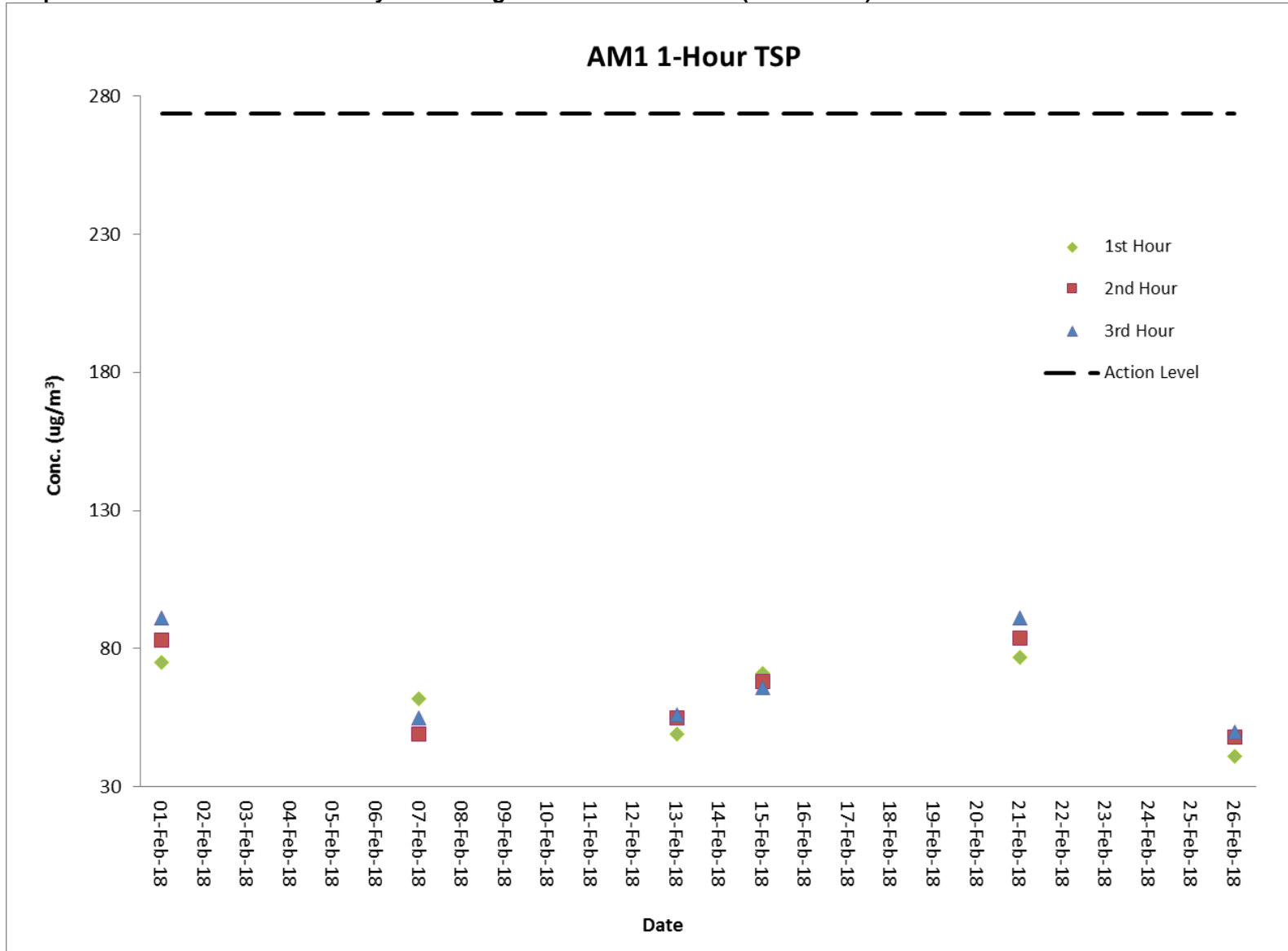
Website/網址: www.suncreation.com

G. Graphical Plots of the Monitoring Results

Air Quality Monitoring Result at Station AM1 (1-hour TSP)

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Hour	2nd Hour	3rd Hour		
01-Feb-18	Cloudy	10:50 - 16:00	75	83	91	273.7	500
07-Feb-18	Cloudy	10:52 - 16:00	62	49	55	273.7	500
13-Feb-18	Sunny	10:47 - 16:00	49	55	56	273.7	500
15-Feb-18	Cloudy	7:50 - 10:50	71	68	66	273.7	500
21-Feb-18	Cloudy	10:52 - 16:00	77	84	91	273.7	500
26-Feb-18	Cloudy	10:32 - 16:00	41	48	50	273.7	500

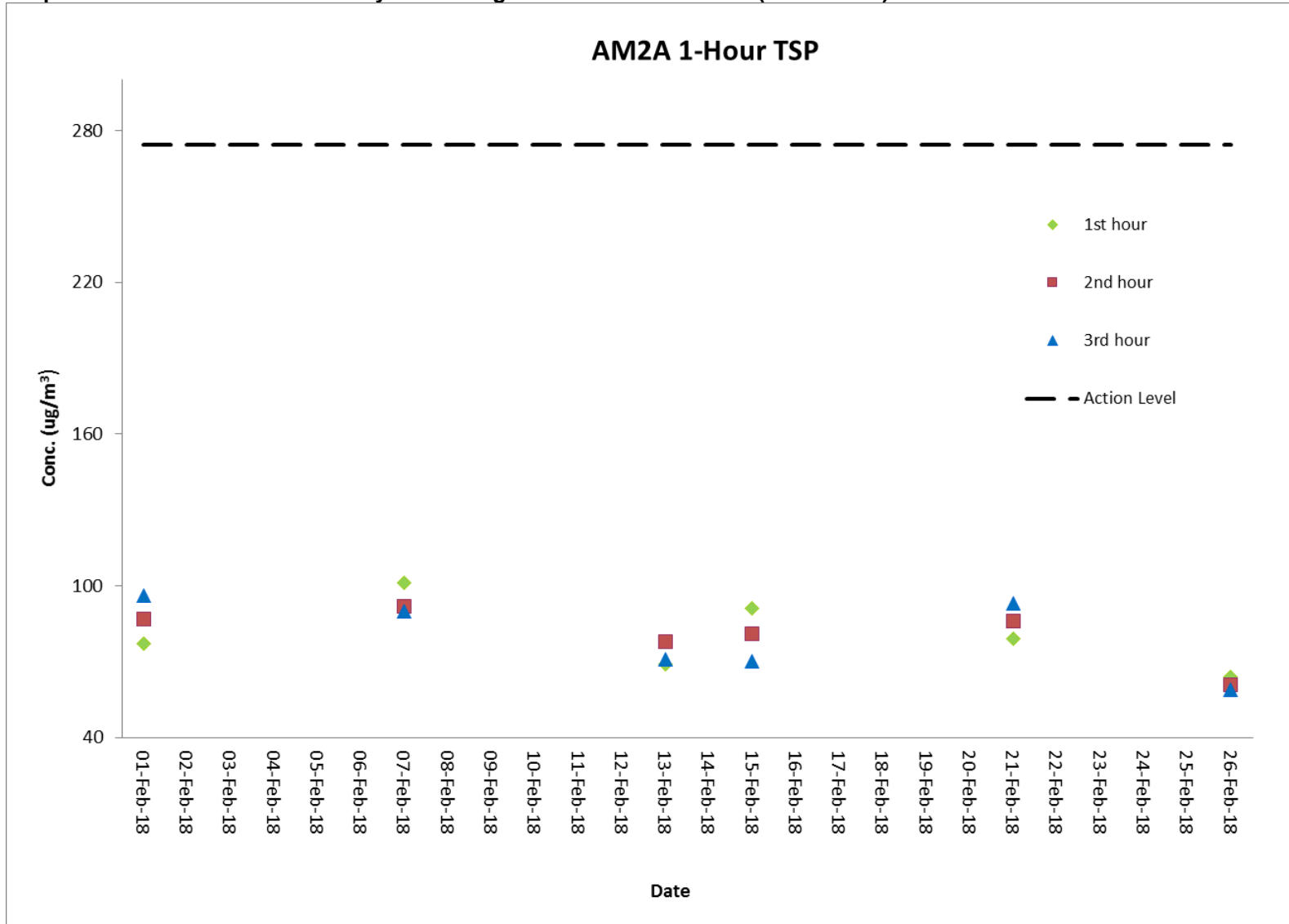
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)



Air Quality Monitoring Result at Station AM2A (1-hour TSP)

Date	Weather Condition	Time	Conc. ($\mu\text{g}/\text{m}^3$)			Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
			1st Hour	2nd Hour	3rd Hour		
01-Feb-18	Cloudy	11:02 - 16:10	77	87	96	274.2	500
07-Feb-18	Cloudy	11:04 - 16:10	101	92	90	274.2	500
13-Feb-18	Sunny	11:02 - 16:10	69	78	71	274.2	500
15-Feb-18	Cloudy	8:02 - 11:02	91	81	70	274.2	500
21-Feb-18	Cloudy	11:04 - 16:10	79	86	93	274.2	500
26-Feb-18	Cloudy	10:46 - 16:10	64	61	59	274.2	500

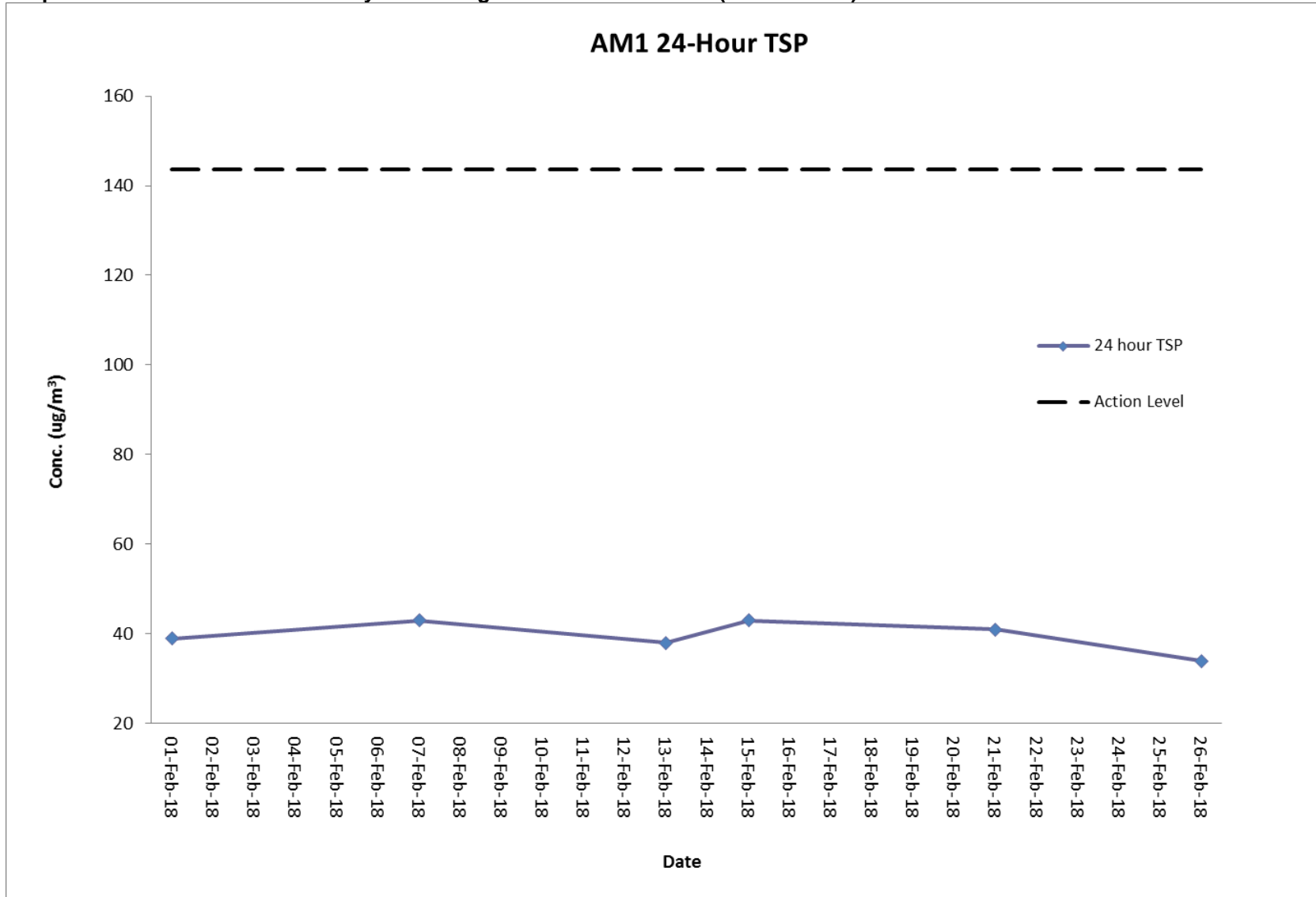
Graphical Presentation of Air Quality Monitoring Result at Station AM2A (1-hour TSP)



Air Quality Monitoring Result at Station AM1 (24-hour TSP)

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			Conc. (µg/m ³)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
01-Feb-18	14:40	02-Feb-18	14:40	2.7545	2.8249	22176.38	22200.38	24	1.26	1.26	1.26	39	Fine	143.6	260
07-Feb-18	10:50	08-Feb-18	10:50	2.7289	2.8064	22200.38	22224.38	24	1.26	1.26	1.26	43	Cloudy	143.6	260
13-Feb-18	10:45	14-Feb-18	10:45	2.7514	2.8185	22224.38	22248.38	24	1.23	1.23	1.23	38	Sunny	143.6	260
15-Feb-18	07:48	16-Feb-18	07:48	2.7318	2.8087	22248.38	22272.38	24	1.23	1.23	1.23	43	Cloudy	143.6	260
21-Feb-18	10:50	22-Feb-18	10:50	2.7582	2.8307	22272.38	22296.38	24	1.23	1.23	1.23	41	Cloudy	143.6	260
26-Feb-18	10:30	27-Feb-18	10:30	2.7773	2.8372	22296.38	22320.38	24	1.23	1.23	1.23	34	Cloudy	143.6	260

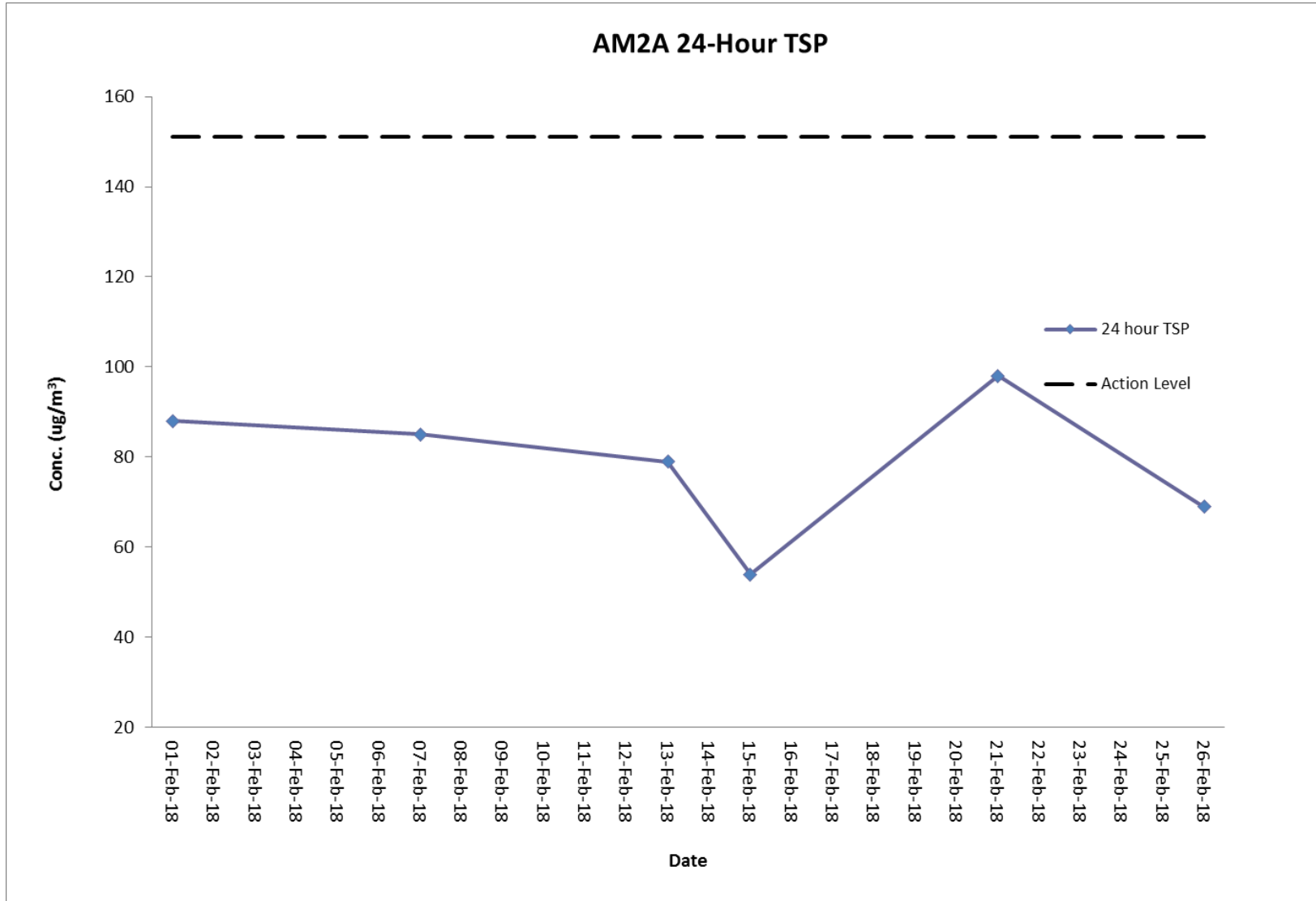
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



Air Quality Monitoring Result at Station AM2A (24-hour TSP)

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m3/min)			Conc. (µg/m3)	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
01-Feb-18	11:00	02-Feb-18	11:00	2.7312	2.8880	17831.59	17855.59	24	1.24	1.24	1.24	88	Fine	151.1	260
07-Feb-18	11:02	08-Feb-18	11:02	2.7572	2.9097	17855.59	17879.59	24	1.24	1.24	1.24	85	Cloudy	151.1	260
13-Feb-18	11:00	14-Feb-18	11:00	2.7691	2.9077	17879.59	17903.59	24	1.22	1.22	1.22	79	Sunny	151.1	260
15-Feb-18	08:00	16-Feb-18	08:00	2.7573	2.8522	17903.59	17927.59	24	1.22	1.22	1.22	54	Cloudy	151.1	260
21-Feb-18	11:02	22-Feb-18	11:02	2.7222	2.8938	17927.59	17951.59	24	1.22	1.22	1.22	98	Cloudy	151.1	260
26-Feb-18	10:44	27-Feb-18	10:44	2.7440	2.8645	17951.59	17975.59	24	1.22	1.22	1.22	69	Cloudy	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2A (24-hour TSP)



Noise Monitoring Result at Station NM1A

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
01-Feb-18	14:00	68.0	62.7	70
01-Feb-18	14:05	69.3	63.9	
01-Feb-18	14:10	69.7	63.8	
01-Feb-18	14:15	68.8	62.7	
01-Feb-18	14:20	67.5	62.4	
01-Feb-18	14:25	68.4	63.0	
07-Feb-18	14:00	66.0	61.1	67
07-Feb-18	14:05	66.4	62.0	
07-Feb-18	14:10	67.1	63.0	
07-Feb-18	14:15	66.8	62.7	
07-Feb-18	14:20	65.9	61.9	
07-Feb-18	14:25	66.7	62.2	
13-Feb-18	14:00	65.9	61.7	68
13-Feb-18	14:05	66.0	62.4	
13-Feb-18	14:10	66.7	62.2	
13-Feb-18	14:15	67.4	63.0	
13-Feb-18	14:20	66.9	62.8	
13-Feb-18	14:25	67.2	63.7	
21-Feb-18	14:00	66.7	62.3	68
21-Feb-18	14:05	68.0	63.9	
21-Feb-18	14:10	67.7	63.0	
21-Feb-18	14:15	66.5	62.4	
21-Feb-18	14:20	67.4	63.7	
21-Feb-18	14:25	67.4	63.5	
26-Feb-18	14:00	66.5	62.7	68
26-Feb-18	14:05	67.7	63.9	
26-Feb-18	14:10	66.5	62.8	
26-Feb-18	14:15	66.4	62.0	
26-Feb-18	14:20	65.9	61.7	
26-Feb-18	14:25	66.0	62.4	

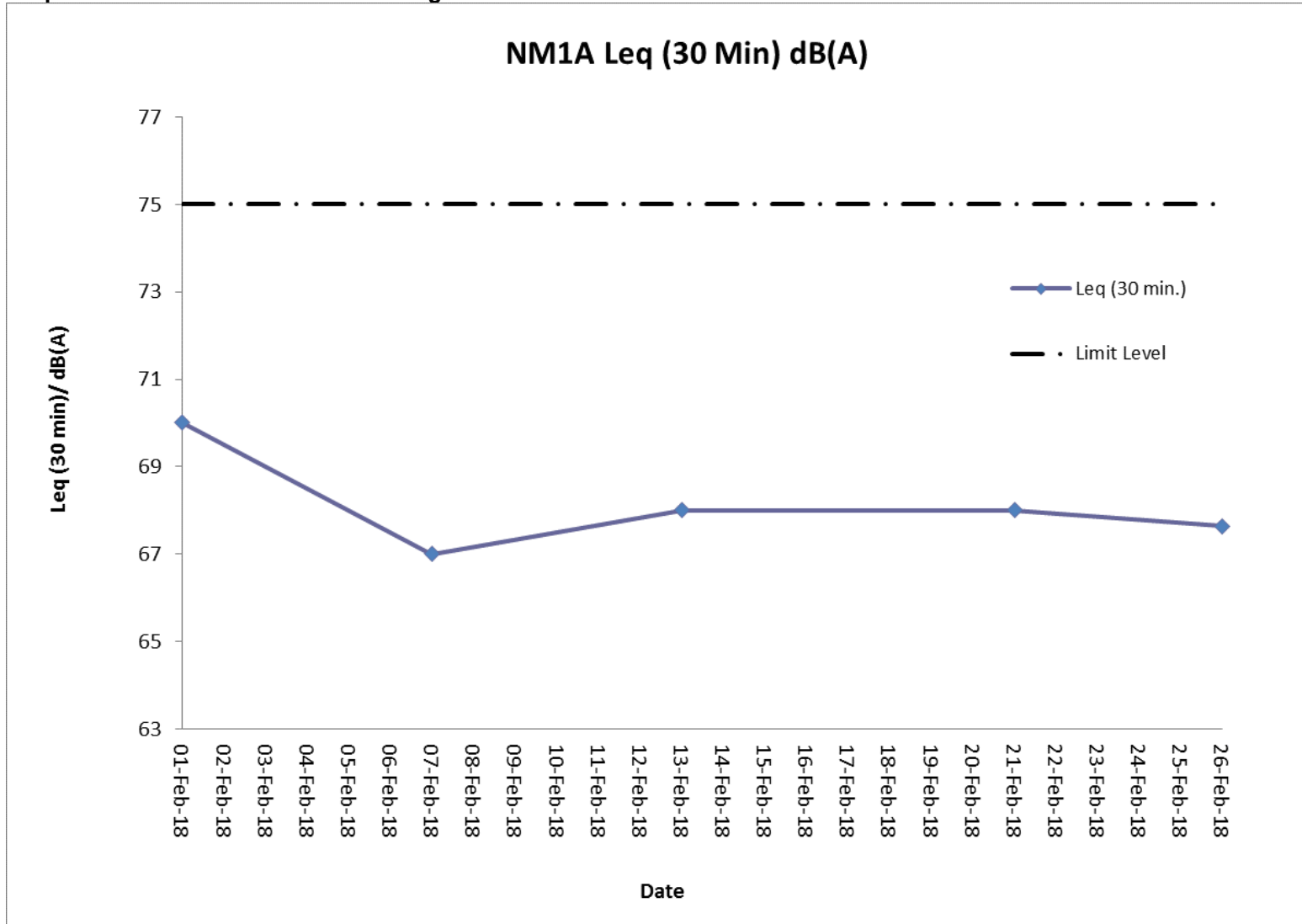
Remarks:

+3dB (A) correction was applied to free-field measurement.



The station set-up of a free-field measurement at Station NM1A.

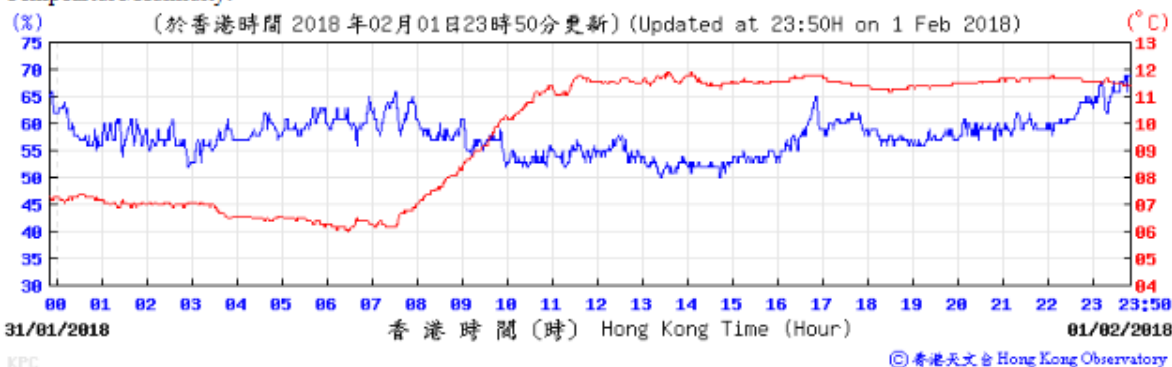
Graphical Presentation Noise Monitoring Result at Station NM1A



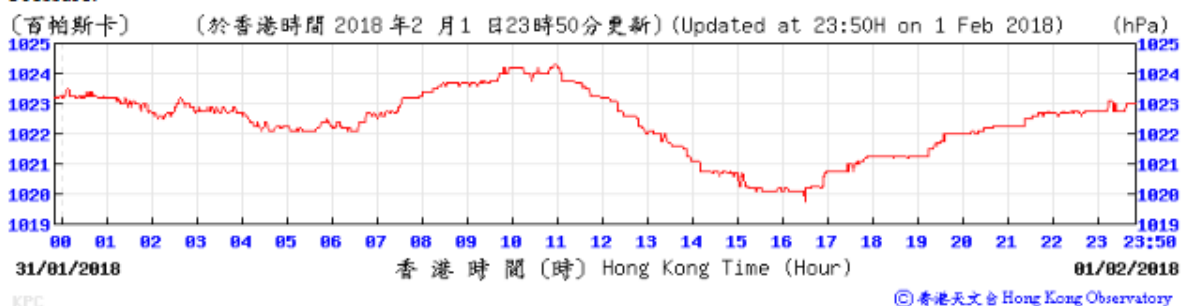
H. Meteorological Data Extracted from Hong Kong Observatory

Extract of Meteorological Observations for King's Park Automatic Weather Station, February 2018

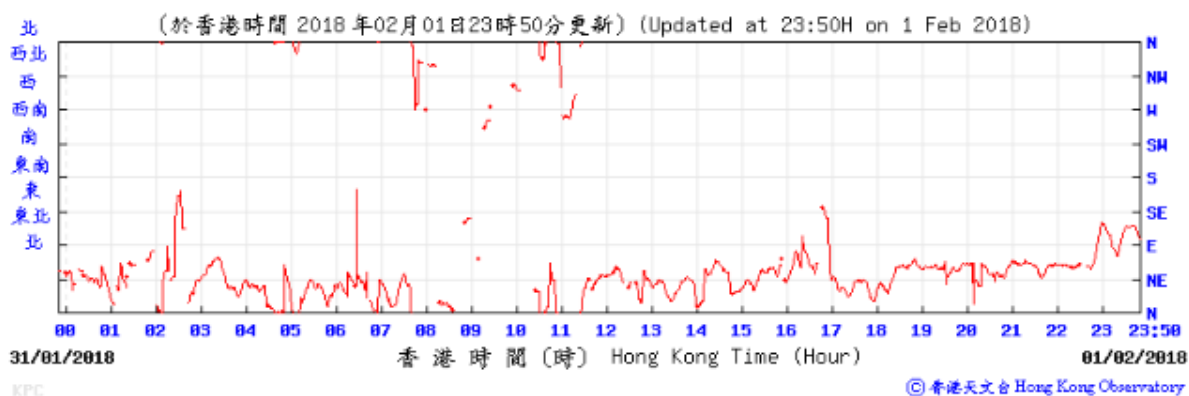
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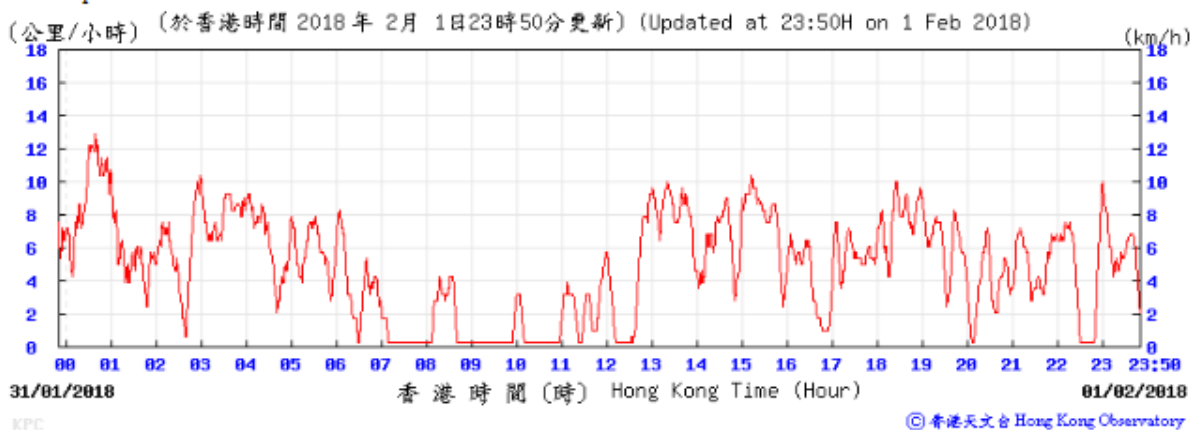
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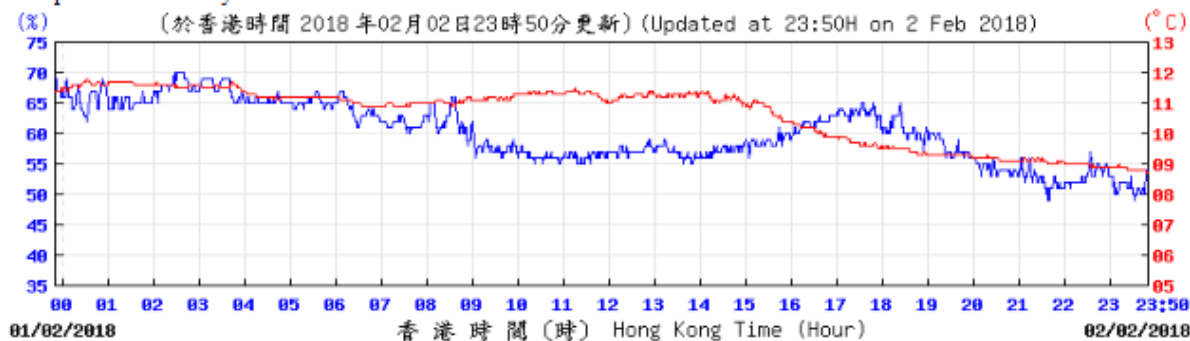
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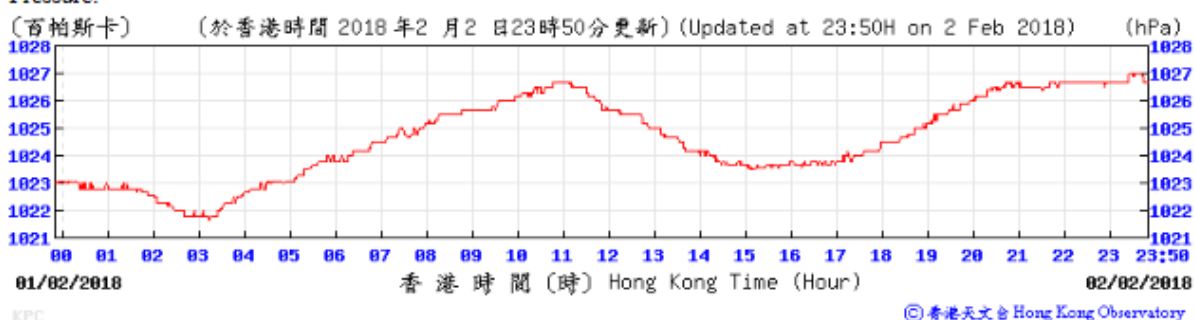
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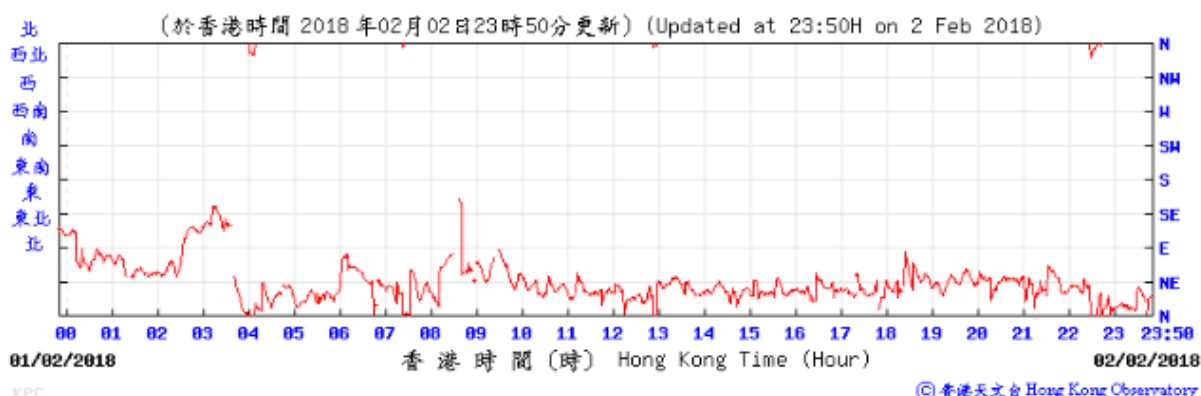
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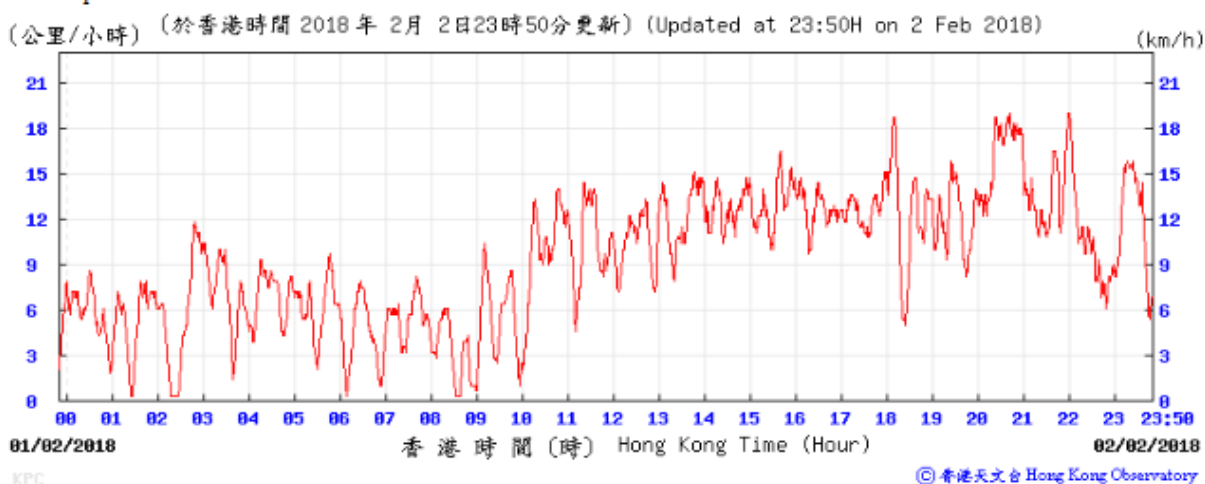
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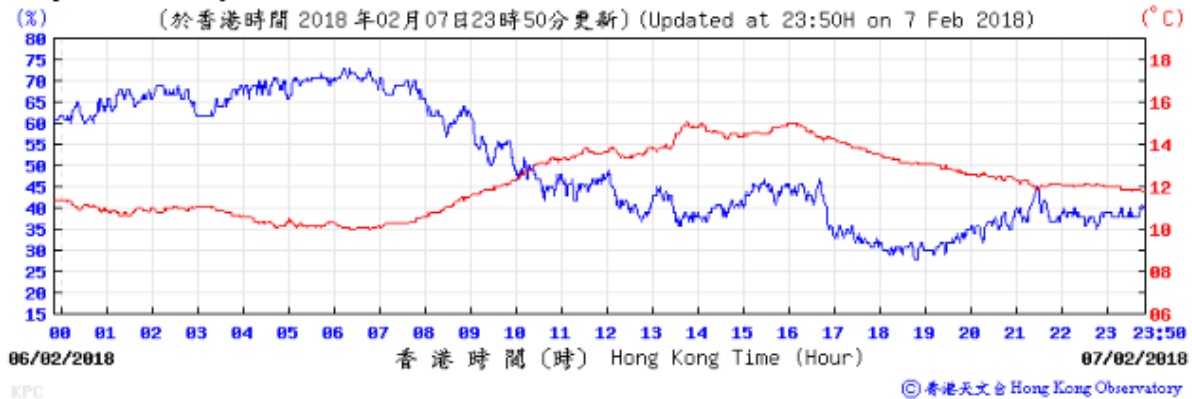
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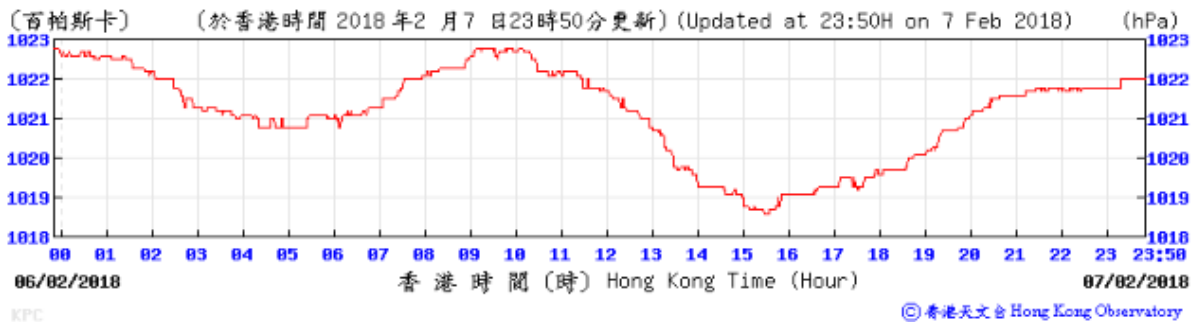
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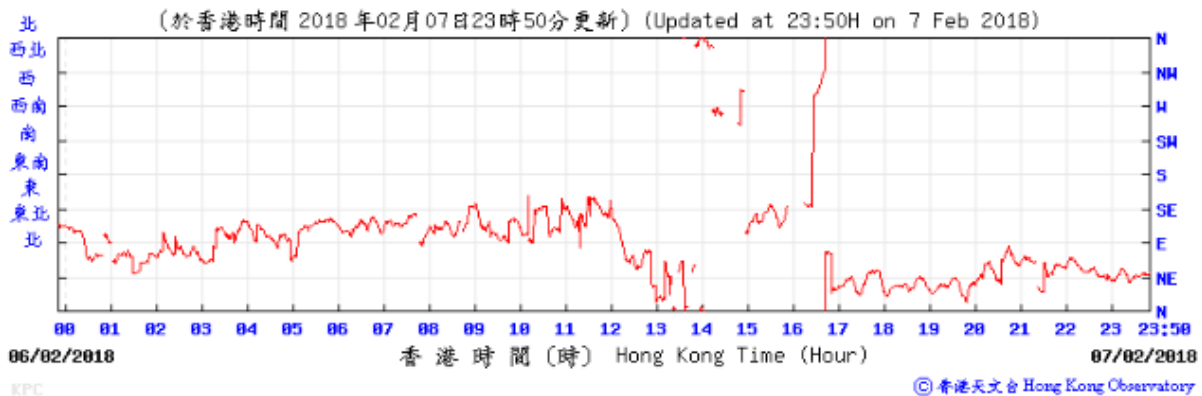
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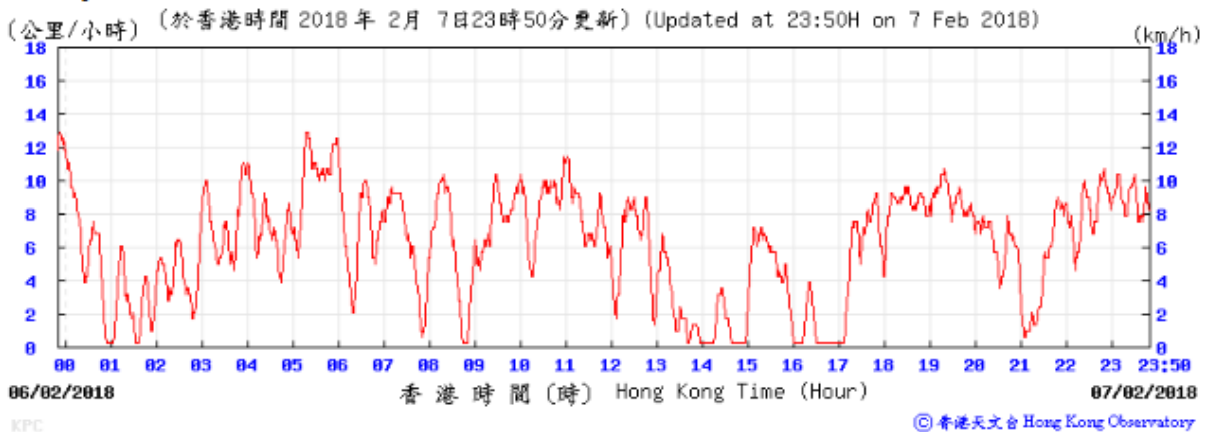
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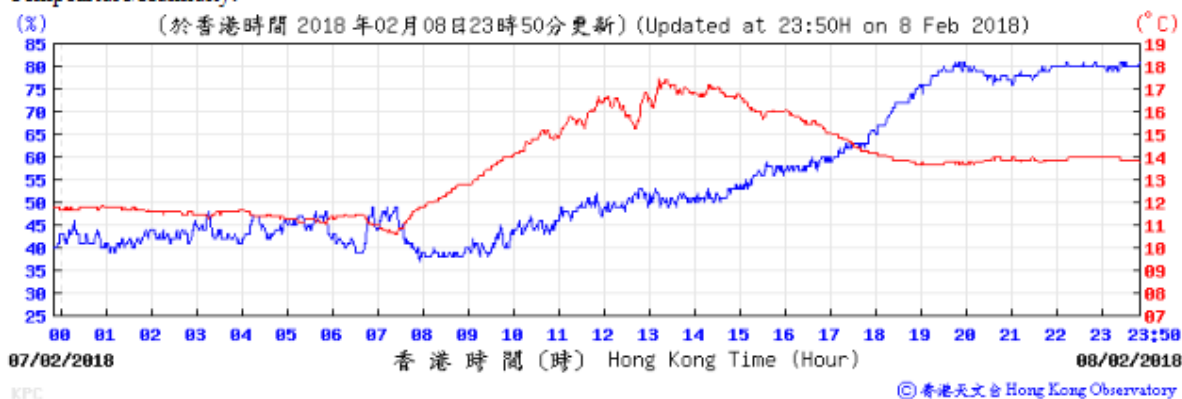
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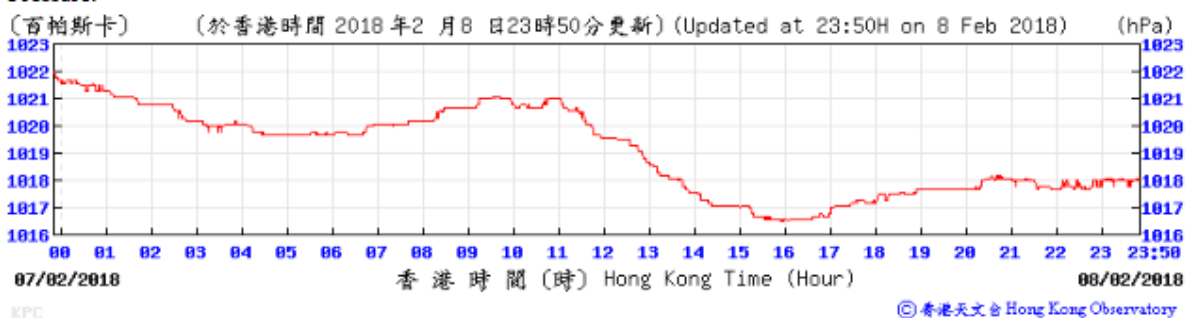
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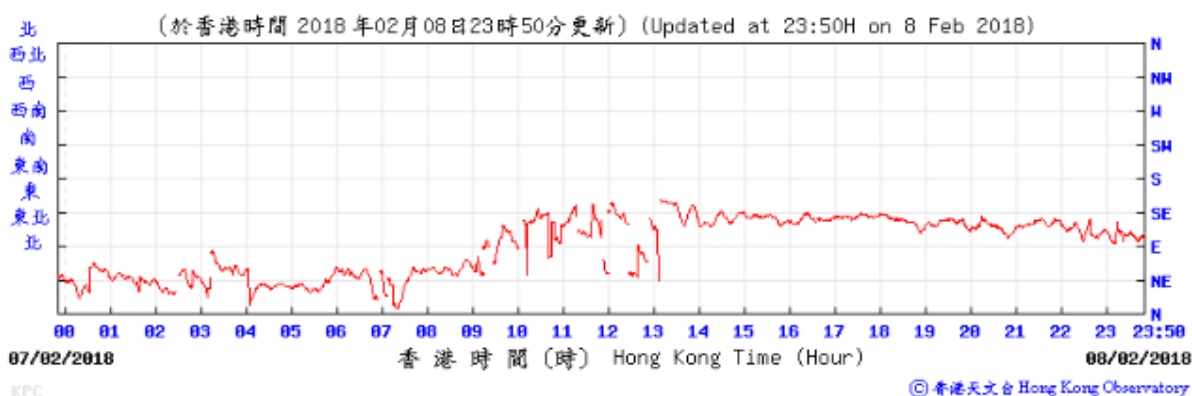
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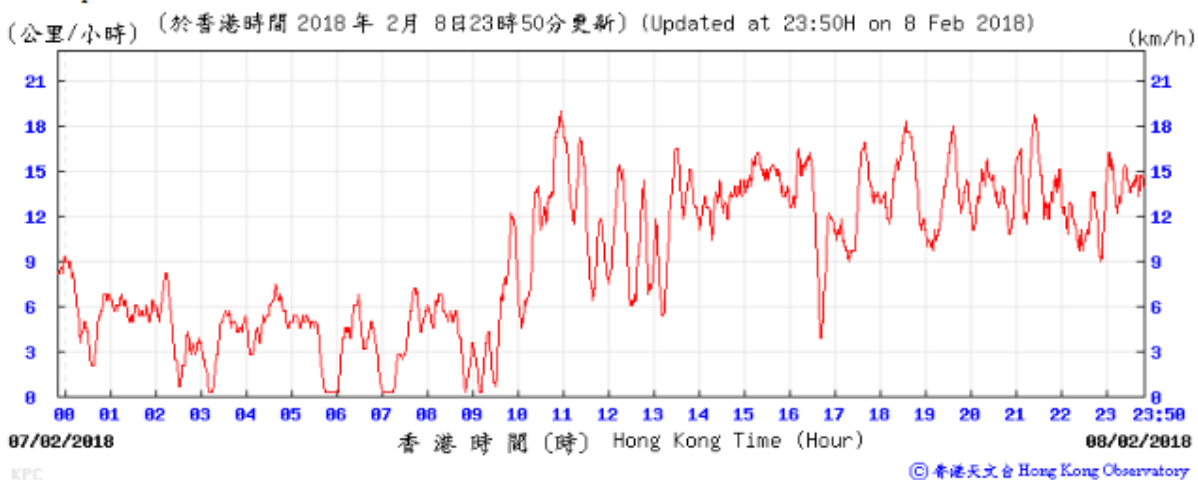
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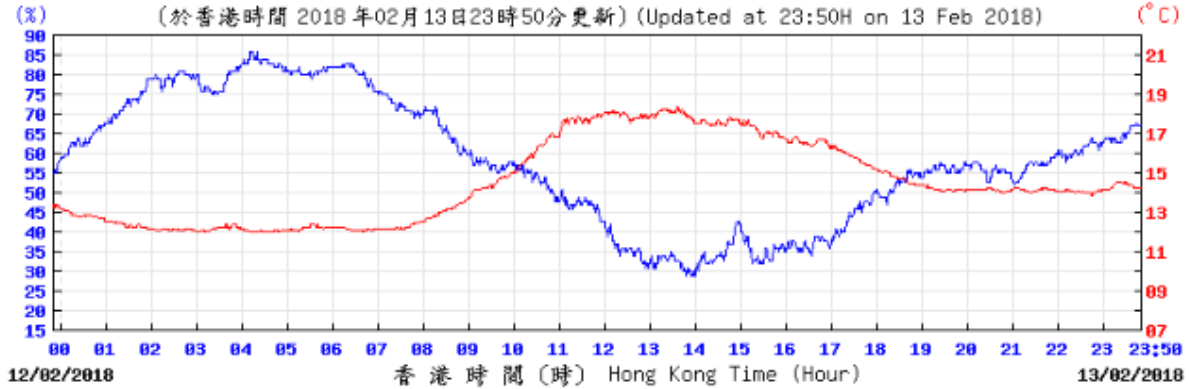
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Wind Speed:

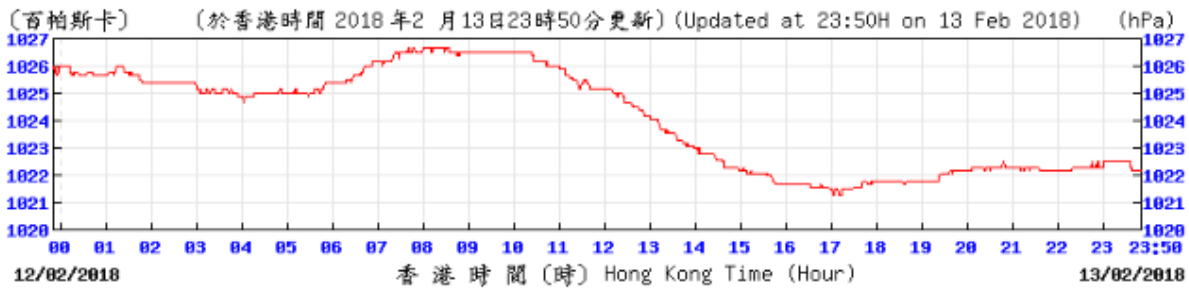


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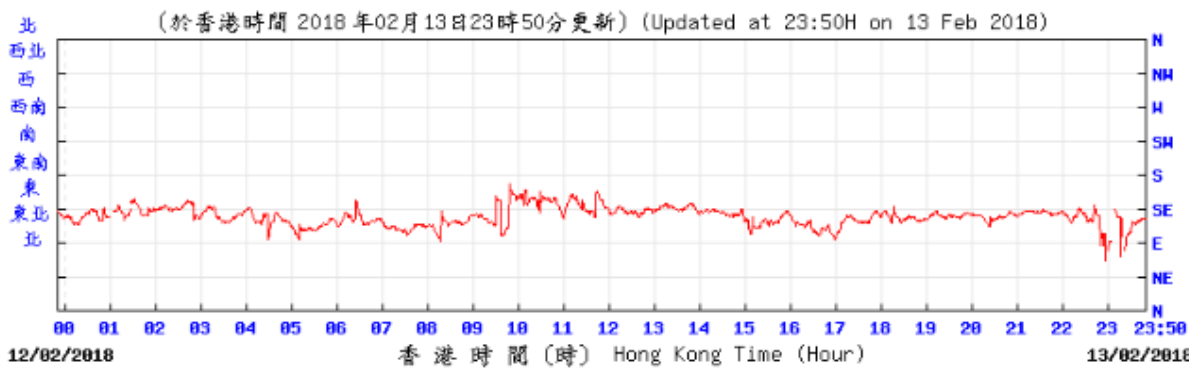
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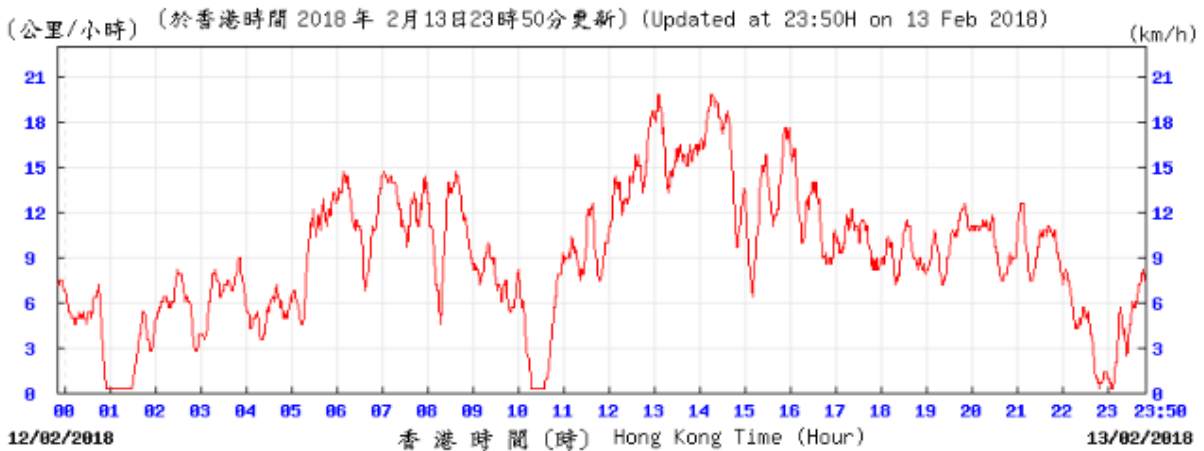
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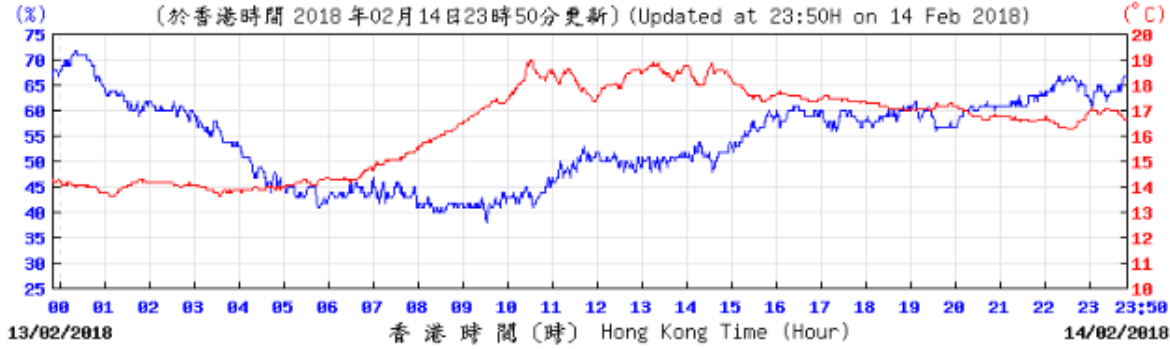
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Wind Speed:



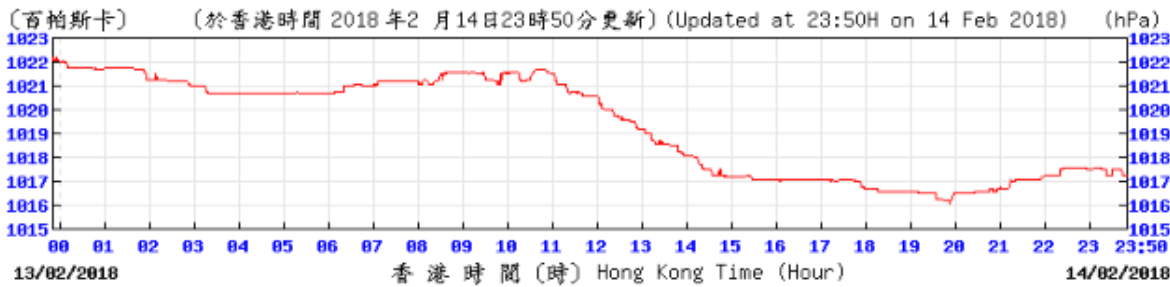
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Temperature/Humidity:



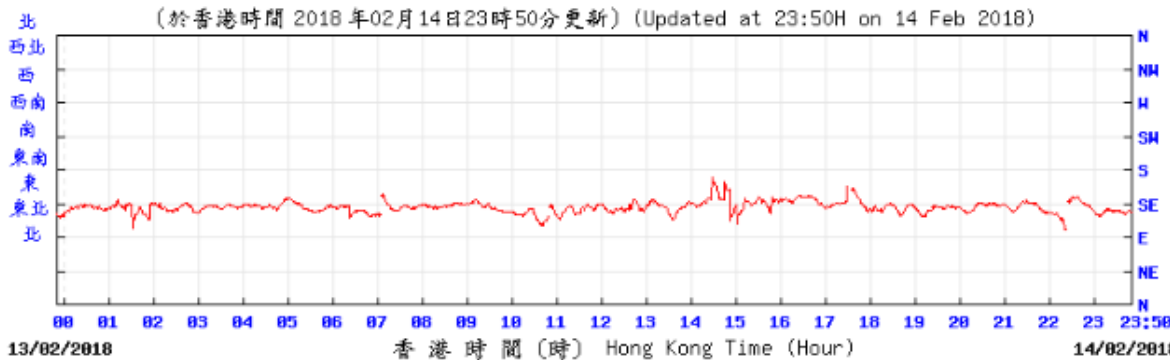
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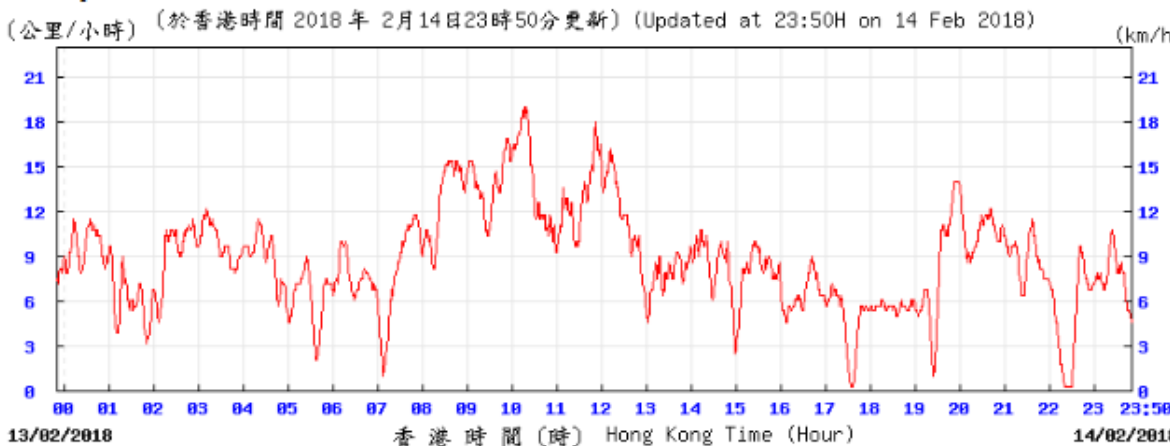
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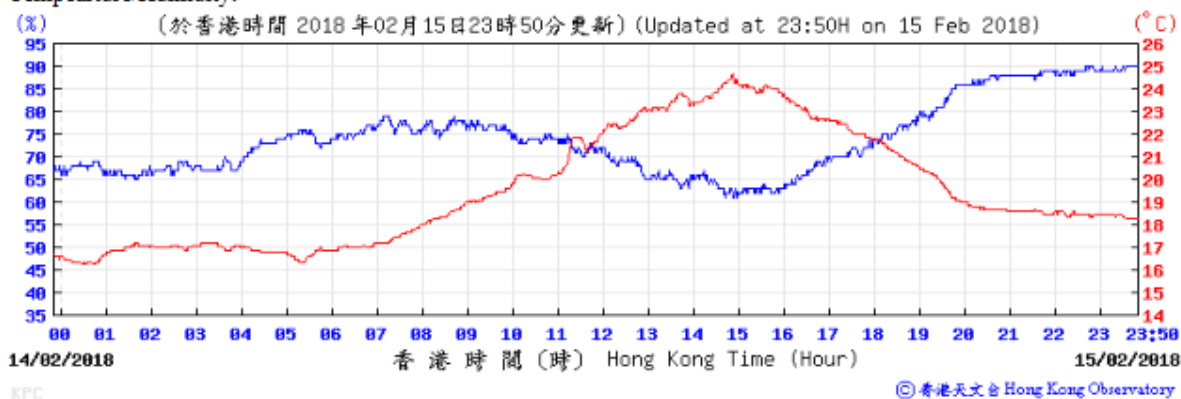
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Wind Speed:

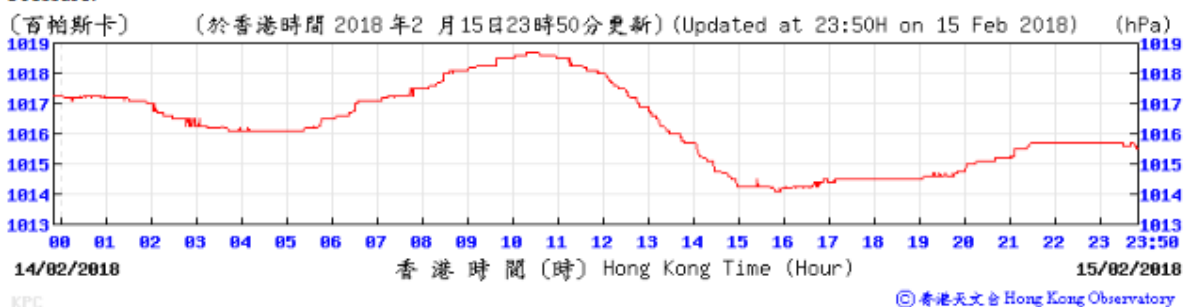


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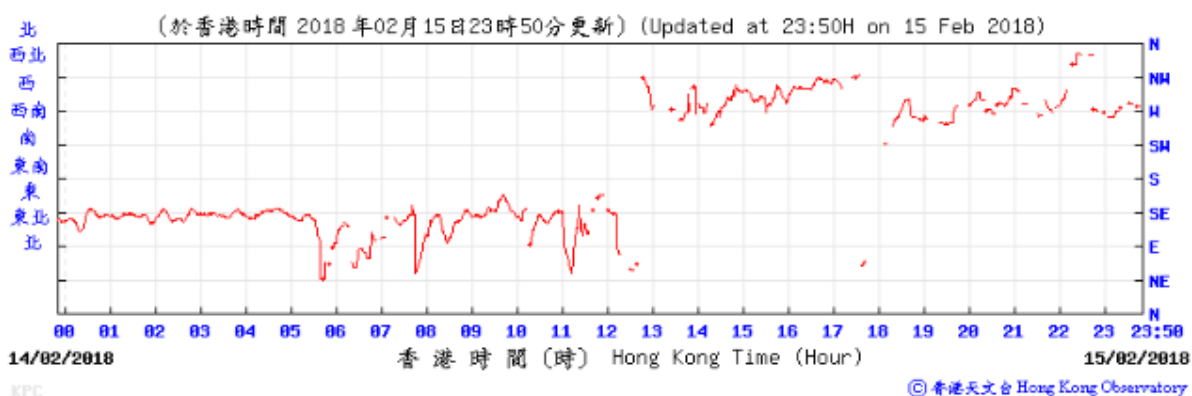
Temperature/Humidity:



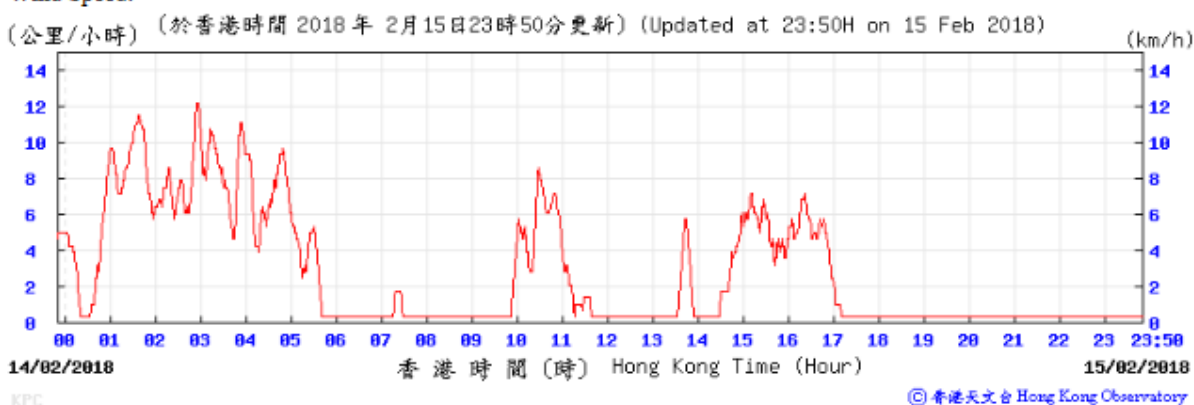
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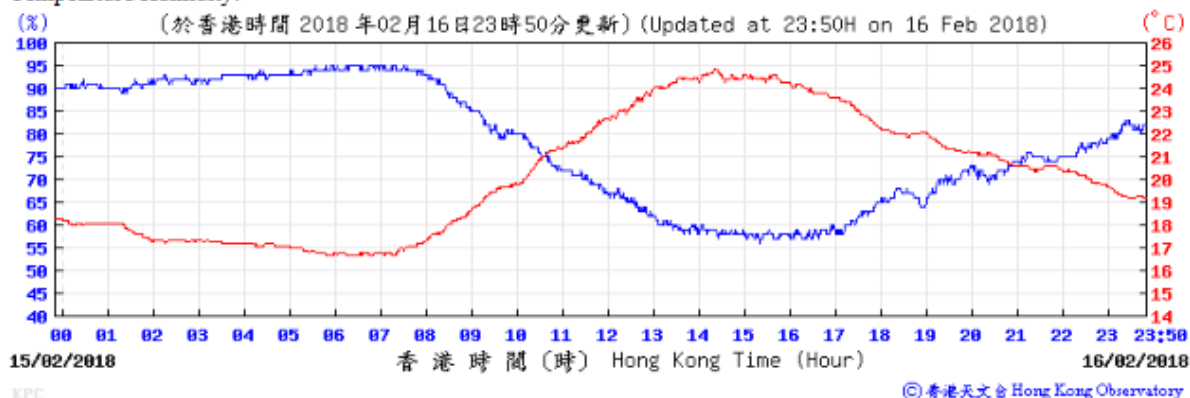
Wind Direction:



Wind Speed:

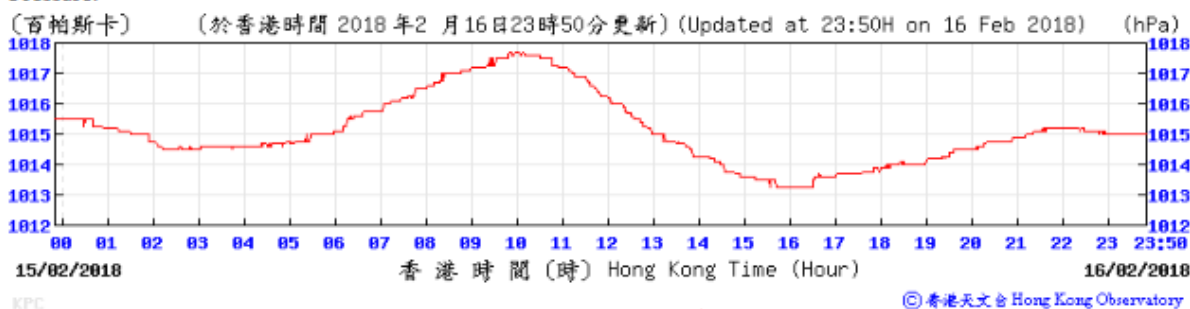


Temperature/Humidity:



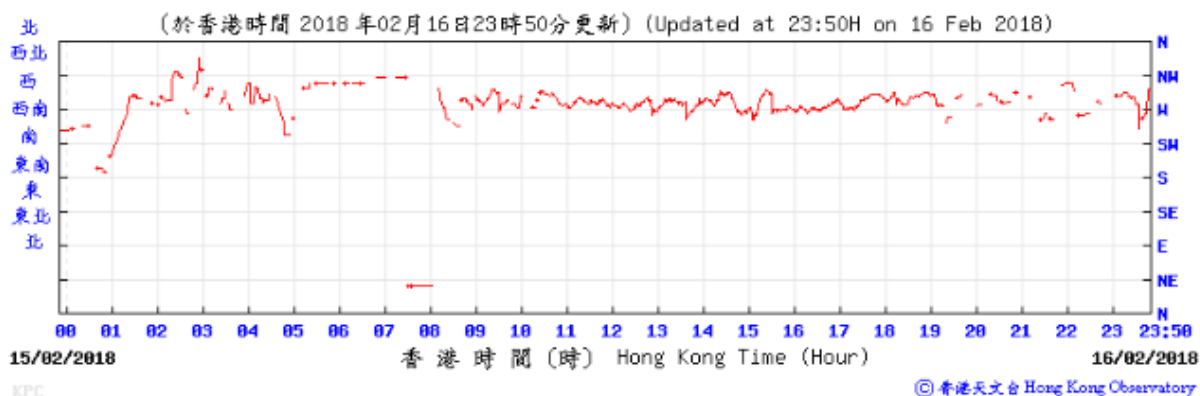
KPC

Pressure:



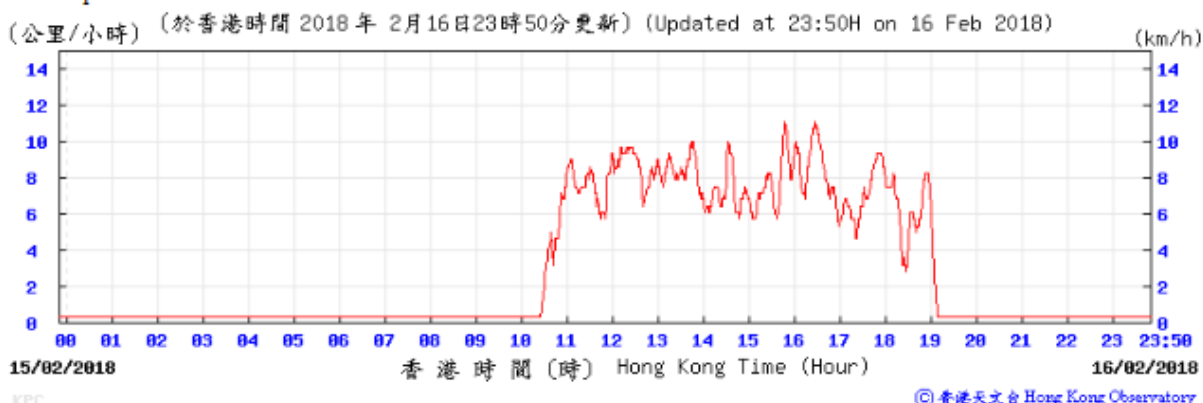
KPC

Wind Direction:



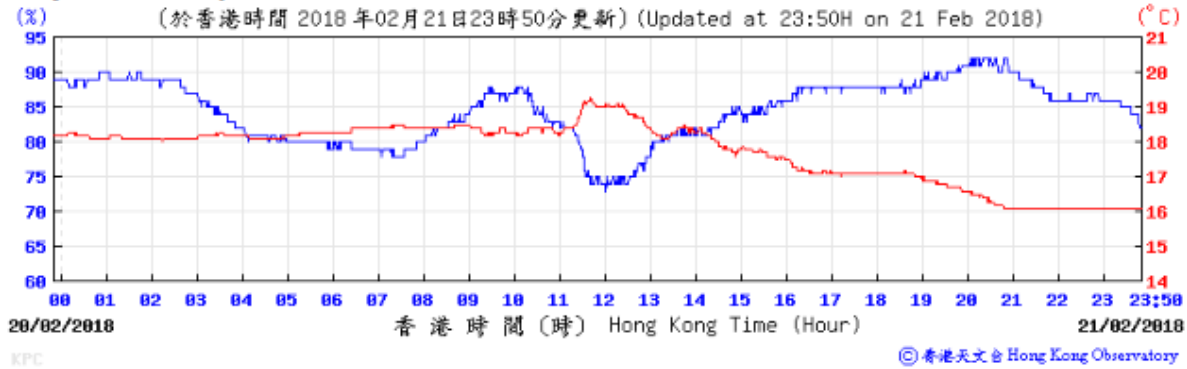
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Wind Speed:

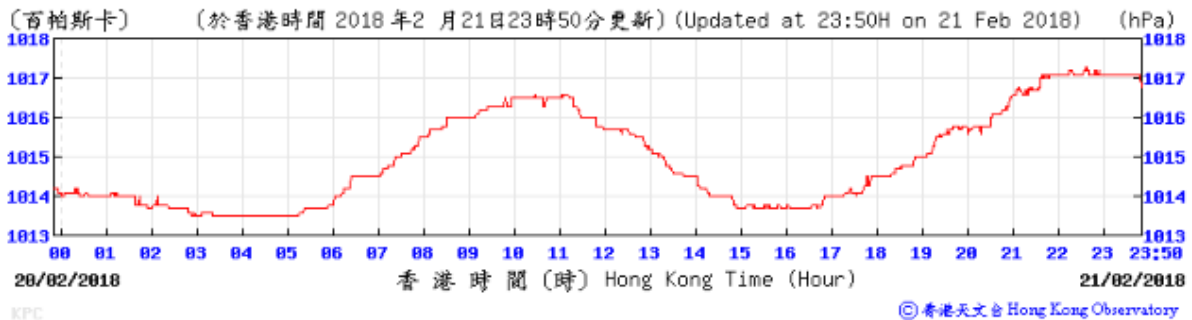


KPC

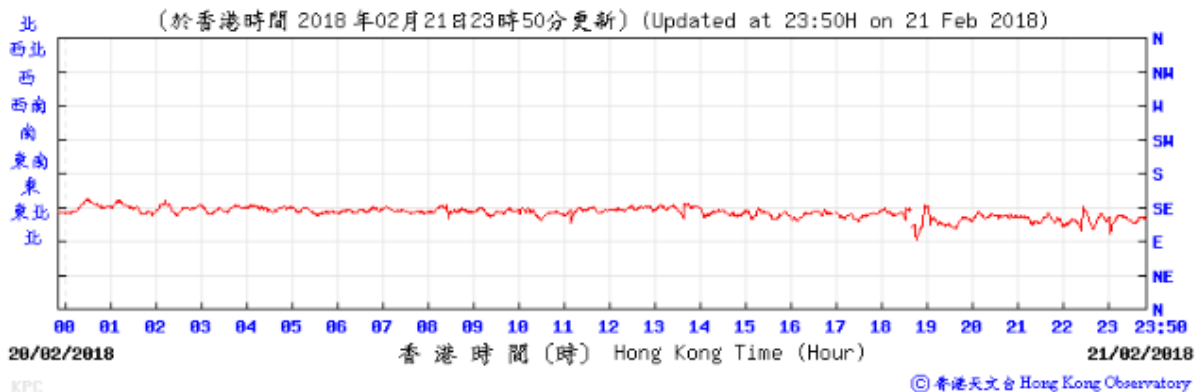
Temperature/Humidity:



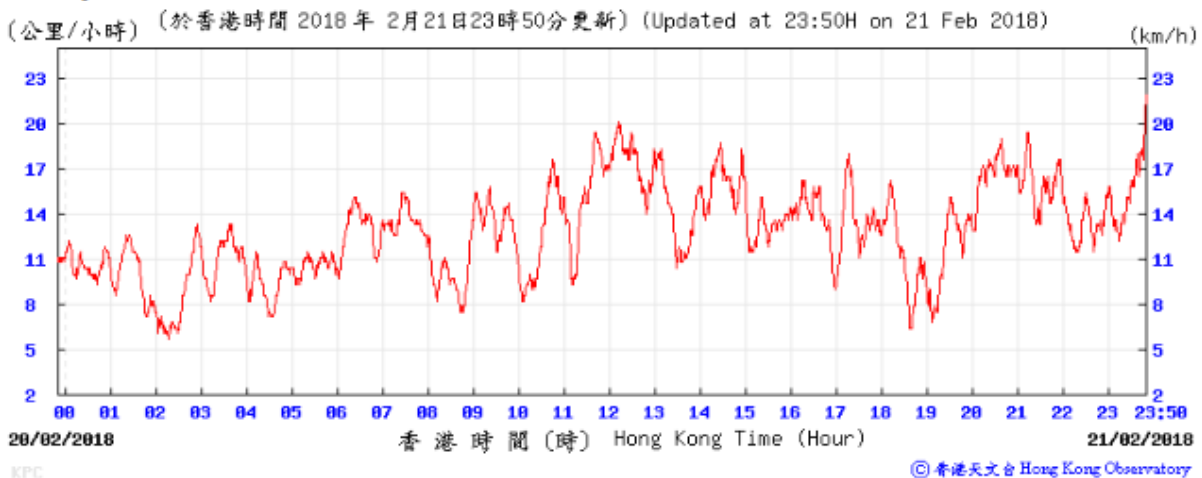
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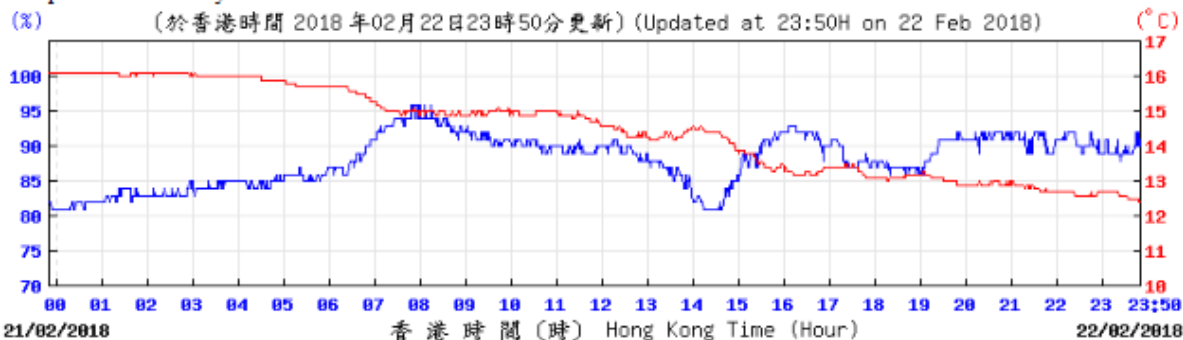
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Wind Speed:

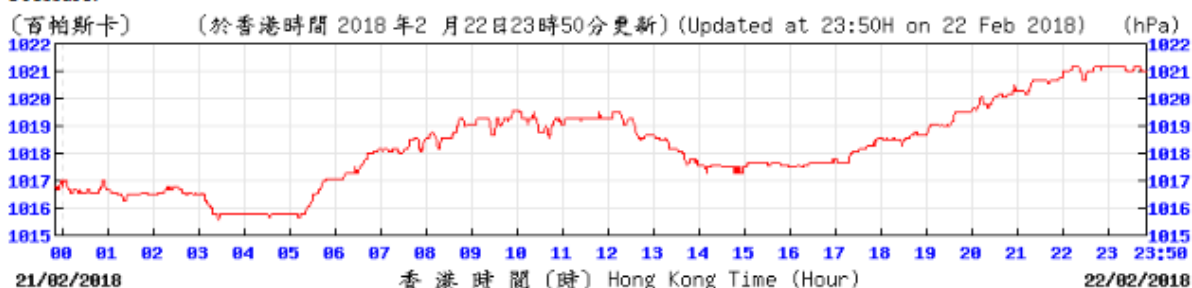


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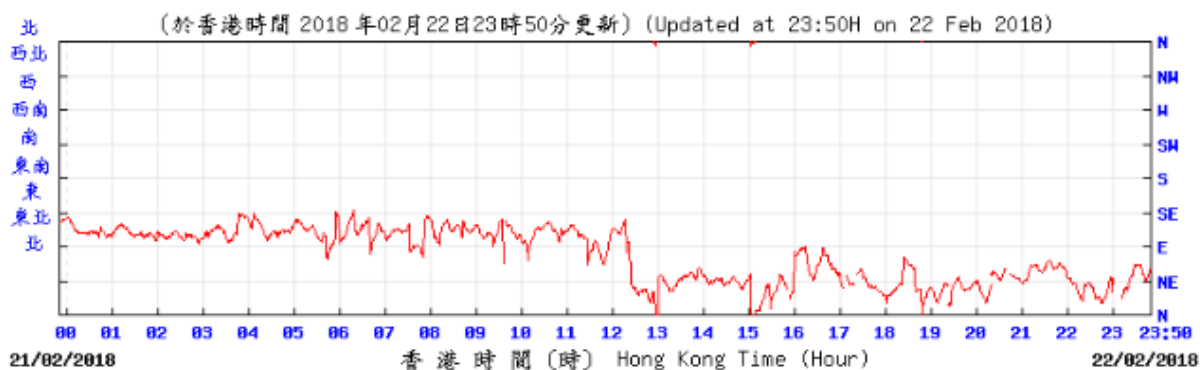
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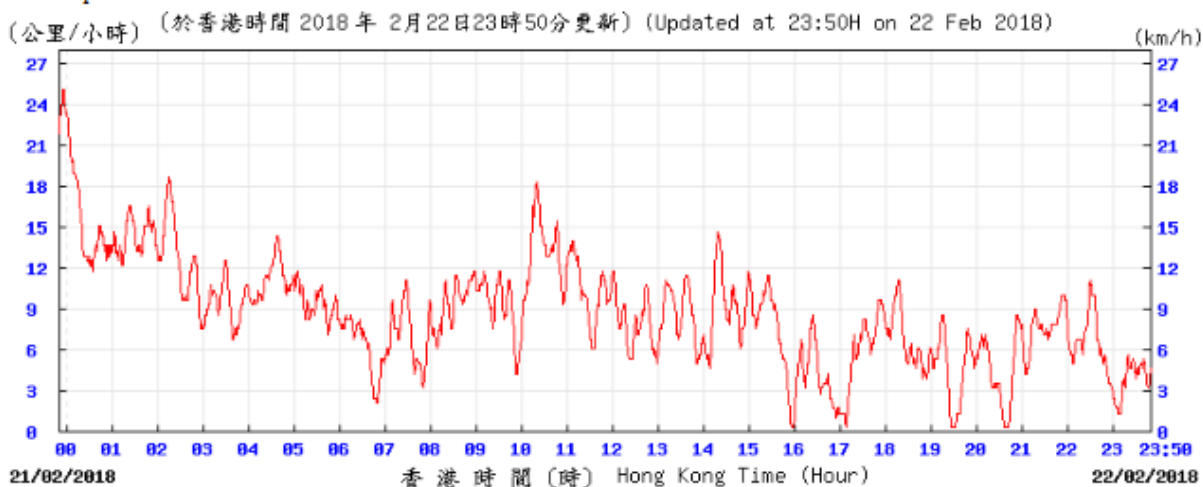
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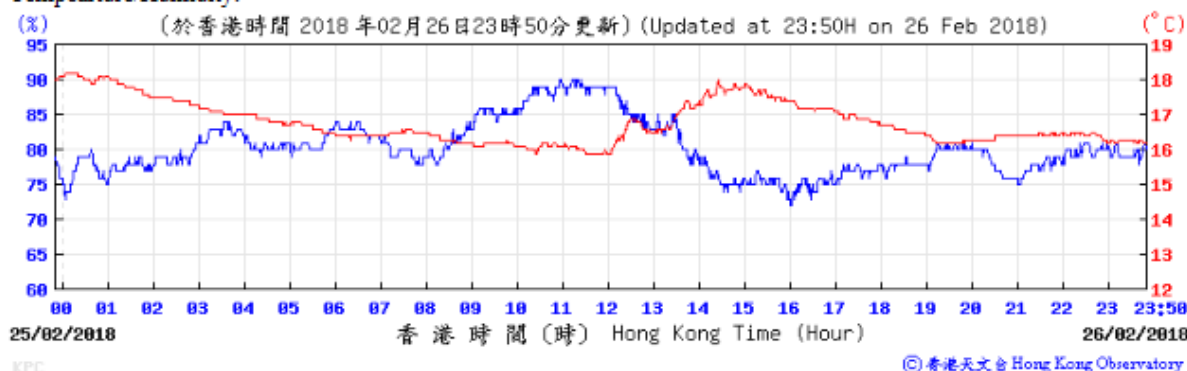
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Wind Speed:

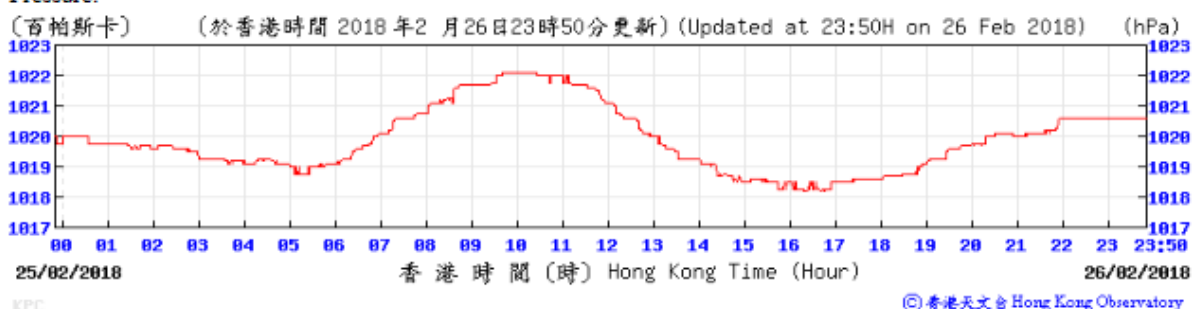


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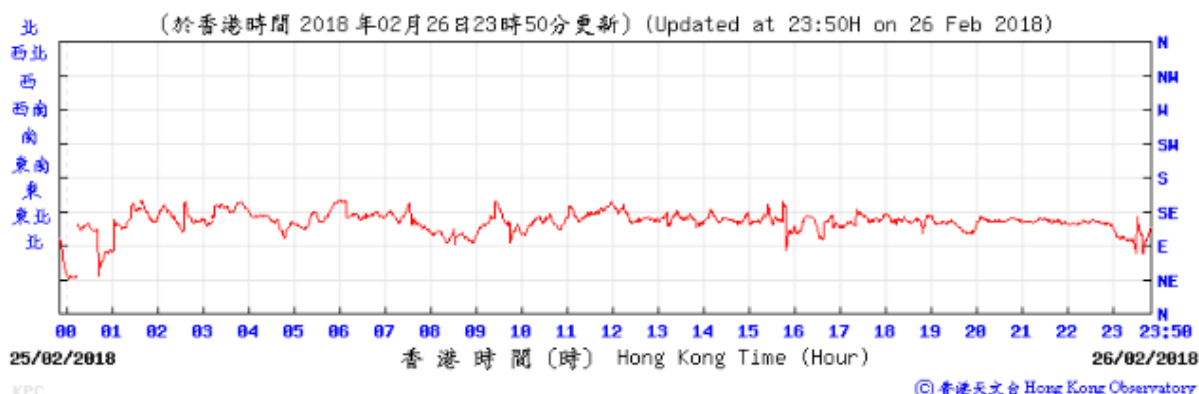
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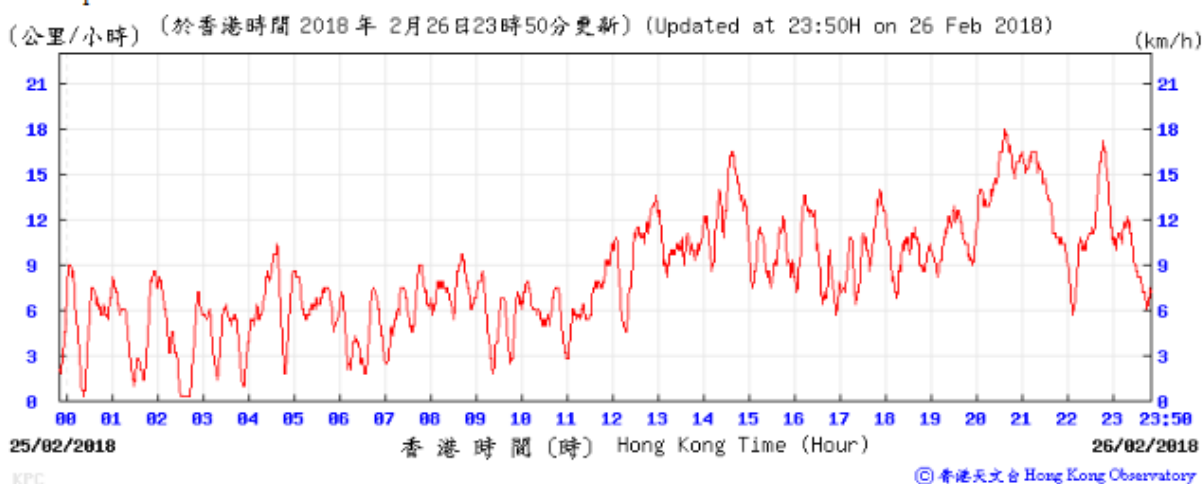
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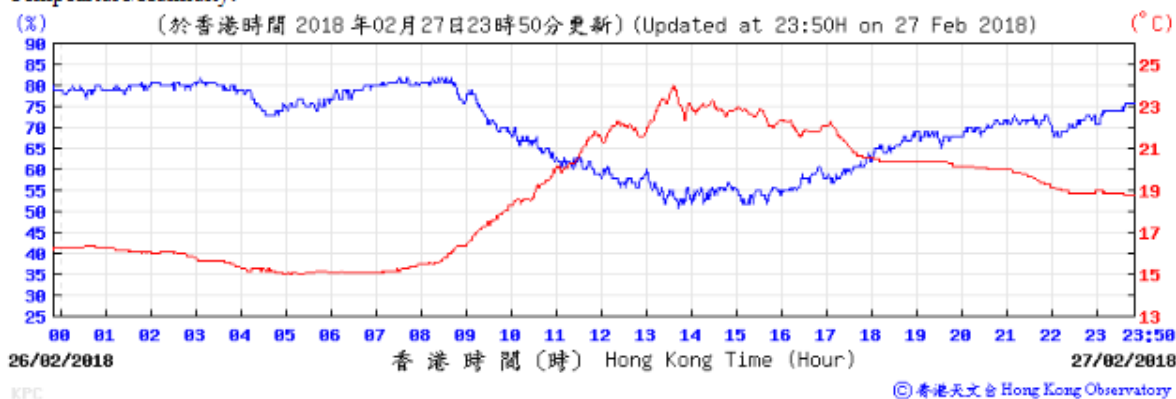
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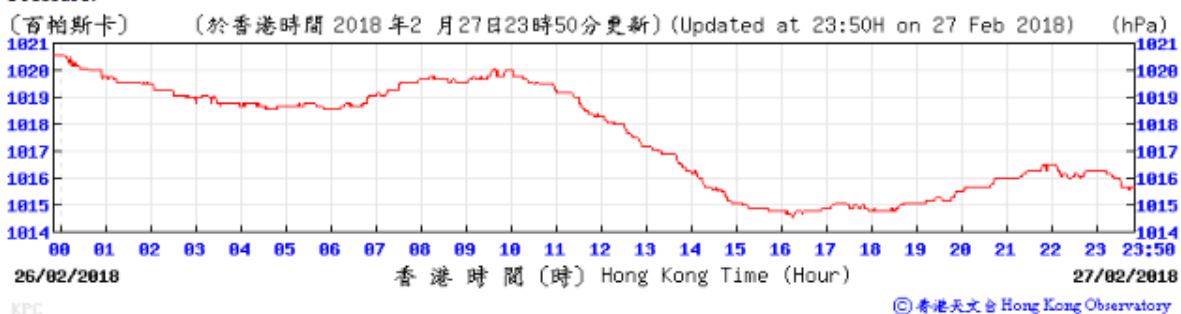
Wind Speed:



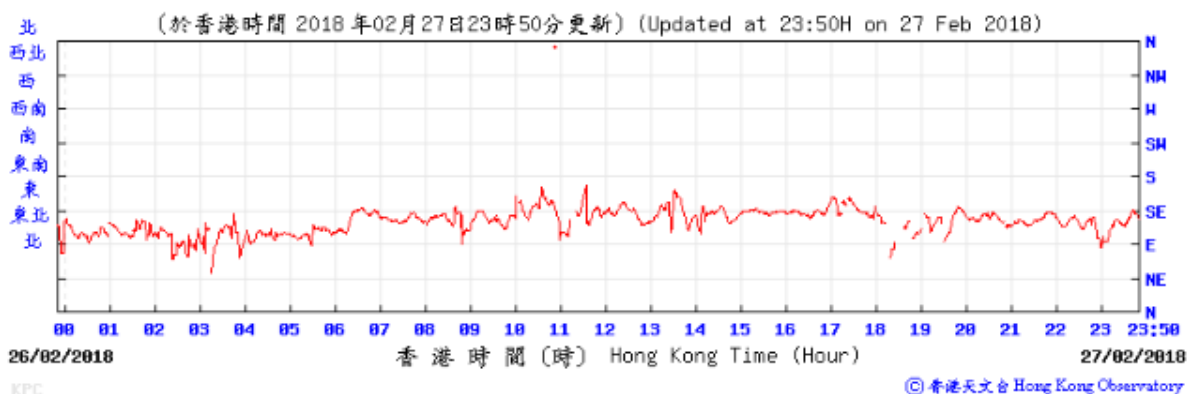
Temperature/Humidity:



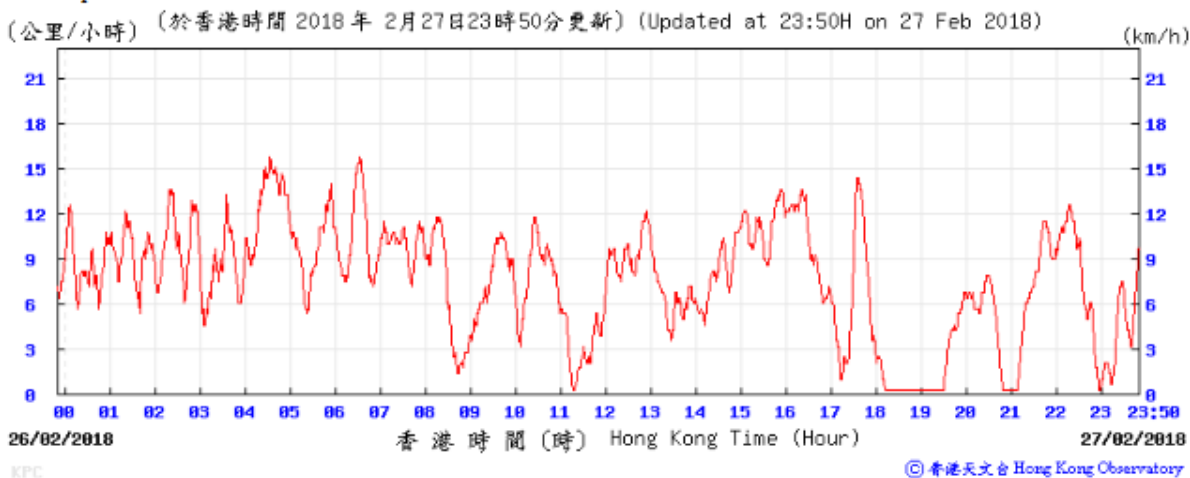
Pressure:



Wind Direction:



Wind Speed:



I. Waste Flow table

M+ Museum

Table I-1: Monthly Waste Flow Table for M+ Museum

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2015													
Nov	46607.4	0.0	0.0	8240.0	38367.4	0.0	0.0	76.2	0.0	0.0	0.0	0.0	67.6
Dec	29652.9	0.0	0.0	29621.4	31.5	0.0	0.0	26.3	0.0	0.0	0.0	1.0	66.0
Sub-total (2015)	76260.3	0.0	0.0	37861.4	38398.9	0.0	0.0	102.5	0.0	0.0	0.0	1.0	133.6
2016													
Jan	21077.4	0.0	6352.0	14576.0	149.4	0.0	0.0	18.8	0.0	0.0	0.0	0.0	23.2
Feb	7626.2	0.0	3424.0	4048.0	154.2	0.0	0.0	59.8	0.0	0.0	0.0	0.0	20.5
Mar	10442.5	0.0	1600.0	7888.0	954.5	0.0	0.0	29.7	0.0	0.0	0.0	0.0	46.3
Apr	30413.2	0.0	6352.0	23408.0	653.2	0.0	0.0	25.8	0.1	0.0	27.8	0.0	34.5
May	24083.5	0.0	112.0	23216.0	755.5	0.0	0.0	61.5	0.4	0.0	33.6	0.0	62.3
Jun	7880.1	0.0	4736.0	2384.0	760.1	0.0	0.0	106.6	0.1	0.0	14.6	0.0	52.8
Jul	5893.1	0.0	2656.0	2240.0	997.1	0.0	0.0	77.6	0.0	0.0	33.6	0.0	83.1
Aug	13709.6	0.0	0.0	12432.0	1277.6	0.0	0.0	111.3	0.2	0.0	38.5	0.0	104.9
Sep	6702.0	0.0	0.0	5648.0	1000.1	53.9	0.0	104.2	0.0	0.0	45.5	0.2	107.9
Oct	2103.6	0.0	0.0	496.0	1595.4	12.2	0.0	83.0	0.4	0.0	73.5	0.0	108.2
Nov	3302.7	0.0	0.0	2384.0	855.5	63.2	0.0	88.4	0.6	0.0	63.0	0.0	129.1
Dec	899.8	0.0	0.0	736.0	126.8	37.0	0.0	48.3	0.6	0.0	70.0	0.0	89.0
Sub-total (2016)	134133.5	0.0	25232.0	99456.0	9279.3	166.3	0.0	814.9	2.3	0.0	400.1	0.2	861.8
2017													
Jan	675.2	0.0	0.0	432.0	237.9	5.3	0.0	79.5	1.0	0.0	70.0	0.0	79.7
Feb	927.7	0.0	0.0	768.0	125.6	34.0	0.0	70.5	0.6	0.0	84.0	0.0	81.4
Mar	1856.7	0.0	0.0	1280.0	466.9	109.8	0.0	62.8	0.4	0.0	98.0	0.0	148.5
Apr	642.4	0.0	0.0	160.0	324.9	157.5	0.0	87.5	0.7	0.0	175.0	0.0	102.5
May	1118.2	0.0	0.0	528.0	416.4	173.7	0.0	118.3	0.0	0.0	280.0	0.0	139.0
June	650.0	0.0	0.0	0.0	451.6	198.4	0.0	199.7	1.4	0.0	350.0	0.0	98.7
Jul	1762.0	0.0	0.0	0.0	1466.6	295.4	0.0	36.9	1.2	0.0	244.0	0.0	164.2
Aug	1231.5	0.0	0.0	0.0	867.5	364.0	0.0	50.9	0.9	0.0	59.0	0.0	186.9
Sep	1681.7	0.0	0.0	0.0	1342.0	339.7	0.0	52.3	0.7	0.0	77.0	0.0	265.3
Oct	483.6	0.0	0.0	0.0	242.5	241.1	0.0	374.8	0.6	0.0	24.1	0.0	128.5

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
Nov	822.8	0.0	0.0	0.0	344.5	478.3	0.0	948.5	0.7	0.0	140.0	0.2	219.1
Dec	601.3	0.0	0.0	0.0	236.2	365.1	0.0	903.6	0.8	0.0	320.0	0.0	241.9
Sub-total (2017)	12453.0	0.0	0.0	3168.0	6522.6	2762.4	0.0	2985.3	8.9	0.0	1921.1	0.2	1855.5
2018													
Jan	1015.3	0.0	0.0	0.0	574.1	441.2	0.0	773.3	1.5	0.0	100.0	0.0	183.6
Feb	847.6	0.0	0.0	0.0	608.3	239.3	0.0	34.0	1.0	0.0	100.0	0.0	154.9
Sub-total (2018)	1862.8	0.0	0.0	0.0	1182.4	680.5	0.0	807.3	2.5	0.0	200.0	0.0	338.5
Total	224709.7	0.0	25232.0	140485.4	55383.1	3609.2	0.0	4710.0	13.8	0.0	2521.2	1.4	3189.4

- Note:
- 43.01 ton, 77.23 ton and 488.05 ton of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tuen Mun Area 38 and Tseung Kwan O Area 137 Public Fill respectively in the reporting month.
 - For inert C&D materials reused in other projects, the projects refer to (1) Green Valley; (2) Advance Works for Shek Wu Hui Sewage Treatment Works (3) Design and Construction of Kai Tak Cable Tunnel, CLP; (4) MTR Contract 1002 Whampoa Station and Overrun Tunnel; (5) CEDD Tuen Mun Area 54 Contract No. CV/2015/03; (6) Union Construction Ltd.'s site; (7) Foundation Works at Marriot Hotel at Ocean Park.
 - Quantities of waste materials generated for the previous reporting months have been updated by Contractor.

Lyric Theatre Complex

Table I-2: Monthly Waste Flow Table for Lyric Theatre Complex

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2016													
Mar	2702.1	0.0	0.0	0.0	2702.1	0.0	0.0	4.5	0.1	0.0	0.0	0.0	30.6
Apr	8631.5	0.0	0.0	0.0	8631.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	19.2
May	12487.8	0.0	0.0	0.0	12487.8	0.0	0.0	34.0	0.0	0.0	0.0	0.7	60.5
Jun	8600.8	0.0	0.0	0.0	8600.8	0.0	0.0	31.4	0.2	0.0	0.0	0.5	13.5
Jul	12624.2	0.0	0.0	0.0	12624.2	0.0	0.0	19.6	0.0	0.0	0.0	2.0	9.9
Aug	14419.9	0.0	0.0	0.0	14419.9	0.0	0.0	43.9	0.0	0.0	0.0	0.0	11.1
Sep	13671.3	0.0	0.0	0.0	13671.3	0.0	0.0	59.8	0.0	0.0	0.0	1.6	12.4
Oct	13088.9	0.0	0.0	0.0	13088.9	0.0	0.0	36.9	0.2	1.5	0.0	0.0	15.2
Nov	12424.7	0.0	0.0	0.0	12424.7	0.0	0.0	74.7	0.0	0.0	0.0	1.4	10.2
Dec	12487.6	0.0	0.0	0.0	12487.6	0.0	0.0	13.9	0.0	0.0	0.0	1.3	9.0
Sub-total (2016)	111138.8	0.0	0.0	0.0	111138.8	0.0	0.0	334.5	0.4	1.5	0.0	7.6	191.6
2017													
Jan	9607.8	0.0	0.0	0.0	9607.8	0.0	0.0	29.5	0.0	0.0	0.0	0.0	7.3
Feb	9108.2	0.0	0.0	0.0	9108.2	0.0	0.0	50.2	0.2	0.0	0.0	0.7	9.8
Mar	11361.7	0.0	0.0	0.0	11361.7	0.0	0.0	16.1	0.0	0.0	0.0	1.4	8.5
Apr	2591.5	0.0	0.0	0.0	2591.5	0.0	0.0	35.7	0.0	0.0	0.0	0.0	4.7
May	2579.3	0.0	0.0	99.0	2480.3	0.0	0.0	20.9	0.1	0.0	0.0	0.5	10.0
Jun	476.0	0.0	0.0	341.0	129.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Jul	3419.0	0.0	0.0	804.0	2615.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
Aug	3730.9	0.0	0.0	1377.5	2353.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
Sep	2108.2	0.0	0.0	1133.5	974.7	0.0	0.0	34.6	0.2	0.0	0.0	0.0	10.8
Oct	9159.0	0.0	0.0	7868.0	1291.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	9.3
Nov	5095.4	0.0	0.0	4352.0	725.2	18.1	0.0	0.0	0.0	0.0	0.0	0.0	38.8
Dec	3856.2	0.0	0.0	3076.0	780.2	0.0	0.0	0.0	0.2	0.0	0.0	0.4	8.4
Sub-total (2017)	63093.1	0.0	0.0	19051.0	44018.7	23.4	0.0	187.1	0.7	0.0	0.0	3.8	137.3

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
2018													
Jan	4083.7	0.0	0.0	1455.0	2628.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Sub-total (2018)	4083.7	0.0	0.0	1455.0	2628.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
Total	178315.6	0.0	0.0	20506.0	157786.2	23.4	0.0	521.5	1.1	1.5	0.0	11.3	333.3

J. Environmental Mitigation Measures – Implementation Status

Table J-1: Environmental Mitigation Measures Implementation Status

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
Air Quality Impact (Construction)			
2.1 & 10.3.1	<p>General Dust Control Measures</p> <p>Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)</p>	✓	Obs
2.1 & 10.3.1	<p>Best Practice For Dust Control</p> <p>The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include:</p> <p><i>Good Site Management</i></p> <ul style="list-style-type: none"> • Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning. <p><i>Disturbed Parts of the Roads</i></p> <ul style="list-style-type: none"> • Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or • Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. <p><i>Exposed Earth</i></p> <ul style="list-style-type: none"> • Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. <p><i>Loading, Unloading or Transfer of Dusty Materials</i></p> <ul style="list-style-type: none"> • All dusty materials should be sprayed with water immediately prior to any loading or transfer operation 	Rem/ Obs	✓
		✓	✓
		✓	✓
		N/A	N/A
		✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	so as to keep the dusty material wet.		
	<i>Debris Handling</i>		
	<ul style="list-style-type: none"> Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. 	✓	✓
	<ul style="list-style-type: none"> Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. 	✓	✓
	<i>Transport of Dusty Materials</i>		
	<ul style="list-style-type: none"> Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. 	✓	✓
	<i>Wheel washing</i>		
	<ul style="list-style-type: none"> Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. 	✓	✓
	<i>Use of vehicles</i>		
	<ul style="list-style-type: none"> The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site. 	✓	✓
	<ul style="list-style-type: none"> Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. 	✓	✓
	<ul style="list-style-type: none"> Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. 	✓	✓
	<i>Site hoarding</i>		
	<ul style="list-style-type: none"> Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. 	✓	✓
2.1 & 10.3.1	<p>Best Practicable Means for Cement Works (Concrete Batching Plant)</p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:</p> <p>Exhaust from Dust Arrestment Plant</p>		

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	<ul style="list-style-type: none"> Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection 	✓	✓
	Emission Limits		
	<ul style="list-style-type: none"> All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke 	✓	✓
	Engineering Design/Technical Requirements		
	<ul style="list-style-type: none"> As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions 	✓	✓
-	<p>Non-Road Mobile Machinery (NRMM):</p> <p>All NRMMs operating on-site which are subject to emission control of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation are approved/exempted (as the case may be) and affixed with the requisite approval/exemption labels.</p>	✓	✓
Noise Impact (Construction)			
3.1 & 10.4.1	<p>Good Site Practice</p> <p>Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</p> <ul style="list-style-type: none"> only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; mobile plant should be sited as far away from NSRs as possible; and material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 	✓	✓
3.1 & 10.4.1	<p>Adoption of Quieter PME</p> <p>The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in Table 4.26 in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.</p>	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
3.1 & 10.4.1	Use of Movable Noise Barriers Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	N/A	✓
3.1 & 10.4.1	Use of Noise Enclosure/ Acoustic Shed The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	N/A	N/A
3.1 & 10.4.1	Use of Noise Insulating Fabric Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, piling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	✓	✓
3.1 & 10.4.1	Scheduling of Construction Works outside School Examination Periods During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A
Water Quality Impact (Construction)			
4.1 & 10.5.1	Construction site runoff and drainage The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts: <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction; Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction. All drainage facilities and erosion and sediment control structures should be regularly inspected and 	✓	Rem
		✓	✓
		Rem/ Obs	Obs

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.		
	<ul style="list-style-type: none"> Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. 	✓	✓
	<ul style="list-style-type: none"> 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 sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly 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. 	✓	✓
	<ul style="list-style-type: none"> Open stockpiles of construction materials or construction wastes on-site 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. 	✓	✓
	<ul style="list-style-type: none"> Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. 	✓	✓
	<ul style="list-style-type: none"> Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. 	✓	✓
	<ul style="list-style-type: none"> Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 	N/A	N/A
	Barging facilities and activities		
	Recommendations for good site practices during operation of the proposed barging point include:		
	<ul style="list-style-type: none"> All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; 	N/A	N/A
	<ul style="list-style-type: none"> Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of 	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	materials or polluted water during loading or transportation;		
	<ul style="list-style-type: none"> All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. 	N/A	N/A
4.1 & 10.5.1	<p>Sewage effluent from construction workforce</p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	✓	✓
4.1 & 10.5.1	<p>General construction activities</p> <ul style="list-style-type: none"> Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used. Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. 	✓	✓
Waste Management Implications (Construction)			
6.1 & 10.7.1	<p>Good Site Practices</p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> 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 handling procedures Provision of sufficient waste disposal points and regular collection of waste Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated 	✓	✓
6.1 & 10.7.1	<p>Waste Reduction Measures</p> <p>Recommendations to achieve waste reduction include:</p>		

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	<ul style="list-style-type: none"> Sort inert C&D material to recover any recyclable portions such as metals Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force Proper site practices to minimise the potential for damage or contamination of inert C&D materials Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste 	✓	✓
6.1 & 10.7.1	<p>Inert and Non-inert C&D Materials</p> <p>In order to minimise impacts resulting from collection and transportation of inert C&D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> The surplus inert C&D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong. Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD. The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site. In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site. 	✓	✓
6.1 & 10.7.1	<p>Chemical Waste</p> <ul style="list-style-type: none"> If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the "Code of Practice on 		

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	<p>the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> <ul style="list-style-type: none"> Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended. 	Obs	✓
6.1 & 10.7.1	<p>General Refuse</p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	✓	✓
Land Contamination (Construction)			
7.1 & 10.8.1	<p>The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials.</p> <p>The following measures are proposed for excavation and transportation of contaminated material:</p> <ul style="list-style-type: none"> To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when interacting directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; Stockpiling of contaminated excavated materials on site should be avoided as far as possible; The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust 	N/A	N/A
		N/A	N/A
		N/A	N/A
		N/A	N/A
		N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
	emissions and/or release of contaminated wastewater;	N/A	N/A
	<ul style="list-style-type: none"> • Truck bodies and tailgates should be sealed to stop any discharge; • Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; • Speed control for trucks carrying contaminated materials should be exercised; • Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and • Maintain records of waste generation and disposal quantities and disposal arrangements. 	N/A	N/A
Ecological Impact (Construction)			
No mitigation measure is required.			
Landscape and Visual Impact (Construction)			
Table 9.1 & 10.8 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	N/A	N/A
Table 9.1 & 10.8 (CM2)	Compensatory tree planting shall be incorporated to the proposed project and maximize the new tree, shrubs and other vegetation planting to compensate tree felled and vegetation removed. Also, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site.	N/A	N/A
Table 9.1 & 10.8 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	N/A	N/A
Table 9.1 & 10.8 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A
Table 9.1 & 10.8 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A
Table 9.1 & 10.8 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A
Table 9.1 & 10.8 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage	
		M+ Museum	Lyric Theatre Complex
Table 9.1 (CM9)	Minimize the structure of marine facilities to be built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A
Table 9.2 & 10.9 (MCP1)	Use of decorative screen hoarding/boards	✓	✓
Table 9.2 & 10.9 (MCP2)	Early introduction of landscape treatments	N/A	N/A
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A
Table 9.2 & 10.9 (MCP4)	Control of night time lighting	✓	✓
Table 9.2 & 10.9 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	N/A	N/A

N/A - Not Applicable

✓ - Implemented

Obs - Observed

Rem - Reminder

K. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 31 October 2015 for M+ Museum main works and 1 March 2016 for Lyric Theatre Complex) to the end of the reporting month and are summarised in the **Table K-1** and **Table K-2** below respectively.

Table K-1: Statistics for complaints, notifications of summons and successful prosecutions for M+ Museum Main Works

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting month	0	0	0
From 31 October 2015 to end of the reporting month	3	1	0

Table K-2: Statistics for complaints, notifications of summons and successful prosecutions for Lyric Theatre Complex

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting month	0	0	0
From 1 March 2016 to end of the reporting month	5	0	0